SUPPLEMENT TO OFFICIAL STATEMENT
DATED FEBRUARY 25, 2022

MARYLAND DEPARTMENT OF TRANSPORTATION

$630,195,000
Department of Transportation of Maryland
Consolidated Transportation Bonds

$295,000,000
Consolidated Transportation Bonds
Series 2021 A

$139,210,000
Consolidated Transportation Bonds
Refunding Series 2021 B

$52,400,000
Consolidated Transportation Bonds
Refunding Series 2022 A (Forward Delivery)

$143,585,000
Consolidated Transportation Bonds
Refunding Series 2022 B (Forward Delivery)

This Supplement to Official Statement dated February 25, 2022 (this "Supplement to Official Statement") supplements and amends certain information contained in the Official Statement dated September 30, 2021 (the "Original Official Statement") relating to the above-referenced bonds. All capitalized terms used but not defined herein shall have the meanings set forth in the Original Official Statement.

As described under the caption "**FORWARD DELIVERY BOND CONSIDERATIONS**" in the Original Official Statement, the 2022 A Bonds were sold to the Underwriters pursuant to the Forward Delivery Bond Purchase Agreement dated September 30, 2021. The Department agreed in the Forward Delivery Bond Purchase Agreement to deliver an Updated Official Statement (as defined herein) not more than three weeks and not less than five days prior to the settlement date of the 2022 A Bonds on March 3, 2022, which Updated Official Statement would contain any material updates or changes to the information contained in the Original Official Statement. The Original Official Statement, as amended and supplemented by this Supplement to Official Statement, constitutes the "Updated Official Statement."

The Original Official Statement is amended and supplemented by this Supplement to Official Statement as follows.

James F. Ports, Jr. became Secretary of the Department effective January 11, 2022, succeeding former Secretary Gregory I. Slater.

Davenport & Company LLC of Towson, Maryland served as municipal advisor to the Department in connection with the issuance of the 2022 A Bonds.

The "**IMPACT OF COVID-19 ON THE FINANCIAL CONDITION AND OPERATIONS OF THE DEPARTMENT**" section of the Original Official Statement is hereby updated and restated by the following:

IMPACT OF COVID-19 ON THE FINANCIAL CONDITION AND OPERATIONS OF THE DEPARTMENT

The outbreak of COVID-19 was declared a pandemic by the World Health Organization and a national emergency by the President of the United States on March 13, 2020. The virus has impacted travel, commerce and financial markets globally. On March 5, 2020 Maryland Governor Larry Hogan declared a state of emergency within the State and over the course of the COVID-19 outbreak, the Governor issued numerous Executive Orders extending the state of emergency and otherwise addressing the outbreak. On June 15, 2021, Governor Hogan ended the state of emergency in the State and announced the end of emergency mandates on July 1, 2021 followed by a 45-day administrative grace period for certain deadlines. On July 12, 2021 Governor Hogan renewed the state of emergency as required for the 45-day administrative grace period. The renewed state of emergency and the 45-day administrative grace period ended on August 15, 2021.

Most recently, on January 4, 2022, Governor Hogan declared a 30-day state of emergency to address the surge of cases associated with the COVID-19 omicron variant. In addition to the state of emergency, the Governor also issued an order augmenting emergency medical services and regulating hospital personnel, bed space, and supplies. These orders expired on February 3, 2022. During this 30-day period, the 7-day positivity rate peaked at 29.98% and has since fallen to 3.30% as of February 18, 2022. Actions taken during this period included starting up hospital-based testing sites, acquiring more at-home rapid test kits, distributing more than 20 million N95/K95 masks, and additional testing of staff, visitors, and residents at nursing homes.

The State of Maryland has administered over 11.1 million COVID-19 vaccinations as of February 6, 2022. Over 4.4 million Maryland residents have been fully vaccinated, which represents 94.8% of the State's population over 18 years old, and 80.6% of Marylanders over 18 years old have received at least one dose of the vaccine and 2.1 million booster shots have been administered. The State has established a dedicated website providing up-to-date information concerning the State's coronavirus metrics at https://coronavirus.maryland.gov/. This website is incorporated for convenience only and is not incorporated by reference into this Official Statement.

Federal Relief Efforts

On March 13, 2020, the President of the United States declared the ongoing COVID-19 pandemic of sufficient severity to warrant an emergency declaration for purposes of obtaining disaster assistance through the Request for Public Assistance program administered by the Federal Emergency Management Agency ("FEMA"). The Department has taken appropriate measures to ensure that it will be able to apply for FEMA funding at the appropriate time. It is not known at this time how much, if any, FEMA funding will be received.

The United States government took additional legislative and regulatory actions and implementing measures to mitigate the broad disruptive effects of the COVID-19 pandemic. As described below, the Department received funds from the federal government, which among other things, will reimburse the Department for a portion of the costs incurred in response to COVID-19 and offset the Department's revenue losses.

The President of the United States signed into law H.R. 748, the Coronavirus Aid, Relief, and Economic Security Act ("CARES Act"), on March 27, 2020. The CARES Act established a $150 billion Coronavirus Relief Fund to, among other things, provide financial assistance to states; provided $25 billion for public transit through the Federal Transit Administration; and provided $10 billion for public use airports through the Federal Aviation Administration. The Maryland Transit Administration (the "MTA") was awarded funds totaling $392,000,000 and the Maryland Aviation Administration (the "MAA") was awarded funds totaling $87,757,000 under the CARES Act. Funds supporting the MTA were exhausted in fiscal year 2021 and the funds supporting the MAA were fully expended by the close of fiscal year 2020. In addition, the State of Maryland received funds through the CARES Act, of which $28,200,000 was provided to the Department to reimburse certain COVID-related expenses, including premium and response pay for essential employees.

On December 27, 2020, the Consolidated Appropriations Act (H.R. 133) was signed into law by the President of the United States. The law combines $900 billion in stimulus relief for the COVID-19 pandemic (the Coronavirus Response and Relief Supplemental Appropriations Act of 2021, or the "CRRSAA") with a $1.4 trillion omnibus spending bill for the federal fiscal year 2021. Spending included in the bill includes, but is not limited to, $49 billion for the Federal Highway Administration, $13 billion for the Federal Transit Administration, and nearly $2 billion for economic relief to eligible U.S. airports and eligible concessions. The Department received funding totaling $233,100,000 in total grants, including funding for MTA, MAA, and the State Highway Administration (the "SHA"). Those funds are being utilized in fiscal years 2021 through 2022. In addition, during the 2021 legislative session, legislation was passed by the Maryland General Assembly (the Recovery for the Economy, Livelihood, Industries, Entrepreneurs, and Families or the "RELIEF" Act) that provides additional relief. The RELIEF Act, funded in part through funds received by the State from the Consolidated Appropriations Act, provided the Department an additional $10 million for transit and $10 million for highways for use in fiscal year 2021.

On March 11, 2021, the American Rescue Plan Act of 2021 (the "ARPA") was signed into law by the President of the United States. The ARPA is a $1.9 trillion economic stimulus bill to assist the country's recovery from the COVID-19 pandemic and included $350 billion in Coronavirus State and Local Fiscal Recovery Funds to help states, local government, U.S. territories and tribal governments cover increased expenditures, replenish lost revenue and mitigate economic harm from the COVID-19 pandemic; $30 billion in grants to public transit and commuter rails agencies to offset lost revenue; and $8 billion for airports in the United States. The Department received funding of $436.4 million for transit and airports. Those funds are being utilized in fiscal years 2022 through 2024. In addition, the State of Maryland received $3.9 billion in Coronavirus State and Local Fiscal Recovery Funds. The Governor of Maryland announced a joint executive and legislative framework for use of the State's allocation that includes $500 million for transportation to offset revenue losses. The Department will utilize this funding in fiscal years 2022 and 2023.

COVID-19 Impact on the Department's Operations and Revenues

The COVID-19 global pandemic had a significant impact on transportation use and consequently on transportation revenues. Employees of the Department stepped up to deliver critical services that helped other front-line workers get to their jobs and maintain connections across the supply chain and continue to support statewide transportation services and needs. Despite the challenges of operating during a pandemic health crisis, the Department's employees and our private sector partners continued to deliver outstanding customer service across the State.

At the height of the pandemic, statewide highway travel fell by as much as 50% and passenger traffic at the Baltimore/Washington International Thurgood Marshall Airport (the "BWI Marshall Airport") dropped more than 90% as Marylanders heeded Governor Larry Hogan's call to limit travel to help stop the spread of COVID-19. Many of those trends are reversing with the lifting of the State of Emergency, the widespread success of COVID-19 vaccinations in Maryland, and the onset of the summer travel season.

Marylanders are returning to roadways and airways in numbers approaching pre-pandemic levels, marking major milestones for State transportation, tourism and economic recovery.

These milestones include:

Roadways: Comparing the last week of December 2019 to the same week in 2021, total vehicular traffic on Maryland roadways increased by 4.7%. With the continued growth of e-commerce, truck traffic on Maryland's roadways has consistently surpassed 2019 levels throughout 2021. In the third week of December 2021, truck traffic was up 16.3% from the same period in 2019.

BWI Marshall Airport: Weekly passenger volumes at BWI Marshall Airport in 2021 were about 29% lower than 2019 levels. Much like Maryland's roadways, freight operations at BWI Marshall Airport have surpassed 2019 levels. Nearly 50 million pounds of freight moved through BWI Marshall Airport in November 2021, an 11.2% increase from November 2019.

Port of Baltimore: The Port has seen a robust rebound from the pandemic, reflecting consumer demand for goods and Maryland's stature as a key hub for the growing e-commerce industry. Total general cargo tonnage moving through the Port of Baltimore each month is nearing one million tons. In December 2021, total general cargo tonnage was 997,036, a 13.3% increase from December 2019. The Port of Baltimore remains the top port in the United States for the movement of roll on/roll off farm and construction equipment. Compared to cargo levels in December 2019, the Port handled 41.0% more roll on/roll off cargo in December 2021.

Motor Vehicle Services: During the COVID-19 pandemic, the Motor Vehicle Administration (the "MVA") began operations under an appointment-only model to promote safety and health of customers and employees. During that time, MVA significantly expanded its online service available through the innovative Customer Connect system. As a result, MVA is now serving more customers online than ever before and serving more people overall than it did before the pandemic. MVA continues to lead the nation in helping Marylanders meet the federal REAL ID deadline of May 3, 2023. Currently 85.4% of Maryland drivers are compliant, one of the highest percentages in the nation.

Transit Operations: The MTA continues to ensure bus and rail services remain safe, reliable, and available. Ridership across all MDOT MTA services was consistently down about 60% from March 2020 through July 2021. Since July 2021, ridership across all modes has recovered to levels about 40% below levels from 2019; however, there is significant variation among transit modes. Core Bus services continued to provide essential transportation throughout the pandemic and did not see as significant of ridership declined as other modes. Ridership on Core Bus has been steadily increasing and in January 2022 was down 30% from 2019. Commuter services were impacted much more heavily by the pandemic. Ridership on MARC Rail and Commuter Bus are heavily influenced by the federal workforce and remain down about 75%. Services on MARC Rail and Commuter Bus have been fully restored to ensure services are available when passengers return. Metro Subway ridership is still down 70% and Light Rail ridership remains down by about 60%. The Department assumes the recovery of transit ridership will occur over several years.

As the usage of the State's transportation network is recovering, the Department's transportation revenues are recovering as well. Throughout the pandemic, the Department was able to continue to deliver services and maintain funding for projects under construction while other state departments of transportation were laying off workers and halting construction projects. The diversity of revenues and the flexibility of Maryland's consolidated Transportation Trust Fund was critical to that success to maintain operations until federal relief efforts brought additional funding to offset the revenue loss.

In accordance with State law, on January 19, 2022, the Department issued its updated six-year capital program for fiscal years 2022-2027, along with the financial plan that supports it. The Final FY 2022-2027 Consolidated Transportation Program ("CTP") totals \$17.7 billion, an increase of \$2.5 billion from the Final FY 2021-2026 CTP. This six-year investment level is the highest six-year transportation investment to date and shows Maryland's continued recovery from the COVID-19 pandemic and the impact of federal relief funds. This funding total does not include additional funding available through the Infrastructure Investment and Jobs Act, since federal appropriations and guidance for these funds is not yet available.

COVID-19 Uncertainty

As described above, the State and federal governments have taken various actions, including the passage of laws and regulations on a wide array of topics and the passage of federal relief efforts in an attempt to slow the spread of COVID-19 and to address the health and economic consequences of the outbreak. The outbreak of COVID-19 adversely affected the Department's operations, usage, financial results, and liquidity. Federal relief efforts helped to offset much of the negative financial impact associated with COVID-19 and the resilient and dedicated workforce of the Department helped to mitigate the operational impact. The impact of the pandemic on the revenues and operations of the Department cannot be predicted at this time due to the dynamic and unprecedented nature of the outbreak, including uncertainties relating to duration and severity of the pandemic and what, if any, additional actions may be taken by the federal government. The continued spread of COVID-19, the emergence of variants, and containment and mitigation efforts may continue to have an adverse effect on the revenues and operations of the Department, the State, as well as on national and global economies.

The Bonds are obligations of the Department, payable as to both principal and interest solely from the proceeds of certain taxes and, to the extent needed, other revenues credited to the Department. While the duration and severity of the impact of COVID-19 is uncertain and difficult to estimate, the Department believes it will have the necessary revenue and liquidity to make timely payments on all its obligations.

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The “**ESTIMATED DEBT SERVICE COVERAGE**” paragraph in the “**SUMMARY STATEMENT**” of the Original Official Statement is hereby updated and restated by the following:

> **ESTIMATED DEBT SERVICE COVERAGE** — Maximum annual principal and interest requirements on the Consolidated Transportation Bonds upon issuance of the 2022 A Bonds and the refunding of the 2022 A Refunded Bonds on March 3, 2022 will be $479,509,863 in fiscal year June 30, 2023. Upon issuance of the 2022 A Bonds and the refunding of the 2022 A Refunded Bonds, (i) net receipts for the fiscal year ended June 30, 2021 (audited) under the first test described herein under “ADDITIONAL BONDS” will be 3.38 times such maximum annual principal and interest requirements on the Consolidated Transportation Bonds, and (ii) proceeds from pledged taxes for the fiscal year ended June 30, 2021 (audited) under the second test described herein under “ADDITIONAL BONDS” will be 4.72 times such maximum annual principal and interest requirements on the Consolidated Transportation Bonds. Maximum annual principal and interest requirements on the Consolidated Transportation Bonds after issuance of the 2022 B Bonds and the refunding of the 2022 B Refunded Bonds on November 3, 2022 is expected to be $480,461,159 in fiscal year 2023. Upon issuance of the 2022 B Bonds and the refunding of the 2022 B Refunded Bonds, (i) net receipts (audited) for the fiscal year ended June 30, 2021 is expected to be 3.37 times such maximum annual principal and interest requirements on the Consolidated Transportation Bonds, and (ii) proceeds from pledged taxes (audited) for the fiscal year ended June 30, 2021, is expected to be 4.71 times such maximum annual principal and interest requirements on the Consolidated Transportation Bonds. The issuance of the 2022 B Bonds is subject to the satisfaction of certain terms and conditions provided in the Forward Delivery Bond Purchase Contracts. See “FORWARD DELIVERY BOND CONSIDERATIONS” herein.

