



Charles County Climate Action Plan (CAP) DRAFT Community Strategies



Charles County Climate Action Planning Overview

Between record heat waves, increasingly severe storms, flooding, drought, warming water temperatures, and the loss of the pollinator species that help cultivate our crops, it is becoming increasingly important that the County addresses our changing climate.

In order to ensure our resilience to the effects of climate change, reduce greenhouse gas (GHG) emissions, and sustain the health and vitality of Charles County, Charles County Government (CCG) is undertaking a Climate Action Planning (CAP) process for government operations as well as the broader community. We are seeking your assistance in creating a Climate Action Plan to guide government and community action towards a cleaner and more resilient future.

Government Operations: charting a path for our organization to lead by example through the reduction of operational greenhouse gas emissions and building the resilience of the assets and important resources that we manage.

Charles County Community: through interaction and collaboration with the community we will seek to identify ways to

prepare Charles County residents and businesses to adapt to a changing climate, while also reducing greenhouse gas emissions throughout the county.

Draft Community Strategies Overview

There are **107** strategies outlined in this document. The following page summarizes the number of strategies by resilience and GHG mitigation categories and provides quick links to the categories within the document.

Are the strategies final?

No, the strategies are not final. They are still open to discussion and refinement by the community and CCG. This might include adding, removing, editing, and streamlining the strategies.

How were the strategies developed?

The draft strategies were developed through ideas and input obtained from the following sources:



In-Person Meetings



Public Webinars



Survey Responses



Research & Analysis

Draft Community Strategies Quick Links

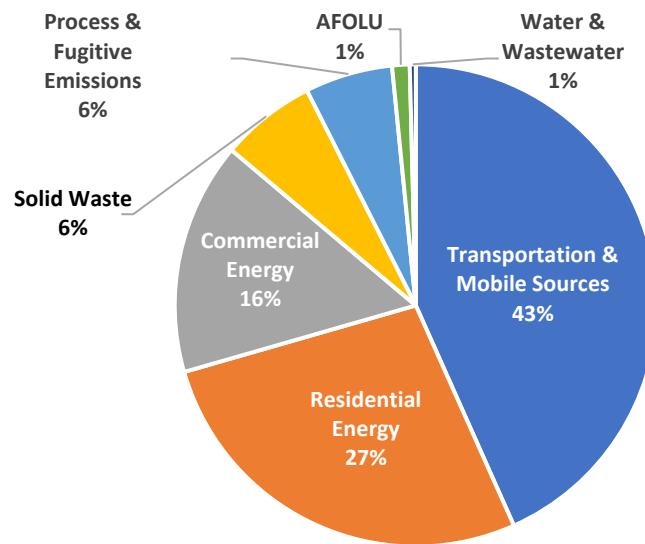
Draft Resilience Strategies

Category	# of Strategies
Built Infrastructure (BI)	7
Natural Infrastructure (NI)	2
Land Use (LU)	5
Planning, Policy & Management (PM)	9
Governance Capacity Building (GC)	7
Finance & Funding (FF)	2
Community Outreach (CO)	18
Total Resilience Strategies	50

Draft GHG Mitigation Strategies

Category	# of Strategies
Clean Transportation (CT)	23
Energy Consumption (EC)	12
Solid Waste (SW)	10
Agriculture Forestry & Land Use (AFL)	12
Total Mitigation Strategies	57

Charles County GHG Emissions Inventory (2018)



The inventory above was developed based on 2018 data provided by the Metropolitan Washington Council of Governments (MWCOG) and demonstrates where community-wide GHG emissions are coming from within the County.

Do the number of strategies by category correspond to GHG emissions reductions or resilience-building?

No, the number of strategies in each category is not necessarily indicative of their overall importance. Each strategy has been carefully considered to address specific aspects of either resilience or greenhouse gas mitigation. The goal is to create a comprehensive climate action plan that encompasses a variety of approaches to achieve the desired outcomes.

We Need Your Help!

Please find the DRAFT community-wide strategies available, below. We would appreciate your review and feedback on these strategies, as well as the DRAFT government operations strategies.

- **How to Provide Feedback:**

Please review the draft Community strategies below and then complete the Community CAP Strategies Feedback Form:

Community CAP Strategies Feedback Form:

<https://forms.office.com/r/Uy3ZeFwyYW>

In addition to the Community strategies found here, a list of Government Operations strategies and associated feedback form can be found on our Climate Action Plan webpage under “Draft Climate Action Strategies” (https://www.charlescountymd.gov/government/climate-action-plan/-fsiteid-1#/!).

