



Climate Topics in the Comprehensive Plan

Joint Planning Commission and
Environmental Quality Advisory Council (EQAC) Meeting
May 23, 2024

Office of Environmental and Energy Coordination
Department of Planning and Development



Climate Plans in Fairfax County

We are addressing both the **cause** and the **effects** of climate change.



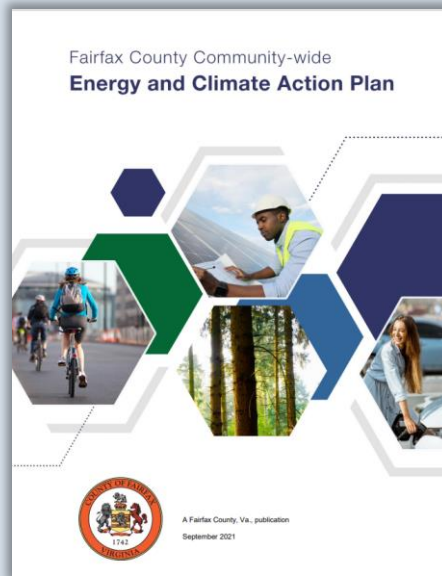
Addressing the Cause:
by doing our part
in the global effort to reduce emissions



Addressing the Effects:
adapting/building resilience to the
impacts we experience locally

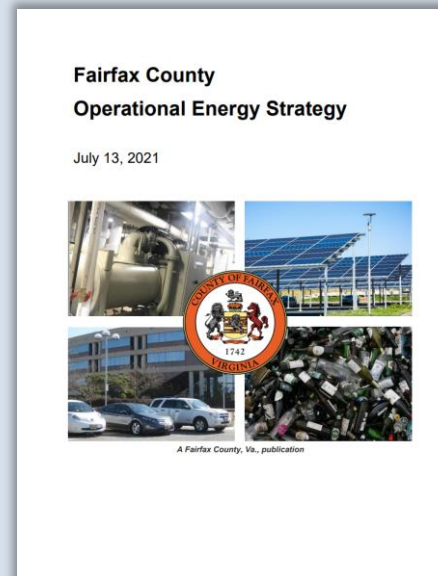
CECAP

(Community-wide)



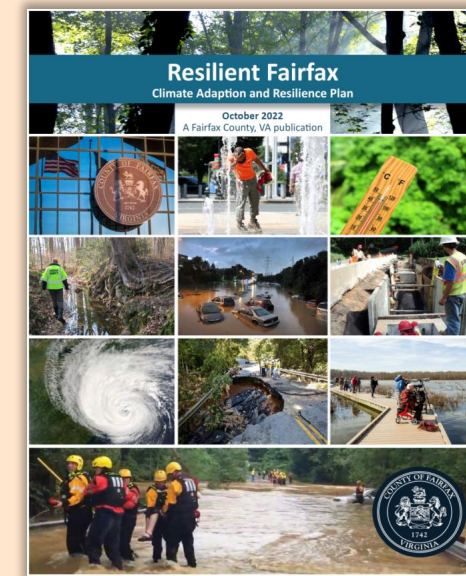
Operational Energy Strategy

(Government operations only)