The seventh paragraph in the “**SECURITY**” section of the Original Official Statement is hereby updated and restated by the following:

> The Gasoline and Motor Vehicle Revenue Account (“GMVRA”) was established in statute to receive a portion of certain transportation revenues. Funds in the GMVRA were known as “highway user revenues” and were historically shared between the Department and the political subdivisions of the State. Chapter 330 directed 100% of the revenues in the GMVRA to the Department and required the Department to provide capital transportation grants of an equal amount to the local subdivisions of the State based on the amount of revenue received in the GMVRA. The GMVRA remains the basis for the calculation; however, the capital grants may come from any funds within the TTF. Prior to fiscal year 2020, 9.6% of highway user revenues were provided to the political subdivisions of the State. From fiscal years 2020 through 2024, an amount equivalent to 13.5% of the revenue received in the GMVRA must be provided to the political subdivisions of the State as capital transportation grants. Beginning in fiscal year 2025 and thereafter, the allocation is reduced from 13.5% to 9.6%. The Department’s current financial plan assumes that legislation is passed prior to fiscal year 2025 that will extend the 13.5% allocation indefinitely. The capital transportation grants required by Chapter 330 may only be made after all of the Department’s debt service requirements and operating expenses have been funded and if sufficient funds are available to fund its capital program.

The "**CONSOLIDATED TRANSPORTATION PROGRAM**" section of the Original Official Statement is hereby updated and restated by the following:

CONSOLIDATED TRANSPORTATION PROGRAM

The Department annually prepares a State Report on Transportation, which includes the Maryland Transportation Plan (the "MTP") and the CTP. The MTP is a 20-year mission for transportation in the State and identifies the objectives of the Department and its Administrations, discusses accomplishments, current activities and future plans, and highlights issues that require attention. The Department updates the MTP every five years. The MTP was last updated in January 2019 and can be viewed at www.maryland.gov/MTP. The CTP contains projects and programs across the Department and is developed within the framework of and is consistent with the MTP. As revenue estimates are revised during the year, the Department adjusts the capital program as necessary.

The CTP is updated twice per year by the Department. The Draft CTP is released September 1st each year. The Department visits every county and Baltimore City to present the Draft CTP each Fall between September 15th and November 15th. The Final CTP is submitted to the General Assembly on the third Wednesday of January of each year. View the entire CTP at www.mdot.maryland.gov. The CTP contains estimates of expenditures for operating, constructing and improving transportation facilities during the current year, budget request year and the succeeding four-year period. Each year the CTP is developed in accordance with the current projection of six-year financial resources. Appropriations for the first fiscal year of each CTP are made by the General Assembly at its immediately preceding regular session as part of its review and approval of the State budget. See "STATE GOVERNMENT – Budget" for a discussion of the State's and the Department's budgetary practices.

Financial forecasts used in the CTP are based on currently available estimates of the Department's revenues; administrative, operating and maintenance expenditures; capital expenditures by the Department and its major grant recipients; and receipts of related federal funding. Twelve-month forecasts of all cash receipts and expenditures of the Department are updated quarterly, while six-year forecasts are updated semiannually.

The Final CTP for fiscal years 2022-2027 ("FY 2022-2027 Final CTP" or "Final CTP") is presented in the "TRANSPORTATION FACILITIES AND PROGRAMS" section below. In accordance with Maryland law, the Department met with each county of the State to give local governments, legislative delegations, and the public an opportunity to comment on the proposed CTP. The FY 2022-2027 Final CTP totals $17.7 billion, an increase of $2.5 billion from the FY 2021-2026 Final CTP. This $2.5 billion increase reflects Maryland's continued recovery from the COVID-19 pandemic, the use of federal COVID relief funds, and project cash flow changes and completions. See "IMPACT OF COVID-19 ON THE FINANCIAL CONDITION AND OPERATIONS OF THE DEPARTMENT."

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The "**TRANSPORTATION FACILITIES AND PROGRAMS**" section of the Original Official Statement is hereby updated and restated by the following:

TRANSPORTATION FACILITIES AND PROGRAMS

A capital program summary of the FY 2022–2027 Final CTP is presented below ($ in millions):

Expenditures	**2022**	**2023**	**2024**	**2025**	**2026**	**2027**	**TOTAL**
The Secretary's Office	$54.6	$48.1	$25.7	$16.1	$11.3	$11.1	$166.9
Motor Vehicle Administration	37.8	34.0	21.7	9.7	9.6	8.9	121.7
Maryland Aviation Administration	181.4	221.9	248.9	141.3	59.8	43.1	896.4
Maryland Port Administration	176.4	330.7	260.1	213.5	95.2	98.1	1,174.0
Maryland Transit Administration	1,281.4	802.7	712.6	565.5	603.5	636.5	4,602.3
Washington Metro Area Transit	532.2	458.8	462.9	465.5	470.6	475.2	2,865.1
State Highway Administration	1,319.8	1,352.6	1,265.5	1,246.4	1,338.2	1,346.7	7,869.3
Total	3,583.7	3,248.8	2,997.6	2,657.7	2,588.3	2,619.6	17,695.7
Sources							
Special Funds [1]	$1,677.9	$1,349.6	$1,420.8	$1,318.6	$1,336.5	$1,398.2	$8,501.7
Federal Funds	1,380.3	1,309.9	984.4	887.6	919.3	925.4	6,407.0
Other [2]	525.5	589.3	592.3	451.5	332.5	295.9	2,787.0
Total	3,583.7	3,248.8	2,997.6	2,657.7	2,588.3	2,619.6	17,695.7

Note: Totals may not add due to rounding.

[1] Includes projected bond sales.

[2] Other funding not received through the Transportation Trust Fund. Includes some funds from Customer Facility Charges, Passenger Facility Charges, County contributions, special transportation project revenue bonds and federal funds received directly by WMATA (defined herein) that are not included in the Department's budget.

State Highway Administration

The State highway system, totaling 5,151 miles, or over 17,000 lane miles of roadway including ramps, spurs and service roads, and more than 2,564 bridges, consists of the interstate, primary and secondary highway systems excluding Authority and locally owned facilities. The interstate and primary highway systems serve the major interstate and intrastate travel flows. The secondary highway system provides a network of routes for local travel.

The SHA is responsible for project development, construction and maintenance of the State highway system. The State is divided into seven engineering districts, with each district responsible for its own routine physical maintenance, traffic services and construction supervision. Specialized activities are assigned to statewide operating divisions and sections.

The majority of federal funding for highway construction is apportioned to the states based upon formulas set by federal law. Within the limits of those apportionments, projects are generally eligible for 80% federal participation, except for interstate maintenance, which is eligible for 90% federal participation. See "THE TRANSPORTATION TRUST FUND - Federal Aid" for further information on federal aid to the Department. The allocation of funds to the SHA's highway capital program (excluding highway maintenance costs, which are accounted for as operating expenditures) is $7,869,286,000 for the FY 2022-2027 Final CTP. The Final CTP anticipates that $4,250,006,000 will be provided by federal grants and $3,523,422,000 will be provided from other resources of the Department and $95,857,000 from non-Federal, non-Departmental sources.

Op Lanes Maryland. In 2017, Governor Larry Hogan announced Maryland's Traffic Relief Plan to reduce traffic congestion, increase economic development, and enhance safety and return quality of life to Maryland commuters. The largest component of the Plan, the I-495 & I-270 Public-Private Partnership Program, is being delivered through multiple phases. Phase 1, known as the American Legion Bridge I-270 to I-70 Relief Plan, begins south of the American Legion Bridge in the vicinity of the George Washington Memorial Parkway and extends north to I-270 and then up I-270 to I-70 in Frederick. Within Phase 1 there will be multiple sections. The section from the vicinity of the George Washington Memorial Parkway across the American Legion Bridge to I-370, including replacement of the American Legion Bridge, will be developed and delivered as the first section ("Phase 1 South"). The northern portion of Phase 1 ("Phase 1 North") includes the remaining improvements to I-270, from I-370 to I-70.

In June 2019, the Board of Public Works designated the project as a public-private partnership and approved the public-private partnership solicitation method. In January 2020, the Board of Public Works provided a supplemental approval for the delivery of the Project through the solicitation of a phase developer under a phased delivery approach.

A two-step solicitation process was completed that included a Request for Qualifications and Request for Proposals. In July 2020, four highly qualified respondents were selected to submit a proposal to enter into a Phase Public-Private Partnership Agreement to complete the predevelopment work. Accelerate Maryland Partners, LLC ("AMP") was announced as the selected proposer. The AMP team includes Transurban (USA) Operations, Inc. and Macquarie Infrastructure Developments LLC as lead developers and equity members. On March 1, 2021, one of the proposers that was not selected for award filed a protest against the award of the Phase Public-Private Partnership Agreement to AMP. On April 15, 2021, the protest was denied by the contracting officer on both procedural and substantive grounds and the contracting officer's decision was appealed to the Secretary of the Department or their designee. After hearing arguments on a motion to dismiss the protest based on the timeliness of the filing, the Secretary's designee found that the protest was not filed timely and the unsuccessful bidder petitioned for judicial review of that decision to the Montgomery County Circuit Court in September 2021. In February 2022, a judge ruled that although one basis of a portion of the protest was untimely, the other bases of the protest were timely and were remanded to the Department to proceed with a hearing on the merits. That process is ongoing.

On August 11, 2021 the Board of Public Works approved the Phase Public-Private Partnership Agreement to allow predevelopment work to proceed. Predevelopment work includes robust collaboration with stakeholders and identification of the best ways to advance the preliminary design and due diligence activities to further avoid and minimize impacts to environmental resources, communities, properties, utilities, and other features. After completion of the predevelopment work with respect to a section of Phase 1 South, and only if a build alternative is identified under the NEPA approval process, final Board of Public Works approval will be sought for a 50-year Section Public-Private Partnership Agreement for final design, construction, financing, operations, and maintenance of Phase 1 South. The developer will retain the revenue risk for the project and all debt of the project will be backed by toll revenue and be non-recourse to the State and to the Department.

Maryland Transit Administration

The mission of the MTA is to provide safe, efficient, and reliable transit across Maryland with world-class customer service. To achieve this, the MTA operates one of the largest multi-modal transit systems in the United States. MTA operates local buses (CityLink and LocalLink), commuter buses, Light RailLink, Metro SubwayLink, Maryland Area Regional Commuter ("MARC") train service, and a comprehensive Paratransit (MobilityLink) system. MTA also manages the Taxi Access system and directs funding and State-wide assistance to locally operated transit systems in each of Maryland's 23 counties, Baltimore City, Annapolis and Ocean City. The combined ridership for MTA's services in fiscal year 2021 was approximately 42.4 million, which was a decrease from fiscal year 2020 due primarily to the COVID-19 pandemic. During Maryland's stay-at-home order, transportation volumes were down across the network compared to the year prior: all MTA transit – down 46% with MARC – down 86%, Commuter Bus – down 83% and Core Local Bus – down 36%. However, starting in April through June of 2021, ridership began ramping back up by 21% from the same span of time in the year prior: Light Rail – up 275%, MARC – up 213%, Commuter Bus – up 121%, and Core Local Bus – up 11%. In the second half of calendar year 2021, from July through December, ridership continued to outperform the same period from the prior year with – Light Rail up 21%, Metro up 6%, Core Local Bus up 7%, MARC up 94% and Commuter Bus up 62%.

Capital allocations for the MTA in the FY 2022-2027 Final CTP total $4,602,297,000, of which $1,899,358,000 is expected from federal grants, $2,461,687,000 from other resources of the Department and $241,253,000 from non-federal, non-Departmental sources.

Public Bus and Rail Transit Service in the Baltimore and Washington Areas

Bus Service. At present, MTA provides bus services with approximately 760 MTA-owned fixed route buses for service in the Baltimore region. MTA contracts with private operators to provide commuter bus service from Anne Arundel, Calvert, Charles, Howard, Queen Anne's and St. Mary's Counties to Washington, D.C., and from Frederick and Washington Counties to Montgomery County. Additional contract service is provided from Baltimore, Harford and Howard Counties to Baltimore City. The MTA also contracts service on the Intercounty Connector corridor, serving Frederick, Montgomery, Prince George's and Anne Arundel Counties. These services collectively comprise the "Commuter Bus Program." The Commuter Bus Program is run with approximately 300 contractor-provided over-the-road style coaches, of which 5 are MTA-owned. The combined ridership for the Baltimore region and commuter bus services in fiscal year 2021 was 35.4 million On April 16, 2021, the MTA proposed service adjustments for Local Bus route realignments to optimize transit service for core bus riders, especially transit-dependent households. MTA held four virtual public hearings for Local Bus between May 22 and May 25 about the proposed changes as part of a 30-day public review and comment period that ended June 25. The service adjustments went into effect on August 29, 2021. Throughout the COVID-19 pandemic, Commuter Bus operated at a reduced schedule, which consisted of 360 daily one-way trips. Commuter Bus returned to full services on August 30, 2021. The FY 2022-2027 Final CTP provides for core bus system improvements in the Baltimore area totaling $813,742,000 including the annual purchase of replacement buses, information technology upgrades, communication equipment and other bus-related improvements and equipment. The federal government is expected to contribute $411,140,000, $18,582,000 is expected from non-federal, non-Departmental sources and the Department is expected to provide the remaining $384,020,000 for these improvements.

Light RailLink. The MTA operates a 28.3-mile light rail line which provides transit service from Hunt Valley north of Baltimore City, through the City to Cromwell Station south of the City, with spurs to Penn Station in Baltimore and BWI Marshall Airport. Fifty-three (53) light rail cars currently operate on the entire system. The fiscal year 2021 light rail ridership was approximately 2.5 million. The FY 2022-2027 Final CTP includes $364,720,000 for rolling stock rehabilitation as well as track and other improvements including electrical systems, stations, parking, maintenance facilities, and preservation and enhancement studies. The federal government is expected to contribute $86,044,000 and $278,676,000 is expected to be provided from other resources of the Department.

Metro SubwayLink. The MTA operates a rapid transit system with 98 rapid rail cars on 14.8 miles of subway line in Baltimore City and Baltimore County (the "Baltimore Metro"). Fiscal year 2021 Baltimore Metro ridership was approximately 1.6 million. The Final CTP includes $591,720,000 for rolling stock rehabilitation as well as rail system construction and preservation of which the federal government is expected to contribute $230,253,000, $15,043,000 is expected from non-federal, non-Departmental sources and the Department is expected to provide the remaining $346,424,000.

Mobility/Paratransit Service. The Mobility/Paratransit service is for citizens with disabilities who are unable to use local bus, subway or light rail service. This service is provided by the MTA via contracts with Transdev and First Transit. The Final CTP includes $57,777,000, primarily for vehicle procurement and rehabilitation. The federal government is expected to contribute $31,056,000, with the remaining $26,721,000 provided from other resources of the Department.

