



marta 



2021



sustainability update





Introduction

The Metropolitan Atlanta Rapid Transit Authority (MARTA) provides public transportation services through bus, heavy rail, light rail, and paratransit service to the Atlanta Metropolitan Region. By providing public transit options to over 2 million people and removing single-occupancy vehicles from our congested roadways, sustainability is inherent to our daily operations. In Calendar Year (CY) 2020 MARTA prevented 1,694,623 metric tons (MT) of greenhouse gases (in carbon dioxide equivalent or CO₂e) from being released into the atmosphere as a result of mobility mode shift and the advancement of changing land use.

The coronavirus (COVID-19) pandemic continues to impact communities and transit agencies around the globe. At MARTA, we've persevered and found ways to face the challenges presented by the pandemic. We continue to take every precaution while still providing reliable service to Atlanta through daily cleaning and sanitizing of the entire fleet, and by requiring everyone to follow TSA and CDC guidelines when riding MARTA. MARTA ridership decreased in both 2020 and 2021

1.6M+

metric tons of greenhouse gases prevented from release

due to less people riding transit for commuting to and from work. We are striving to find new ways to contribute to and lift up our community during this hard time. COVID-19 and MARTA's response is discussed later in the section, Our Community.

MARTA continues to move our sustainability initiatives forward regardless of the challenges presented by the COVID-19 pandemic. We released our inaugural Sustainability Report in 2018, followed by 2019 and 2020 Update Reports.¹ The 2021 Update Report reviews the most recent progress MARTA has made towards realizing our Triple Bottom Line — achieving cost-savings, having a net-positive impact on the environment, and improving the communities in which we operate, work, and live.

Updating the organizational format of previous sustainability reports, our 2021 updates are categorized into four main sections:



BUILDINGS



ENVIRONMENT



COMMUNITY



CLIMATE

We conclude with our Vision Forward and next steps for MARTA's sustainability program.

2 million

residents in MARTA service territory



MARTA's Gold status

issued by the American Public Transit Association's Sustainability Commitment program was celebrated at the APTA TRANSform Conference in Orlando, FL in November 2021.

Green Bonds



In December 2021, MARTA issued its first Green Bonds. These bonds were refunding bonds with a par value of \$369.6M and certified by Kestrel Verifiers, an independent verifier, by issuing their 2nd Party Opinion. In recognition of Green Bond designation, the Authority has committed to annually disclose certain metrics by posting these to the Municipal Securities Rulemaking Board's Electronic Municipal Market Access (EMMA) system. The refinanced projects bring environmental benefits by directly advancing goals to reduce harmful greenhouse gas emissions and maintaining access to clean transportation.²

What are Green Bonds?
Green Bonds are any type of bond instrument where the proceeds will be exclusively applied to finance or refinance, in part or in full, new and/or existing eligible Green Projects and which are aligned with the four core components of the Green Bond Principles. The refinanced projects directly advance goals to reduce harmful greenhouse gas emissions and maintain access to clean transportation.

\$369.6M

value of first Green Bonds issued by MARTA

Continually Improving

A key pillar of MARTA's Environmental Management Policy and overall operations is the focus on continual improvement; this is reflected in MARTA's annual sustainability metrics. All metrics are normalized by vehicle revenue miles (VRM³). VRM accounts for our expanding service area and continued service despite decreasing ridership. Continual improvement initiatives enacted to achieve these reductions are further described throughout this report.

	2012	CHANGE	2021
GHG EMISSIONS (lbs. CO ₂ e per VRM)	9.57	-36%	6.13 ⁴
WATER (gallons per VRM)	0.71	-43%	0.41
WASTE (lbs. per VRM)	0.12	-12%	0.10
ENERGY⁵ (kBtu per VRM)	27.73	-13%	24.19



Passengers depart from a northbound Gold Line train at Chamblee Station

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buildings

building a more sustainable MARTA



Efficiency Upgrades

The MARTA Energy service company (ESCO) project has continued over the past year with anticipated closing of the projects by the end of FY22.

Station Rehabilitation Project

MARTA is investing \$300 million over several years to rehabilitate our rail stations. These investments will enhance customer safety with new light-emitting diodes (LEDs) lighting and wayfinding, improve maintenance through use of new and improved materials, and make stations cleaner and safer for riders. The station rehabilitation project kicked off in November 2021 at Indian Creek Station with efforts including newly lighted walkways from the parking lot into the station, replacing all signage and damaged concrete, new public restrooms, tile cladding on the concourse level, and new landscaping. The first phase will also include upgrades to College Park, Five Points, Lenox, Arts Center, H.E. Holmes, and Airport Stations.⁶



