

RVAGreen 2050 Transportation Working Group
November 19, 2020

City of Richmond
RVAgreen
2050

Equitable climate action for a healthy and resilient Richmond

Agenda

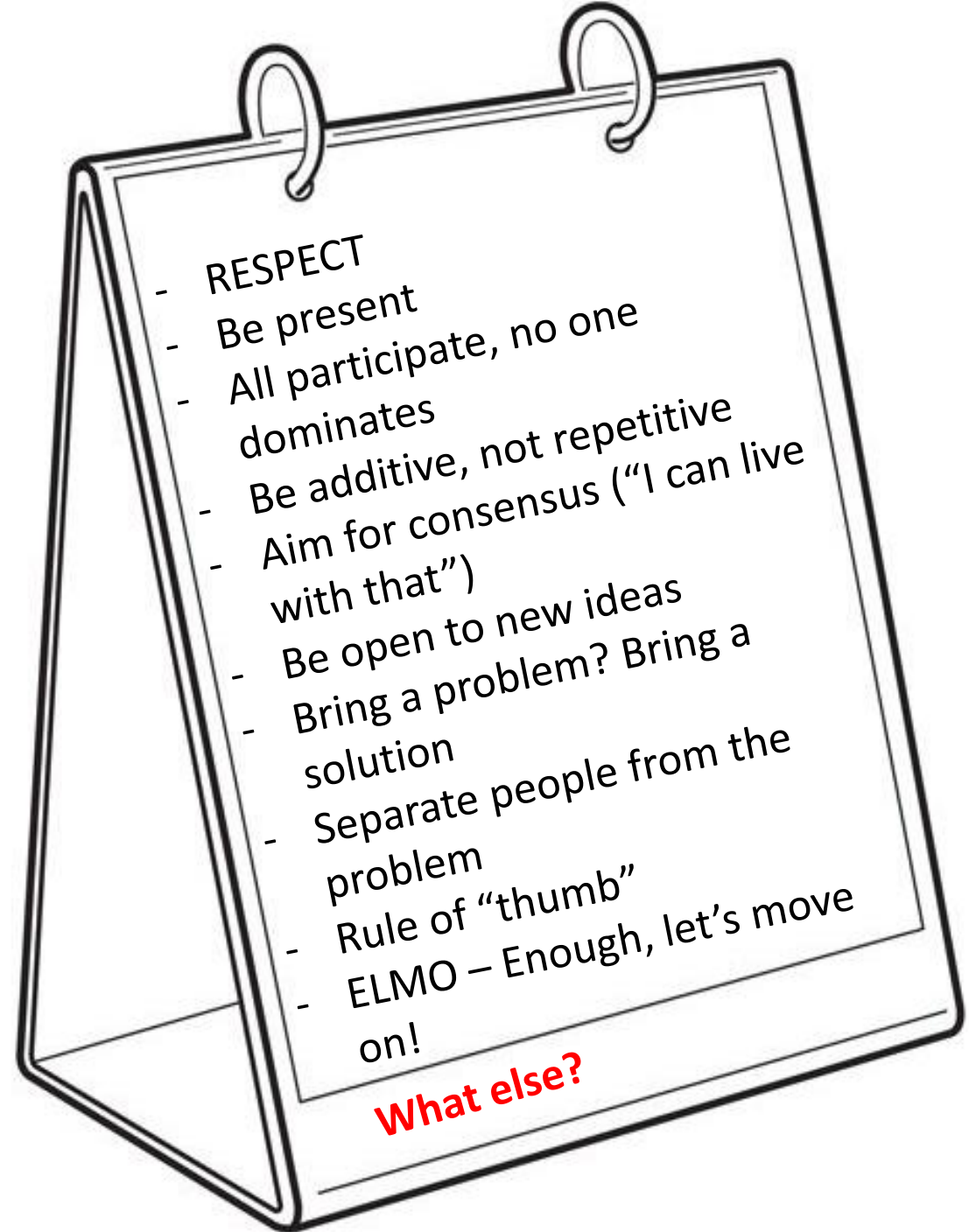
- Ground rules
- What is RVAgreen 2050?
- Icebreaker! Getting to know each other
- Presentation: Setting the stage for equitable climate action & resilience
- Logistics and next steps

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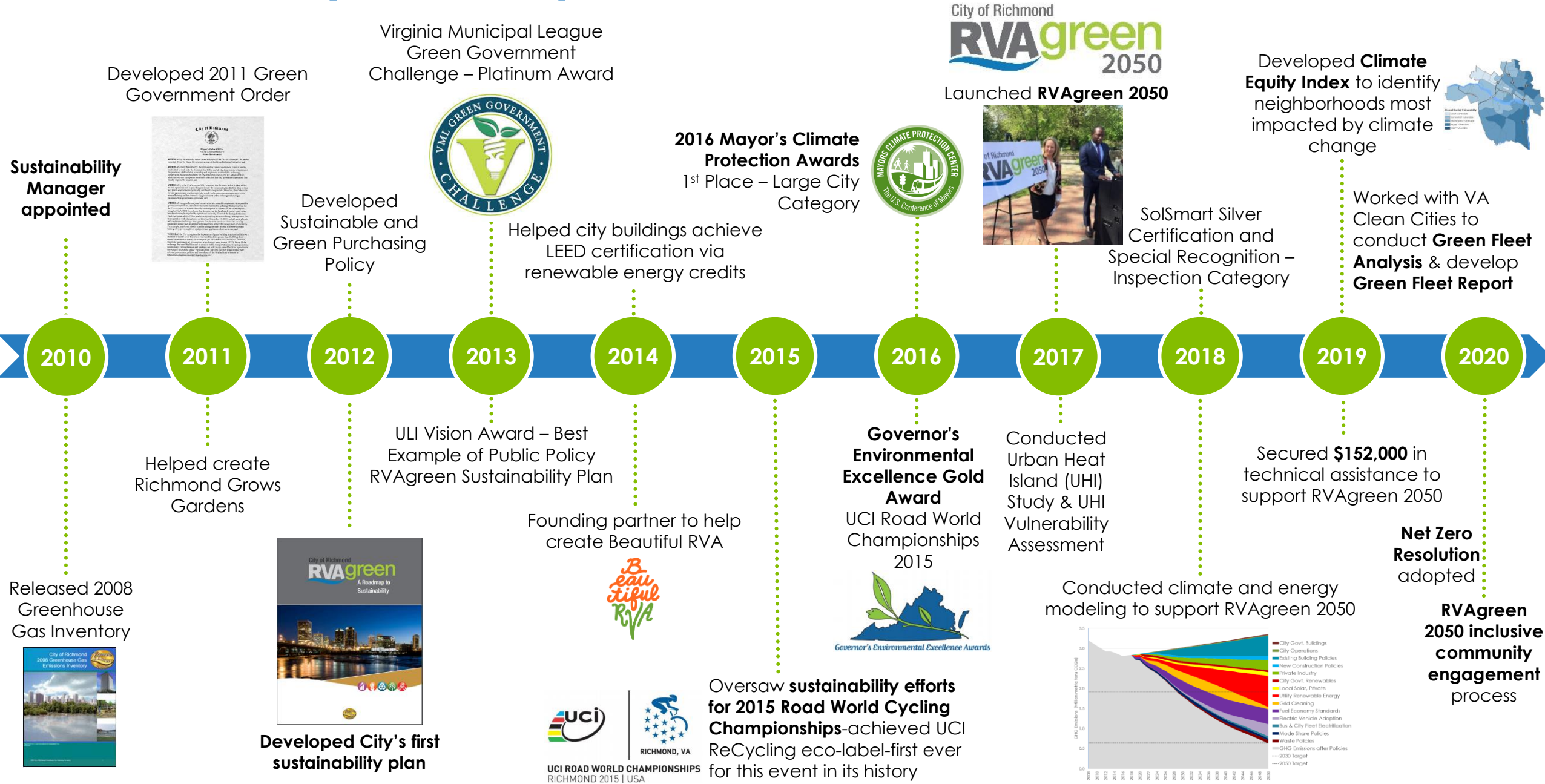
***Who is here?***

**Name...Organization...Richmond Neighborhood**

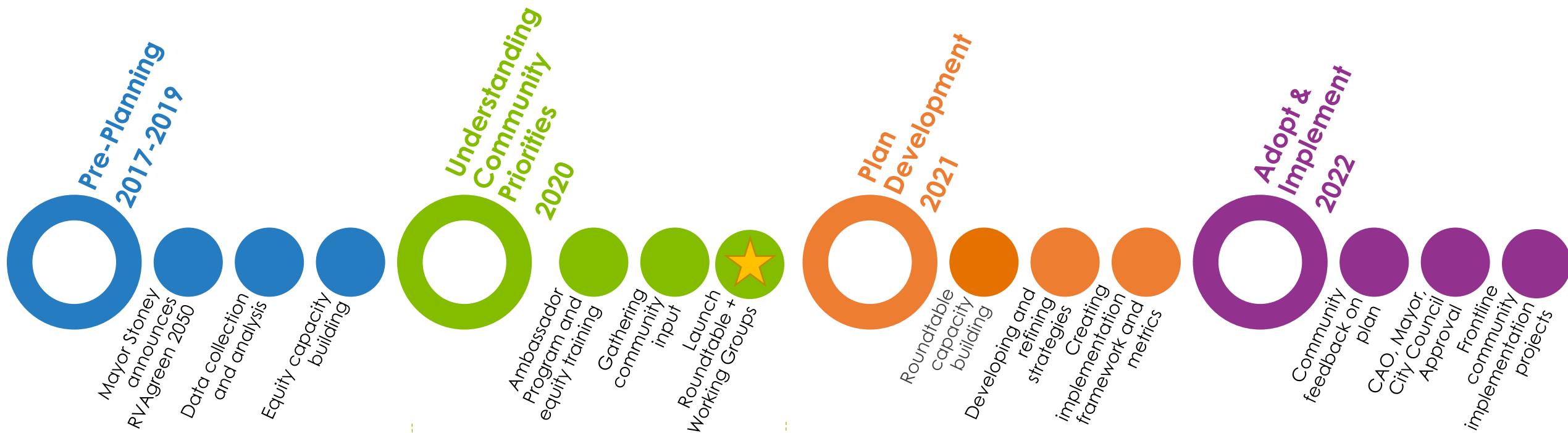
# Ground Rules / Group Expectations



# Sustainability Accomplishments



# RVAgreen 2050 Process



Strategies in this phase have been adapted to maintain health and safety during the COVID-19 pandemic

★ We are here!

# Planning Process Groups - Roles

## Frontline Community Leaders (Roundtable)

- Help the City center equity in the planning process and elevate frontline community voices
- Share lived experience to inform and guide process and provide recommendations
- Serve as liaisons to ensure community needs and assets are integrated into planning process

## Working Groups

- Provide topical expertise on RVAgreen 2050 goals and strategies to Roundtable
- Assist with translating community priorities into equitable climate action and resilience strategies

## Sustainability Office

- Primary convener
- Bridge between community and City
- Support community leaders to navigate current systems and identify leverage points for change

## Third Parties

- Facilitator for Roundtable
- Equity coach/consultant and technical consultants for Office of Sustainability staff
- Local universities – research, documentation, process evaluation support

# Icebreaker

- **Breakout rooms:** What motivates you to help make Richmond more equitable, healthy and resilient?
- *Reminder: [shorturl.at/vCKPU](https://shorturl.at/vCKPU) and update your contact info!*