- **What Else Can I do?**

Visit our website and sign up for our CAP Mailing List to learn more and to stay up to date on next steps:

<https://www.charlescountymd.gov/government/climate-action>

Draft Community Strategies—Resilience

Resilience - Built Infrastructure		
Issues / Areas of Concern		Potential Strategies
Development Standards	BI 1	Make open space a key consideration when procuring new property or redeveloping existing properties.
	BI 2	Review and propose potential improvements to existing special engineering and construction standards for development occurring on erodible soils, steep slopes, or areas requiring special geotechnical consideration.
Historic Properties	BI 3	Develop outreach programs targeted to historic property owners within hazard areas regarding hazard mitigation and disaster preparedness. Develop a post-disaster review process specific to historic properties.
Stormwater Infrastructure	BI 4	Develop priority list of County-owned stormwater infrastructure in known hazard areas in need of retrofit or repair. Identify areas where no stormwater infrastructure currently exists to prioritize.
Privately-Owned Stormwater Infrastructure	BI 5	Identify privately-owned stormwater infrastructure in known hazard areas or in known need of retrofit and repair. Engage private owners on best practices for increasing resilience of stormwater systems.
Private Property Flooding	BI 6	Identify assets for acquisition, elevation, or floodproofing in repetitive loss areas. Identify and support repetitive loss properties that could transition into community open space.
Development Standards	BI 7	Prevent overparking to help reduce impervious surfaces, mitigate urban heat island effects, and support more sustainable land use. Strategies may include facilitating shared parking arrangements and eliminating minimum parking requirements where appropriate.

Resilience - Natural Infrastructure		
Issues / Areas of Concern		Potential Strategies
Green Space Preservation	NI 1	Expand restoration programs to plant a diversity of tree and plant species in riparian areas.
Green Infrastructure	NI 2	Invest in nature-based green infrastructure—such as tree canopy, cool and green roofs, and permeable surfaces-- by requiring or incentivizing their integration into local projects. Support this by applying special construction standards for sensitive geotechnical areas, increasing the visibility of existing landscaping guides, developing new guidance where needed.

Resilience - Land Use		
Issues / Areas of Concern		Potential Strategies
Enhance Land Use and Conservation Mechanisms	LU 1	Use administrative tools (zoning, subdivision regulations, and environmental review) to guide conservation and mitigate development in vulnerable areas. This includes guiding development away from areas prone to flooding, storm surge, erosion, or other natural hazards through tools such as overlay resilience zones, including tree canopy requirements in development, offering density bonuses, etc.
Natural Resources and Open Space	LU 2	Protect and restore parks, wetlands, and floodplain areas to enhance flood control, recreation, and biodiversity benefits. Prioritize the planting of native plant species.
	LU 3	Investigate and implement shoreline management techniques, including land acquisition along the shoreline to reduce development pressure and erosion in flood-prone areas.
Urban Forestry	LU 4	Expand urban forestry programs and provide incentives to increase canopy cover, prioritizing communities with heightened vulnerability. Target tree planting in urban heat islands and areas of high social vulnerability. Identify specific locations within these priority action areas for implementation as soon as resources become available.
Stormwater Management	LU 5	Identify and implement stormwater management and drainage improvements in flood-prone areas for county-owned stormwater infrastructure, including historic districts, to enhance resilience.

Resilience - Planning, Policy, & Management		
Issues / Areas of Concern		Potential Strategies
Emergency Services during Heat Waves	PM 1	Develop evacuation and emergency plans tailored to vulnerable populations, including providing safe routes, additional emergency shelter beds, and critical access points for clean-up, transportation, and medical care for socially vulnerable populations.
	PM 2	Use the results of the extreme heat vulnerability assessment to identify populations and neighborhoods most at risk from heat-related health impacts. Develop targeted engagement programs to better understand community experiences with extreme heat and collaboratively identify solutions that improve resilience and reduce health risks.
Hazard Prone Development	PM 3	Restrict development in the 100-year floodplain and other hazard-prone areas (which could include the 500-year floodplain), ensuring regulations align with climate adaptation needs, including setbacks and vegetated buffers. This includes Capital Improvement Plans and programmed infrastructure improvements.
	PM 4	Ensure new construction and programmed infrastructure improvements avoid high-hazard areas and are designed to withstand natural hazards.
Stormwater Management	PM 5	Develop regulatory or design stormwater standards for private developers that account for future climate conditions and reduce runoff impacts.
	PM 6	Prioritize countywide stormwater projects in the Capital Improvement Plan process. For stormwater projects, emphasize innovative solutions such as soil stabilization, erosion control, and water flow management, especially for historic properties and other vulnerable areas.
Natural Resources and Open Space	PM 7	Incorporate climate projections, such as SLR and precipitation changes, into green space management and design practices to maintain ecological health and resilience.
Food Islands	PM 8	Utilize existing mapping of food islands and food deserts to develop a plan for addressing barriers to food access across the County. Plan strategies could include increasing connectivity to grocery stores and incorporating edible planting and urban foraging opportunities.
Multi-Jurisdictional Planning	PM 9	Expand the existing regional climate resilience planning process by helping to develop a coordinated multi-jurisdictional project portfolio and action strategy.

