Sustainability Practices

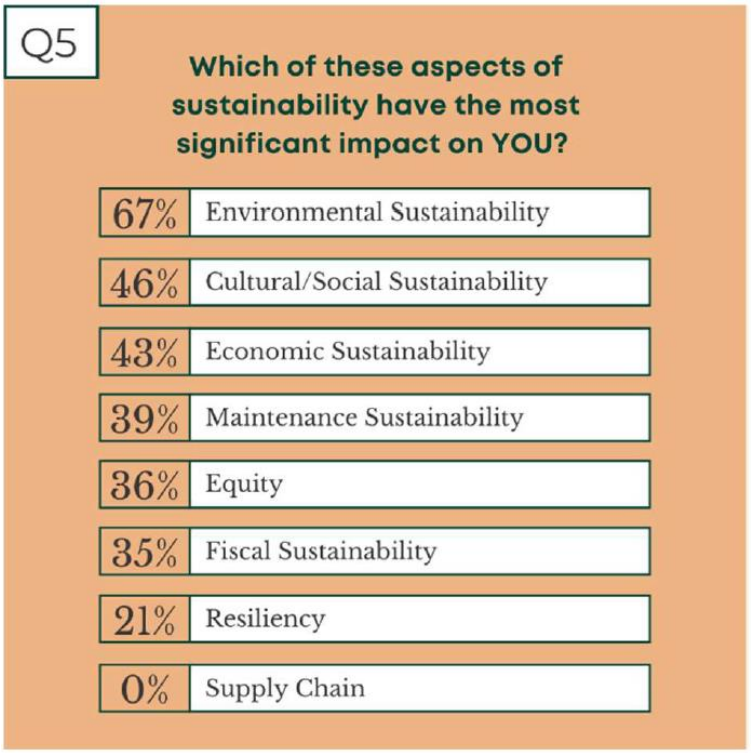
Sustainability is a guiding principle and value documented in *Plan Prince George's 2035 Approved General Plan* (Plan 2035) and is defined as "meeting the needs of present generations without compromising the ability of future generations to meet their needs." To support and ensure consistency across Plan 2035 and the Countywide Master Plan of Transportation (MPOT 2035), the project team analyzed existing environmental, fiscal, and cultural/social sustainability as it relates to transportation within Prince George's County. This memorandum covers the following main topics:

- Brief descriptions of relevant plans in the County, region, and state
- Community feedback
- A summary of current sustainability issues
- A list of suggested sustainability practices

To understand sustainable practices in Prince George's County, three countywide community engagement meetings were held. Approximately 155 participants attended the three meetings, and at least 140 people completed the online survey.

Figure 1 illustrates that the aspects of sustainability that have significant impact include environmental sustainability (67 percent), cultural/social sustainability (46 percent), and economic sustainability (43 percent).

Figure 1 - Sustainability Community Feedback



Environmental Sustainability

Introduction

Environmental sustainability focuses on the responsible interaction of human infrastructure and practices with the natural world.

The transportation system has a large impact on environmental sustainability with increased greenhouse gas (GHG) emissions. The not yet adopted 2020 draft Prince George's County Climate Action Plan notes that the County is experiencing growing climate change concerns and vulnerabilities with 48 percent of the greenhouse gas emissions (GHGs) from the transportation sector. In addition to the transportation sector's GHG emissions and related climate impacts, other environmental sustainability impacts and opportunities include:

- Issues of permeability and stormwater retention or runoff related to pavement coverage
- Presence or absence of tree coverage and other "green infrastructure"
- Air pollution resulting from wear and tear of vehicles and rubber tires
- Noise pollution that can affect physical and mental health
- Consumption of natural habitats and undeveloped land for roads and infrastructure

Relevant Plans in the County, Region, and State

Countywide Master Plan of Transportation (2009)

The 2009 *Countywide Master Plan of Transportation* (MPOT) for Prince George's County included environmental sustainability initiatives framed as environmental stewardship. Environmental stewardship elements were oriented around active transportation and trail planning, complete streets, and infill development.

The plan references active transportation and trail planning as environmentally friendly transportation options. The Complete Streets Initiative and Countywide Green Infrastructure Plan encourage non-automobile trips to reduce GHGs and to incorporate environmental justice principles within the planning process. Environmental justice seeks to ensure no one group of people (regardless of race, color, national original, or income) bears a disproportionate share of negative environmental consequences. Lastly, the plan recommends prioritization of infill development, transit-oriented development (TOD), and to add vehicle miles traveled minimization to traffic impact analysis studies. The plan has been amended throughout the years to strengthen the environmental sustainability goals and to create strategic measurable targets for project or program implementation.

Prince George's County's General Plan

In Plan 2035, environmental sustainability is related to the protection and conservation of the natural environment. The plan highlights the careful management of air, water, and land resources and to conserve waterways, forests, agricultural areas, open space, natural systems, and scenic areas. The vision is to ensure growth does not compromise Prince George's County natural and cultural resources. Plan 2035 envisions Prince George's County to have greener communities, natural resources and rural areas, TOD, and green jobs. The plan discusses various policies and practices related to sustainability pertaining to the natural environment.

Resource Conservation Plan (RCP) 2017

The RCP is a countywide master plan related to green infrastructure planning and rural and agricultural conservation as a response to the recommendations in Plan 2035. There are three functional master plans that are incorporated into the RCP:

1. The approved Green Infrastructure Plan (GI Plan) assesses the status of the policies and strategies formed in 2014. The document noted any network gaps related to green infrastructure and includes topics such forest and treen canopy coverage, climate change, and sea level rise.
2. The Agricultural Conservation Plan approved in 2012 addresses the agricultural policy plan needed to support long-term sustainability of agricultural and forestry practices.
3. The Rural Character Conservation Plan focuses on policies intended to support rural character conservation and the desired development patterns for rural communities. There is a focus on special roadways, such as parkways, scenic byways, and scenic and historic roads.

The functional master plans contained within the RCP are relevant to coordinate reduction of air and water quality issues, vehicle emissions, and construction of new roadways and trails, and the land use characteristics associated with transportation development.

Maryland Department of Transportation (DOT) Greenhouse Gas Reduction Act Plan (2020)

The Greenhouse Gas Reduction Act is a state requirement to submit plans to reduce statewide GHG emissions by 40 percent from 2006 levels by 2030. The 2017 statewide emission inventory found that on-road transportation is the single largest GHG emissions generator in the state at 36 percent of total GHG.

The plan aims to achieve this GHG reduction goal through four pillars.

