



Energy and Climate Change Action Plan

Community Engagement Session #3

August 27, 2022

9:00 AM

WiFi: Wireless.Alexandria

Agenda

- Welcome, Introductions, Overview
- Today's Purpose
- ECCAP Background and Process
- Feedback & Questions
- Break (9:50 – 10:00 AM)
- Strategies and Actions - Mitigation, Heat Vulnerability, and Adaptation
- Feedback & Questions
- Break (11:00 – 11:10 AM)
- Implementation Considerations
- Feedback & Questions
- Closing Remarks / Next Steps




City Staff


- Bill Eger, Energy Manager (Facilitator)
- Jessica Lassetter, Senior Environmental Specialist
- *Ellen Eggerton, Sustainability Coordinator (Retired)*




General Rules

 When speaking, please introduce yourself.

 Be respectful to all and allow for productive discussion during the community engagement event. Please allow space for everyone to share their thoughts and ideas.

 Attempt to be focused and concise. Keep focus to the specific topic of discussion. City Staff will exercise discretion in managing discussions and time.

 Acknowledge we're here to work together to advance meaningful climate action to achieve Alexandria's Vision.



Opening Remarks

Yon Lambert

Director

Dept of Transportation & Environmental Services

City of Alexandria

Mary Harris

Co-Chair

Energy and Climate Change Task Force



Logistics

- Please Sign-in
- Name Tag
- Coffee/Refreshments available
- Restrooms/Exits
- Wifi: Wireless.Alexandria
- Collecting Feedback



Collecting Feedback

How We're Listening

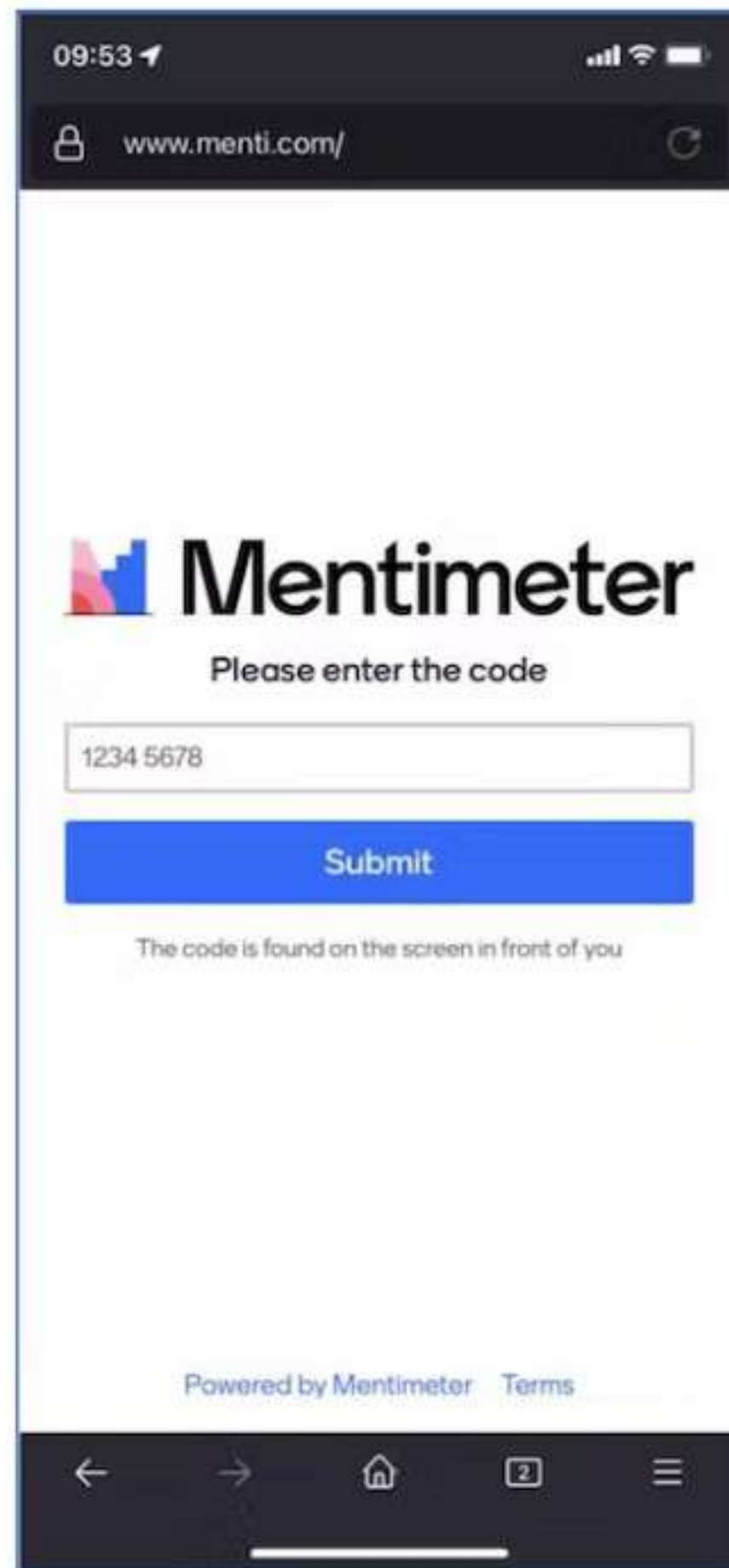
- Interactive Polling
- Facilitated Q & A
- Write down and share your ideas, opinions, or questions
- “Expand on that...”



Tools We're Using

- Mentimeter
- Notecards
- Polling questions handout
- Staff notetaking

Using Mentimeter



<https://www.menti.com/zwbbjcfjri>

-OR-

<https://www.menti.com/>

Enter: 7145 4505



Today's Purpose

- **Educate and inform** you about the Energy and Climate Change Action Plan (ECCAP) Process
- **Understand and hear** your ideas and perspectives:
 - Existing and new actions to reduce greenhouse gas emissions from buildings, transportation, the electrical grid, and other sources;
 - Climate adaptation and resiliency
- **Collect ideas** for:
 - Communicating about climate change & empowering City/community action
 - Tracking progress
 - Leveraging partnerships and implementation

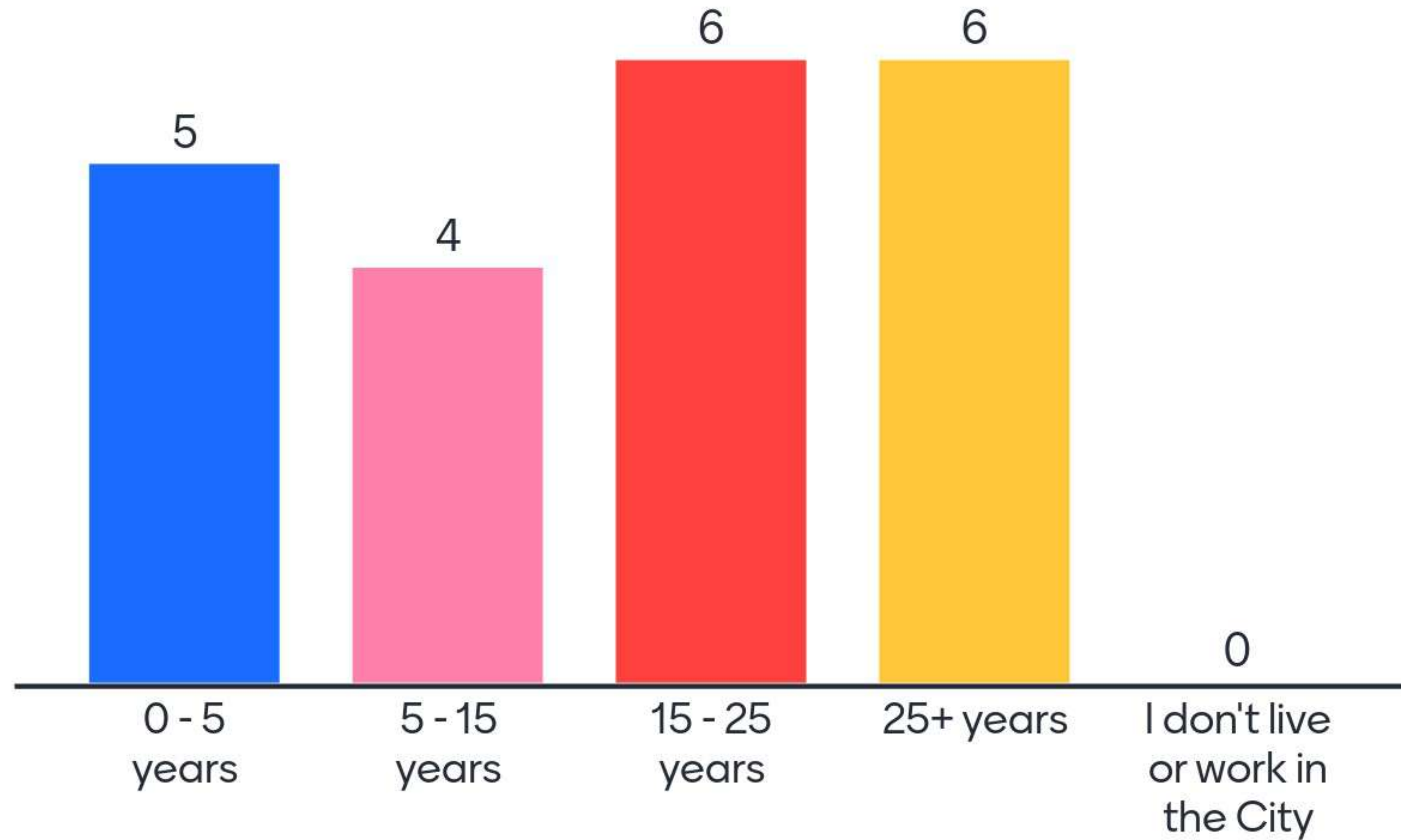





Question: How long have you lived or worked in the City of Alexandria?



How long have you lived or worked in the City?

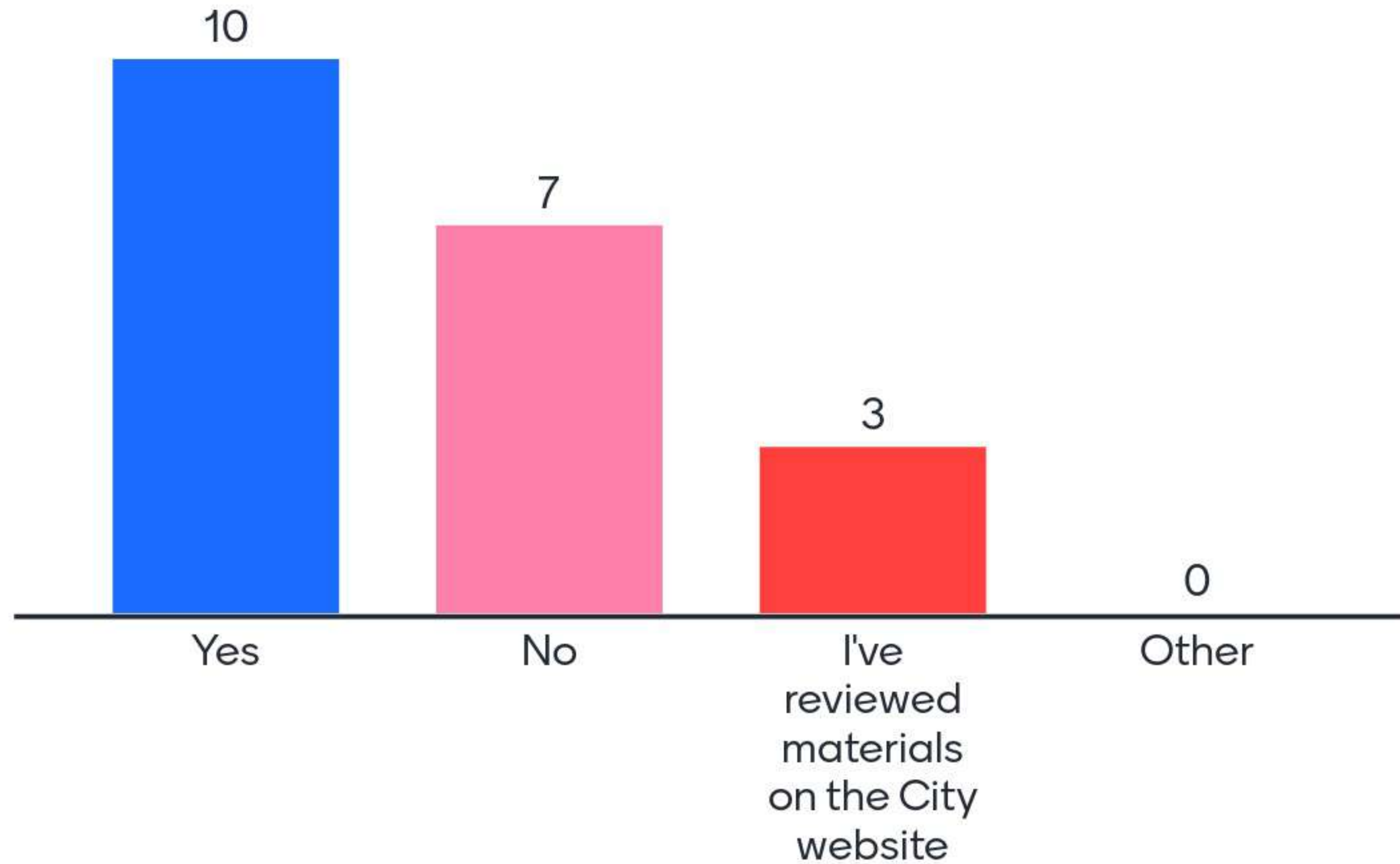




Question: Have you previously attended an Energy and Climate Change Action Plan event?



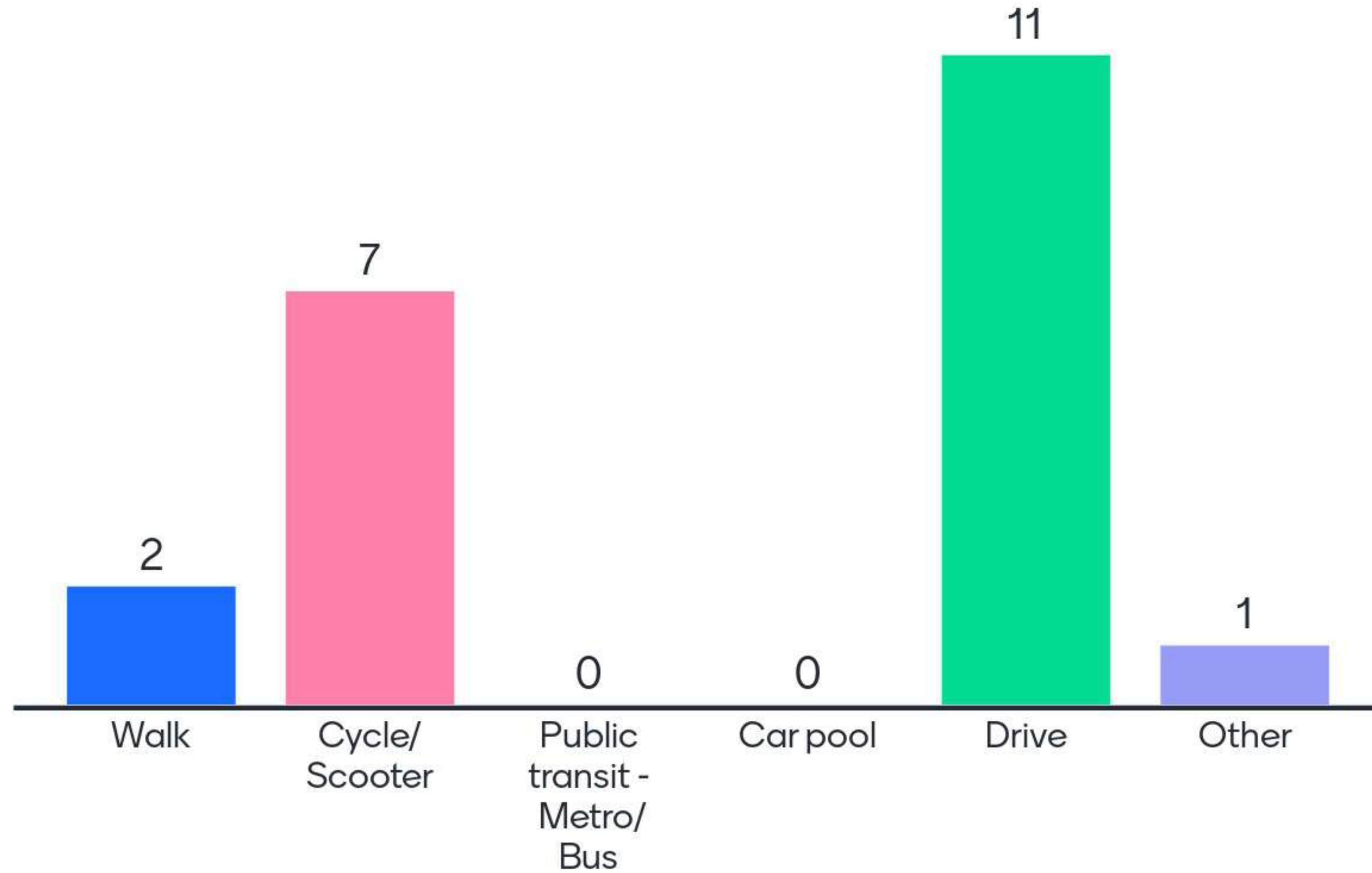
Have you previously attended an Energy and Climate Change Action Plan event?






