

DEPARTMENT OF PUBLIC WORKS AND TRANSPORTATION

SUSTAINABILITY REPORT 2021



www.princegeorgescountymd.gov/1002/Public-Works-Transportation

301-883-5600

dpwt-od@co.pg.md.us



Angela D. Alsobrooks
County Executive



Terry L. Bellamy
Director



TABLE OF CONTENTS

➤ Introduction & Highlights

- Director's Introduction 3
- Sustainability by the Numbers 6
- Climate Change, Public Health and Transportation 7

➤ Air Quality and Energy

- RideSmart and Emissions Reduction 9
- TheBus and Heavy Vehicles Go Electric 10
- Microtransit and Paratransit 11
- Bike and Pedestrian Network Plan 12
- Bikeshare in Prince George's County 13
- Research Spotlight: Air Quality During COVID-19 14

➤ Stormwater and Beautification

- Calverton Channel Rehabilitation Project 16
- Suitland Road and Regency Outfall Repair Project 17
- Trafalgar Court Outfall Project 18
- Drainage, Road Salt and You 19
- Right Tree Right Place 20
- Litter Reduction and Outreach 21

➤ Closing Remarks

- The Future of Climate Action and Vision Zero Prince George's 22
- Endnotes 23



DIRECTOR'S INTRODUCTION



Terry L. Bellamy

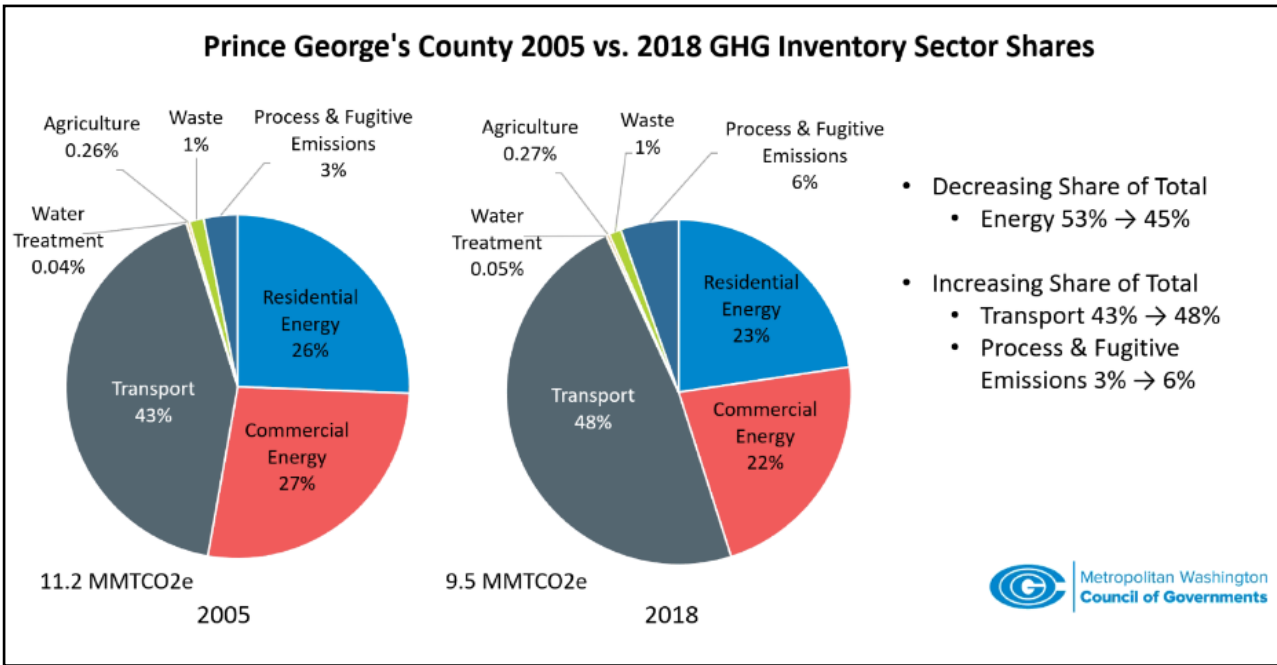
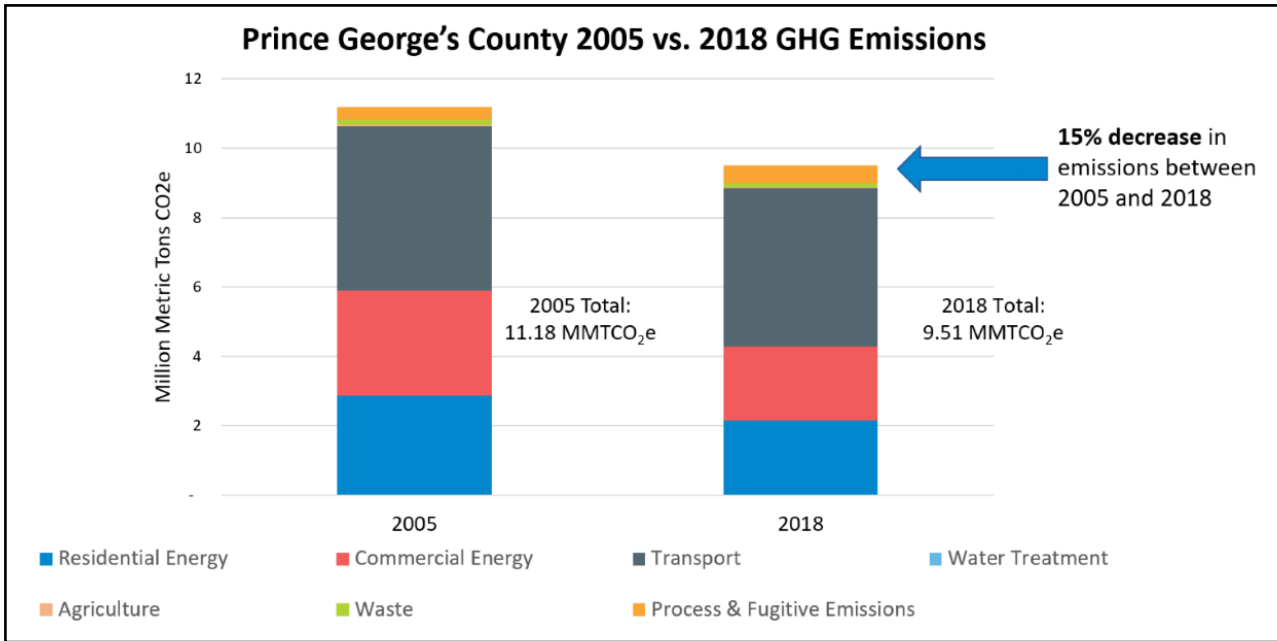
Director, Department
of Public Works and
Transportation

Prince George's County,
Maryland

The County Executive launched Vision Zero Prince George's on July 25, 2019 as a county-wide strategy to eliminate traffic-related serious injuries and deaths by the year 2040. Positioned as a collaborative community model, Vision Zero Prince George's focuses on supportive road and transportation design coupled with education and safety measures for all roadway users, and is led by the Prince George's County Department of Public Works and Transportation (DPW&T). Vision Zero is part of the County's Proud Priorities¹ and aligns with DPW&T's efforts to "Get to Zero" in all areas of our planning, design and operations.