Resilience - Governance Capacity Building		
Issues / Areas of Concern		Potential Strategies
Wildfire	GC 1	Support development of Firewise Communities in partnership with County emergency management and community stakeholders.
Extreme Heat	GC 2	Support residents' access to cooling solutions by considering expansion of programs to distribute fans and AC units to residents and increase funds for utility assistance.
Emergency Services During Disasters	GC 3	Coordinate efforts among emergency services (police and fire departments) with the Red Cross to develop disaster preparedness kits.
	GC 4	Install dry hydrants at reliable water supplies in rural areas.
Community Outreach	GC 5	Develop a communication protocol that includes best practices for communicating on climate and health. Develop metrics to measure the effectiveness of outreach efforts with diverse communities.
Flood Monitoring	GC 6	Identify sites that are vulnerable to flooding and add flood gauges.
Extreme Weather and Commercial Properties	GC 7	Emergency Management partner with County and community-wide stakeholders including County departments of Economic Development and Human Resources and local business leaders to develop a program for service continuity during and after extreme weather events.

Resilience - Finance and Funding		
Issues / Areas of Concern		Potential Strategies
Extreme Heat and Energy Use	FF 1	Develop incentives for passive construction techniques of affordable housing that will be specifically designed for natural cooling to minimize the need for air conditioning and resultant energy use.
Funding Mechanisms	FF 2	Pursue creative financing strategies by evaluating multiple funding mechanisms to support resilience projects such as changes to capital improvement programs.

Resilience - Community Outreach		
Issues / Areas of Concern		Potential Strategies
Public Awareness of Climate Threats	CO 1	Support engagement of the public on climate risks, with an emphasis on potentially vulnerable populations and a goal to build public awareness about natural hazard risks, preparedness, and mitigation. Where possible, integrate public outreach campaigns with existing public engagement processes developed by local jurisdictions.
	CO 2	Promote tree planting at the neighborhood level. Distribute information on Maryland's 5 million trees initiative. (5MT). Consider social equity when prioritizing neighborhood outreach.
	CO 3	Continue to introduce environmental education programs in schools, park and recreation departments, conservation associations, and youth organizations to identify and capitalize on opportunities to enhance existing parks and recreation opportunities.
	CO 4	Publish climate readiness materials in languages are most prevalent in Charles County.
Extreme Cold	CO 5	Partner with community groups to proactively reach out to vulnerable people before and during extreme weather. Develop comprehensive outreach and resource programs that provide adequate clothing and knowledge for homeless populations to deal with being out in extreme cold and extreme weather events.
Extreme Heat	CO 6	Establish heating and cooling centers in areas with vulnerable populations and link them to outreach projects to encourage use.
Urban Green Space and Urban Agriculture	CO 7	Collaborate with community-based organizations to develop or expand urban greening and urban agriculture programs and advertise installations as visible examples meant to inspire individual action and community participation.
Urban Green Space and Urban Agriculture	CO 8	Publish educational materials highlighting the benefits of native grasses, shrubs, and trees over traditional turf grass and providing context-specific guides for appropriate tree planting, to be provided when citizens have Critical Area compliance requirements.
Resilience Hubs	CO 9	Develop a process for identifying potential locations for resilience hubs around the county that consider proximity to climate hazards and vulnerable populations. Develop plan for engaging with local communities to plan for resilience hubs. Work with the community to identify trusted community resources for compatibility as resilience hubs.