# Presentation:

## *Setting the Stage for Equitable Climate Action & Resilience*

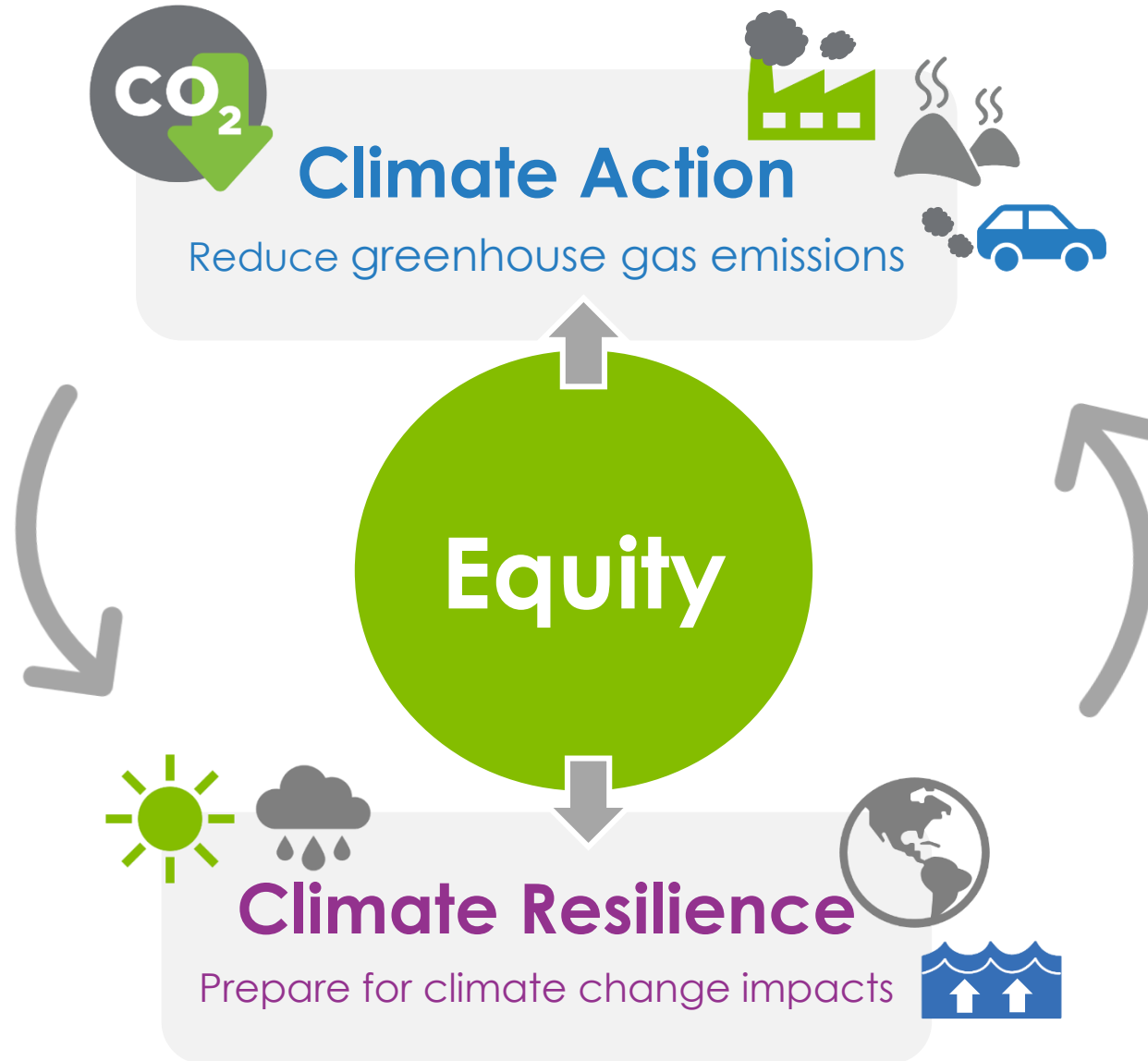


# What is climate action and resilience planning?

*Traditional approach:*



# RVAgreen 2050 - *Integrated approach:*



# Climate Action

# What is Climate Change?

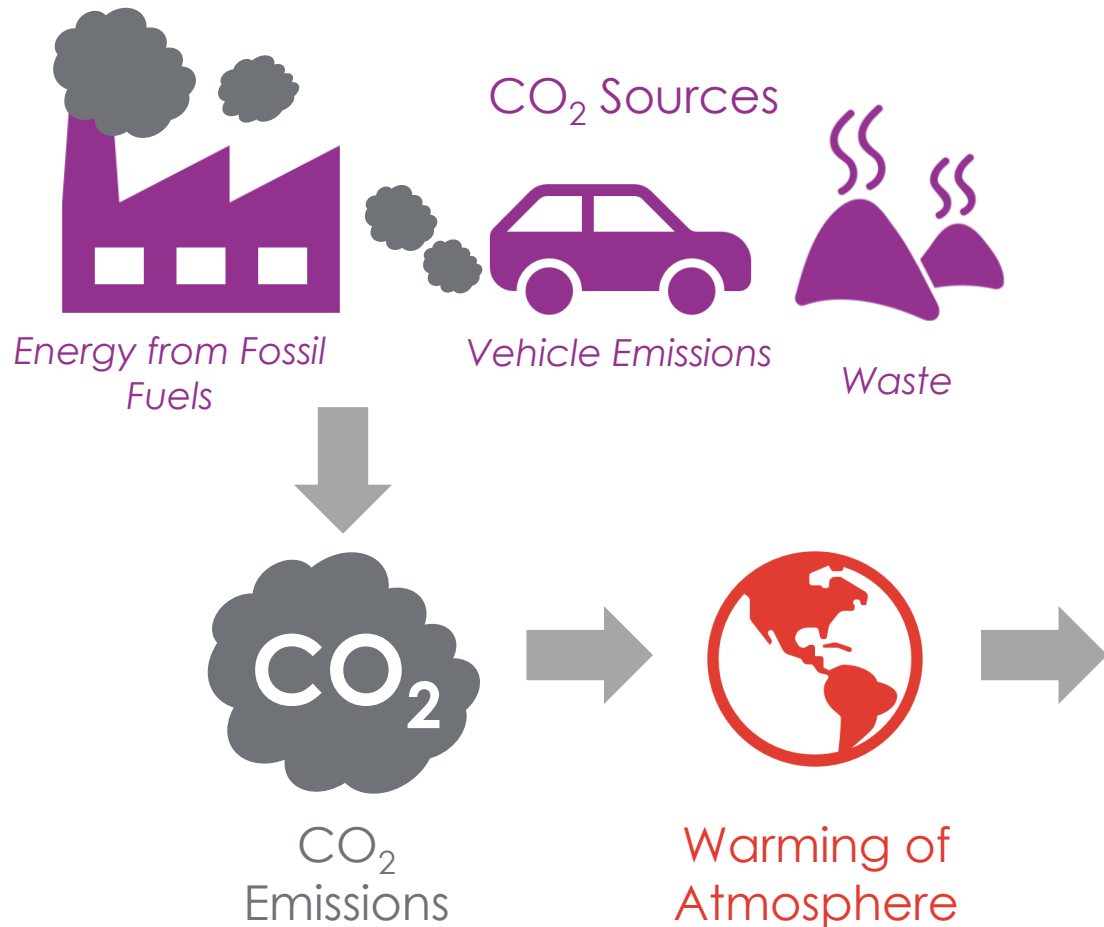


Climate change is  
a shift in the  
long-term, average  
weather pattern



Human-caused  
emissions—especially  
from burning fossil  
fuels—are driving  
climate change

# Climate Change = Climate Impacts



## Climate Impacts



Extreme Heat  
Extreme Precipitation  
Rising Sea Level



## Climate Shocks



Floods



Storms

## Climate Risks

### Residents



Safety  
Health  
Economic Burden  
Food Insecurity

### Community



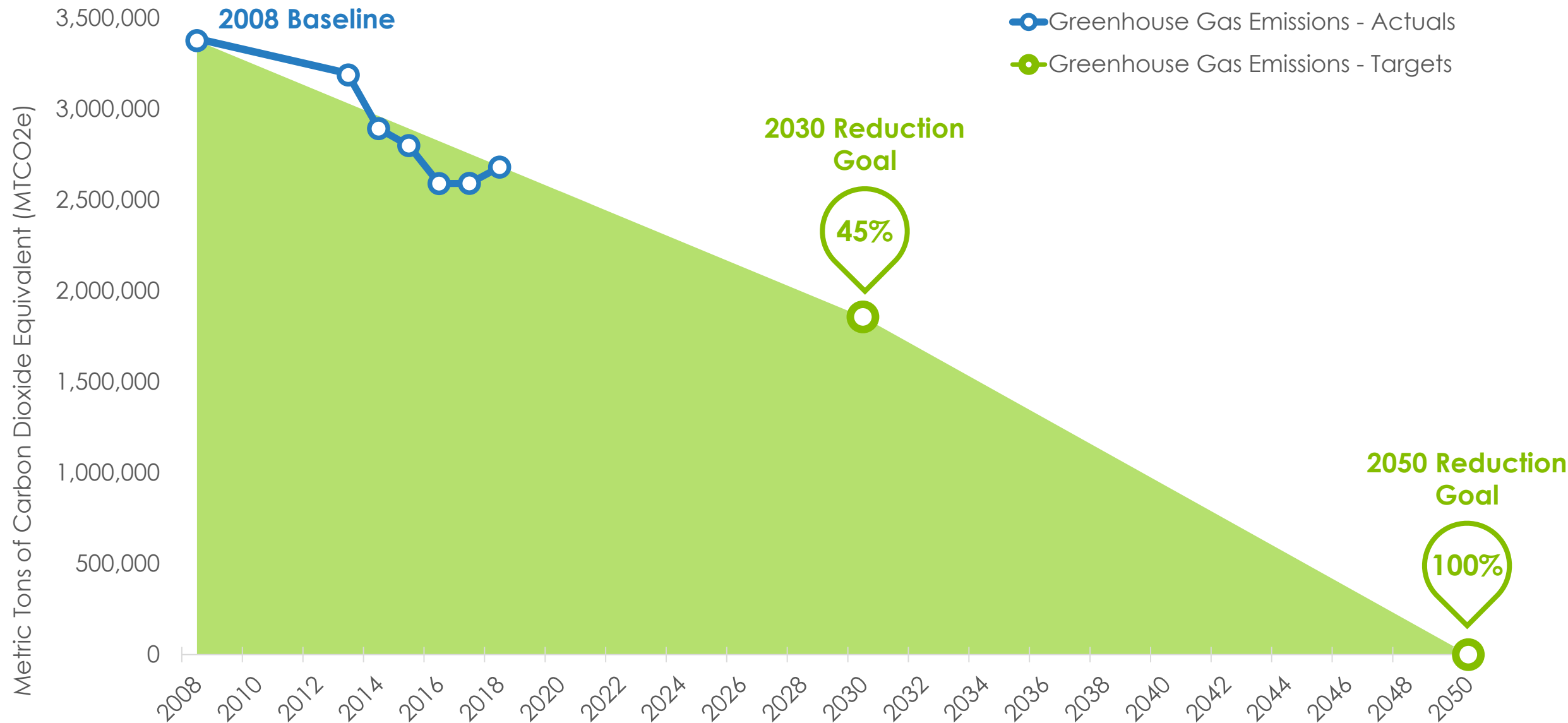
Public Safety  
Public Health  
Physical Damage  
Displacement

### Government



Public Safety  
Core Services  
Education  
Poverty Mitigation  
Financial/Credit Risk

