TRANSIT ROOTS

Linking You to a Sustainable Future

2020 Sustainability Report:

A 2017 – 2019 Update

MDOT MARYLAND DEPARTMENT OF TRANSPORTATION

MARYLAND TRANSIT ADMINISTRATION

April 2021

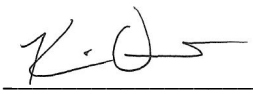
TABLE OF CONTENTS

ADMINISTRATOR'S LETTER

In 2018, the Maryland Department of Transportation Maryland Transit Administration (MDOT MTA) debuted our data-driven Sustainability Program – *Transit Roots: Linking You to a Sustainable Future. Transit Roots* helps MDOT MTA provide world-class transit by helping make decisions that balance the needs of society, environmental health, and economy.

I am excited to share how we have improved performance over the past two years. This report reinforces our continued commitment to improving our system's safety, efficiency, and reliability for our employees, partners, and the public.

We also continue to recognize our employees, partners, and customers for advancing regional sustainability. Our dedicated employees manage critical initiatives that move the agency towards achieving its triple-bottom line. Our partnerships between agencies, municipalities, and businesses throughout the region help us deliver transformative initiatives, such as North Avenue Rising and the bus stop accessibility program. Our customers' decision to ride public transit allows us to alleviate traffic, improve air quality, and strengthen our communities. Thank you for your support while we continue to work towards a more sustainable transit network.



Kevin Quinn, Jr.
Administrator, MDOT MTA

EXECUTIVE SUMMARY

On December 9, 2019, the Maryland Department of Transportation (MDOT) Deputy Secretary of Policy, Planning, and Enterprise Services approved the MDOT Policy Manual Supporting Document 606.4, *Framework for a Sustainable Transportation System* (**Appendix A**). This document was drafted and unanimously approved by the MDOT Sustainability Work Group (SWG), a guidance body with representatives from the planning and environmental offices of each Transportation Business Unit (TBU).

MDOT MTA's 2020 Sustainability Report (2020 Report) aligns with the MDOT Supporting Policy Document 606.4 and builds upon MDOT MTA's 2018 Sustainability Plan, which establishes MDOT MTA's performance-driven Sustainability Program (the Program). The purpose of the 2020 Report is to communicate the agency's:

- Progress to implementing the Program
- Historical performance, generally from 2017 to 2019, and progress toward meeting 2020 performance targets
- New performance targets to be met by 2026
- Status of ongoing and completed initiatives

Out of 17 performance measures, 11 are trending in a positive direction, including six measures for which MDOT MTA has already met 2020 targets (**Table 1**). 2020 targets were set by MDOT MTA in 2019 to internally pilot setting and attaining sustainability-related performance targets.

The COVID-19 public health crisis has also impacted the agency and customers in unexpected ways. Performance in 2020 will be evaluated to ensure 2026 performance targets remain achievable.

MDOT MTA will continuously repeat and enhance the Sustainability Program's improvement and reporting processes. The agency will also explore opportunities to enhance collaboration, develop guidance, and pilot performance-improving projects and processes.

Table 1: A Summary of MDOT MTA's Sustainability Commitments, Goals, Performance Measures, and Scores

	Commitment	Goal		Performance Measure		Progress to 2020 Target
Community Quality of Life	Promote Livable Communities	1	Provide access to local and regional connections	1.1	Population within a 1/2 mile of fixed route transit	✓+
				1.2	Annual ridership	✓-
		2	Strengthen local and regional connections to opportunity	2.1	On-time performance	✓
				2.2	Customer satisfaction	✓
		3	Support local land use choices that optimize the efficacy of transportation investments			N/A
		4	Engage underrepresented communities to inform transportation investments			N/A
	Foster Employee Wellness	5	Enhance employee morale	5.1	Percent of employees that would recommend working at MDOT MTA	✓-
				5.2	Percent of employees that frequently find their job stressful	✓-
		6	Enhance employee health	6.1	Lost work days due to injury	✓-
Environmental Health	Create, restore, and enhance environmental quality and ecosystems	7	Restore and enhance land, water, and air quality	7.1	Pounds of GHG emitted	✓+
				7.2	Percent of impervious surfaces treated	✓
		8	Reduce and eliminate waste and hazardous materials	8.1	Percent of waste recycled	✓-
		9	Promote nature-based solutions to enhance operational efficiency and infrastructure resiliency			N/A
	Conserve resources and support environmental stewardship	10	Reduce water and energy use while increasing the renewable energy portfolio	10.1	Electricity and fuel used	✓+
				10.2	Percent of electricity used from renewable energy sources	✓-
				10.3	Water used	✓+
		11	Leverage responsible sourcing procurement practices			N/A
Robust Economy	Support economic growth and development	12	Support job creation to benefit all socioeconomic levels	12.1	Number of jobs within a 1/2 mile of fixed route transit	✓+
		13	Increase freight capacity and strengthen multimodal freight connections			N/A
	Optimize financial resources	14	Ensure assets meet the needs of the transportation system and are kept in a state of good repair	14.1	Percent of transit assets in a state of good repair	✓
		15	Minimize an asset's total cost of ownership while maximizing performance	15.1	Noncontractual operating costs	✓+
				15.2	Fares purchased with electronic media	✓
		16	Leverage the value of underutilized and under-performing properties and assets of the transportation system			N/A
	Build system resiliency	17	Incorporate resiliency to reduce risk and ensure quick recovery from disruptions			N/A

N/A: Performance measures are under consideration and development; ✓+: Performance met its June 2020 performance target; ✓: Performance is trending in a positive direction; ✓-: Performance is trending in a negative direction.

1. INTRODUCTION

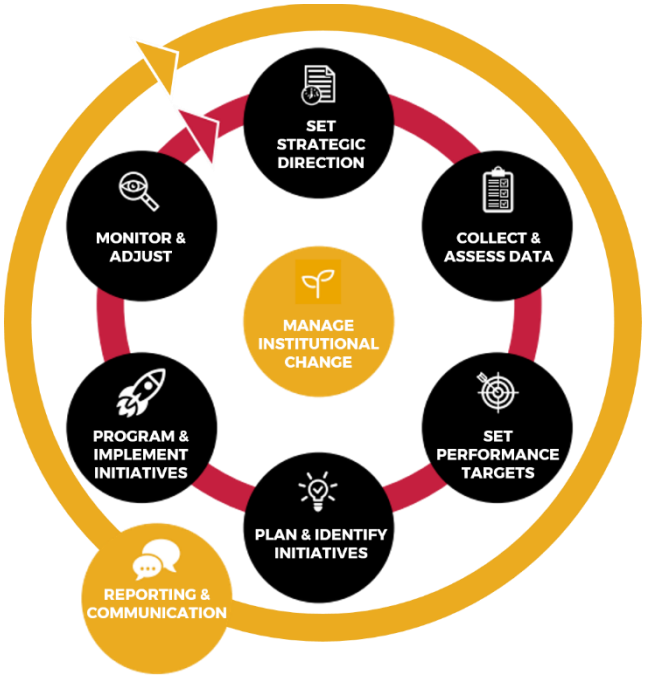
1.1. Summary of the MDOT MTA Sustainability Program

On December 9, 2019, the Maryland Deputy Secretary of Policy, Planning, and Enterprise Services approved the MDOT Policy Manual Supporting Document 606.4, *Framework for a Sustainable Transportation System* (**Appendix A**). This document was drafted and unanimously approved by the MDOT Sustainability Work Group, a guidance body with representatives from the planning and environmental offices of each TBU.

The purpose of the Program is to implement MDOT Supporting Document 606.4, which establishes MDOT's vision, commitments, and goals for a sustainable multimodal transportation system. To systematically improve performance for each goal, MDOT MTA's Sustainability Program has implemented a continuous improvement process over the past three years (**Figure 1**).

The Office of Planning and Capital Programming (OPP) manages daily Sustainability Program activities such as facilitating collaboration, providing technical expertise, and implementing the annual continuous improvement cycle. However, every MDOT MTA employee has a role in advancing sustainability.

Figure 1: The MDOT MTA Sustainability Program's Continuous Improvement Process



1.2. Purpose of the 2020 Sustainability Report

MDOT MTA's 2020 Sustainability Report (2020 Report) aligns with the MDOT Supporting Policy Document 606.4 and builds upon MDOT MTA's 2018 Sustainability Plan, which establishes the agency's Sustainability Program (the Program). The purpose of the 2020 Report is to communicate the agency's:

- Progress to implementing the Program
- Historical performance, generally from 2017 to 2019, and progress to meeting 2020 performance targets
- New 2026 performance targets
- Status of ongoing and completed initiatives

1.3. COVID-19 Impacts to Sustainability Efforts

The COVID-19 public health crisis has impacted all Marylanders and MDOT MTA strives to protect our employees' safety and the safety of essential employees traveling on our services. This report focuses on 2017 to 2019 performance, and as such, the impacts of the COVID-19 public health crisis will be more thoroughly known and quantified in the next version of MDOT MTA's Sustainability Report. Additionally, MDOT MTA's 2026 performance targets may need reevaluation and adjustment to ensure all targets remain achievable.

1.4. Alignment with MDOT MTA Plans & Programs

The Sustainability Program aligns with the efforts of existing plans and programs. These existing plans and programs guide agencywide funding and operational decisions (**Table 2**).

Table 2: The Sustainability Program Aligns with Existing MDOT and MDOT MTA Plans and Programs

Program	Supporting Documents
Asset Management	• 2019 MDOT MTA Transit Asset Management Plan • 2019 MDOT Strategic Asset Management Plan • Lifecycle Management Plans for each MDOT MTA mode
Regional & Long Range Planning	• 2020 Central Maryland Regional Transit Plan • Cornerstone Plans for each MDOT MTA mode • 2040 Maryland Transportation Plan • MDOT Annual Attainment Report • Statewide Transit Plan (in development) • 2019 Maryland Bicycle and Pedestrian Master Plan • 2015 Maryland State Rail Plan (under update) • 2020 Shared Mobility Work Plan
Resiliency & Climate	• 2016 MDOT MTA Climate Change Vulnerability Assessment (under update) • 2019 Maryland Greenhouse Gas Emissions Reduction Act Plan
Safety	• 2020 MDOT MTA Public Transportation Agency Safety Plan

1.5. Document Organization

Chapter 2 is divided into sustainability goal subsections and each subsection:

- Identifies and describes selected performance measures
- Describes performance trends and progress towards attaining targets
- Identifies and describes initiatives that help improve performance

MDOT MTA continues to refine the Sustainability Program's performance measures and report performance based upon available data (**Table 3**).

Table 3: MDOT MTA is Actively Considering and Developing New Sustainability Performance Measures to Support MDOT Supporting Policy Document 606.4 and Align with Existing Initiatives

	Commitment	Goals with Performance Measure Opportunities		Corresponding MDOT MTA Initiatives
Community Quality of Life	Promote Livable Communities	3	Support local land use choices that optimize the efficacy of transportation investments	• MDOT MTA and MDOT Office of Real Estate & Economic Development collaborated to release a Request for Proposals (RFP) for developing a mixed-use Transit Oriented Development (TOD) project at the Reisterstown Plaza Metro SubwayLink Station. • MDOT MTA developed "Designing for Transit, TOD Guidelines" to create station area concepts for Bowie State University Station (MARC), Monocacy Station (MARC), and Rogers Avenue Station (Metro SubwayLink).
		4	Engage underrepresented communities to inform transportation investments	In 2020, MDOT MTA published an updated Title VI plan to guide public engagement practices over the next three years.