Purple Line Transit Project (Purple Line). The Purple Line is a 16.2 mile east-to-west light rail line that runs across Montgomery and Prince George's counties just inside the I-495/Capital Beltway in the Washington, D.C. metropolitan area. It will provide a direct connection to Metrorail Red, Green, and Orange lines. It will also connect to MARC, Amtrak and local bus services. In 2016, the Department and the Maryland Transit Administration ("MTA") entered into a public-private partnership with Purple Line Transit Partners ("PLTP") for the design, construction, financing, operations, and maintenance of the Purple Line over a six-year design and construction period and a 30-year operating period. The project financing includes a federal New Starts grants, State contributions, and private debt and equity.

After the Public-Private Partnership Agreement with PLTP was signed, the project's Record of Decision from the Federal Transit Administration was vacated by a federal court action. That decision was later overruled in July 2017 and the Record of Decision was reinstated. This action, along with several others, resulted in claims from PLTP for additional time and more than $755 million for alleged project delays. The Department, MTA, and PLTP were unable to come to agreement on the entitlement and value of such claims.

In June 2020, PLTP provided notice to the State of its unconditional termination of the Public-Private Partnership Agreement for extended delay and court actions were filed by both parties. After PLTP left the job in September, the State assumed key contracts and hundreds of subcontracts necessary to continue the delivery of the Purple Line, safeguard its investment, and make the project site safe for the public. Despite these events, the parties continued to meet and try to resolve these issues.

In December 2020, the Board of Public Works approved a settlement agreement that resolved all outstanding claims, provided a $250 million settlement payment to the design-build contractor, and provided for completion of the project with a new design-build contractor.

Since that time, PLTP, the Department, and MTA have been working closely together on the selection of a new design-build contractor. A new design-build contractor was selected in October 2021 and approved by the Board of Public Works on January 26, 2022. The cost of the new design-build is an additional $2.3 billion. The State continues to manage the project and is focused on de-risking the project by finalizing designs, obtaining certain remaining permits, and progressing utility relocation work. This effort will continue post commencement of the new design builder on select elements of the work through 2022.

Agency-wide. The Final CTP includes agency-wide preservation and enhancement projects across facilities, joint development projects and community enhancement projects. The Final CTP includes $736,922,000 for this work. The federal share for this amount is $116,297,000, $53,917,000 from non-federal, non-Departmental sources, and $566,707,000 provided from other resources of the Department.

Information Technology. The MTA is working on many security and information technology initiatives. The Final CTP includes $31,443,000 for these initiatives, which will be provided by resources of the Department.

Commuter Rail

The MTA operates the MARC rail service on the Penn, Camden and Brunswick lines through contracts with Amtrak and Bombardier (operating on CSX railroad company lines). Amtrak operates commuter rail service from Perryville in Cecil County to Washington, D.C. Bombardier operates commuter rail service from Baltimore City, Frederick, Maryland, and Martinsburg, West Virginia to Washington, D.C. MARC ridership was approximately 936,000 passengers in fiscal year 2021.

Passenger rail capital allocations for the six-year Final CTP period are $489,266,000, of which $367,664,000 is expected to be provided by federal grants, $1,500,000 from non-federal, non-Departmental sources and $120,103,000 from other resources of the Department.

Freight

The Department supports the operations of certain rail freight lines through direct subsidies to short line rail operations and rehabilitation of components of these lines.

Allocations for the rail freight capital program for the six-year Final CTP period are $12,380,000, of which $2,500,000 is expected to be provided by federal grants, $315,000 from non-federal, non-Departmental sources and $9,565,000 from other sources of the Department.

Statewide Grants

Department aid is available to qualifying local public and non-profit agencies for the planning, capital and operating costs of public transportation projects. Where federal grants are available for planning and capital costs, the Department will provide up to 80% of the non-federal share of approved costs.

Allocations for statewide public transit grants for the six-year Final CTP period total $214,925,000, of which $196,811,000 is expected from federal grants and $18,114,000 from other resources of the Department.

Increase in Operating and Capital Funding

Chapter 352, Laws of Maryland 2018 enacted in the 2018 regular session of the General Assembly increased the fiscal year 2020 appropriation from the Transportation Trust Fund for the operating expenses of MTA to be at least 4.4% greater than the appropriation in the fiscal year 2019 budget as introduced. In addition, for fiscal years 2021 and 2022, the appropriation from the Transportation Trust Fund for the MTA's operating expenses is required to be at least 4.4% greater than the preceding fiscal year. Given the significant impacts of COVID-19 on transit ridership, services, and revenues, Chapter 150, Laws of Maryland 2021 enacted in the 2021 regular session of the General Assembly modified the provision for the fiscal year 2022 to require an appropriation of not less than the fiscal year 2021 appropriation. This requirement is being met.

Washington Metropolitan Area Transit Authority Grants

Washington Suburban Transit District

The Department provides financial aid for the construction and operation of the regional rail and bus system of the Washington Metropolitan Area Transit Authority ("WMATA") serving Montgomery and Prince George's Counties in Maryland, the District of Columbia, and the local jurisdictions in Virginia which participate in the Northern Virginia Transportation Commission. Prince George's and Montgomery Counties in Maryland comprise the Washington Suburban Transit District ("WSTD"). The Washington Suburban Transit Commission ("WSTC"), created by State law to manage and control the functions and affairs of the WSTD, is empowered to provide funds to meet the WMATA obligations allocated to WSTD. The Department provides funds for the WMATA system through grants-in-aid to the WSTC.

The Department provides (1) grants to meet the WSTD's share of the capital costs of the adopted regional rail system, and (2) grants to the WSTD in an amount equal to 100% of the WSTD's share of the operating deficits of the regional transit system (operating deficits are defined as operating costs less (a) the greater of operating revenues or 50% of operating costs, and (b) all federal operating assistance).

Under Chapter 352, for any fiscal year in which the total Maryland operating assistance provided in WMATA's approved budget increases by more than 3% over the total operating assistance provided in WMATA's approved budget for the prior fiscal year, the Secretary shall withhold 35% of the annual operating grants. Increases for certain budget items are excluded from the 3% calculation. Chapter 352 also increases the annual capital grant by 3% from the previous year and requires an additional capital appropriation of $167,000,000 per year from Maryland.

WMATA Capital Improvement Program and Dedicated Funding. The Capital Improvement Program includes both the former Infrastructure Renewal Program ("IRP") and the System Access Plan ("SAP"), as well as additional dedicated capital funding of $500,000,000 in total from Maryland, the District of Columbia, and the local jurisdictions in Virginia. A six-year capital funding agreement currently effective for FY 2022-2027 funds the IRP and SAP on an ongoing basis. Projects include all system infrastructure, rolling stock, vehicles and equipment. The FY 2022-2027 Final CTP provides for an estimated expenditure of $2,865,085,000 including $714,744,000 in federal funds received by WMATA directly.

Operating Deficit Assistance. The Department estimates that its share of the WSTD's portion of the transit operating deficits for fiscal years 2022-2027 will be $2,761,400,000 of which $438,100,000 is required for fiscal year 2022.

Debt Service Assistance. Over the six-year FY 2022-2027 Final CTP, the Department will contribute $187,455,000 for debt repayment on long term bonds issued for WMATA's Metro Matters Program, a regionally funded program for capital improvements completed primarily during fiscal years 2005 through 2010 and two recent debt offerings, in 2017 and 2018. This amount is included in the WMATA Capital Improvement Program numbers above.

Maryland Port Administration

The Port of Baltimore is served by highway and major railroad systems and offers two distinct water approach routes to or from the Atlantic Ocean: from the south through the Virginia Capes and from the north through the Chesapeake and Delaware Canal.

The MPA has constructed and currently operates marine terminals in the Port of Baltimore as well as an automobile handling facility. The Final CTP includes major projects for the improvement and expansion of some of these terminals at a six-year cost of $511,332,000. Of this amount, $133,764,000 will be from federal grants, $139,651,000 is expected to be from other resources of the Department and $237,917,000 from non-Federal non-Departmental sources. Major project expenditures related to dredging, including dredged material containment site-work, are projected to be $398,824,000 for the six-year period. Minor projects (i.e. rehabilitation and system preservation) at the MPA's various marine terminals (Dundalk, Clinton Street, Locust Point, etc.) are also included in the Final CTP at a cost of $233,600,000 and additional cost to support the implementation of the projects. The total FY 2022-2027 Final CTP for the MPA is $1,174,048,000.

In December 2009, the MPA awarded a public-private partnership long-term lease to Ports America valued at $1,300,000,000. The lease allows Ports America to operate Seagirt Marine Terminal for a 50-year period. Ports America's subsidiary, Ports America Chesapeake, constructed a 50-foot deep berth at the Seagirt Marine Terminal that accommodates larger ships from Asia that call on East Coast ports since the expansion of the Panama Canal was completed in 2016. Ports America added four cranes to the new berth capable of handling container ships which are higher and wider than those calling at the Port of Baltimore prior to the Panama Canal expansion. As part of the agreement, Ports America will invest more than $600,000,000 in port-related infrastructure improvements over the 50-year lease life. The lease required Ports America to make an upfront payment of $140,000,000 to fund other Maryland Transportation Authority projects which allowed MPA to take ownership of Seagirt Marine Terminal.

In June 2006, the Department entered into a $26,530,000 conditional purchase agreement to construct a 215,000-square-foot warehouse facility at the MPA South Locust Point Terminal. The project included demolition, land preparation, construction of a roll-on/roll-off ramp at the dock and extending railroad tracks to the warehouse. In accordance with provisions of the conditional purchase agreement, forest product revenue at the South and North Locust Point Terminals currently covers the debt service payments. Refunding Series 2016 Certificates of Participation refunded the 2006 MPA conditional purchase agreement for the warehouse in December of 2016.

Maryland Aviation Administration

Baltimore/Washington International Thurgood Marshall Airport

BWI Marshall Airport, operated by the MAA, is located on a 3,596-acre site in Anne Arundel County, 9 miles south of central Baltimore and 32 miles northeast of central Washington, D.C. During fiscal year 2021, over 13.3 million passengers (20 million in fiscal year 2020) traveled through BWI Marshall Airport, flying on 12 scheduled airlines to 86 destinations, averaging 203 daily departures. In fiscal year 2021, cargo airlines contributed to a 12% increase in tonnage. BWI Marshall Airport set a twelve-month traffic record of 27.2 million passengers for the year-ended February 2020. The COVID-19 pandemic affected passenger traffic significantly beginning in March 2020. BWI Marshall Airport hit a low point in April 2020 as passenger service was reduced to 111 daily departures on 11 scheduled airlines to 55 destinations, with passenger traffic down 96% year-over year. Passenger traffic increased gradually from April 2020 to February 2021, ending up down 58% year over year. With the introduction of vaccines, passenger traffic picked up significantly starting in March 2021, with June 2021 ending down 26% from pre-pandemic levels of June 2019.

The FY 2022-2027 Final CTP allocation of $896,379,000 for MAA includes $681,759,000 in major improvements at BWI Marshall Airport consisting of regional aviation, noise mitigation expansion, bus replacements, and fuel storage tank expansion. Major terminal modernization improvements in the CTP include construction of the Concourse A/B Connector and Baggage Handling System, Terminal A Five-Gate Extension and the Aircraft Maintenance Facility Infrastructure.

Revenue Bonds issued by the Maryland Economic Development Corporation ("MEDCO") and Parking Bonds issued by the Authority were refunded in February 2021 with Special Transportation Project Refunding Revenue Bonds Series 2021A issued by the Department. The MEDCO, Parking and Passenger Facility Charge ("PFC") Revenue Bonds issued by the Authority were used to complete the Concourses A and B expansion, the construction of the daily garage, and improvements to the terminal and access roadwork. Additional PFC bonds were issued by the Authority in April 2012 and used along with PFC revenues and federal grants to finance improvements to Concourse C. In December 2012, PFC bonds were issued by the Authority to finance construction of airfield improvements and make improvements to runway and connective airfield pavement; in December 2014, PFC bonds were issued for improvements to Concourses D and E; and in June 2019 PFC bonds were issued to finance improvements to restrooms, add 5 gates on Concourse A, various concourses improvements and Federal Inspection Service hall reconfiguration. The 5-gate extension was also financed through a $20M loan from the Authority. The Department issued Special Transportation Project Revenue Bonds Series 2021B in July 2021 to finance the Concourse A/B Connector and Baggage Handling System project. See "CONDITIONAL PURCHASE AND LEASE FINANCINGS" for summaries of these bond financings.

The Aviation Safety and Capacity Expansion Act of 1990 (the "1990 Safety Act"), enacted by the United States Congress ("Congress"), allows a public agency to impose an airport PFC for enplaned passengers. The proceeds of such PFCs are to be used to finance eligible airport-related construction projects, as approved by the Federal Aviation Administration (the "FAA").

The Aviation Investment and Reform Act for the 21st Century, enacted by Congress in April 2000, together with the 1990 Safety Act, increased the maximum per passenger PFC allowed to be charged by qualifying airports from $3.00 to $4.50. In 1992, the MAA received FAA approval to collect PFCs at BWI Marshall Airport. In 2002, the MAA received FAA approval to increase its collection level to $4.50. The FAA further allows the MAA to impose and use PFCs for the payment of debt service for bonds used to fund PFC approved projects. PFC collections not needed for debt service are used for PFC approved paygo projects.

The CTP also anticipates expenditures of $173,724,000 for airport planning and preservation of both BWI Marshall Airport and Martin State Airport, of which $22,697,000 is expected from federal grants, $147,667,000 from other resources of the Department and $3,361,000 from non-Departmental revenue sources.

Other Aviation Facilities and Programs

Martin State Airport is located northeast of Baltimore in Baltimore County, and provides facilities for general aviation and the Maryland Air National Guard. Improvements amounting to an estimated $11,278,000 are allocated during the six-year Final CTP period to Martin State Airport. It is estimated that $1,149,000 would be provided by federal grants and $10,129,000 from other resources of the Department.

In 2008, the MAA updated the Maryland Aviation System Plan, a 20-year comprehensive review of Maryland's airport system which includes all public-use landing facilities. The Maryland Aviation System Plan is a planning document to preserve and expand a safe and efficient system of airports. A grant program to aid general aviation and commercial airports throughout the State, in keeping with the Maryland Aviation System Plan, is expected to require more than $12,962,000 during the six-year CTP period.

Motor Vehicle Administration

The MVA is responsible for providing motor vehicle services to the citizens of the State. These services include licensing all eligible and qualified drivers, issuing photo identification cards for non-driver residents, registering and titling vehicles, issuing tags and permits for persons with a disability, regulating motor vehicle dealerships and salespersons, administering the compulsory insurance compliance program, managing the Vehicle Emissions Inspections Program ("VEIP"), and conducting driver safety programs. The MVA serves its customers through a network of 24 MVA offices, a mobile service center, a suite of electronic services (self-service kiosks, internet, and telephone customer service center), United States Postal Mail, County Treasurer offices, 18 VEIP stations, motorcycle safety training centers, Electronic Registration and Titling System participants and licensed title service agencies. Overall, the MVA manages approximately 27.2 million driver, vehicle and identification card records, including those not currently registered. During fiscal year 2021, 1.0 million new and renewal driver's licenses and identification cards, 4.3 million new and renewal vehicle registrations, and approximately 1.3 million new titles were issued. MVA customers currently complete 70.8% of core service transactions by using United States mail, telephone, internet, kiosk, mobile office or County Treasurer office, with the remaining transactions conducted at MVA customer facilities. Beginning in March 2020, the COVID-19 pandemic affected normal operations of the MVA including temporary branch closures, limited branch capacity, and reduced staffing which resulted in overall in-person transactions decreasing and alternate service delivery transactions increasing.