# Citywide GHG Emissions and Targets

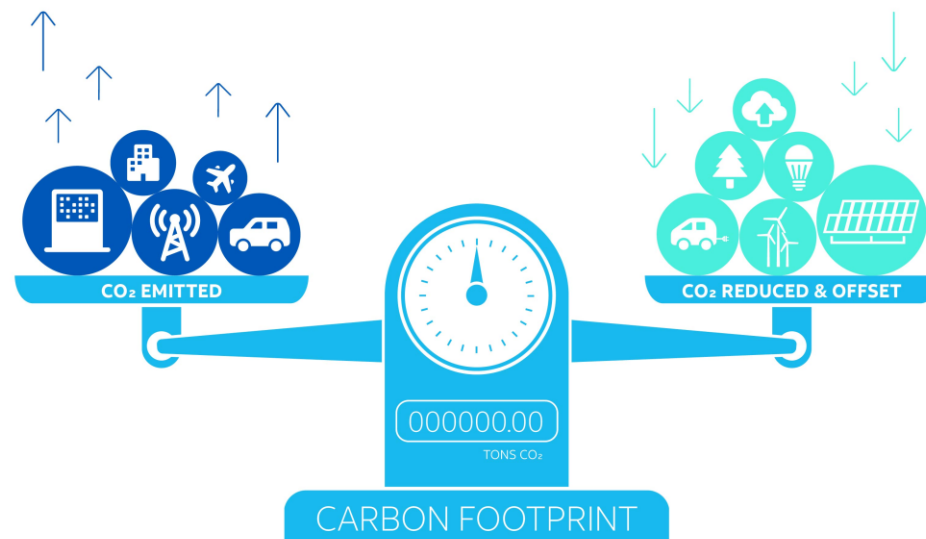


# What is Carbon Neutrality?

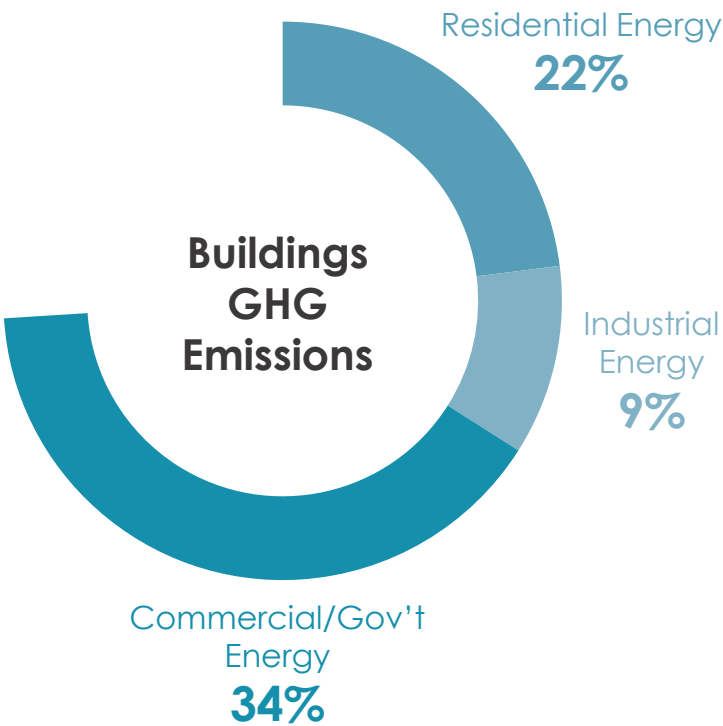
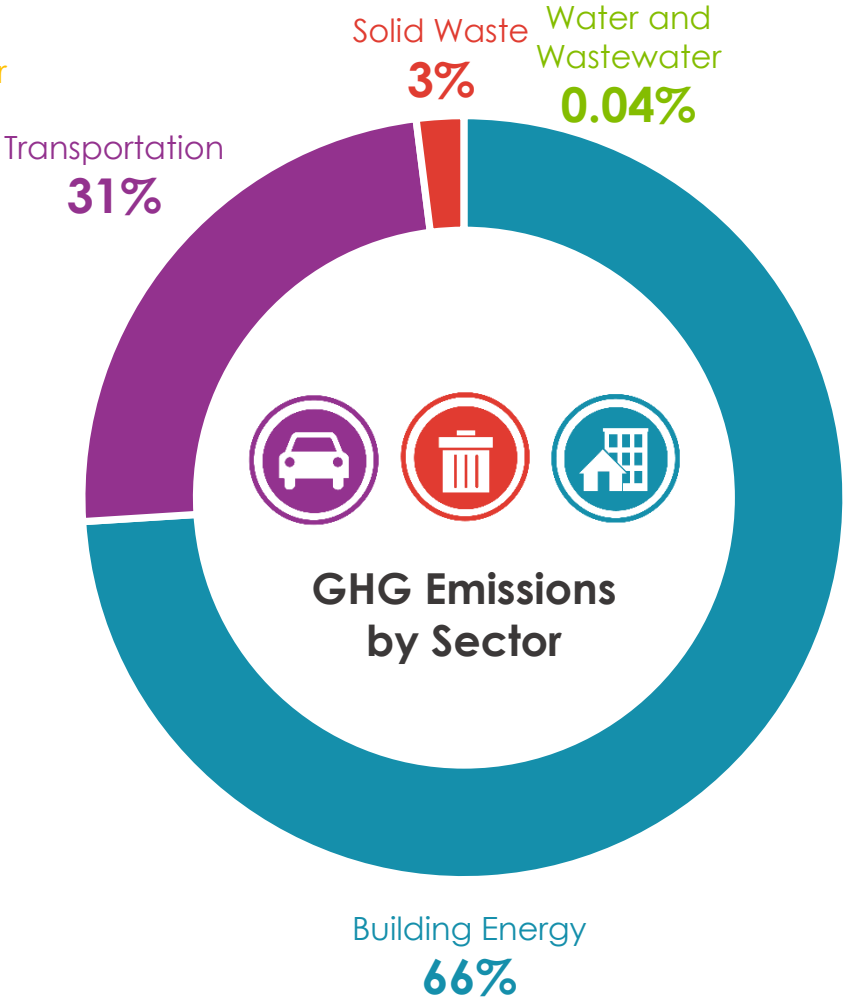
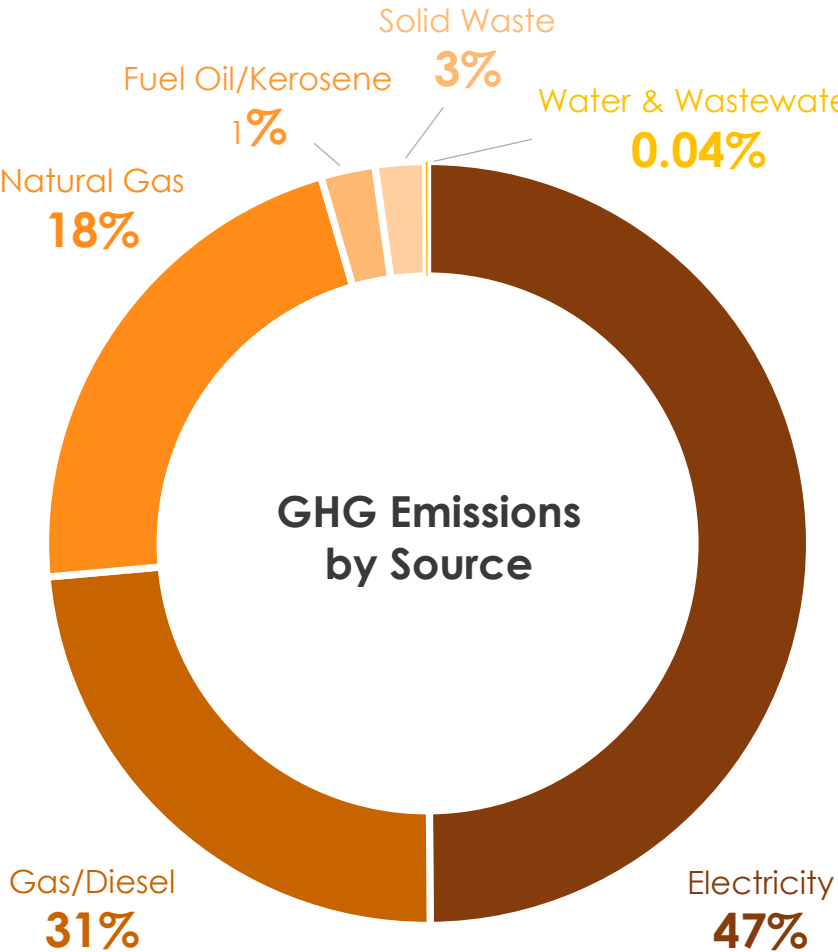
Emissions produced from energy supply +  
buildings + transportation + waste

=

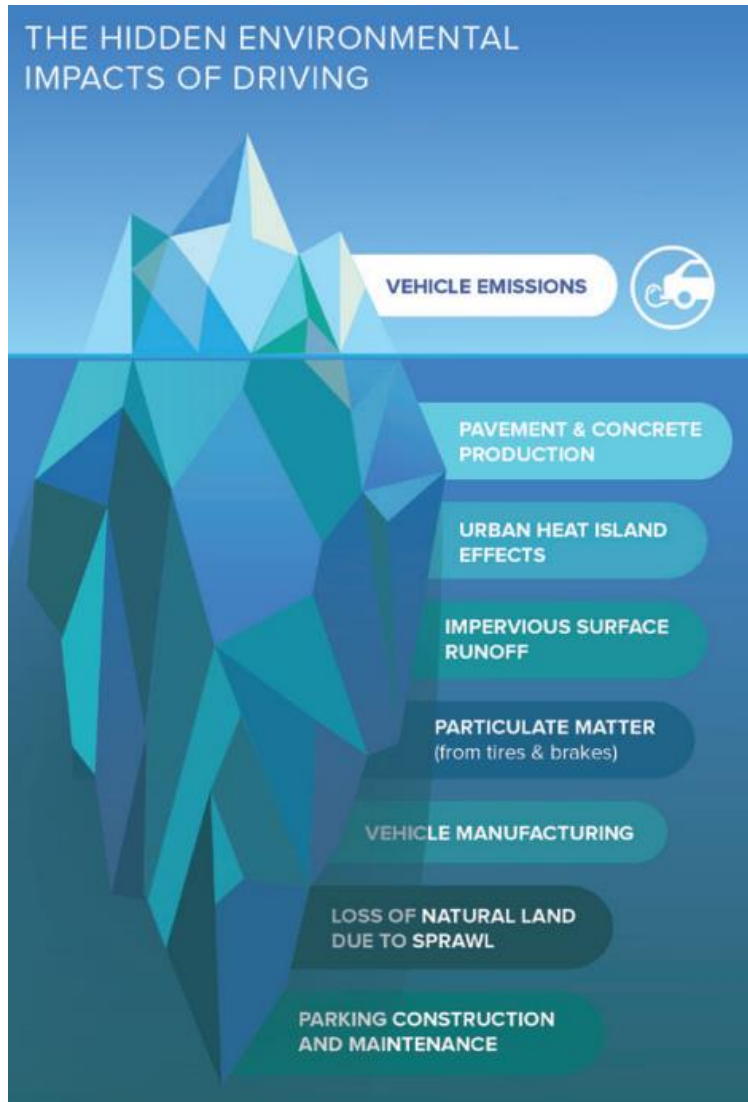
emissions captured locally + emissions offset



# Richmond Community GHG Emissions



# Transportation & Land Use...hidden emissions...



To answer the question – why are we talking about land use in this group?

Image from this report:

<https://t4america.org/wp-content/uploads/2020/10/Driving-Down-Emissions.pdf>



# Climate Resilience

# Climate Change is Already Impacting Richmond

April 19, 2017

**Breaking**  
allergy season in Richmond  
**This year brought Richmond fourth-highest tree pollen count in 30 years**

By JOHN BOYER Richmond Times-Dispatch Apr 19, 2017

February 13, 2017

**The warm weather is gone for now, but Sunday left a mark on Richmond's records**

By JOHN BOYER Richmond Times-Dispatch Feb 13, 2017

May 10, 2017

**Science shows Richmond's pollen season more intense than in the past**

POSTED 1:22 PM, MAY 10, 2017, BY TOM PATTON, UPDATED AT 2:31 PM, MAY 10, 2017

FACEBOOK TWITTER EMAIL PINTEREST

This is an archived article and the information in the article may be outdated. Please look up the information when it was last updated.

May 26, 2017

**Two water rescues for James, which is under warning much of the week**

By HAIYU FAN Richmond Times-Dispatch May 26, 2017

September 17, 2019

**Remnants of Hurricane Florence gave the Richmond area a deadly tornado in 2019**

By JOHN BOYER Richmond Times-Dispatch Sep 17, 2018

October 19, 2018

**Michael, Florence and Harvey: the deadliest hurricane season in decades**

By JOHN BOYER Richmond Times-Dispatch Oct 19, 2018

July 20, 2019

**Excessive Heat Warning: in some parts of Central Virginia**

POSTED 11:01 AM, JULY 20, 2019, BY MIKE STONE, UPDATED AT 03:39 PM, JULY 20, 2019

August 5, 2019

**'We haven't really seen anything like this in Richmond'**  
**Richmond couple comes across flood during walk**

FACEBOOK TWITTER WHATSAPP MESSAGING EMAIL PINTEREST



by: Nick Conigliaro

Posted: Aug 5, 2019 / 10:22 PM EDT / Updated: Aug 5, 2019 / 11:09 PM EDT

September 27, 2019

**Richmond's September weather is going to rank high for heat and low for rain**

By JOHN BOYER Richmond Times-Dispatch Sep 27, 2019

October 2, 2019

**Wednesday was the hottest October day recorded in Richmond — and it's not over**

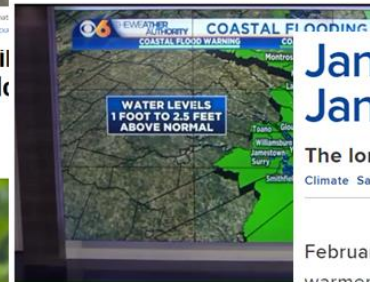
From staff reports Oct 2, 2019

October 10, 2019

**Drought expands across Virginia**

POSTED 1:17 PM, OCTOBER 10, 2019, BY MIKE STONE, UPDATED AT 01:58 PM, OCTOBER 10, 2019

FACEBOOK TWITTER EMAIL



RICHMOND, Va. -- The latest update from the U.S. Army Corps of Engineers shows a moderate drought. This is an increase from a watch.

November 12, 2019

**4 PM UPDATE: Dry and frosty after Richmond's snowies**  
**30 years**

By JOHN BOYER Richmond Times-Dispatch 19 hrs ago

February 3, 2020

**Early spring-like weather could be tracking chance of sprinkle**  
**Rain becomes more likely Wednesday.**

Posted: 12:51 PM, Feb 03, 2020 Updated: 9:19 AM, Feb 04, 2020

By: Zach Daniel

February 18, 2020

**Henrico storm spotter compares weather this February to prior years - the difference**  
**Temperatures this winter have been well above average in Virginia**

**January 2020 was Earth's warmest January on record**

The long-term trend of above-average temperatures continues. Climate | Satellites | climate analyses and statistics

April 30, 2020

**After Richmond's wettest months, the James River could rise another minor flood**

By JO

November 12, 2020

**UPDATE: James River in Richmond could rise to its highest levels since 1996 following downpours**

John Boyer 9 min ago 0 4 min to read

May 24, 2020

**Summer weather outlook: extra warmth and rainfall favored across Va.**

John Boyer May 24, 2020 1 2 min to read



July 20, 2020

**Richmond's heat wave continues after hottest day of the summer on Sunday**

By ELIZABETH BELL Richmond Times-Dispatch Jul 20, 2020 1



Four Seasons Resort

July 29, 2020

**Richmond hasn't seen 20 straight days of high temperatures in the 90s since 'Waterworld' was in theaters**

John Boyer Jul 29, 2020 5 3 min to read

October 15, 2020

**U.S. Winter Outlook: Cooler North, warmer South with ongoing La Nina**

Persistent drought dominates the Western landscape

Weather | Climate | climate outlooks | winter

SHARE TWITTER FACEBOOK EMAIL PINTEREST

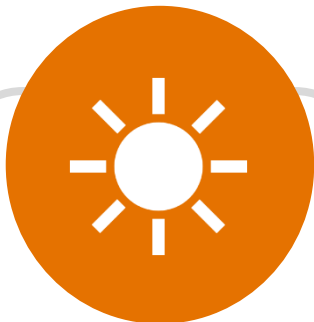
Experts talk about extreme pollen



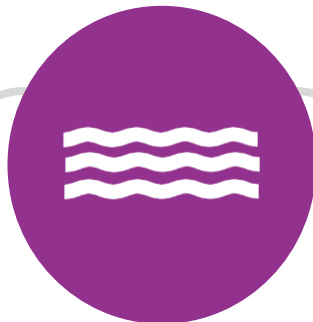
# Richmond's Future Weather



Daily Temperature  
Maximum



Hot Days



Extended Heat  
Waves



Days with Over  
1" Rainfall

2041-2060  
Tomorrow

75°F

45

Above 95°F

20

3-Day Periods

8.8

Per year

1987-2017  
Today

70°F

11

Above 95°F

3

3-Day Periods

8.3

Per year

1950-1980  
Yesterday

69°F

7

Above 95°F

1

3-Day Periods

7.7

Per year

# Climate Change Risks

## Climate Impacts



Extreme Heat  
Extreme Precipitation  
Rising Sea Level

## Climate Shocks



Floods  
Storms

## Climate Change Risks

### Residents

Safety  
Health  
Economic Burden  
Food Insecurity

### Community

Public Safety  
Public Health  
Physical Damage  
Displacement

### Government

Core Services  
Public Safety  
Financial/Credit Risk

### Government

Education  
Poverty Mitigation

Injury/death  
Illness/chronic conditions  
Property damage/loss  
Displacement  
High energy bills  
Higher food prices/food unavailable

Loss of life  
Critical emergency provisions  
jeopardized (medical, water, food,  
shelter, etc.)  
Population displacement  
Population loss

Service delivery delay/disruption  
Transportation/infrastructure assets  
damaged/destroyed  
Communication networks impaired  
Strain on financial resources