	Commitment	Goals with Performance Measure Opportunities		Corresponding MDOT MTA Initiatives
Environmental Health	Create, restore, and enhance environmental quality and ecosystems	9	Promote nature-based solutions to enhance operational efficiency and infrastructure resiliency	MDOT MTA is exploring opportunities to expand the use of green infrastructure in stormwater compliance and resiliency activities.
	Conserve resources and support environmental stewardship	11	Leverage responsible sourcing procurement practices	The 2010 Green Maryland Act established the inter-agency Green Purchasing Committee (GPC) and requires state agencies to prioritize purchasing environmentally preferable products (EPP) and annually report the total value of EPP materials and services procured. The GPC works to develop EPP specifications, provide technical expertise, facilitate reporting, and create guidance materials.
Robust Economy	Support economic growth and development	13	Increase freight capacity and strengthen multimodal freight connections	Due to be completed in 2024, the Howard Street Tunnel reconstruction project will remove the last blockage of freight container double-stacking between East Coast railways and the Port of Baltimore. This project was made possible through a joint funding agreement between the U.S. Department of Transportation, MDOT, and CSX Transportation.
	Optimize financial resources	16	Leverage the value of underutilized and under-performing properties and assets of the transportation system	• Planning, designing, and implementing TODs to encourage transit use by co-locating housing, shopping, and jobs around existing transit service. • Pursuing cost offsetting strategies, such as power purchasing agreements through MDOT's Solar Program. • Identifying alternative revenue generating strategies (excluding fare increases), such as salvage and scrap metal recycling efforts and advertising and sponsorship opportunities on MDOT MTA vehicles, rail stations, and bus stops.
	Build system resiliency	17	Incorporate resiliency to reduce risk and ensure quick recovery from disruptions	MDOT MTA is developing a Resiliency Program to quantify and manage climate risk. Through the Resiliency Program, MDOT MTA is: • Developing a resiliency toolkit to identify and guide the use of structural, nature-based, and operational adaptation strategies. • Using recently developed climate projections to calculate climate-driven inundation risk to MDOT MTA assets.

2. SUSTAINABILITY & CONTINUOUS IMPROVEMENT

Community Quality of Life | **Promote Livable Communities** | ***Goal 1*: Provide Access to Local & Regional Connections**

Connections to and use of multiple transportation options, such as public transit, make communities more livable. Connections to transportation options can be measured, in part, through population data within a ½ mile of fixed-route transit, whereas the use of multiple transportation options may be measured through transit ridership (**Table 4**).

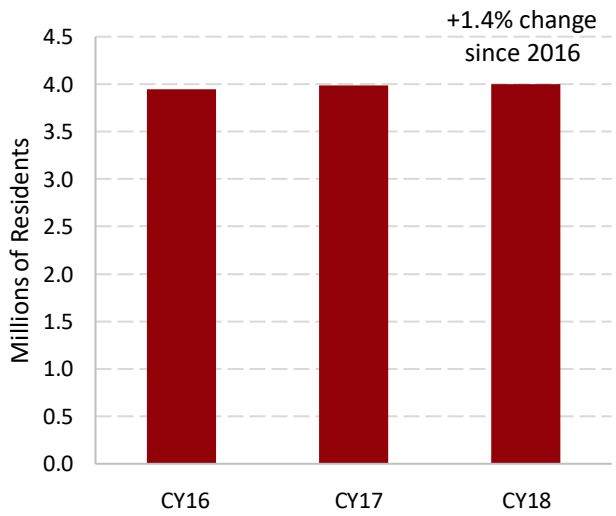
Table 4: Performance Summary

	Performance Measure	2019 Finding	Baseline to 2019 Change	2020 Target	Progress to 2020 Target	2026 Target	Baseline Value (Year)
1	**Population within a ½ mile of Fixed-Route Transit**	3,999,700*	+1.4% increase	1% increase**		6.4% increase**	3,945,425 (CY 2016)
2	**Annual ridership:** Unlinked Passenger Trips (UPT)[1]	94,164,523	-9.1% decrease	2017 baseline		2017 baseline	103,571,384 (FY 2017)

: Performance met its 2020 performance target; : Performance trends in a negative direction; * The U.S. Census Bureau's most recent five-year rolling average estimates are from 2018; ** In comparison to baseline year

From 2016 to 2018, population within a ½ mile of fixed-route transit grew by 1.4 percent and surpassed MDOT MTA's June 2020 performance target (**Figure 2**). The U.S. Census Bureau's five-year rolling average population data was queried against MDOT MTA's service over the same period.

Figure 2: PM 1, Population Within ½ a Mile of Fixed-Route Transit



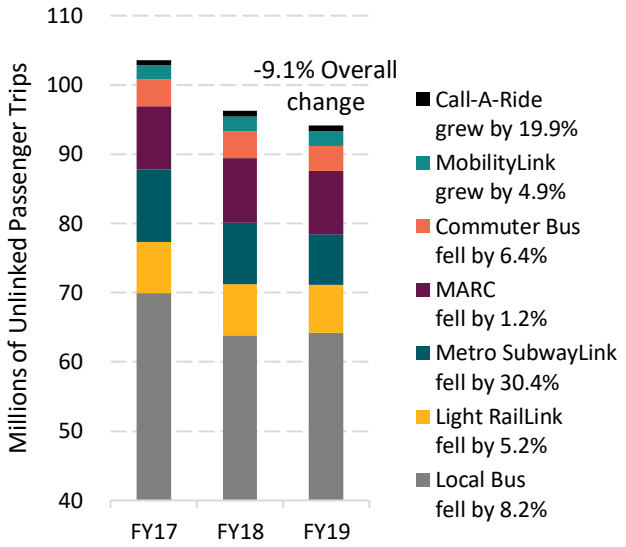
[1] Unlinked Passenger Trips (UPT) for MDOT MTA services refers to the number of passengers boarding public transportation vehicles. A passenger is counted each time they board a vehicle even if the boarding is part of the same journey from origin to destination.

From 2017 to 2019, annual ridership, measured by unlinked passenger trips, decreased by 9.1 percent and mirrors a broader nationwide trend of declining transit ridership (**Figure 3**).[2] Ridership on MobilityLink and Call-A-Ride grew, while the other operating modes lost riders. This data suggests that customers may have switched from MDOT MTA's fixed route service to on-demand services.

Local Bus ridership, which had been trending down since 2015, saw some growth particularly on weekends prior to the COVID-19 pandemic. For example, ridership of January 2020 was 4.5 percent higher than January of the previous year.

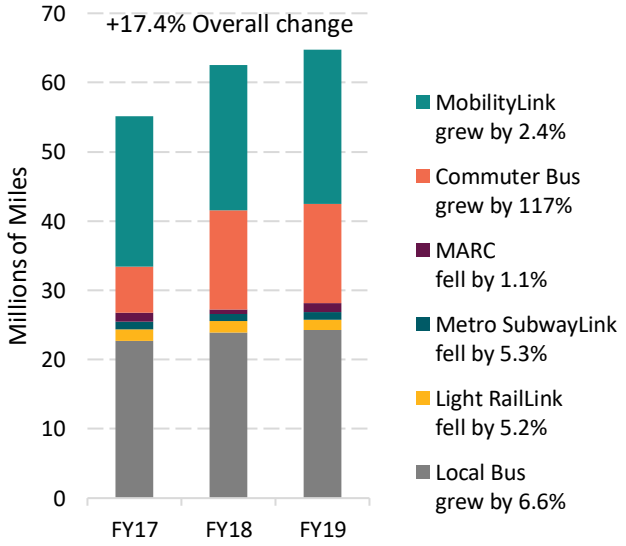
Transit agencies that are defying national trends and growing ridership are redesigning bus networks, implementing new service, and promoting transit through fare-free zones or periods. As such, in July 2017, MDOT MTA debuted BaltimoreLink, which modernized the Local Bus network, added Express Bus service, debuted a free 90-minute transfer window, built dedicated bus lanes and transfer facilities, and deployed transit signal prioritization technology.

Figure 3: PM 2, Annual Ridership



Over the same period, MDOT MTA increased the number of vehicle miles traveled (VMT) by 17.4 percent (**Figure 4**). As such, the 2020 Sustainability Report will use VMT to normalize performance measure reporting, when appropriate, to facilitate comparisons between operating modes. The agency modifies VMT on its modes for many reasons, including enhancing service, managing demand, maintaining operating budgets, and adjusting to field conditions and maintenance requirements. Metro SubwayLink and Light RailLink's decline in VMT is due to planned track replacement projects and emergency erosion and city sewer repairs, respectively. Additionally, MDOT MTA expects the impacts of the COVID-19 public health crisis to negatively affect transit service provision in the next sustainability reporting cycle.

Figure 4: Vehicle Miles Traveled



MDOT MTA has undertaken several initiatives to increase ridership and provide communities with transit access. These initiatives include:

[2] Onboard vehicle passenger counters and fare sales provide ridership data for each operating mode.

- In October 2020, MDOT MTA completed the Central Maryland Regional Transit Plan (RTP). The RTP provides a 25-year vision of regional mobility and defines public transportation goals, including growing transit ridership, for Anne Arundel County, Baltimore County, Baltimore City, Harford County, and Howard County. For more information, please visit: www.rtp.mta.maryland.gov
- In August 2020, MDOT MTA completed its Shared Mobility Work Plan, which seeks to improve mobility throughout MDOT MTA's fixed-route transit system. Short-term objectives include evaluating existing carshare and dockless mobility pilots or implement new microtransit or on-demand paratransit initiatives. For more information, please visit: https://www.mta.maryland.gov/shared-mobility
- In 2021, MDOT Office of Real Estate & Economic Development will release a Request for Proposals (RFP) to develop a mixed-use Transit Oriented Development (TOD) project at the Reisterstown Plaza Metro SubwayLink Station. TODs are areas serviced by transit and surrounded by high-quality, walkable environments with mixed-use development. Starting in 2018, MDOT MTA developed "Designing for Transit, TOD Guidelines" and used it to create station area concepts for Bowie State University Station (MARC), Monocacy Station (MARC), and Rogers Avenue Station (Metro SubwayLink).
- MDOT MTA has begun planning studies for two regional transit corridors, as identified in the Central Maryland Regional Transit Plan (RTP). Planning studies will evaluate potential alignments and corresponding modes.
- The RTP also identifies Dedicated Bus Lanes (DBLs) and Transit Signal Priority (TSP) infrastructure as strategies to improve transit service reliability and reduce peak travel times. DBLs physically separate buses from vehicle traffic, whereas TSP is a technology that reduces transit vehicle dwell time at select roadway intersections. BaltimoreLink implemented both strategies and reduced peak travel times on select corridors by 22 percent with TSP and between 9 and 31 percent with DBLs (See **GOAL 2** for more information).
- Set to be completed by summer 2021, MARC's Odenton Station will test automated technology to self-park and hail vehicles, as well as solicit the public's feedback on these technologies. This opportunity is made possible by the Transportation Research Board's Innovations Deserving Exploratory Analysis (IDEA) grant. Automated technologies enhance the transit experience and attracts customers.
- Set to be complete by the end of 2021, North Avenue Rising will make targeted investments along the North Avenue corridor to spur economic revitalization and better connect residents to economic opportunities. Investments include 6 miles of DBLs, TSP, enhanced bus stops, streetscaping, bike facilities, roadway renovations, and rail improvements. For more information, please visit: www.northavenuerising.com
- Set to be complete by the end of 2021, MDOT MTA will complete the Statewide Transit Plan (STP). The STP will provide a 50-year vision, goals, and strategies to enhance coordination, equity, and mobility across Maryland's rural, suburban, and urban regions. For more information, please visit: https://mta.maryland.gov/statewide-plan
- Currently underway, the Purple Line will connect Bethesda in Montgomery County with New Carrollton in Prince George's County and is estimated to take 17,000 cars off the road daily. For more information, please visit: www.purplelinemd.com

Strong connections to reliable, high-quality public transportation service makes communities more livable. Transit strength can be measured, in part, by considering the On-Time Performance (OTP) and riders' satisfaction with public transit services (**Table 5**).