The FY 2022-2027 Final CTP has $121,699,000 programmed for MVA capital projects, of which $67,526,000 is allocated to preserve and develop the MVA's information technology ("IT") infrastructure, and the remaining $54,173,000 will allow for the preservation and improvement of customer service offices. While IT infrastructure is critical to how a growing number of customer transactions are completed at the MVA, customer service facilities continue to be an important part of service distribution. In addition to preserving and improving existing IT systems, such as the driver licensing system, two major IT projects, Customer Connect and Workflow System Upgrade, are underway. These IT projects resolve to modernize, standardize and integrate an aging MVA IT infrastructure. MVA facilities require ongoing investment to keep them safe, secure and publicly compliant. Some customer service offices and many VEIP stations have reached an age whereby investments need to be made in the building structure, site, and mechanical and electrical systems.

The Secretary's Office

Capital projects funded in the Secretary's Office largely consist of Department-wide projects to improve air quality, promote bicycling as a mode of transportation and facilitate transit-oriented development. The Secretary's Office includes multi-modal planning efforts and grants either given from the Secretary or received by the Department for key projects around the state.

Capital allocations for the TSO in the FY 2022-2027 Final CTP total $168,885,000, of which $7,334,000 is expected from federal grants, $149,632,000 from other resources of the Department and $9,918,000 from non-federal, non-Departmental sources.

On June 27, 2002, MEDCO issued lease revenue bonds on behalf of the Department in the amount of $36,000,000 (the "2002 Lease Revenue Bonds") for the acquisition, construction and equipping of a new Department headquarters building. The Bonds are secured by the Department's semiannual lease payments to MEDCO. On May 25, 2010, MEDCO partially refunded the 2002 Lease Revenue Bonds. These bonds will be fully repaid in fiscal year 2022.

The "**Federal Aid**" subsection of "**THE TRANSPORTATION TRUST FUND**" section of the Original Official Statement is hereby updated and restated by the following:

Federal Aid

Federal aid, representing 36% of the total funding in the Department's TTF, supports the multimodal investments in the FY 2022–2027 Final CTP. The continued support of the Federal Highway Trust Fund is critical to the Department's ability to enhance, improve, and rebuild State infrastructure to compete in a modern economy.

The FY 2022-2027 Final CTP is based on the spending levels and contract authority under the federal highway program enacted in December 2015 entitled Fixing America's Surface Transportation Act for federal fiscal years 2016 – 2020 (the "FAST Act"). Federal highway program funds authorized and apportioned to the states are subject to annual ceilings, which determine how much of the authorized money can be obligated in any given year. This ceiling is referred to as Obligational Authority ("OA") and is imposed by Congress annually in response to prevailing economic policy. Since fiscal year 2004, the Department's OA has ranged from 84% to 95%. The OA level received in fiscal year 2020 was 90.6%. The CTP assumes an OA level of 90.0 % for fiscal years 2022 – 2027.

Under the FAST Act, the Department received an authorization for federal aid for the highway program, primarily for interstate, primary, secondary and urban systems, bridge replacement, highway safety, and congestion mitigation/air quality improvement. All available federal aid is utilized, and no federal aid has been lost for lack of a State match. The FAST Act was extended for one year through September 30, 2021. The FY 2022-2027 Final CTP assumes that a reauthorization would occur at the current levels and applies that assumption through fiscal year 2027. Historically, when federal authorizing legislation has expired prior to enactment of succeeding multi-year authorizing legislation, Congress has utilized continuing resolutions to maintain the flow of federal revenues to states through short term extensions until a new multi-year authorization is agreed upon. There is currently a continuing resolution that continues the FAST Act funding through March 11, 2022. On November 15, 2021, Congress reauthorized federal surface transportation programs in the Infrastructure Investment and Jobs Act (IIJA), providing authority for spending to continue through fiscal year 2027. Congress still needs to approve an annual appropriation bill to finish the formula funding portion of the IIJA. There are some new formula programs and discretionary grant programs that received authorization and appropriation but need guidance/rules/regulations to allow the funding to be released. The first of these, the new formula bridge program for poor and fair rated bridges, had guidance and funding levels released on January 14, 2022. The rest of these general funded programs and the discretionary grant programs are expected to move forward over the next few months.

The Federal Transit Administration provides transit operating and capital assistance for bus, metro, light rail, and commuter rail. Federal grants are also provided for rural areas as well as elderly and handicapped persons. Federal entitlement and discretionary funding for airport projects are provided by the FAA through the Airport Improvement Program (AIP). IIJA has included formula-based AIP funding for the next five years.

The Department has been awarded in the past, and will continue to apply for, various federal grant programs. The Department was awarded federal funds under the Infrastructure for Rebuilding America (INFRA) grant program. INFRA is another discretionary grant program administered by United States Department of Transportation for nationally and regionally significant freight projects. An INFRA grant of $125,000,000 million was awarded to Maryland for the expansion of the Howard Street Tunnel. These funds allow the State to partner with CSX Transportation in the reconstruction of the tunnel that will provide the height requirements needed for double stacked containers to travel to and from the Port of Baltimore.

The Department also receives federal funding from the United States Department of Homeland Security for various transit, port and driver services security projects. Federal Emergency Management Administration manages several grant programs that award funding to improve security and disaster preparedness across the State transportation network.

On March 13, 2020, the President of the United States declared the ongoing COVID-19 pandemic of sufficient severity to warrant an emergency declaration for purposes of obtaining disaster assistance through the Request for Public Assistance program administered by the Federal Emergency Management Agency ("FEMA"). The Department has taken appropriate measures to ensure it will be able to apply for FEMA funding at the appropriate time. It is not known at this time how much, if any, FEMA funding will be received.

The United States government has taken legislative and regulatory actions and implementing measures to mitigate the broad disruptive effects of the COVID-19 pandemic. The Coronavirus Aid, Relief, and Economic Security Act (the "CARES Act"), approved by the United States Congress and signed by the President of the United States on March 27, 2020, is one such legislative measure to address the crisis created by the pandemic and includes direct aid in the form of grants for transit and airports as well as a number of other provisions. The MTA received $392,000,000 from the CARES Act that was fully utilized in fiscal years 2020 and 2021. The MAA received $87,600,000 from the CARES Act for BWI Marshall Airport and $157,000 for Martin State

Airport, which was fully expended in fiscal year 2020. In addition, the State of Maryland received funds through the CARES Act, of which $28,200,000 was provided to the Department to reimburse certain COVID-related expenses, including premium and response for essential employees.

On December 27, 2020, the Coronavirus Response and Relief Supplemental Appropriations Act of 2021 (the "CRRSAA") was signed into law by the President of the United States. The CRRSSA included $233,100,000 in total grants to the Department including funding for MTA, MAA, and SHA. Those funds are being utilized in fiscal years 2021 through 2022.

On March 11, 2021, the American Rescue Plan Act of 2021 (the "ARPA") was signed into law by the President of the United States. The ARPA includes $436,400,000 in total grants to the Department including funding for MTA, MAA, and SHA. Those funds are being utilized in fiscal years 2022 through 2024. The ARPA also provided $350,000,000,000 in Coronavirus State and Local Fiscal Recovery Funds to help states, local government, U.S. territories and tribal governments cover increased expenditures, replenish lost revenue and mitigate economic harm from the COVID-19 pandemic. The State of Maryland received $3,900,000,000. The Governor of Maryland announced a joint executive and legislative plan for use of the State of Maryland's allocation of Coronavirus State and Local Fiscal Recovery Funds that includes $500,000,000 for transportation to offset revenue losses. The Department will utilize this funding in fiscal years 2022 and 2023 and the spending is reflected in the FY 2022-2027 Final CTP.

The major federal fund receipts for the capital program including federal funds for local governments in fiscal year 2022 are estimated to be $1,380,329,235. Projected receipts for fiscal year 2023 are $1,309,895,120**.**

The federal subsidy for the Department's Consolidated Transportation Bonds, Series 2010 B (Federally Taxable – Issuer Subsidy – Build America Bonds) has been reduced since October 1, 2012 in an amount ranging from 5.7% to 8.7%. The federal subsidy was reduced by 5.7% in the federal fiscal year starting October 1, 2020 and is expected to continue through maturity of such bonds in 2025.

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The "**PLEDGED TAXES & NET REVENUES**" section of the Original Official Statement is hereby updated and restated by the following:

PLEDGED TAXES & NET REVENUES

As described above under "SECURITY", portions of the corporation income tax, motor fuel tax, motor vehicle titling tax and sales and use tax on short-term rental vehicles are irrevocably pledged to payment of debt service on the Department's bonds. Consolidated Transportation Bonds issued prior to July 1, 2011 have additional security (see note 1 under "SECURITY"). See "SECURITY" for a discussion of changes to TTF revenues enacted by the General Assembly. **From time to time, there are legislative proposals in the General Assembly that, if enacted, could alter the Department's share of the taxes.**

The following table lists the total amount of such taxes credited to the TTF for the past five fiscal years, including actual numbers for fiscal year 2021 and estimated numbers for fiscal year 2022 (in thousands). These taxes would be the amounts upon which the Additional Bonds test relating to total proceeds from pledged taxes would be based. (See "FINANCIAL AND ACCOUNTING SYSTEM" for a general description of the budgetary basis.)

Taxes Pledged to Bonds	2017	2018	2019	2020	2021	2022 [1]
Corporation Income Tax	$ 131,160	$ 135,321	$ 170,452	$ 191,739	$ 267,065	$ 252,949
Fuel Tax	981,555	987,506	1,043,835	1,050,605	998,216	1,054,038
Titling Tax	829,305	813,673	857,453	846,764	976,727	991,380
Sales and Use Tax	29,142	29,257	31,823	31,686	21,373	24,152
Total Pledged Taxes	$ 1,971,162	$ 1,965,757	$ 2,103,563	$ 2,120,794	$ 2,263,381	$ 2,322,519

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[1] Estimated for fiscal year 2022.
Note: Totals may not add due to rounding.

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To the extent needed, other revenues credited to the Department are available for payment of debt service on the Department's bonds. These will be the amounts upon which the Additional Bonds test relating to net available revenues will be based. The following table lists the total of the two categories of revenues available for debt service on the Department's bonds, the Department's administration, operation and maintenance expenses paid from the TTF and net revenues (in thousands).

	2017	2018	2019	2020	2021	2022[1]
Total Pledged Taxes	$ 1,971,162	$ 1,965,757	$ 2,103,563	$ 2,120,794	$ 2,263,381	$ 2,322,519
Fees…………………………						
Motor Vehicle Registrations	316,742	317,433	326,555	328,496	363,489	364,379
Other	306,488	287,720	297,699	259,156	272,388	294,546
Total Taxes and Fees	2,594,392	2,570,910	2,727,817	2,708,446	2,899,258	2,981,444
Operating Revenues:						
MPA	49,039	51,783	55,283	54,743	49,261	48,409
MTA	149,249	150,911	140,094	108,074	50,060	75,690
MAA	243,132	257,218	257,929	231,521	184,300	254,000[2]
Total Operating Revenue ...	441,420	459,912	453,306	394,338	283,621	378,099
Other Revenue	69,012	60,566	56,543	49,418	122,454	114,759
Investment Income	627	2,322	2,928	1,918	0	1,000
Total Revenues	3,105,451	3,093,710	3,240,594	3,154,120	3,305,333	3,475,302
Administration, Operation and Maintenance Expenditures….	1,853,698	1,949,416	2,127,967	1,743,017	1,684,215	1,619,963
Net Revenues	$ 1,251,753	$ 1,144,294	$ 1,203,397	$1,411,103	$ 1,621,118	$ 1,855,339

[1] Estimated for fiscal year 2022.
[2] Represents net revenues after debt service on airport revenue bonds.

Note: Totals may not add due to rounding.

Certain of the fluctuations in the above tables are caused by institution of new programs and responsibilities of the Department, changes in tax and fee structures (See "THE TRANSPORTATION TRUST FUND"), and the influence of economic trends. The estimate for fiscal year 2022 is based on the Department's financial plan released on January 19, 2022 that reflects Maryland's continued recovery from the revenue declines associated with the COVID-19 pandemic.

In 2020, Maryland total personal income increased at 6.1%, just slightly below the national increase of 6.5%. Between 2015 and 2020, total personal income in Maryland grew 3.7% annually, compared to a national growth rate of 4.6%. Maryland's slower income growth during this period likely reflects federal budget uncertainty, austerity or sequestration, and higher income tax rates. As sequestration eased, Maryland's personal income and economic growth became more consistent with that of the nation.

In 2020, a significant contraction in economic output occurred due to the COVID-19 pandemic and measures to contain it. However, a massive federal economic stimulus response kept aggregate personal income growing as households received income that has been put toward both savings and consumption.

In the spring of 2020 Maryland experienced its worst job losses since the Great Depression. In April employment declined 13.0% year over year. Employment rebounded during the summer and fall, though for the year 2020, employment remained down 6.8% year over year. In 2021, employment has further recovered and grew approximately 2.8% though employment still remains below the prior peak. Maryland's employment recovery has been largely bifurcated, with sectors more directly affected by the pandemic (e.g., accommodations, food service) experiencing significant losses and other sectors experiencing more complete recoveries.

Based on an analysis of current economic projections, employment growth is forecasted to grow at an average annual rate of 1.2% through 2027, while personal income is forecasted to grow at an average annual rate of 4.3% over the same period.

COVID-19 will continue to create challenges in forecasting the Department's revenue, expenses and cashflow for budget purposes. The information herein includes data for periods prior to the outbreak of COVID-19 and should not be relied upon as representing revenue amounts or trends that may be available in the future. See "IMPACT OF COVID-19 ON THE FINANCIAL CONDITIONS AND OPERATIONS OF THE DEPARTMENT".

The "**OUTSTANDING INDEBTEDNESS**" section of the Original Official Statement is hereby updated and restated by the following:

OUTSTANDING INDEBTEDNESS

As shown in the table below, Consolidated Transportation Bonds in the aggregate principal amount of $3,698,755,000 will be outstanding upon issuance of the 2022 A Bonds on March 3, 2022. See also "THE TRANSPORTATION TRUST FUND — Consolidated Transportation Bonds" for a discussion of the limit on the maximum outstanding aggregate principal amount of Consolidated Transportation Bonds established by the budget.

Series 2010B	$64,400,000
Series 2014	7,185,000
Series 2015	181,355,000
Series 2015 (Second Issue)	101,265,000
Refunding Series 2015	64,510,000
Series 2015 (Third Issue)	226,435,000
Series 2016	315,385,000
Refunding Series 2016	134,915,000
Series 2017	233,755,000
Series 2017 (Second Issue)	375,360,000
Series 2018	122,650,000
Series 2018 (Second Issue)	594,930,000
Series 2019	490,000,000
Series 2020	300,000,000
Series 2021 A	295,000,000
Series 2021 B	139,210,000
Series 2022 A	52,400,000
Total	$3,698,755,000

Upon issuance of the 2022 B Bonds and the refunding of the 2022 B Refunded Bonds on November 3, 2022, the aggregate outstanding principal amount of the Consolidated Transportation Bonds is expected to be $3,494,220,000. The issuance of the 2022 B Bonds are subject to the satisfaction of certain terms and conditions provided in the Forward Delivery Bond Purchase Contracts. See "FORWARD DELIVERY BOND CONSIDERATIONS" herein.