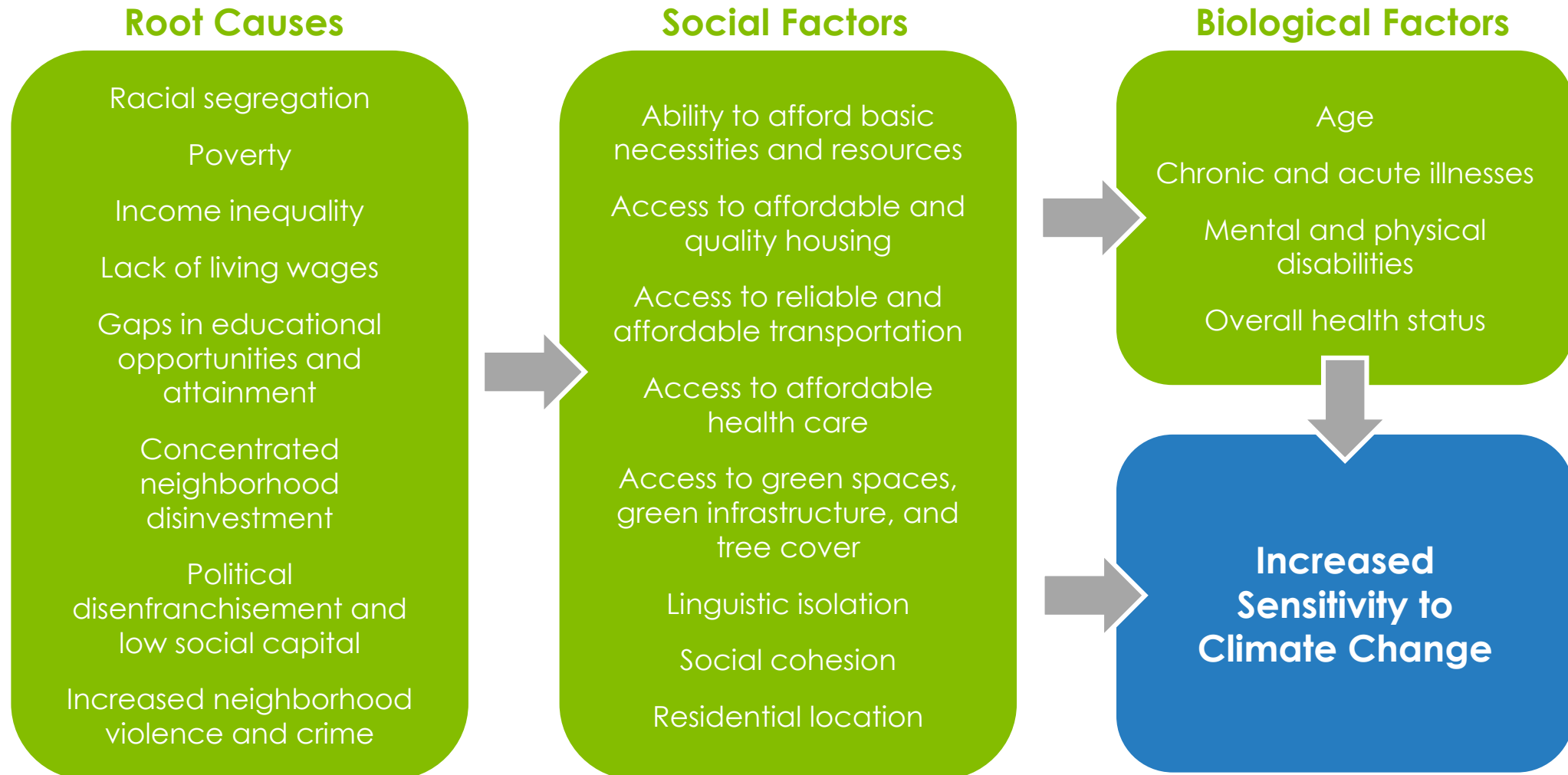
Schools closed/disrupted  
Job disruption/loss  
Property damage/loss



**Equitable climate action for a  
healthy and resilient Richmond**

# Equity

# Climate Change Affects Some More Than Others



Source:  
Government  
Alliance for Racial  
Equity (modified)

# Race, Income & Disproportionate Climate Impacts

Low-income populations and communities of color are more likely to...



live in areas with less greenspace and are more vulnerable to respiratory and heat related illnesses



lack access to energy efficient housing and often are disproportionately impacted by high energy bills



be impacted by extreme weather events as a result of climate change



live in neighborhoods that lack convenient access to transit, or safe walking and biking options

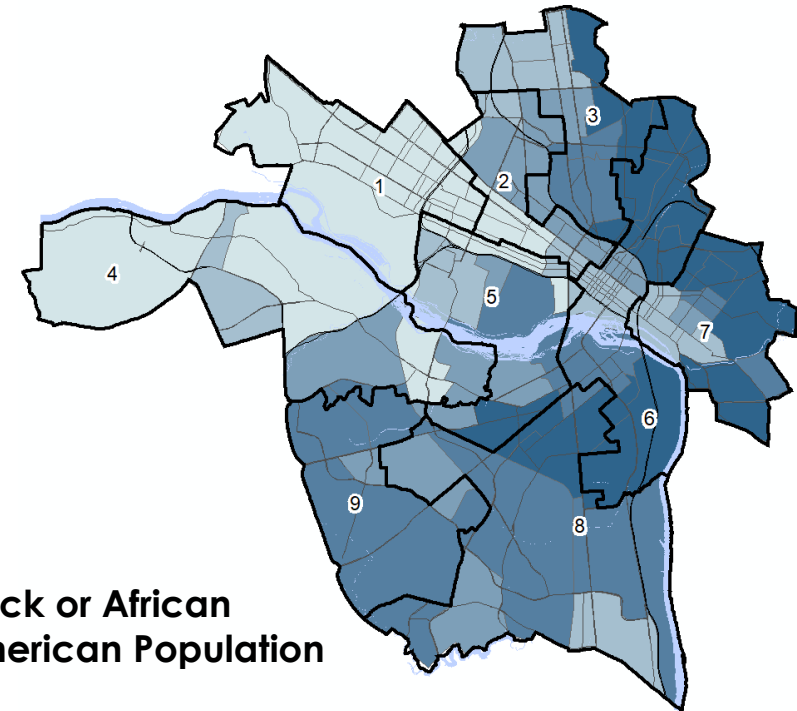
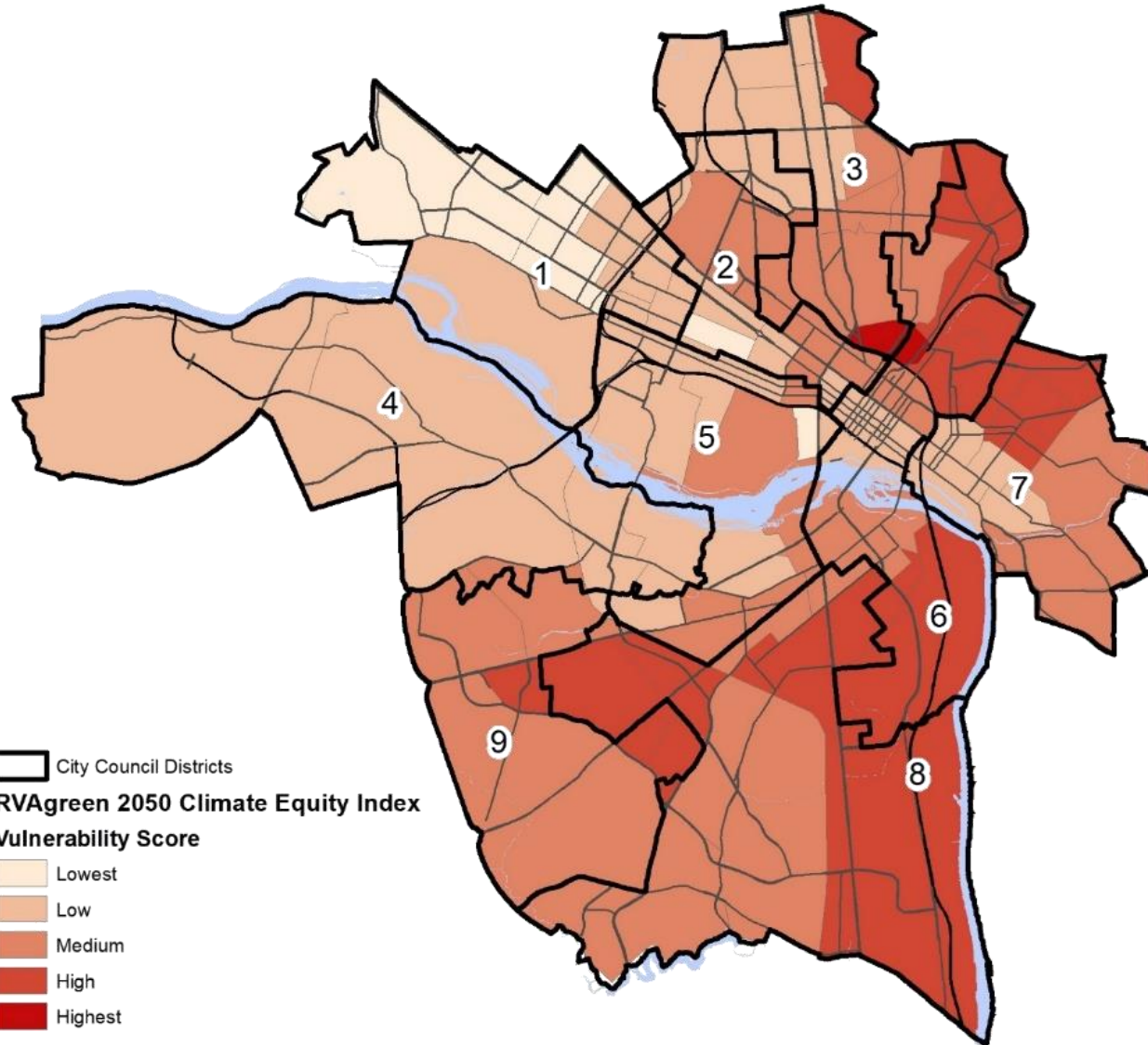


live in housing without air conditioning and are more vulnerable to heat related and respiratory illnesses and death

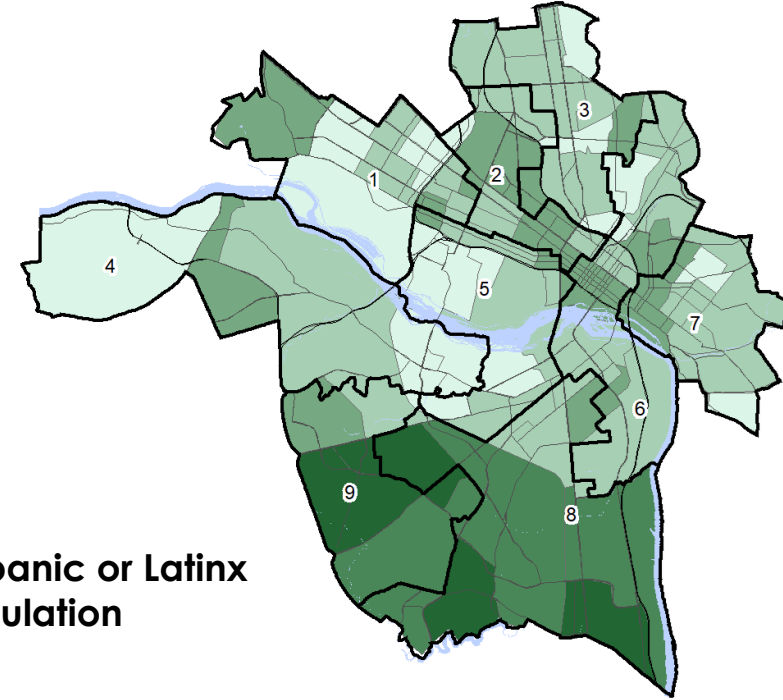


be exposed to pollution and airborne allergens and are more vulnerable to asthma and other respiratory illnesses

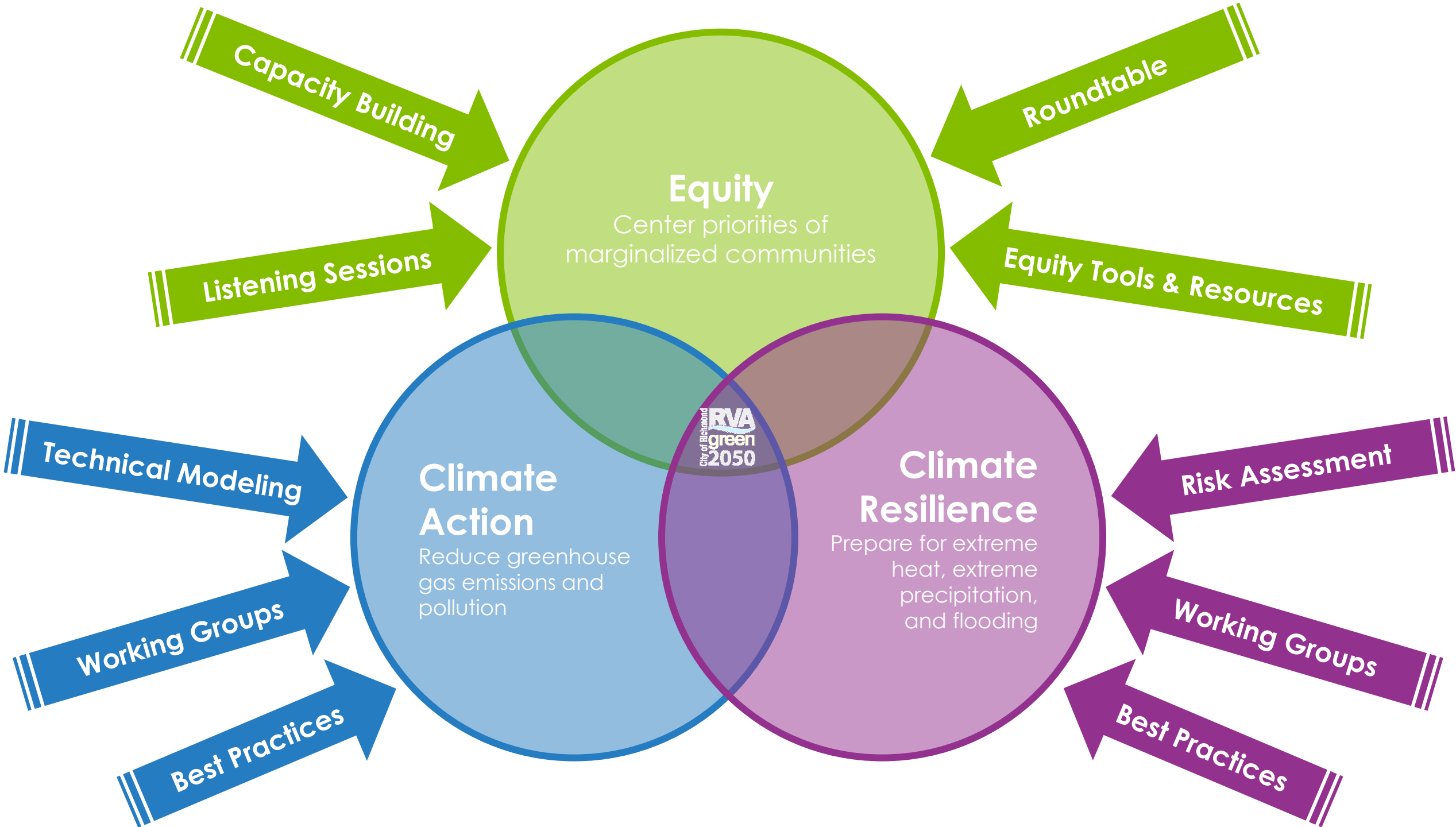
# People of color face disproportionate impacts