Within Prince George's County, the transportation sector is the largest source of greenhouse gases that contribute to climate change². DPW&T is committed to reducing the greenhouse gas footprint of our transportation network by

replacing diesel buses with new zero-emissions electric buses and by upgrading street lighting fixtures to LED. Additionally, the Department continues to expand public transportation access. In 2020, the County added TheBus service on Saturdays and continues to support programs such as bikeshare and the Prince George's Link microtransit program, which reduce traffic congestion and provide first and last-mile connection to transit hubs and activity centers. These efforts minimize reliance on single occupancy vehicle use, which can help reduce roadway fatalities and improve the environment. "Get to Zero" can be achieved by addressing roadway safety for all users, while improving the environment and public health.



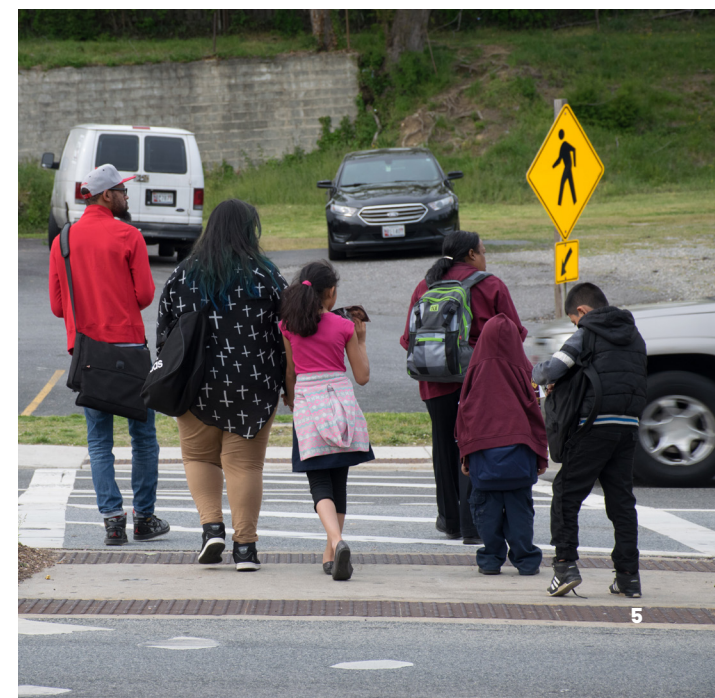
Climate change is one of the most significant threats that we are facing today. Climate change has already produced noticeable effects on the environment and our residents. We recognize that frequent extreme precipitation events can occur like the one on September 10, 2020, that unleashed six inches of rain in less than two hours in Hyattsville, Edmonston, Riverdale, Riverdale Park and Mount Rainier. We have seen how climate change negatively impacts the resiliency of our transportation network and damages our infrastructure through extreme weather events and flooding. When our nation's stormwater infrastructure was built, it was not designed or intended to handle such extreme storms. To improve the aging infrastructure, DPW&T implements Green Complete Street solutions that address severe flooding through the reduction of impervious surfaces and thus enhances the safety of our roadways and health of our communities.



Green Complete Streets Project Locations

The Green Complete Streets Program provides accessibility for all modes of transportation and all roadway users, taking a context-sensitive approach to design. Green Streets principles are applied such that the impacts to the natural environment are improved through the use of innovative stormwater management techniques, materials, and construction processes. Under the 2012 Green Complete Streets Ordinance (CB-83-2012), DPW&T continues to implement drainage improvement and culvert repair projects to reduce roadway flooding during heavy rainfall. The Department has also taken a green approach to mitigating stormwater runoff and improving air quality through the Right Tree Right Place Program. In addition to reducing stormwater runoff, DPW&T helps keep the waterways of the County clean through litter reduction programs and by removing illegal dumping sites. These efforts contribute to the County's climate change readiness.

Promoting alternatives to driving alone, such as biking, walking, microtransit, sharing the drive, and taking a bus or train, reduces greenhouse gas emissions. Roadway improvements provide safe walking and biking amenities, while simultaneously improving the resilience of County roadways against the effects of climate change. In order to get to zero traffic-related fatalities and reduce the impact of climate change on our communities, both Vision Zero and sustainability must become central pillars of planning and day-to-day operations within the County.



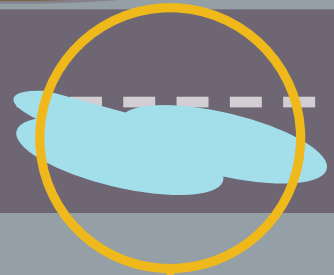


DPW&T SUSTAINABILITY BY THE NUMBERS

DPW&T will replace **8** diesel buses with electric buses, and each bus replaced saves **229,167** lbs. of CO₂.

6,026 street lights upgraded to LED.

On average **5,000** street trees planted annually.



1,519 tons of litter cleaned up annually.

9,510,000 metric tons of CO₂ were emitted from Prince George's County in 2018.
48% of it was from transportation sources.

80 drainage complaints addressed annually.

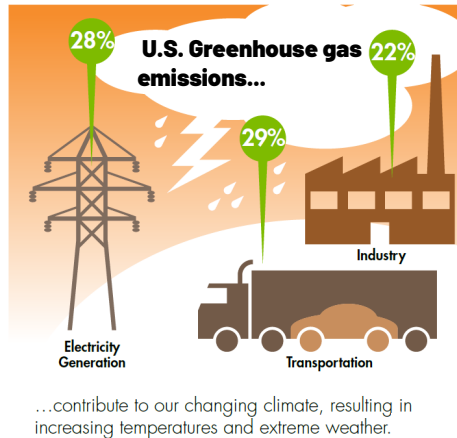


CLIMATE CHANGE, PUBLIC HEALTH & TRANSPORTATION

Walking, Biking & Rolling: Good for you & for our climate³

By biking, walking, and rolling...