1. Technology – Primarily focused on electric vehicles.
2. Travel choice – Primarily focused on reducing vehicle miles traveled (VMT) by providing access to more non-automobile options.
3. Travel efficiency – Primarily focused on improving systems management and operations.
4. Infrastructure design – Primarily focused on clean energy use and design that is resilient to climate change.

The plan evaluated three scenarios for achieving the goal of reducing GHG emissions by 40 percent from 2006 levels by 2030.

1. Reference Case – Focused on electric vehicles and compliance with fuel standards. Estimated to reduce GHG emissions by 26 percent below 2006 emissions by 2030. Estimated cost of $14 billion.
2. Policy 1 – Focused on reducing emissions of projects already planned and funded. Estimated to reduce GHG emissions by 33 percent from 2006 levels by 2030. Estimated to cost $14 billion.
3. Policy 2 – Focused on emerging and innovative solutions. Estimated to reduce GHG emissions by 49 percent from 2006 levels by 2030. Estimated to cost between $11.5 billion to $15.5 billion.

Prince George's County Climate Action Plan (Draft - 2021)

The draft Climate Action Plan (CAP) identifies sources of GHGs, climate concerns and vulnerabilities, and recommended focus areas. Environmental impact issues include GHG emissions and a disconnect between land use policy and practice. This plan has not yet been approved by the County, but there are several important land use and transportation components that the team is considering for MPOT 2035.

The draft CAP outlines practices developed through smart growth principles such as infill development and brownfield redevelopment instead of sprawl development. Sprawl development results in a significant loss in tree canopy coverage across the county and requires longer trips to access distant locations, resulting in higher VMT and more impermeable surfaces. Besides these direct effects, loss of tree canopy also contributes to increases in heat, drought, flooding, and higher GHG emissions by removing an important "carbon sink"—an element of the natural environment that absorbs more CO_2 than it releases.

Due to these factors, climate risks and vulnerabilities in the County include:

- Extreme heat and drought
- More frequent inland and coastal flooding
- More severe storms

Climate risk and vulnerabilities are exacerbated by the transportation system and cause risks to the continued resilience of transportation infrastructure. The plan rated the impacts of these risks to transportation, with extreme heat and inland flooding having high impacts, coastal flooding and severe storms having moderate impacts, and drought having a low impact on transportation.

The draft CAP recommends focusing on and committing to smart growth and transportation by:

- Reducing VMT through increased multimodal options and prioritizing land use and transit investments
- Adhering to land use policies and recommitting to smart growth practices
- Transitioning to clean transportation such as electric vehicles, both for private and County fleets

Throughout the draft CAP, environmental justice and equity were incorporated as a lens when reviewing historical trends and recommending future strategies.

Local Jurisdiction Plans and Programs

Plans and programs from Bowie, College Park, and Hyattsville were reviewed. Overall, local jurisdictions have community-oriented goals, but some objectives or goals aligned with County-level ideas.

City of Bowie Sustainability Plan (2016)—Goal NW1 of the plan aims to protect, preserve, and enhance existing forest and tree canopy coverage to reach the 45 percent tree canopy goal from the County's Climate Action Plan.

City of College Park, Maryland 2021-2025 Strategic Plan (2021)—Objective 3 of the plan states, "preserve and enrich our environment and natural beauty to attract people and sustain our City's future." The plan listed sample tactics such as clean energy initiatives (electric vehicles, solar panels), and identifying opportunities to expand parks and tree canopy.

Speak Up Hyattsville: The 2017 – 2021 Community Sustainability Plan (2017)—Goal 15 from the plan is aimed at growing in an environmentally friendly and sustainable manner. A tactic recommended to achieve this goal is adding electric vehicle charging stations in City parking lots and commercial corridors.

Community Feedback Regarding Environmental Sustainability

Based on comments from the group discussions, Table 1 displays the themes brought up by community members.

Table 1: Environmental Sustainability Feedback and Strategies

Community Feedback Theme	Relation to Potential Environmental Strategy
Unwanted road expansions	Reduce GHG emissions and VMT
Installation of electric vehicle charging stations	Reduce GHG emissions
Adding more bus shelters	Increased shade coverage for heat adaptation
Increased bicycle and pedestrian facilities	Mode shift and reduction in GHG emissions and VMT
Increased transit service and multimodal connectivity	Mode shift and reduction in GHG emissions and VMT
Address and reduce aggressive/erratic driving	Improve roadway efficiencies
Increase consequences for speeding/erratic driving	Expand speed management to maximize safety and encourage walking and biking
Prioritizing TOD and improved developer coordination	Focus on infill development, TOD, and smart growth principle

Notable direct quotes relevant to environmental sustainability include:

- *"I think instead of additional roadways, we need more public transportation. Such would meet the needs of seniors, ADA subject people, etc. And it would allow more historic and scenic byways."*
- *"TOD goes hand-in-hand with Vision Zero. Developers must become a part of the solution in expanding TOD. Prince George's County must require it. Building for the sake of revenue without consideration for residents' QOL [Quality of Life] is unconscionable and unsustainable."*
- *"Protected bike lanes and other designs that separate vulnerable users from motor vehicles."*

Environmental issues, causes and transportation implications in Prince George's County from the reviewed relevant local, County, and state documents, are summarized in **Table 2.**

Table 2: Climate Issues, Causes, and Transportation Implications

Issues	Causes	Transportation Implications

Extreme heat	GHG emissions (48% of GHG emissions in Prince George's County are from the transportation sector) Declining tree canopy coverage due to a disconnect between land use policy and practice	Transportation asset and infrastructure damage, and increased maintenance Disproportional burden of climate issues on individuals within MWCOG equity emphasis areas
Inland and coastal flooding	GHG emissions (48% of GHG emissions in Prince George's County are from the transportation sector) Declining tree canopy coverage due to a disconnect between land use policy and practice	Transportation asset and infrastructure damage, increased maintenance, or inaccessibility Disproportional burden of climate issues on individuals within MWCOG equity emphasis areas
Severe Storms	GHG emission (48% of GHG emissions in Prince George's County are from the transportation sector)	Transportation asset and infrastructure damage, increased maintenance, or inaccessibility Disproportional burden of climate issues on individuals within MWCOG equity emphasis areas

Suggested Practices for Environmental Sustainability

GHG emissions reductions, stormwater management, extreme heat reduction, and material asset management are potential strategies for mitigating environmental impacts related to the transportation sector.