Question: How did you get here today?

How did you get here today?






Question: Share up to 5 words or phrases describing what local climate action means to you here in Alexandria?



Share up to 5 words or phrases describing what local climate action means to you here in Alexandria?





Question: Provide a few words or phrases telling us your biggest concerns or fears about climate change?



Provide a few words or phrases telling us your biggest concerns or fears about climate change?

War

Extreme heat

Apathy

Greenwashing personal electric cars

Collapse of species

Inaction and moderation

Pollution and limited natural
resources

Political interference

Ecological Collapse, mass extinction

Provide a few words or phrases telling us your biggest concerns or fears about climate change?

Sustainable transportation

More inequality, war, despair

Extinction

Lack of Awareness; Education and
Access to resources

Losses

Dangerous feedback loops

People are lazy and we've waited too
long to get them moving.

Lack of large scale action

Heat keeping people indoors

Provide a few words or phrases telling us your biggest concerns or fears about climate change?

Unliveable weather. Floodiing. Fires.

Death

Fires, floods, wars. Extinctions, heat waves, mental illness

Flooding

Big heat waves, flooding,

Increased poverty

Forest fires = bad air across whole country

Inaction and indifference

Loss of tax revenue in ALX due to flooding

Overview: Environmental/Climate Action History

- 2007 Eco-City Alexandria Charter
- 2009 Environmental Action Plan 2030
- 2009 Green Building Policy
- 2011 Energy and Climate Change Action Plan
- 2005, 2012, 2015, 2018 Greenhouse Gas Inventories
- 2019 updated Environmental Action Plan 2040
- 2019 updated Green Building Policy
- 2019 City Council Climate Emergency Resolution
- 2021 ECCAP Task Force and update process



FY23 Climate Change Budget Priorities

 FISCAL YEAR **2023** | APPROVED BUDGET HIGHLIGHTS
CLIMATE CHANGE

 **Sustainability Solutions**

\$2.0 MILLION

To establish an Office of Climate Change to support climate change initiatives and programs that prioritize sustainability solutions in the City's Environmental Action Plan (EAP).

 **DASH Fleet**

\$29.2 MILLION

DASH Fleet Expansion & Electrification (FY24 -FY26: \$29.1M)
Includes funding for at least 20 100% electric expansion buses and supporting chargers over the next five years.

 **Electric Vehicle Charging Stations**

\$9.5 MILLION

Citywide Electric Vehicle Charging Stations (FY23 -\$500K; 10-yr -\$9.5M)
New project to provide charging for City fleet and some public access points.

 **Electric Vehicle Charging Station Navigator position.**

 **Waterfront Infrastructure**

\$35.0 MILLION

To begin work on implementing infrastructure recommended in the City Council approved Waterfront Small Area Plan, including flood mitigation.

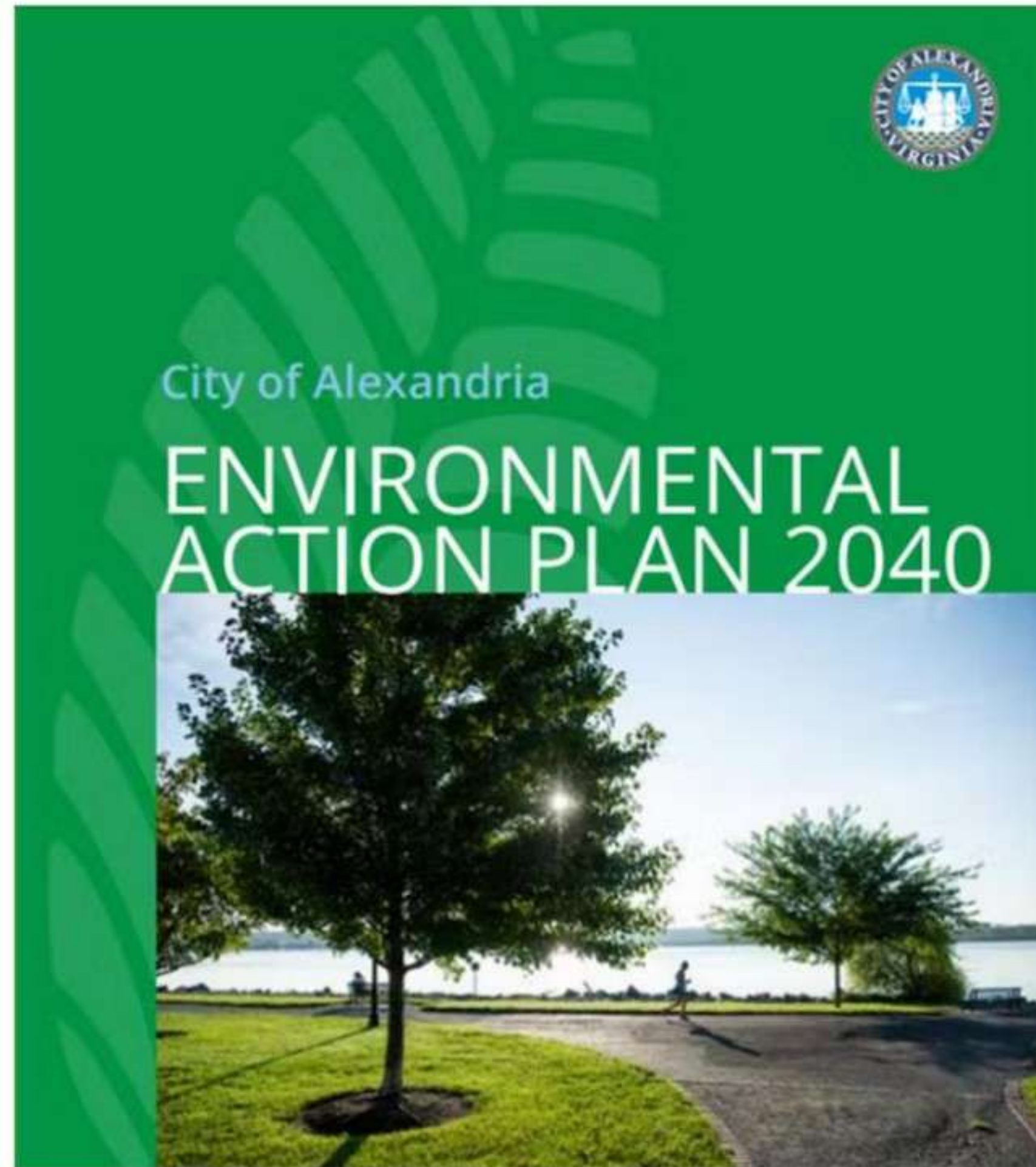


State and Federal Climate Action Priorities

- Virginia Clean Economy Act
- Bipartisan Infrastructure Law / Infrastructure Investment and Jobs Act
- Inflation Reduction Act



Environmental Action Plan 2040



1 Climate Change

GOAL

Increase the City's preparedness to respond to the impacts of climate change and environmental emergencies

TARGET

Reduce community-wide GHG emissions by 50 percent by FY2030 and 80-100 percent by FY2050 (base year 2005) supported by significant contributions at the state and federal level toward renewable energy and energy efficiency mandates



Energy and Climate Change Task Force

- Environmental Action Plan 2040 1.1.1

“by FY 2021, establish a multidisciplinary task force to guide an update of the Energy and Climate Change Action Plan”

- 13 members appointed by the City Manager

- general community members (3)
- environmental advocates (1)
- energy, climate, and related technical experts (1)
- representatives from Alexandria’s youth (2)
- representatives of equity issues (2)
- Representative representing engagement with Alexandria’s businesses and institutional partners (2)
- Environmental Policy Commission (EPC) representative (1)

Energy and Climate Change Task Force

- **Mary Harris**, Co-Chair, Clean energy and climate policy or technology
- **Marian Pegram**, Co-Chair, Diversity, racial and social equity, and inclusivity issues of diverse Alexandria populations
- **Alyssa Abosompim**, At-large member of the Alexandria community
- **Javier Bastos**, Alexandria's business community and institutional organization interests
- **Leah Devendorf**, Alexandria youth interests with specific priority of Alexandria high school students
- **Fiona Herbold**, Alexandria youth interests with specific priority of Alexandria high school students
- **Praveen Kathpal**, At-large member of the Alexandria community
- **Raquel Nicora**, Diversity, racial and social equity, and inclusivity issues of diverse Alexandria populations
- **Josh Sawislak**, Alexandria's business community or institutional organization interests
- **Marta Schantz**, Environmental Policy Commission Member
- **Rose Stephens-Booker**, Member reflecting climate change solutions to support the City's economic development goals
- **Stephen Walz**, Member reflecting environmental, clean energy, or climate change action advocacy organization or interest
- **Sangina Wright**, At-large member of the Alexandria community



ECCAP Workstreams

1. Energy & Climate Change Task Force
2. Climate Mitigation Planning (*)
3. Heat Vulnerability Assessment (*)
4. Climate Adaptation/Resiliency Guidance (*)
5. Climate Equity Assessment (*)
6. Community Engagement
7. ECCAP Report (*)

* Includes technical consultant support

City Staffing: 0.25 FTE

- Planning & Process Facilitation
- Staff & Task Force Coordination
- Technical consultant coordination
- Community engagement

Budget:

- \$100K for technical consultant

Technical Consultant:



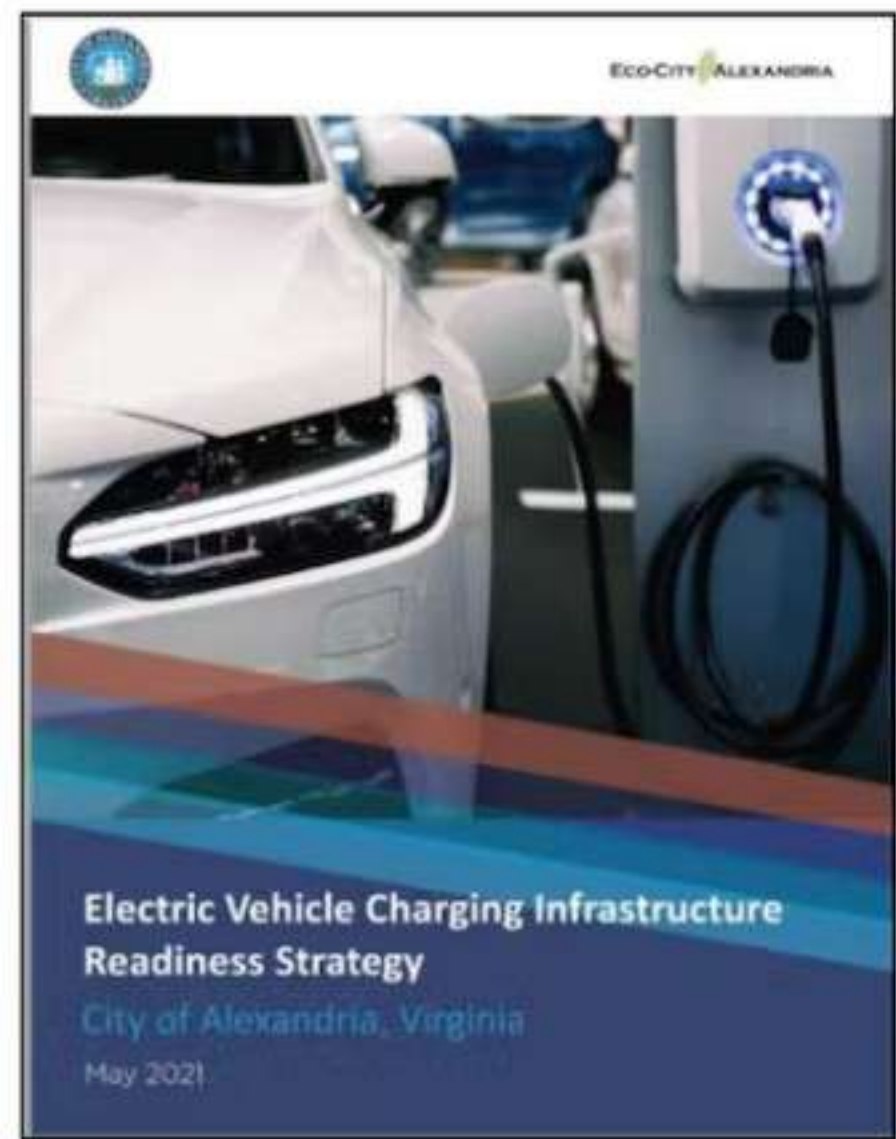
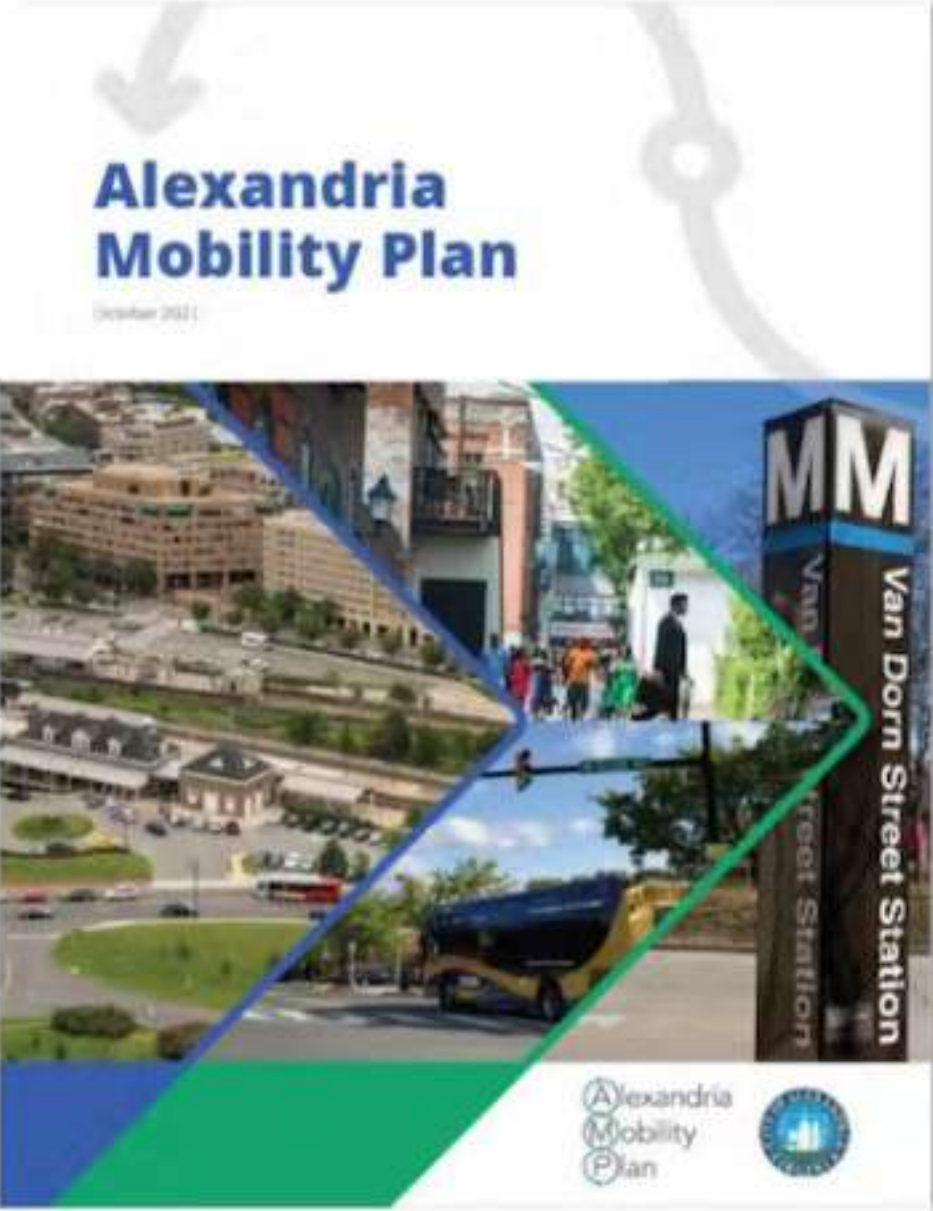
Environmental Action Plan 2040