...you are improving your physical and mental health and addressing one of the biggest contributors to climate change – emissions from transportation



Climate change impacts our health...

...causing and exacerbating heart and lung diseases like asthma and COPD and increasing cases of heat stress and heat stroke among other health impacts.

We can all do something about climate change.

Reduce CO₂ emissions by walking and bicycling for trips up to 3 miles
Reduce air pollution by 12% in one day in cities with open streets events



Climate change can worsen the negative health impacts of transportation. For example, higher temperatures are linked to respiratory problems, which can be compounded by build-up of vehicular emissions and other types of air pollution. Higher temperatures can also affect our roadways, as potholes and rutting may be created on pavement that softens and swells.

Vulnerable populations such as children, low and moderate income communities and the elderly are more vulnerable to health effects of climate change. The transportation and the public health sectors must work together to reduce the number of vehicle miles traveled, ease congestion, and lower traffic-related air pollution by providing alternative safe active transportation options and access to public transit.

Transportation and healthy community design must ensure justice. All people deserve access to green spaces and places to walk, bike and roll safely. Communities that are more walkable and bikeable, for example, are also more likely to have reduced rates of diabetes. Communities designed with health in mind have potential to reduce obesity, diabetes, heart disease and cancer risk, traffic injuries and even crime.

-American Public Health Association⁴



TRANSPORTATION, AIR QUALITY & ENERGY

To achieve the County's goal of reducing greenhouse gas emissions to 80% below 2008 levels by 2050⁵, we encourage a reduced reliance on car transportation. One of the best ways to reduce transportation-related greenhouse gas emissions is to replace trips by car with walking, biking, or using public transportation. DPW&T continuously supports biking and walking by expanding the bike and pedestrian network, and by participating in the regional Capital Bikeshare program. Furthermore, the Department has implemented microtransit zones and safely operates TheBus, both of which efficiently transport people while producing less air pollution than single occupant car travel.



Greenhouse Gas Reduction Targets

County⁵

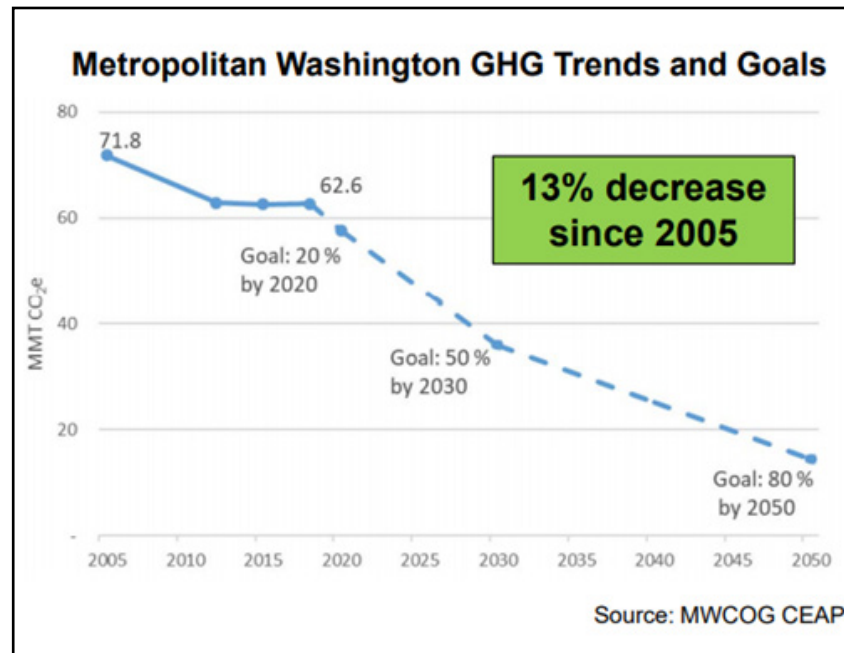
In 2008, the County Council adopted a resolution to reduce countywide GHG emissions by 80% below 2008 levels by 2050.

Region²

In 2020, the Metropolitan Washington Council of Governments (MWCOC) Board of Directors approved a reduction goal of 50% below 2005 levels by 2030.

State⁶

In 2015, the Greenhouse Gas Emission Reduction Act (GGRA) was updated with a target of 40% below 2006 levels by 2030.





RIDESMART AND EMISSIONS REDUCTION

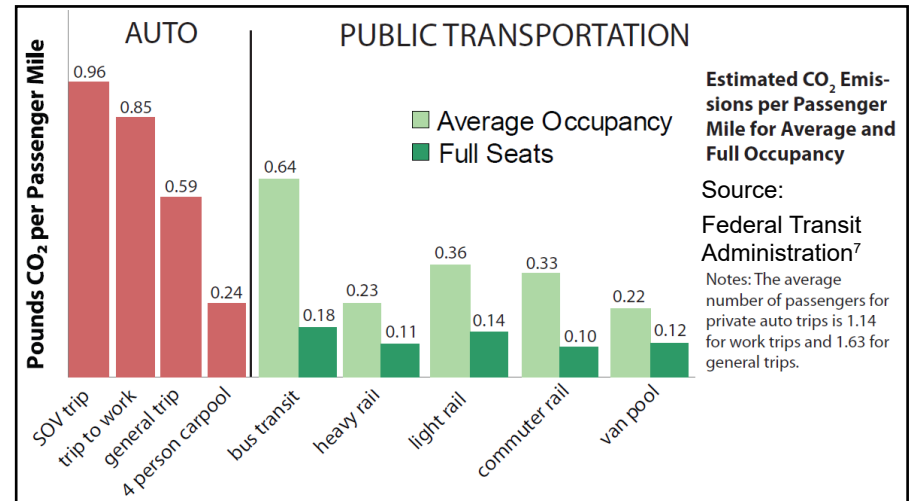
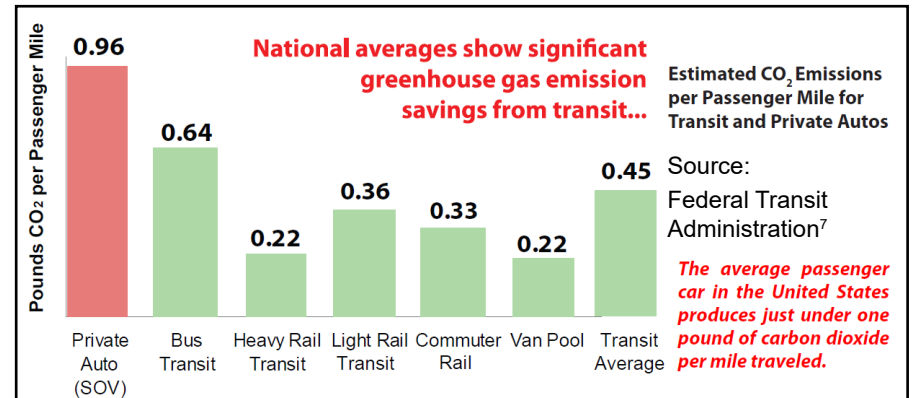
RideSmart Solutions promotes transportation options and programs that support people who live, work, and visit Prince George's County. RideSmart Solutions helps connect commuters to jobs, education, shopping, healthcare and other important destinations by educating commuters about transportation options. RideSmart Solutions promotes free programs like Guaranteed Ride Home, and rewards programs like IncenTrip and Carpool Now which pay commuters for taking transit, biking, or sharing rides during peak commuting times. RideSmart Solutions works with employers to develop commuter benefits programs that help employees travel to work easily.