Emissions Reduction

Recommended strategies to reduce GHG emissions include investment in electric vehicle infrastructure and implementing VMT reduction strategies and programs.

Electric Vehicles

Increasing electric vehicle (EV) ownership and usage for private citizens and County-owned fleets can help reach GHG emission reduction goals. EV strategies typically relate to policies and incentives which encourage purchase of EVs, and installation of EV charging infrastructure in the public right-of-way. There are advantages and disadvantages that should be considered when evaluating EV strategies.

Advantages

Increases use of clean energy—With the expansion of EV charging stations and the potential growth in EV vehicles on the road, a reduction in GHG emissions will occur and reliance on clean energy sources will increase.

Eases access for EV owners and users—Installation of EV charging stations throughout the County increases accessibility and ease for EV charging.

Aligns with statewide goals—Maryland has a target of 535,000 zero-emission vehicles registered in the state by 2030. As of December 31, 2020, the state had 29,268 EVs registered. Installing charging stations across the County encourages residents to purchase EVs by removing perceived or actual barriers to reliable charging. Additionally, MDOT is completing a Fleet Innovation Plan aimed at supporting the conversion of MDOT's light-duty and bus fleet to Zero Emission Vehicles (ZEVs).

Corresponds with federal administration investments—The Biden Administration's $1.2 trillion Infrastructure Investment and Jobs Act (IIJA) aims to further expand EV usage and accessibility in the U.S. Specifically, the act sets aside $7.5 billion for alternative fuels in a new competitive federal program, including $5 billion for a national electric vehicle charging network.

Increasing EV manufacturing and consumer options—Automobile manufacturers are seeing the increasing trend of EV purchases and are responding with more electric and hybrid options for consumers. The increasing availability of EVs increases purchasing options for consumers and therefore potentially accelerating private EV ownership.

Disadvantages

Continuing to prioritize auto travel over other modes—Investment in EV charging stations and infrastructure for privately-owned vehicles may shift funding away from existing transit, pedestrian, and bike networks. Additionally, because electricity is relatively cheap and there are fewer maintenance needs, EV operating costs are substantially lower than internal combustion engine vehicles, which may induce more vehicle travel, and could conflict with other goals.

Battery development and supply chain—There are implications in manufacturing EV batteries and the supply chain of building an EV versus a gasoline or diesel-dependent vehicle. While the financial cost of battery development has decreased, the energy requirements to manufacture an EV battery can still be a drawback. In addition, development of batteries requires land-intensive mining and use of heavy metals.

Energy source for battery charging—Prince George's County must consider where the electricity to charge EVs comes from. For example, daytime charging typically comes from solar energy, while nighttime charging typically comes from carbon. Currently, most EVs are charged overnight at a private residence or public-owned facility. Charging stations must have the ability to store unused solar energy to provide cleaner overnight charging opportunities.

Unknown long-term investment cost and technology innovations—As with all developing technology, cost efficiencies typically increase over time as the technology is improved. The charging stations utilized for EVs today might not be the same or as efficient as future iterations. Considering when and where to invest in charging stations will be important. A historical example is coin-operated parking meters for on-street parking that have upgraded to card-enabled meters, and now include options for mobile phone-based micropayments without meters. The upfront cost to switch hardware as charging technology improves should be considered.

Upfront ownership costs for residents—The upfront costs for residents to purchase an EV, as well as the need to install or access personal charging, can be prohibitive. Without incentives, EVs can be financially out of reach for low-income consumers, who have long been subject to inequitable impacts of transportation and environmental policies.

Placement and use of electric vehicle charging stations—The equitable placement of EV charging stations across the County should be considered. A balance of where demand for EV charging stations currently exists—often in high income areas—must be met with the potential or desired growth for future EV use and demand for charging stations in all communities. As with all

site-specific transportation investments, equitable placement of infrastructure investment impacts residents, their property value, and their ease of access to the investment.

Suggested EV Strategies

The following strategies could be used to increase EV ownership and reduce GHG emissions in the County.

- Expand the EV charging network
- Set an EV market share goal for the County to support the State's goal of an additional 255,000 EVs by 2030
- Transition transit fleet to EV, including school buses
- Electrify County and public agencies fleets
- Identify and implement zero-emission truck corridors
- Plan for Autonomous/Connected Vehicle technologies, which are typically EV
- Investigate and provide private vehicle electrification incentives and disincentives
- Create an EV carshare program for low-income communities

Vehicle Miles Traveled (VMT) Reduction

A reduction in VMT works toward reducing GHG emissions from the transportation sector. Setting VMT metrics is a strategy that is often used by the transportation sector to quantify and track environmental sustainability efforts. VMT is typically associated with longer driving trips, but also unnecessary trips or inefficient trips such as drivers circling looking for parking or inefficient freight deliveries.

VMT Reduction Considerations

When considering how to implement VMT reduction strategies it is important to distinguish between reducing unnecessary VMT and all VMT. Some citizens could benefit from more VMT to access more quality of life/jobs/healthcare, while others can reduce unnecessary VMT. For example, driving less than 5 miles between errands or destinations could potentially be better met by transit or biking/walking/micromobility. Setting a VMT threshold for all trips could cause undue burden on individuals who must travel longer to reach a job, doctor's appointment, or education.

Suggested VMT Reduction Strategies

The following strategies may decrease VMT in the County. While transportation demand management strategies that increase non-automobile mode share are effective, a VMT tax is a more effective strategy.

- Advocate for a vehicle carbon/gas tax or VMT tax
- Expand transit capacity and service
- Expanded Transportation Demand Management strategies
- Expand bicycle, pedestrian, and micro-mobility system development
- Expand telework policies and programs
- Constrain cars in urban areas, limit major new road construction
- Limit roadway widening
- Relocate employment and government offices near pedestrian, bicycle, and transit networks

Stormwater Management

Stormwater management strategies work toward reducing inland and coastal flooding, which can impact the transportation network and accessibility. In addition, the design of transportation infrastructure can provide opportunities to manage stormwater and mitigate pollution issues created by stormwater runoff.

The following strategies could improve stormwater management in the County.

- Repair, enhance, or add stormwater systems during roadway construction projects, including resurfacing
- Eliminate waivers for stormwater management requirements
- Increase tree canopy coverage and raingarden systems with infill development, and roadway projects
- Prioritize climate resilient infrastructure to ensure stability of the transportation network over time and in response to changing climate conditions
- Where feasible, all critical infrastructure should be constructed outside the 500-year floodplain
- Access roads should be protected to at least the 100-year flood elevation or maximum flood reach, whichever is higher
- If not already in existence, prepare a hazard mitigation plan with a focus on improving roads and infrastructure to withstand flooding

Heat Reduction and Adaptation

Extreme heat events and drought are issues facing the County. Extreme heat events impact the transportation network and accessibility, as well as people's willingness to use modes of transportation that reduce VMT, such as walking, biking, and transit.