The "**DEBT SERVICE REQUIREMENTS AND ESTIMATED COVERAGES**" section of the Original Official Statement is hereby updated and restated by the following:

DEBT SERVICE REQUIREMENTS AND ESTIMATED COVERAGES

The following table presents debt service requirements and estimated coverage ratios for all Consolidated Transportation Bonds upon the issuance and delivery of the 2022 A Bonds on March 3, 2022. Maximum annual debt service is $479,509,863 in fiscal year June 30, 2023. Net revenues for the fiscal year ending June 30, 2021 under the first test described above under "ADDITIONAL BONDS" would be 3.38 times maximum annual principal and interest requirements on such debt. Pledged taxes for the fiscal year ended June 30, 2021 under the second test described above under "ADDITIONAL BONDS" would be 4.72 times maximum annual principal and interest requirements on such debt. See "PLEDGED TAXES AND NET REVENUES" for detail on the Department's revenue. These coverage ratios are calculated on the basis of no further issuance of Consolidated Transportation Bonds.

Debt Service Requirements- Consolidated Transportation Bonds
(in thousands)

Debt Service Coverage Ratio Based Upon FY 2021 Revenue[1]

Fiscal Year	Outstanding Bonds Principal & Interest	Series 2022 A Refunding Principal	Series 2022 A Refunding Interest	2022A Refunded Bonds Debt Service	Total Debt Service Requirements	Pledged Tax Ratio[2]	Net Revenue Ratio[3]
2022	453,161			(893)	452,268	5.00	3.58
2023	480,373	5,820	3,115	(9,798)	479,510	4.72	3.38
2024	429,820	6,695	2,162	(9,720)	428,957	5.28	3.78
2025	433,076	6,960	1,820	(9,646)	432,210	5.24	3.75
2026	414,335	7,400	1,461	(9,723)	413,474	5.47	3.92
2027	414,612	7,950	1,077	(9,893)	413,746	5.47	3.92
2028	403,759	8,495	666	(10,026)	402,894	5.62	4.02
2029	388,698	9,080	227	(10,169)	387,836	5.84	4.18
2030	358,138	-	-	-	358,138	6.32	4.53
2031	317,907	-	-	-	317,907	7.12	5.10
2032	289,166	-	-	-	289,166	7.83	5.61
2033	224,653	-	-	-	224,653	10.08	7.22
2034	168,748	-	-	-	168,748	13.41	9.61
2035	106,260	-	-	-	106,260	21.30	15.26
2036	59,646	-	-	-	59,646	37.95	27.18
2037	28,394	-	-	-	28,394	79.71	57.09
Total[4]	$ 4,970,746	$ 52,400	$ 10,529	$ (69,868)	$ 4,963,807		

(1) The general sales and use tax and corporation income tax affected by General Assembly changes in the 2011 Session are available to pay debt service on the Consolidated Transportation Bonds sold prior to July 1, 2011 (approximately $64.4 million outstanding) if needed.

(2) Pledged taxes (in thousands) were $2,263,381 for fiscal year 2021 – audited number.

(3) Net revenues (in thousands) were $1,621.118 for fiscal year 2021 – audited number.

(4) Totals may not add due to rounding.

Upon issuance of the 2022 B Bonds and the refunding of the 2022 B Refunded Bonds on November 3, 2022, the maximum annual debt service is expected to be $480,461,159 in fiscal year 2023. Net revenues for the fiscal year ending June 30, 2021 would be 3.37 times maximum annual principal and interest requirements on such debt, and pledged taxes for the fiscal year ended June 30, 2021 would be 4.71 times maximum annual principal and interest requirements on such debt. The issuance of the 2022 B Bonds are subject to the satisfaction of certain terms and conditions provided in the Forward Delivery Bond Purchase Contracts. See "FORWARD DELIVERY BOND CONSIDERATIONS" herein.

The first two paragraphs under the "**FINANCIAL AND ACCOUNTING SYSTEM**" section of the Original Official Statement is hereby updated and restated by the following:

FINANCIAL AND ACCOUNTING SYSTEM

Accounting records for the Transportation Trust Fund are maintained by the Comptroller of the Treasury of the State of Maryland (the "Comptroller") and all cash and investments of the Transportation Trust Fund are held by the State Treasurer (the "Treasurer"), except for revolving cash accounts. Accounting records for the Transportation Trust Fund for operational and management purposes are maintained by the Department. The Department's financial statements and notes thereto for the fiscal year ended June 30, 2021, the most recent fiscal year for which financial statements and notes are available, contained in the ACFR have been prepared in conformity with generally accepted accounting principles accepted in the United States and have been audited by the firm of CliftonLarsonAllen LLP, independent certified public accountants.

The Government Finance Officers Association of the United States and Canada awarded a Certificate of Achievement for Excellence in Financial Reporting to the Department for its annual comprehensive financial reports for fiscal years 2000 through 2020. The Department has not yet received notification regarding its 2021 submission. In order to be awarded a Certificate of Achievement, a governmental unit must publish an annual comprehensive financial report, the contents of which conform to program standards. Such reports must satisfy both generally accepted accounting principles and applicable legal requirements.

The "**EMPLOYEE RELATIONS**" section of the Original Official Statement is hereby updated and restated by the following:

EMPLOYEE RELATIONS

As of December 31, 2021, the Department had 9,057.5 authorized employee positions, not including the Authority.

Labor-Management Relations. As of December 31, 2021, the State had approximately 105,748 employees. States are exempt from the provisions of the National Labor Relations Act; thus, certain State employees may engage in collective bargaining only if specifically authorized. Since 1999, collective bargaining has been available to eligible State employees in executive branch agencies. Currently there are approximately 30,000 eligible State employees assigned to one of eleven bargaining units. These bargaining units are represented by seven certified exclusive bargaining representatives that are entitled to negotiate with the Governor or his designee(s) regarding wages, hours, and working conditions on behalf of bargaining unit employees. The negotiating parties execute a memorandum of understanding of not less than 1 year or more than 3 years' duration that incorporates all matters of agreement reached. Matters of agreement that require legislative approval or the appropriation of funds are subject to the approval of the General Assembly. Additionally, State employees may join employee associations, and the State permits the deduction of dues from employees' salaries for these associations.

As of December 31 2021, of the 3,395 authorized employees of the MTA, 2,675 were represented by three separate unions. At the option of either party, any labor dispute involving the MTA and its unionized employees may be submitted to binding arbitration.

The contract with the union (OPEIU Local 2) representing 170 office employees was ratified as of November 20, 2019 and expires on June 30, 2022. The contract with the union (AFSCME Local 1859) representing 175 security personnel was ratified as of January 1, 2020 and will expire on December 31, 2023. A four-year contract with union (ATU Local 1300) representing 2,330 operations and maintenance employees was ratified on August 18, 2019 and will expire on June 30, 2022.

Although the State permits non-management employees of the MTA to engage in collective bargaining, these employees are not authorized to engage in any type of strike, slow-down or work action. Since the creation of the Department in 1971, there have been no work stoppages.

The "**RETIRMENT PLANS**" section of the Original Official Statement is hereby updated and restated by the following:

RETIREMENT PLANS

As of December 31, 2021, 5,332 employees of the Department were members of the Maryland State Retirement and Pension System (the "System"). See "STATE GOVERNMENT — Maryland State Retirement and Pension System" for detailed information. An additional 2,542 active Department employees were members of the MTA pension plans, discussed herein.

The Department's contribution to the System for its employees is appropriated annually from the Transportation Trust Fund. The Department's contribution to the System was $73,195,461 in fiscal year 2021 not including contributions to the Law Enforcement Officers' Pension System ("LEOPS"). The Department's budget for fiscal year 2022 is $78,649,917. The contribution is calculated using a percentage rate applied to the projected earnings of employees. The State's Department of Budget and Management informs the Department of the percentage rate to be used in each budget year. (For additional information about the System, see the ACFR, Note 14.)

The Governmental Accounting Standards Board ("GASB") issued Statement No. 68, Accounting and Financing Reporting for Pensions, ("GASB 68") effective for fiscal years beginning after June 30, 2014. As part of GASB 68, the Department is required to record its share of the State's net unfunded pension liability (the "NPL"). The Department's share of the NPL is calculated by dividing the Department's contribution to the System by the total contributions to the System multiplied by the System's NPL. The Department's fiscal year 2021 allocation of the NPL was $1,130,235,012.

The MTA provides pension benefits to its employees for three union it recognizes and for former union members promoted to management positions (the "MTA Plan"). All other management employees hired after April 30, 1970 are members of the State Employees' Retirement or Pension Systems. All three active union contracts include a provision requiring union employees to contribute a percentage of their gross pay to the MTA Plan. (see "*Labor-Management Relations*"). Effective July 1, 2021, the ATU Local 1300 employee contribution rate is 4%, OPEIU Local 2 contributions is 4% and AFSCME Local 1859 is 2%.

The MTA Plan provides retirement, death and disability benefits and is funded in compliance with collective bargaining agreements. Employees hired after July 1, 2016 are vested after 10 years of service. For all employees hired before July 1, 2016, vesting varies based on the applicable bargaining agreement. Employee retirement benefits are based on years of service times an annual benefit multiplier of 1.7% of final average compensation. Generally, full service retirement benefits are based on 30 years of service and age 52 or attainment of age 65 with 5 years of service.

The annual contribution to the MTA Plan is based upon a report of the consulting actuary. The Department's contribution provided approximately $66,600,000 (which includes employee contributions of approximately $7,300,000) to the MTA Plan in fiscal year 2021. The Department's MTA fiscal year 2022 budget provides approximately $60,200,000 (which includes employee contributions of approximately $6,600,000) for the MTA Plan. The State has estimated the MTA's fiscal year 2021 allocation of the NPL to be $1,130,235,012.

As of December 31, 2021, membership in the MTA Plan included 2,545 active members, 525 vested former members, and 2,038 retirees (including qualified domestic relations order participants) and beneficiaries. The total pension liability is based upon the July 1, 2021 valuation data and assumptions determined by the consulting actuary and rolled forward to June 30, 2022. In December 2018, the Department implemented a long-term funding plan for the MTA Plan that relies on additional employer and employee contributions to reach 70% funding by fiscal year 2028.

Funded Status of the MTA Plan
As of July 1, 2021
($ in thousands)

Actuarial Accrued Liability (AAL)	Actuarial Value of Assets	Funded Ratio (Assets/Liab.)	Unfunded AAL (UAAL)	Covered Payroll (Active Members)	UAAL As a Percent of Payroll
$844,099	$418,742	49.61%	$425,358	$164,553	258.5%

For more detail on the MTA Plan, see:

https://mdot.maryland.gov/OOF/2021_FINAL_Pension_201778_MTA.pdf

Certain law enforcement officers at MTA, as well as MAA and MVA, are members of LEOPS. MTA police officers have been covered under LEOPS since July 1, 2005. The Department's contribution to MTA LEOPS in fiscal year 2021 was $3,914,861 and the budget for fiscal year 2022 as of January is $5,890,641. For MAA LEOPS, the contribution in fiscal year 2021 was $2,624,827 and the budget for fiscal year 2022 as of January is $2,723,313. For MVA LEOPS, the contribution in fiscal year 2021 was $162,634 and the fiscal year 2022 budget as of January is $169,785. Altogether, the Department's contribution to LEOPS in fiscal year 2021 was $6,702,322 and the budget for fiscal year 2022 as of January is $8,783,739.

In addition, some airport firefighters are members of Baltimore City's Fire and Police Retirement System. The Department's contribution to this plan in fiscal year 2021 was $952,757 and the budget for fiscal year 2022 as of January is $948,843.

The "**OTHER POST-EMPLOYMENT BENEFITS**" section of the Original Official Statement is hereby updated and restated by the following:

OTHER POST-EMPLOYMENT BENEFITS

Eligible retired Department employees and their eligible dependents may participate, on a subsidized basis, in the State Employee Retiree Health and Welfare Benefits Program of Maryland (the "Program") which funds retirees' health care costs on a pay as you go basis. See "STATE GOVERNMENT — Other Post-Employment Benefits" for a detailed discussion.

The MTA provides a retiree health care benefits plan (the "MTA OPEB") to all employees who are members of the MTA Plan, except for transfers from union to management positions who are required to enroll in the Program. See "STATE GOVERNMENT — Other Post-Employment Benefits". The annual funding of the MTA OPEB is based upon a report of the consulting actuary. The MTA OPEB is an unfunded pay-as-you-go plan. The MTA does not currently have a separate fund set aside to pay healthcare costs.

Maryland Transit Administration Pension Plan OPEB
Annual OPEB Cost and Net OPEB Obligation
Fiscal Year 2021
($ in millions)

Balance as of June 30, 2019 for FY 2020	$832.7
Changes for the Year:	
Service Cost	46.1
Interest	26.5
Changes of Benefit Terms	0.0
Experience Losses/(Gains)	19.7
Trust Contribution - Employer	(20.4)
Net Investment Income	0.0
Changes in Assumptions	(21.7)
Benefits Payments (net of retiree contributions)	0.0
Administrative Expense	0.0
Net Changes	50.3
Balance as of June 30, 2020 for FY 2021	$883.0

Note: Numbers may not add due to rounding

For a more detailed discussion of MTA's OPEB, see the Department's ACFR, Note 15.

The "**Maryland State Retirement and Pension System**" and "**Other Post-Employment Benefits**" subsections of the "**STATE GOVERNMENT**" section of the Original Official Statement are hereby updated and restated by the following:

Maryland State Retirement and Pension System

Introduction. This section is intended to provide a summary of relevant information related to the Maryland State and Retirement and Pension System (the "System" or the "State Retirement System"). The following documents related to the System are available at https://sra.maryland.gov/investments-financials and are incorporated herein by reference:

- Maryland State Retirement and Pension System Actuarial Valuation Report, as of June 30, 2021
- Maryland State Retirement and Pension System Actuarial Valuation Report for Maryland Municipal Corporations, as of June 30, 2021
- Maryland State Retirement and Pension System Annual Comprehensive Financial Report for the years ended June 30, 2021 and 2020

Please note the actuarial information provided in this section has been provided to the System by the System's Actuary, Gabriel Roeder Smith & Company ("GRS"), which was retained by the Board of Trustees of the System pursuant to statute. As with all actuarial valuations and future projections, the actuarial valuations are based on actuarial assumptions that have been presented by the actuary and adopted by the Board of Trustees. One or more of these assumptions may prove to be inaccurate and may be changed in the future based on the future experience of the System.

Plan Description. The System was established in accordance with Division II of the State Personnel and Pensions Article of the Annotated Code of Maryland to provide retirement allowances and other benefits in a defined benefit plan to State employees, teachers, police, judges, legislators and employees of participating governmental units. The System is administered by a 15-member Board of Trustees that has the authority to invest and reinvest the System's assets. The Board of Trustees is obligated to hold the assets of the System for the exclusive purposes of providing benefits to participants and for reasonable expenses of administration.