To learn more about RideSmart and improve your commute, visit tinyurl.com/pgcridesmart or email info.pgcridesmartsolutions@co.pg.md.us



Climate Impacts of Transportation

RideSmart Solutions helps reduce single-occupancy vehicle (SOV) use. This reduces traffic and air pollution, and supports DPW&T's goal to expand transportation options throughout the County.





THEBUS AND HEAVY VEHICLES GO ELECTRIC

To reduce greenhouse gas emissions, the Department of Public Works and Transportation is modernizing TheBus fleet by replacing old diesel buses with battery electric buses and/or other energy-efficient alternative fueled vehicles. In 2021, DPW&T plans to install four electric charging stations and purchase four battery electric buses that emit no greenhouse gases. Each time a diesel bus is replaced by a zero-emission electric bus, CO2 emissions are reduced by approximately 229,167 pounds annually⁸. This means that over the 12-year life of a typical transit bus, replacing a single diesel bus with a battery electric bus can save over 2.5 million pounds of carbon emissions. Additionally, the Maryland Volkswagen Mitigation Plan awarded DPW&T funding to replace six diesel trucks with electric trucks. This switch to zero-emission vehicles cuts pollution, creates healthier communities, and brings the County closer to achieving its greenhouse gas reduction targets.



LED Street Lighting Upgrades

A reduction in energy consumption and an increase in energy efficiency are required in all sectors of the economy for the County to achieve its sustainability goals. DPW&T is committed to making the County transportation network energy efficient by replacing high pressure sodium (HPS) street lights with more efficient light emitting diode (LED) lights. Already, DPW&T has upgraded 6,026 lights to LED and an additional 3,891 lights will be upgraded in summer 2021. By working with utility companies, DPW&T aims to implement the LED street light conversion program across the County, thereby contributing to a healthier environment and reducing the long-term financial impact of inefficient lighting.





MICROTRANSIT AND PARATRANSIT

The Office of Transportation, in partnership with Transloc, developed an on-demand service called Prince George's Link. It supplements transit service with flexible routing to match demand in transit-challenged areas. Curb-to-curb service is available in the Fort Washington area.

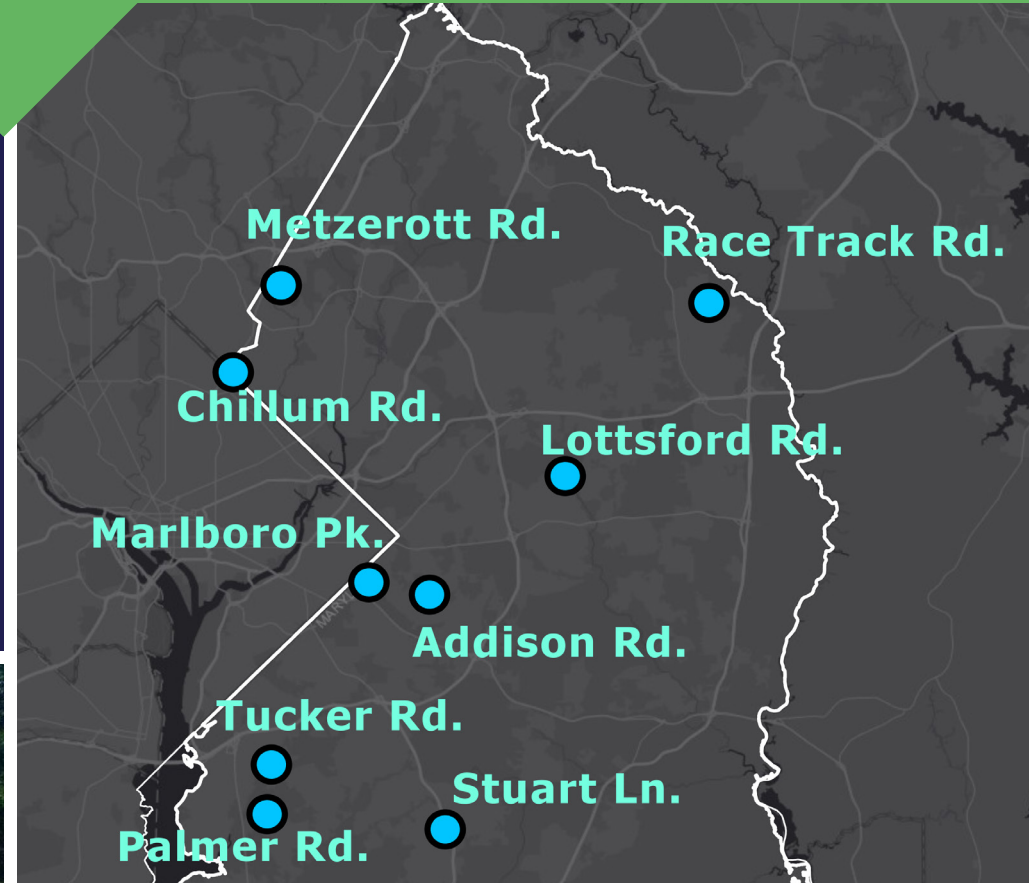
The purpose of the microtransit program is to reduce traffic while providing on-demand public transportation to locations underserved by fixed transportation routes. The pilot program has been launched in Fort Washington to connect residents to activity centers in the area. A sustainable transportation network should be equitable such that there are no stranded communities that are unable to access public transportation. Prince George's Link also supplements existing transportation modes in Fort Washington by connecting residents to bus stops and metro stations. Prince George's Link builds upon efforts to improve the sustainability of DPW&T's paratransit fleet. Since 2015, ten diesel paratransit vehicles have been replaced with more fuel-efficient propane models, which has reduced diesel use in the paratransit fleet by half. In this way, Prince George's Link promotes an equitable, efficient, and sustainable transportation network, and reduces residents' reliance on cars.





