

Climate Adaptation and Resiliency Actions / Strategies

DRAFT

1. Continue Existing Adaption and Resilience Activities

- Extreme Heat
 - Heat Emergency Notifications & Provide Emergency Cooling Centers
 - Cooling and Energy Assistance
 - Increasing Tree Canopy and Enhancing Open Space
- Flooding
 - Flood Hazard Mitigation Projects Underway
 - Stormwater Utility Fee
 - Community Rating System

2. Enhance Equity in Climate Adaptation and Resilience Planning and Actions

- Incorporate equity into ongoing climate adaptation and resilience planning and actions by centering the following guiding principles:
 - Focus on root cause of inequality
 - Balance power dynamics among the City, stakeholders, and residents
 - Foster a sense of belonging for all
 - Empower and prepare climate vulnerable groups
- Proactively evaluate and address systemic inequalities by considering communities at greatest risk and distribution of resources related to climate adaptation and resilience.

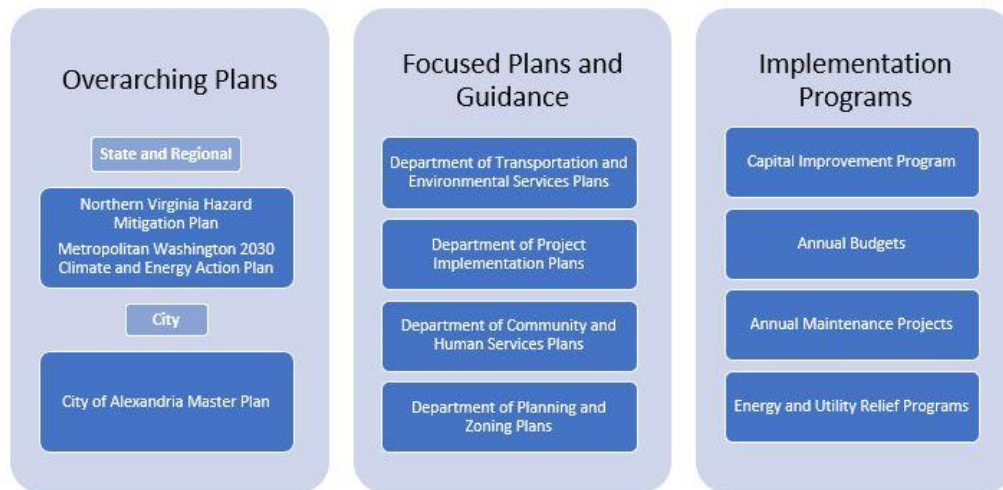
3. Integrate Climate Change in Municipal Decisions and Activities

- Review Existing City and State Plans, Programs, and Activities
 - **Capital Improvement Programs** across the City will be reviewed to assess whether climate resilience initiatives may be folded into these programs. Additional details regarding the integration of resilience into capital planning are in this report.
 - **Annual budgets**, including those allocated to Alexandria City Public School, should be reviewed and modified as needed to accommodate climate resilience needs, such as those related to awareness and educational programs to inform community members of priority climate hazard impacts and resources. For example, the ACPS could reinstate their sustainability ambassadors program who

could focus on increasing climate resilience and suitability within each school and across the school-system.

- **Annual maintenance projects**, like annual sidewalk and paving programs may benefit from expanded budgets to include lighter pavement treatments and additional tree planning provisions to combat extreme heat. This work currently is coordinated and managed by T&ES Public Works Service (PWS).
- **Energy and utility relief programs**, as well as social aid programs that indirectly alleviate the financial burden of internal heating, cooling, and weatherization costs on residents may be expanded and improved to target a greater number of specifically vulnerable demographics. This expanded program could be managed through the Alexandria Redevelopment and Housing Authority.

Figure 14: Examples of the City's Plans and Programs that may Enhance Climate Resilience



- Develop an Internal Working Group for Climate Impacts

Priority Responsibility/Action	How will the Internal Working Group (IWG) achieve this priority responsibility/action?
<i>Cross-Collaboration across City Departments</i>	<ul style="list-style-type: none"> • Meet quarterly to focus attention on relevant City departments and their climate resilience roles and responsibilities • Draw on the ECCAP and regional climate resilience plans to establish quarterly and annual objectives for city departments to report on
<i>Review of Capital Improvement Plans to Determine Gaps</i>	<ul style="list-style-type: none"> • Review capital improvement plans and identify areas in which climate resilience could be incorporated • Provide recommendations for City Council to address these gaps, and provide early notice of adaptations or changes to long-range capital improvement plans
<i>Establishing a Framework for External Collaboration</i>	<ul style="list-style-type: none"> • Incorporate external stakeholders at quarterly meetings from city-wide non-profits, organizations, public programs, or other relevant stakeholders