Metric	Short-term	Mid-term	Long-term
CLIMATE CHANGE			
Total GHG emission reduction over 2005 base year			50% by FY2030 and 80-100% by FY2050
ENERGY			
Renewable offset of City-owned facilities electrical use	100% by 2020		
Improve energy efficiency for City-owned facilities and affiliated transportation		Reduce by 25% by FY2027 over FY2018	
Reduce GHG emissions per capita	10 metric tons per capita by FY2022	6 metric tons per capita by FY2030	4 metric tons by FY2040 and 1-3 by FY2050
LAND USE AND OPEN SPACE			
Tree Canopy percent			40% by FY2035
Open Space Acres per 1,000 residents	7.3	7.3	7.3
SOLID WASTE			
Reduce GHG emissions from solid waste over a 2019 base year	By FY2023 reduce by 12%		
WATER RESOURCES			
Achieve stormwater phosphorus pollution reduction (MS4) target	By FY2023 to 70%	By FY2025 to 100%	
TRANSPORTATION			
Reduce vehicle miles traveled	By FY2023 reduce 1% per year		
Increase transit, walking, and biking	By FY2023 Increase by 15% over 2018		
Increase dedicated bus lanes			By FY2030, double to 1.5 miles
AIR QUALITY			
Reduce ozone	By FY2023, reduce to 70 ppb or lower		



EAP 2040 Status of Actions						
GOALS, TRAGETS, AND ACTIONS	PROGRESS	EAP TIMING	EAP TARGET	LEAD	NOTES	
1. CLIMATE CHANGE						
Target - reduce GHG 50% by 2030 and 80-100% by 2050	🟢🟢🟢🟢				18% reduction in 2018 GHG inventory	
1.1.1 Climate 1.1.1 (Energy & Climate Action task force established)	🟢🟢🟢🟢	SHORT	FY2021	GSW/TES	ECCAP Task Force appointed March 2021	
1.1.2a Climate 1.1.2a (Policy for Emissions Calculations for CIP)	🟢🟢🟢🟢	SHORT	FY2022	GS		
1.1.2b Climate 1.1.2b (Emissions Calculations for CIP)	🟢🟢🟢🟢	MEDIUM	FY2024	GS		
1.1.3 Climate 1.1.3 (sustainable investment criteria)	🟢🟢🟢🟢	SHORT	FY2021	GS	sustainability in Impact Policy Statement for each plan	
1.1.4 Climate 1.1.4 (vulnerability assessment)	🟢🟢🟢🟢	MEDIUM	FY2024	GS	some work of the stormwater strike team	
1.1.5 Climate 1.1.5 (Emergency Operations)	🟢🟢🟢🟢	MEDIUM	FY2026	GS		
1.1.6 Climate 1.1.6 (update Emergency Operations Plan)	🟢🟢🟢🟢	MEDIUM	FY2028	GS		
1.1.7 Climate 1.1.7 (state-level strategy)	🟢🟢🟢🟢	MEDIUM	FY2024	GS		
1.1.8 Climate 1.1.8 (ECAP implementation)	🟢🟢🟢🟢	LONG	FY2035	GS		
2. ENERGY						
Goal - 100% renewable for applicable City facilities					By 2030 all electric government facilities offset 100%	
2.1.1 Renewable 2.1.1 (Offset Electrical Use w RECs)	🟢🟢🟢🟢	SHORT	FY2020	GS	achieved about 98% FY2020	
2.1.2 Renewable 2.1.2 (Energy Supply Strategy)	🟢🟢🟢🟢	SHORT	FY2021	GS		
2.1.3 Renewable 2.1.3 (Direct Power Purchase)	🟢🟢🟢🟢	SHORT	FY2023	GS		
2.1.4 Renewable 2.1.4 (electrification plan)	🟢🟢🟢🟢	MEDIUM	FY2024	GS		
2.1.5 Renewable 2.1.5 (80% direct offsite)	🟢🟢🟢🟢	MEDIUM	FY2028	GS		
2.1.6 Renewable 2.1.6 (full electrification)	🟢🟢🟢🟢	LONG	FY2040	GS		
2.1.7 Renewable 2.1.7 (100% direct offsite)	🟢🟢🟢🟢	LONG	FY2035	GS		
Target - improve City facility efficiency by 25%					Action 2.2.4 by 2027	
2.2.1 Efficiency 2.2.1 (Facility Index)	🟢🟢🟢🟢	SHORT	FY2023	GS		
2.2.2 Efficiency 2.2.2 (Electric Vehicle Program)	🟢🟢🟢🟢	SHORT	FY2021	DASH,ACP	DASH 14, 5 ACPS in 2020/21, TES 7 leafs/3 plugin vans	
2.2.3a Efficiency 2.2.3a (Building lighting Upgrades)	🟢🟢🟢🟢	SHORT	FY2021	GS	~ 60% but not 75% by FY2021	
2.2.3b Efficiency 2.2.3b (Streetlighting Upgrades, 10.2)	🟢🟢🟢🟢	SHORT	FY2023	TES	42% ~ 4,200 lights FY2022 to date	
2.2.4 Efficiency 2.2.4(reduce energy 25%)	🟢🟢🟢🟢	MEDIUM	FY2027	GS		
2.2.5 Efficiency 2.2.5(25% fleet electrification)	🟢🟢🟢🟢	MEDIUM	FY2024	TES		
2.2.6 Efficiency 2.2.6(10% transit fleet electrification)	🟢🟢🟢🟢	MEDIUM	FY2028	DASH		
2.2.7 Efficiency 2.2.7(reduce energy 50%)	🟢🟢🟢🟢	LONG	FY2035	GS		
2.2.8 Efficiency 2.2.8(100% transit fleet electrification)	🟢🟢🟢🟢	LONG	FY2040	TES		
Target - GHG/person to 6:2030, 4:2040, 1-3:2050					9.4 per capita w 2018 GHG inventory	
2.3.1 Community 2.3.1 (Regulatory Activities)	🟢🟢🟢🟢	SHORT	FY2019	GS	continuing to improve efficiency of energy code	
2.3.2 Community 2.3.2 (CPACE)	🟢🟢🟢🟢	SHORT	FY2020	GS	CPACE adopted - program plan launched	
2.3.3 Community 2.3.3 (Electric Vehicle Charging)	🟢🟢🟢🟢	SHORT	FY2020	GS	report accepted by Council FY 2021	
2.3.4 Community 2.3.4(GHG tracking model)	🟢🟢🟢🟢	MEDIUM	FY2024	GS		
2.3.5 Community 2.3.5(robust efficiency programs)	🟢🟢🟢🟢	LONG	FY2040	GS		
2.3.6 Community 2.3.6(implement EV charging)	🟢🟢🟢🟢	LONG	FY2029	GS		
3. GREEN BUILDING						
Target - Net Zero for Public Bldgs					no target update - every 5-7 years per action 3.1.15	
3.1.1 Building 3.1.1 (update green building policy)	🟢🟢🟢🟢	SHORT	FY2019	PZ	completed	
3.1.2 Building 3.1.2 (Sustainability in DSP/DSUP)	🟢🟢🟢🟢	SHORT	FY2020	PZ	updated for 2020 and most years annually	
3.1.3 Building 3.1.3 (Development checklist)	🟢🟢🟢🟢	SHORT	FY2023	PZ	updated review checklists	
3.1.4 Building 3.1.4 (track compliance)	🟢🟢🟢🟢	SHORT	FY2020	PZ		
3.1.5 Building 3.1.5 (update development conditions)	🟢🟢🟢🟢	SHORT	FY2023	PZ	second update continues to add more sustainability	
3.1.6 Building 3.1.6 (net zero process)	🟢🟢🟢🟢	SHORT	FY2023	PZ		
3.1.7 Building 3.1.7 (new staff position, GBP)	🟢🟢🟢🟢	SHORT	FY2021	PZ	FY 2022 budget funds position- not hired yet	
3.1.8 Building 3.1.8 (incentive programs)	🟢🟢🟢🟢	SHORT	FY2023	PZ		
3.1.9 Building 3.1.9 (Regulatory incentives)	🟢🟢🟢🟢	SHORT	FY2023	PZ		
3.1.10 Building 3.1.10 (net zero in existing bldgs)	🟢🟢🟢🟢	MEDIUM	FY2024	GS		
3.1.11 Building 3.1.11 (performance monitoring)	🟢🟢🟢🟢	MEDIUM	FY2028	PZ		

Builds on Existing Actions



CITY OF ALEXANDRIA
2019 Green Building Policy

POLICY STATEMENT:
Green building is a practice that brings environmental and economic benefits to present and future generations. A green building ensures that sustainable standards are adhered to throughout the design and construction processes to lessen the impacts of the building on the local and global environment, resulting in lower operational costs and a healthy indoor environment for building occupants. The standards of the 2019 City of Alexandria Green Building Policy provided herein establish minimum green building practices for new private development and further the City's commitment to lead by example through new development and renovation of its own public buildings. In addition to instituting standards to achieve an overall improvement in building performance, this Green Building Policy includes a cutting-edge, directed-use approach that targets the reduction of energy use and mitigating greenhouse gas emissions, increased water efficiency and improved indoor environmental quality in both new private and public buildings. As a result, implementation of this Green Building Policy will contribute to reduced greenhouse gas emissions, conservation of potable water and improved human health in the City of Alexandria.

PERFORMANCE POINTS:
Performance Points are defined as specific minimum credit points each project must achieve within the minimum level of certification for the selected green building rating system. Performance Points are identified within the areas of energy use reduction and greenhouse gas emission reductions, water efficiency, and indoor environmental quality. Projects that use LEED should refer to the LEED Credit Library for the specific criteria of each point. Those who utilize Green Globes, EarthCraft, or National Green Building Standard must comply with the Performance Point overlay criteria in Appendix A, B, and C of this Policy, respectively. To maintain alignment with the intent of this Policy, Performance Points may be adjusted over time to correspond with updates to the rating systems, revisions to the building code, and/or updates to state, federal, or other City policies.

DEVELOPMENT STANDARDS:
New private development, new public development (City-owned buildings, including Alexandria City Public Schools) and major renovations that require a Development Site Plan (DSP) or a Development Special Use Permit (DSUP) are subject to comply with the Green Building Policy. The Green Building Policy is in effect as of March 2, 2020 for DSP and DSUP applications submitted on or after this date.

The 2019 Green Building Policy identifies: 1) the pathways to achieve the City's green building performance standards, including certification through four nationally recognized green building rating systems; 2) a minimum level of green building certification for both private and public developments; and 3) priority "Performance Points" within each rating system that a project is expected to achieve.

RATINGS SYSTEMS & MINIMUM LEVEL OF CERTIFICATION:
LEED, Green Globes, EarthCraft, and National Green Building Standard are the standard third-party green building rating systems accepted under the Green Building Policy. The minimum level of certification for each rating system is provided on the following pages for both public and private development. The latest version of each rating system at the time of the first Final Site Plan submission shall apply.

In addition to the LEED, Green Globes, EarthCraft, or National Green Building Standard green building rating systems, projects may choose an alternative path for certification through an independent, third-party certifier. The independent, third-party certifier must verify that the performance standards of the Green Building Policy are met.

STORMWATER	100% of the required stormwater treatment through green infrastructure.
NET ZERO ENERGY	An energy-efficient building where, on a source energy basis, the actual annual delivered energy is less than or equal to the on-site renewable exported energy.

PUBLIC BUILDING RENOVATIONS:
For renovations of City-owned buildings that do not require a DSP or DSUP, the City will apply LEED Interior Design and Construction (ID+C) and LEED Operations and Maintenance (O&M) rating systems as a guideline for interior design and construction projects and targeted renovations of individual building systems (e.g., HVAC, roof, windows, plumbing, etc.). Actual third-party certification may be used when technically and financially feasible.

FLEXIBILITY:
Flexibility from the Green Building Policy will be considered on a case-by-case basis. If flexibility is requested, the Director of Planning and Zoning will consider the project size, proposed use and the alternate green building practices the applicant proposes to incorporate into the project to determine if the request is justified. The City will use the data collected from this process over time to establish consistent criteria and thresholds for alternatives to compliance with the Green Building Policy.





CLEAN ENERGY DC

THE PATHWAY TO CUT THE CARBON FOOTPRINT OF DISTRICT OF COLUMBIA

1 CONFRONTING CLIMATE CHANGE
Climate change poses a growing set of risks and challenges to the global economy. In the District, these risks include increased flooding, sea level rise, and more frequent and severe weather events. These risks threaten the District's infrastructure, public safety, and the health and well-being of its residents.

2 A COMPREHENSIVE ENERGY PLAN
Clean Energy DC is the District's strategic action plan to make the District's energy system more sustainable, efficient, and equitable.

3 PATHWAYS TO CLEAN ENERGY
The District will pursue three main strategies to reduce its carbon footprint: energy efficiency, renewable energy, and electric vehicles.

4 TARGETED ACTION AREAS
The District will focus on four key areas: buildings, transportation, industry, and power generation.

5 PROJECTED RESULTS
Clean Energy DC aims to avoid projected carbon emissions in order to meet the District's climate goals.

60% 50% 50%
Achieving these targets means transforming building energy supply and distribution, and transportation.

MONTGOMERY COUNTY CLIMATE ACTION PLAN

Building a Healthy, Equitable, Resilient Community
APRIL 2021

Montgomery County's Climate Action Plan outlines the county's strategy to reduce greenhouse gas emissions and build a more resilient and equitable community. The plan focuses on energy efficiency, renewable energy, and transportation.

Community Energy Plan

An element of Arlington County's Comprehensive Plan
Update Adopted September 2019

Arlington Initiative to **Rethink Energy** | **CARBON 20-50 NEUTRAL**

Fairfax County Community-wide Energy and Climate Action Plan

A Fairfax County, VA, publication
September 2021

METROPOLITAN WASHINGTON 2030 CLIMATE AND ENERGY ACTION PLAN

November 2020

Metropolitan Washington Council of Governments

Leverages Regional Climate Action Efforts

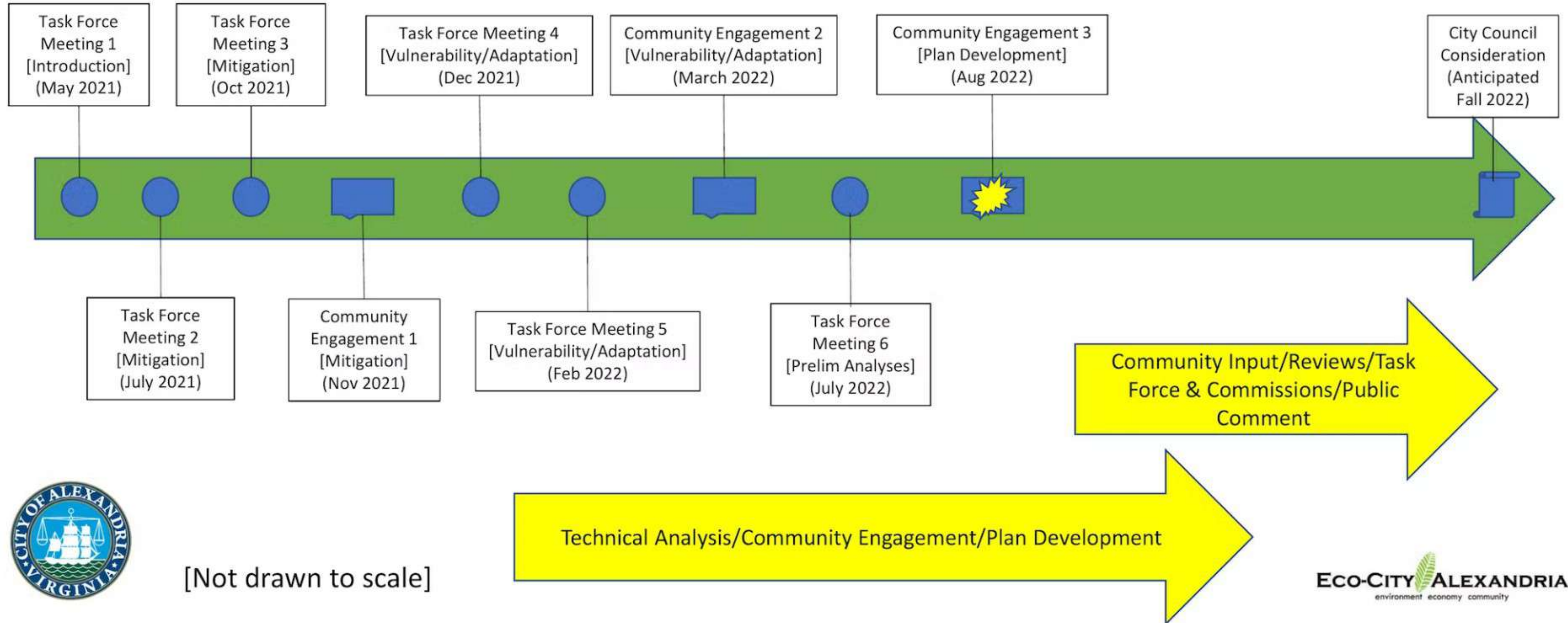


ALL Alexandria Race & Social Equity

- Identifying and Highlighting ECCAP Actions Support of ALL Alexandria Race and Social Equity Outcomes, including:
 - Actions supporting social and other quality-of-life benefits, such as improved health, reduced traffic congestion, and increased opportunities for socioeconomic mobility.
 - Actions that support economic benefits (e.g., poverty reduction, lower energy costs) to reduce economic disparities.
- Additional Focus:
 - Energy Burden
 - Extreme Heat Vulnerability
 - Communications/Outreach/Education/Collaborations



ECCAP Development Process



[Not drawn to scale]



Community Engagement Session - Mitigation

Washington D.C. weather and climate:
Trends and projections




Jason Samenow
November 16, 2021

The Washington Post



**Local Government
High-Impact
Pathways to Zero
Emissions**

For any questions reach out to
ICLEI-USA@ICLEI.org



**From Federal to Local:
Climate Action and Equity**

Andrea Denny
USEPA State and Local Climate and Energy Program

U.S. Environmental Protection Agency



Community Engagement Session - Mitigation

Most important (or likely) actions you can take in your own life to reduce your greenhouse gas emissions?