Table 5: Performance Summary

Performance Measure		Mode	2019 Finding	Baseline to 2019 Change	2020 Target	Progress to 2020 Target	2026 Target	Baseline Value (Year)
3	OTP[3]	Local Bus	69.1%	+5.7%-point increase	75%	✓	85.0%	63.4% (FY 2017)
		Light RailLink	94.3%	-2.3%-point decrease	93%		95.0%	96.7% (FY 2017)
		Metro SubwayLink	93.5%	-2.5%-point decrease	95%		95.0%	96.0% (FY 2017)
		MARC	87.1%	-4.2%-point decrease	92%		93.0%	91.3% (FY 2017)
		Commuter Bus	83.8%	+3.5%-point increase	93%		90.0%	80.3% (FY 2018)
		MobilityLink	84.3%	-8.8%-point decrease	92%		95.0%	93.1% (FY 2017)
4	**Customer Satisfaction** (1-5 score)		3.33	+3.4% increase	3.5	✓	3.7	3.22 (CY 2017)

✓ : Performance trends in a positive direction.

Since 2017 and 2018, Local Bus and Commuter Bus OTP increased by 5.7 and 3.5 percent, respectively (**Figure 5**). These operating modes debuted new GPS capabilities, which allow MDOT MTA to dynamically manage and improve transit service in real-time. From 2017 to 2019, the remaining operating modes' OTP fell between 2.3 and 8.8 percent. Despite a decline in OTP, Light RailLink met its OTP June 2020 performance target of 93 percent.[4]

Reliable transit service depends on the reliability of third-party owned infrastructure, such as roads and energy systems. MDOT MTA press releases and news publications identified several disruptions to transit services from 2017 to 2019 (**Table 6**).

[3] On-time performance is measured by the frequency that revenue vehicles arrive at their scheduled stop within 7 minutes for core services, 2 minutes for MARC, 8 minutes for Commuter Bus, and 30 minutes for MobilityLink.

[4] Operating mode staff and contracted third-parties provide OTP data for Light RailLink, Metro SubwayLink, MARC, and MobilityLink.

Figure 5: PM 3, On-Time Performance by Operating Mode

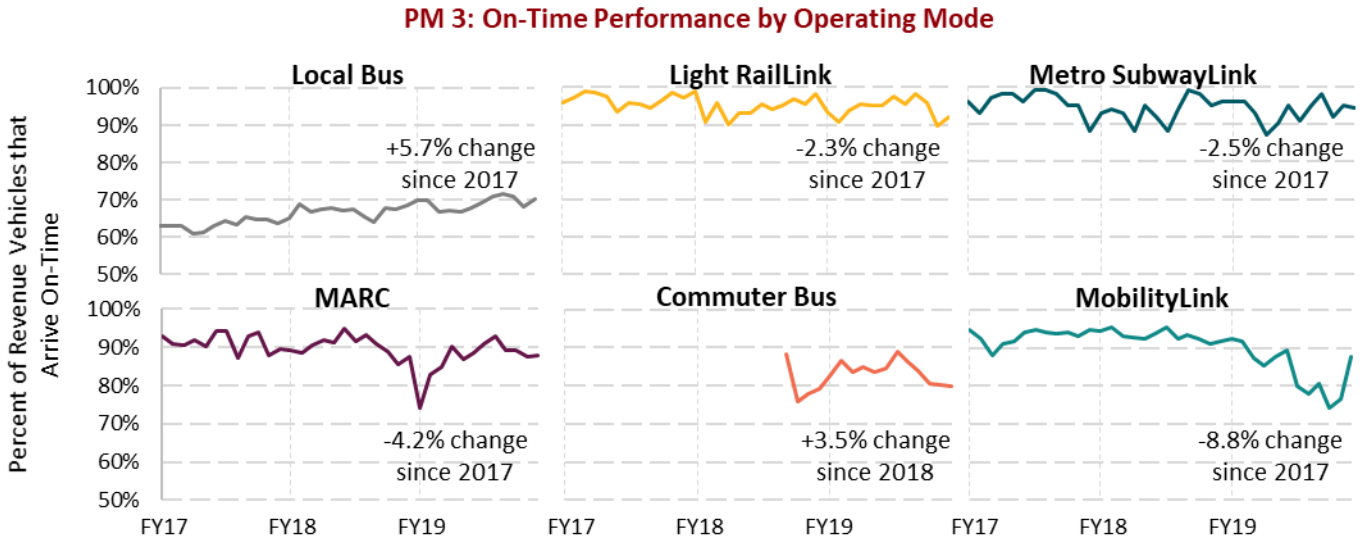


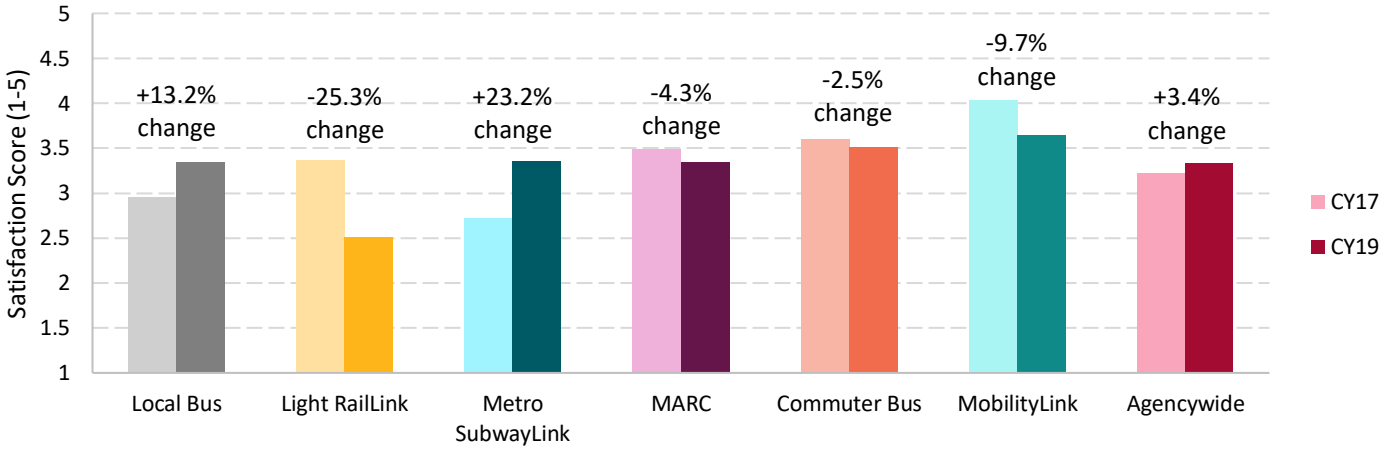
Table 6: On-time Performance Factors from 2017 to 2019

Operating Mode	On-Time Performance Factors
Local Bus	• Street closures due to construction, events, and other activities. • A steam pipe explosion under Eutaw Street in Baltimore City on June 20, 2017. • In 2018, MDOT MTA began using real-time GPS data to track and improve OTP.
Light RailLink	• Ongoing planned maintenance impacted service by at least 24 days in 2019 and 27 days in 2017. • A sinkhole appeared in downtown Baltimore City on July 10, 2019 required reconstruction of the Convention Center Station. • Heavy rain events and storm damage often cause ballast wash-outs and falling tree limbs. Service was impacted by at least 20 days in 2019, 30 days in 2018, and 4 days in 2017.
Metro SubwayLink	• Interlocking replacements and planned maintenance is required to keep the system in a state of good repair. Service was impacted by at least 45 days in 2019 and 51 days in 2018. • A safety critical emergency rail replacement project required a service shutdown for 30 days in 2018.
MARC	• In Summer 2018, heavy rains flooded tracks and created signal system issues. • MARC operates on track owned and operated by third-parties, including: Amtrak and CSX. Third-party operations and maintenance needs may impact MARC service unexpectedly.
MobilityLink	In April 2018, MDOT MTA replaced service contractors, which impacted OTP. OTP returned to near 90 percent by July 2019.
All modes	Storms and weather events may significantly impact all MDOT MTA transit services. For example, Winter Storm Stella impacted service for 3 days in 2017.

From 2017 to 2019, customer satisfaction increased by 3.4 percent on average across all operating modes (**Figure 6**).[5] Customer satisfaction with Local Bus and Metro SubwayLink transit services rose 13.2 and 23.2 percent respectively. However, customers became less satisfied with the remaining operating modes over the same period.

The Light RailLink customer satisfaction survey's data collection process occurred during a 3-week shutdown of northern service and appearance of a sinkhole at Howard and Pratt Streets. As such, Light RailLink's customer satisfaction declined by 25.3 percent.

Figure 6: PM 4, Customer Satisfaction



[5] Collected from 2017 and 2019 customer satisfaction surveys with 4,306 and 5,094 respondents, respectively, at 95 percent confidence. The 2017 survey has a +/- 1.6 percent error and the 2019 survey has a +/- 1.3 percent error.