Indian Creek Station Renovation Groundbreaking



environment

conserving resources and being good stewards



Environmental Management System

MARTA's Environmental Management System, or EMS, is a set of policies, processes, and procedures for assessing, controlling, and reducing the environmental impact of its activities, products and services. MARTA's EMS Program is now ISO 14001:2015 certified at:

- Armour Yard Rail Maintenance Facility
- Laredo Bus Maintenance Facility
- Headquarters Print Shop
- Brady Mobility Facility
- South Yard Rail Maintenance Facility
- Light Rail Vehicle Maintenance Facility
- Integrated Operations Center
- Perry Bus Maintenance Facility
- Avondale RCM/MOW Facility

In 2021, the EMS program focused on increasing coordination and communication with our EMS liaisons at each MARTA facility and office and preparing two additional bus maintenance facilities for ISO certification.

Electric Vehicle (EV) Charging Stations

In 2019, MARTA began installing electric vehicle (EV) charging stations in rail station parking garages and lots, park and rides, and at our maintenance facilities. These charging stations encourage and facilitate the use of electric vehicles for transit riders and employees. As of September 2021, 9 locations have 60 spaces total with EV charging ports available. The total



Laredo Maintenance Facility

charging sessions to date are 5,067 with an average of 247 charging sessions per month. This usage is estimated to be the equivalent of 36 MT of avoided greenhouse gas (GHG) emissions, or the same benefit as planting 912 trees and letting them grow for ten years. All installation work and maintenance is currently performed by Georgia Power and their contractors.

5,067
total charging sessions
averaging **247**
per month

Green Bonds

In December 2021, the MARTA Board of Directors approved a resolution to refund \$369.6 million of its Series 2014A and 2015A bonds, saving the Authority approximately \$62 million (\$47.3 million in present value) over the life of the bonds and reducing MARTA's debt expense by approximately \$2.6 million per year. The Green Bond certification by Kestrel Verifiers, an independent party, increased investor demand and led to a highly successful transaction in a very tight market. The new Series 2021D and 2021E taxable bonds are certified as Green Bonds, confirming that the financed projects advance MARTA's goals to reduce harmful greenhouse gas emissions and provide access to clean transportation. This is MARTA's first issuance of Green Bonds.

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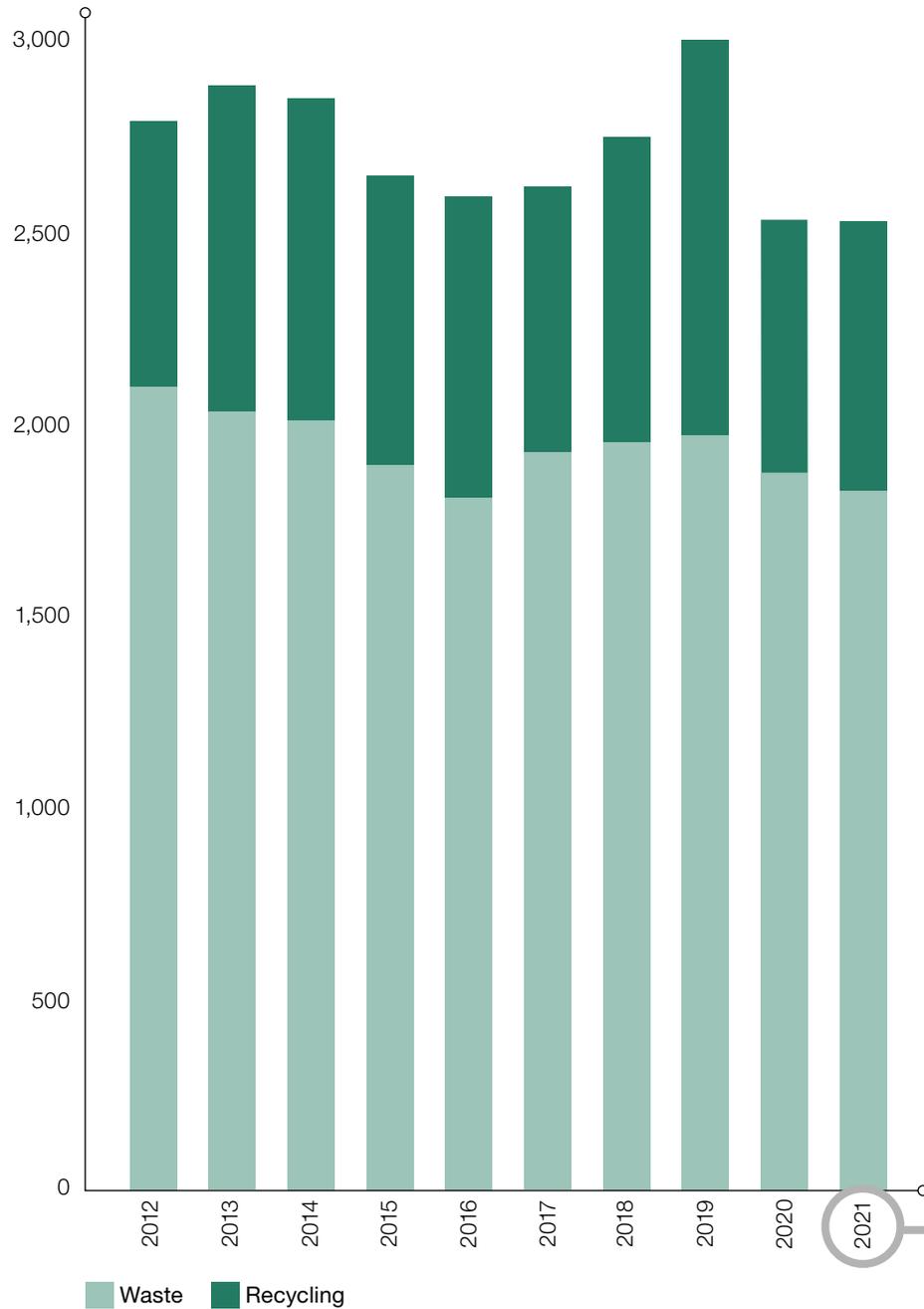
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Total Annual Tonnage for Waste and Recycled Materials Produced by MARTA