BIKE & PEDESTRIAN NETWORK PLAN

The Department of Public Works and Transportation recognizes that walking and biking are critical elements of a sustainable transportation network. DPW&T aims to expand the bicycle and pedestrian network by identifying and prioritizing projects within high incident areas, downtowns, along major corridors, and within local and regional transit centers. The goal of the network plan is to improve pedestrian and bicycle connectivity and safety within the County by identifying roadway improvement projects that can be implemented in the upcoming years. To make roadways safer for all users, improvements that support walking and biking are fully incorporated into new roadway projects wherever possible.



**Pedestrian & Bicycle
Improvement Projects**



Visit the Capital Improvement Projects and Vision Zero Prince George's webpages to learn about projects near you:

www.princegeorgescountymd.gov/1012/Capital-Roadway-Project

www.VisionZeroPrinceGeorges.com



BIKESHARE IN PRINCE GEORGE'S COUNTY

We are proud to offer bikeshare as a transportation option. There are 24 bikeshare stations within Prince George's County and over 550 bikeshare stations throughout the region in Maryland, Washington D.C. and Virginia.

Bikeshare and Sustainability

Prince George's County participates in the Capital Bikeshare Program, which offers people the opportunity to rent a classic pedal bike or hybrid pedal-assist e-bike from designated Bikeshare stations throughout the region. This program addresses a critical need for low cost and safe alternatives to driving. Both the Bikeshare Program and the Bike and Pedestrian Network Plan improve transportation equity by providing options for people who do not have a car to reach their destination safely and efficiently. The Bikeshare Program helps reduce transportation-related greenhouse gas emissions by enabling people to bike, instead of drive, to their destinations.

Capital Bikeshare for All Program

Individuals that qualify for state or federal assistance programs are eligible for annual Capital Bikeshare membership for only \$5!

Visit DPW&T's bikeshare in Prince George's County website or the Capital Bikeshare website to learn more!

www.princegeorgescountymd.gov/3450/Bikeshare
www.capitalbikeshare.com





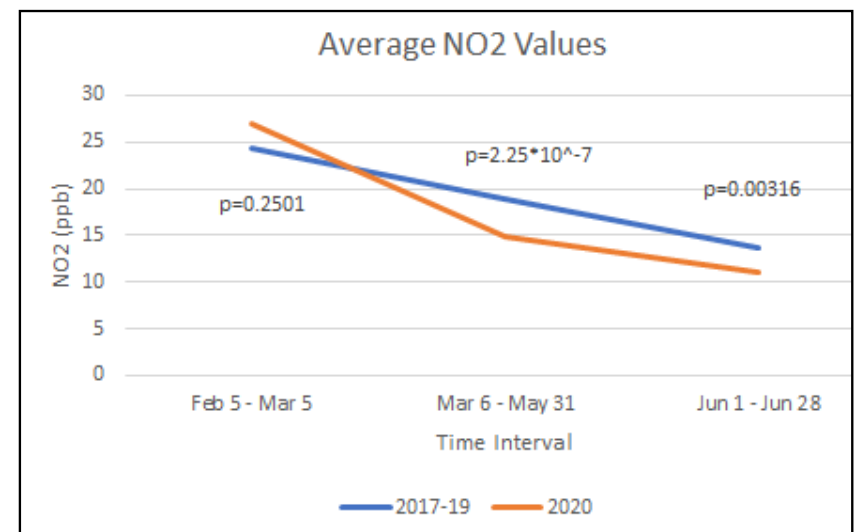
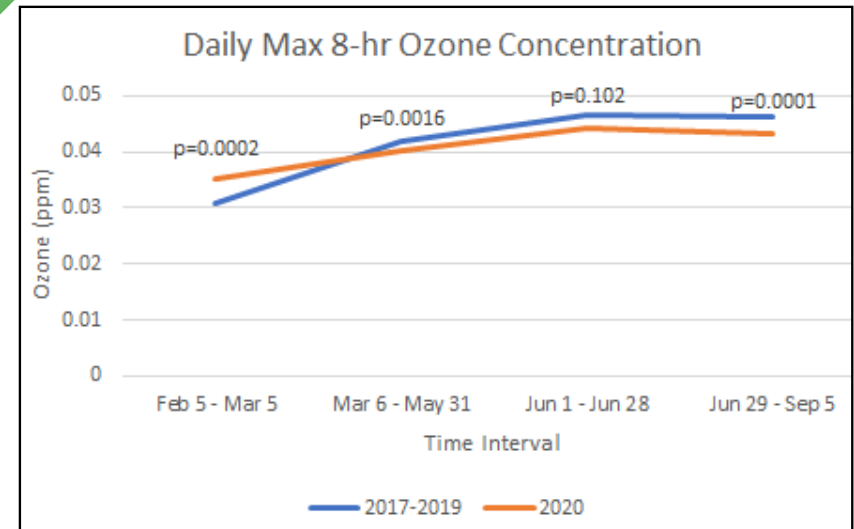
RESEARCH SPOTLIGHT: AIR QUALITY DURING COVID-19

University of Maryland students in the Partnership in Action Learning in Sustainability program have examined the effects of the COVID-19 pandemic on air quality. The research project, which was sponsored by the Maryland Department of Natural Resources, identified how restricted travel brought on by COVID-19 has affected air quality in Prince George's County. The study compared air pollution during February – September 2020 to the same months in previous years, as well as between regions within the county.

Key Findings

- 1) Communities inside the beltway recorded higher Nitrogen Dioxide and particulate matter than other communities.
- 2) Despite that trend, overall Ozone and Nitrogen Dioxide averages during the 2020 pandemic were significantly lower than past years.
- 3) Effective policies in sustainability and environmental justice require cooperation between varying levels of government.

Encouraging people to transition from single occupancy vehicles to biking, walking, teleworking, or using public transportation benefits the environment and improves public health. This aligns with the Vision Zero Prince George's goal to reduce the number of vehicles on our roadways and potentially lower the incidence of crashes.





STORMWATER & BEAUTIFICATION

A sustainable and healthy county requires clean air, clean water, and clean land. In addition to improving air quality, the Department of Public Works and Transportation is focused on both reducing litter and illegal dumping, which will contribute to better water quality and preventing flooding. Through the Inter-agency Drainage Committee, DPW&T works closely with partner agencies to address drainage complaints. DPW&T maintains stormwater management infrastructure, which is critical to prepare the County for extreme precipitation events that are becoming more frequent and intense as a result of climate change. Inclusion of green infrastructure practices as part of our stormwater management solutions reduces erosion and pollution entering the waterways, and revitalizes the local ecosystem.