- Electrify Home Appliances
- Install Rooftop Solar Panels
- Walk, Bike, Bus-less Car travel
- Improve Home Energy Efficiency
- Convert to EV car
- Buy 100% green utility power from Dominion
- Vegetarian / Vegan
- Minimize air travel

What barriers do you experience that prohibits you from taking action to reduce your greenhouse gas emissions in your own life?

- Lack of contractor knowledge on high-efficiency/all-electric home appliance options
- Inertia. Too lazy to make home improvements.
- Cost. Solar panels are expensive.
- lack of technical and financial assistance (including C-PACE) for condo building EE/RE improvements and electrification
- lack of ability to enter into PPA's

What is a priority action the City of Alexandria can take to support your reduction of greenhouse gas emissions in your own life or in the community?

- Facilitate Community Solar installations
- Electrify DASH bus network
- Offer Programs & incentives to make improving home sustainability easy
- Add bike lanes
- Make Dominion offer Green Power in easier, cheaper ways
- Offer major education events at community hotspots - farmers markets, TWU and ARHA events, etc
- Hire a City Manager who supports & understands climate action
- More vegetarian / vegan meals in public school
- Workforce education on efficiency/sustainability
- Hire outreach staff for residents, businesses, and developers to lead electrification and EE/RE retrofits
- Make the necessary investments to enable rapid, deep emissions reductions, even if that means changing typical budget policies and assumptions
- Dedicated Bus Lanes on Duke Street
- Lack of information on building energy and refrigerant use and resulting GHG emissions

Most important (or likely) actions you can take in your own life to reduce your greenhouse gas

- drive less
- move to hybrid car and EV as soon as recharging network built out
- Replace appliances with Energy Star products
- Convince family members to reduce household energy use
- Urge Condo Assoc to reduce energy and chemical use in landscaping
- get more rain barrels, install rain garden, plant native plants to provide habitat
- Lobby landscaping company to use electric leaf blowers and other equipment.
- Reduce consumption of beef and other red meat.

What barriers do you experience that prohibits you from taking action to reduce your greenhouse gas emissions in your own life?

- need electric charger network throughout country
- relatively new gas appliances - will replace when needed with electric
- More difficult to effect change when dealing with a homeowners association.
- Most people don't appreciate how serious CC is, or how much will be required to mitigate it and adapt to it.

What is a priority action the City of Alexandria can take to support your reduction of greenhouse gas emissions in your own life or in the community?


- Create more rain gardens in public streets and landscaping, reduce impermeable surfaces.
- Provide citizens with safe walking and biking infrastructure throughout the city
- at the bump-outs recently installed on Commonwealth - install rain gardens and native vegetation to reduce flooding in Rosemont
- The city should design and implement a massive CC education campaign.
- install green roofs on city buildings



Community Engagement Session – Vulnerability/Adaptation


The Climate
Adaptation Landscape

Reid Sherman






A Holistic Approach to Flood Mitigation

Daniel Medina, PhD, PE
Stormwater Program Manager


FLOODACTION 


Energy and Climate Change Action Plan, Workshop #2
March 1, 2022



Adapting to the effects of Climate Change Through Regional Resilience

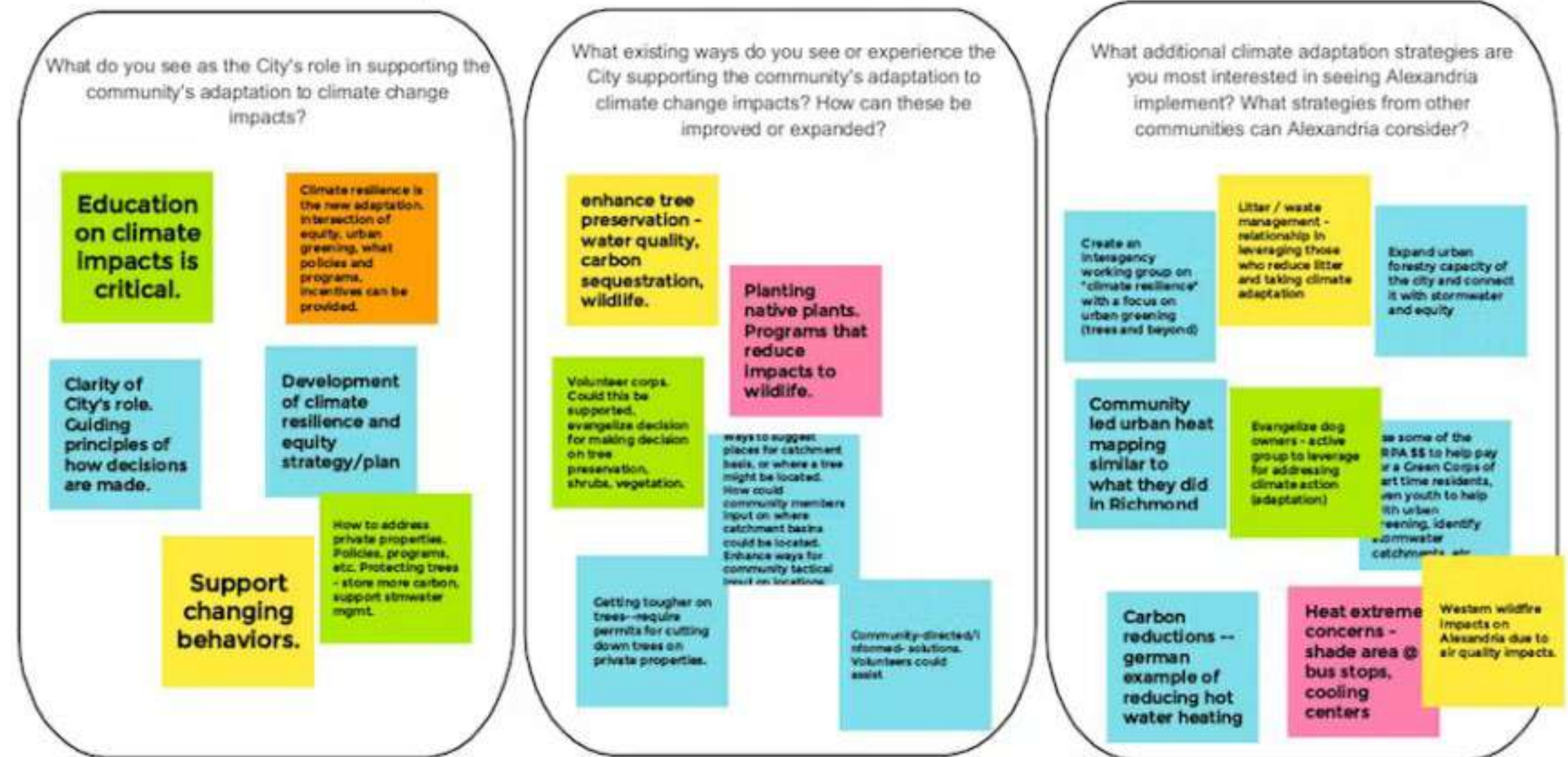
Nora Jackson, Resiliency Planner
Northern Virginia Regional Commission




novaregion.org / @novaregion 



Community Engagement Session – Vulnerability/Adaptation

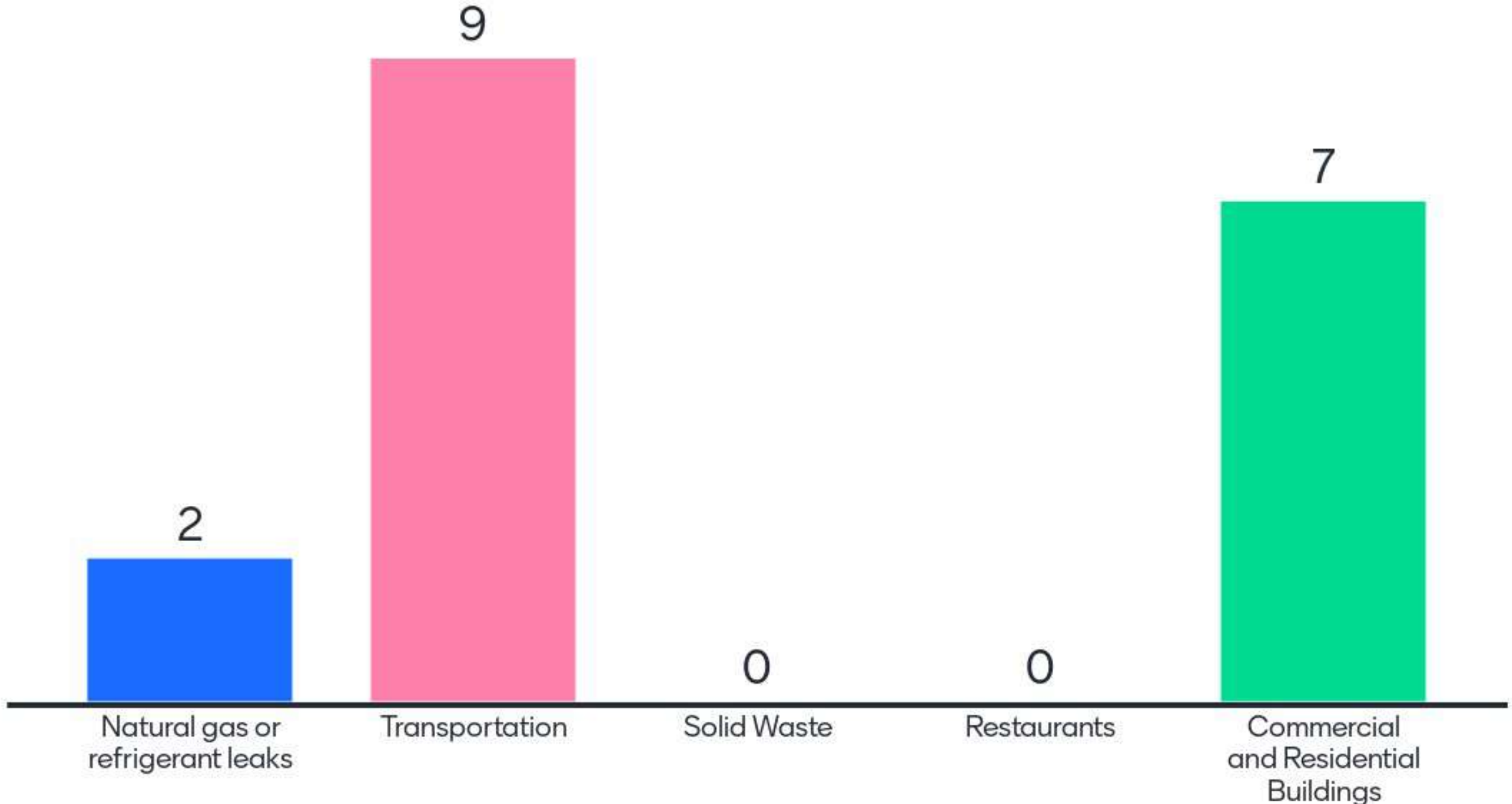




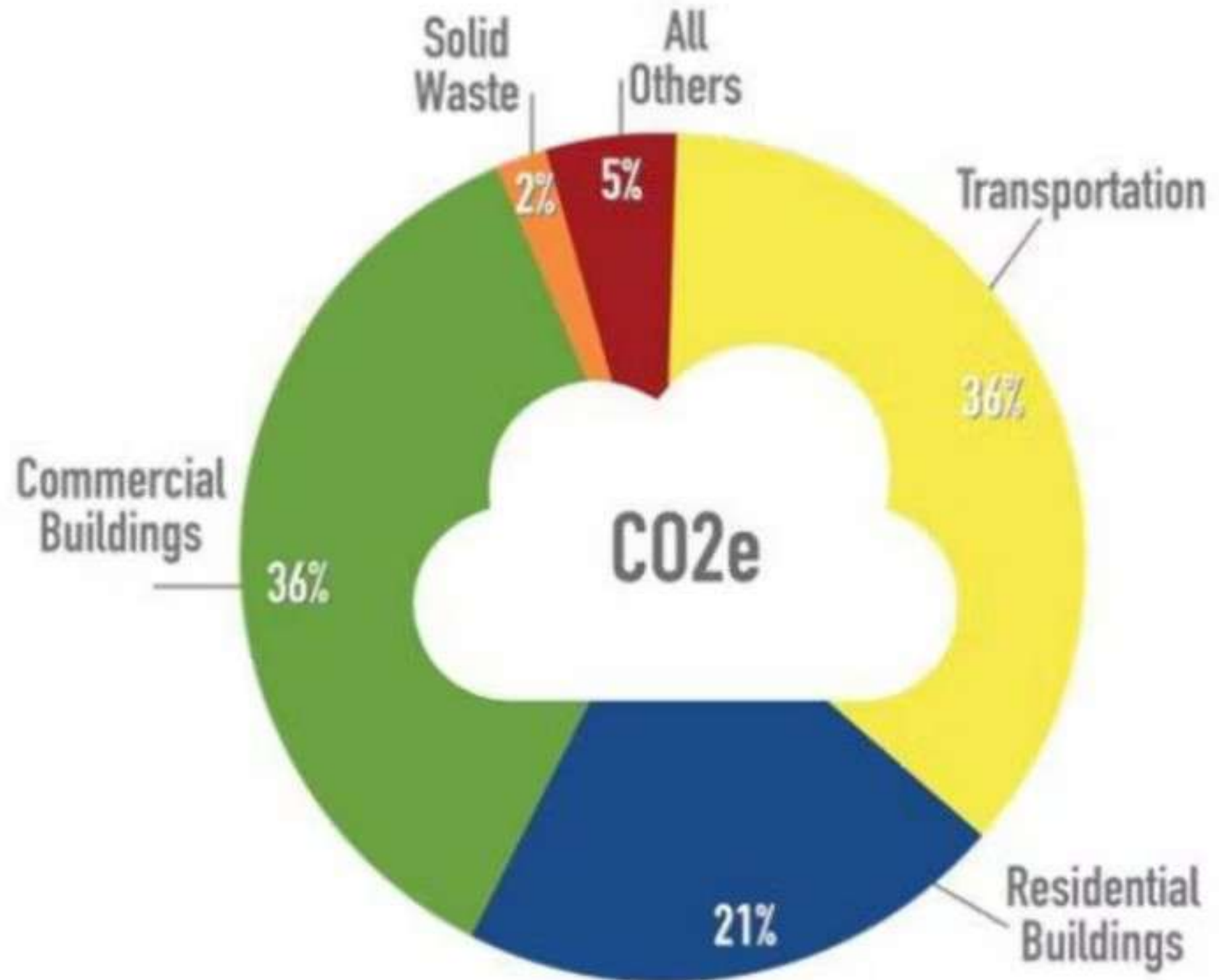
Question: What sector is Alexandria's Greatest Source of Greenhouse Gas Emissions?



What sector is Alexandria's Greatest Source of Greenhouse Gas Emissions?