Track Replacement Project

MARTA's TR4 Track Replacement Project is a multi-year effort that involves replacing track and switches throughout the rail system. The project has focused on recycling as much material as possible which will include tons of fiberglass and scrap metal.

Waste Reduction and Recycling

MARTA reviewed and updated our waste data accounting process and diversion rate calculation in 2021 to ensure all relevant waste, recycling, and reuse streams were being considered and included. All historical data for batteries, tires, halon, and used oil have now been converted to tons and included in the diversion rate calculations.

From 2020 to 2021, MARTA's recycling tonnage increased, while the landfill-bound waste decreased slightly. The primary recycling streams that increased in 2021 include scrap metal, cardboard, and used oil. As a result, MARTA's diversion rate in 2021 was 28 percent, up from 26 percent in 2020.



28%

diversion rate

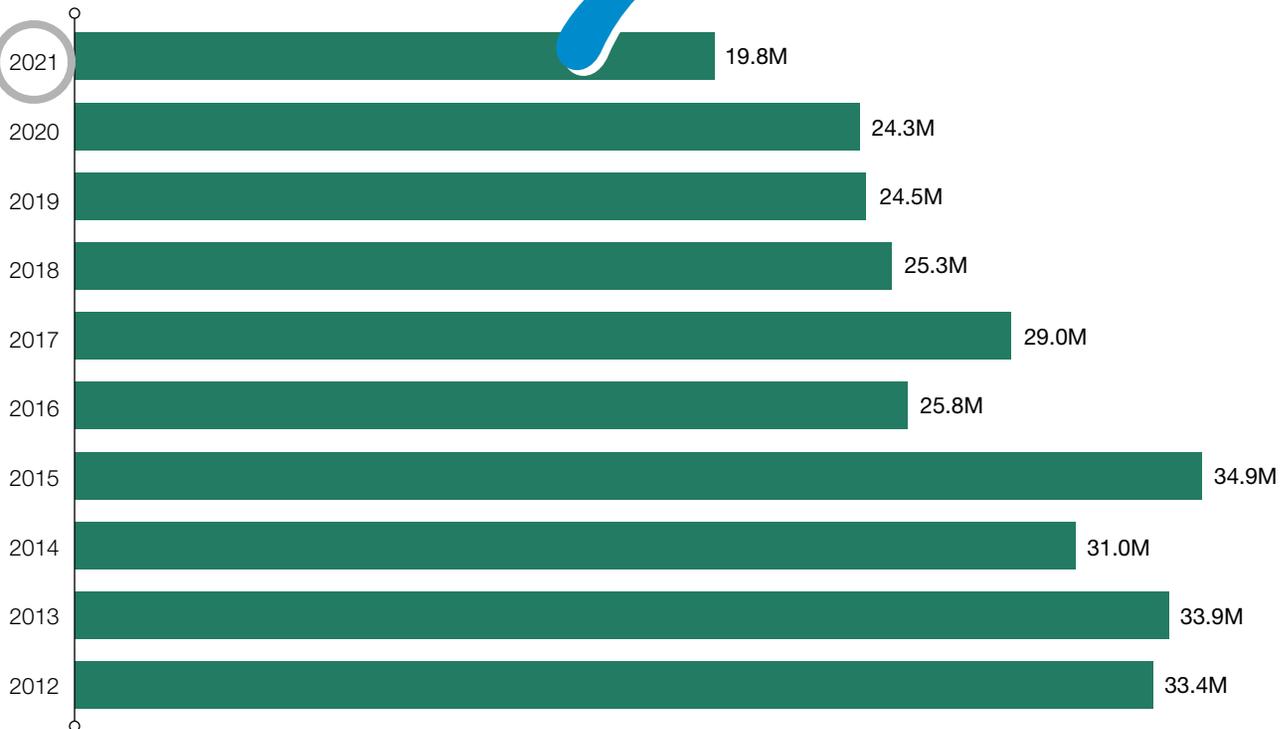
Water Usage

Water use across MARTA decreased in 2021 by 18 percent from 2020 to the lowest annual usage on record since the 2012 baseline. This continued decrease is likely due to the continued decreased activities in MARTA offices and facilities in 2021, alongside the efficiency projects that facilities are undertaking including those from the ESCO contract for more efficient cooling and heating systems.

18%
decrease in
water use

Historical Water Usage at MARTA (Gallons)

lowest annual water usage on record



community

supporting and improving our surroundings





Our frontline employees are the backbone of this organization and on behalf of my fellow board members,

I want to thank our frontline workers for continuing to provide essential transit service and ensuring our patrons are safe

during one of the most difficult periods in recent history.

– Rita Scott, MARTA Board Chair



Doing Our Part to Protect the Public Health of Atlanta

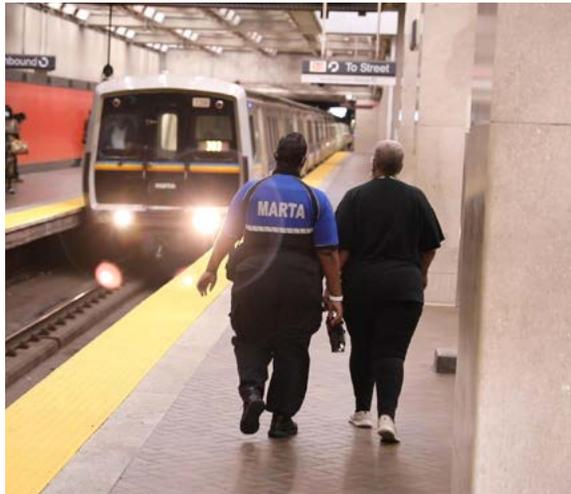
As the COVID-19 pandemic carries on, MARTA's drivers and employees continue to provide an essential service to the Atlanta region. In 2021, we served our community by hosting public COVID-19 vaccination clinics at several of our stations including Five Points, West End, and Doraville, as well as at MARTA Headquarters and bus garages for employees.⁷