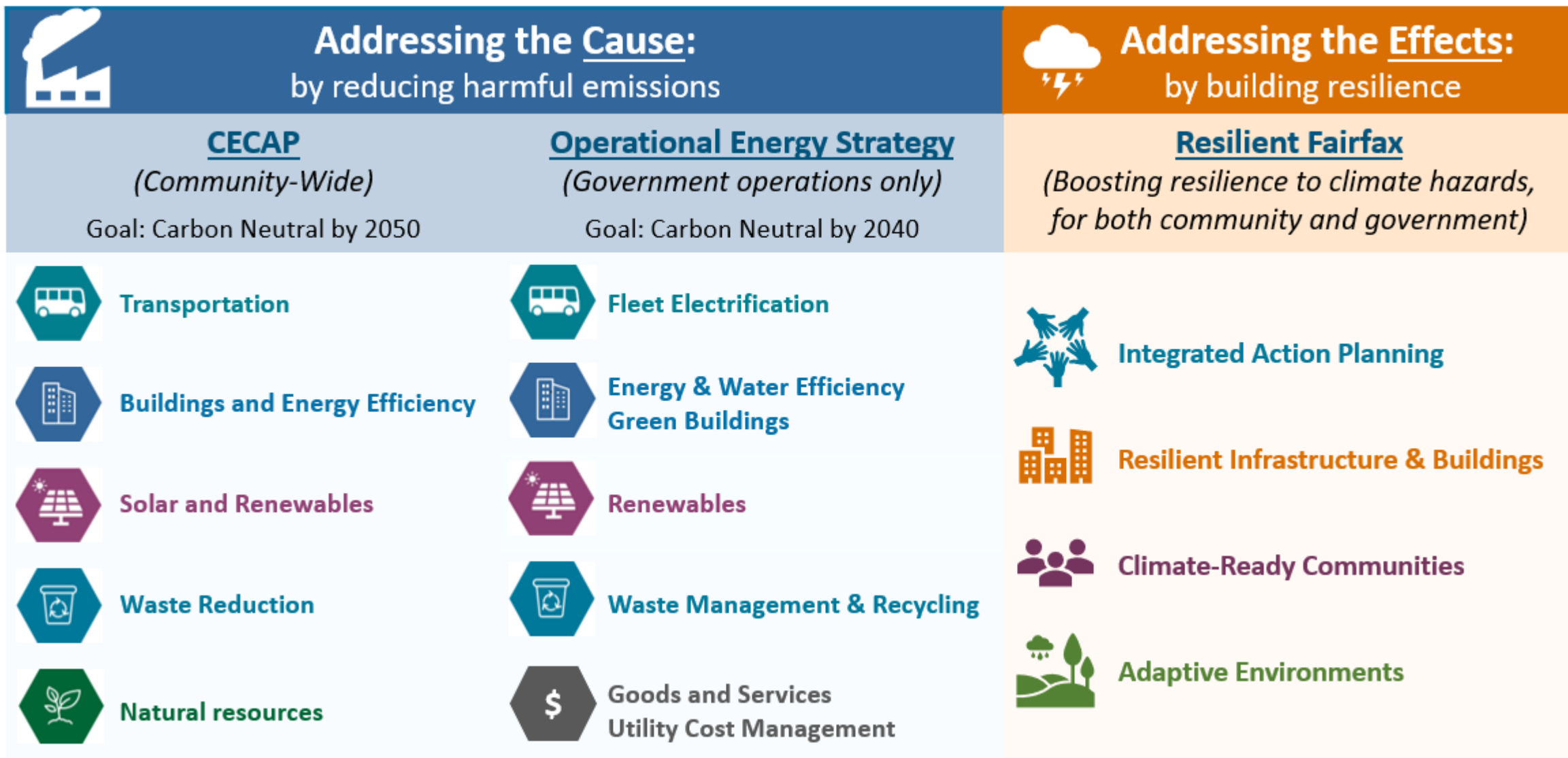


Resilient Fairfax

(Government and community)

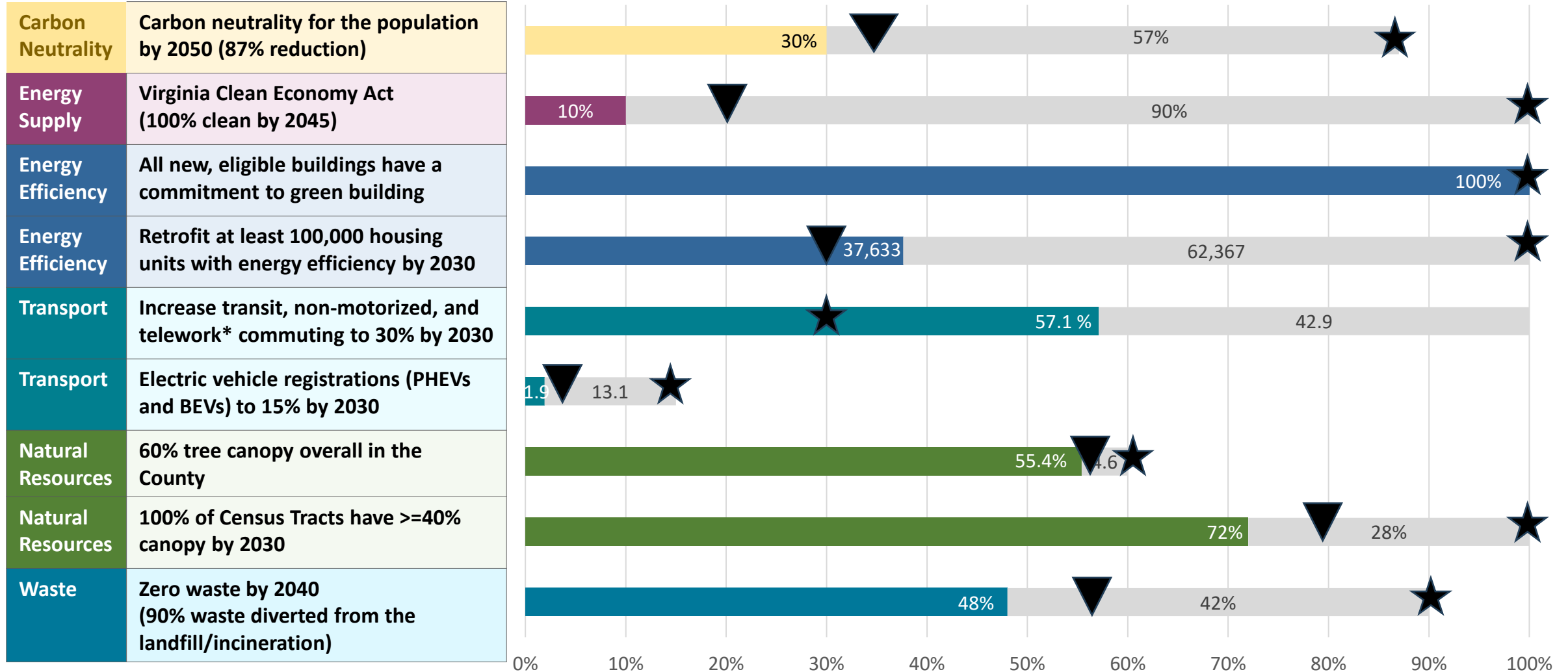


Climate Plans in Fairfax County, cont.





