Urban Environmental Sustainability Chapter **Nov 2018**

Vision

Charlottesville will be a "Green City," with clean and healthy air and water, sustainable neighborhoods, ample open space and natural areas that balance increased development and density in residential and economic centers, and walkable, bikeable, and transit supportive land use patterns that encourage healthy lifestyles and low carbon footprints.

Water Resources Protection

Goal 1: Value the Rivanna River as a major natural asset with unique waterfront opportunities.

1.1: Promote a harmonious balance of riverine ecosystem services, recreation, and development that supports health, safety, and prosperity.

1.2: Restore the Rivanna River to a healthy condition within our ecosystem through improvement of habitat, watershed health and water quality.

1.3: Develop an action-oriented Rivanna River Corridor Plan in conjunction with Albemarle County.*

1.4: Ensure that planning for future land and recreational uses along the Rivanna River adequately protects water quality.

1.5 Improve regional access to the river and increase housing opportunities within walking distance while maintaining a significant buffer to maintain stream health.

Goal 2: Protect, enhance, and restore the integrity of the City's water resources.

2.1: Continue to implement the Water Resources Protection Program (WRPP) to meet a range of water resources goals and challenges; including regulatory compliance, stormwater conveyance infrastructure rehabilitation, drainage issues, and water quality stewardship.

2.2: Implement the Water Resources Master Plan capital improvement programs (CIPs) to make drainage and water quality improvements and comply with federal and state-mandated pollutant reductions required as part of the Chesapeake Bay Total Maximum Daily Load (TMDL).

2.3: Repair, enhance, and maintain the City's stormwater management and conveyance infrastructure, utilizing green stormwater infrastructure (GSI) where practicable.

2.5: Explore the appropriateness of watershed scale compliance strategies to meet project and site specific stormwater management regulatory requirements without exacerbating adverse impacts to waterways with existing water quality impairments.

2.6: Reduce loss of open waterways and associated natural habitats by discouraging additional underground piping of city streams; encouraging daylighting of piped streams.

2.7: Educate, encourage, and incentivize property owners to implement water resources stewardship practices, with a focus on retrofitting sites that lack adequate stormwater treatment.

2.8: Provide technical assistance and educational outreach regarding water resources stewardship for private property owners.

2.9: Collaborate and cooperate with Rivanna watershed stakeholders, including Albemarle County, University of Virginia, residents, businesses, developers and community groups focusing on watershed and stormwater management, including education and outreach efforts

2.10: Continue public acquisition of natural areas along waterways to enable management strategies that protect water and habitat quality.

Resilient Local Food System

Goal 3: Increase resiliency of and opportunities for local food systems and urban agriculture.

3.1: Evaluate recommended standards for open space and how those could be implemented to support urban agriculture production and food availability, especially to low income populations.

3.2: Promote and protect green and urban agriculture spaces distributed throughout the city for the sustainable production of locally grown foods or community gardens; leverage resources with local partners.

3.3: Define a process to allow for expanded community and shared gardens.

3.4: Promote sustainable resource strategies for urban agriculture (e.g., nutrient inputs, efficient irrigation).

Urban Landscape & Habitat Enhancement
Goal 4: Pursue healthy, interconnected urban ecosystems that that deliver valuable ecosystem services.

4.1: Use green infrastructure to improve stormwater management, flood mitigation, air and water quality, habitat, connectivity, livability, and aesthetics.

4.2: Improve stream and vegetated buffer conditions to increase wildlife and aquatic habitat, groundwater recharge and stream base flow, decrease stream temperature, provide a food source for aquatic organisms, improve water quality by decreasing sedimentation, and improve environmental aesthetics.

4.3: Promote and participate in programs to establish conservation or open space easements of forested stream-side lands to ensure permanent protection in particular those that prioritize

protect or improve water quality flooding impacts, and provide recreational amenities accessible by foot, bicycle, and/or transit.

Goal 5: Promote practices that contribute to a robust urban forest.

5.1: Continue to implement the Urban Forest Management Plan to protect quality of air, water and lands, manage stormwater, provide shading and absorb CO2 including addressing invasive species, diversity, and distribution.

5.2: Monitor and protect and expand the urban tree canopy cover both at the citywide level and at the neighborhood level and to inform planning and management.