	<ul style="list-style-type: none"> • <i>Circulate a report on updated City initiatives regarding climate hazards to relevant stakeholders and community members for public comment</i>
<i>Develop Short-Term Adaptation Strategies</i>	<ul style="list-style-type: none"> • <i>Implement short-term adaptation projects to deal with extreme heat, such as expansion of cooling centers and shade structures</i> • <i>Develop adaptation projects and relief programs for prioritized environmental justice communities as identified in this report’s heat vulnerability assessment</i>

- Identify Innovative Financing Mechanisms; identify key decision makers; seek out opportunities to engage with external stakeholders; consider conducting return on investment (ROI) analyses; articulate the cost savings of climate adaptation and resilience infrastructure and programs
- Integrate Climate Adaptation and Resilience into Capital Planning
 - Identifying project needs
 - Identify whether projected climate changes and impacts may create a need for capital investments
 - Identify whether climate change may enhance existing capital needs identified regardless of climate change
 - Consider impacts of the project on climate resilience as part of the project prioritization process
 - Consider impacts to and needs of vulnerable populations in project identification and prioritization
 - Identify opportunities for projects in coordination with regional partners
 - Evaluating and Designing Capital Projects
 - Develop a high-level screening guidance or tool
 - Develop climate resiliency design guidelines and general standards
- Lead by Example in Infrastructure Resilience

<i>Example Activities</i>	<i>How will the City Lead by Example within Infrastructure Resilience Projects?</i>
<i>Annual Roadway Maintenance</i>	<ul style="list-style-type: none"> • <i>When resurfacing roads, the City could consider using materials that are less likely to buckle or soften due to extreme heat or choose materials that are more reflective to reduce the urban heat island effect.</i>
<i>Building Rehabilitation and Renovations</i>	<ul style="list-style-type: none"> • <i>When installing new roofs, incorporate white or light sealant options to reduce radiative heating of building and extreme heat impacts.</i>
<i>Rehabilitating Stormwater Infrastructure</i>	<ul style="list-style-type: none"> • <i>When installing or replacing stormwater infrastructure, the City may factor in the projected increase in storm intensity and design drainage with greater capacity for future conditions</i>

<i>Budgeting for Operations and Maintenance of Public Facilities</i>	<ul style="list-style-type: none">• <i>Given climate events of greater intensity and frequency, the City will consider implications to budgets for operations and maintenance of capital assets.</i>
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4. Implement Strategies to Adapt to Extreme Heat

- Reduce Impact of Extreme Heat and Heat Island Effects
 - Establish Cool Roof and Pavement Programs; work to promote and implement lighter paving materials
 - Expand Waste Heat Reduction Programs; plan and implement programs in which industrial and commercial sites will reduce waste heat from industrial processes or commercial building systems
 - Expand and Incentivize Urban Greening; implement new vegetated parks and open space; development of financial incentives; establishing public-private partnerships to expand urban greening; implementation of green stormwater infrastructure
- Enhance Heat Management Programs
 - Expand Heat Relief Programs for Vulnerable Residents; expand and tailor these energy assistance services; conduct a resident survey
 - Address Personal Exposures to Heat; will identify schools throughout the City that are deficient in adequate cooling mechanisms; incorporate training programs for City staff working outdoors; identify public transportation hubs and facilities that require additional cooling mechanisms
- Heat Coordination
 - Establish a Heat Preparedness Program; election of Heat Ambassadors who may represent specific neighborhoods around the City
 - Develop an Extreme Heat Incident Response Plan
 - Coordinate Regionally for heat preparedness planning and response

5. Implement Flooding Hazard Adaptation Strategies

- Flood Reduction
 - Incorporate Innovative Engineering Approaches; incorporate sea level rise and flooding design guidelines or standards; incorporate the use of LIDAR
 - Enhance Flood Reduction Funding; seek federal and state adaptation funding
- Flood Management
 - Create an Adaptive Management Plan; the designation of flood vulnerability zones
 - Increase Monitoring of Sea Level Rise
 - Improve Operational Processes; expand its flood warning procedures; implement remote sensors on roadways; track flood locations and impacts; incorporation of green infrastructure
- Flood Coordination
 - Coordinate Internally; improve its flood modeling and stormwater master planning efforts; ensure changing precipitation and sea level rise are factored into next stormwater master plan update; upscaling infrastructure to meet climate projections
 - Coordinate with Stakeholders and Developers; undertake early coordination with private utility companies; incentivize private developers and property owners to implement adaptation strategies
 - Coordinate Regionally; coordinate with the Metropolitan Washington Council on Governments (MWCOG), District of Columbia Flood Task Force; establish best practices from around the region