Outcomes: CECAP (Emissions Reduction for the Population)



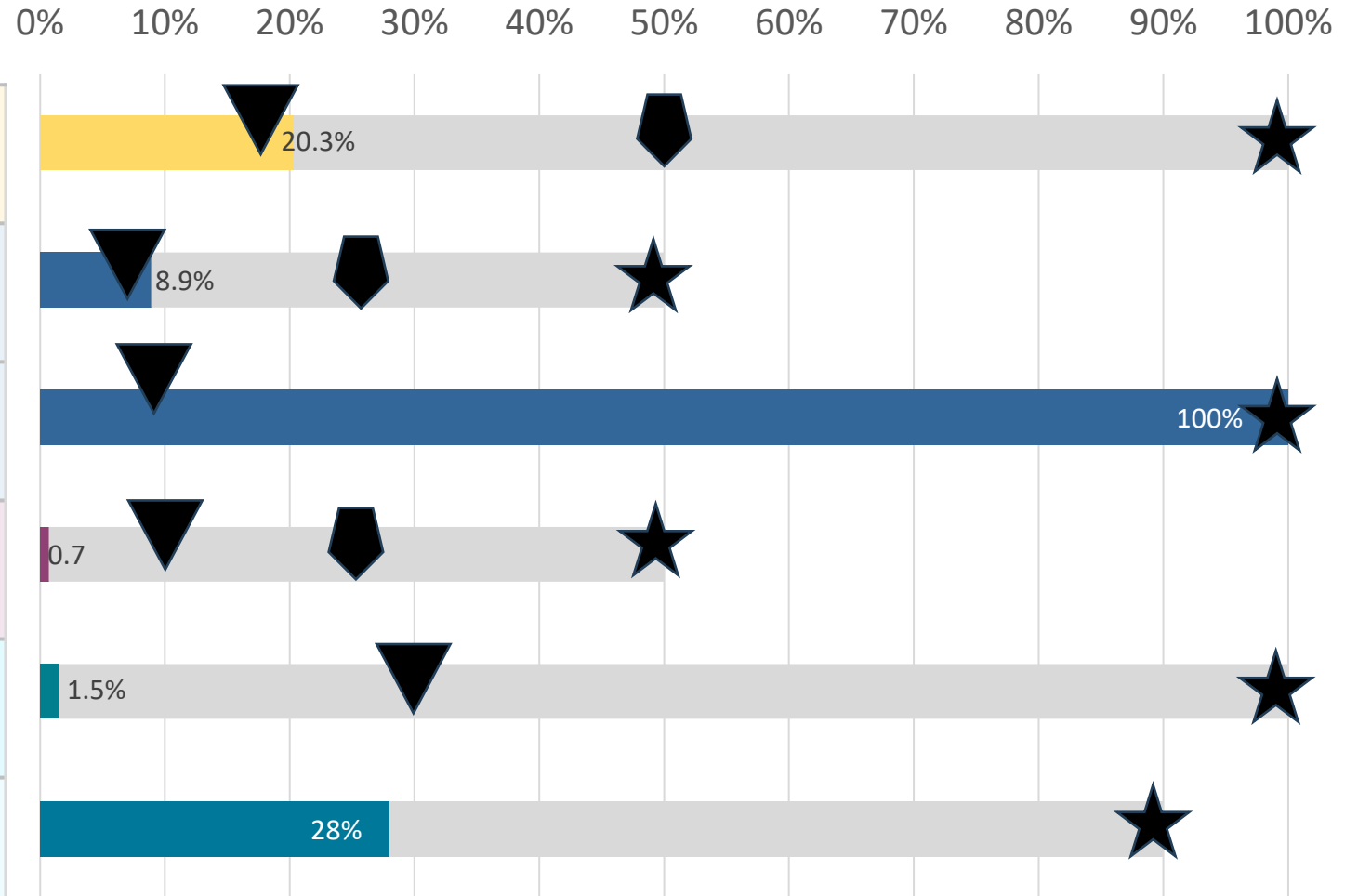
*Due to teleworking during the pandemic, this goal was surpassed, but will likely regress as workers return to the office

Bars = Where we are ▼ = Where we should be ★ = Final Goal



Outcomes: OES (*Emissions Reduction for County Government*)

Carbon Neutrality	<ul style="list-style-type: none"> • Energy Carbon Neutrality by 2040 • 50% GHG emissions reduction by 2030
Energy Efficiency	<ul style="list-style-type: none"> • 50% building energy reduction by 2040 • 25% building energy reduction by 2030
Green Buildings	<ul style="list-style-type: none"> • New bldgs. LEED Gold + 50% Savings • <i>[Future]</i> Net Zero Energy + All-Electric
Renewables	<ul style="list-style-type: none"> • 50% renewable electricity by 2040 • 25% renewable electricity by 2030
Fleet	<ul style="list-style-type: none"> • Fleet is fully electric or non-carbon by 2035
Waste	<ul style="list-style-type: none"> • Achieve Zero Waste by 2030 (% waste tonnage diverted from landfill)