Community-wide Greenhouse Gas Emissions



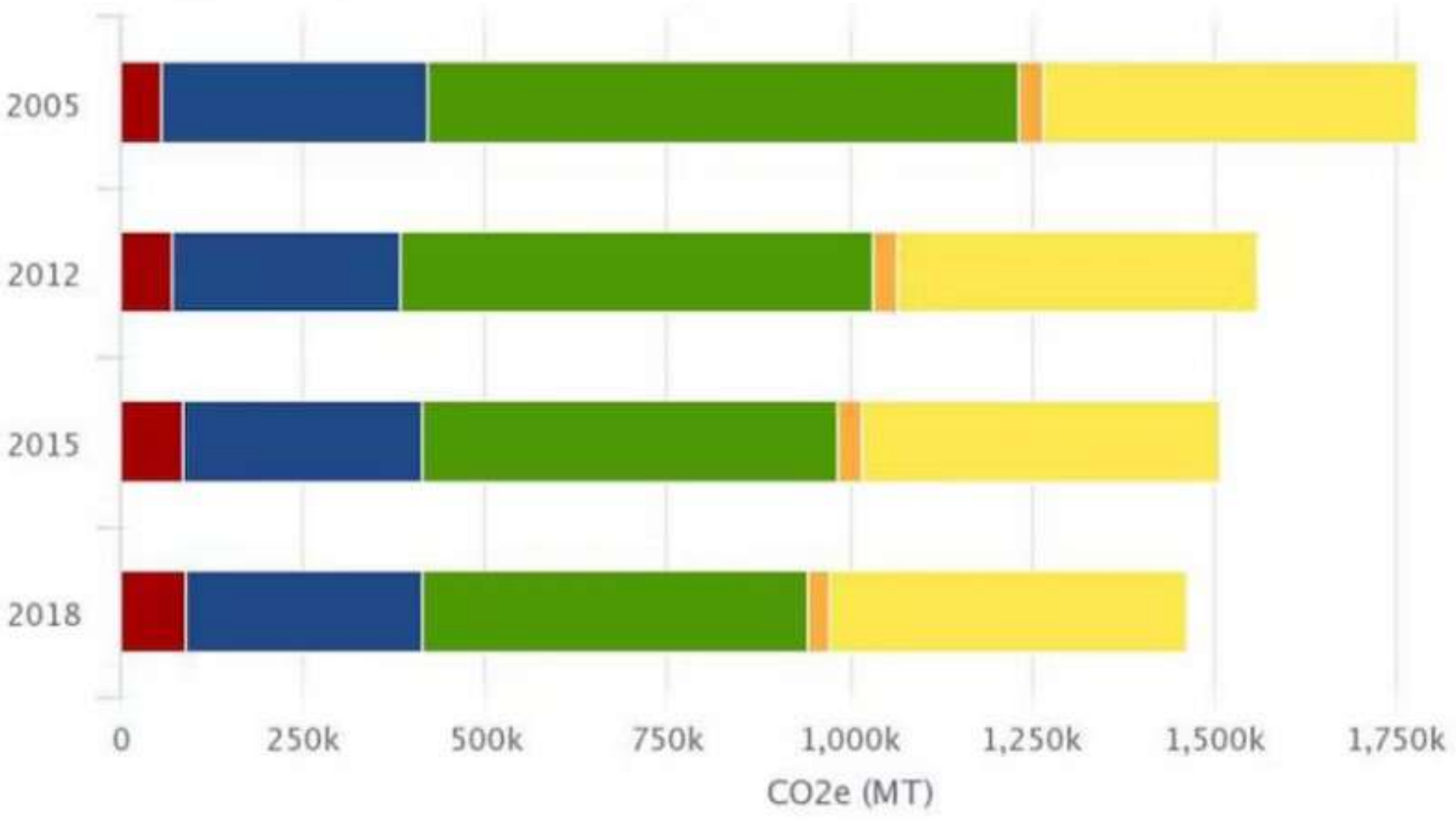
The contribution of City emissions from various sectors of the community show that the majority emissions are from the built environment, followed by transportation.



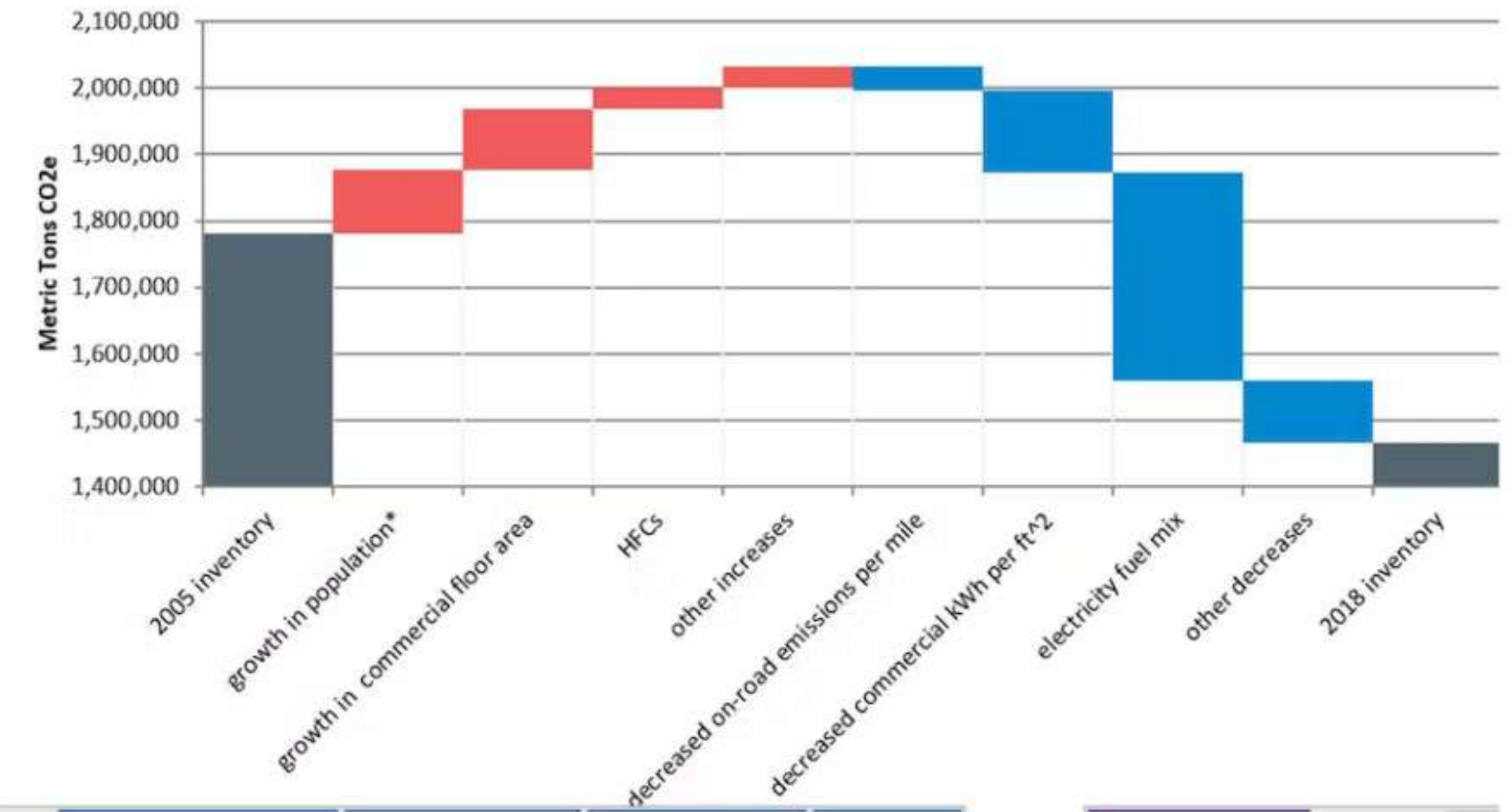
Community-wide Greenhouse Gas Emissions

GREENHOUSE GAS TRENDS CHART - CITY OF ALEXANDRIA

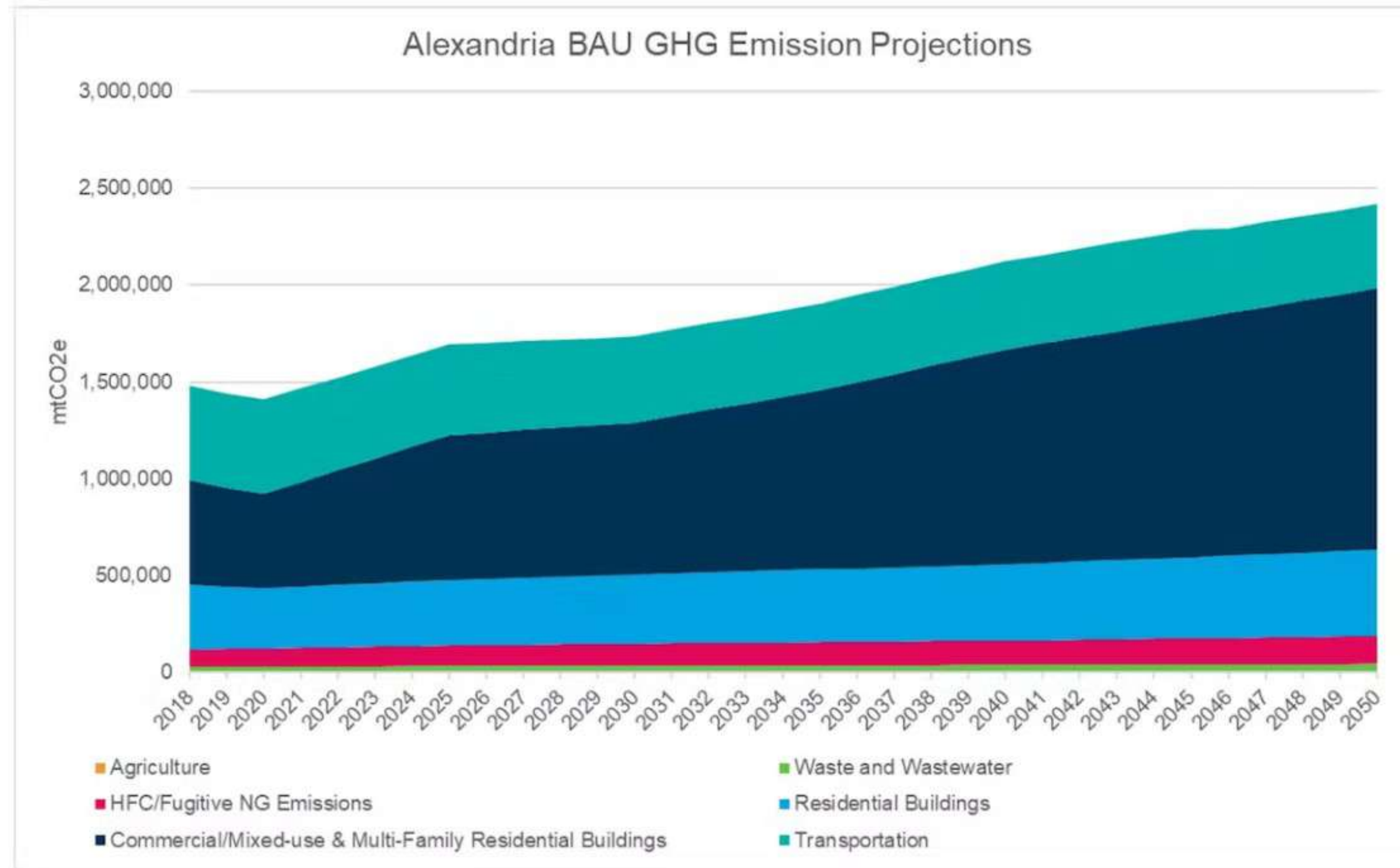
Alexandria greenhouse gas emissions decreased by 18% from 2005 to 2018.



- Process & Fugitive Emissions
- Residential Energy
- Commercial Energy
- Water & Wastewater
- Solid Waste
- Transportation & Mobile Sources



Business-as-Usual Community-wide Greenhouse Gas Emission Projections




Business-as-Usual Community-wide Greenhouse Gas Emission Projections


- In 2018, buildings account for approximately 57% of emissions and transportation accounts for approximately 36%.
- Population and job growth projected to continue increasing.
- Absent action, new and existing building [commercial (mixed use & multi-family) & residential] sector emissions increase.
- Transportation emissions remain relatively consistent.



Community Feedback and Questions

- Give us your input or ask a question on the ECCAP background or process, Alexandria's community-wide emissions, or Business-as-Usual Greenhouse Gas emission projections.
-  Feel free to raise your hand, submit your feedback or question through Mentimeter, or write your feedback or question on a notecard and pass to Jessica.
- If we cannot get to your input or question, we will compile and answer as part of the post-meeting summary.





Feedback and Questions: Give us your input or ask a question on the ECCAP background or process, Alexandria's community-wide emissions, or Business-as-Usual Greenhouse Gas emission projections.



Feedback and Questions: Give us your input or ask a question on the ECCAP background, Alexandria's community-wide emissions, or BAU emissions.

Does the ECCAp address incentives for commercial real estate to get them to buy into reductions?

Need process to expedite new energy efficient private projects— opportunity?

Oh and what ARE these incentives??? 😊

What can the City do to move the needle and get GHG reductions to scale?

Can we distinguish in public meetings about commercial buildings and what breaks down to group residential versus office

How do residential buildings and commercial buildings contribute to greenhouse gases ?

Given that we know mode shift away from driving will induce more driving demand, are there any plans to make driving less attractive?

With increasing population and increasing VMT, how can Business as usual transportation contributions to GHGS remain constant?

Strongly suggest including an estimate in transportation emissions by building type, for example on a per unit basis, a mixed use residential building will generate fewer vehicle trips than a single family home

Feedback and Questions: Give us your input or ask a question on the ECCAP background, Alexandria's community-wide emissions, or BAU emissions.

Where is PACE?

What is the share of local air pollution contributed by locally burned natural gas vs automobile use?

Strongly suggest separating out short vehicle trips from the transportation emissions to show how converting them to active transportation and transit will reduce emissions

How involved is ACPS in this process and in active education around climate change? Is there an active attempt to involve students?

In the transportation sector, is there an estimate of GHG emissions of residents vs. commuters?

Acps proposing replacing natural turf athletic fields to artificial turf. How does this impact heat vulnerability.

How does EV charging get figured into the emissions inventory? Under transportation or under buildings?

What efforts are being done to raise awareness that this is a problem and how are we involving All Alexandrians in this call to action?

How are you including diverse voices and communities in this process?

Feedback and Questions: Give us your input or ask a question on the ECCAP background, Alexandria's community-wide emissions, or BAU emissions.

Do you have a community education plan?

Clear messaging (and effective info graphics) in plan that 1) City (not just Feds and State) has to do a lot and do it quickly, and 2) that this is doable, will make the city a better place for everyone, and here are the options to do it.

At an earlier meeting, Ellen Eggerton said that the Science Based Targets Initiative is now recommending a target of achieving a 58.6% GHG emissions reduction by 2030. Are we tracking that recommendation, and if not, why not?