The Board of Trustees pays all benefits and expenses of the various plans in the System from the accumulation fund[1], annuity savings fund[2], and expense fund established for each plan. As additional security, if needed, the State is obligated to annually pay into the System at least an amount that, when combined with the System's accumulation funds, is sufficient to provide the allowances and other benefits payable under each plan during that fiscal year.

The System is made up of two cost-sharing employer pools: the "State Pool" and the "Municipal Pool." The "State Pool" consists of State agencies, boards of education, community colleges and libraries (the "State Pool"). The "Municipal Pool" consists of the participating governmental units that elect to join the System (the "Municipal Pool"). For actuarial valuation and funding purposes, neither pool shares in each other's actuarial liabilities. Municipal Pool participants cost-share in the liabilities of only the Municipal Pool, which receives a separate annual actuarial valuation in order to determine the funding levels and actuarial liabilities of the Municipal Pool. The Municipal Pool covers employees of over 163 political subdivisions and other entities within the State.

For actuarial valuation and funding purposes, the State Pool comprises five distinct systems: Teachers' Retirement and Pension Systems (the "Teachers' Combined Systems"), Employees' Retirement and Pension Systems (the "Employees' Combined Systems"), State Police Retirement System, Judges' Retirement System, and Law Enforcement Officers' Pension System. As of June 30, 2021, the State's membership in the System included 168,758 active members, 41,787 vested former members, and 149,541 retirees and beneficiaries. Together, the Teachers' Combined Systems and the Employees' Combined Systems account for 98% of membership in the State Pool.

Plan Benefits Pre- and Post-Reform. During the 2011 Legislative Session, pension reform legislation was proposed by the Governor and enacted by the General Assembly to ensure the long-term sustainability of the System's defined benefit structure and the affordability of the State's contribution in future years (the "2011 Pension Reforms").

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[1]The accumulation fund consists of employer contributions, interest on System assets, and retired members' previous contributions.

[2]The annuity savings fund consists of member contributions and statutory regular interest on members' accumulated contributions.

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Following the 2011 Pension Reforms the normal service retirement benefits within the State Pool offered by the System are as follows:

PLAN TYPE	ANNUAL ALLOWANCE EQUALS	NORMAL SERVICE RETIREMENT ELIGIBILITY
Employees and Teachers Pension Systems		
Reformed	AFC[1] × .015 × Years of Service	• Rule of 90[2]; or • Age 65 with at least 10 years of eligibility service.
Alternate Contributory	(AFC × .012 × Years of Service to 6/30/98) + (AFC × .018 × Years of Service after 6/30/98)	• At least 30 years of eligibility service; or • Age 62 with at least 5 years of eligibility service, age 63 with 4 years, age 64 with 3 years, age 65 or older with 2 years.
Contributory	(AFC × .012 × Years of Service to 6/30/98) + (AFC × .014 × Years of Service after 6/30/98)	• At least 30 years of eligibility service; or • Age 62 with at least 5 years of eligibility service, age 63 with 4 years, age 64 with 3 years, age 65 or older with 2 years.
Non-Contributory	(AFC up to SSIL[3] × .008 × Years of Service) + (AFC over the SSIL × .015 × Years of Service after 6/30/98)	• At least 30 years of eligibility service; or • Age 62 with at least 5 years of eligibility service, age 63 with 4 years, age 64 with 3 years, age 65 or older with 2 years.
Non-Contributory Reformed	(AFC up to SSIL × .008 × Years of Service) + (AFC over the SSIL × .015 × Years of Service)	• Rule of 90; or • Age 65 with at least 10 years of eligibility service.
Employees and Teachers Retirement Systems		
Non-Bifurcated	$\frac{AFC}{55} \times$ Years of Service	• At least 30 years of eligibility service; or • At least age 60.
Plan C (Bifurcated Plan)	See Plan C (Bifurcated Plan) Worksheet	• At least age 60, regardless of creditable service or at least 30 years of service regardless of age.
Law Enforcement Officers' Pension System		
Non-Reformed	.02 × AFC × Years of Service up to 32.5 years	• At least age 50; or • At least 25 years of eligibility service.
Reformed	.02 × AFC × Years of Service up to 30 years	• At least age 50; or • At least 25 years of eligibility service.
Transfers from ERS	(.023 × AFC × Years of Service up to 30 years) + (.01 × AFC × Years of Service beyond 30 years)	• At least age 50; or • At least 25 years of eligibility service.
State Police Retirement System		
Non-Reformed	AFC × .0255 × Years of Service up to 28 years	• At least 22 years of eligibility service; or • At least age 50.
Reformed	AFC × .0255 × Years of Service up to 28 years	• At least 25 years of eligibility service; or • At least age 50.
CORS	1.818% × years of service × AFC	• Members joining on or before June 30, 2011: 3 highest years of salary and 5 years. • All others: 5 highest years of salary and 10

PLAN TYPE	ANNUAL ALLOWANCE EQUALS	NORMAL SERVICE RETIREMENT ELIGIBILITY
		years. • Eligible after accruing 20 years of service regardless of age.
Judges' Retirement System		
All	6666667 × Salary of Active Judge holding same level position held at termination (Prorated if years of service less than 16)	• Members joining on or before June 30, 2012: at least age 60 or retired by order of Court of Appeals. • All others: at least age 60 and have accrued at least 5 years of eligibility service or l retired by order of Court of Appeals.
Legislative Pension Plan		
All	3.0% × current salary × years of service	• Members joining on or before June 30, 2012: age 60 and 8 years. • All others: age 62 and 8 years.

[1]AFC for purposes of the Employee and Teachers Pension Systems (Reformed benefit and Non-Contributory Reformed benefit only), the Law Enforcement Officers' Pension System (Reformed benefit only), the State Police Retirement System (Reformed benefit only) and Correctional Officers' Retirement System (Reformed benefit only) means the five highest consecutive years of earnings divided by five. For all others, AFC means the three highest consecutive years of earnings divided by three.

[2]Eligible for normal service retirement if years of service plus age equal 90.

[3]The Social Security Integration Level (SSIL) for the year of retirement or separation from employment. The SSIL for 2020 is $133,770.

In fiscal year 2021, State retirees and beneficiaries within the State Pool received benefit payments totaling $3.9 billion, with an average benefit of $26,352.

Assumptions. By law, employer contribution rates are established by annual actuarial valuations using the individual entry age normal cost method and actuarial assumptions adopted by the Board of Trustees. Assets are valued for funding purposes by recognizing investment gains and losses over a five-year period. Each year's investment gain or loss is amortized on a straight-line basis over five years. The final actuarial value of assets is limited to not more than 120% or less than 80% of the market value of assets.

At its July 2021 meeting, the System's Board of Trustees voted to reduce the assumed rate of return from 7.40% to 6.80% and to lower the general inflation assumption from 2.60% to 2.25%.

Based on the Actuary's actuarial experience study for fiscal years 2015 to 2018, the System's Board of Trustees adopted the following demographic assumptions:

- Retirement Age - Experience-based table of rates that are specific to the type of eligibility condition. Last updated for the 2019 valuation pursuant to the 2018 experience study for the period July 1, 2014 to June 30, 2018.
- Mortality - Public Sector 2010 Mortality Tables for males and females with projected generational mortality improvements based on the MP-2018 fully generational mortality improvements scales for males and females.

Investments Allocations and Returns. The target asset allocation is set by the Board of Trustees, with no legal limits imposed by the General Assembly. The actual allocation takes into account that private market investments are made gradually in order to prudently reach the target level over multiple years. Amounts not yet invested in private markets are currently allocated to public equity and fixed income.

Asset Allocation

	Actual Allocation as of November 30, 2021	Long-Term Target Allocation
Public Equity	32.5%	37.0%
Private Equity	19.1	13.0
Rate Sensitive	17.7	19.0
Real Assets	12.0	14.0
Credit/Debt Strategies	9.0	9.0
Absolute Return	7.7	8.0
Multi Asset	1.0	0.0
Cash	1.0	0.0
Total*	100.0%	100.0%

*Totals may not add due to rounding.

The historical rates of return on the System's investments are (as of November 30, 2021, unaudited):

	1 year	3 year	5 year	10 year	20 year	25 year
Annualized Returns (gross of fees)	16.54%	13.39%	11.21%	9.12%	6.95%	6.80%

The System's rate of return, net of fees, on its investment portfolio was 3.83% (unaudited) for the fiscal year-to-date as of November 30, 2021.

Funding Policies. Effective on July 1, 2015, the State eliminated the corridor funding method for the Teachers' Combined Systems and Employees' Combined Systems beginning with fiscal year 2017. All future contributions will be based upon the Actuarially Determined Employer Contribution ("ADEC").

Employer Contribution. In fiscal year 2021, the State paid the full ADEC and contributed a total of $2.0 billion. Beginning in fiscal year 2017, the local school boards now pay 100% of the local teachers' normal cost of local teachers' retirement as determined by the most recent valuation of the System. County governments were required to increase education funding by the additional pension costs during the phase in period.

The Department of Budget and Management estimates that the General Fund portion of the employer contribution represents 6.7% of the fiscal year 2022 General Fund budget. This percentage is anticipated to decrease 5.3% in fiscal year 2023, rise slightly to 5.4% in fiscal year 2024 and then decrease incrementally to 3.6% by fiscal year 2027. The following table presents estimates of the employer contribution relative to the General Fund budget in the next five fiscal years.

Funded Status and Asset Value. As reported in the System's annual Actuarial Valuation Report, the funded status of each plan in the "State Pool" as of June 30, 2021 was as follows:

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Funded Status of the Plans within the "State Pool" Portion of the Maryland State Retirement and Pension System As of June 30, 2021 ($ in thousands)

Plan	Actuarial Accrued Liability (AAL)	Actuarial Value of Assets	Funded Ratio (Assets/Liab.)	Unfunded AAL (UAAL)	Covered Payroll (Active Members)[(a)]	UAAL as a Percent of Payroll %[(a)]
Teachers' Retirement and Pension System	$47,635,355	$38,215,959	80.23%	$9,419,395	$7,688,846	122.5%
Employees' Retirement and Pension System	23,113,512	15,868,373	68.65	7,245,138	3,425,932	211.5
State Police Retirement System	2,527,230	1,771,695	70.10	755,535	119,048	634.6
Judges' Retirement System	622,633	570,319	91.6	52,314	52,073	100.5
Law Enforcement Officers' Pension System	1,299,476	875,491	67.37	423,985	125,116	338.9
Total of All Plans*	$75,198,206	$57,301,839	76.20%	$17,896,367	$11,411,015	156.8%

*Totals may not add due to rounding.
(a) The Covered Payroll and UAAL as a Percentage of Payroll results reported in the System's Actuarial Valuation Report were calculated using actual payroll data and differ slightly from the calculations shown in the State's Financial Statements which were calculated using projected payroll rather than actual payroll data.

The following table presents information regarding the unfunded actuarial accrued liability of the System, including both the State Pool and the Municipal Pool for the years 2012 to 2021 as of June 30 valuation dates, derived from a report by the System's Actuary.

Historical Funding Progress Maryland State Retirement and Pension System (a) Actuarial Value of Assets ($ in thousands)

Valuation Date June 30	Actuarial Accrued Liability (AAL)	Actuarial Value Of Assets	Funded Ratio (Assets/Liab.)	Unfunded AAL (UAAL)	Covered Payroll (Active Members)	UAAL as a Percent of Payroll %
2012	$57,869,145	$37,248,401	64.4%	$20,620,745	$10,336,537	199.5%
2013.........	60,060,091	39,350,970	65.5	20,709,122	10,477,544	197.6
2014	62,610,193	42,996,957	68.7	19,613,237	10,803,632	181.5
2015	66,281,781	46,170,624	69.7	20,111,157	11,063,961	181.7
2016	67,781,924	47,803,679	70.5	19,978,245	11,155,924	179.1
2017	69,986,576	50,250,465	71.8	19,736,110	11,418,973	172.8
2018	72,574,689	52,586,528	72.5	19,988,161	11,566,220	172.8
2019.........	74,526,000	54,361,969	72.9	20,164,031	11,905,403	169.4
2020.........	76,471,035	56,246,776	73.6	20,224,259	12,501,422	161.8
2021.........	81,738,557	62,817,938	76.8	18,920,619	12,749,247	148.4

(a) Includes both the State Pool and the Municipal Pool accrued liabilities.

The following table shows the projected funded ratios of the State Pool through projected full funding and reflects all legislative action and supplemental payments to date.

Projected Funded Ratios of State Pool
(as of December 31)

Valuation Year	Based on June 30, 2021 Valuation
2023	81.6%
2025	87.1
2027	88.9
2030	91.4
2031	92.2
2037	98.1
2039	100.2
2040	100.3

The following table presents information regarding the Asset Market Values of the System, including both the State Pool and the Municipal Pool, for the years 2012 to 2021 as of June 30 valuation dates, derived from a report by the System's Actuary.

Historical Market Value of Assets
Maryland State Retirement and Pension System (a)
($ in thousands)

Valuation Date, June 30	Market Value of Assets	Valuation Date, June 30	Market Value of Assets
2012	$37,178,726	2017	$48,987,183
2013	40,363,217	2018	51,827,233
2014	45,363,217	2019	53,943,420
2015	45,789,840	2020	54,586,037
2016	45,365,926	2021	67,604,500

(a) Includes both the State Pool and the Municipal Pool.

As of November 30, 2021, the System's market value of assets (unaudited) was $69.7 billion.

Accounting and Reporting. Beginning in fiscal year 2015, Statement No. 68 of the Governmental Accounting Standards Board required changes to the State's pension accounting and reporting. The net pension liability ("NPL") defined by the pronouncement, similar to the unfunded actuarial accrued liability, is reported as a liability on the government-wide statement of net position. It is a present value measure of benefits to be provided based on the employees' past service, and accordingly, recognizes the entire net pension expense, regardless of when this expense will be funded. It replaced the Net Pension Obligation ("NPO") previously reported as a liability. The NPO was the cumulative difference between required contributions to the pension plans to meet obligations as they came due and actual contributions, and therefore, measured the funding obligation only.

For the State Retirement and Pension System, a cost-sharing multiple-employer system, all cost-sharing employers are required to recognize a liability for their proportionate share of the NPL. In Maryland, the State funds the unfunded actuarial accrued liability applicable to local teachers' service, and therefore, the State records the NPL for the teachers' plan as a non-employer contributing entity.

For fiscal year 2021, the State's contribution to the System was $2.0 billion, and the total contribution to the System was $2.2 billion. The NPL for the System was calculated as $15.0 billion as of June 30, 2021 of which the State's share has been estimated to be $21.1 billion.

For a more detailed discussion of the System, see APPENDIX A, Note 15 to the Financial Statements and Required Supplementary Information. A copy of the System's Actuarial Valuation Report as of June 30, 2021 may be obtained online at https://sra.maryland.gov/actuarial-valuation-reports.