DPW&T's beautification efforts, such as the Right Tree Right Place program and the Growing Green with Pride program, are critical to maintain a healthy environment within Prince George's County. The Department participates in beautification outreach events, such as Arbor Day, 311 On the Go and Community Clean Up, which engage the public to care for the environment and foster the next generation of environmental stewards.





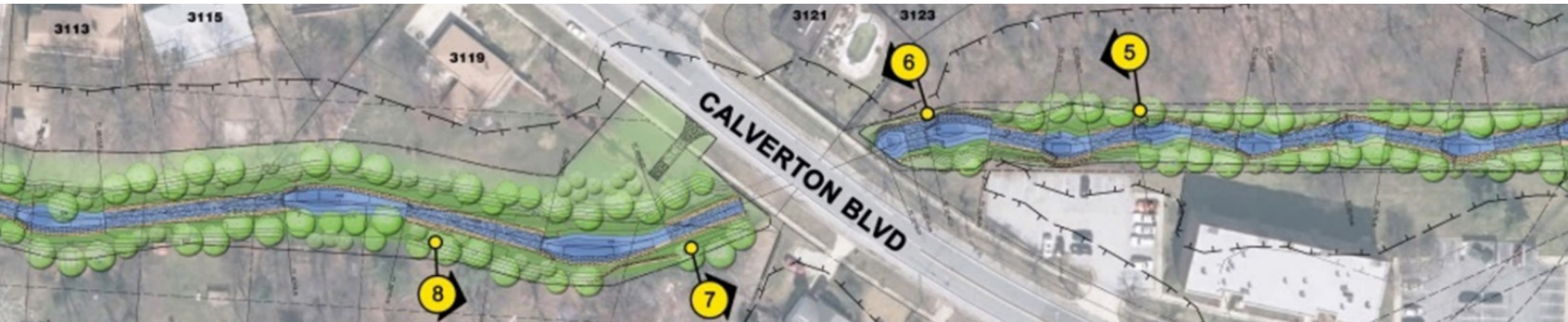
CAPITAL IMPROVEMENT PROJECTS: CALVERTON CHANNEL REHABILITATION PROJECT



PERSPECTIVE 2 - BEFORE



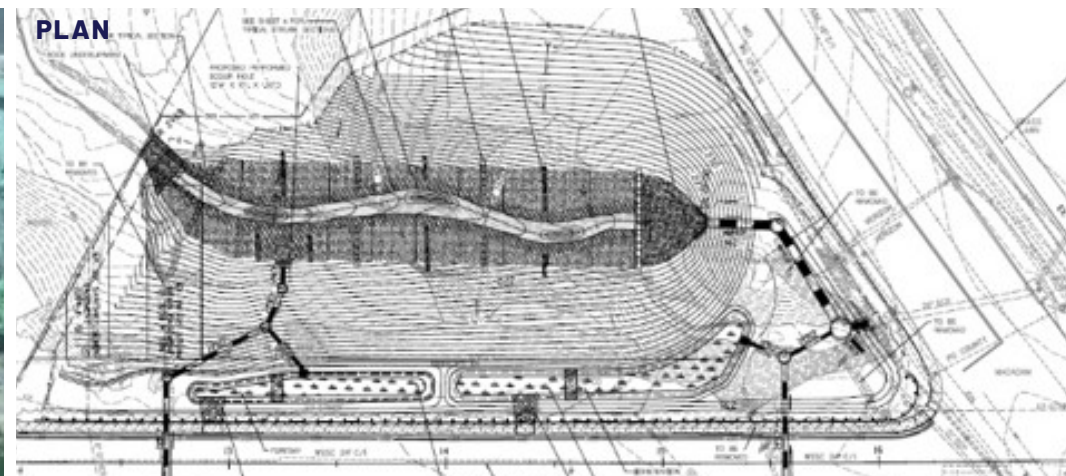
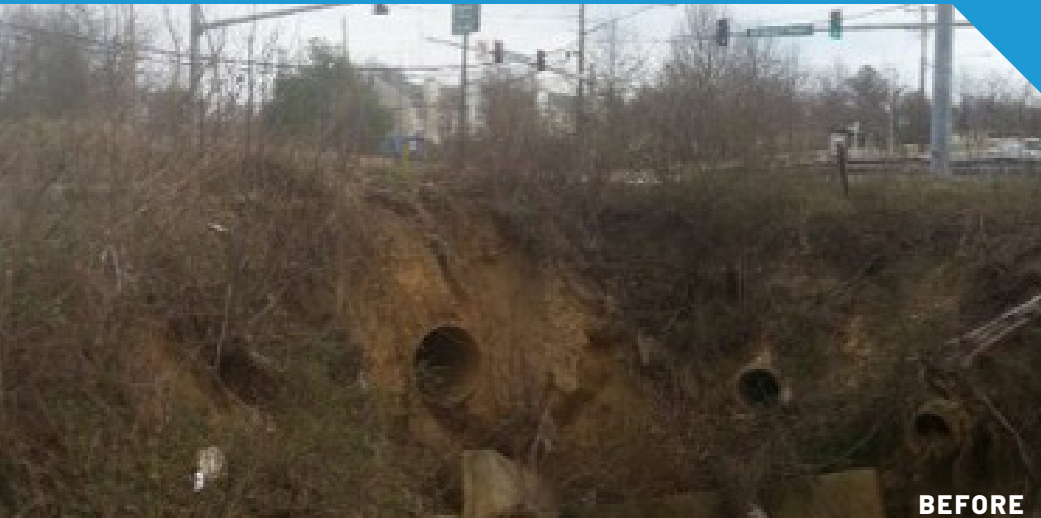
PERSPECTIVE 2 - AFTER



DPW&T was awarded \$1.9 million from the Maryland Department of Natural Resources (MD-DNR) to help construct the Calverton Channel Rehabilitation Project. The Calverton Channel Rehabilitation Project is located in Calverton, Maryland within Council District 1. The project will replace over 2,700 linear feet of concrete channel with a natural stream bed. Construction started fall 2020.