The following strategies could adapt to or reduce extreme heat in the County.

- Focus on infill development, TOD, and smart growth principles
- Improve intermodal freight center access
- Consolidate urban freight centers
- Increase tree canopy coverage to reduce heat island effects and support active transportation goals
- Follow land use decisions that support alternative modes of transportation
- Explore opportunities to co-locate community resilience hubs (including cooling centers and access to critical resources and information) at transit centers using solar arrays to provide clean, resilient energy
- Cover all surface parking with solar arrays
- Implement hydration stations at key transit hubs and along key active transportation corridors
- Develop extensive shade cover strategies in the places that are most subject to extreme heat and/or most exposed

Transportation Asset Management

Transportation asset management (TAM) focuses on surface infrastructure of the transportation system such as roads, sidewalks, and bridges. The County should evaluate its definition of transportation asset management and consider expanding if necessary.

Network maintenance is a crucial aspect of the transportation system. The County can use its knowledge of resident and user travel patterns to prioritize asset maintenance and improvements over time. Roadways, sidewalks, trails, and other assets can deteriorate faster due to extreme heat, flooding, and severe storms. The effects of climate change on heat, flooding, and storm patterns should be considered for long-range asset management plans. Climate change may affect the spatial patterns of impacts—which communities are subject to heat, floods, and extreme storms—as well as frequency and severity of these effects.

The following strategies could manage transportation assets in the County.

- Prioritize climate resilient infrastructure to ensure stability of the transportation network over time and in response to changing climate conditions
- Focus on maintenance improvements that have the highest demand for transportation system users and/or provide critical network connections
- Improve roadway efficiencies with Transportation System Management Operations (TSMO)
- Expand speed management on roadways to maximize safety and encourage walking and biking
- Incorporate green infrastructure elements that reduce heat and increase permeability

Fiscal Sustainability

Introduction

Fiscal sustainability refers to the practices that support long-term economic growth and prosperity without negatively impacting environmental and social aspects of the community. Based on current trends related to shifting population demographics, climate change impacts, and aging transportation systems, governments are challenged with managing the expenditure and revenue sides of budgets. As part of Prince George's County Master of Transportation Plan, improving and enhancing fiscal sustainability practices creates resilient transportation systems that can address both short-term and long-term financial uncertainties related to demographic, employment, and environmental changes.

This section provides a description of fiscal sustainability goals within Prince George's County planning documents, feedback from community members and stakeholders, and recommendations to improve and enhance fiscal sustainability practices.

Relevant Plans in the County, Region, and State

Master Plan of Transportation (2009)

In the first section of the plan, the County mentions the intent to "capitalize on public investment in the existing transportation system," which is a sustainable practice. Rather than expanding transportation systems or adding new ones, which comes with financial, environmental, and social burdens, Prince George's County ensures a more resilient system and minimal to no disruptive changes to the environment and community by investing and re-investing in existing transportation infrastructure. Prince George's County's Capital Improvement Program (CIP) has numerous projects focused on improving and maintaining existing transportation infrastructure and amenities.

The plan states that "the County ranks the Developed Tier as having the highest priority for spending public funds and expects to have in place financial incentives and streamlined review policies in order to attract high quality development and redevelopment." This suggests that the County is focused on investing public funds and incorporating financial incentives in the Developed Tier. This practice may or not may be sustainable depending on the distribution of funding, type of funding, and how the financial incentives impact the community once implemented.

One of the TOD goals is to "maximize benefits from public investment in the transit infrastructure to all users, while seizing opportunities for quality TOD and supporting the land use pattern prescribed in the General Plan," which relates to both equity and fiscal sustainability practices.

The use of traditional and innovative financial methods to fund projects included consideration of future pricing strategies that aim to "redistribute traffic volumes to nonpeak hours, manage through trips, free up capacity for goods movement, and provide income streams for transit and other congestion-reducing enhancements to the transportation system." Another strategy

mentioned was to price parking to reflect the true costs of free parking, which promotes environmental, cultural/social, and fiscal sustainability. The integration of pricing strategies that are effective, context-specific, and innovative can promote sustainable travel behaviors and support current and future transportation investments.

The "Transportation Infrastructure Financing" section outlines the federal, state, and local roles in financing transportation projects. This section briefly summarizes the National Surface Transportation Infrastructure Financing Commission's (NSTIFC) assessment of future federal highway, transit investment needs, and lists the recommendations provided by the NSTIFC. The following recommendations include:

- Transitioning away from current indirect vehicle charging systems to direct user charge systems
- Vehicle-miles-traveled (VMT) fee systems
- Protect and enhance the Highway Trust Fund
- One-time increases in and indexing of existing Highway Trust Fund revenue sources
- State and local investment in user-based mechanisms (i.e., tolling and pricing)

The NSTIFC concluded that current financing mechanisms (such as the gas tax), and current levels of taxation (such as the sales tax) are not sustainable revenue sources for transportation infrastructure. The NSTIFC recommends focusing on implementing direct user charge systems (e.g., VMT fee systems) and continue to invest in public-private partnerships to leverage future revenue streams to meet current transportation capital investment needs.

On a local level, the 2009 MPOT echoes the 2002 General Plan objectives of:

- Increasing public funding of transportation infrastructure in the Developed Tier
- Increasing public-sector funding and encouraging more private funding of transportation infrastructure in the Developing Tier
- Encouraging and increasing the proportion of private sector funding in the Developing and Rural Tiers outside of centers and corridors

Some of the financial strategies include:

- Coordinating transportation funding initiatives with neighboring jurisdictions
- Identifying non-public funding for transit and non-motorized facilities and systems
- Assessing the transportation funding mechanisms in the County's Capital Improvement Program (CIP) and the Prince George's County submission for the Maryland Department of Transportation's Consolidated Transportation Program (CTP)

Department of Public Works and Transportation Sustainability Report 2021

The report documents the Greenhouse Gas Reduction Act (GGRA) targets, which are divided as follows:

- Prince George's County: To reduce countywide GHG emissions by 80 percent below 2008 levels by 2050.