City is a member of Virginia Railway Express and should push them to electric the line between Alexandria and Washington, allowing MARC electric trains to extend south when the long bridge is complete. VRE is refusing to electrify today

Break

9:50 AM – 10:00 AM



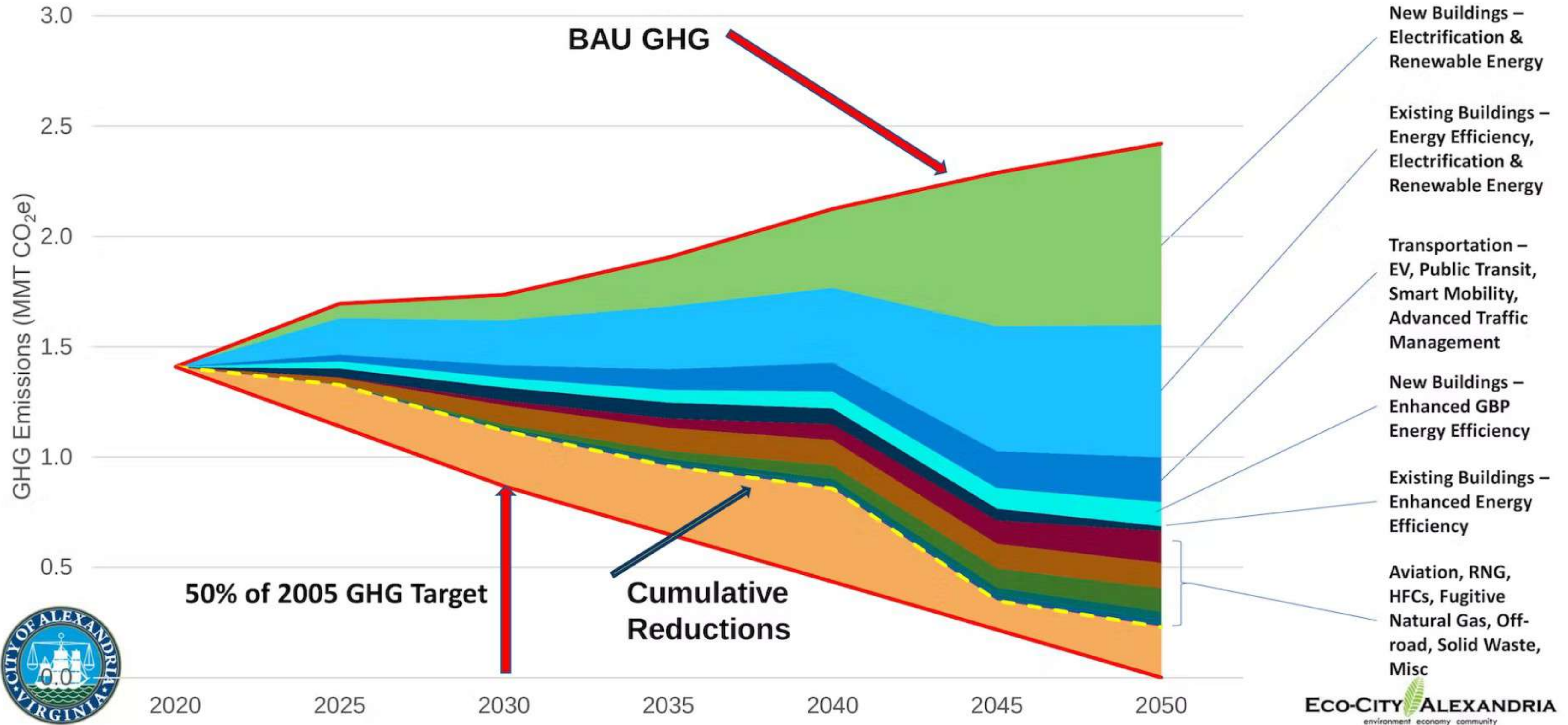
Community-wide GHG Emission Reduction Target

TARGET

Reduce community-wide GHG emissions by 50 percent by FY2030 and 80–100 percent by FY2050 (base year 2005) supported by significant contributions at the state and federal level toward renewable energy and energy efficiency mandates



Community-wide GHG Emission Reductions



Community-wide GHG Emission Reductions

Sectors	2005	2030	2050	2030 (% Reduction 2005)	2050 (% Reduction 2005)
Buildings	1.17	0.64	0.13	46%	89%
Transportation	0.38	0.24	0.05	36%	87%
Waste	0.03	0.03	0.01	23%	85%
Misc* (HFCs, RNG, Aviation, etc)	0.20	0.21	0.04	-9%	78%
Total Emissions	1.78	1.12	0.23	37%	87%
Future Technologies / Advanced Policies**					
		-0.25	-0.23		
Total Emissions with Future Technologies	1.78	0.87	0.00	51%	100%



Buildings (Draft Actions)



Strategy	Action	EAP/City Plan
Building Energy -		
B-1: Support decarbonizing existing buildings through financial opportunities	B-1.A: Implement a City or regional green bank	
	B-1.B: Enhance/accelerate CPACE financing promotion	EAP
	B-1.C: Implement energy efficiency, electrification, and Green Building renovation incentive program(s) – includes WAP, state, federal, utility	EAP
B-2. Educate and enhance implementation of the City’s Green Building Policy to support decarbonizing new and existing buildings	B-2.A: Provide education and technical assistance to support residential, commercial building energy efficiency, electrification, and green building policy implementation	EAP
	B-2.B: Implement a program to support residential and commercial energy efficiency and electrification	EAP
	B-2.C: Implement regulatory and policy opportunities to drive Green Building Policy implementation (including Building Disclosure and Building Performance Standard Programs)	EAP (includes 3.1.*)
	B-2.D: Support energy performance requirements of building codes.	EAP
B-3: Utilize decarbonized fuel supply in buildings (as necessary)	B-3.A: Increase energy supply from Resource Recovered Gas, Hydrogen, and Power-to-Gas (RNG)	
B-4: Accelerate implementation of all feasible decarbonization measures for City-owned buildings	B-4.A: Implement the energy efficiency and electrification actions defined in the EAP	EAP

Transportation (Draft Actions)

Strategy	Action	EAP/City Plan
Transportation		
T-1. Reduce vehicle miles	T-1.A: Improve, expand and integrate access to public transit systems and bicycle/pedestrian access through enacting actions within the EAP 2040, Alexandria Transit Vision and Mobility Plan	EAP, AMP, ATV
	T-1.B: Land use changes focused on redistribution of future growth to activity centers and areas better served by transit across jurisdictions	AMP, ATV
	T-1.C: Advocate for reduced Metro transit fares and increased parking pricing at workplaces	AMP, ATV
	T-1.D: Support telework policies	
	T-1.E: Promote a job/housing balance by focusing on-site affordable housing units near transit access	AHMP
T-2: Accelerate the deployment of electric and alternative fuel vehicles	T-2.A: Implement recommendations supporting expanding EV charging infrastructure access in line with the EVSE, including addressing gaps in meeting charging demand (e.g., opportunity charging, residents without driveways/garages, multifamily dwelling residents); enhancing communication and awareness; strengthen zoning, building codes, and permitting; advocating in state government or with Dominion Energy; building successful business models for chargers; and working to secure funding (e.g., federal).	EAP, EVRS
	T-2.B: Provide education and outreach to the community about EVs and available state and national incentives	EVRS
	T-2.C: Advocate with Dominion and regulators for fee-based EV charging; educate the community about these options	EVRS
	T-2.D: Transition DASH bus transit fleet to electric	EAP, EVRS
	T-2.E: Connect private fleets with partners and opportunities to educate and incentivize electrification	EVRS



Renewable & Clean Energy (Draft Actions)

Strategy	Action	EAP/City Plan
Renewable Energy		
RE-1: Support implementation/acceleration of the VCEA by increasing solar deployment within the City	RE-1. A: Increase on-site renewable deployment within the City through Solarize Alexandria, Solar Equipment Tax Exemption, Green Building Policy (new construction), and low- and moderate-income programs	EAP
	RE-1.B: Support deployment of battery storage through promoting community ownership, incentives, and pairing with onsite renewables	
	RE-1.C: Explore Community Choice Aggregation with City as anchor	
	RE-1.D: Encourage large-scale offsite renewable energy through working with businesses and other organizations within the City to procure through PPAs	EAP

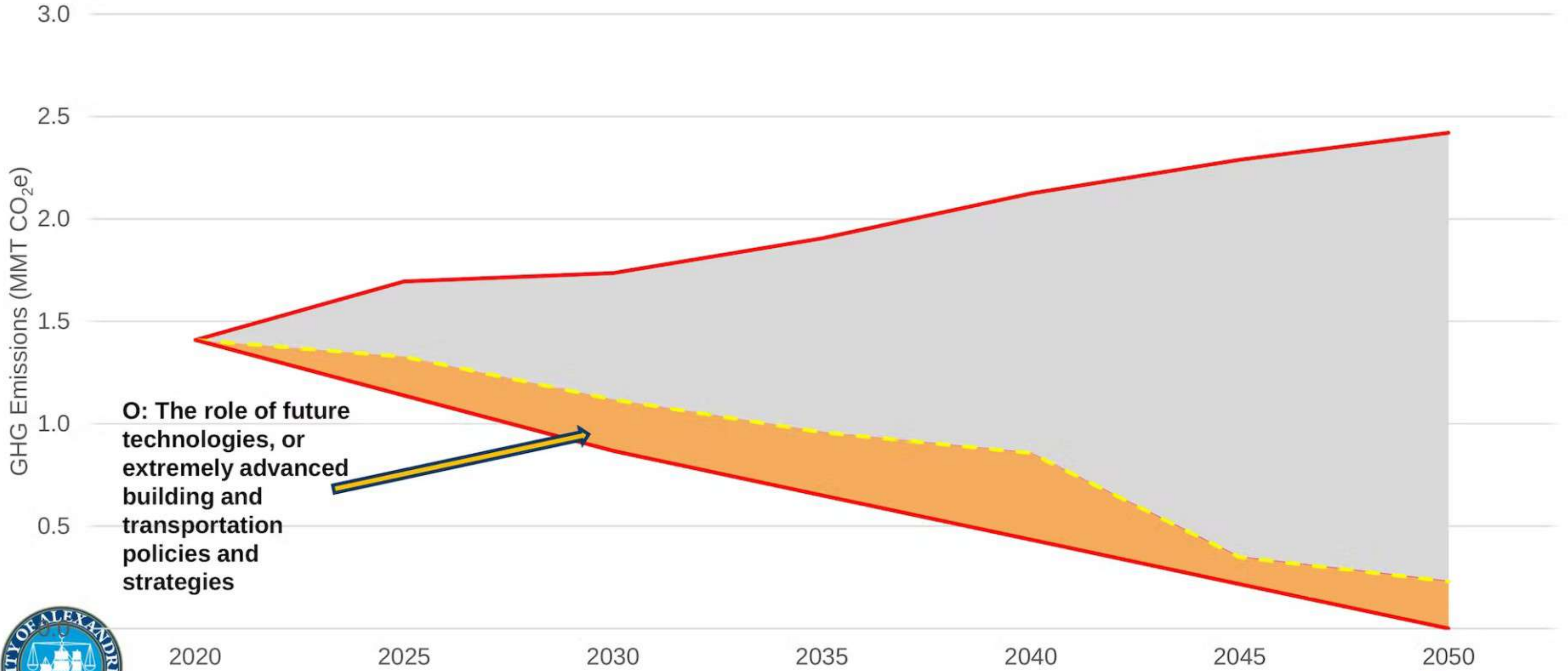


Waste (Draft Actions)

Strategy	Action	EAP/City Plan
Waste		
W-1: Recover resources and reduce GHG emissions and other forms of pollution by optimizing and safely handling the collection and processing of solid waste	W-1.A: Implement actions defined in the EAP 2040 (refer to 5.1 of the EAP)	EAP, WS



Other Community-wide GHG Emission Reductions



O: The role of future technologies, or extremely advanced building and transportation policies and strategies



What We've Heard

Energy and Climate Change Task Force

- Additional opportunities to offer/leverage funding/incentives
- Consider what else would it take
 - How much more can we do?
 - What new, innovative technologies can we be a leader?

Best Practice / Peer Guidance

- Outreach / Communications
- Offering Technical Assistance / Coordination
- Workforce Development





Feedback and Questions: Give us your input or ask a question on the ECCAP mitigation strategies and actions.



Feedback and Questions: Give us your input or ask a question on the ECCAP mitigation strategies and actions.

Great presentation.

Carrots and sticks - use carrots to incentivize more energy efficiency of new buildings

Key: communicate good news and build processes to reward results

Suggest as many options as possible to close the gap in energy use reduction. We have to be a leader with our action and our messaging.

E -bike rebates have been shown to incentivize shift from car trips to bike trips. See recent program in Denver.

Are food emissions included?

www.buildourfuture.org

Talk more about new federal IRA law

Thank you for taking the time to answer all the questions

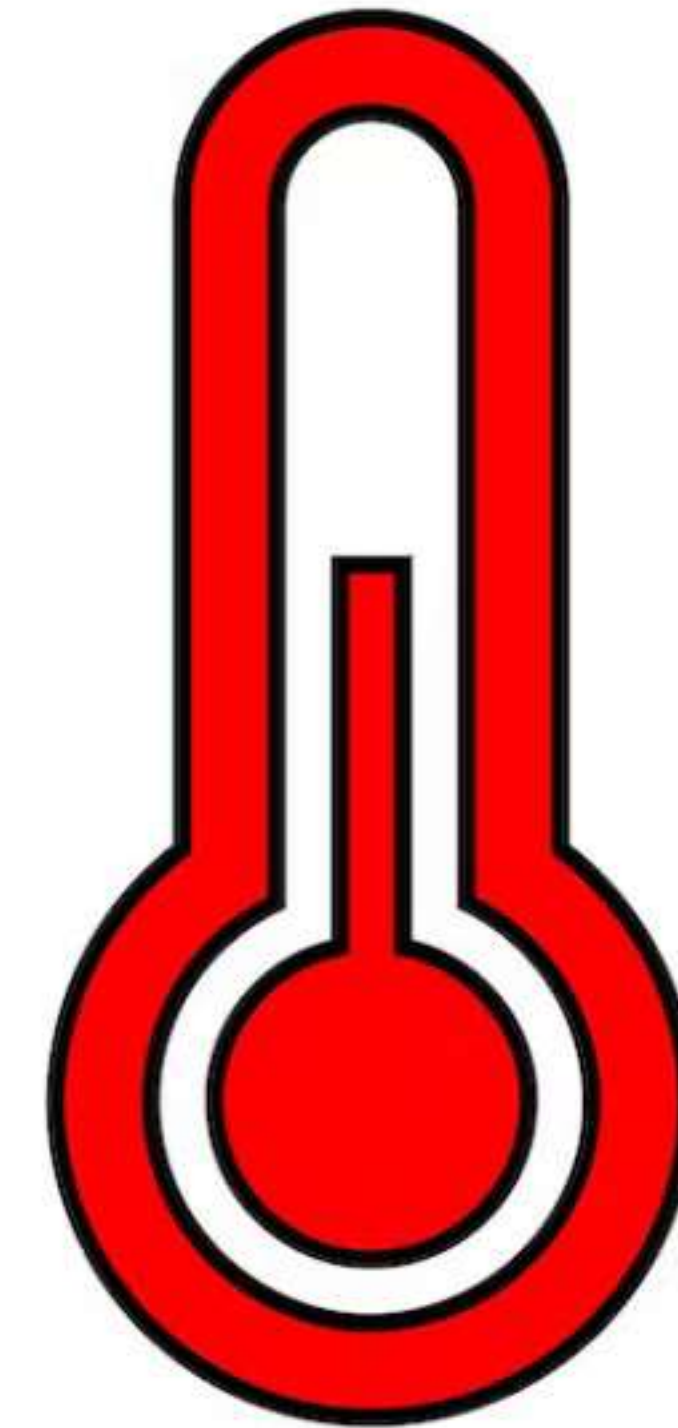
Feedback and Questions: Give us your input or ask a question on the ECCAP mitigation strategies and actions.

Are we also thinking about adaptation? Modeling what Alex will experience at 2c of warming?