MDOT MTA has undertaken several initiatives to improve performance and enhance OTP data quality. These initiatives include:

- In June 2018, MDOT MTA launched a partnership with Transit App to offer riders real-time Local Bus tracking, simple trip planning, and step-by-step navigation. MDOT MTA installed GPS devices on all 753 Local Bus vehicles. Real-time tracking was launched in Summer 2019 for Commuter Bus, Spring 2020 for MARC, and will be available for Light RailLink and Metro SubwayLink in Summer 2021.
- Debuted in Spring 2019, the Local Bus Operational Playbook provides MDOT MTA staff with coordinated, step-by-step instructions to address operational scenarios, such as headway management strategies, diversions, and revenue vehicle overcrowding.
- In September 2019, MDOT MTA completed the new Camden MARC Station, which replaced a 25-year old temporary building. The new station provides customer amenities such as ticket vending machines, public bathrooms, and a waiting room. For more information, please visit: https://www.mta.maryland.gov/articles/264
- In December 2019, MDOT MTA completed renovations to the 40-year old BWI Thurgood Marshall Airport Rail Station. New amenities include a larger passenger waiting area with more seating, more windows, electrical outlets, ticket facilities, and upgraded concessions and restrooms. For more information, please visit: https://www.mta.maryland.gov/articles/274
- The Statewide Transit Innovation Grant (STIG) program has awarded nearly $2 million since inception to fund initiatives in locally-operated transit agencies and jurisdictions statewide. STIG projects historically range from new paratransit dispatch software to bus stop accessibility assessments. As of Fall 2020, four projects are completed and another nine are in progress.
- Set to be complete by the end of 2021, North Avenue Rising will make targeted investments along the North Avenue corridor to spur economic revitalization and better connect residents to economic opportunities. Investments include 6 miles of DBLs, TSP, enhanced bus stops, streetscaping, bike facilities, roadway renovations, and rail improvements. For more information, please visit: www.northavenuerising.com
- The RTP set a goal to install an additional 6 miles of DBLS and enable TSP functionality at an additional 34 intersections throughout the region by 2025. TSP capabilities also exist at key intersections along Liberty Heights Avenue, Belair Road, and North Avenue.

Improving morale engages staff and boosts productivity, as well as decreases staff turnover and reduces absenteeism. Employers can measure employee morale by considering whether employees recommend working at MDOT MTA to a friend or a colleague and whether employees report feeling frequently stressed from their jobs (**Table 7**).

Table 7: Performance Summary

	Performance Measure	2019 Finding	Baseline to 2019 Change	2020 Target	Progress to 2020 Target	2026 Target	Baseline Value (Year)
5	**Percent of Employees that would Recommend Working at MDOT MTA to a Friend or Colleague**	91.2%	-1.6%-point decrease	N/A		95%	92.8% (CY 2017)
6	**Percent of Employees that Frequently Find their Job Stressful**	44.0%	+2.1%-point increase	35%		30%	41.9% (CY 2017)

: Performance trends in a negative direction.

From 2017 to 2019, the percent of employees that would recommend working at MDOT MTA to a friend or colleague declined by 1.6 percentage points (**Figure 7**). Additionally, the percent of employees who frequently find their job stressful rose by 2.1 percentage-points (**Figure 8**). MDOT MTA also expects the COVID-19 health crisis to negatively affect employee morale and mental health in the next sustainability reporting cycle.

Data was collected from the 2017 and 2019 MDOT Employee Engagement Survey[6] and tabulated by TBU. Total responses significantly vary between years with 1,776 and 547 respondents for PM 5 and 802 and 546 respondents for PM 6, respectively. The variation in survey respondents and survey language changes pose challenges when directly comparing findings between years. However, future surveys will standardize survey language to ensure long-term comparability for each TBU.

[6] The MDOT Employee Engagement Survey underwent slight changes between 2017 and 2019. PM 5 corresponds to Q11 (100% minus "I would not recommend" responses) in 2017 and Q15 ("Definitely Yes", "Probably Yes", and "Probably Not") in 2019. PM 6 corresponds to Q5 ("Frequently") in 2017 and Q6 ("Always" and "Most of the Time") in 2019.

Figure 7: PM 5, Percent of Employees that Would Recommend Working at MDOT MTA to a Friend or Colleague

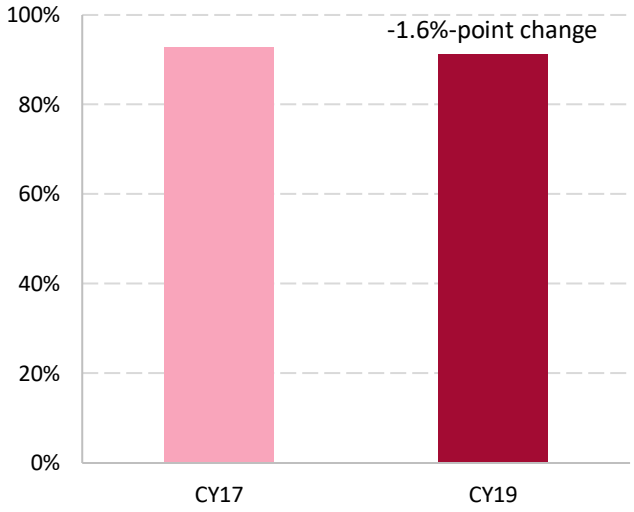
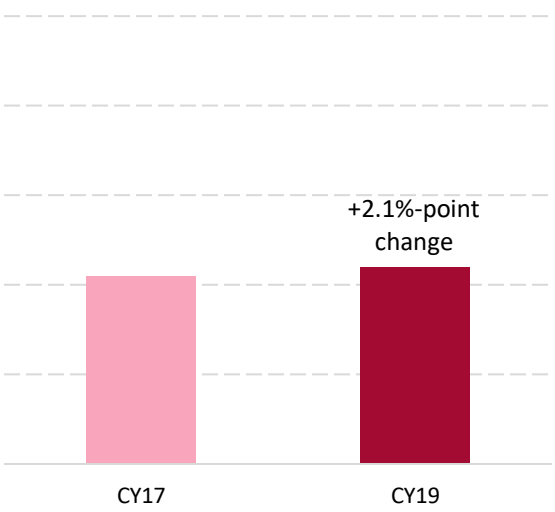


Figure 8: PM 6, Percent of Employees that Frequently Find Their Job Stressful



Several initiatives were started in response to the 2017 Employee Engagement Survey, three of these initiatives include:

- Started a new MDOT MTA in-reach program designed to better engage Local Bus operators and directly resolve concerns and address questions. Feedback helps identify potential service and policy changes.
- Unveiled new MDOT MTA data-driven employee recognition initiatives to celebrate exceptional employee performance, reinforce a positive safety culture, and appreciate employee suggestions to improve agency outcomes.
- Debuted MDOT University, an online learning management system, which provides MDOT employees with additional professional development and job training resources.

Additional initiatives include:

- Deployed in Spring 2019, the new ADP payroll system provides web and mobile based applications that enables union employees to easily submit and track hours, view deductions, and facilitate direct deposit. The payroll system also allows management to perform data analytics and identify trends.
- In May 2020, the Employee Engagement Committee, comprising representatives from each TBU, was created to develop strategies designed to strategically improve internal MDOT communications. An early effort includes the development of a toolkit to improve relationships between managers and staff.
- In Fall 2020, the 20-member Equity, Diversity, and Inclusion Committee (EDIC) was created with the purpose of defining and infusing equity into education, hiring, outreach, and employee recognition.

Improving employee health minimizes the amount of time employees request time off due to on-the-job injuries. Fewer injuries also allows MDOT MTA to reduce workplace compensation and overtime costs (**Table 8**).

Table 8: Performance Summary

	Performance Measure	2019 Finding	Baseline to 2019 Change	2020 Target	Progress to 2020 Target	2026 Target	Baseline Value (Year)
7	**Lost Work Days due to Injury**	48,632	+12.1% increase	N/A		2017 Baseline	43,382 (FY 2017)

: Performance trends in a negative direction.

In 2019, MDOT MTA employees claimed 12.1 percent more absent days due to injury than 2017 (**Figure 9**). Over the same period the number of injury claims increased by 1.1 percent (**Figure 10**). Lost work days are calculated through MDOT MTA's Workers Compensation Program. A claim may occur in a given year, but the corresponding payout and time off due to injury may cross into the subsequent year. Additionally, MDOT MTA expects the COVID-19 health crisis and teleworking to affect employee health trends in the next sustainability reporting cycle.

Figure 9: PM 7, Lost Work Days Due to Injury

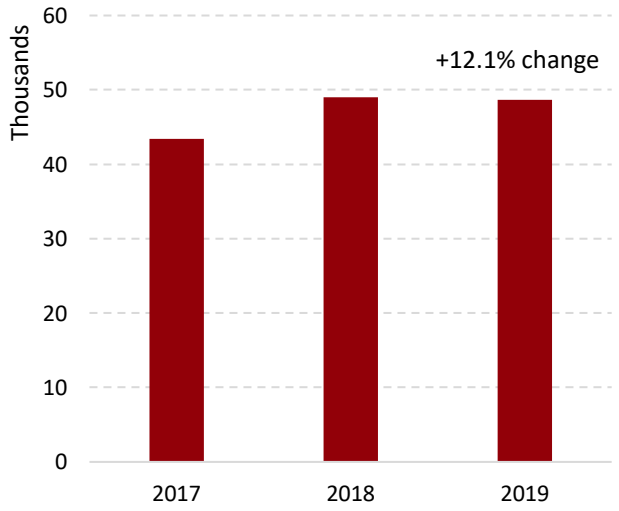
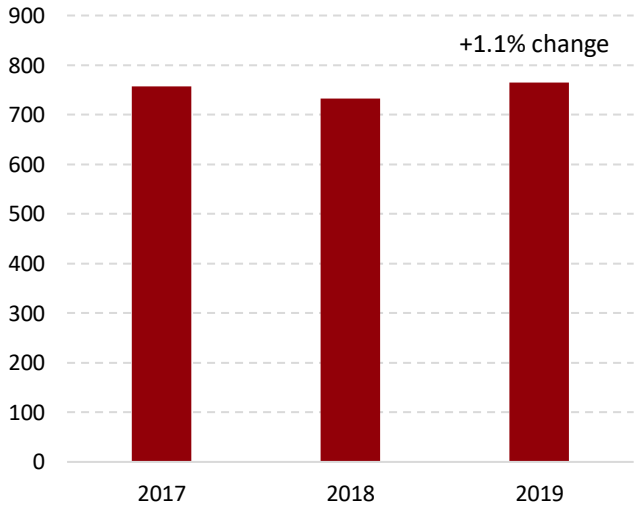


Figure 10: Number of Injury Claims



MDOT MTA has undertaken several initiatives to improve performance. These initiatives include:

- In late 2019, MDOT MTA debuted a new Safety Hotline number 844-MTA-SAFE to encourage employees to report hazards and concerns.
- In August 2020, MDOT MTA published its Public Transportation Agency Safety Plan to describe safety management policies, procedures, and processes to manage safety activities.

Improving air quality protects public health and mitigates climate change by reducing human-caused greenhouse gas (GHG) emissions, such as carbon dioxide and methane. Renewable energy technologies can replace fossil fuels by harnessing power from natural and abundant energy sources, such as the sun and wind.

Locally, improving water quality helps stop the formation of "dead zones," or areas devoid of aquatic life due to low oxygen, within the Chesapeake Bay. Impervious surfaces, such as pavement and roofs, degrade water quality by preventing natural systems from filtering and slowing down stormwater runoff (**Table 9**).