In April 2021, we provided a one-time COVID-19 pandemic payment to our frontline workers to show appreciation for their continued service throughout the pandemic. Represented employees included rail and bus operators, mechanics, supervisors, and members of the MARTA Police Department.⁸

Addressing Homelessness through MARTA HOPE



MARTA has continued its successful partnership with HOPE Atlanta through MARTA HOPE to aid individuals experiencing homelessness who have taken refuge on the transit system. Since the program began in August 2020, the outreach teams have actively engaged more than 2,100 unsheltered individuals. Additionally, in August 2021, MARTA launched the “Street to Home” art installation at Five Points Station highlighting images of people experiencing homelessness and the work MARTA HOPE is doing.⁹



HOPE Atlanta Partnership. Photo credit: HOPE Atlanta

2,100
unsheltered individuals
actively engaged

Improving Our Demand Response Service

In September 2021, MARTA Mobility initiated a pilot program to enhance the Americans with Disabilities Act (ADA) sensitivity training provided to its paratransit operators. Mobility solicited the services of one of its longest tenured team members to develop and deliver a session, which draws on their unique experience as an individual with a visual disability and first-hand knowledge as a current Mobility customer. A key part of this training is the ability for the operators to have interactive and open dialogue that dispels myths and provides them with clearer understanding of how to interact with an individual with a disability.



On-Demand Multimodal Transit

On March 1, 2022 MARTA launched its new MARTA Reach program in partnership with Georgia Tech, offering first-mile/last-mile service on-demand rideshare connecting riders to MARTA bus and rail service. MARTA Reach has been deployed in targeted transit deserts where there is a need for greater transit accessibility. The pilot zones include West Atlanta, Belvedere, and the Gillem Logistics Center and will aid in understanding how this service would work in residential, mixed-use, and industrial communities respectively. MARTA Reach is designed to work with our existing services and will help minimize waiting and walking.