Link cooling assistance with weatherization

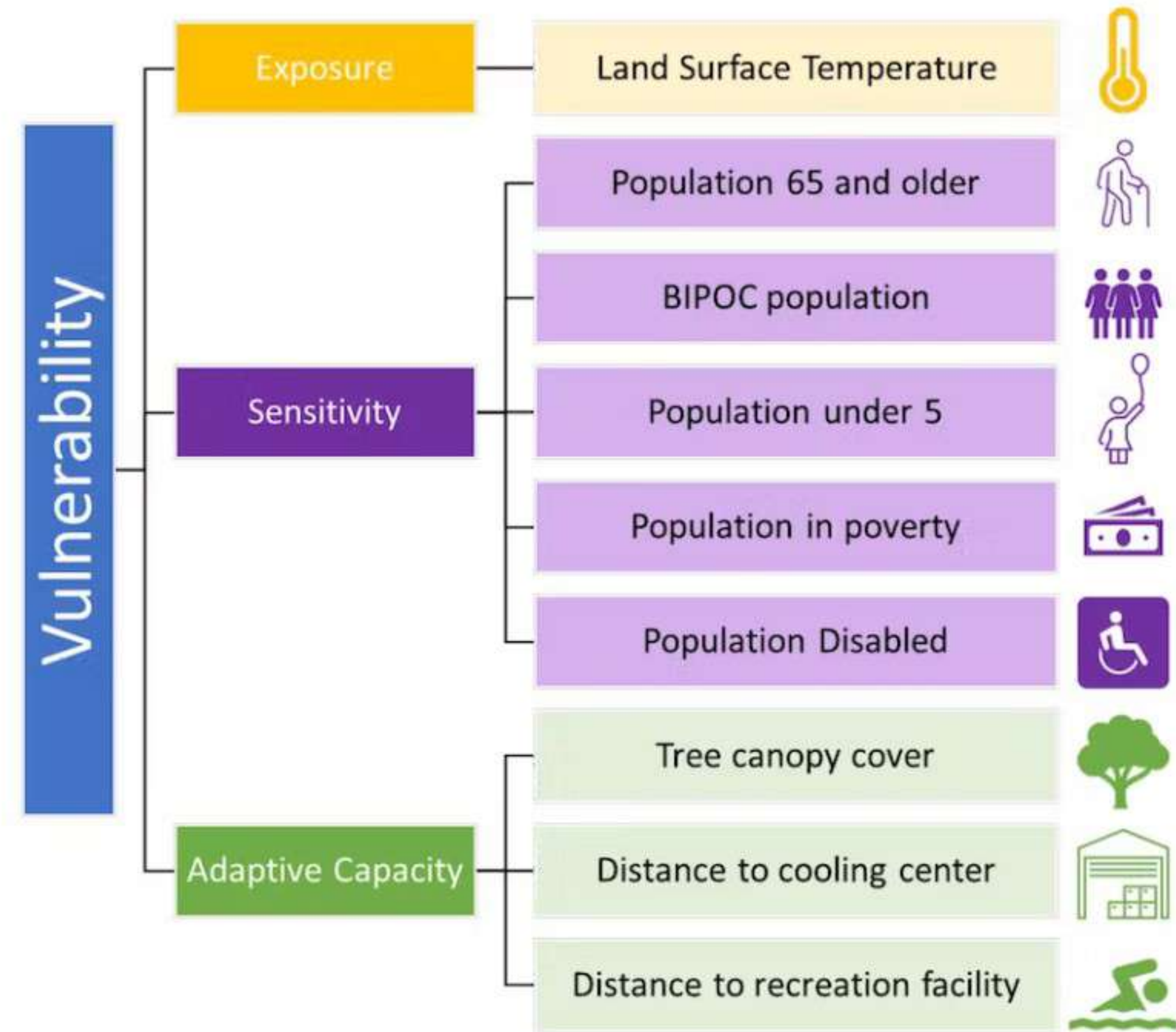
Climate Vulnerability & Adaptation/Resiliency

- Heat Vulnerability Assessment
- FloodAction Alexandria
- Actions/Strategies

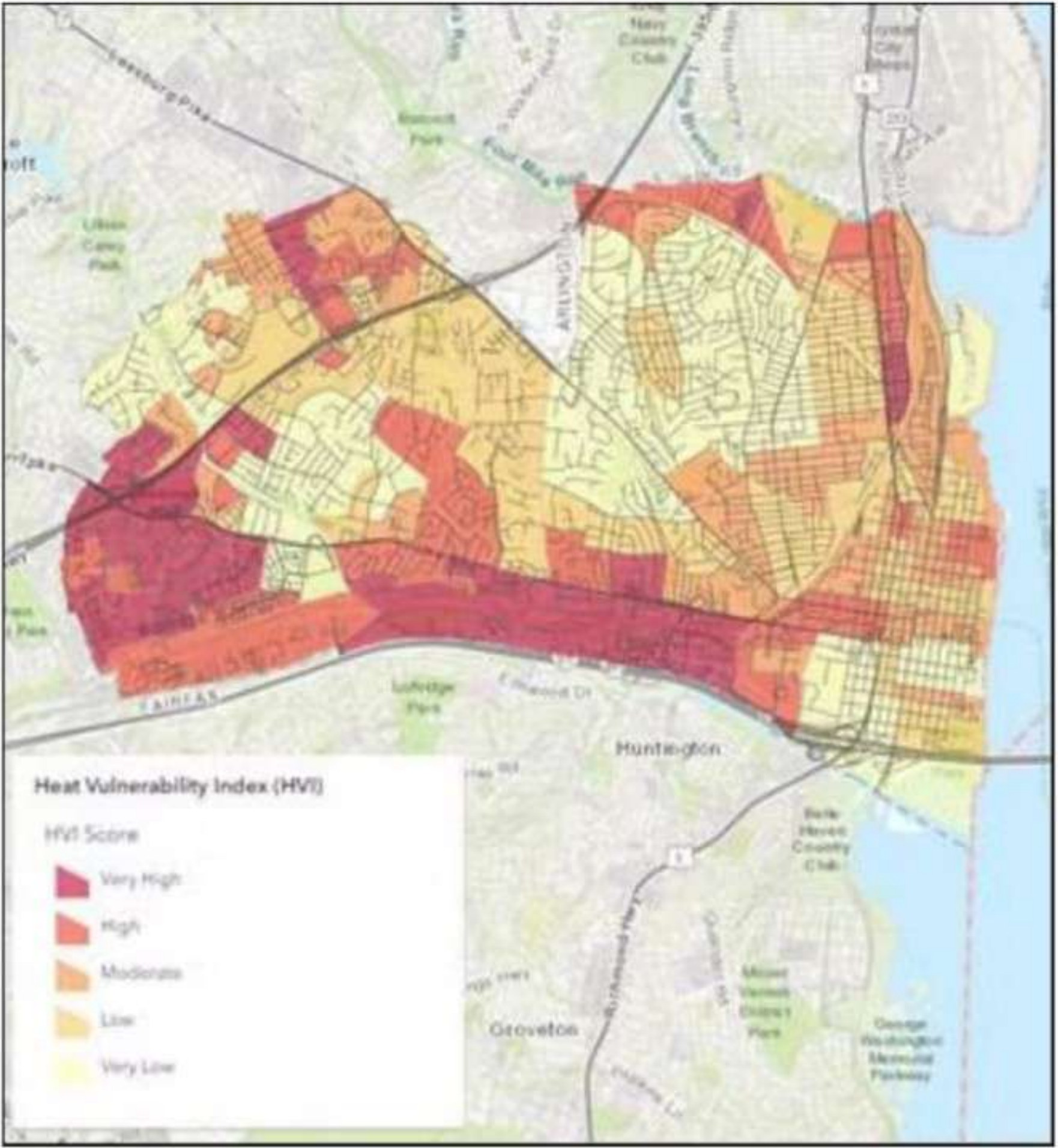
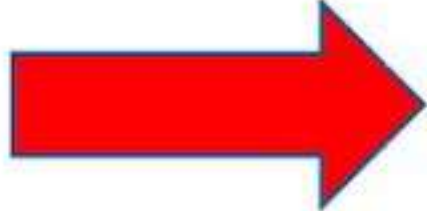
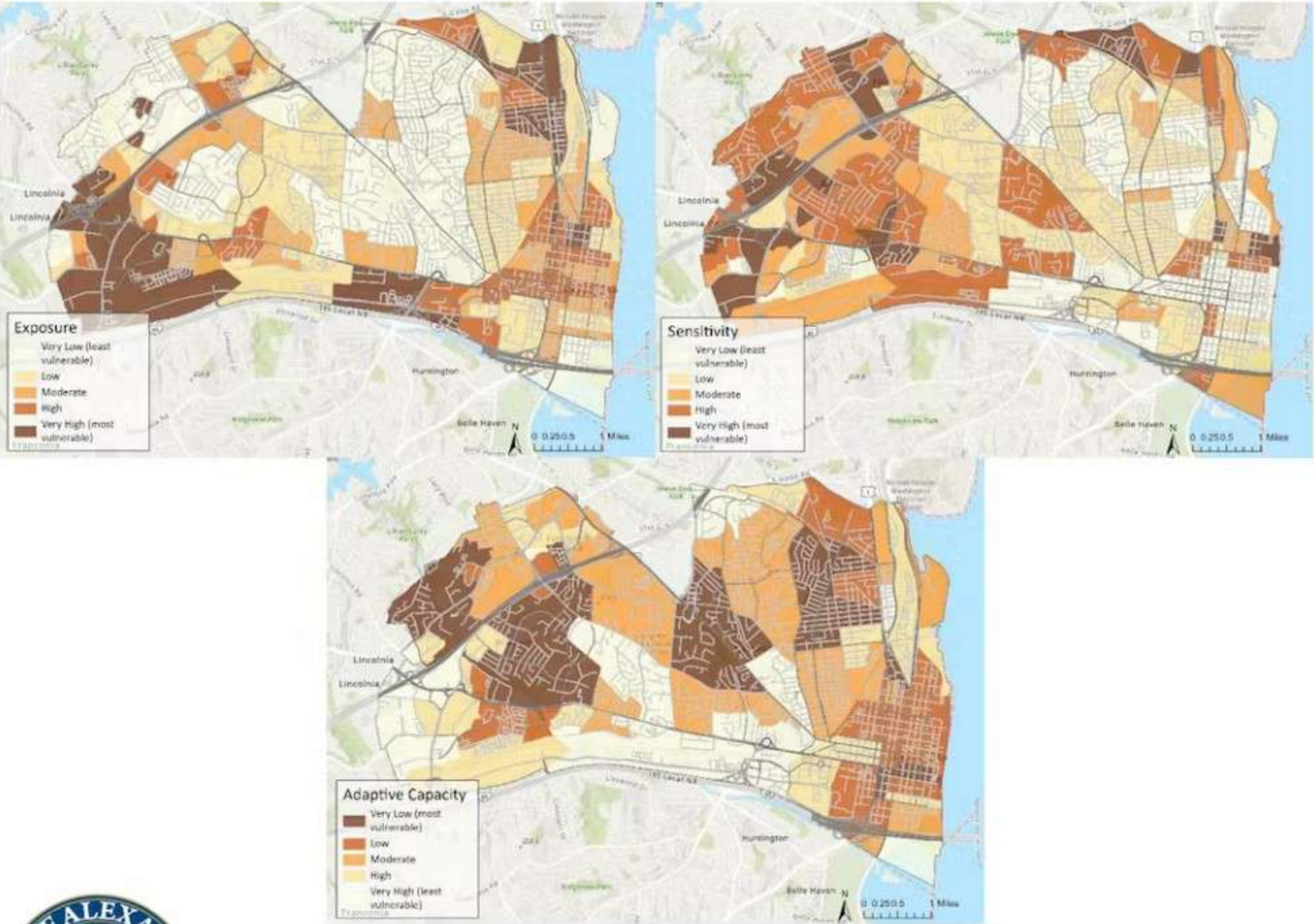


Heat Vulnerability Assessment Overview

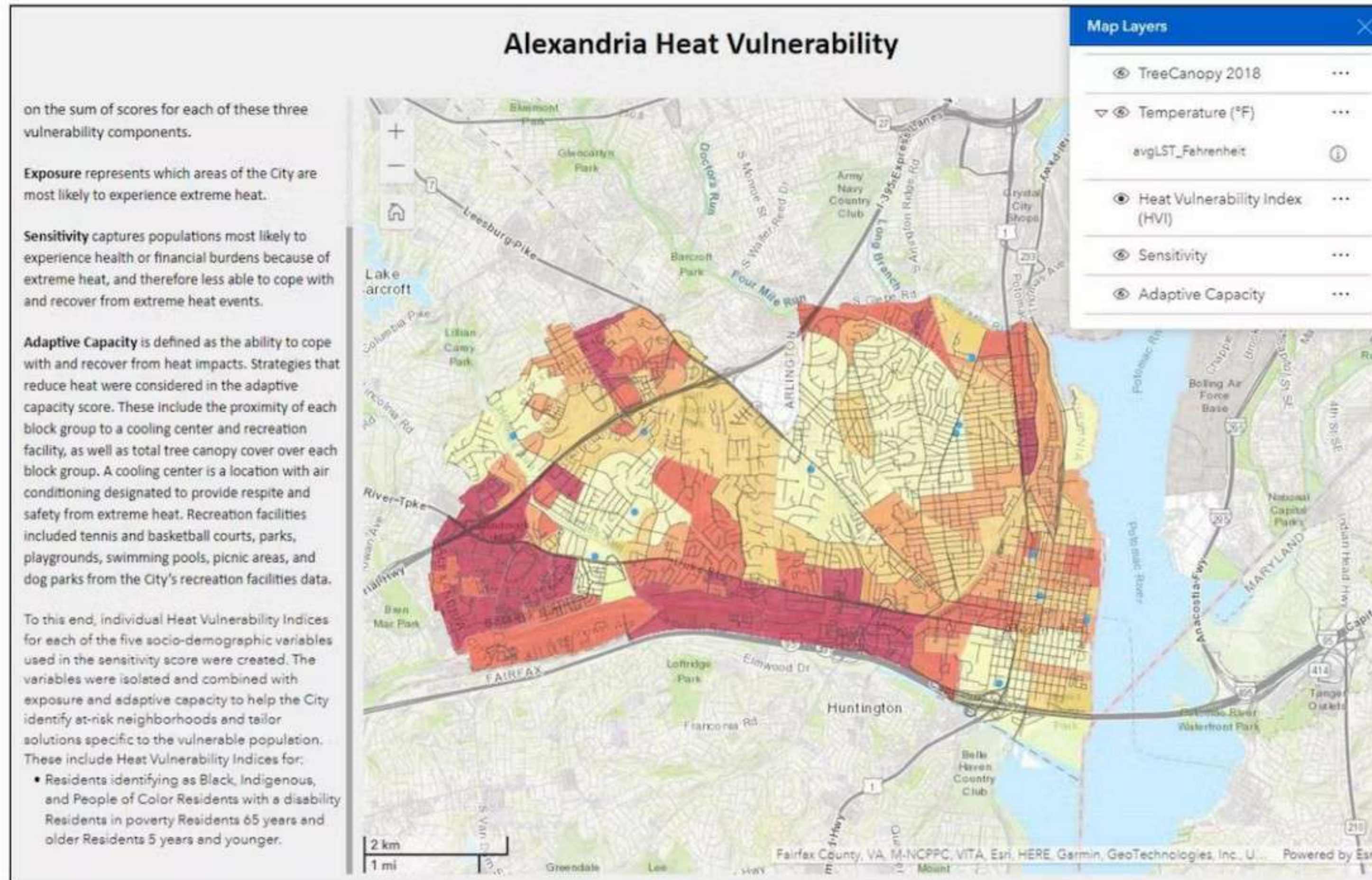
- Foundational Understanding of heat’s impact on Alexandria community.
- Neighborhood scale analysis based on
 - heat exposure
 - sensitivity
 - adaptive capacity/ability to recover from heat




Heat Vulnerability Assessment



Communicating Heat Vulnerability





Question: What ideas do you have to communicate heat vulnerability and impacts to the community?



Question: What ideas do you have to communicate heat vulnerability and impacts to the community?

Trees, trees. Trees

Develop joint initiatives with community groups in at-risk areas

Include heat in the thinking on multimodal transit / harder to walk or bike when it's over 90F.

Arlington has just begun a program to educate vulnerable communities about free tree planting options. Could we do something like that?

Communicate strategies to manage heat at home in the same way we talk about flooding

Many place to fill up water bottles

Convert city RECs to solar panels on city rec centers for vulnerability help with power outages and cooling ctrs

Promote Duke Street Transitway options that increase the tree canopy

Educate owners of multi family properties and HOAs about native plants, more tree planting, permeable paving etc.



Flood Action Alexandria

- Multi-faceted program focused on flood mitigation across the City
- Stormwater Capital Improvement Projects, spot improvement projects, private property grants for flood mitigation efforts
- Maintenance, inspection, sanitary sewer improvements, emergency response and early warning
- <https://www.youtube.com/watch?app=desktop&v=uaQ008V-yqw>





Welcome to the City of Alexandria Rain Gauge and Stream Flow tool. If you know your watershed of interest, please click the associated button to go to that page.

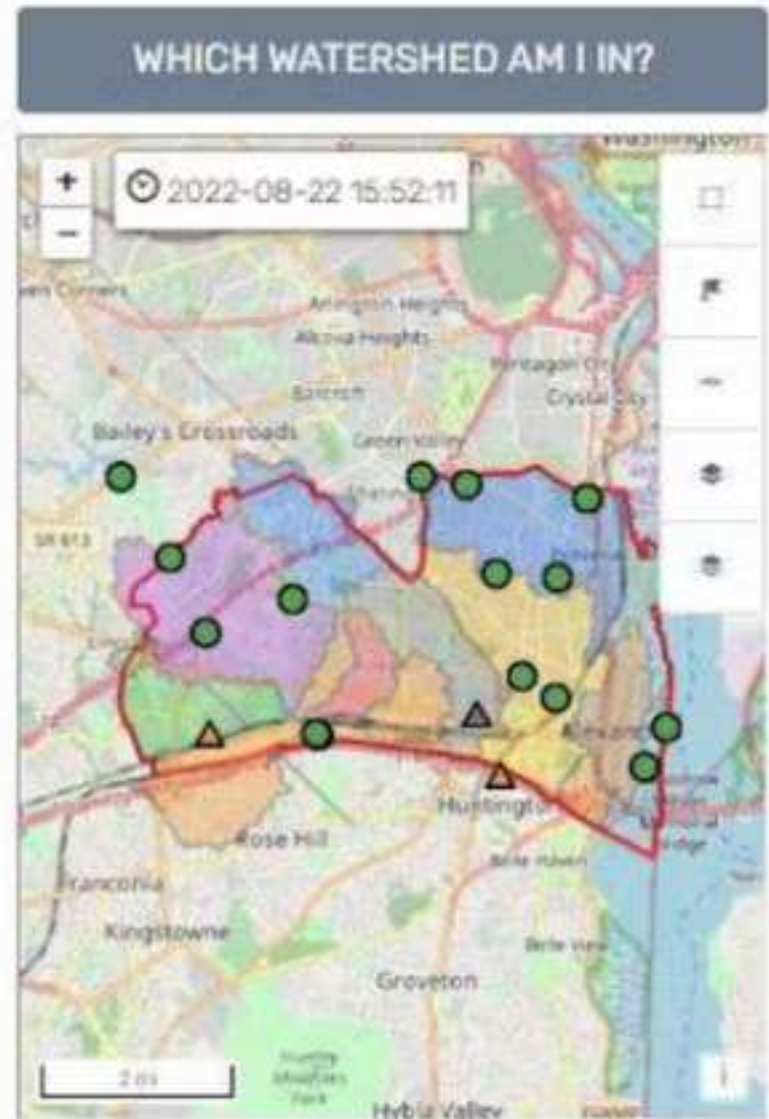
To find what watershed you are in, click on the "WHICH WATERSHED AM I IN?" button and a new pop-up window will take you to a tool where you can identify the watershed you are located in by typing in your address.