Bars = Where we are ▼ = Where we should be ◼ = Interim Goal ★ = Final Goal

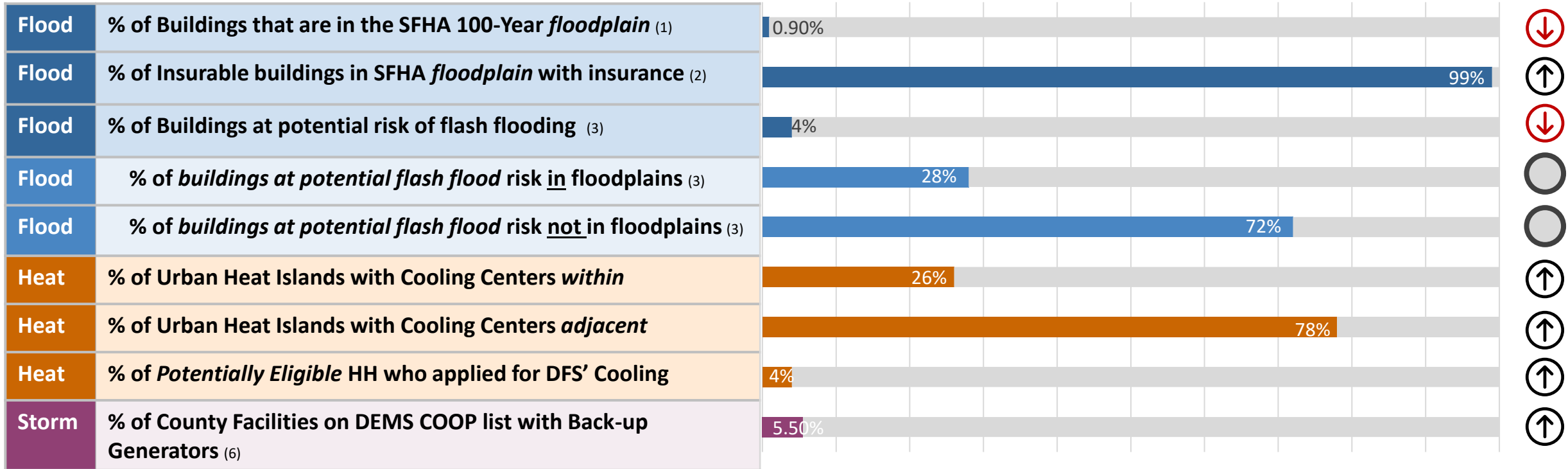


Outcome Tracking: *Resilient Fairfax*

Please note: There are dozens of additional Resilient Fairfax metrics that cannot be logically expressed as status bars.

⬇️ Goal is to decrease. ⬆️ Goal is to increase. ○ General tracking to understand issues.

0% 10% 20% 30% 40% 50% 60% 70% 80% 90% 100%

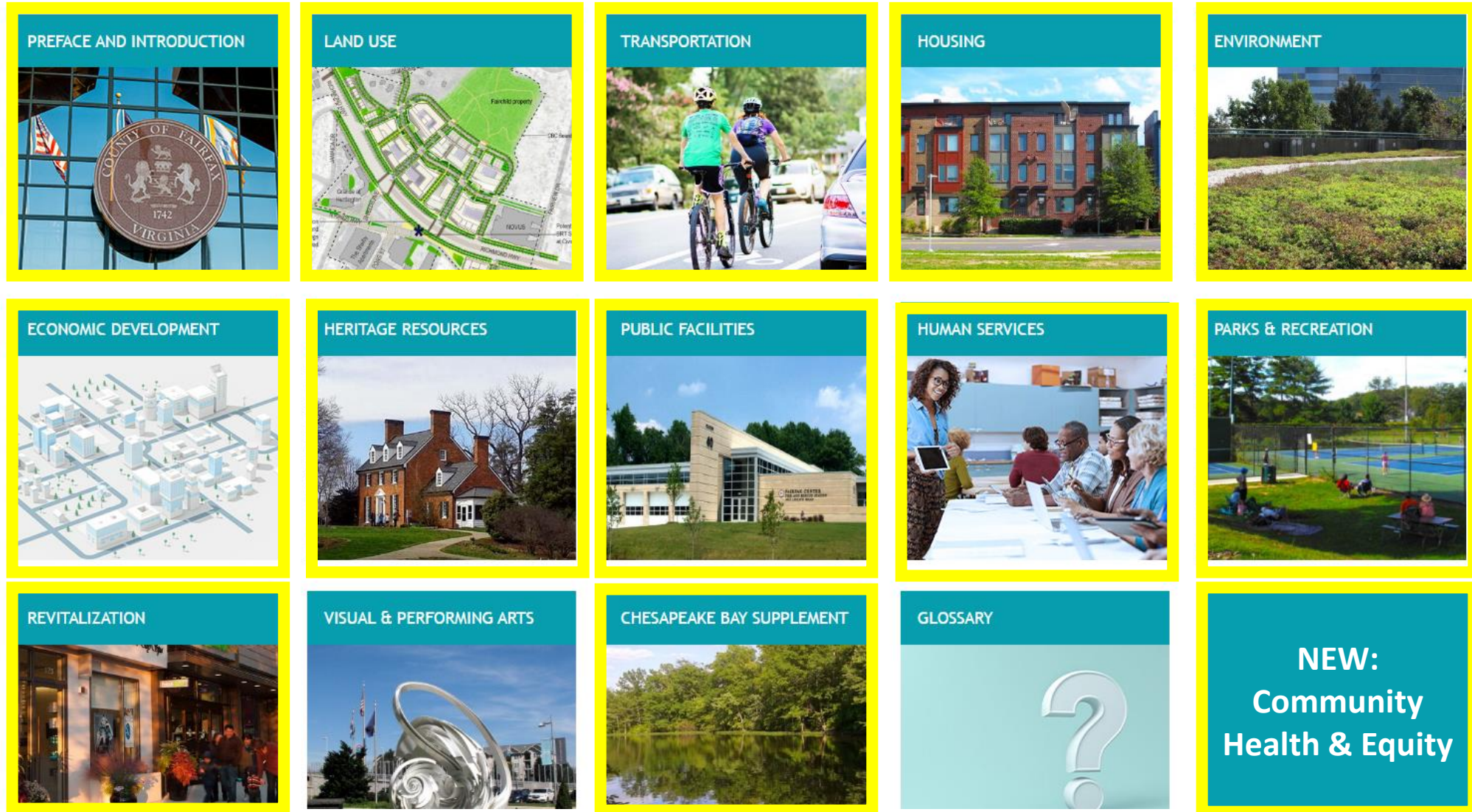


(1) Data is based on the 2010 FEMA FIRM.