Other Post-Employment Benefits

State Employee and Retiree Health and Welfare Benefits Program. Retired State employees and their eligible dependents meeting certain qualifications may participate, on a subsidized basis, in the State Employee and Retiree Health and Welfare Benefits Program (the "Program"). As of June 30, 2021, the Program membership included 81,922 active employees, 2,510 vested former employees and 52,758 retirees and beneficiaries. The Program assesses a charge to retirees for post-employment health care benefits that is based on health care insurance charges for active employees. For the fiscal year ending June 30, 2021, retiree program members contributed $101.0 million and the State contributed $601.5 million for retiree health care benefits.

The State has adopted the GASB Statement No. 75 ("GASB 75") which supersedes GASB 45 and addresses how state and local governments should account for and report costs and obligations related to post-employment health care and other post-employment non-pension benefits ("OPEB") effective for fiscal year ending June 30, 2018. GASB 75 generally requires that the annual cost of OPEB and the related obligations and commitments be accounted for and reported in essentially the same manner as pensions under GASB 68. Annual OPEB costs typically will be based on actuarially determined amounts that, if paid on an ongoing basis, would provide sufficient resources to pay benefits as they come due.

The provisions of GASB 75 do not prescribe methods for funding OPEB plans, nor do they require governments to fund their OPEB plans. GASB 75 does, however, establish additional disclosure requirements for employers contributing to OPEB plans. For defined benefit OPEB, GASB 75 identifies the methods and assumptions that are required to be used to project benefit payments, discount projected benefit payments to their actuarial present value, and attribute that present value to periods of employee service. Disclosure and required supplementary information requirements about defined benefit OPEB also are required regardless of whether or not the plan is administered through a qualifying trust.

Under GASB 75, the Net OPEB Liability is reported as a liability on the State's financial statements. The Net OPEB Liability is the difference between the Total OPEB Liability (the actuarial present value of all future projected benefit payments attributable to service prior to the measurement date) and the Fiduciary Net Position (market value of assets).

The State's annual OPEB expense is calculated as change in Net OPEB Liability over the measurement period, with deferred recognition of certain aspects of the change in liability, including investment gains/losses, demographic gains/losses, and changes in actuarial assumptions. Unrecognized amounts are reported as deferred inflows and/or deferred outflows of resources related to OPEB until they are recognized in the annual OPEB expense.

2011 Employee and Retiree Health Benefits Reforms. The 2012 Budget implemented changes to employee and retiree prescription drug and health benefits (the "2011 Health Benefit Reforms") that decreased the State's projection of OPEB liability from $15.9 billion prior to the 2011 Health Benefit Reforms to $9.2 billion after the 2011 Health Benefit Reforms, and decreased the corresponding State projection of ADEC under GASB 45 from $1.22 billion to $704.4 million. The 2011 Health Benefit Reforms increased employee and retiree prescription drug copayments and increased retiree premium payments and out of pocket maximums. For new employees hired after June 30, 2011, 10 years of service rather than 5 years is required for eligibility for retiree health benefits, and 25 years of service rather than 16 years is required in order to receive a full State subsidy. Under current law, effective January 1, 2019, State prescription drug benefits would have been discontinued for certain retirees and those retirees would have been required to enroll in Medicare Part D after the Part D coverage gap is phased out. However, following litigation brought by State retirees, an injunction has been issued forbidding the discontinuation of the prescription drug benefits for those retirees until the litigation is resolved. In addition, the General Assembly passed legislation that would create three state-funded programs to limit costs related to the prescription drug benefit for certain eligible retirees. The Department of Budget and Management projects this legislation will increase the State's net OPEB liability by at least $2.36 billion over 30 years.

OPEB Projections. As of June 30, 2021, the actuary's Total OPEB Liability was $16.8 billion, and the Fiduciary Net Position was $355.1 million, resulting in a Net OPEB Liability ("NOL") of $16.4 billion. The discount rate used was an unblended pay-go rate of 2.21%. The ratio of the Fiduciary Net Position to the Total OPEB Liability was 2.12%. The covered payroll (annual payroll of active employees covered under the Program) was $5.7 billion, and the ratio of the NOL to the covered payroll was 289.69%.

The following table from the Actuarial Valuation Reports as of June 30, 2021, prepared by the State's actuary, shows the components of the State's annual OPEB expense, the contribution to the Program and the State's Net OPEB Liability for fiscal year 2022.

State Employee and Retiree Health and Welfare Benefits Program
Annual OPEB Expense and Net OPEB Liability
Fiscal Year 2021-2022
Projections as of December 31, 2021
($ in millions)

Reporting Date under GASB 75	June 30, 2021	June 30, 2022
Measurement Date under GASB 75	June 30, 2020	June 30, 2021
Net OPEB Liability	$16,424.5	$14,798.6
Deferred inflows of resources related to OPEB	1,253.9	3,020.1
Deferred outflows of resources related to OPEB	(2,303.4)	(2,324.7)
Net Liabilities Relating to OPEB	**$15,375.0**	**$15,494.0**
Net OPEB Expense	$1,064.1	$748.7
Less: Contributions made	(601.5)	(629.6)
Net Change in Liabilities Relating to OPEB	**$462.6**	**$119.1**

The State's General Fund has historically contributed approximately 60% of the annual pay-as-you-go costs of other post-employment benefits, with special and federal funds contributing the balance. Chapter 355 of the 2007 Laws of Maryland created the Postretirement Health Benefits Trust Fund (the "Trust Fund") as an irrevocable trust. Funds of the Trust Fund will be used to assist in financing the State's post-retirement health insurance subsidy. The net assets held in trust for post-retirement health benefits as of June 30, 2021 were $355.1 million. This balance also reflects the activity for investment earnings and administrative expenses during the period.

The "**MUNICIPAL ADVISORS**" section of the Original Official Statement is hereby updated and restated by the following:

MUNICIPAL ADVISORS

PFM Financial Advisors LLC of Orlando, Florida ("PFM") is serving as municipal advisor to the Department for the sale and delivery of the 2021 A Bonds and other matters pertinent thereto. PFM is a municipal advisory and consulting organization and is not engaged in the business of underwriting, marketing, or trading municipal securities or any other negotiable instrument. PFM has contracted with People First Financial Advisors as an additional Municipal Advisor to assist in the sale and delivery of the 2021 A Bonds.

Davenport & Company LLC of Towson, Maryland ("Davenport") is a registered municipal advisor with the Municipal Securities Rulemaking Board and serves as finance advisor in connection with the issuance of the 2021 B Bonds, the 2022 A Bonds and the 2022 B Bonds and other matters related to the Department's finances.

PFM and Davenport have not been engaged, nor have they undertaken, to audit, authenticate or otherwise verify the information set forth in this Official Statement, or any other related information available to the

Department, with respect to accuracy and completeness of disclosure of such information. PFM and Davenport make no guaranty, warranty or other representation respecting the accuracy or completeness of this Official Statement or any other matter related to the Official Statement.

The "**REPORT OF INDEPENDENT PUBLIC ACCOUNTANTS**" section of the Original Official Statement is hereby updated and restated by the following:

REPORT OF INDEPENDENT PUBLIC ACCOUNTANTS

The ACFR for the year ended June 30, 2021, referenced in Appendix A of this Official Statement, has been audited by CliftonLarsonAllen LLP, independent certified public accountants, whose report is included therein.

APPENDIX A – "FINANCIAL INFORMATION" AND **APPENDIX B - "STATE DEMOGRAPHIC AND ECONOMIC DATA"** of the Original Official Statement is hereby updated and restated by the following appendices.

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APPENDIX A

FINANCIAL INFORMATION

The Annual Comprehensive Financial Report (the "ACFR") of the Department, including the audited Basic Financial Statements, for the fiscal year ended June 30, 2021, has been filed with the Municipal Securities Rulemaking Board through its Electronic Municipal Market Access ("EMMA") system and is obtainable from them in accordance with their procedures. The 2021 ACFR is also posted on the Department's website and can be accessed at https://www.mdot.maryland.gov/tso/pages/Index.aspx?PageId=53.

The following reports, each of which are included in the 2021 ACFR and as such have been posted online at the web address above, are incorporated herein by reference:

Financial Section

- Independent Auditors' Report
- Management's Discussion and Analysis
- Statement of Net Position
- Statement of Activities
- Balance Sheet
- Reconciliation of the Governmental Funds' Fund Balance to the Statement of Net Position
- Statement of Revenues, Expenditures and Changes in Fund Balances
- Reconciliation of the Statement of Revenues, Expenditures and Changes in Fund Balances of Governmental Funds to the Statement of Activities
- Statement of Fiduciary Net Position
- Statement of Change in Fiduciary Net Position

Index for Notes to the Financial Statements

- Notes to the Financial Statements

Required Supplementary Information

- Schedule of Changes in the Total Liability and Related Ratios for the Maryland Transit Administration OPEB Plan
- Changes in the Net Pension Liability and Related Ratios for the Maryland Transit Administration Pension Plan
- Schedule of Employer Contributions for the Maryland Transit Administration Pension Plan
- Proportionate Share of the Net Pension Liability and Related Ratios for the Maryland State Retirement Pension Plan
- Schedule of Employer Contributions for the Maryland State Retirement Pension Plan
- Schedule of Revenues, Expenditures and Changes in Fund Balances - Budget and Actual
- Notes to the Required Supplementary Information

APPENDIX B

STATE DEMOGRAPHIC AND ECONOMIC DATA

Introduction

The following selected socioeconomic data may be relevant in evaluating the economic and financial condition of the State; however, this information is not intended to provide all relevant data necessary for a complete evaluation of the State's economic and financial condition.

Maryland is located on the East Coast in the South Atlantic Census Region, and is bordered by Delaware, Pennsylvania, West Virginia, Virginia, and the District of Columbia. Maryland encompasses 12,407 square miles. Ranking 42 among the 50 states in size, Maryland's land area (exclusive of inland waterways and the 1,726 square miles of the Chesapeake Bay) is 9,844 square miles.

Population

According to the 2020 Census, Maryland's population on April 1 of that year was 6,177,224, an increase of 7.0% from 2010. Maryland's population is concentrated in urban areas. In 2020, the eleven counties and Baltimore City located in the Baltimore-Washington region contained 87.3% of its population. The 2020 population for the Baltimore Metropolitan Statistical Areas was estimated at 2,800,189 and for the Maryland portion of the Washington Metropolitan Statistical Areas, 2,484,097. Overall, Maryland's population per square mile was 615 in 2020. The following table presents estimated population of Maryland and the United States from 2012 - 2021.

Population

	Maryland		United States	
Year	Population	Change	Population	Change
2012	5,888,375	0.8%	313,877,662	0.7%
2013	5,925,197	0.6	316,059,947	0.7
2014	5,960,064	0.6	318,386,329	0.7
2015	5,988,528	0.5	320,738,994	0.7
2016	6,007,014	0.3	323,071,755	0.7
2017	6,028,186	0.4	325,122,128	0.6
2018	6,042,153	0.2	326,838,199	0.5
2019	6,054,954	0.2	328,329,953	0.5
2020	6,172,679	1.9	331,501,080	1.0
2021	6,165,129	(0.1)	331,893,745	0.1

Source: U.S. Department of Commerce, Bureau of the Census.

Note: Figures are estimates for July 1 of each year.

In addition to population growth, the age distribution of the population has a significant impact on the economy and State revenues. Realized and expected changes to the age distribution of the population will result in subdued productivity and labor force growth compared to economic expansions of the recent past. Primarily this is due to the fact that the age distribution of the labor force is skewed more towards younger and older workers than in the past, and middle-aged workers are the most productive and have the highest earning on average. In March 2018, the Bureau of Revenue Estimates released a report titled The Impact of Age Demographics on Maryland's Economic and Tax Revenue Outlook. This report may be obtained online at the following link: http://treasurer.state.md.us/media/1111/BRE_Report_On_Age_Demographics.pdf. For 2020, the most recent year for which data is available, the populations of Maryland and the United States were distributed by age as follows:

Age Distribution 2020

Age	Maryland	United States
Under 5 years	5.9%	5.8%
5 through 19 years	18.6	18.7
20 to 44 years	32.8	33.1
45 to 64 years	26.4	25.0
65 years and over	16.3	16.8
	100.0%*	100.0%*

Source: U.S. Department of Commerce, Bureau of the Census.
* Totals may not add due to rounding.

Educational Levels

Maryland's workforce is more highly educated than the United States as a whole. As of 2019, the most recent year for which data are available, the percentage of the population (25 years and over) with a bachelor's degree or higher is 40.9% compared to 33.1% for the nation as a whole. Maryland ranks third in the nation in the percentage of its population over 25 with a graduate or professional degree. The percentage of the population with a high school diploma or higher is 90.4% in Maryland compared to 88.6% for the nation as a whole. Maryland's high levels of educational attainment partially explain higher median and average wages in Maryland compared to the nation as a whole. The State's educated labor force facilitates the growth of the professional services and information services sectors.

Educational Attainment of Population 25 Years and Over in 2019

	Maryland	United States
Less than High School	9.6%	11.4%
High School Diploma	24.6	26.9
Some College	18.0	20.0
Associate's Degree	6.9	8.6
Bachelor's Degree	21.8	20.3
Graduate or Professional Degree	19.1	12.8

Source: U.S. Department of Commerce, Census Bureau (American Community Survey).

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Personal Income

Maryland residents received approximately $404.5 billion in personal income in 2020. Maryland's total personal income increased at a rate of 6.1%, compared to the national average of 6.6%. Per capita income remained significantly above the national average in 2020: $66,799 in Maryland compared to the national average of $59,510. In 2020, Maryland's per capita personal income ranked eighth highest in the nation. Per capita income varies across the State, with the highest incomes in the Washington and Baltimore regions. The table below shows trends in per capita personal income in Maryland and the United States.

Per Capita Personal Income Trends

Year	Maryland	Change	United States	Change	Maryland Ranking
2011	$51,970	4.6%	$42,783	5.1%	5
2012	53,016	2.0	44,614	4.3	8
2013	52,576	-0.8	44,894	0.6	8
2014	54,100	2.9	47,017	4.7	8
2015	56,392	4.2	48,891	4.0	7
2016	58,329	3.4	49,812	1.9	5
2017	60,014	2.9	51,811	4.0	5
2018	61,600	2.6	54,098	4.4	6
2019	62,989	2.3	56,047	3.6	8
2020	66,799	6.0	59,510	6.2	8

Source: U.S. Department of Commerce, Bureau of Economic Analysis.
Note: Rankings do not include the District of Columbia.