Table 9: Performance Summary

	Performance Measure	2019 Finding	Baseline to 2019 Change	2020 Target	Progress to 2020 Target	2026 Target	Baseline Value (Year)
8	**Pounds of GHG Emitted** (Lbs. CO_2-e)	11.0 GHG/VMT	-6.0% decrease	-2.4% decrease**	✓+	-21.3% decrease**	11.7 GHG/VMT (FY 2017)
9	**Percent of Impervious Surfaces Treated**	17.7%	+1.7%-point increase	18.3%	✓	34.9%	16.0% (2017 Snapshot)

✓+ : Performance met its 2020 performance target; ✓ : Performance trends in a positive direction; ** In comparison to baseline year

From 2017 to 2019, MDOT MTA reduced greenhouse gas emissions (Lbs. CO_2-e) by 6.0 percent and therefore achieved its June 2020 performance target (**Figure 11**). Local Bus reduced GHG emissions by 14.1 percent, due to the bus fleet replacement program while the remaining modes' energy use increased (**Figure 12**). The discrepancy in 2018 MARC data is due to an abnormally large electric bill at a signaling system meter. MDOT MTA uses tools to convert energy use to GHG emissions, such as EnergyCap, U.S. EPA's GHG Equivalencies Calculator, and the American Public Transportation Association's Transit Emissions Quantifier Tool.

Figure 11: PM 8, Agencywide GHG Emissions

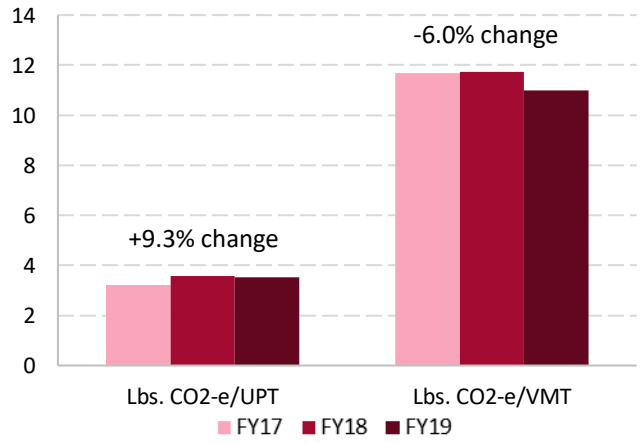
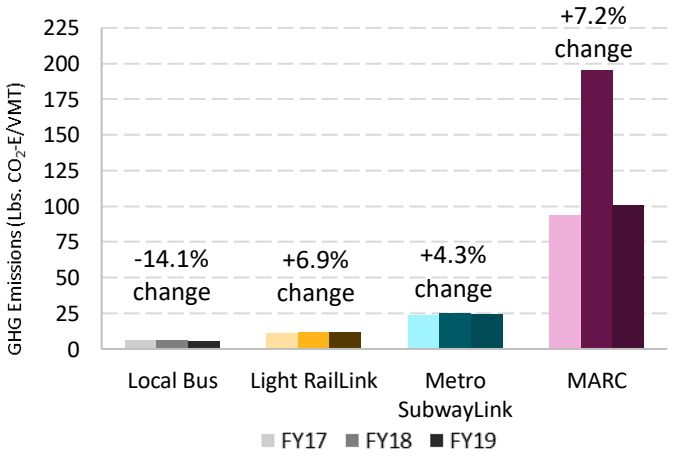
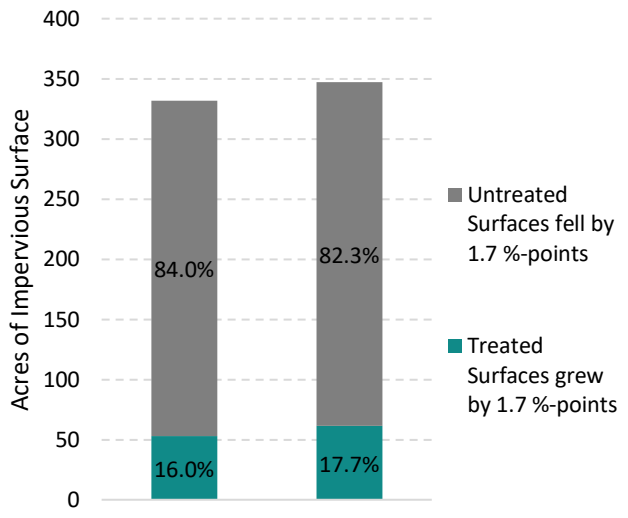


Figure 12: GHG Emissions by Operating Mode



From 2017 to 2019, MDOT MTA increased the amount of treated impervious surfaces by 7.0 acres or 1.7 percent (**Figure 13**). MDOT MTA treats surfaces by implementing projects that restore stormwater quality and quantity to a natural, undeveloped condition. The total acreage of impervious surfaces owned by MDOT MTA grew by 15.3 acres when the agency purchased MARC's Riverside Maintenance Facility. MDOT MTA's Transit Integrated Geospatial Environmental Reporting System (TIGERS) helps track stormwater projects and provides annual snapshots that helps report progress.

Figure 13: PM 9, Percent of Impervious Surfaces Treated



Initiatives described within "Goal 10: Reduce energy use while increasing the renewable energy portfolio" also help improve water, land, and air quality by burning fewer fossil fuels and therefore producing fewer greenhouse gas emissions. See Goal 10 for energy efficiency and renewable energy project details.

Additional initiatives MDOT MTA has undertaken to improve performance include:

- In Fall 2020, MDOT MTA restored 30 acres of impervious surfaces to improve water quality at Monocacy and Dorsey MARC stations, as well as White Marsh and Severna Park Park & Ride lots. These 30 acres will be applied to the agency's next reporting cycle.
- The Maryland Greenhouse Gas Reduction Act Plan requires MDOT MTA to convert 50 percent of the bus fleet to ZEVs by 2030. As such, MDOT MTA completed a Zero Emission Vehicle (ZEV) evaluation in late 2020, which considers the feasibility of transitioning the agency's diesel bus fleet to an alternative technology and determine corresponding operational, infrastructure, and cost requirements. A ZEV pilot, beginning in 2021 and made possible by a discretionary grant award, will help inform bus conversion plans.
- By Spring 2021, design plans will be complete to improve water quality from 2.9 acres of impervious surfaces at the Warren Road Light Rail Station.

What is a Carbon Footprint?

A carbon footprint is defined as the total emissions caused by an individual, organization, product, or a municipality. Reducing GHG emissions allows MDOT MTA to reduce its carbon footprint. For comparison, the average person generates 27,180 pounds of GHGs annually from vehicles and home energy use by 37.3 and 62.7 percent, respectively.[4,5]

Municipally generated waste, or garbage, is ultimately disposed at landfills or burned at incinerators; this, harms land, water, and air quality, as well as public health. Diversion programs, such as recycling, help prevent waste being sent to landfills and incinerators and helps protect Maryland's resources and communities (**Table 10**).

Table 10: Performance Summary

	Performance Measure	2019 Finding	Baseline to 2019 Change	2020 Target	Progress to 2020 Target	2026 Target	Baseline Value (Year)
10	**Percent of Waste Recycled**	45.1%	-12.2%-point decrease	58.4%		46.1%	57.4% (CY 2017)

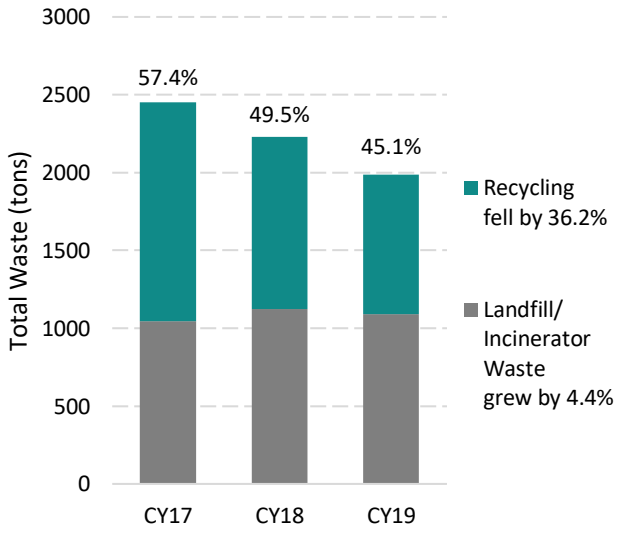
: Performance trends in a negative direction

From 2017 to 2019, MDOT MTA's recycling rate declined 12.2 percentage-points while waste destined for the landfill or incinerator grew by 4.4 percent (**Figure 14**). In 2019, MARC acquired the Riverside Maintenance Yard, which triggers state waste and recycling reporting requirements. As such MARC's recycling rate grew by 212 percent. However, the remaining operating modes' recycling rate fell almost in half, between 41 and 47 percent since 2017 (**Figure 15**).

Recycling rate considers all recycled materials, except demolition materials, regardless of whether they're covered by the Maryland Recycling Act (MRA).[7]

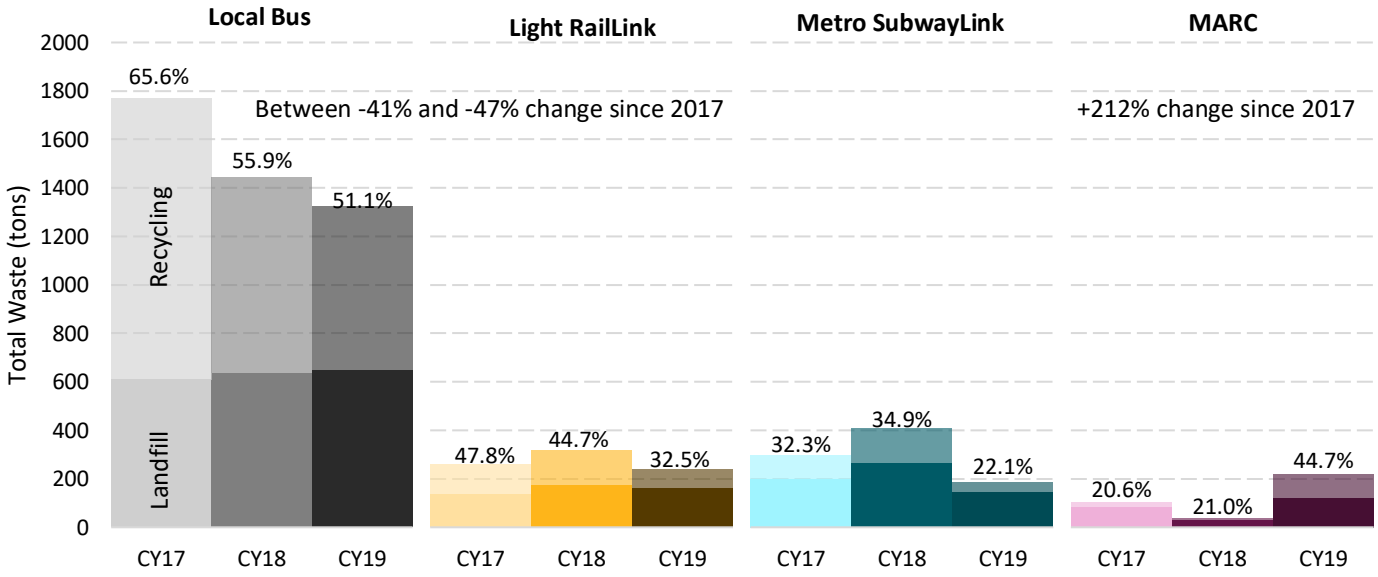
MDOT MTA is investigating the causes of declining facility recycling rates and pilot waste diversion initiatives. Initiatives may include employee educational campaigns, enhanced signage, and improved vendor collaboration.