- Region (MWCOG): To reduce regional GHG emissions by 50 percent below 2005 levels by 2030.
- State (GGRA): To reduce state-level GHG emissions by 40 percent below 2006 levels by 2030.

GHG emission reduction is part of fiscal sustainability because the methods and strategies to reduce GHG emissions can incorporate financing mechanisms such as VMT fee systems and vehicle type incentive programs. Decreased GHG emissions can also help avoid the most severe effects of climate change, which would result in damage and increased infrastructure maintenance costs.

The report also mentions the *RideSmart Solutions* which offer free programs such as Guaranteed Ride Home, reward programs such as IncenTrip and Carpool Now, and commuter benefits programs. The electrification of transit, incorporation of LED street lighting, promotion of transit services, and improving bicycle and pedestrian facilities all have implications for fiscal sustainability. Monitoring the cost-savings or revenue gains from these investments is important to evaluate whether fiscal sustainability goals have been met.

Plan Prince George's 2035

Based on Plan 2035, Prince George's County has historically focused on transportation improvements focused on the vehicular network. Recently, funds are shifting to transit, bicycle, and pedestrian networks, and on widening existing roads; however, the connection between land use and transportation remains a challenge. Historically, residents of the County oppose connectivity between neighborhoods or highway toll costs due to privacy, noise, and traffic as stated in Plan 2035. Providing accessible transportation to aging populations living in suburban and rural areas without promoting unsustainable development patterns is another constraint mentioned in numerous studies and reports documented in the plan.

Plan 2035 highlights the fiscal challenges associated with sustaining and repairing an aging transportation system. The plan emphasizes the need for the County to increase funding in the transportation system for long-term financial viability and sustainability.

Plan 2035 mentions that Prince George's County established a Green Streets policy and is focusing investment on TOD. The Plan also establishes the CB-86-2015 and CR-085-2016, the new Urban Street Standards meant for the design of new and retrofitted streets. Plan 2035 identifies eight Regional Transit Districts (RTDs) with anticipated future growth, high quality urban design, and multimodal transportation. Current studies and research are identifying key transit corridors to support light rail, bus rapid transit, or enhanced bus services. For example, the Purple Line light-rail transit system is anticipated to link existing employment centers and leverages public investments. Additionally, the development of a Complete Streets policy and support of TOD is connected to enhancement of economic opportunities.

The main goals related to transportation investment include the following:

- Expansion of car-sharing and bike-sharing programs
- Fund trail improvements
- Expand and improve transit services by connecting Downtowns, the Innovation Corridor, and RTDs to maximize economic development
- Public investment to support low-carbon transportation methods

Community Feedback Regarding Fiscal Sustainability

Based on feedback from stakeholder participants in the MPOT 2035 community engagement process, 50 percent of participants in all meeting groups responded that fiscal sustainability has the most significant impact on them. The community supports efficient and continuous investment in providing accessible and affordable transportation services. Based on comments from the group discussions, community members want the County to continue to invest in:

- Transit loyalty programs for students and frequent users
- Bicycle trails connectivity and bilingual wayfinding signage
- Intersection improvements and corridors
- Transit, bicycle, and pedestrian facilities and amenities
- Improved lighting and maintenance of sidewalks

Suggested Practices for Fiscal Sustainability

The table below lists recommendations for supporting fiscal sustainability in Prince George's County and examples of current jurisdictions and organizations that are implementing these practices in **Table 3. Fiscal Sustainability Practices and ExamplesTable 3.**

Table 3. Fiscal Sustainability Practices and Examples

Practices	Examples	Resources
Embed resilience standards into future infrastructure investments	New York's Climate-Resilience Design Guidelines	NYC_Climate_Resiliency_Design_Guidelines_v4-0.pdf
	Boston's Smart Utility Standards and Program	Boston Smart Utilities Program | Boston Planning & Development Agency (bostonplans.org)
Identify resilience-friendly federal funding streams	Hoboken benefitted from the US HUD "Rebuild by Design" competition	Rebuild by Design: Hoboken -- Transportation Elements | Adaptation Clearinghouse
	San Francisco had US Army Corps initiate study on coastal protection	San Francisco Waterfront Storm Damage Reduction_GI (army.mil)

Practices	Examples	Resources
Create special tax districts in the downtowns, employment hubs, and the Innovation Corridor Hub	Missouri Special Taxing District	Missouri Blueprint_Special Taxing Districts.pdf (showmeinstitute.org)
	DC Business Improvement Districts	Business Improvement Districts (BIDs) | dslbd (dc.gov) DCBID Council
Continue to utilize Tax increment Financing (TIF) at existing and proposed convention, conference, and visitor centers	Gallery Place, Washington, DC	ocfo_tif_retail_tif_pilot_tafa.pdf (dc.gov) Microsoft Word - TIF Analysis Methodology (dc.gov)
TOD investment near Metrorail stations and Purple Line, particularly stations with available space for development	Montgomery County's Transit-Oriented Mixed-Use Zones	Slide 1 (railvolution.org) DIVISION 59-C-13, TRANSIT ORIENTED, MIXED-USE ZONES (TOMX) (amlegal.com)
Implement mileage-based or vehicle miles traveled (VMT) fees	Oregon's voluntary road usage charging program called OReGO Program	Community Transit 2013 Awareness Survey Key Findings (oregon.gov) ClearRoad_Orego_Case_Study.pdf
Support rebates (i.e., fee exemptions and tax reductions) that give cash back, credit, or tax reduction to those who buy zero-emission vehicles (e.g., electric, plug-in hybrid electric, and fuel cell vehicles)	California's Clean Vehicle Rebate Program (CVRP)	California Clean Vehicle Rebate Project (CVRP) | DriveClean Clean Vehicle Rebate Project — California Climate Investments

Practices	Examples	Resources
Implement congestion pricing that varies based on travel demands at different times of the day	Virginia's I-66 Commuter Choice program	NVTC_I66CommuterChoice_AnnualReport.pdf (novatransit.org)
	San Diego's HOT Lanes on I-15	I-15 Express Lanes (keepsandiegomoving.com)
Price parking based on travel demand patterns	San Francisco SFpark pilot project	SFpark Pilot Program | SFMTA
	New York's ParkSmart	NYC DOT - Parking Rates Layout 1 (nyc.gov)
	Seattle DOT Performance-Based Parking Program	transportation20140610_6c.pdf (seattle.gov)
Invest in asset management systems that optimize maintenance and construction activities across all infrastructure classes (e.g., roads, sewer, water, etc.)	IBM smarter cities tools	IBM - United States
	Samsara GPS-tracking	Samsara - GPS Fleet Tracking
	MS2 Transportation Asset Management System (TAMS)	MS2 - TAMS - Transportation Asset (ms2soft.com)

Cultural/Social Sustainability

Introduction

Sustainability guidelines involve not only environmental and economic considerations, but also social and cultural dimensions. Social and cultural criteria encompass objects and structures, such as historical remains and places of worship, and values such as sense of place, local culture, and traditions. MPOT 2035 envisions a countywide transportation system that supports the safe and equitable movement of people and goods within the County and region; it encourages economic, cultural, recreational, and social activity in Plan 2035 Centers. Equitable access to Plan 2035 Centers, then, is the crux of social and cultural sustainability in Prince George's County.