As one of the wealthier states, a greater share of personal income is derived from dividends, interest and rent, and a lesser share comes from transfer payments. In 2020, the sources of personal income in the State and the comparable sources of personal income for the nation were as follows:

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Sources of Personal Income
2020
($ in millions)

	Maryland	Percentage of Personal Income Before Residence Adjustment: Maryland	United States
Mining, forestry, fishing	257	0.1%	0.9%
Construction	18,151	4.8	4.2
Manufacturing	11,868	3.1	6.0
Trade, transportation & utilities	32,014	8.5	10.2
Information services	5,852	1.5	2.5
Finance, insurance & real estate	23,333	6.2	6.7
Professional & business services	53,265	14.1	12.1
Educational & health services	35,019	9.3	8.7
Leisure & hospitality services	8,600	2.3	2.5
Other services	9,165	2.4	2.3
Government	29,088	7.7	1.9
Federal, civilian	4,430	1.2	0.7
Military	31,122	8.2	8.0
State & local	476	0.1	0.6
Farm income	262,639	69.5	67.3
Earnings by place of work	262,639	69.5	67.3
Less:			
Personal contributions for social insurance	(29,360)	-7.8	-7.4
Plus:			
Dividends, Interest and Rent	70,043	18.5	18.5
Transfer Payments	74,467	19.7	21.6
Personal income before residence adjustment	23,333	100.0%*	100.0%*
Residence adjustment	26,732	6.6	0.0
Total Personal Income	$404,521*		

* Totals may not add due to rounding.
Source: U.S. Department of Commerce, Bureau of Economic Analysis (State Quarterly Personal Income, Series SQ5N).
Note: Total personal income is reported by place of residence; however, income by industry is shown by place of work. The residence adjustment accounts for Maryland residents who work outside the State.

Between 2015 and 2020, total personal income in Maryland has grown 3.5% annually, compared to a national growth rate of 4.0%. During this period, wage and salary income, roughly half of total personal income, has grown at a lower rate in Maryland than nationally. The difference in growth of the residence adjustment income earned by residents who work outside of Maryland or the nation is not very meaningful, because the residence adjustment is 6.3% of Maryland personal income, but less than one tenth a percent of national personal income.

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Average Annual Growth of Personal Income Components
(2015 through 2020)

	Maryland	United States
Wages and Salaries	3.1%	3.7%
Supplements to Wages and Salaries	2.3	2.9
Proprietors' Income	(0.3)	3.0
Contributions for Social Insurance	3.0	3.9
Residence Adjustment	3.6	1.7
Dividends, Interest, and Rent	2.2	3.3
Transfer Payments	9.8	9.6
Total Personal Income	3.7	4.6

Source: U.S. Department of Commerce, Bureau of Economic Analysis (State Annual Personal Income, Series A04).
Note: Total personal income is reported by place of residence; however income by industry is shown by place of work. The residence adjustment accounts for Maryland residents who work outside the State.

Within the past year, a significant contraction in economic output occurred due to the COVID-19 pandemic and efforts to contain it. However, a massive federal economic stimulus response (both monetary and fiscal) has kept aggregate income growing, boosting both savings and consumption. As a result, the state's revenues have so far been insulated from experiencing the shortfall that typically accompanies recessions.

Annual Personal Income and Wages and Salaries Growth

	Personal Income		Wages and Salaries	
	Maryland	United States	Maryland	United States
2011	5.5%	5.9%	3.6%	4.0%
2012	2.9	5.0	3.1	4.6
2013	(0.2)	1.3	0.9	2.7
2014	3.5	5.5	3.4	5.1
2015	4.7	4.8	4.7	5.1
2016	3.8	2.6	3.1	3.0
2017	3.3	4.7	3.6	4.7
2018	2.9	5.0	3.5	4.9
2019	2.5	4.1	3.7	4.8
2020	6.1	6.6	1.7	1.2

Source: U.S. Bureau of Economic Analysis.

Employment

Maryland's labor force totaled 3.1 million in December 2021. The government, retail trade, and services sectors (notably professional and business, and educational and health) are the leading areas of employment in the State. In contrast to the nation, considerably more Marylanders are employed by the federal government and service sectors and fewer in manufacturing, as shown in the following table:

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Distribution of Employment
2020

	Maryland	United States
Construction & mining	6.3%	5.5%
Manufacturing	4.2	8.6
Trade, transportation & utilities	17.3	18.7
Information services	1.3	1.9
Financial activities	5.3	6.1
Professional & business services	17.1	14.2
Educational & health services	17.2	16.3
Leisure & hospitality services	8.2	9.4
Other services	3.9	3.8
Government		
Federal	5.8	2.1
State & local	13.5	13.3
Total	100.0%*	100.0%*

Source: U.S. Department of Labor, Bureau of Labor Statistics.
*Totals may not add due to rounding.

Average Annual Employment Growth
(2015 through 2020)

	Maryland	United States
Construction & mining	0.7%	1.7%
Manufacturing	0.4	(0.2)
Trade, transportation & utilities	(0.7)	(0.2)
Information services	(3.1)	(0.4)
Financial activities	(1.2)	1.4
Professional & business services	0.3	0.6
Educational & health services	0.1	1.1
Leisure & hospitality services	(4.6)	(2.5)
Other services	(2.0)	(0.8)
Government		
Federal	0.7	1.2
State & local	(0.6)	(0.3)
Total Non-agricultural Employment	(0.6)	0.1

Source: U.S. Department of Labor, Bureau of Labor Statistics.

Historical annual employment growth in Maryland's five largest sectors is shown in the table below. Maryland's five largest sectors represented 79.0% of total employment in 2020. Typically, federal government employment acts as a stabilizing factor in Maryland, falling less than private employment during recession, and rising less than private employment during expansions. In mid-2019 federal employment returned to growth after about a year of gradual decline. As of the fourth quarter of 2020, federal government purchases of inputs from the private sector continued to increase year over year by 3.1%. In the spring of 2020, the nation experienced its worst job losses since the Great Depression. In April 2020, Maryland employment declined 13.0% year over year. Employment then sharply rebounded over the summer and fall. As of December 2021, employment remains 7.2% below its December 2021 level.

The employment recovery in Maryland has been largely bifurcated, with sectors directly affected by the pandemic, such as accommodations and food service, experiencing significant losses to date and other sectors experiencing more complete recoveries. In general, sectors worst impacted by the pandemic are lower paying than those that are not. As a result, aggregate wages (and therefore income tax withholding) have fallen less than would typically be expected given the extent of job losses.

Annual Employment Growth
Maryland's Five Largest Employment Sectors

	Total Government	Trade, Transportation, & Utilities	Educational & Health Services	Professional & Business Services	Leisure & Hospitality Services	Total MD Employment	Total US Employment
2011	0.5%	1.4%	1.9%	3.1%	1.6%	1.0%	1.2%
2012	(0.3)	1.3	2.4	2.8	4.7	1.2	1.7
2013	0.0	0.2	1.4	1.8	4.0	0.9	1.6
2014	(0.3)	1.0	1.2	1.5	2.5	0.9	1.9
2015	0.3	1.6	2.4	1.8	2.7	1.5	2.1
2016	0.0	1.1	2.0	1.8	2.1	1.2	1.8
2017	0.3	0.3	2.4	0.7	2.5	1.1	1.6
2018	0.4	0.5	2.1	1.9	0.7	0.9	1.6
2019	0.2	(0.3)	1.2	1.9	0.3	0.6	1.3
2020	(1.8)	(4.7)	(6.6)	(4.5)	(25.4)	(6.8)	(5.7)

Source: U.S. Department of Labor, Bureau of Labor Statistics.

Recent employment trends in Maryland are shown in the following table.

Employment Trends

Year	Unemployment Rate in Maryland	Unemployment Rate in the United States	Growth in Maryland Labor Force	Growth in United States Labor Force
2011	7.3%	8.9%	0.6%	(0.2)%
2012	6.9	8.1	0.8	0.9
2013	6.5	7.4	0.3	0.3
2014	5.7	6.2	(0.1)	0.3
2015	5.0	5.3	0.5	0.8
2016	4.3	4.9	0.5	1.3
2017	4.1	4.4	1.5	0.7
2018	3.8	3.9	0.4	1.1
2019	3.5	3.7	1.7	0.9
2020	6.8	8.1	(3.0)	(1.7)

Source: Maryland Department of Labor, Licensing and Regulation.
Note: In December 2020, the unemployment rate was 6.3% in Maryland and 6.7% in the United States.

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Assessed Value of Property

Maryland levies a State tax on real property, revenues from which are credited to the Annuity Bond Fund to pay debt service. Through fiscal year 2003 the rate was 8.4 cents per $100 of assessment (21 cents on utility operating property). In fiscal year 2004 the rate was increased to 13.2 cents per $100 of assessment (33 cents on utility operating property). For fiscal years 2007 through 2022 the tax rate has been 11.2 cents per $100 of assessment (28 cents on utility operating property).

Shown below is the assessed value for State purposes of real property as determined by the State Department of Assessments and Taxation. All real property is assessed at full cash value once every three years, with any increase in full cash value phased in over the ensuing three taxable years in equal installments. Any decrease in the full cash value is recognized in full in the next taxable year and held constant for the remaining two taxable years.

Assessed Values of Real Estate
($ in thousands)

Fiscal Year	Real Property	Utility Operating Real Property	Total	Change in Assessed Values
2010	$750,498,802	$1,069,237	$751,568,039	6.2%
2011	733,884,066	708,090	734,592,156	(2.3)
2012	682,650,240	793,154	683,443,394	(7.0)
2013	651,655,464	714,633	652,370,097	(4.5)
2014	642,571,751	737,924	643,309,675	(1.4)
2015	650,759,385	780,572	651,539,957	1.3
2016	669,345,818	786,889	670,132,707	2.9
2017	694,547,847	838,059	695,385,906	3.8
2018	719,269,719	889,156	720,158,875	3.6
2019	746,080,873	837,642	746,918,515	3.7
2020	770,161,164	864,974	771,026,138	3.2
2021	793,419,280	909,519	794,328,799	3.0
2022	816,946,909	974,813	817,921,722	2.9

Source: State Department of Assessments and Taxation, December 2021.
Note: See also, “STATE FINANCES – State Revenues, Property Taxes and State Property Tax Revenue Estimates.”

Residential Real Estate

Residential real estate is particularly important in terms of State borrowing as State property tax revenue is dedicated to paying off principal and interest on general obligation bonds.

In 2020, the value of all Maryland residential unit permits issued increased by 2.7%, while the total number of residential building permits decreased by 2.8%. In 2021, the average monthly active inventory of units for sale decreased 37.9%. Unit sales for 2021 increased 10.5%, while the median unit price rose 9.4%. Recent federal tax changes are expected to decrease the portion of taxpayers who itemize deductions, which will result in fewer people receiving the home mortgage interest deduction. Given historically low interest rates however, any impact is expected to be minor.

Another relevant issue concerning real estate values, and thus property tax revenue, is climate change. Climate change is expected to result in higher sea levels, threatening coastal property. The State’s Atlantic coastline is rather short relative to other East Coast states. Assateague Island, a protected barrier island, makes up the majority of Maryland’s Atlantic coastline, leaving just over nine miles of developed coastline. However, as noted earlier, the State’s boundaries encompass 1,726 square miles of the Chesapeake Bay (the “Bay”), the nation’s largest estuary. The Bay coastline faces the twin problems of rising sea levels and subsiding land, owing to geological factors relating to the creation of the Bay and the composition of the soil. Contemporary flood risk and past instances of flooding would clearly reduce the relative value of a property. But economic theory holds that market participants are forward looking and price in their expectations of the future. Recent research confirms this tendency for properties that are expected to only be threatened by sea level rise several decades into the future. According to a November 2019 paper in the Journal of Financial Economic, such homes already sell for an average discount of 6.6% compared to observably identical unexposed properties. The pricing in of future expectations means adjustment should be gradual rather than sudden. It is important to note that coastal properties are still more valuable than non-coastal properties on average and are expected to remain so because owners value the access to coastal amenities they provide.

Aggregate Value of and Building Permits Issued for Residential Construction in Maryland

Year	Value of Construction in Current Dollars ($ in millions)	Change	Number of Permits Issued	Change
2011	$2,204.6	12.9%	$13,481	13.0%
2012	2,409.9	9.3	15,217	12.9
2013	2,811.2	16.7	17,918	17.7
2014	2,889.2	2.8	16,331	(8.9)
2015	3,080.6	6.6	17,057	4.4
2016	3,166.8	2.8	17,044	(0.1)
2017	3,257.3	2.9	16,224	(4.8)
2018	3,701.8	13.6	18,647	14.9
2019	3,754.0	1.4	18,469	(1.0)
2020	3,853.5	2.7	17,982	(2.8)

Source: U.S. Department of Commerce, Bureau of the Census.

Home Sales and Median Home Price

Year	Unit Home Sales	Change	Median Home Price	Change
2012	54,148	5.6%	$246,467	6.9%
2013	61,191	13.0	261,369	5.6
2014	62,804	2.6	262,837	1.0
2015	73,014	16.3	261,172	(0.7)
2016	80,045	9.6	270,902	3.8
2017	82,851	3.5	282,433	4.5
2018	83,598	0.9	288,282	2.1
2019	88,282	5.6	316,683	9.9
2020	103,362	17.1	338,387	6.9
2021	103,165	(0.2)	362,538	7.1

Source: Maryland Association of Realtors.

Taxable Retail Sales

In general, taxable retail sales in Maryland are sales of tangible goods and a few specific services, with notable exemptions for unprepared food and medicines, among others. The structure of the sales tax is increasingly out of step with consumption patterns. Consumption spending is shifting away from goods towards services, the vast majority of which are not taxable. Furthermore, consumers continue to transition to digital goods, which are not tangible and therefore not taxable, a process which has been accelerated by COVID-19. This means the sales tax base is becoming a smaller share of overall consumption spending. As a result, we collect less sales tax per dollar of consumption spending than in the past. The shrinking tax base also increases the volatility of sales tax revenue to the business cycle. In times of economic stress, consumers are typically better able to delay or forego consuming goods than services. The current recession, brought on by COVID-19, is different from previous recessions. In particular, historic trends have been reversed as consumers have shifted a greater share of total consumption away from services, generally not taxed, and towards goods, which generally are taxed.

Recent regulatory and legislative changes have broadened the sales tax base however, prior to such changes, in fiscal year 2015 Amazon established nexus with the State and began to collect sales tax on its direct sales. The Supreme Court decision, South Dakota v. Wayfair Inc., allowed states to require that remote sellers collect and remit sales tax to the locality in which the customer resides. The Comptroller promulgated regulations to require remote sellers to remit sales tax beginning in November 2018. Legislation from the 2019 session was passed that requires marketplace facilitators to collect and remit sales tax on behalf of sellers who use the online marketplace. Marketplace facilitators began to remit sales tax in November 2019. The Bureau expects combined revenue from remote sellers and marketplace facilitators to total around $331 million in fiscal year 2020 and grow at a faster pace than overall sales tax thereafter. While these actions have broadened the scope of the sales tax, they will not contribute to ongoing growth in general fund revenue. Only the first $100 million of revenue from remote sellers and marketplace facilitators is distributed to the State's general fund, the remainder is distributed to the Blueprint for Maryland's Future Fund.

The following table illustrates the change in taxable sales for fiscal years 2012 through 2021.

Taxable Retail Sales in Maryland
(includes automobile sales)
($ in thousands)

Fiscal Year	Taxable Retail Sales	Change
2012	$76,758,835	3.1%
2013	78,254,027	1.9
2014	80,415,065	2.8
2015	84,825,062	5.5
2016	87,778,479	3.5
2017	89,627,253	2.1
2018	90,937,146	1.5
2019	94,489,166	3.9
2020	94,452,170	0.0
2021	103,153,242	9.2

Source: Comptroller of the Treasury, Bureau of Revenue Estimates. Note: Includes sales and use tax base and motor vehicle excise tax base.

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