**Black or African American Population**



**Hispanic or Latinx Population**



# Nexus Example

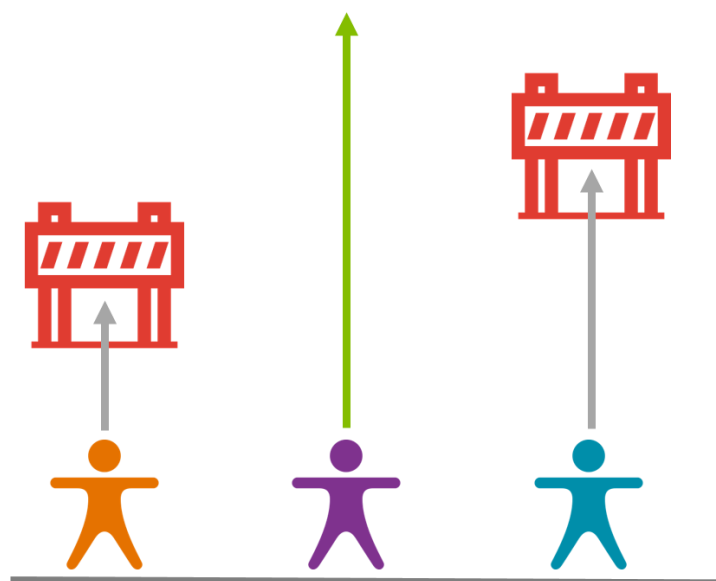


# Universal Goal, Targeted Actions

Our **targeted universal strategy** is inclusive of the needs of both dominant and marginalized groups but pays particular attention to the situation of the marginalized group.

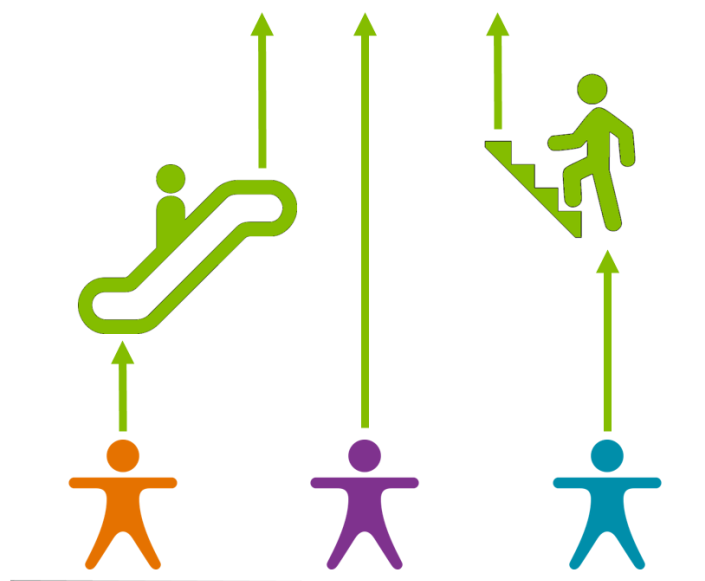
ONE SIZE  
DOES NOT  
FIT ALL

Universal Goal: Equitable climate action for a healthy and resilient Richmond



**Inequity**

Opportunities for Some, Barriers for Others

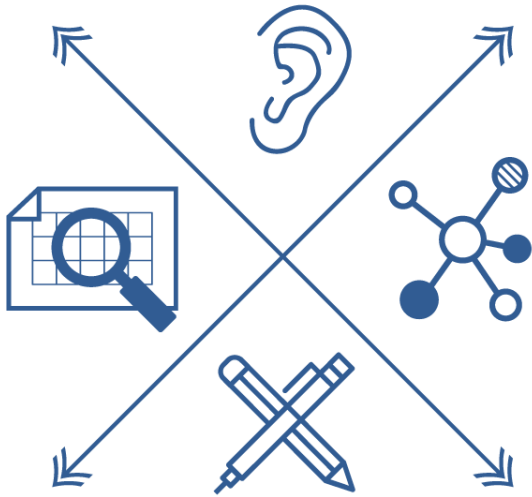


**Equity**

Tailored Opportunities for All

Source: Kapwa Consulting; John Powell, Hass Institute; City of Portland, OR (modified)

# People-Centered Approach



We are using the **Virginia Community Voice Blueprint** to guide our efforts to engage and equip Richmonders in this process, particularly frontline communities.

Our approach begins with the identification of issues faced on a personal level and explores creative solutions that will best suit an individual's needs.

## Understanding Community Priorities

*Listen: Identify community strengths and challenges*

- Listening sessions w/ frontline organizations (virtual)
- Gathering existing community-based plans, surveys, etc.
- Virtual Ambassador Program
- Community survey

## Plan Development

*Connect: Organize people around key issues*

- Roundtable
- Topical working groups

*Craft: Collaborate on equitable solutions*

- Frontline community workshops
- Communitywide input Sessions

*Reflect: Gather feedback for impact and improvement*

- Mid-process equity assessment
- Final equity assessment
- Racial equity-specific indicators

# Centering Equity

Source: Government Alliance on Race and Equity; Desiree Williams-Rajee, Kapwa Consulting (modified)

## Racial and Socio-Economic Equity

Make a commitment to correct past harms and prevent future unintended consequences

Address the underlying structural and institutional systems that are the root causes of social and racial inequities

### Procedural

⋮

Create processes that are transparent, fair, and inclusive in developing and implementing any program, plan, or policy

Ensure that all people are treated openly and fairly

Increase the civic engagement opportunities of communities that are disproportionately impacted by climate change

### Distributional

⋮

Fairly distribute resources, benefits, and burdens

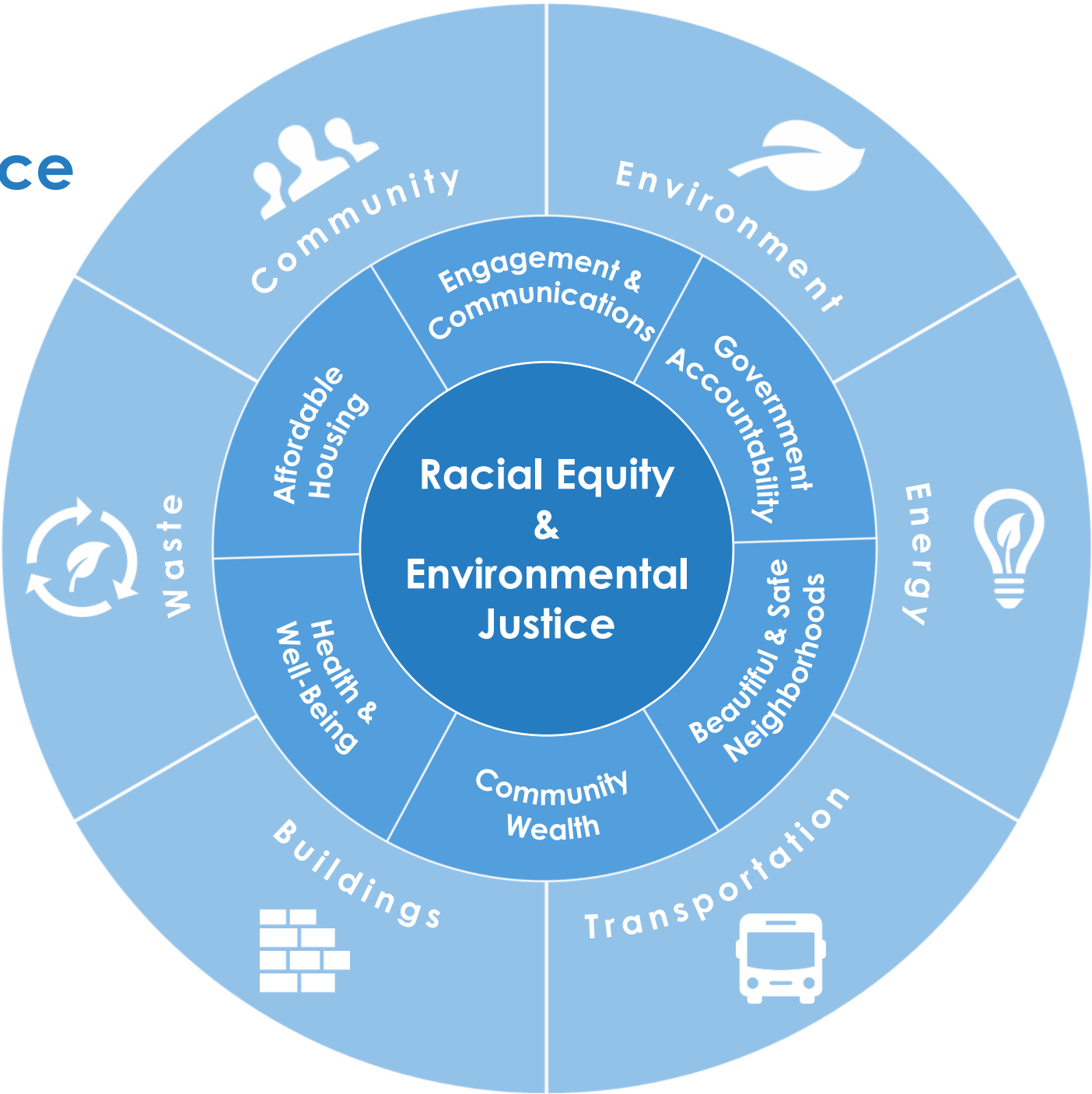
Prioritize resources for communities that experience the greatest inequities, disproportionate impacts, and have the greatest unmet needs

### Structural

⋮

Closing the gaps so race and economic status can no longer be used to predict life outcomes and outcomes for all groups are improved

# Centering Community Priorities & Lived Experience





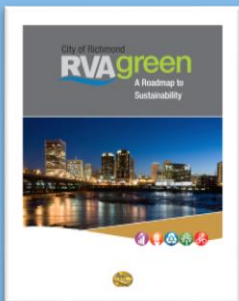
# Our Toolbox...



# A Next Step in City Planning

**2012**

RVAgreen Sustainability Plan



**2013**

Richmond Connects Strategic Multimodal Transportation Plan

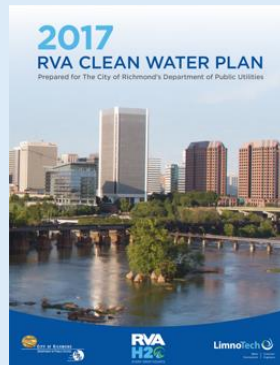
Recommends strategies for a multimodal transportation system for the city



**2017**

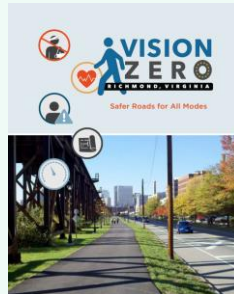
RVAH2O Clean Water Plan

Sets goals for reducing pollution and flooding



**2018**

Vision Zero Action Plan



Establishes strategies to address safety on city streets with a goal to eliminate fatalities and serious injuries by 2030

**2020**

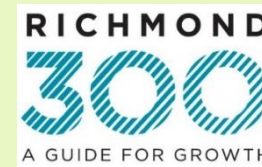
Richmond Regional Housing Framework



Establishes a vision where everyone has a stable, healthy, and affordable place to call home

**2020**

Richmond 300 Master Plan



Establishes a vision for growth and outlines placed-based policy recommendations to guide physical development

**2020**

Net Zero Resolution

Sets goals to achieve net zero emissions by 2050, and prepare for, adapt, and improve resilience to local climate change impacts through an equity-centered climate action and resilience plan