Resilience - Community Outreach		
Issues / Areas of Concern		Potential Strategies
Private Property Flooding	CO 10	Target the homes that are within the dam inundation areas to advise homeowners of risks to life, health, and safety. Assist with emergency evacuation plan development working with existing property owners.
	CO 11	Increase awareness of homes that lie in the flood zone for prospective home buyers and residents by posting a link to the County's website that provides property-specific flood zone information. Develop a public outreach effort (e.g. postcard campaign) to connect homeowners and business owners to funding resources that will support private resilience actions and projects.
	CO 12	Educate HOAs and developers on their long-term responsibilities for maintaining private stormwater infrastructure and the benefits of incorporating green infrastructure into developments. Provide practical tools such as maintenance checklists, retrofit guidance, and recognition programs to support ongoing stewardship and reduce local flood risk.
Vulnerable Populations	CO 13	Ensure that all government-employed outdoor workers have adequate protection from extreme conditions, and that healthy and safe working conditions are maintained. For privately employed outdoor workers, engage with and support employers and employees to determine what resources would be useful (e.g. educational campaigns).
	CO 14	Identify communities with highest climate vulnerability and assess the potential to establish resilience hubs in those communities.
Arts and Culture	CO 15	Use arts, music, cultural heritage, and storytelling to engage people in conversations about climate risk and resilience and build social cohesion.
	CO 16	Develop outreach and education to assist non-profits with the development of disaster plans to help protect irreplaceable museum collections that might be impacted by hazard events.
Disaster Preparedness	CO 17	Ensure evacuation information is readily available for entire county. Send news releases to local newspapers, radio, and TV stations with pre-disaster information while attempting to reach all areas of Charles County.
Natural Resources and Water Management	CO 18	Promote water conservation activities in homes and businesses; Adopt a water conservation ordinance.

Draft Community Strategies—Greenhouse Gas Reduction (Mitigation)

Mitigation - Clean Transportation (43% of community emissions)		
Issues / Areas of Concern		Potential Strategies
Transition on-road light duty vehicles to electric Level of Implementation Needed to Reach Overall GHG Goal: 17% of vehicles driving in the county are electric in 2030, and 98% are electric in 2050. Aligned with state Advanced Clean Cars II goals: 100% of new passenger cars and light trucks sold in the state be zero-emission vehicles (ZEVs) by model year 2035.	CT 1	Increase equitable access to charging stations for electric vehicles.
	CT 2	Update building code requirements (Zoning Ordinance, Building Code, etc.) for new construction to include EV readiness such as charging in parking spaces and future proofing- running conduit and wires.
	CT 3	Leverage COG's EV charging assessment to support targeted outreach and engagement with private industry, promoting collaboration and investment in local charging infrastructure.
	CT 4	Identify and prioritize rural locations for EV charging stations to ensure equitable access and maximize environmental and community benefits.
	CT 5	Create financial incentives or encourage hybrid and fuel-efficient vehicles in the community.
	CT 6	Hold educational events to allow residents to become more familiar with and to test drive electric vehicles.
	CT 7	Support public and business access to state and federal funding (e.g., EPA Clean Heavy-Duty Vehicle Program).
	CT 8	Install high-capacity charging stations along alternative fuel corridors, near industrial zones, and near logistics hubs.

Mitigation - Clean Transportation (43% of community emissions)	
	CT 9 Update zoning codes to support walkable, transit-oriented communities by prioritizing infill development and revitalizing underutilized areas to create new opportunities for housing and reduce sprawl. Ensure that affordable housing is a part of this mix in accordance with the future Affordable Housing Plan.
	CT 10 Adopt Complete Streets design standards that prioritize safe, accessible infrastructure for all users—pedestrians, cyclists, transit riders, and drivers—by incorporating features like sidewalks, bike lanes, crosswalks, curb bumpouts, and traffic calming measures such as narrower lanes, while tailoring designs to fit both urban and rural contexts.
Reduce total vehicle miles traveled and congestion Level of Implementation Needed to Reach Overall GHG Goal: Reduce total vehicle miles 10% per capita by 2035 (MD-20% per capita by 2050)	CT 11 Promote the availability and awareness of commute alternatives by supporting and expanding programs such as carpool matching, vanpool coordination, and guaranteed ride home services—many of which are already offered through the Tri-County Council for Southern Maryland-- as well as the Commuter Choice Program from COG and the Maryland Commuter Program.
	CT 12 Enhance VanGO transit by expanding service frequency and route coverage, upgrading infrastructure for safety and accessibility, promoting inclusive rider education and outreach, and ensuring year-round, equitable access to essential destinations.
	CT 13 Improve accessibility of neighborhoods by expanding and connecting the sidewalk network to key community destinations such as schools, parks, transit stops, healthcare facilities, and commercial centers.
	CT 14 Enhance the safety and accessibility of public transit by upgrading bus stops to include shelters with lighting, visibility, and protective design features, and by integrating these improvements into routine transit infrastructure planning to support walk-to-transit trips.