MARTA Reach On-Demand Rideshare Service



Affordable Housing Expansion at TODs

MARTA's Transit-Oriented Development (TOD) efforts have always focused on increasing ridership, generating new revenue, and supporting both local community development and regional economic development. MARTA currently has 3,200 affordable housing units in TODs either preserved, completed, under construction, in negotiation, or in procurement/planning. To expand these efforts, in January 2021 we created a \$100 million partnership with Morgan Stanley Community Development Finance and the National Equity Fund to preserve affordable units within ½ mile of

MARTA transit infrastructure. MARTA also launched a new \$100 million partnership in June 2021 with Goldman Sachs Urban Investment Group to finance new affordable housing developments at or within a mile of MARTA rail stations. The Atlanta Affordable Housing and TOD Initiative is a flexible, multi-product program designed to promote and support the development of ground-up, mixed-income TOD projects that benefit from proximity to MARTA's heavy and light rail.¹⁰

3,200
affordable housing
units in TODs



Newly installed bus shelters



Bus Shelter Improvements

MARTA is working to install 1,000 new bus stop amenities throughout the bus system. This project provides an opportunity to improve the transit experience for our customers, and sets the foundation for future ridership growth. Amenities installations will consist of bus shelters, standalone benches, and other seating options throughout MARTA's three-county area, and will include trash cans and transit information. These amenities improve waiting conditions at bus stops across our service area.

MARTA is working to install
1,000 new bus stop
amenities





Black Artists Matter Series – Artist Kevin Bongang

Artbound Updates

Through the Artbound program, MARTA now has art installations at nearly every single rail station. By integrating murals, sculpture, and more into our stations, we are bringing energy and excitement to passengers along their journey. We've continued to expand this program in 2021 including a permanent mural for the life of Dr. Hamilton E. Holmes at his namesake station, the mural at Kensington for Black Artist Matter Series, and the Reflection Tunnel installation at the Grant Street Tunnel.¹¹



Reflection Tunnel – Artist Adam Bostic



Hamilton E. Holmes – Artist Dr. Fahamu Pecou

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climate

mitigating and adapting to climate change





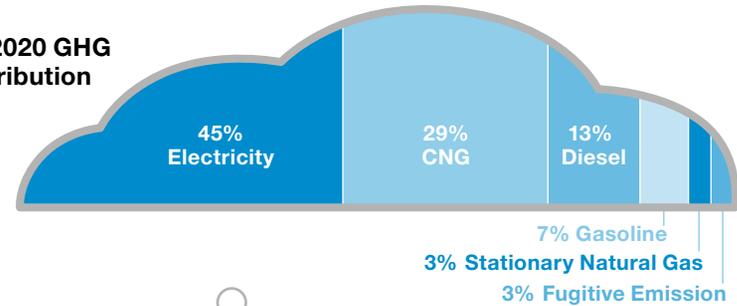
Greenhouse Gas Emissions

The Intergovernmental Panel on Climate Change (IPCC) states that human influence has unequivocally caused warming of the atmosphere, ocean, and land. This is primarily driven by observed increases in GHG concentrations since around 1750, which have been caused by human activities. The recent IPCC report release advises that GHG emissions must be reduced significantly moving forward to limit the warming effect.¹² MARTA is actively doing our part to both reduce emissions in our own operations, as well as expanding services to displace single

occupancy vehicle emissions across the Atlanta region.

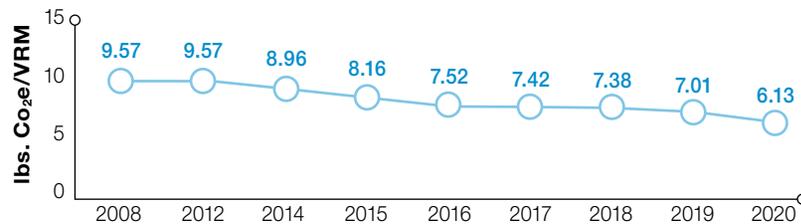
Since MARTA's initial carbon footprint in 2008, MARTA has completed updates for calendar years (CYs) 2012, 2014, 2015, 2016, 2017, 2018, 2019, and 2020. The CY 2021 update will be completed in late 2022. The GHG emissions assessed during the carbon footprints encompass all of MARTA's emissions from revenue and non-revenue mobile sources, as well as stationary emissions from facilities and offices (CY 2020 data is shown in the Figure).

CY 2020 GHG Distribution



MARTA's overall GHG per VRM decreased from 2019 to 2020 by 12.5 percent and from 2008 to 2020 by 36 percent. The decrease in emissions implies that MARTA's transit services have become less carbon intensive when considering revenue service mileage over that period of time. The decreasing trend could also be influenced by the pandemic which has reduced MARTA's transit service meaning less buses and non-revenue vehicles are running on a daily basis.