**2022**

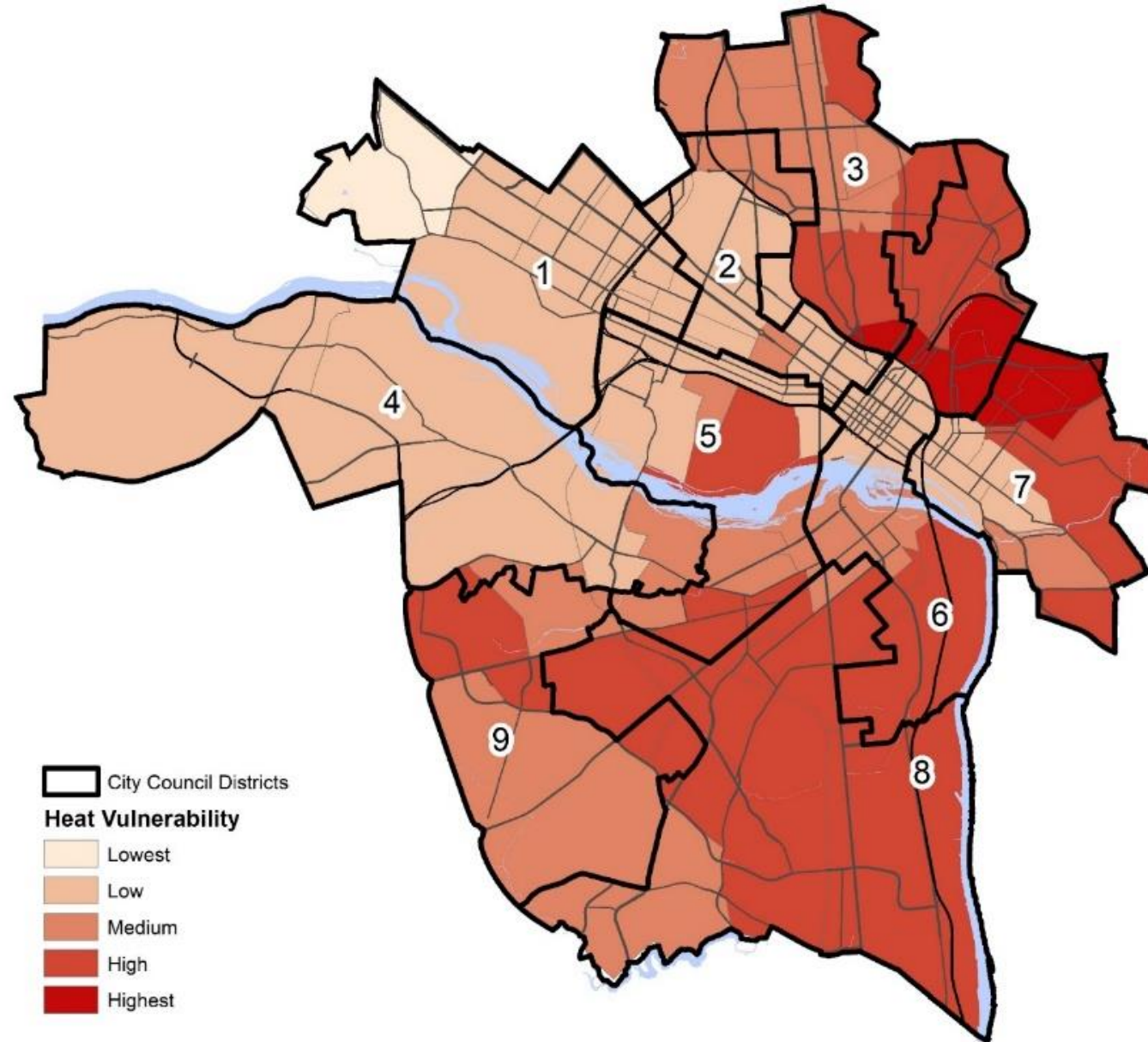
RVAgreen 2050 Roadmap

RVAgreen 2050 is the city's equity-centered climate action and resilience plan

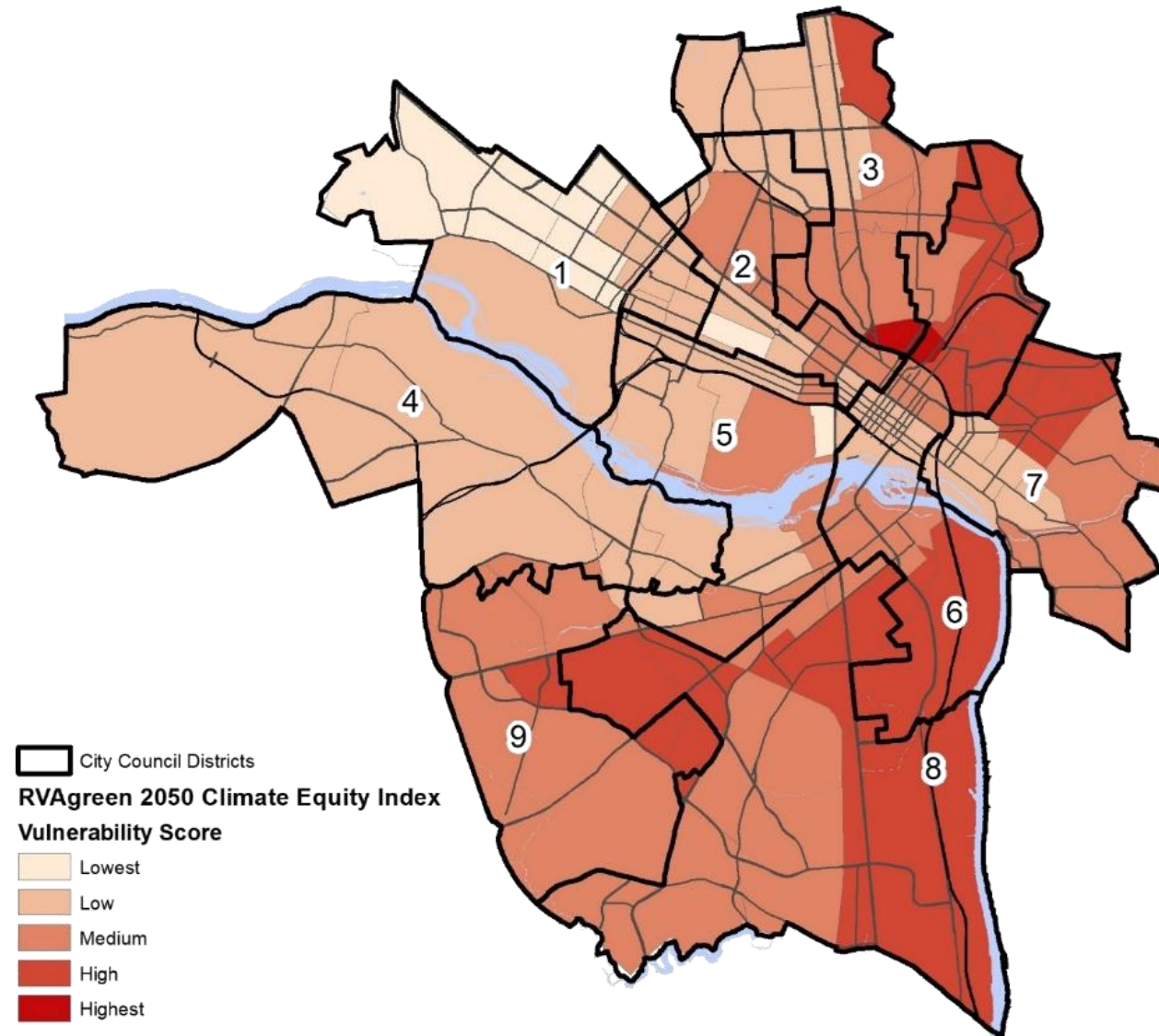


RVAgreen 2050 is equitable climate action for a healthy and resilient Richmond

# Urban Heat Vulnerability Assessment

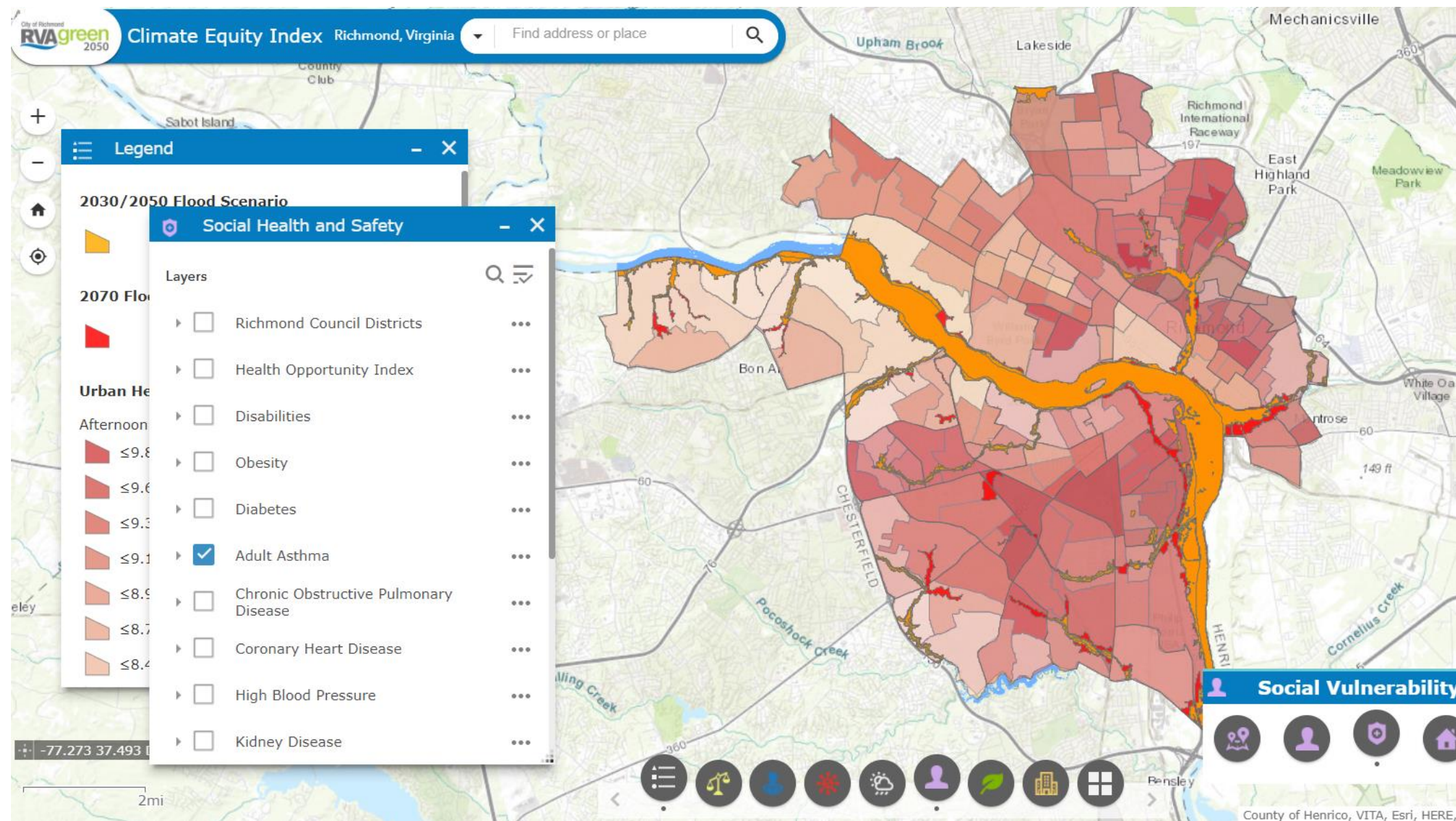


# Climate Equity Index



- Poverty
- Age
- Race
- Gender
- Disabilities
- Chronic health conditions
- Mental health
- Household composition
- Working outdoors
- Public assistance income
- Housing characteristics
- Crime
- Education
- Language
- Social isolation
- Employment
- Transportation access
- Air conditioning
- Housing (shelters, group homes)

# Climate Equity Index



# Climate Vulnerability & Risk Assessment

What action is needed for Richmond to **prepare for** or **adapt to** climate change?

## Climate Impacts Analysis

What will Richmond's **future climate** look like?



## Vulnerability Analysis

What communities, built assets, and natural resources are **vulnerable** to those climate impacts?

## Risk Analysis

What **risk** do the vulnerable communities, built assets, and natural resources face due to climate impacts? (*Economic, ecological, social, cultural, legal, etc.*)

Communities, built assets, and natural resources with **high vulnerability** and **high risk** are priority planning areas for climate adaptation actions

# Engagement Phase 1: Understanding Community Priorities *(April – September, 2020)*

- Community-wide survey (470+ responses)
- Listening sessions (62)
- Virtual Ambassador Program (34 participants)
- Virtual “office hours”
- Roundtable & Working Groups (134 participants)
- Dedicated website, social media, e-newsletter



# Understanding Community Priorities

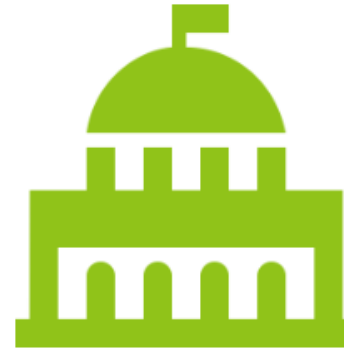
The RVAgreen 2050 planning process is centered in equity and the priorities of the Richmond community. What we've heard so far:



Racial Equity &  
Environmental Justice



Engagement &  
Communication



Government  
Accountability



Community  
Wealth



Housing &  
Buildings



Neighborhoods

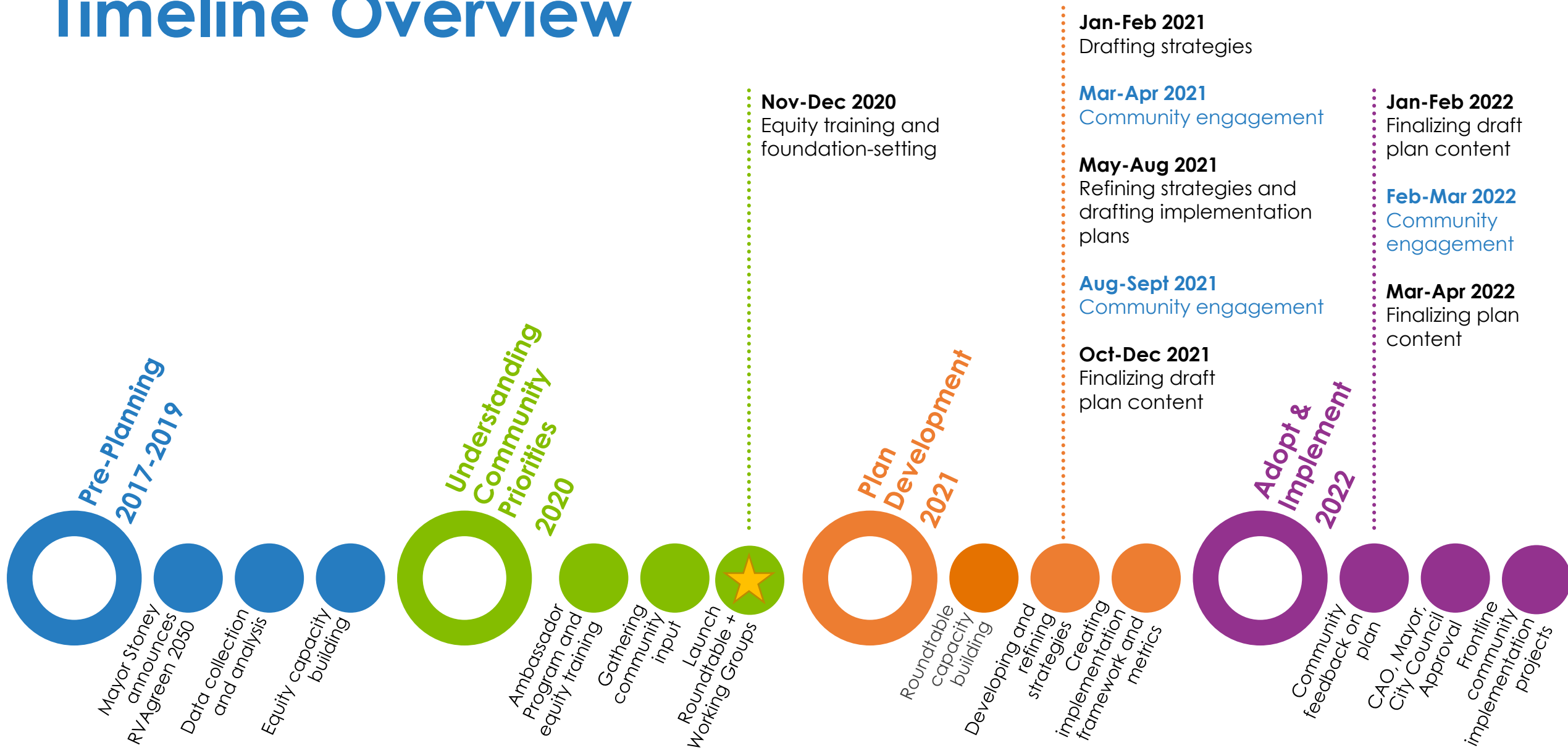


Health & Well-  
Being

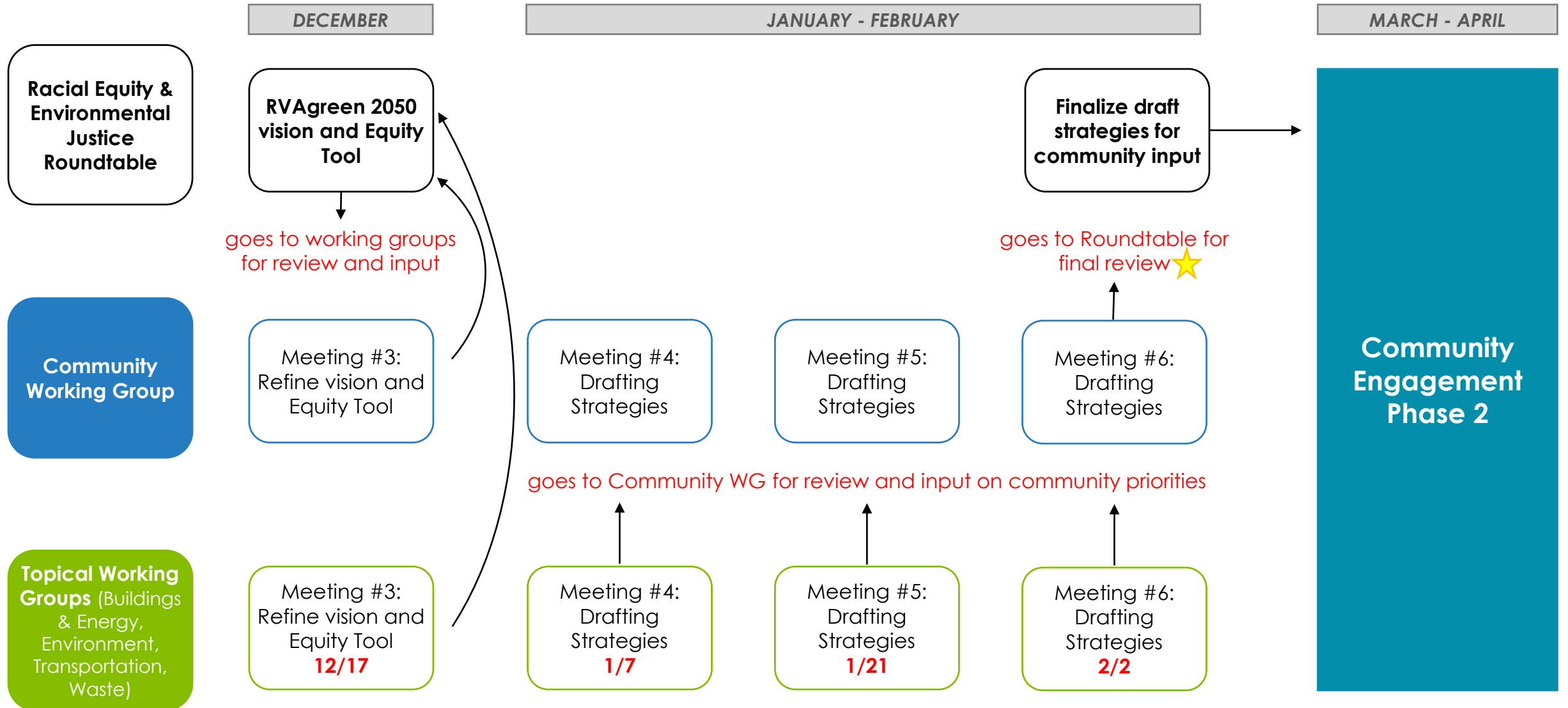
# What's next...

# RVAgreen 2050 Process: Working Groups

## Timeline Overview



# Workflow (Nov.-Mar.)



★ Draft strategies will also go to City Administration for review; all comments will go to WGs for consideration

# Our task: drafting **SMARTIE** strategies at the equity-climate action-resilience nexus

Is the  
strategy...

**S**trategic?

**M**easurable?

**A**mbitious?

**R**ealistic?

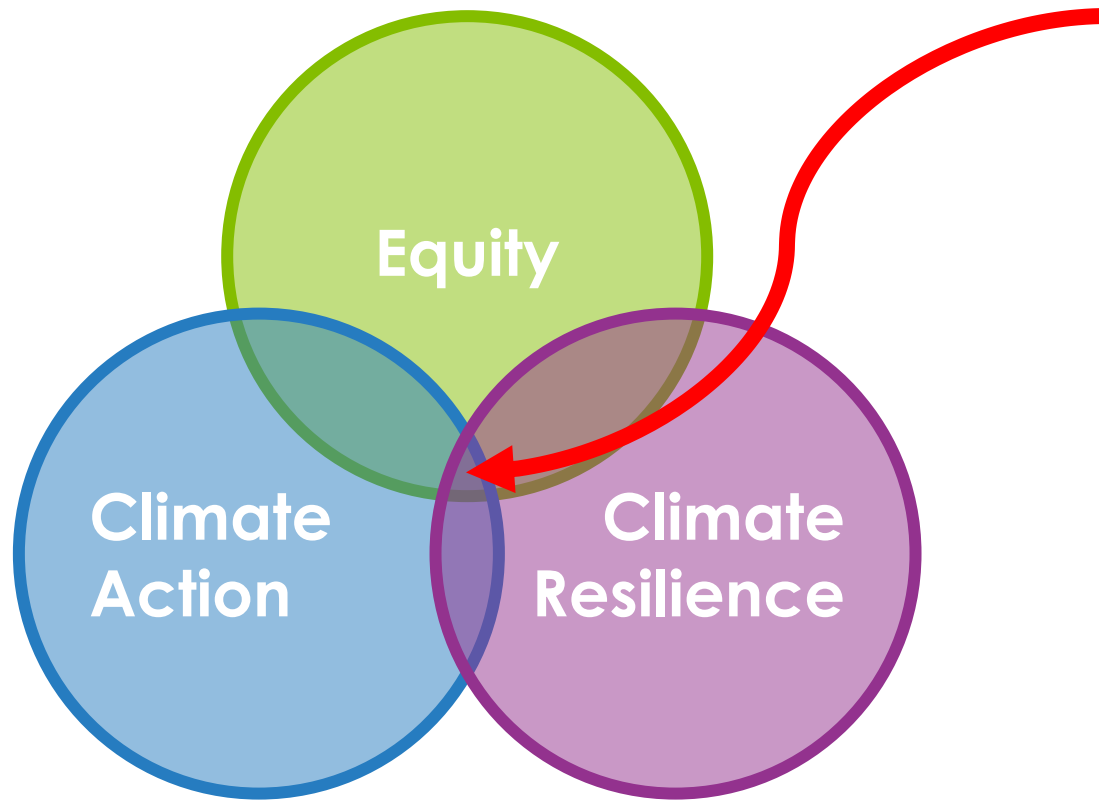
**T**ime-bound?

**I**nclusive?

**E**quitable?

| From SMART...                                                   | ... to SMARTIE                                                                                                                      |
|-----------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------|
| Build a volunteer team of 100 door-to-door canvassers by May... | ...with at least 10 people of color recruited as volunteer leaders first, so that they can help shape the way we run the canvasses. |

# Our task: drafting SMARTIE strategies at the equity-climate action-resilience nexus



Does the strategy:

1. Address community priorities?
2. Reduce greenhouse gas emissions?
3. Increase resilience to climate impacts?

# Technical Working Groups



**Buildings & Energy**

*"Accelerate the transition to healthy, resilient, zero-carbon buildings and equitable energy sources"*

topics:

- CHP (private industry)
- Bldg Weatherization
- Code Enforcement
- Streetlight Upgrade
- EV/Solar Readiness Requirements
- Renewable Energy (private vs. municipal)
- Existing Bldg Performance Codes and Standards
- Industrial Energy Efficiency
- Benchmark Govt Bldgs
- Benchmark Private Bldgs
- Private Bldg Energy Retrofits
- Govt Bldg Energy Retrofits
- Water/Wastewater Efficiency Upgrades (incl. built water/stormwater/wastewater infrastructure)
- Decarbonization thru Local Codes
- Performance-Based Procurement (Govt Bldgs)
- Grid/Energy Security and Resilience
- Reduce Natural Gas Leakage
- Green Building Standards
- Anaerobic Digester Upgrade



**Transportation & Land Use**

- *"Accelerate the transition to clean, and equitable mobility systems"*

topics:

- Transit-Oriented Development
- EV Charging Infrastructure, Education, Incentives
- EV Market Transformation Programs
- Low Emissions Zones /
- Congestion Pricing
- Expand Public Transit
- Electrify City Fleet
- Electrify GRTC
- Electrify private vehicles
- Bike / Pedestrian Networks (Active Transportation)
- Parking Management
- Land Use (incl. zoning for renewables like groundmount)
- Densification
- Shared mobility
- Autonomous vehicles
- Ridesharing and Ridehailing services



**Waste**

*"Eliminate our dependency on landfill disposal and foster sustainable consumption habits"*

topics:

- Recycling
- Composting
- Anaerobic Digester Upgrade
- Circular Economy
- Zero waste
- Solid waste management
- Waste reduction
- Consumption



**Community**

*"Create an equitable, healthy, prosperous, and resilient Richmond for all while ensuring focus and honoring community priorities"*

topics:

- Workforce development programs (incl. well-paying, sustainable jobs)
- Cooling infrastructure
- Local energy resource centers
- Community resilience hubs
- Disaster risk management / warning systems
- Local healthy food systems (incl. food access, gardens)
- Equitable engagement and communication (incl. listening to community leaders, addressing immediate needs, and maintaining and building relationships)
- Government accountability
- Beautiful and safe neighborhoods (incl. beautification, litter prevention, green space, sidewalks)
- Affordable infrastructure
- Physical and mental health
- Multicultural communications
- Income and racial equity
- Money saving
- Youth
- Displacement and aging in place; shelter
- Homeownership and wealth building
- Violence and public safety
- Clean water, clean air
- Making sustainability relevant to all communities and ensuring it reaches all communities



**Environment**

*"Invest in Ecosystem Resilience, Regeneration, and Conservation"*

topics:

- UHI reduction, more green, less paved
- Green space and tree canopy protection/development
- Env. protected/sensitive areas/zoning
- Stormwater infrastructure - GI
- Water quality and conservation
- Biodiversity



# Next Steps

## Homework!

- Review this presentation and additional information slides
- Explore the shared [Google Drive](#)
- Email us: what other information would be helpful?