Plan Prince George's 2035 identifies 26 Local Centers and eight RTDs (PLAN 2035 - Map 1), which present the greatest concentration of social and cultural activities, places, and structures in the County. An equitable approach to access improvements would prioritize and invest most heavily in improvements for Local Centers that overlap with Neighborhood Reinvestment Areas (Map 2) and Equity Emphasis Areas (EEAs). EEAs are census tracts identified by the Metropolitan Washington Council of Governments as having high concentrations of low-income individuals and communities of color. They also have a higher share of households that rent, single-parent households, individuals with disabilities, and workers without a telecommuting option. In Prince George's County, EEAs are primarily concentrated in the northwest and central-west parts of the County.

In addition to Local Center and RTD access, other social and cultural sustainability impacts and opportunities include:

- Affordable access to living-wage employment opportunities
- Active transportation opportunities to support physical and mental well-being
- Transportation support for traditional agricultural zones and rural communities, identified as Priority Preservation Areas in Plan 2035 (Map 2)
- Use of transportation facilities to host social activity, such as temporary street closures, permanent parklets on retail streets, or food, beverage, and retail stalls at transit centers

The social and cultural sustainability section covers:

- Local jurisdiction plan and program examples
- Community feedback regarding cultural/social sustainability
- Summary of current cultural/social sustainability in the County, including issues, causes, and transportation implications
- A review of suggested practices for cultural/social sustainability

Local Jurisdiction Plans and Programs

Plans and programs from the cities of Bowie, College Park, and Hyattsville were reviewed. All include social and cultural support or development in their policy framework. Many local jurisdiction action items can be expanded to make an impact on transportation outcomes at the County level.

City of Bowie Sustainability Plan (2016)—Goal CT5: Involve 6,000 residents in events and programs that strengthen neighborhood connections.

Implementation Strategies:

- CC1.2: Encourage residents to sign up for City Alert at all City events.
- CT1.2: Install more amenities in the public gathering spaces (interpretive signs, park benches, picnic tables, drinking fountains, etc.).
- ED2.1: Develop an outreach campaign to reach audiences that are underrepresented or not represented in current program activities.
- MC1.1: Develop and implement a promotional campaign to bring awareness of existing trails for biking, hiking, and family walks.
- MC1.2: Expand existing trails for biking, hiking, and family walks into a safe interconnected network.

City of College Park, Maryland 2021-2025 Strategic Plan (2021)—Objective 8 of the plan states, “Foster and sustain an affordable and stable City for individuals and families to live, work, play and retire here.”

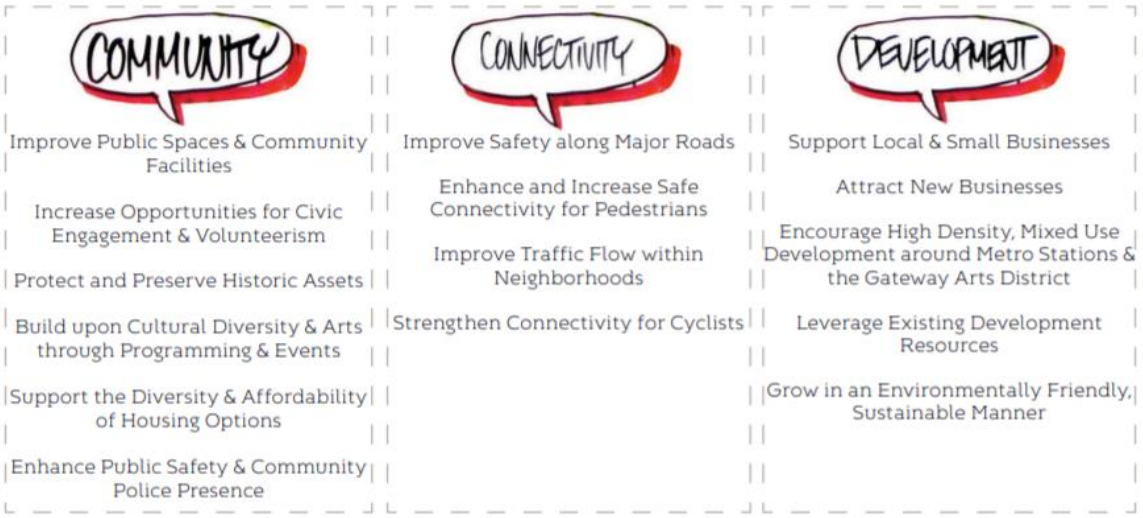
Sample Tactics:

- Targeted service expansion in ways that add high value.
- Walk and Bicycle Comfort Analysis.
- Targeted outreach to communities that historically have not engaged with the city.
- Improve street infrastructure (lighting, sidewalks, bike lanes, etc.) in certain areas.

Speak Up Hyattsville: The 2017 – 2021 Community Sustainability Plan (2017)—The vision for Speak Up HVL: The 2017 – 2021 Community Sustainability Plan is to create a thriving city, rounded in sustainability and inclusiveness, that advances the lives of its residents through the building of community, connectivity of people and places, and responsible development.

As shown in *Figure 2* below, connectivity is one of the three major themes for Hyattsville’s sustainability plan alongside community and development. This includes safety, connectivity, and traffic flow on County facilities.

Figure 2: Themes and goals from Hyattsville's 2017-2021 Community Sustainability Plan



Community Feedback Regarding Social and Cultural Sustainability

Based on comments from the group discussions, Table 4 displays the themes brought up by community members.