Change in CO₂e Emissions Intensity 2008–2020



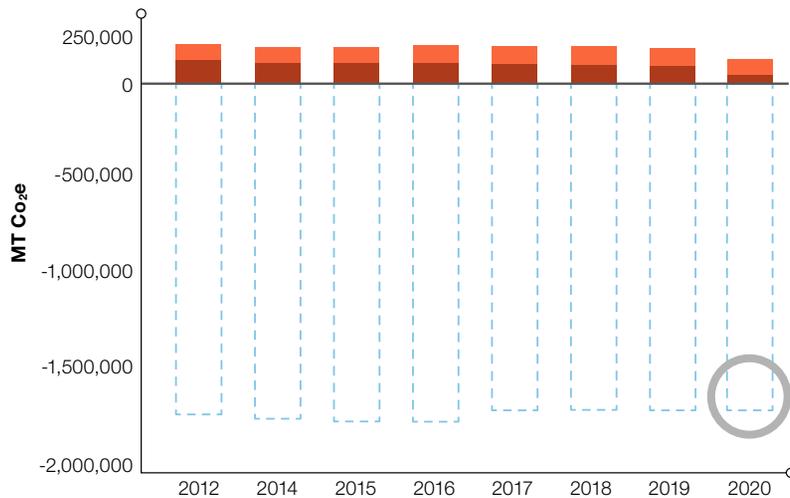
36%
overall
decrease in
emissions

The decrease in CO₂e emissions in 2020 may be attributed to several factors, including decreased fuel use from having less MARTA non-revenue vehicles on the road and reducing revenue bus routes, as well as decreased electricity use as a result of less MARTA employees working in offices and continued efficiency upgrades. Also, there have been changes to the Environmental Protection Agency's (EPA) electricity emissions factors for the sub-region¹³ due to the region's shift to cleaner energy options. As electricity represents over half of MARTA's emissions, changes

to these emissions factors have a large impact on our location-based Scope 2 emissions.

MARTA is proud of the role we play in the greater Atlanta region by offering alternative transportation which gets more cars off the road. MARTA's bus and rail services kept 1,694,623 MT of CO₂e out of the atmosphere in 2020. This is equal to keeping 368,546 cars off the road for a year, or the equivalent of annual electricity use from 204,072 homes.¹⁴

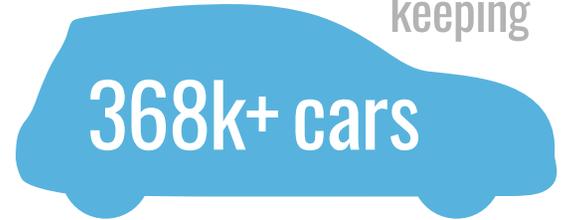
Overview of Emissions and Emissions Displaced by MARTA 2012-2019



- Scope 1 (Direct) Emissions
- Scope 2 (Indirect) Emissions
- Total Displaced Emissions