What is a "watershed"?

The map to the right is our citywide view. All the city's rain gauges and stream flow gauges are shown. Data is available for all the city's gauges. A quick tutorial for accessing the gauge data will be available soon.

Click on your WATERSHED below to see a watershed specific dashboard, with the closest rain gauges and flow monitors (Not all watersheds include flow monitors)

- Hooffs Run/Timber Branch Watershed
- Taylor Run Watershed
- Potomac River Watershed
- Backlick Run Watershed
- Four Mile Run Watershed
- Strawberry Run Watershed
- Cameron Run Watershed
- Holmes Run Watershed



Rain Gauges & Stream Gauge Network online since May 2021

Flood Action Alexandria

Flood Mitigation Grant Program

Paid out over
\$630,000
since August 2021

200+

applications

25

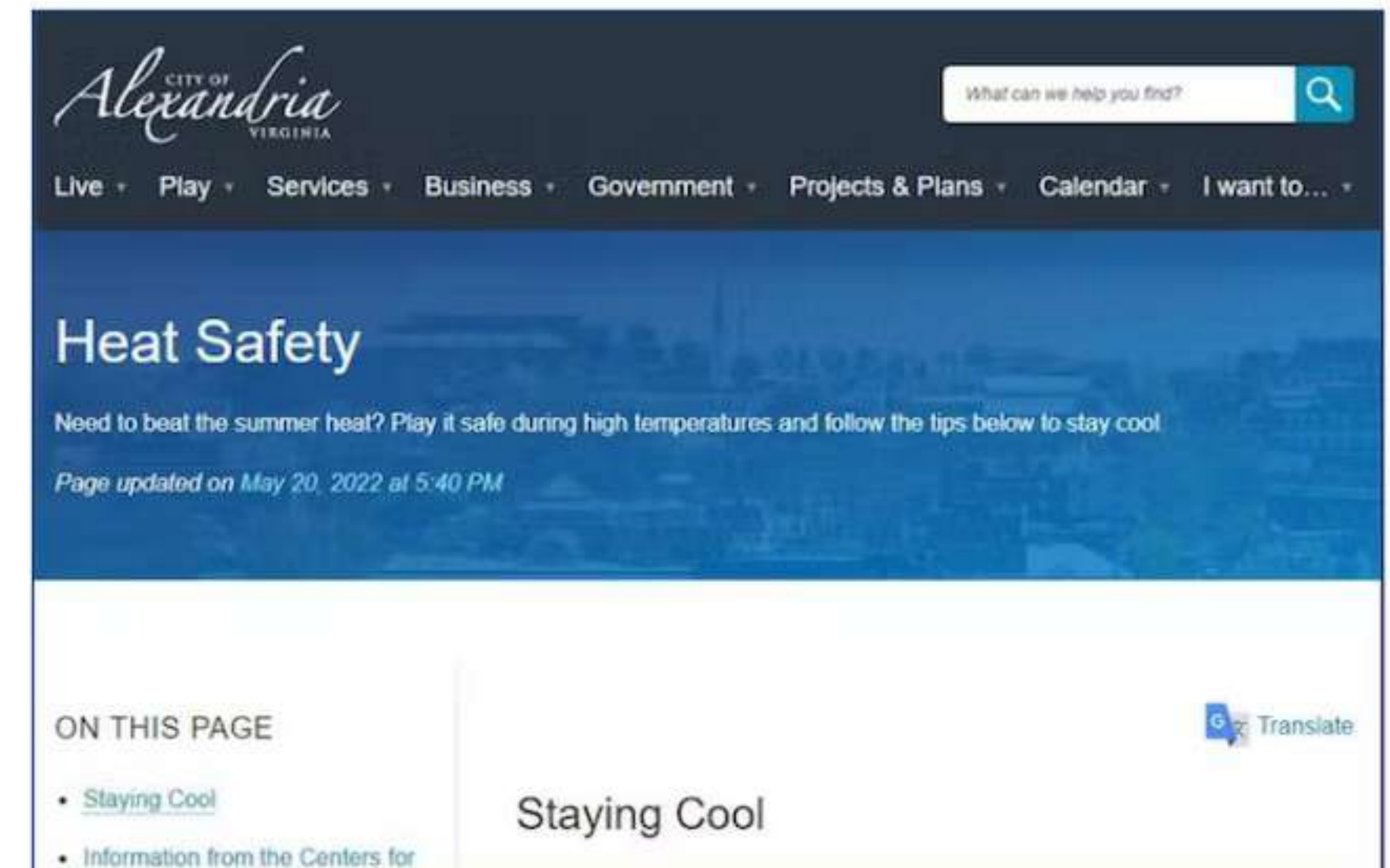
eligible practices


The grant awards property owners a 50% reimbursement of project costs – up to \$5,000 – if they take steps to mitigate flooding on their property. Learn more: alexandriava.gov/go/2439.



Climate Adaptation/Resiliency Strategies/Actions

- Continue Existing Adaption and Resilience Activities
- Enhance Equity in Climate Adaptation and Resilience Planning and Actions
 - Incorporate and center equity into ongoing climate adaptation and resilience planning
 - Proactively address systemic inequalities in climate adaptation and resilience planning
- Integrate Climate Change in Municipal Decisions and Activities
 - City plans, budget and capital improvement program, workplans
 - Internal working group for climate impacts
 - Identify innovative financing mechanisms
 - Integrate into capital planning
 - Lead by example with infrastructure resilience
- Implement Strategies to Adapt to Extreme Heat
 - Reduce Impact of Extreme Heat and Heat Island Effects
 - Enhance Heat Management Programs
 - Heat Response Coordination
- Implement Flooding Hazard Adaptation Strategies
 - Flood Reduction
 - Flood Management
 - Flood Coordination





Question: What Additional
Climate Adaptation/Resiliency
Actions Could the City Consider?



Question: What Additional Climate Adaptation/Resiliency Actions Could the City Consider?



Break

11:00 AM – 11:10 AM



ECCAP Implementation

- Communicating climate change & empowering City/community action
- Tracking progress
- Leveraging partnership opportunities





Question: What topics should the City communicate about climate change to empower action?



Question: What topics should the City communicate about climate change to empower action?

What risks do you face if ALX does not act?

The size of the emissions reduction gap we need to close

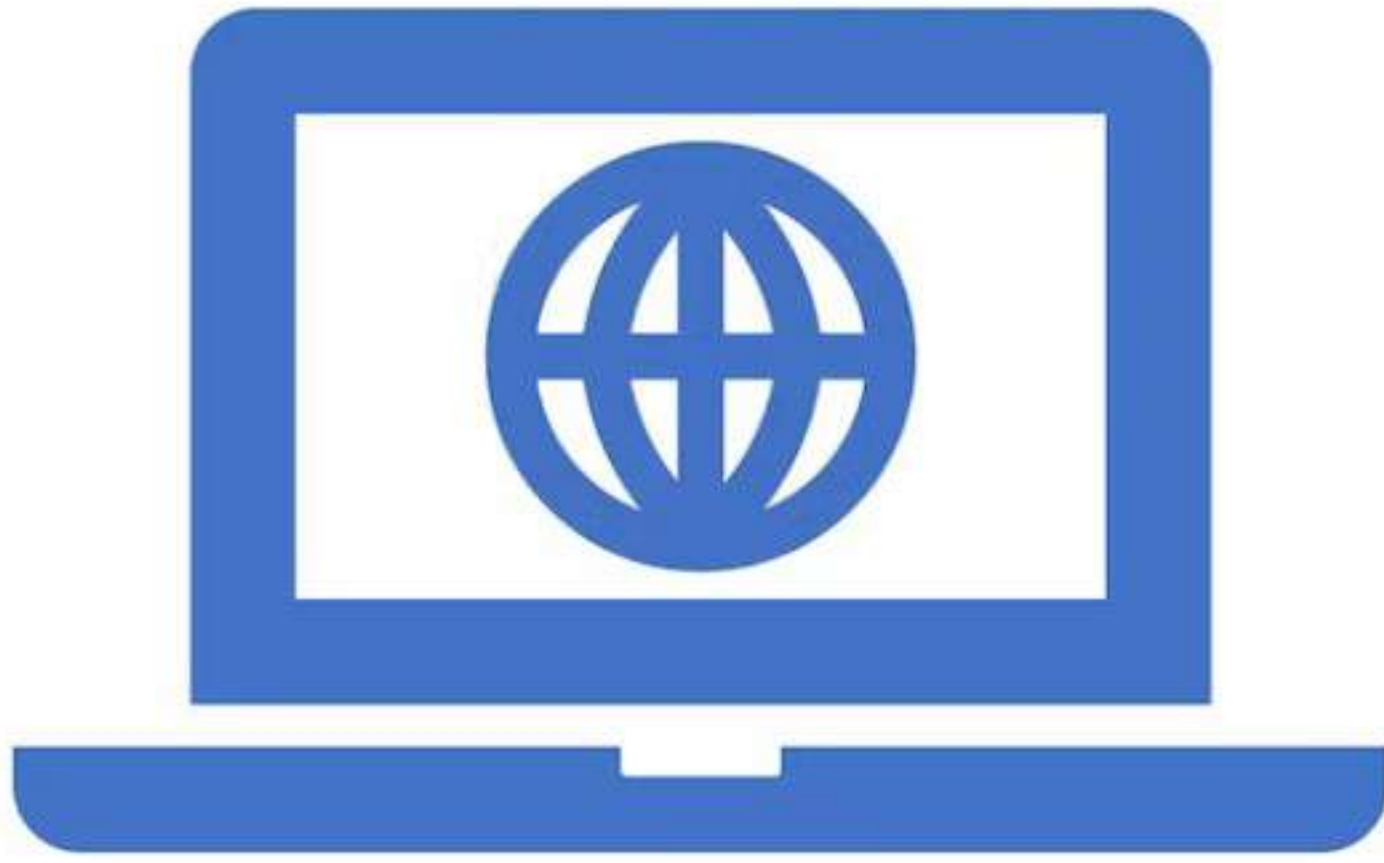
Incentives of new federal legislation

How to documents: more specific and process identification improvements when dealing with citizens.

Why aren't all city council members talking about new federal climate legislation?


Need to be clear about what the new normal is as far as heat and flooding, and what the new normal will be in 2030 and 2050

City's Primary Communications Approaches



- New Releases
- Handouts/brochures
- Social media
- Videos
- Dashboards
- Webinars
- Pop-up Events
- Community Presentations
- Storymaps
- Interactive web apps

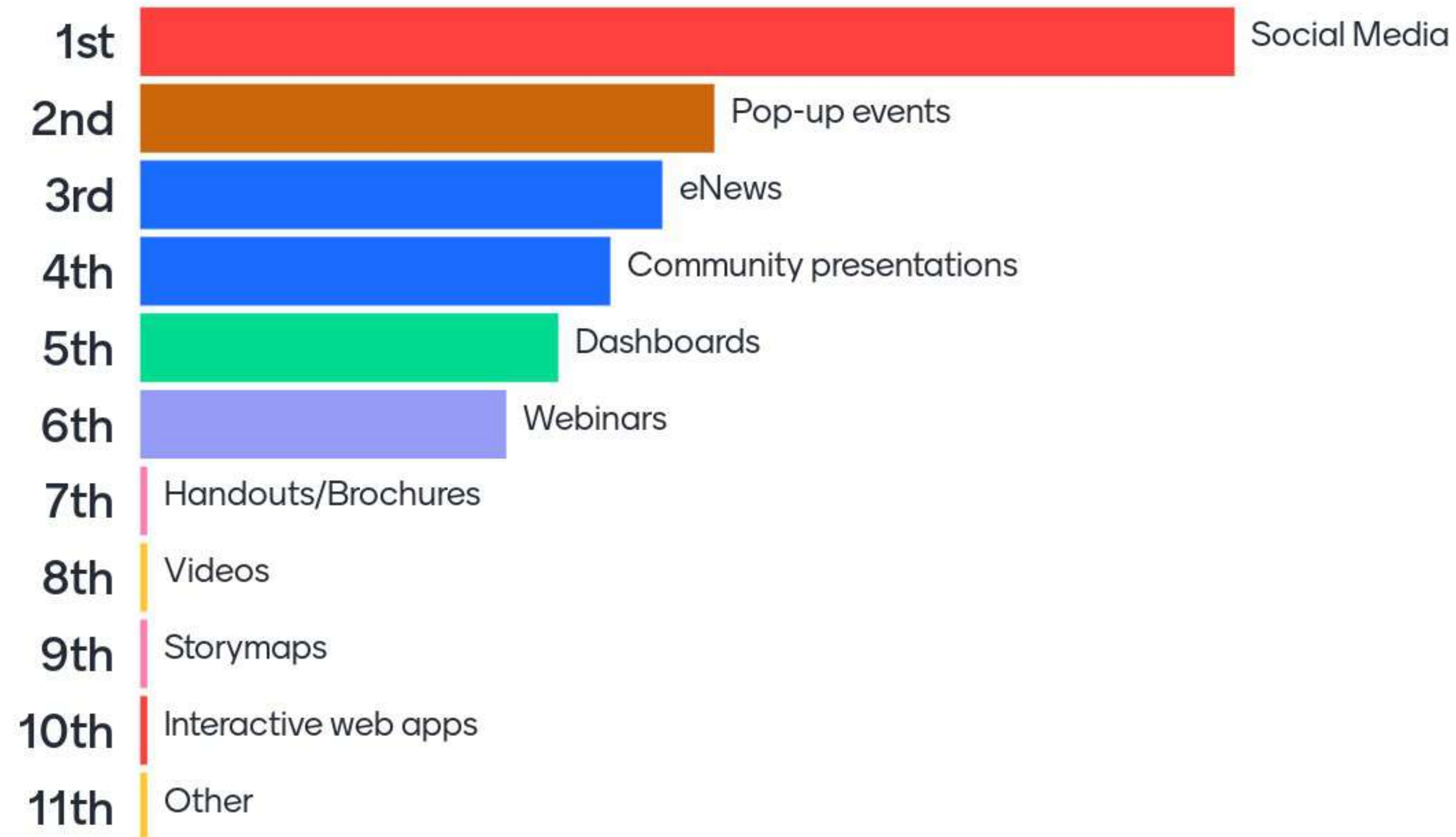




Question: What types of communications from the City do you find most helpful?



What types of communications from the City do you find most helpful?




Leaderboard

No results yet

Top Quiz participants will be displayed here once there are results!






Question: How should the City consider tracking ECCAP implementation?



Question: How should the City consider tracking ECCAP implementation?






Question: What groups or organizations should the City partner to advance our climate change goals and ECCAP actions?



Question: What groups or organizations should the City partner to advance our climate change goals and ECCAP actions?

Friends of the Mt. Vernon trail

EPC, minority groups, DEMs,



Question: Do you have further ideas on strategic implementation of the ECCAP by the City or community we haven't already been captured?



Question: Do you have further ideas on strategic implementation of the ECCAP by the City or community we haven't already been captured?

Logo. Smart city

After Workshop Summary & Next Steps

- Post presentation and materials to City website
- Summarize and post notes to the City's website, email attendees
- Incorporate as much feedback within the ECCAP, including incorporating into sections outlining community engagement responses
- Identifying additional opportunities for community engagement and public comment on the ECCAP
- eNews / Social Media / City website – announcements about upcoming Energy and Climate Change Task Force, community input opportunities



Thank You

- Energy and Climate Change Action Plan
 - <https://www.alexandriava.gov/energy/energy-and-climate-change-action-plan>
- Sign Up for City, Environmental, and FloodAction eNews
 - <https://www.alexandriava.gov/eNews>



Contact Information

Bill Eger, PE, CEM[®], CC-P[®], ISSP-SEA, CPM, LEED AP
Energy Manager

Bill.Eger@alexandriava.gov

Jessica E. B. Lassetter, MNR
Senior Environmental Specialist

Jessica.Lassetter@alexandriava.gov