Mitigation - Clean Transportation (43% of community emissions)		
<p>Reduce total vehicle miles traveled and congestion</p> <p>Level of Implementation Needed to Reach Overall GHG Goal: Reduce total vehicle miles 10% per capita by 2035 (MD-20% per capita by 2050)</p>	CT 15	Create a vibrant, walkable downtown atmosphere along the Waldorf Urban Corridor by supporting community and government-led projects—such as road painting, tree planting, sidewalk upgrades, and traffic calming.
	CT 16	Conduct a VMT study to understand the source of vehicle trips in the County between local or commute.
	CT 17	Consider strategies that leverage Intelligent Transportation Systems (ITS) to reduce vehicle idling times along high-traffic corridors. This may include evaluating the potential for dedicated bus lanes and High-Occupancy Vehicle (HOV), ITS technologies such as adaptive signal control, real-time traffic monitoring, and dynamic lane management.
	CT 18	Provide bicycle parking at transit hubs and introduce public bikeshare or rental facilities throughout the County to support first- and last-mile connectivity.
	CT 19	Promote active transportation through education and community engagement including developing and distributing user-friendly maps, digital tools, and signage, as well as organizing educational programs, safety workshops, and community events such as “Bike to Work Day” or “Walk and Roll” campaigns. Post full bus route map at libraries and other high-traffic facilities along bus routes.
	CT 20	Integrate bicycle infrastructure and policy considerations into transportation planning through development of a Transportation Master Plan, targeted outreach to bicyclists during roadway and corridor planning processes and using data-driven tools to identify gaps and opportunities.
	CT 21	Engage youth in sustainable transportation through active mobility and transit education. Partner with schools and/or local law enforcement to deliver biking workshops that promote physical activity, safety, and environmental awareness. Launch programs that teach children how to navigate public transit systems, encouraging independent use and fostering long-term ridership habits within families.
	CT 22	Support a low-carbon economy by attracting target industries identified in the 2018 Charles County Workforce Study, fostering local employment opportunities that reduce long commutes, support infill development, and strengthen the county’s economic resilience.

Mitigation - Energy Conservation & Emissions Reduction (Commercial & Residential Energy Use 43% of community emissions)		
Issues / Areas of Concern		Potential Strategies
Transition to clean electricity	EC 1	Expand and promote solar cooperative programs that allow residents and small businesses to install on-site solar with simplified process and discounted price.
Level of Implementation Needed to Reach Overall GHG Goal: Transition electric generation to 100% clean generation by 2035 (aligned with state goal).	EC 2	Launch a county-wide initiative to install battery energy storage systems and microgrids at critical facilities and incentivize adoption in homes and businesses to enhance resilience and support clean energy goals.
Transition residential buildings to heat pumps	EC 3	Conduct trainings for HVAC contractors who work on residential buildings, so they are familiar with installation and maintenance of heat pumps and communicating benefits to customers.
Level of Implementation Needed to Reach Overall GHG Goal: Transition all new residential buildings and 5% of existing buildings each year to heat pumps (50% converted by 2035).	EC 4	Use county communication channels to educate residents about available state and utility incentives (as applicable) for conversion to heat pumps.
Transition commercial buildings to heat pumps	EC 5	Conduct trainings for HVAC contractors who work on commercial buildings, so they are familiar with installation and maintenance of heat pumps and communicating benefits to customers.
Level of Implementation Needed to Reach Overall GHG Goal: Transition all new commercial buildings and 5% of existing buildings each year to heat pumps. (50% by 2035)	EC 6	Communicate through business associations and Chamber of Commerce about available state and utility incentives (as applicable) for conversion to heat pumps.
Support sustainable business practices	EC 7	Provide technical assistance to developers and businesses on green building and renewable energy technologies.
	EC 8	Promote green business practices through the development of a Green Business Partners Program.
	EC 9	Make available network of contractor contacts for green building retrofit/energy audits/green technologies.
Encourage energy efficiency across the County	EC 10	Explore ways to implement green building standards into policies and regulations such as adoption of minimum energy performance standards or mandatory performance improvement targets.
	EC 11	Promote energy conservation through campaigns targeted at residents and businesses including residential energy audits and through promotion of SMECO's Home Energy Improvement Program.