Figure 14: PM 10, Percent of Waste Recycled



[7] Recycling rate calculation considers both "MRA" and "non-MRA" recycled materials divided by all waste, as reported by facility All State Agencies Recycle (All StAR) reports.

Figure 15: Recycling Rate and Waste Tonnage by Operating Mode



Environmental Health | **Conserve Resources & Support Environmental Stewardship** | ***Goal 10*: Reduce Water & Energy Use While increasing the Renewable Energy Portfolio**

Conserving energy and water and expanding the renewable energy production saves money, reduces GHG emissions, improves public health, and strengthens resiliency (**Table 11**).

Table 11: Performance Summary

	Performance Measure	2019 Finding	Baseline to 2019 Change	2020 Target	Progress to 2020 Target	2026 Target	Baseline Value (Year)
11	**Electricity and Fuel Used** (MMBtu)	0.068 MBtu/VMT	-4.4% decrease	-1.1% decrease**	✓+	-14.0% decrease**	0.071 MBtu/VMT (FY 2017)
12	**Percent of electricity used from renewable energy sources**	23.7%	-0.4%-point decrease	29.7%	✓-	46.5%	24.1% (FY 2017)
13	**Water Used** (Gallons)	81.2 gallons/VMT	-32.4% decrease	2017 baseline	✓+	2017 baseline	120.1 gallons/ VMT (FY 2017)

✓+ : Performance met its 2020 performance target; ✓- : Performance trends in a negative direction; ** In comparison to baseline year.

From 2017 to 2019, MDOT MTA reduced energy use by 4.4 percent and met its June 2020 performance target (**Figure 17**). Local Bus reduced energy use by 13.9 percent, due to the bus fleet replacement program, while the remaining modes' energy use increased (**Figure 16**). The discrepancy in 2018 MARC data is due to an abnormally large electric bill at a signaling system meter.

MDOT MTA calculates energy use data from utility bills and fuel invoices for revenue and non-revenue vehicles, maintenance facilities, and stations. The agency generally does not have access to energy data from third-party contractors.

Figure 17: PM 11, Agencywide Energy Use

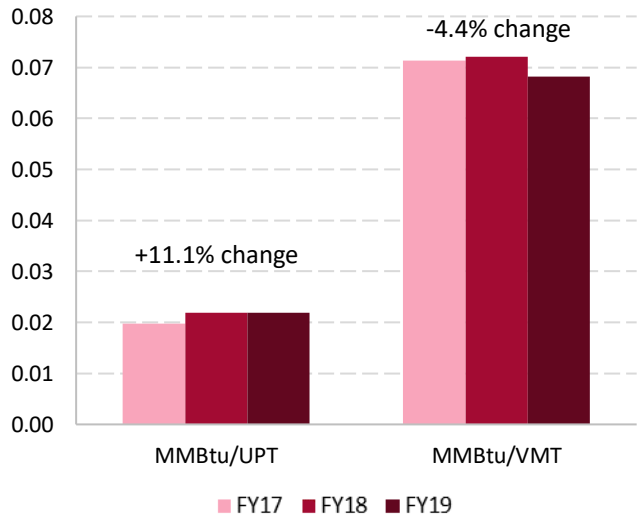
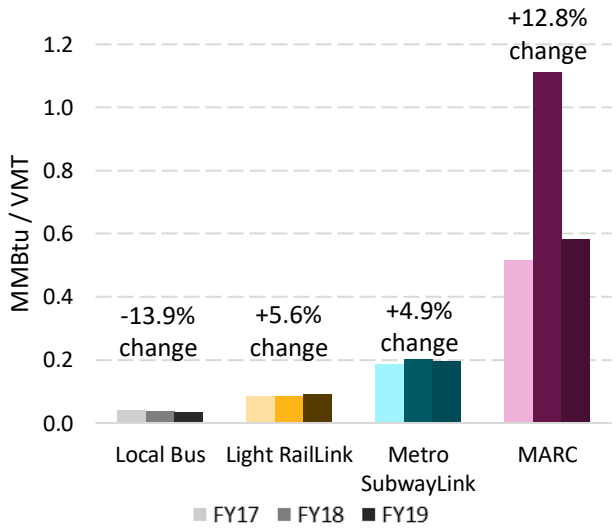
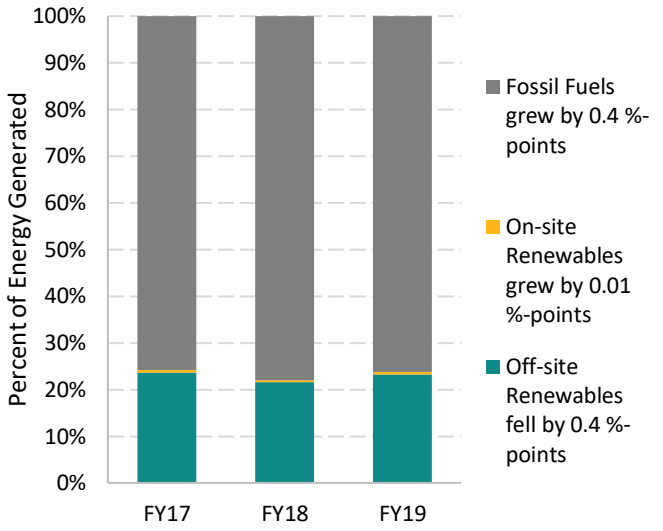


Figure 16: Energy Use by Operating Mode



From 2017 to 2019, MDOT MTA used less renewable energy, by 0.4 percentage-points, due to a slight decline in off-site energy production (**Figure 18**). The agency uses renewable energy from two sources: on-site production through solar panels located on the Northwest Bus Division and off-site energy purchased through an electricity provider and reported to the Maryland Department of General Services.

Figure 18: PM 12, Percent of Renewable Electricity Generated



From 2017 to 2019, MDOT MTA reduced water use by 32.4 percent and meet its June 2020 performance target (**Figure 19**). Potential water savings may be due to late third-party billing. Additionally, the agency's modified utility invoice process helps ensure financial records reflect water consumption data, which also explains Metro SubwayLink and MARC's increased water use over time.

Figure 20: PM 13, Agencywide Water Use

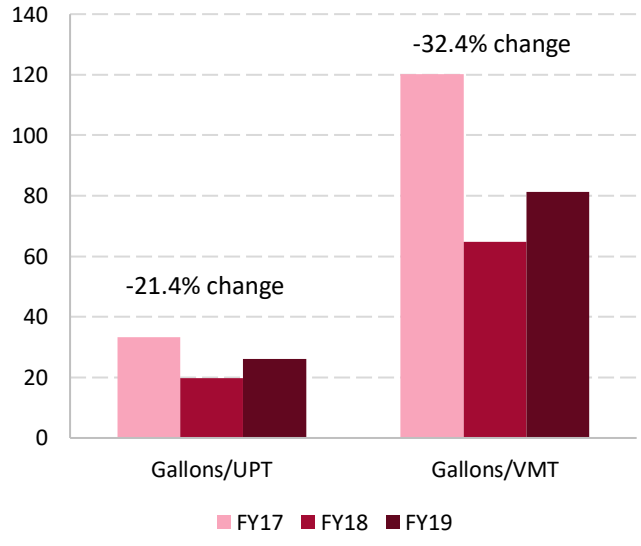
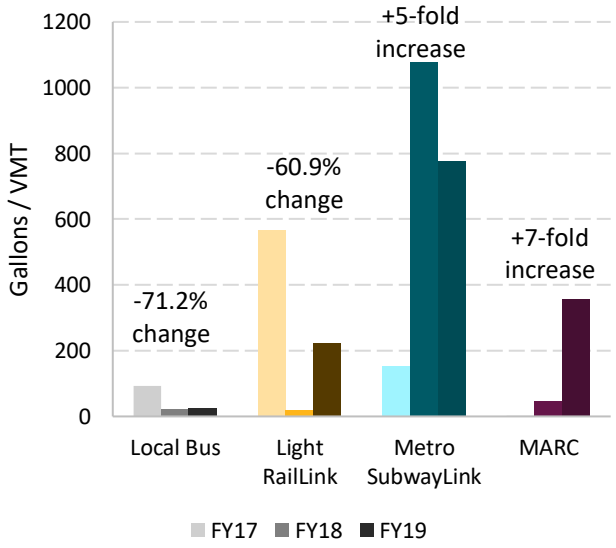


Figure 19: Water Use by Operating Mode



MDOT MTA has undertaken several initiatives to improve performance. These initiatives include:

- In February 2019, MDOT MTA completed upgrading approximately half of its lighting fixtures (about 8,000 fixtures) with LED technology. A LED bulb lasts on average 42 times longer and consumes 80 percent less energy than an incandescent bulb.
- In May 2019, MDOT MTA completed a Wayside Energy Storage System (WESS) on Metro SubwayLink at West Cold Spring Station. A WESS captures energy from braking trains and re-uses that energy to provide traction power and reduce operating costs.
- In August 2020, MDOT MTA completed the Northwest Bus Division's vehicle wash water reclamation system. This system will enable the reuse of vehicle wash water to improve efficacy, minimize clogging, and save money.
- In early 2020, MDOT MTA finished a feasibility study to implement electrical sub-metering at three pilot sites. Sub-metering will allow the agency to monitor and manage daily electricity use.
- In 2019, MDOT MTA completed ground power installation on two layover tracks at the Riverside Locomotive Maintenance Facility and throughout the Martins Maintenance and Layover Facility. This electrical infrastructure allows MDOT MTA's diesel locomotives to be powered through electrical hookups rather than idling the engine to reduce energy use and emissions.
- MDOT's Solar Program certified six contractors to design, construct, operate, and maintain photovoltaic systems on MDOT-owned properties. As a result, MDOT MTA will produce, purchase, and use renewable energy on-site. MDOT awarded the Renewable Energy Master Contract in February 2018, and MDOT MTA is anticipating the first task to be executed in 2021. For more information, please visit: www.mdot.maryland.gov/newMDOT/Planning/Environmental/Solar
- In 2019, the Clean Energy Jobs Act became law and requires 50 percent of Maryland's electricity to be supplied from renewable energy sources by 2030.
- Currently underway with an estimated completion date in 2023, the overhaul of six GP39 diesel locomotives includes replacing the head-end power engine with a modern microprocessor-controlled Caterpillar C18 engine resulting in less idling, reduced energy use, and lower greenhouse gas emissions.
- Currently underway, MDOT MTA's 5-year bus procurement will retire 354 buses and replace them with 350 new clean diesel buses from 2020 to 2024. The new buses are more efficient and will collectively reduce energy use by over a million gallons annually.

Transit supports job creation by connecting communities to job centers. Supporting job creation can be measured, in part, by considering how many jobs are accessible by transit services (**Table 12**).