removing
1,694,623

MT CO₂e is equal to keeping



off the road for a year,
 or the annual
 electricity
 use from





14,000
boardings
per week on new
battery-electric
buses

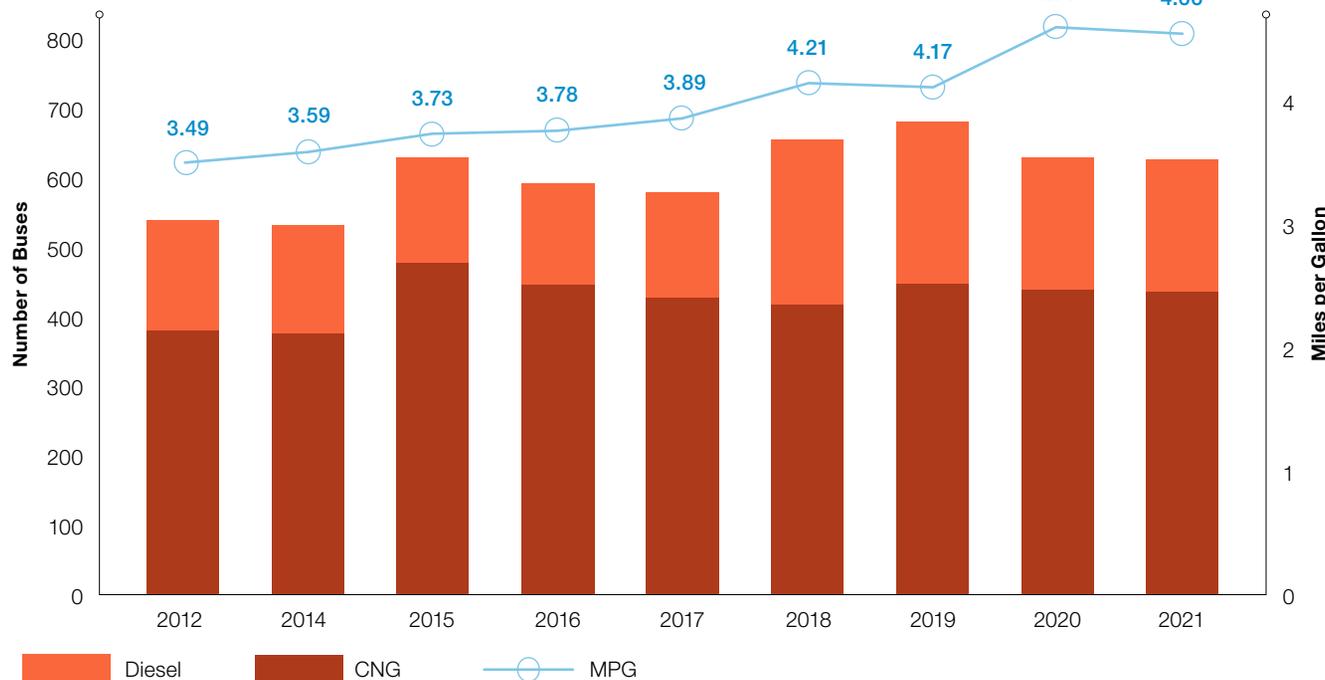
GHG Emissions Reduction Initiatives

MARTA has procured six new battery-electric buses to replace six aging diesel buses in its fleet and is installing the infrastructure to support their operation and maintenance. The New Flyer Xcelsior battery-electric bus combines the benefits of zero emissions and lower operating and maintenance costs for the Authority. These are currently being used to train bus mechanics and drivers given the different systems involved than the diesel and CNG buses currently in MARTA's fleet. These buses will serve MARTA's Route 2 (Ponce de Leon/East Lake) and Route 102 (Ponce de Leon/Little Five Points), fully electrifying these routes. Upon complete implementation, there

will be approximately 14,000 boardings per week on MARTA's new battery-electric buses. They are expected to begin service in 2022.

MARTA has also been replacing its old diesel bus fleet with new CNG and more fuel-efficient diesel buses. Our bus fleet's overall fuel efficiency has increased by 33 percent from 2012 to 2021. Additionally, MARTA is currently undergoing a major bus maintenance overhaul.

MARTA Bus Fleet Ratio and Fuel Efficiency, 2012-2019



33%
increase in overall
fuel efficiency
of bus fleet since 2012



vision forward

what's next!

MARTA is looking forward to expanding our sustainability efforts to improve our buildings, environment, community, and climate. Some upcoming initiatives include the following:

MORE MARTA: Given the recent Infrastructure Investment and Jobs Act focus on infrastructure investment, MARTA is anticipating using funds to push our transit expansion efforts in Clayton County and the City of Atlanta known as MORE MARTA. Some key projects include the Summerhill Bus Rapid Transit (BRT), Clayton Southlake BRT, Campbellton Transit Corridor, Clifton-Emory/CDC-Decatur Transit Corridor, and GA-400 BRT.¹⁵

FRESH MARTA MARKET: MARTA continued to host fresh produce markets at West End, H.E. Holmes, Bankhead, College Park and Five Points Stations in the cities of Atlanta and College Park. Since 2017 the markets have sold more than 250,000 pounds of produce, averaging just over 50,000 pounds of produce per year. And, with the newly awarded \$852,000 grant in December 2021 from the USDA¹⁶, Fresh MARTA Markets will continue operations at those stations and allow for additional markets to be established at Kensington and Doraville rail stations.

\$852,000
USDA grant

STATE OF GOOD REPAIR: Our work to advance and modernize MARTA will continue with our rail station rehabilitation, traction power substation replacement, roof and pavement rehabilitation, system, and restroom upgrades.

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Detailed Sustainability Data