Table 4: Cultural/Social Sustainability Feedback and Strategies

Community Feedback Theme	Relation to Potential Cultural/Social Strategy
Unwanted road expansions	People-centric complete streets
Adding more bus shelters	Invest in high-quality transit connections
Increased bicycle and pedestrian facilities	Expand active transportation opportunities for physical and mental well-being
Increased transit service and multimodal connectivity	Invest in high-quality transit connections
Address and reduce aggressive/erratic driving	People-centric complete streets
Increase consequences for speeding/erratic driving	People-centric complete streets

Notable direct quotes relevant to social and cultural sustainability include:

- "Car centric culture, drivers are aggressive thinking they own road."
- "Ensure there is a walking path to every community near the Metro stations."
- "Stop mixing roads with high design speeds in areas that are dynamic and filled with pedestrians, shopping, turning vehicles, traffic signals, curb cuts etc. Prioritize either roads for vehicles to travel quickly or streets that are focused on community and people."

Suggested Practices for Social and Cultural Sustainability

Potential strategies for mitigating cultural and social impacts related to the transportation sector include:

- People-centric complete streets
- High-quality transit connections
- Expanded active transportation opportunities
- Regular community engagement

All of these interventions should first be implemented in the County's Neighborhood Reinvestment Areas and Equity Emphasis Areas (EEAs). These improvements are needed everywhere to foster cultural and social sustainability, but they are most urgently needed in the lowest income and most isolated communities. An equitable approach is one that invests more in

those who need more. This approach is also most sustainable in that it prevents disparities from widening further.

People-Centric Complete Streets

Complete Streets are streets designed and operated to enable safe use and support mobility for all users. Most roadways in Prince George's County were initially designed or have been altered over time to prioritize vehicles. This includes streets in the Local Centers and RTDs where cultural attractions, social events, and therefore, people are the main attraction rather than cars. This often means than pedestrians and cyclists feel uncomfortable moving around commercial, business, and arts districts and are therefore less likely to patronize businesses in these areas or spend extended periods of time in Local Centers and RTDs.

The following strategies could increase activity in Local Centers and RTDs in the County.

- Convert some parking spaces on high turnover main streets to loading zones, bus stops, and bicycle parking to serve more people with the same amount of space
- Widen sidewalks and narrow roadway cross-sections to prioritize space for people over cars in commercial districts, where traffic volumes are low, or where parallel vehicle routes exist
- Add shade trees, places to sit, water fountains, trash bins, and pedestrian-scale lighting – all things that are overlooked by motorists but critical for generating foot traffic, transit activity, and bicycle comfort
- Enhance pedestrian crossing facilities with countdown signals, leading pedestrian internals, and high-visibility crosswalks
- Use transportation infrastructure as community space in neighborhoods that lack parks and open space by reserving parking spaces for permanent parklets, by purchasing underutilized parking lots and paved areas for parks and playgrounds, and by offering an easy permit process for community groups to temporarily close streets for cultural events

High-Capacity Transit Network

Community feedback collected for Plan 2035 provides insight into some of the economic barriers that low-income communities face:

- "High commuting costs, combined with limited transit service and sprawling development patterns outside the Capital Beltway, have further exacerbated the cost of living in the County."
- "…the costs of childcare and transportation were barriers to employment as the costs could exceed participants' earning potential."

Car ownership is a deceivingly expensive endeavor, but without high-quality transit service, it is often the only option. This lack of options and the sprawling development pattern in the County trap people in poverty by combining high transportation costs with low-wage jobs. Bicycling and walking are not practical commuting options for medium- to long-distance trips. Transit can be a competitive alternative to a car when designed thoughtfully. Prioritizing implementation of the strategies in the Urban Street Design Standards throughout areas of the County with a strong pedestrian orientation will make these areas feel more vibrant and approachable for active mode users.

Expanded Active Transportation Opportunities

Car culture is one piece of a sedentary lifestyle that contributes to negative health outcomes and social isolation. Not only do walking and biking have associated health benefits, but they also facilitate social interaction and connect residents more closely with the streets, shops, community resources, and people around them. They are also both extremely affordable modes of transportation. Their downfall is a lack of facilities where people feel safe using these modes and substantial distances between residential neighborhoods and commercial districts.

The following strategies could increase biking and walking in the County, thereby improving health outcomes and social connection.

- Convert unused or underused rail and other infrastructure corridors into walking and biking paths
- Reduce roadway widths and add protected bicycle lanes and wider sidewalks
- Increase bicycle parking requirements for new developments and increase visibility of bicycle parking in commercial districts
- Improve wayfinding for bicyclists and pedestrians with travel time estimates to nearby destinations
- Incorporate bicycle safety classes into public school curriculum and offer bicycle safety classes at local community centers
- Expand Capital Bikeshare to other Local Centers and RTDs. In parts of the County further from DC, work with community organizations to offer low-cost, multi-day bicycle rentals, including for e-bikes and/or scooters
- Offer e-bike rebates for people who can show proof of selling or disposing of a vehicle
- Promote bike/walk to work and bike/walk to school days with local jurisdictions

Frequent Community Engagement

Disengagement and dissatisfaction with civic spaces, public agencies, and local government are nationwide challenges. Regular engagement through multiple platforms can go a long way in connecting residents with needed services, building support for upcoming projects, and creating a sense of ownership of County transportation choices and outcomes.

The following strategies could improve community engagement in the County.

- County transportation planners and operators should regularly attend existing community events (street fairs, sports events, farmers markets, etc.) to spread the word about services, discount programs, and new projects and to listen to residents' access and mobility concerns.
- Establish a social media presence for transit and roadway updates that people are excited to follow. The radio is not a good source of traffic and travel information for all residents and social media should increasingly be utilized to share information. To attract followers, the County should invest substantial resources in its social media communications program and use interactive content, such as contests, prizes, and quizzes to generate excitement.