(2) Buildings in the SFHA have a mandatory flood insurance purchase requirement as a condition for obtaining a federally backed mortgage.

(3) Based on DPWES' [Analyzing Flood Risk Story Map](#)

Climate is relevant to most sections of the Comprehensive Plan






Purpose of the following slides

The following slides provide **general ideas** or **examples** of how **climate** relates to each **Comprehensive Plan** element for illustrative purposes.





This presentation does not contain formal or finalized recommendations from OEEC for Comprehensive Plan amendments.

Specific text recommendations will be made in the coming months in coordination with DPD and all relevant stakeholders.

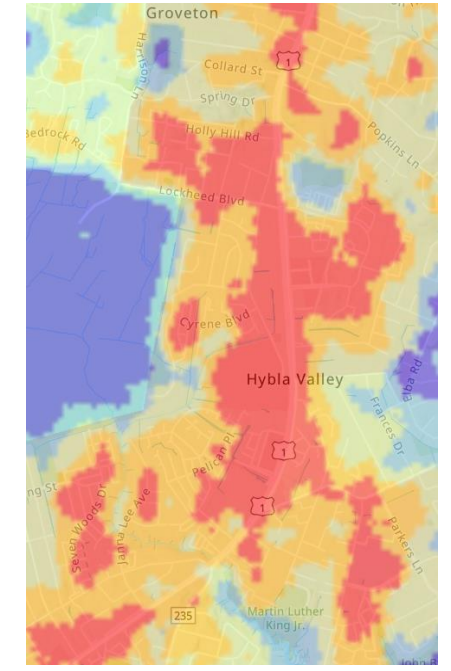
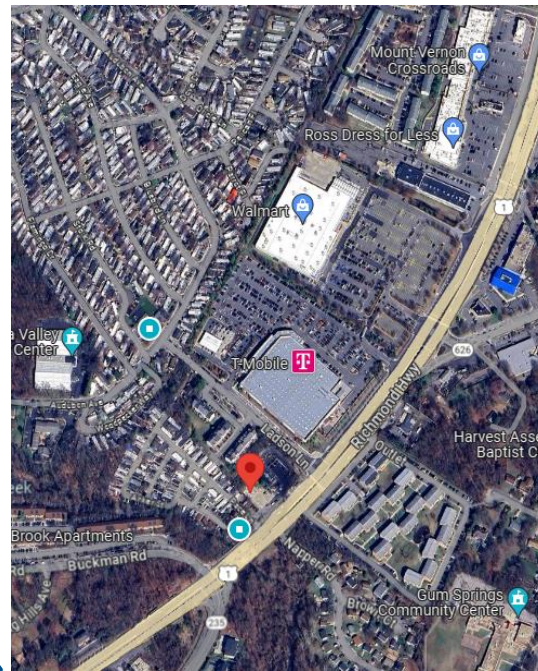
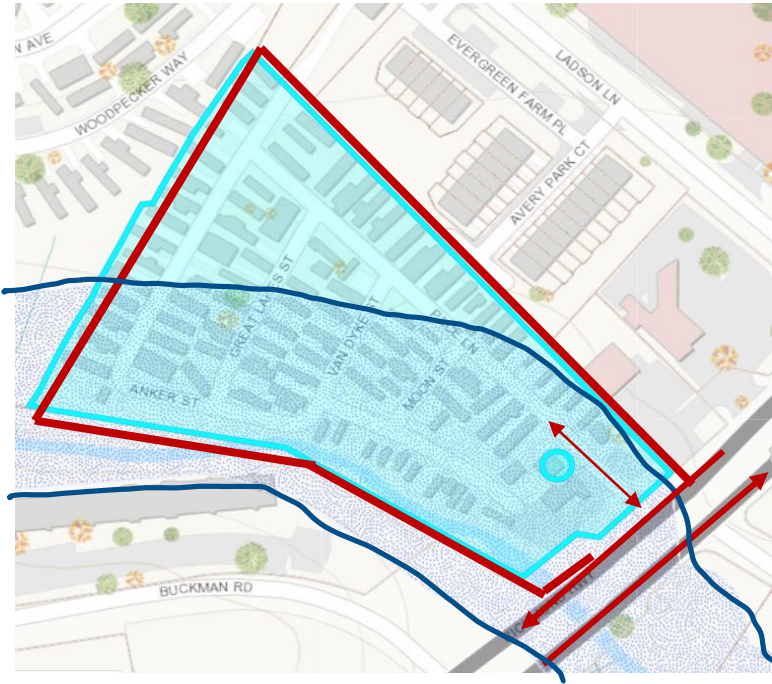
Sections to be updated in Phase 1 | Preface and Introduction