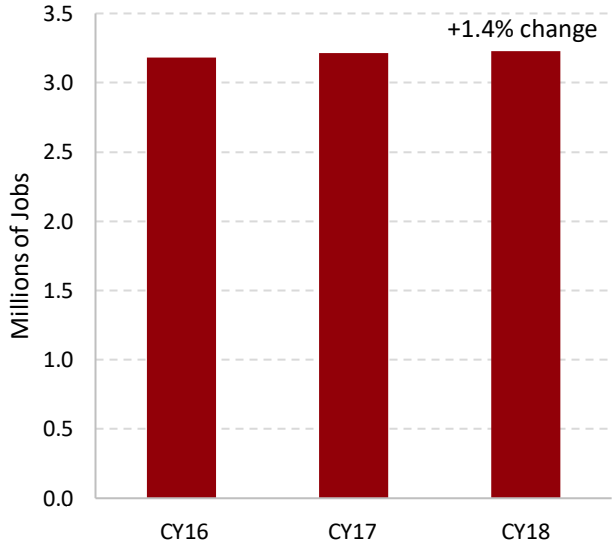
Table 12: Performance Summary

	Performance Measure	2019 Finding	Baseline to 2019 Change	2020 Target	Progress to 2020 Target	2026 Target	Baseline Value (Year)
14	**Number of Jobs within ½ Mile of Fixed-Route Transit**	3,226,814*	+1.4% increase	N/A	✓+	6.4% increase**	3,180,894 (CY 2016)

✓+ : Performance met its 2020 performance target; * The U.S. Census Bureau's most recent five-year rolling average estimates are from 2018; ** In comparison to baseline year.

From 2016 to 2018, the number of jobs within a ½ mile of fixed-route transit grew by 1.4 percent (**Figure 21**). As a transit provider, MDOT MTA has limited control over this performance measure and as such, closely collaborates with employers, developers, and elected officials to help attract and retain jobs within MDOT MTA's transit network. The U.S. Census Bureau's five-year rolling average employed population data was compared against MDOT MTA's service over the same period.

Figure 21: PM 14, Number of Jobs Within a ½ Mile of Fixed-Route Service



MDOT MTA has undertaken several initiatives to improve performance. These initiatives include:

- In February 2018, MDOT MTA launched LocalLink 63 to provide transit connectivity between Baltimore City and 8,000 jobs at Tradepoint Atlantic in Sparrows Point. For more information, please visit: https://www.mta.maryland.gov/articles/142
- In Fall 2019, MDOT MTA implemented a one year pilot route extension of the CityLink Yellow to provide transit connectivity between Baltimore City and 150 jobs at Guinness Open Gate Brewery in Halethorpe. However, the pilot is unlikely to be continued due to low ridership before and during the COVID-19 public health crisis.
- By early 2021, MDOT Office of Real Estate & Economic Development will release a Request for Proposals (RFP) to develop a mixed-use Transit Oriented Development (TOD) project at the Reisterstown Plaza Metro SubwayLink Station. TODs are areas serviced by transit and surrounded by high-quality walking environments and mixed-use development. MDOT MTA also developed and used "Designing for Transit, TOD Guidelines" to create station area concepts for Bowie State University Station, Monocacy Station, and Rogers Avenue Station.

Keeping assets in a State of Good Repair (SGR) means the asset can safely operate at a full level of performance. To keep assets in SGR, assets must be overhauled, as needed, and replaced when they reach the end of their useful life (**Table 13**).

Table 13: Performance Summary

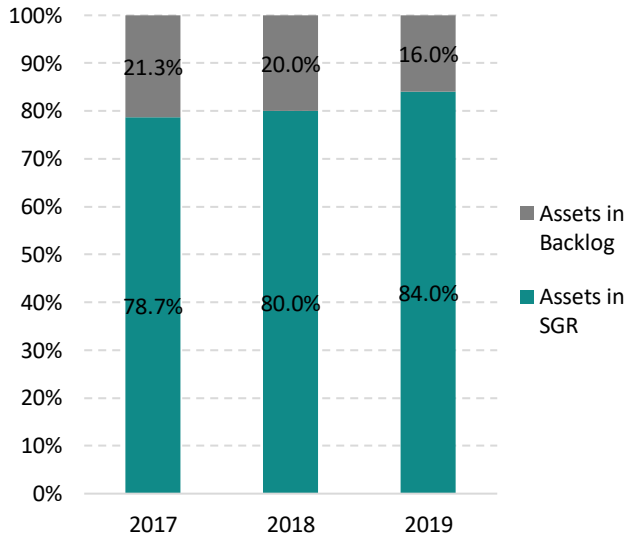
	Performance Measure	2019 Finding	Baseline to 2019 Change	2020 Target	Progress to 2020 Target	2026 Target	Baseline Value (Year)
15	**Percent of Assets in a State of Good Repair by Value**	84.0%	+5.3%-point increase	N/A	✓	90.0%	78.7% (FY 2017)

✓: Performance trends in a positive direction; ✓: Performance trends in a negative direction.

From 2017 to 2019, the total value of assets in SGR grew by 5.3 percent (**Figure 22**). MDOT MTA prioritizes SGR investments with a customized version of FTA's capital asset management decision-making support tool, known as TERM Lite. TERM Lite assigns asset priority values based upon multifactor decision-making criteria aligned with the MDOT MTA Mission Statement's four cornerstones – safety, efficiency, reliability, and customer service.

In 2019, MDOT MTA published its Capital Needs Inventory (CNI) analysis. It identifies a $2.058 billion capital funding shortfall over the next 10 years to address MDOT MTA's system needs. Despite limited funding, the agency partners with government agencies, non-profits, and private firms to explore new technologies, discretionary grant opportunities, practical design best practices, and shared mobility solutions. For more information on the 2019 CNI, visit: www.mta.maryland.gov/transit-projects.

Figure 22: Percent of Assets in SGR by Value



What Does MDOT MTA Own?

- 1,654 revenue vehicles
- 2,100 vehicles
- 150 facilities
- 88 stations
- 1,074 track miles
- Structures, such as elevated tracks, tunnels, and bridges

MDOT MTA has undertaken several projects to improve the transit system's SGR. These initiatives include:

- In September 2019, MDOT MTA completed the new Camden MARC Station, which replaced a 25-year old temporary building. The new station provides customer amenities such as ticket vending machines, public bathrooms, and a waiting room. For more information, please visit: https://www.mta.maryland.gov/articles/264
- In December 2019, MDOT MTA completed renovations to the 40-year old BWI Thurgood Marshall Airport Rail Station. New amenities include a larger passenger waiting area with more seating, more windows, electrical outlets, ticket facilities, as well as upgraded concessions and restrooms. For more information, please visit: https://www.mta.maryland.gov/articles/274
- Currently underway and estimated to be completed in early 2021, MDOT MTA will finish building a new Local Bus division to replace the existing 65-year old facility located at 2226 Kirk Avenue in Baltimore City. The new facility will accommodate approximately 175 buses, on-site employee parking, and enhanced operations and maintenance capabilities.
- Currently underway and estimated to be completed in 2022, MDOT MTA will complete a mid-life overhaul of all 53 Light RailLink revenue vehicles. The overhaul replaces or refurbishes every vehicle subsystem to address obsolescence, improve performance, and enhance passenger comfort.
- Currently underway and estimated to be completed in 2023, the overhaul of six GP39 diesel locomotives includes replacing the head-end power engine with a modern microprocessor-controlled Caterpillar C18 engine.
- Currently underway and estimated to be completed in 2024, MDOT MTA will replace Metro SubwayLink's 30-year old train control system and revenue vehicle fleet with 78 modern railcars that will enhance passenger comfort and improve safety and reliability. The first railcars are scheduled to be delivered by 2022.

Improving cost efficiency allows MDOT MTA to provide more services while staying cost neutral. Noncontractual operating costs reflect expenses not fixed through a third-party contract, including: energy, water, spare parts, and overtime costs (**Table 14**).

Replacing physical payment methods with electronic collection services improves customer experience, and increases payment processing efficiency. Automated payment collection, such as CharmPass or CharmCard, also expedites passenger boarding and reduces transit travel time.

Table 14: Performance Summary

	Performance Measure	2019 Finding	Baseline to 2019 Change	2020 Target	Progress to 2020 Target	2026 Target	Baseline Value (Year)
16	**Noncontractual Operating Costs**	$3.08/VMT	-2.5% decrease	+1.1% increase**	✓+	-0.3% decrease**	$3.16/VMT (FY 2017)
17	**Percent of Fares Purchased through Electronic Services**	9.4%	+6.0%-point increase	25%	✓	50%	3.4% (FY 2017)

✓+ : Performance met its 2020 performance target; ✓ : Performance trends in a positive direction; ** In comparison to baseline year.

From 2017 to 2019, noncontractual operating costs per transit vehicle mile traveled (VMT) decreased by 2.5 percent and therefore met its June 2020 performance target (**Figure 23**). Local Bus reduced costs by 13.1 percent, whereas the remaining operating mode noncontractual operating costs increased (**Figure 24**).

Figure 23: PM 18, Noncontractual Operating Costs

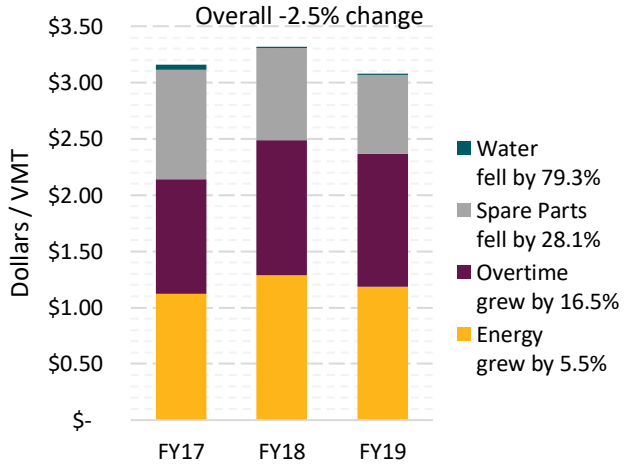
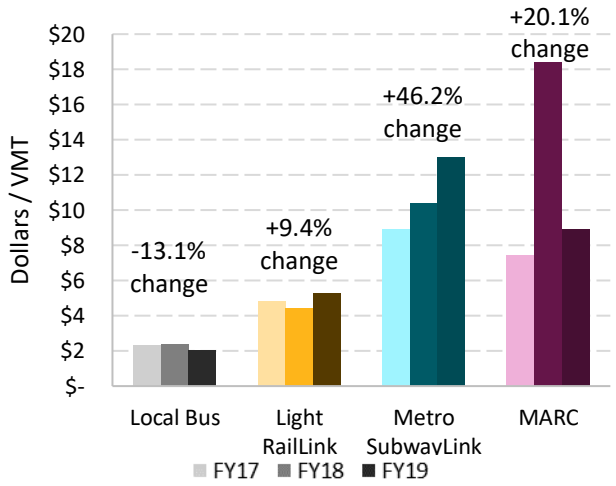


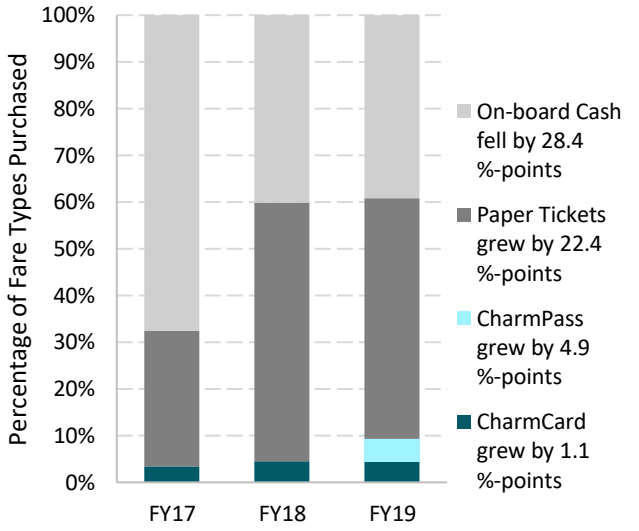
Figure 24: Noncontractual Operating Costs by Operating Mode



Local Bus' fleet-wide major system replacement "campaigns" helped reduce spare part costs by 28.1 percent. The discrepancy in 2018 MARC data is due to an abnormally large electric bill at a signaling system meter.