EC 12

Promote weatherization of commercial and residential properties.

Mitigation – Solid Waste (6% of community emissions)		
Issues / Areas of Concern		Potential Strategies
Increase Recycling Level of Implementation Needed to Reach Overall GHG Goal: Reduce waste 35% through recycling.	SW 1	Provide recycling at parks and recreation facilities and sites where high amounts of plastic drink bottles are generated.
	SW 2	Mandate digital recycling reports from commercial entities, enforce compliance through audits and fines, and reward top performers with public recognition.
	SW 3	Work with the state to support the Beverage and Litter Reduction Bill (HB 232) Redemption Rate Goals: - 70% redemption rate by December 31, 2029. - 90% redemption rate by December 31, 2032. Refillable Container Target: By December 31, 2035, at least 10% of all beverage containers sold in the state must be returned and refilled.
	SW 4	Expand education to the public and private businesses about existing recycling programs to boost compliance.
Divert Organic Waste from landfills Level of Implementation Needed to Reach Overall GHG Goal: Divert/reduce 30% of organic material that currently goes to landfill by 2030 (60% by 2045)	SW 5	Explore private composting partnerships or establish a county-run organic composting facility, ensuring equitable siting and robust community input, while assessing and adapting existing recycling and refuse drop-off sites to serve as accessible community food waste composting locations.
	SW 6	Ensure composting access for multifamily housing by installing convenient compost drop-off sites and publishing a public, multilingual map of all available public and private composting locations.
	SW 7	Work with the state to support a bill requiring organic waste diversion quotas like recycling to help spur investment in composting and make it cost-effective.
	SW 8	Develop a digital tool or website that educates and guides residents on backyard composting, helping reduce organic waste and greenhouse gas emissions.
Work to reduce waste at the source	SW 9	Encourage the use of reusable bags by implementing store-wide incentives and educational signage, while discouraging plastic bags; explore implementing a plastic bag ban.
	SW 10	Work with larger food waste generating businesses (restaurants, food processing, grocery stores) to reduce/divert waste following EPA wasted food scale.

Mitigation - Agriculture, Forestry, and Other Land Use		
Issues / Areas of Concern		Potential Strategies
Maintain and enhance county tree canopy. Level of Implementation Needed to Reach Overall GHG Goal: Stop the loss of tree canopy and increase tree canopy in the county 5% by 2043.	AFL 1	Explore policy options to limit the removal of existing tree canopy for new developments and protect mature shade trees.
	AFL 2	Maintain healthy urban forests and street trees by integrating tree preservation and planting requirements into development codes, prioritizing native and climate-resilient species, and investing in proactive maintenance programs such as pruning, disease management, and canopy monitoring.
	AFL 3	Promote community tree-planting and maintenance events, resident adoption and care for street trees, schoolyard reforestation projects that engage students in planting shade trees and pollinator gardens, partnerships with faith-based and civic groups to plant trees on community-owned land, and corporate volunteer days where local businesses sponsor and participate in tree-planting activities.
	AFL 4	Implement sustainable landscaping campaigns that encourage eco-friendly yard practices such as native plantings, reduced pesticide use, and water conservation.
	AFL 5	Use zoning powers to protect or increase open space.
	AFL 6	Review and revise County code to remove barriers to community gardening and develop a parallel program to support and incentivize Homeowners Associations (HOAs) in establishing shared garden spaces, promoting local food production, green space access, and community resilience.
	AFL 7	Encourage/expand community gardening program through engagement and outreach with-community organizations.

Mitigation - Agriculture, Forestry, and Other Land Use		
Enhance community spaces	AFL 8	Promote greenmarkets and local food markets, especially in areas underserved by grocery stores.
	AFL 9	Continue or enhance support for social service programming for vulnerable communities and individuals including coordinating an annual community resource event.
	AFL 10	Promote Community Supported Agriculture (CSA) programs through storytelling, sign-up drives, and educational events that celebrate agricultural heritage and highlight CSAs' role in advancing food justice and local sustainability.
	AFL 11	Develop a dedicated page on the County Administrator's website to showcase local environmental organizations to foster community engagement and collaboration.
	AFL 12	Create a vibrant, walkable downtown atmosphere along the Waldorf Urban Corridor by supporting community and government-led projects—such as road painting, tree planting, sidewalk upgrades, and traffic calming.