<p><u>Comprehensive Plan Element</u></p>	 <p>CECAP ("Addressing the Cause") <u>Example Ideas</u></p>	 <p>Resilient Fairfax ("Addressing the Effects") <u>Example Ideas</u></p>
<p>Preface & Introduction</p> 	<p style="text-align: center;"><u>(Relevance to both)</u></p> <ul style="list-style-type: none"> • Legal purpose of Comprehensive Plan from 15.2.2223 – “to promote the health, safety, morals, order, convenience, prosperity, and general welfare of the inhabitants, including the elderly and persons with disabilities” <ul style="list-style-type: none"> ○ Items in bold relate to resilience (flooding, heat, storms, etc.) • Consider updating legal authority to also include 15.2-2223.3 – Comprehensive plan shall incorporate strategies to combat projected sea-level rise and recurrent flooding. • Consider adding context of BOS-adopted climate plans (CECAP, OES, Resilient Fairfax) • Consider updating the goals that relate to climate 	

Sections to be updated in Phase 1 | Land Use and Transportation





<u>Comprehensive Plan Element</u>	 CECAP <i>("Addressing the Cause")</i> <u>Example Ideas</u>	 Resilient Fairfax <i>("Addressing the Effects")</i> <u>Example Ideas</u>
<p>Land Use (& Buildings?)</p> 	<ul style="list-style-type: none"> • Consider an objective of emissions reduction or add language to existing objectives • Additional green building certifications/standards • Incentivize additional levels of energy efficiency, building electrification, energy benchmarking and performance, retrofitting existing buildings • Promote onsite renewables 	<ul style="list-style-type: none"> • Consider an objective of resilient land use for climate-ready communities <ul style="list-style-type: none"> ○ Promote growth in the least hazard-prone areas; avoid highly flood-vulnerable areas ○ Resilient and adaptive land use patterns and buildings ○ <i>Nature-based design, shade structures, cool roofs and pavements, building orientation, power resilience, ability to adapt over time</i>
<p>Transportation</p> 	<ul style="list-style-type: none"> • GHG emissions in transportation planning • EV charging infrastructure expectations for development • Ensure a well-connected multi-modal transportation system • Expand, improve, maintain and promote active transportation infrastructure 	<ul style="list-style-type: none"> • Consider an objective of resilient transportation (or update related objectives like 7 and 9) <ul style="list-style-type: none"> • Multiple entry and exit points per neighborhood, connectivity, evacuation • Flood-resilient roads, heat and power-resilient transit, cool pavements, shaded bus stops and bike routes, etc.

Land Use and Transportation | Case Study: Harmony Place



When it was built	Our opportunity to do better in the future
Piecemeal, fragmented development patterns, each one isolated from others, poor access to key services, amenities	Well-planned and connected between developments; Access to grocery, civic and public space, services;
Only one entry/exit, hard for EMS, blocked on 3 sides	Connectivity, multiple entry/exit points
Highway, dangerous, car-oriented development	Walkable, bikeable, safe for all including kids
Inefficient buildings, very high utility bills, unable to pay	Green, energy-efficient, affordable buildings
Urban Heat Island, surrounded by asphalt, very hot	Heat-resilient design, shading, cooling

Sections to be updated in Phase 1 | Environment, Parks and Rec

<p><u>Comprehensive Plan Element</u></p>	 <p>CECAP & OES <i>("Addressing the Cause")</i> <u>Example Ideas</u></p>	 <p>Resilient Fairfax <i>("Addressing the Effects")</i> <u>Example Ideas</u></p>
<p>Environment</p> 	<p>(Both): Tree preservation and planting; Alignment with planned Consolidated Natural Resources Management Plan, build on policies related to EQCs, RPAs, wetlands, floodplains, and green corridors</p> <ul style="list-style-type: none"> • Consider updating "Environmental Pollution" to include greenhouse gas emissions • Carbon sequestration in trees and other natural resources and green infrastructure • Preserve and restore healthy soils • Energy and water efficient landscaping 	<ul style="list-style-type: none"> • Consider updates to "Environmental Hazards" to include climate, or add resilience objective • Better align PFM & Comp Plan for stormwater • Alignment with Stream Quality Assessments and Watershed Management Plans • Living shorelines, wetlands, floodplains, forests, stream corridor protections for flood and heat adaptation • Regenerative and climate-resilient agriculture
<p>Parks and Rec</p> 	<ul style="list-style-type: none"> • Carbon sequestration language to existing objectives, specifically natural resource preservation objectives 	<ul style="list-style-type: none"> • Consider climate resilience rationale for park-related open space, land protections, etc. • Leverage the purchase of land by FCPA to limit development in flood-prone areas • Boost the climate resilience of parks and rec facilities themselves

Environment, Parks | Case Study: Harmony Place



When it was built

Built in a floodplain without protections

Serious environmental hazards and pollution

Trees undermined, hazardous, being cut down

Children play in streets, can't access nearby parks

Our opportunity to do better in the future




Avoid flood-prone areas; Nature-based solutions;