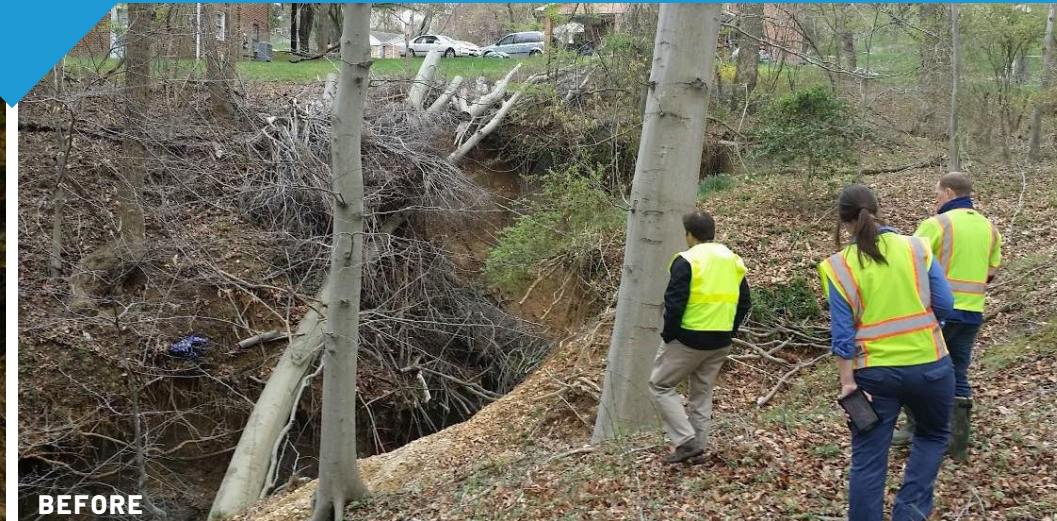
CAPITAL IMPROVEMENT PROJECTS: SUITLAND ROAD AND REGENCY OUTFALL REPAIR PROJECT



The Suitland Road and Regency Outfall Repair project rebuilt severely collapsed outfalls and severely undermined sidewalks. The \$1.3 million outfall repair project utilized ecosystem restoration practices and was awarded a \$346,170 grant from the Maryland Department of Natural Resources to help construct the project. Construction was completed in summer 2019.



CAPITAL IMPROVEMENT PROJECTS: TRAFALGAR COURT OUTFALL PROJECT



The Trafalgar Court Outfall project is in Fort Washington. The \$800,000 project repaired a severely collapsed outfall into Tinkers Creek. The eroded outfall channel banks had created a condition at the rear yards of the adjacent properties which had 30 to 40 feet of highly eroded slopes down into the stream valley.



DRAINAGE, ROAD SALT AND YOU

Residents of Prince George's County can often incorporate drainage solutions and salting best practices to improve their communities.



Homeowner Tips for Drainage

- Inspect your gutters seasonally for cracks or leaks and clean them. Install rain barrels at downspouts.
- Install alternatives to impervious surfaces to help water sink into the soil. For example, consider mulch paths instead of concrete, or gravel driveways instead of asphalt.
- Plant vegetation on bare soil to reduce erosion and runoff.
- If you notice a roadway drainage issue, contact the Storm Drain Maintenance Division at DPW&T by calling 311.



Winter Salt Operations

The Office of Highway Maintenance implements a Salt Mitigation Plan during the winter months to reduce the environmental impact of salting the roadways. This plan includes calibration of snow equipment, staff training on salt application, improved road condition forecasting, and a strategy for effective salt application. Excess salt washes into local waterways and can damage aquatic organisms. Salt can also sink into the soil and kill plants.

Homeowner Tips for Salting

- Shovel walkways and driveways before snow turns into ice so there is less need for salting.
- Do not oversalt your property. Excess salt simply washes away into the environment.
- Use sand, clay, or cat litter to improve traction instead of salt.

Learn about the impacts of road salt in your community!
tinyurl.com/MDESalt



RIGHT TREE RIGHT PLACE PROGRAM

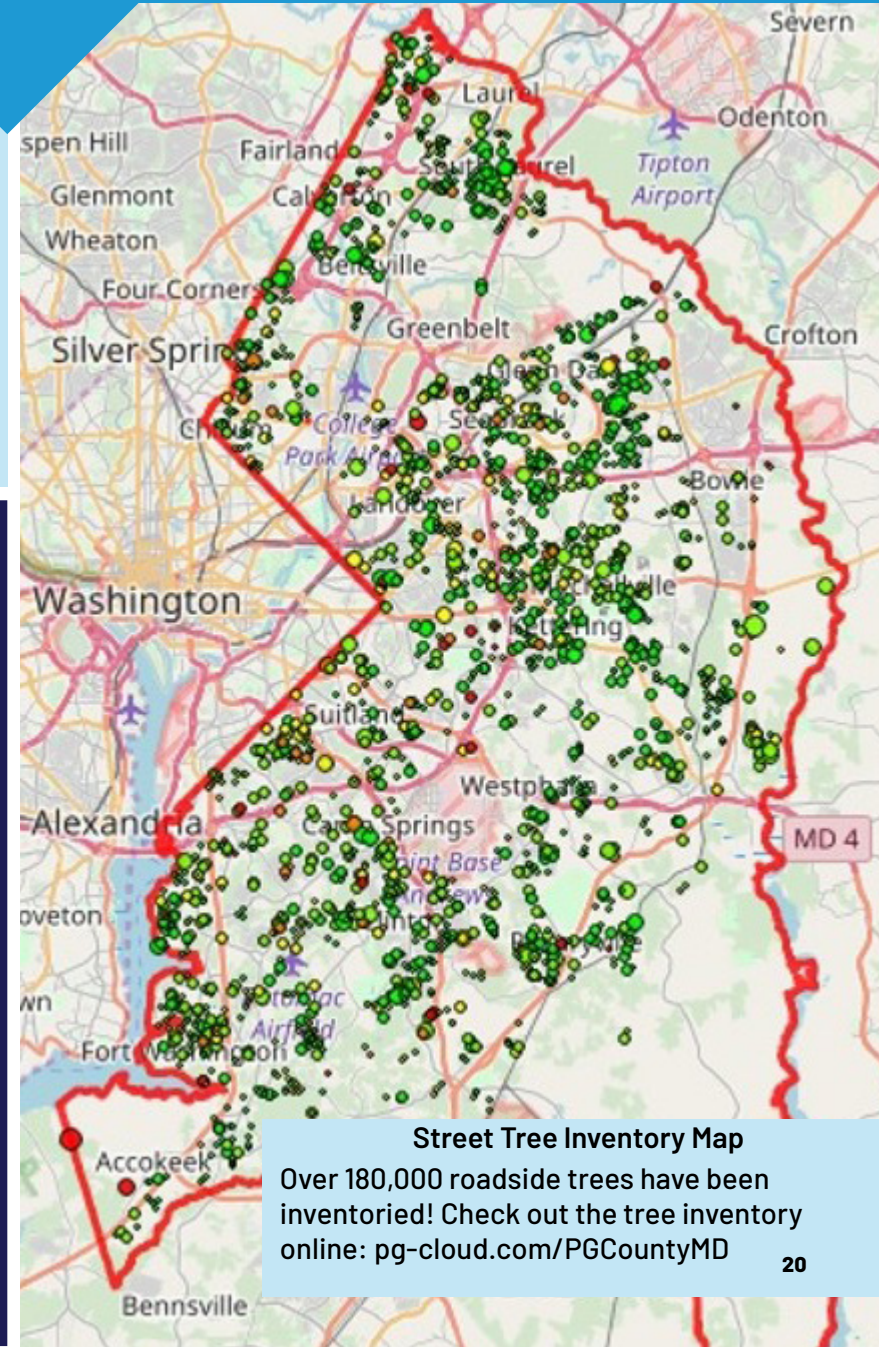
DPW&T sponsors the Right Tree Right Place Program and is assisted by our partner, the Neighborhood Design Center. The program is designed to manage the County's tree inventory and replaces dead or non-native urban trees with street trees built to survive and thrive in the urban environment. Increasing the urban tree canopy through this program provides cooling on hot days, mitigates stormwater runoff and beautifies communities. DPW&T recognizes that natural solutions like the Right Tree Right Place program are crucial to improving the sustainability and resilience of local communities.