YEAR	2008	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
RECYCLING / WASTE											
Landfill total (tons) ¹⁷		2,100	2,036	2,014	1,896	1,812	1,932	1,958	1,974	1,875	1,828
Recycling and Reuse total (tons) ¹⁸		693	851	839	758	785	696	795	1,034	660	704
Diversion Rate (waste diverted from landfill/total waste produced)		24.8%	29.5%	29.4%	28.6%	30.2%	26.5%	28.9%	34.4%	26.0%	27.8%
Pounds (lbs.) waste & recycling / VRM		0.1189	0.1219	0.1211	0.1019	0.0959	0.0941	0.0970	0.1038	0.0909	0.1041
ENERGY USAGE											
Total Electricity consumed (kWh)	209,440,000	184,176,716	184,037,039	192,271,748	196,555,667	196,315,436	194,389,734	194,045,356	187,252,653	157,042,241	162,419,248
kWh / VRM		3.92	3.89	4.08	3.77	3.63	3.48	3.42	3.23	2.82	3.34
Stationary Combustion (therms)		1,022,933	1,161,796	1,155,237	1,124,451	1,066,777	1,090,856	1,085,084	1,022,753	990,300	924,097
Therms / VRM		0.022	0.025	0.025	0.022	0.020	0.020	0.019	0.018	0.018	0.019
MOBILE FUEL USAGE											
Total Fuel (gallons) ¹⁹	11,016,771	8,861,416		8,947,471	9,134,921	9,495,529	9,798,641	8,827,369	9,196,128	8,317,180	8,237,141
Gallons / VRM	0.199	0.189		0.190	0.175	0.175	0.176	0.156	0.159	0.149	0.169
WATER USAGE											
Water used (gallons)		33,384,685	33,940,595	31,037,073	34,900,740	25,840,667	28,964,573	25,253,976	24,535,358	24,336,576	19,814,401
Gallons / VRM		0.710	0.717	0.659	0.670	0.477	0.519	0.445	0.423	0.436	0.407
GHG EMISSIONS*											
GHG Emissions (MT CO ₂ e)	240,224	204,027		191,498	192,646	184,594	187,820	190,002	184,336	155,071	
CO₂e pounds / VRM	9.574	9.569		8.960	8.156	7.517	7.417	7.380	7.011	6.13	
GHG Emissions Displaced by MARTA (MT CO ₂ e)		599,582		588,835	632,888	638,624	1,725,435	1,721,736	1,721,536	1,609,194	

Light grey boxes represent year in which the corresponding data were not collected.

2021 GHG Emissions will be updated in the next Fiscal Year.





Footnotes

- 1 [MARTA 2018 Sustainability Report](#)
[MARTA 2019 Sustainability Report](#)
[MARTA 2020 Sustainability Report](#)
- 2 [First Green Bonds Save Authority \\$62M](#)
- 3 VRM = the miles that vehicles are scheduled to or actually travel while in revenue service ([FTA Glossary](#))
- 4 GHG emission estimate is for 2020, 2021 GHG emissions will be developed in the next Fiscal Year
- 5 Includes electricity, vehicle fuel, and natural gas
- 6 [Indian Creek Renovation Groundbreaking](#)
- 7 [MARTA Partners with CVS, Urban League to Host Vaccine Clinic](#)

[MARTA Partners with DeKalb County to Encourage Vaccinations](#)

[MARTA to Require Weekly Covid Testing for Unvaccinated Employees](#)
- 8 [Frontline Employees Receive One-time Covid Payment](#)
- 9 [MARTA Showcases Creative Effort to Address Homelessness](#)
- 10 [MARTA and Goldman Sachs TOD Initiative](#)
- 11 [MARTA Artbound to Unveil Permanent Mural Celebrating the Life of Dr. Hamilton E. Holmes](#)

[MARTA Artbound Unveils Mural at Kensington Station](#)

[MARTA Artbound and Dashboard Celebrate Grant Street Tunnel Transformation](#)
- 12 [IPCC Report](#)
- 13 eGRID Region SRSO
- 14 [EPA Greenhouse Gas Equivalencies Calculator](#)
- 15 [More MARTA Atlanta Infrastructure Investment and Jobs Act](#)
- 16 [Fresh MARTA Markets Receive USDA Grant to Expand Food Access in Metro Atlanta](#)
- 17 Includes MSW and wood
- 18 Includes scrap metal, single-stream recycling, used oil, e-waste, paper, cardboard, lamps, scrap batteries, warranty batteries, scrap tires, retreadable tires, and halon
- 19 Includes all revenue and non-revenue gasoline, diesel, and CNG

Acronyms

APTA	American Public Transit Association	FY	Fiscal Year
BRT	Bus Rapid Transit	EV	Electric vehicle
CDC	Centers for Disease Control and Prevention	GHG	Greenhouse gas
CNG	Compressed natural gas	HOPE	Homeless Outreach and Proactive Engagement
CO₂e	Carbon dioxide equivalent	IPCC	Intergovernmental Panel on Climate Change
COVID-19	Novel coronavirus	ISO	International Organization for Standardization
CY	Calendar year	MARTA	Metropolitan Atlanta Rapid Transit Authority
EMMA	Electronic Municipal Market Access	MOW	Maintenance of way
EMS	Environmental Management System	MT	Metric tons
EPA	Environmental Protection Agency	RCM	Railcar maintenance
ESCO	Energy service company	TOD	Transit-Oriented Development
ESG	Environmental, social and governance	VRM	Vehicle revenue miles



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