Stronger protections against such hazards and pollution

Resilient tree species and location decisions

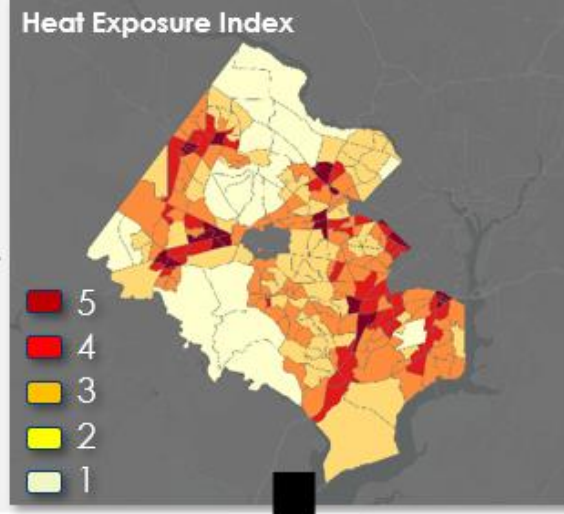
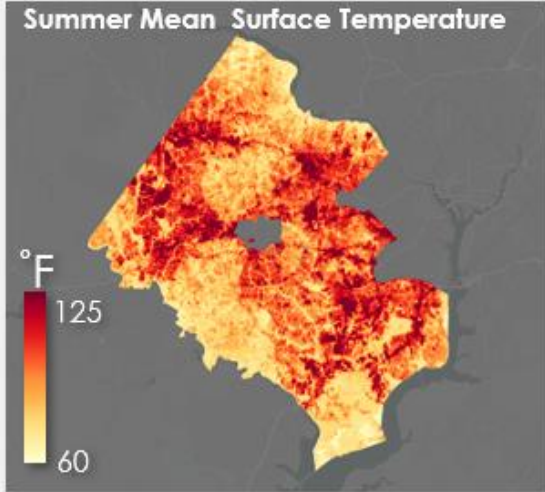
Access and connectivity to nearby parks

Sections to be updated in Phase 1 | Human Services, Community Health, Equity

<p><u>Comprehensive Plan Element</u></p>	 <p>CECAP & OES (“Addressing the Cause”) <u>Example Ideas</u></p>	 <p>Resilient Fairfax (“Addressing the Effects”) <u>Example Ideas</u></p>
<p>Human Services</p> 	<ul style="list-style-type: none"> • Delivery of community facing programs and services to support CECAP implementation will build on the existing Human Services goals, objectives and policies. 	<ul style="list-style-type: none"> • When locating human services, consider vulnerability of the site to flood damage or other hazards • Consider availability of community services, both daily and during times of shock or stress; adaptability of critical services • Equitable access to services that help boost a community’s resilience (health, flooding services, heat-related services, basic needs)
<p>NEW: Community Health, Equity</p>	<ul style="list-style-type: none"> • Consider equitable access to opportunity for all county residents for climate programs and incentives • Checking for disproportionate burden of poor air quality 	<ul style="list-style-type: none"> • Consider equitable access to opportunities, such consideration of disproportionate climate impacts <ul style="list-style-type: none"> • <i>Heat Vulnerability is now in One Fairfax data</i> • Consider alignment with the Climate Health Plan and climate-resilience related health data such as consideration of heat-related impacts • “Health, safety, welfare”

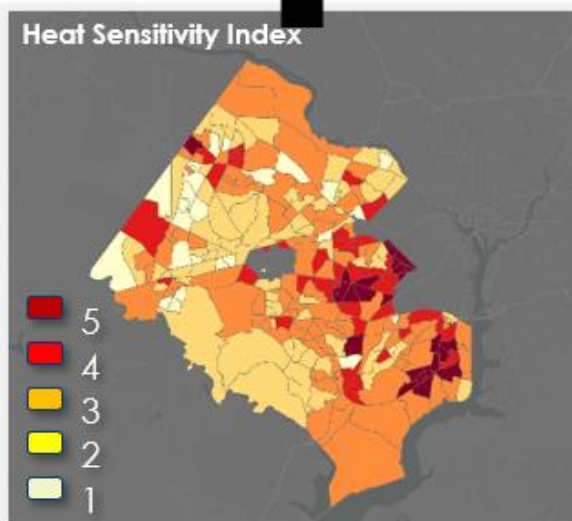
Human Services, Health, Equity | Case Study: Urban Heat Islands

Exposure

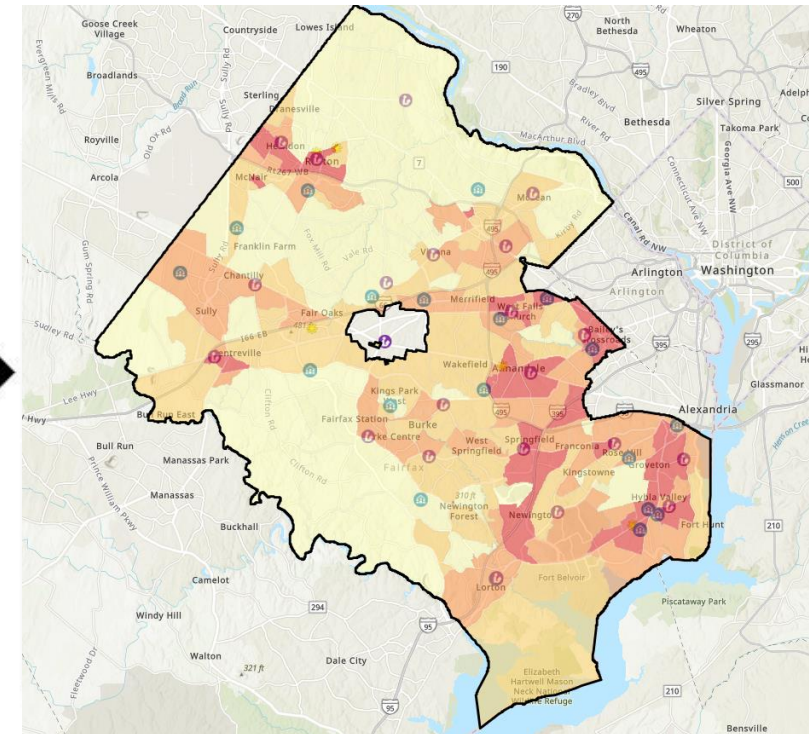


Sensitivity

- Pre-existing Health Conditions & Disability
- Elderly
- Children
- Race & ethnicity
- Limited English Proficiency
- Sub-standard housing
- Low Income