From 2017 to 2019, MDOT MTA helped grow electronic fare purchases to 9.4 percent of all purchases (**Figure 25**). The agency's new mobile CharmPass program is responsible for 81.7 percent of new electronic fare purchases since 2017.

Figure 25: PM 19, Percent of Electronic Fares Purchased



Most initiatives referenced within the 2020 Sustainability Report manage operating costs by enhancing productivity and efficiency. Since labor and third-party service contracts account for 74 percent of MDOT MTA's operating budget, the agency will continue to prioritize initiatives that reduce noncontractual operating costs and use data to inform performance-based contract requirements. See Goal 10 for energy and water efficiency projects.

MDOT MTA has undertaken several initiatives to enhance data quality and improve performance. These initiatives include:

- In September 2018, MDOT MTA launched CharmPass, a free, mobile transit pass application that allows transit riders to quickly and easily purchase fares across all transit services, except MobilityLink. CharmPass also allows customers to transfer between Local Bus, Light RailLink, and Metro SubwayLink without additional cost for 90 minutes. Over 3 million fares have been purchased since its implementation. For more information, please visit: www.mta.maryland.gov/charmpass
- MDOT MTA facilitates the Baltimore City Public Schools (BCPS) OneCard photo identification program. BCPS uses blank-white MDOT MTA CharmCards, encoded with annual Student Passes, as the printed medium for BCPS' student identification system. Due to COVID-19, the OneCard program is on hold pending broader in-person schooling throughout BCPS.
- In early 2021, MDOT MTA will expand CharmPass use by phasing out the use of magnetic passes in the agency's discount fare programs, such as the All Access College Transit Pass. For more information, please visit: www.mta.maryland.gov/all-access-college-transit-pass
- Currently advertised through the eMaryland Marketplace, MDOT MTA's Future Fare System project will enable customers to use a single product to electronically purchase and use fares on multiple transit services. Local operating systems throughout the state will also have the option to join the system in the future.

3. NEXT STEPS

MDOT MTA will repeat and enhance the Sustainability Program's continuous improvement process (**Table 15**). Additionally, the Sustainability Program facilitates interdepartmental communication to help provide technical expertise and deliver initiatives described throughout Chapter 2.

Table 15: Initiatives that strengthen the MDOT MTA Sustainability Program's continuous improvement process

Steps in the Continuous Improvement Process	Enhancing Initiatives
Set Strategic Direction	• Align the Sustainability Program with sustainability-related performance measures from the Central Maryland Regional Transportation Plan and MDOT sustainability guidance
Collect & Assess Data	• Continuously collect data for each performance measure when data becomes available • Develop solutions that improve data quality and enhance the granularity of analyses • Coordinate with MDOT and MDOT MTA offices to collect sustainability-related data from surveys
Set Performance Targets	• Evaluate MDOT MTA's progress to attaining performance targets on an annual basis
Plan & Identify Initiatives	• Develop guidance for building a triple-bottom line business justification for sustainability initiatives
Program & Implement Initiatives	• Investigate alternative funding sources to implement sustainability initiatives • Explore collaborations with different levels of government, non-profits, and the private sector
Monitor & Adjust	• Develop guidance to "course correct" sustainability outcomes if performance trends deviate from performance targets
Reporting & Communication	• Debut an interactive, web-based sustainability portal and performance dashboard on MDOT MTA's internet site to replace static reporting methods
Manage Institutional Change	• Pilot guidance for integrating sustainable practices into the project development process • Enhance interdepartmental coordination to improve the efficacy of processes and initiatives • Conduct a materiality assessment to better identify MDOT MTA's sustainability-related opportunities and challenges

APPENDICES

Appendix A: MDOT Supporting Policy Document 606.4

MARYLAND DEPARTMENT OF TRANSPORTATION

Supporting Document: MDOT 606.4
Effective Date: December 9, 2019

Approved by: _____ Date: 12/9/19
Deputy Secretary of Policy, Planning, and Enterprise Services

Framework for a Sustainable Transportation System

This supporting document establishes the Maryland Department of Transportation's (MDOT) vision for a sustainable multimodal transportation system and a framework designed to attain that vision. The Sustainability Work Group, composed of representatives from each Transportation Business Unit and the Secretary's Office, collaboratively drafted the Sustainability Framework. The Sustainability Work Group will provide oversight to ensure the implementation of this framework aligns with organizational goals.

Vision for a Sustainable Multimodal Transportation System

A sustainable multimodal transportation system maximizes the efficacy of investments and supports current and future generations by enhancing community quality of life, improving environmental health, and enabling a robust economy. To advance sustainability, MDOT will integrate sustainability in business processes, implement a performance management approach, and leverage innovative resources.

Framework to Realize the Vision

Pillars	Commitments	Goals
Community Quality of Life	Promote livable communities	Provide transportation options that address accessibility and mobility.
		Strengthen local and regional connections to opportunity
		Work with local governments to support local land use choices that optimize the efficacy of transportation investments
		Engage communities impacted by transportation investments
	Foster employee wellness	Enhance employee morale
		Enhance employee health
Environmental Health	Create, restore, and enhance environmental quality and ecosystems	Restore and enhance land, water, and air quality
		Reduce and eliminate waste and hazardous materials
		Promote nature-based solutions to enhance operational efficiency and infrastructure resiliency
	Conserve resources and support environmental stewardship	Reduce water and energy consumption while increasing the renewable energy portfolio
		Leverage responsible sourcing procurement practices
Robust Economy	Support economic growth and development	Support job creation to benefit all socioeconomic levels
		Increase freight capacity and strengthen multimodal freight connections
	Optimize financial resources	Ensure assets meet the needs of the transportation system and are kept in a State of Good Repair
		Minimize an asset's total cost of ownership while maximizing performance
		Leverage the value of underutilized and underperforming properties and assets of the transportation system
	Build system resiliency	Incorporate resiliency to reduce risk and ensure quick recovery from disruptions

Appendix B: Performance Summary

	Commitment	Goal		Performance Measure		2019 Finding	Baseline to 2019 Change	2020 Target	Progress to 2020 Target	2026 Target	Baseline Value (Year)
Community Quality of Life	Promote Livable Communities	1	Provide access to local and regional connections	1.1	Population within a 1/2 mile of fixed-route transit	3,999,700*	+1.4% increase	+1.0% increase	✓+	+6.4% increase	3,945,425 (CY 2016)
				1.2	Annual ridership	94,164,523	-9.1% decrease	2017 baseline	✓-	2017 baseline	103,571,384 (FY 2017)
		2	Strengthen local and regional connections to opportunity	2.1	On-time performance – Local Bus	69.1%	+5.7%-point increase	75%	✓	85%	63.4% (FY 2017)
					On-time performance – Light RailLink	94.3%	-2.3%-point decrease	93%		95%	96.7% (FY 2017)
					On-time performance – Metro SubwayLink	93.5%	-2.5%-point decrease	95%		95%	96.0% (FY2017)
					On-time performance – MARC	87.1%	-4.2%-point decrease	92%		93%	91.3% (FY 2017)
					On-time performance – Commuter Bus	83.8%	+3.5%-point increase	93%		90%	80.3% (FY 2018)
					On-time performance – MobilityLink	84.3%	-8.8%-point decrease	92%		95%	93.1% (FY 2017)
				2.2	Customer satisfaction	3.33 out of 5	+3.4% increase	3.5	✓	3.7	3.22 (FY 2017)
	Foster Employee Wellness	5	Enhance employee morale	5.1	Percent of employees that would recommend working at MDOT MTA	91.2%	-1.6%-point decrease	N/A	✓-	95%	92.8% (CY 2017)
				5.2	Percent of employees that frequently find their job stressful	44.0%	+2.1%-point increase	35%	✓-	30%	41.9% (CY 2017)
		6	Enhance employee health	6.1	Lost work days due to injury	43,739	+3.8%-point increase	N/A	✓-	2017 baseline	43,382 (FY 2017)
Environmental Health	Create, restore, and enhance environmental quality and ecosystems	7	Restore and enhance land, water, and air quality	7.1	Pounds of GHG emitted	11.0 GHG/VMT	-6.0% decrease	-2.4% decrease	✓+	-21.3% decrease	11.7 GHG/VMT (FY 2017)
				7.2	Percent of impervious surfaces treated	17.7%	+1.7%-point increase	18.3%	✓	34.9%	16.0% (2017 snapshot)
		8	Reduce and eliminate waste and hazardous materials	8.1	Percent of waste recycled	45.1%	12.2%-point decrease	58.4%	✓-	46.1%	57.4% (CY 2017)
	Conserve resources and support environmental stewardship	10	Reduce water and energy use while increasing the renewable energy portfolio	10.1	Electricity and fuel used	0.068 Mbtu/VMT	-4.4% decrease	-1.1% decrease	✓+	-14.0% decrease	0.071 Mbtu/ VMT (FY 2017)
				10.2	Percent of electricity used from renewable energy sources	23.7%	-0.4%-point decrease	29.70%	✓-	46.50%	24.1% (FY 2017)
				10.3	Water used	81.2 Gallons/VMT	-32.4% decrease	2017 baseline	✓+	2017 baseline	120.1 gallons/ VMT (FY 2017)
Robust Economy	Support economic growth and development	12	Support job creation to benefit all socioeconomic	12.1	Number of jobs within a 1/2 mile of fixed-route transit	3,226,814*	+1.4% increase	N/A	✓+	6.4% increase	3,180,894 (CY 2016)
	Optimize financial resources	14	Ensure assets meet the needs of the transportation system and are kept in a State of Good Repair	14.1	Percent of assets in a state of good repair by value	84.0%	+5.3%-point increase	N/A	✓	90%	78.7% (FY 2017)
		15	Minimize an asset's total cost of ownership while maximizing performance	15.1	Noncontractual operating costs	$3.08/VMT	-2.5% decrease	+1.1% increase	✓+	-0.3% decrease	$3.16/VMT (FY 2017)
				15.2	Fares purchased with electronic media	9.40%	+6.0%-point increase	25%	✓	50%	3.4% (FY 2017)