Urban Street Tree Inventory

DPW&T is developing a map of trees located within the county Right of Way. This tree inventory will help the department identify the maintenance needs of urban trees and keep track of sick trees that may need to be removed and replaced.

A healthy urban tree canopy provides flood control, habitat for wildlife, and a natural cooling effect. Urban trees also enhance communities and improve property values. DPW&T is committed to keeping our roadside trees healthy.



Street Tree Inventory Map

Over 180,000 roadside trees have been inventoried! Check out the tree inventory online: pg-cloud.com/PGCountyMD



LITTER REDUCTION AND OUTREACH



DPW&T leads the planning and implementation of Growing Green with Pride, a county-wide beautification and cleanup initiative that occurs semi-annually during the spring and fall. During the event held on October 19, 2019, communities across the county provided 4,074 volunteers who planted 3,485 trees, shrubs, and flowers, 10,000 daffodil bulbs, and collected 69,340 pounds of trash in a single day. DPW&T continued Growing Green with Pride through small community group cleanup events in the spring and fall of 2020. Communities organized small, socially-distanced walking groups that picked up litter near their homes, while DPW&T picked up the bags from their designated locations.



The County's Beautification Program on Arbor Day 2019 at Laurel Elementary School engaged over 300 school children by planting 27 native trees.

The Department of Public Works and Transportation assisted the Department of the Environment to install concrete pads and Bigbelly trash receptacles. These new solar-powered trash compactors are located at bus shelters in high pedestrian foot traffic areas within the County. They fit five times as much trash as other trash cans, and when full they send a quick message to a local collection crew.



THE FUTURE OF CLIMATE ACTION AND VISION ZERO PRINCE GEORGE'S

The Prince George's County Council established The Prince George's Climate Action Commission with Council Resolution CR-07-2020 to develop a Climate Action Plan for Prince George's County. This will prepare the County and build resilience to regional climate change impacts, and set and achieve climate stabilization goals. DPW&T is a key member of this Commission and recognizes that climate change is fueled in part by transportation-related emissions, and the County's transportation network and infrastructure. DPW&T is committed to incorporating sustainability into our long-term planning and day-to-day activities. The Department continues to expand biking and walking facilities through the bicycle and pedestrian network plan, and through the Capital Bikeshare Program. Additionally, DPW&T promotes transit as an alternative to single occupancy vehicles to reduce traffic, improve roadway safety and mitigate greenhouse gas emissions that contribute to climate change.

DPW&T is committed to transforming our roadway network to improve safety and accessibility for all roadway users, while facilitating sustainable stormwater management for cleaner local waterways and a restored Chesapeake Bay. Improving the resilience of the County transportation network is a critical component of preparing for the impacts of climate change. The improvements to create Green Complete Streets provide opportunities to implement safety measures for all roadway users through the Vision Zero strategy, which aims to eliminate traffic-related serious injuries and deaths by 2040. Through close collaboration with the community and our partner agencies, such as the State Highway Administration and the Maryland Highway Safety Office, DPW&T aims to improve the sustainability, resilience, and safety of the transportation network in Prince George's County.



ENDNOTES

1. Prince George's County Government. (2020). 2019 Year in Review. Retrieved from <https://www.princegeorgescountymd.gov/ArchiveCenter/ViewFile/Item/3125>.
2. Metropolitan Washington Council of Governments. (2020, November). Metropolitan Washington 2030 Climate and Energy Action Plan. Washington, DC: Climate Energy and Environment Policy Committee.
3. American College of Sports Medicine. (2018). Active transportation and Climate Change Infographic [Digital image]. Retrieved from https://www.acsm.org/read-research/resource-library/resource_detail?id=dcea0890-eb06-456c-a6be-d4452b0a3204.
4. American Public Health Association. (2017, April 28). Climate Changes Health: Transportation, Communities and Your Health. Retrieved December 31, 2020, from <https://www.apha.org/topics-and-issues/climate-change/transportation>.
5. Office of Central Services, Sustainable Energy Division. (2020, June). Sustainable Energy. Retrieved from <https://www.princegeorgescountymd.gov/936/Sustainable-Energy-Program>.
6. Maryland Department of the Environment. (2020). Climate Change Program. Retrieved from <https://mde.maryland.gov/programs/Air/ClimateChange/Pages/index.aspx>.
7. Hodges, T. (2010). Public transportation's role in responding to climate change. Diane Publishing.
8. Argonne National Laboratory. (2015). Greet Fleet Footprint Calculator. US Department of Energy.
9. Faung, G. (2013, August 3). Interstate Highway [Photograph].



Department of Public Works and Transportation

9400 Peppercorn Place
Suite 300
Largo, MD 20774

Website: princegeorgescountymd.gov/1002/Public-Works-Transportation

Email: DPWT-OD@co.pg.md.us

Phone: 301-883-5600

  @PGCountyDPWT

Version 1 Published March 2021



Angela D. Alsobrooks
County Executive



Terry L. Bellamy
Director