Areas that may need the most help with Urban Heat







(And mapping whether those services are located in the right areas)




Sections to be updated in Phase 2 | Housing, Heritage Resources

<p><u>Comprehensive Plan Element</u></p>	 <p>CECAP <i>“Addressing the Cause”</i> <u>Example Ideas</u></p>	 <p>Resilient Fairfax <i>“Addressing the Effects”</i> <u>Example Ideas</u></p>
<p>Housing</p> 	<ul style="list-style-type: none"> • Consider adding energy efficiency and renewables • EV charging provision to multi-family guidance • Green Buildings: Net Zero Energy, LEED Gold, electric-ready 	<ul style="list-style-type: none"> • Consider adding an objective to make housing climate-resilient and safe (reduce vulnerability to flooding, heat, and other hazards) • Consider adding text to ensure the notification of residents in flood-prone areas of the threat to their properties.
<p>Heritage Resources</p> 	<ul style="list-style-type: none"> • None (potential for adaptive reuse) 	<ul style="list-style-type: none"> • Considerations for the many heritage and cultural resources that need to be retrofitted/ moved due to flooding exposure <ul style="list-style-type: none"> ○ 84 (23%) of our historic sites are in existing FEMA or county floodplains ○ 19 (5%) of our historic sites are in the path of projected sea level rise

Sections to be updated in Phase 2 | Revitalization, Economic Development

<p><u>Comprehensive Plan Element</u></p>	 <p>CECAP ("Addressing the Cause") <u>Example Ideas</u></p>	 <p>Resilient Fairfax ("Addressing the Effects") <u>Example Ideas</u></p>
<p>Revitalization</p> 	<ul style="list-style-type: none"> • Emissions reduction expectations for energy efficiency, renewables and zero emission vehicles in reinvestment areas (similar to stormwater in Objective 1, Policy i) • Promote private sector investments in a Clean Energy Economy • Green Business is Good Business 	<ul style="list-style-type: none"> • Encourage a climate-resilient economy • Analyze potential land sales and acquisitions in terms of resilience goals • Reduce population and economic risk by discouraging revitalization in areas that have known vulnerability/ are projected to be under water; or, ensure revitalization is climate-adaptive
<p>Economic Development</p> 	<ul style="list-style-type: none"> • Promote Green careers in workforce development • Consider emissions reduction goals in providing a high quality transportation system. 	<ul style="list-style-type: none"> • Many CRDs are Urban Heat Islands – consider adding UHI reduction text or reference the Urban Design Guidelines • Many CRDs are also exposed to urban flooding – add in general guidelines for urban flooding reduction • Encourage climate-resilient supply chains (local, diverse, not reliant on vulnerable resources)

Recently Amended Section | Public Facilities

<p><u>Comprehensive Plan Element</u></p>	 <p>OES ("Addressing the Cause") <u>Example Ideas</u></p>	 <p>Resilient Fairfax ("Addressing the Effects") <u>Example Ideas</u></p>
<p>Public Facilities <i>(Recently amended)</i></p> 	<p>Operation Energy Strategy Focus Areas and targets:</p> <ul style="list-style-type: none"> • Water use and efficiency • Green Buildings: Net Zero Energy, LEED Gold, electric-ready • Renewables • Fleet Electrification • Waste Management and Recycling: Zero Waste • Goods and Services: Promote sustainable procurement to decarbonize supply chains. 	<ul style="list-style-type: none"> • Public facilities that are resilient, safe, and adaptable • Resilience Hubs, Cooling Centers, more resilient Emergency Shelters • Site selection: avoid locating public facilities in hazard-prone areas • Co-location of services

Example of Puzzle Pieces Fitting Together: *Natural Resources & Tree Protection*

We are here

- **Climate Recommendations:** CECAP & Resilient Fairfax have many implementation actions relating to natural resources; include recommended updates to development plans & policy
- **Guide for Development:** The Comprehensive Plan Policy Plan has existing Environment Section language relating to trees
 - Comprehensive Plan language can be strengthened to introduce climate concepts and extend existing guidance
- **Technical Details:** Zoning Ordinance (*recently updated*), Public Facilities Manual (*being updated*), Tree Preservation Ordinance,
- **Roles:**
 - **Staff and Planning Commission:** Update the Comprehensive Plan; Use its guidance to ensure climate objectives are reached for development applications
 - **EQAC:** Monitor progress and impacts of county plans, codes, and policies; encourage action



Key Takeaways

- **Climate is relevant to nearly all sections of the Comprehensive Plan**
 - Many factors beyond the “Environment” section
- **Several concepts relating to climate exist in the Comprehensive Plan now, but can be modernized and strengthened**
 - Example: current environmental hazards section is limited to considerations like asbestos
- **Other concepts are new and can be added**
 - Examples: Climate-specific benefits of trees, green infrastructure, and open space; Resilient design and planning
- **OEEC is always here to provide support and help**
 - Plan language, proffer development, technical details
- **The Comprehensive Plan applies to certain *new* developments and redevelopments; unfortunately, no magic wand to retroactively fix what is already built**
 - Incremental and iterative over long period of time
- **The Comprehensive Plan is one piece of a larger puzzle.**
 - VA Building Code, Public Facilities Manual, Zoning Ordinance, Tree Preservation Ordinance, Stormwater Ordinance,