5.3: Include trees, as practicable, in all city priority streetscape plans (e.g., framework streets, safe routes to school, Strategic Investment Areas); work to preserve existing healthy trees whenever streets are modified.

5.4: Develop methods, including financial incentives, to support retaining and increasing healthy tree canopy on private lands.

5.5: Study site plan requirements to update them with increased tree protection elements.

5.6: Use the 2017 Green Infrastructure Possible Planting Areas analysis to inform efforts aimed at tree planning opportunities.

5.7: Manage and expand the urban forest as an environmental justice solution to provide equity among all demographics and communities across the City.

Goal 6: Support diverse native plant communities and wildlife habitats as a core function of the urban landscape.

6.1: Continue public stewardship of city lands and associated habitats through showcase conservation and improvement projects and education.

6.2: Plant and promote use of regionally-adapted, native, and drought tolerant plants, including as part of turf-to-forest conversions and pollinator gardens.*

6.3: Support the conservation of local and regional biodiversity, and promote the protection and enhancement of natural plant communities and wildlife habitat.

6.4: Manage invasive plant and animal species in support of healthy native plant and animal communities.

GHG Emissions and Energy

Goal 7: Reduce community greenhouse gas (GHG) emissions and the overall carbon footprint, thereby safeguarding human and planetary health.

7.1: Set an ambitious GHG emissions reduction goal in line with the Paris Climate Agreement; establish intermediate goals to be tracked via regular updates to the GHG emission inventory.

7.2: Per the commitments made by joining the Compact of Mayors (now merged with Global Covenant of Mayors for Climate and Energy) in 2017, publically report GHG inventory data for the city as well as climate hazards and vulnerabilities faced by the city, set a GHG emissions reduction goal, and develop a climate action plan to address climate change mitigation and adaptation.

7.3: Develop a climate action plan and GHG emissions reduction goal that spans community sectors, geographic boundaries, and emissions sources (i.e., energy use, waste, and transportation) and engages a diverse group of stakeholders

7.4: Develop a climate action plan that acknowledges the inherent integration of city and county infrastructure (e.g., transportation planning) and the need for cohesive plans.

7.5: City government should lead by example on implementing emissions reduction strategies and actively engage with key community sectors including residential, commercial, and institutional on action and education strategies.

7.6: Improve energy performance of existing buildings community-wide which, in aggregate, present greater opportunity as compared to new buildings; leverage resources with local partners.

7.7: Promote effective and innovative energy and fuel management in both City and community buildings and operations.

7.8: Pursue and promote cleaner sources of electrical energy (e.g., renewable energy strategies).

7.9: Encourage new development to design, construct, and operate with a reduced emissions footprint by encouraging high performance, green buildings, green sites, and green neighborhood standards and practices such as the U.S. Green Building Council's (USGBC) LEED certification program, Earthcraft, Energy Star, or other similar systems.

7.10: Promote compact block and street networks and a built environment that facilitates walking, biking, and bus riding to diminish reliance on single occupancy vehicles and reduce GHG emissions.

7.11: Reduce vehicle-related emissions through increased fuel efficiency, reduced vehicle miles traveled, fleet downsizing, anti-idling efforts and use of alternative fuel sources.

7.12: As appropriate, create policy and financial incentives to encourage increased building and site performance that reduce GHG emissions and the city's overall carbon footprint.

Water Conservation

Goal 8: Promote and implement citywide water efficiency.

8.1: Continue evaluating water use in city buildings and other operations to identify conservation opportunities.

8.2: Maintain an extensive community focused outreach campaign through education and incentive programs to maintain or further decrease average consumption.

8.3. Explore opportunities with community partners to accomplish water efficiency.

Materials Recovery and Waste Management

Goal 9: Promote and implement strategies for sustainable materials management to decrease environmental impacts, including greenhouse gas emissions.

9.1: Continue to explore opportunities to expand public and private recycling (including appliance collection), composting, source reduction, other waste stream diversion, and other waste management innovations.

9.2: Maintain lines of communication with neighborhood and business associations, major employers and representatives of high density housing districts so that solid waste management services are adaptably delivered to promote economic development, enhanced walkability, public health and safety, landfill diversion, and compliance with all federal and local requirements.

Goal 10: Support other goals and objectives within the Comprehensive Plan whose co-benefits align with and further Urban Environmental Sustainability priorities and the Green City vision.