Table 5: Summary of Suggested Strategies and Co-Benefits

Category	Strategy	Co-Benefits		
		Cultural/ Social	Fiscal	Environmental
Emissions Reduction: Electric Vehicle	Expand the electric vehicle charging network			X
	Set an EV market share goal for the County to support the State's goal of an additional 255,000 EVs by 2030			X
	Transition transit bus fleet to EV, including school buses	X	X	X
	Electrify County and public agencies fleets			X
	Identify and implement zero-emission truck corridors			X
	Plan for autonomous/connected vehicle technologies, which are typically EV			X
	Investigate and provide private vehicle electrification incentives and disincentives (e.g., rebate program)		X	X
	Create an EV carshare program for low-income communities	X		X
Emissions Reduction: Vehicle Miles Traveled (VMT) Reduction	Advocate for a vehicle carbon/gas tax or VMT tax	X	X	X
	Expand transit capacity and service	X		X
	Expand Transportation Demand Management strategies		X	X
	Expand bicycle, pedestrian, and micromobility system development	X	X	X
	Expand telework policies and programs	X	X	X
	Constrain cars in urban areas, limit major new road construction	X	X	X
	Limit roadway widening		X	X
	Implement congestion pricing that varies based on travel demands at different times of the day		X	X
Stormwater Management	Repair, enhance, or add stormwater systems during roadway construction projects, including resurfacing	X		X
	Eliminate waivers for stormwater management requirements	X		X
	Increase tree canopy coverage and raingarden systems with infill development, and roadway projects – ensure continued compliance with Green Complete Streets Program	X	X	X

Table 5: Summary of Suggested Strategies and Co-Benefits

Category	Strategy	Co-Benefits		
		Cultural/ Social	Fiscal	Environmental
	Prioritize climate resilient infrastructure to ensure stability of the transportation network over time and in response to changing climate conditions		X	X
	Where feasible, all critical infrastructure should be constructed outside the 500-year floodplain		X	X
	Access roads should be protected to at least the 100-year flood elevation or maximum flood reach, whichever is higher		X	X
	If not already in existence, prepare a hazard mitigation plan with a focus on improving roads and infrastructure to withstand flooding			X
Heat Reduction and Adaptation	Focus on infill development, TOD, and smart growth principle	X	X	X
	Improve intermodal freight center access			X
	Consolidate urban freight centers			X
	Increase tree canopy coverage to reduce heat island effects and support active transportation goals	X	X	X
	Follow land use decisions that support alternative modes of transportation	X		X
	Explore opportunities to co-locate community resilience hubs (including cooling centers and access to critical resources and information) at transit centers using solar arrays to provide clean, resilient energy	X	X	X
	Cover all surface parking with solar arrays		X	X
	Implement hydration stations at key transit hubs and along key active transportation corridors	X		X
	Develop extensive shade cover strategies in the places that are most subject to extreme heat and/or most exposed	X	X	X
Transportation Asset Management	Prioritize climate resilient infrastructure to ensure stability of the transportation network over time and in response to changing climate conditions		X	X
	Focus on maintenance improvements that have the highest demand for transportation system users and/or provide critical network connections	X	X	X
	Improve roadway efficiencies with Transportation System Management Operations (TSMO)		X	X

Table 5: Summary of Suggested Strategies and Co-Benefits

Category	Strategy	Co-Benefits		
		Cultural/ Social	Fiscal	Environmental
	Expand speed management on roadways to maximize safety and encourage walking and biking	X		X
	Incorporate green infrastructure elements that reduce heat and increase permeability	X		X
	Identify resilience-friendly federal funding streams and invest in asset management systems		X	X
People-Centric Complete Streets	Convert some parking spaces on high-turnover main streets to loading zones, bus stops, and bicycle parking to serve more people with the same amount of space	X		X
	Widen sidewalks in commercial districts and narrow roadway cross-sections where traffic volumes are low or parallel vehicle routes exist to prioritize space for people over cars	X		X
	Add shade trees, places to sit, water fountains, trash bins, and pedestrian-scale lighting – all things that are overlooked by motorists but critical for generating foot traffic, transit activity, and bicycle comfort	X		X
	Enhance pedestrian crossing facilities with countdown signals, leading pedestrian internals, and high-visibility crosswalks	X		X
	Use transportation infrastructure as community space in neighborhoods that lack parks and open space by reserving parking spaces for permanent parklets, by purchasing underutilized parking lots and paved areas for parks and playgrounds, and by offering an easy permit process for community groups to temporarily close streets for cultural events	X	X	X
High-Capacity Transit Network	Designate high-capacity transit corridors and routes between all 26 Local Centers and RTDs	X		X
	Implement transit priority and reliability measures along these corridors such as placing transit (buses or trains) in its own right-of-way, adding transit only-lanes or queue jumps at key pinch points, adding transit signal priority in congested urban areas, and allow buses to stop in-lane by constructing bus boarding islands	X	X	X
	Offer no less than 15-minute service frequencies on this high-capacity network during peak periods and no less than 30-minute service frequencies in off-peak periods	X		X
	Implement reliable real-time bus tracking service through an app as well as at transit stops/stations along this network	X		X
	Maintain well-lit shelters at all transit stops/stations along this network	X		X

Table 5: Summary of Suggested Strategies and Co-Benefits

Category	Strategy	Co-Benefits		
		Cultural/ Social	Fiscal	Environmental
	Focus new development along these corridors and require that it adhere to TOD design guidelines. Office developments should offer subsidized transit passes to employees	X	X	X
	Work with major event and entertainments venues and transit agencies in the Local Centers and RTDs to offer free transit passes with their event tickets	X	X	X
	Create special tax districts in the downtowns, employment hubs, and Innovation Corridor Hub to support TOD initiatives		X	X
	Evaluate commuter travel markets and expand commuter bus service as warranted. For markets with existing commuter bus service, focus on promoting the service so more people know about it and improving speed and reliability of these services	X		X
	Utilize Tax Increment Financing (TIF) at proposed convention, conference, and visitor centers nearby TOD		X	
Expand Active Transportation Opportunities	Convert unused or underused rail and other infrastructure corridors into walking and biking paths	X	X	X
	Reduce roadway widths where traffic volumes can fit into fewer travel lanes and add protected bicycle lanes and wider sidewalks	X	X	X
	Increase bicycle parking requirements for new developments and increase visibility of bicycle parking in commercial districts	X	X	X
	Improve wayfinding for bicyclists and pedestrians with travel time estimates to nearby destinations	X	X	X
	Incorporate bicycle safety classes into public school curriculum and offer bicycle safety classes at local community centers	X	X	X
	Expand Capital Bikeshare to other Local Centers and RTDs. In parts of the county further from DC, work with community organizations to offer low-cost, multi-day bicycle rentals, including for e-bikes and/or scooters	X	X	X
	Offer e-bike rebates for people who can show proof of selling or getting rid of a vehicle	X	X	X
	Promote bike/walk to work and bike/walk to school days with local jurisdictions	X	X	X

Table 5: Summary of Suggested Strategies and Co-Benefits

Category	Strategy	Co-Benefits		
		Cultural/ Social	Fiscal	Environmental
Frequent Community Engagement	County transportation planners and operators should regularly attend existing community events (street fairs, sports events, farmers markets, etc.) to spread the word about services, discount programs, and new projects and to listen to residents' access and mobility concerns	X		
	Establish a social media presence for transit and roadway updates that people are excited to follow.	X		