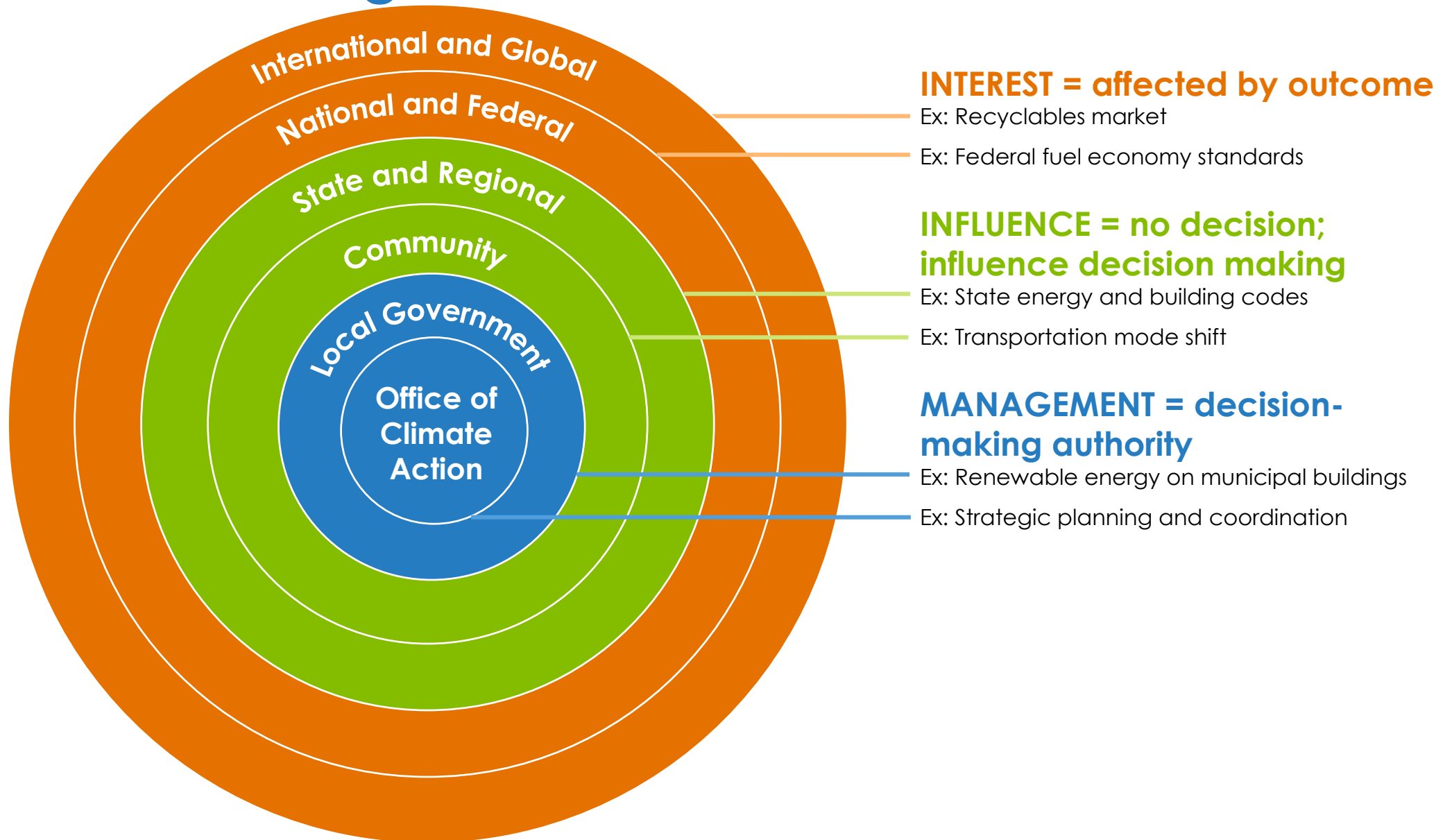
## Next meeting: December 17, 2020

- Reviewing RVAgreen 2050 vision and equity tool from Roundtable

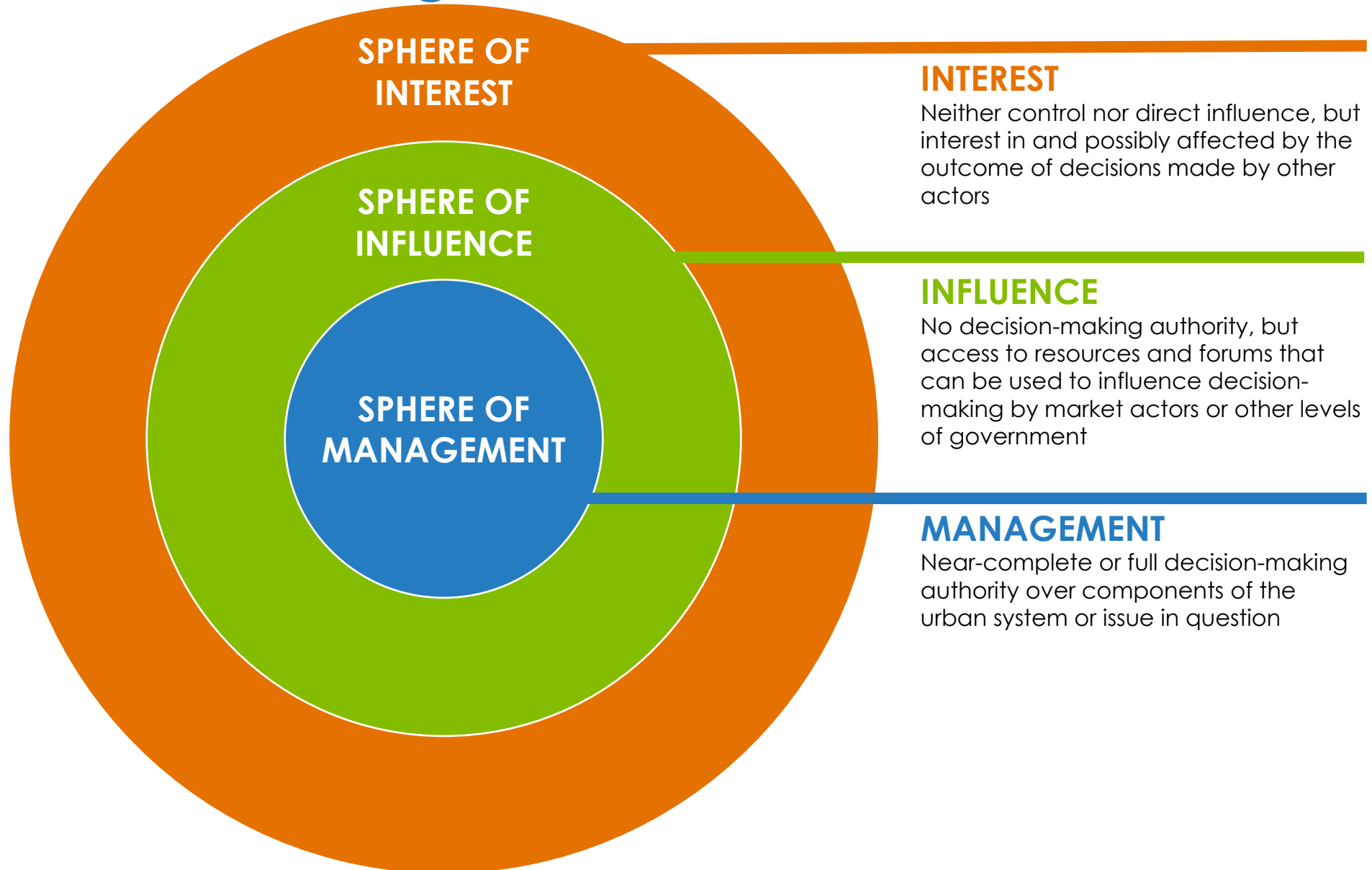
Complete [this survey](#)-help us improve for next time!

**MORE INFORMATION!**

# Nature of Climate Action Work: Sphere of Interest, Influence, and Management

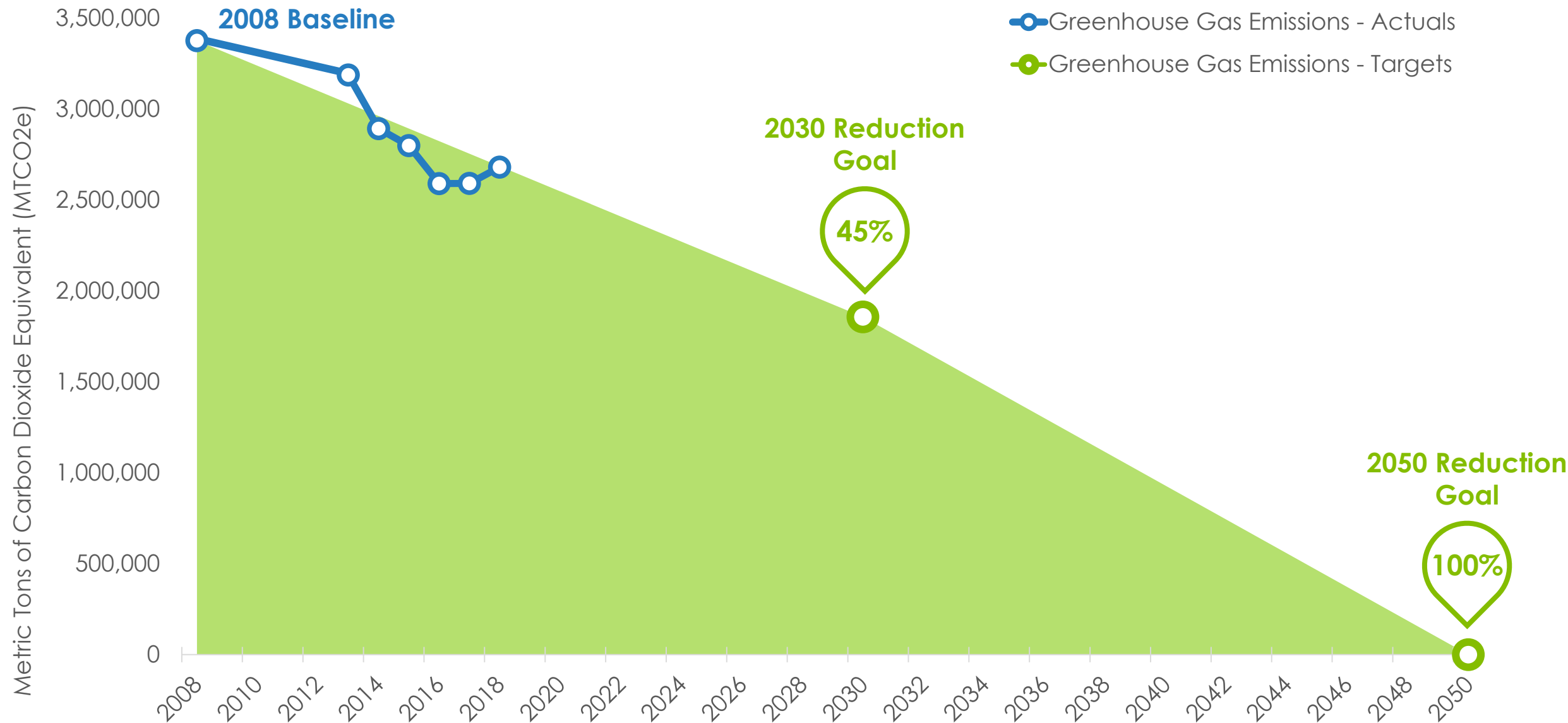


# Nature of Climate Action Work: Sphere of Interest, Influence, and Management

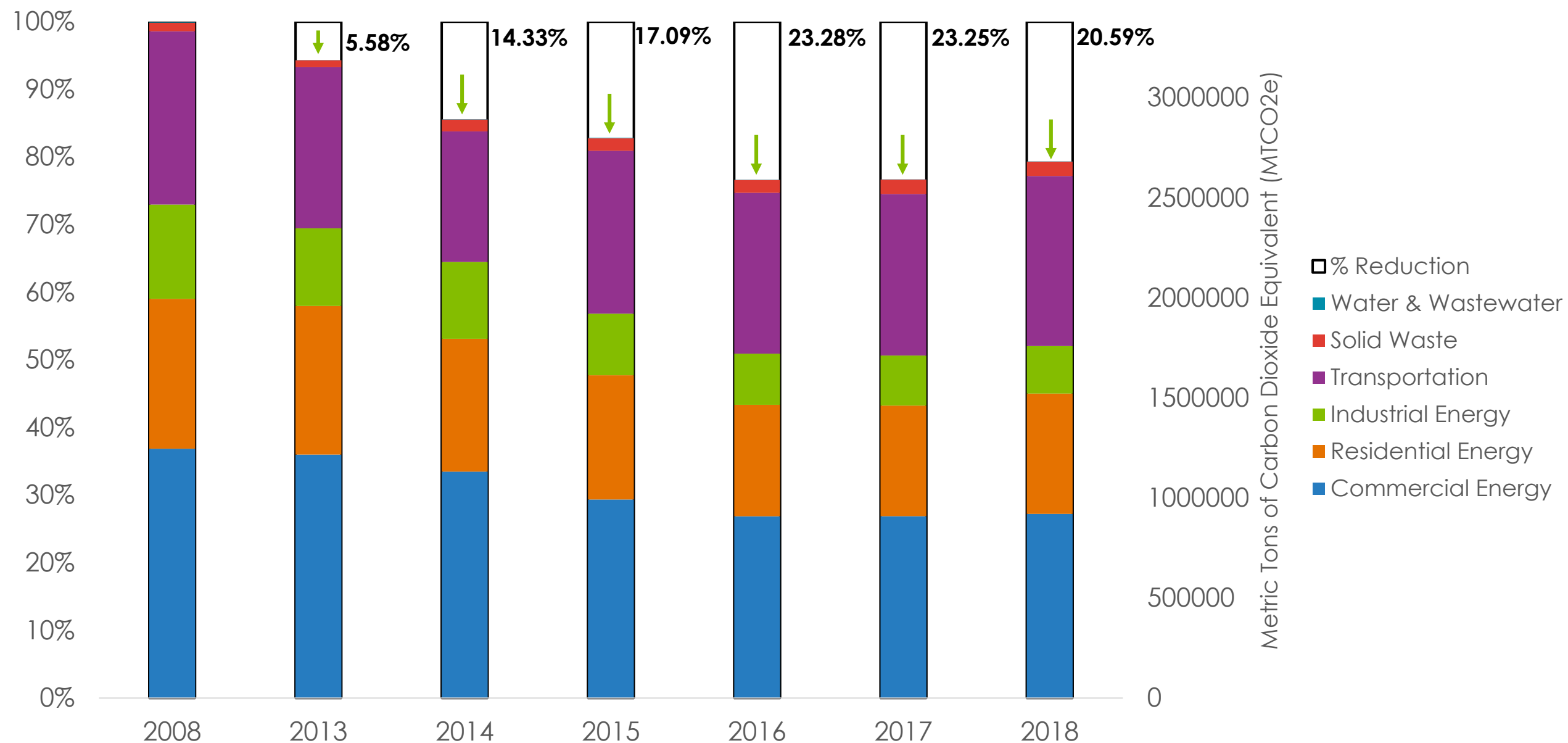


# Greenhouse Gas Emissions Inventory

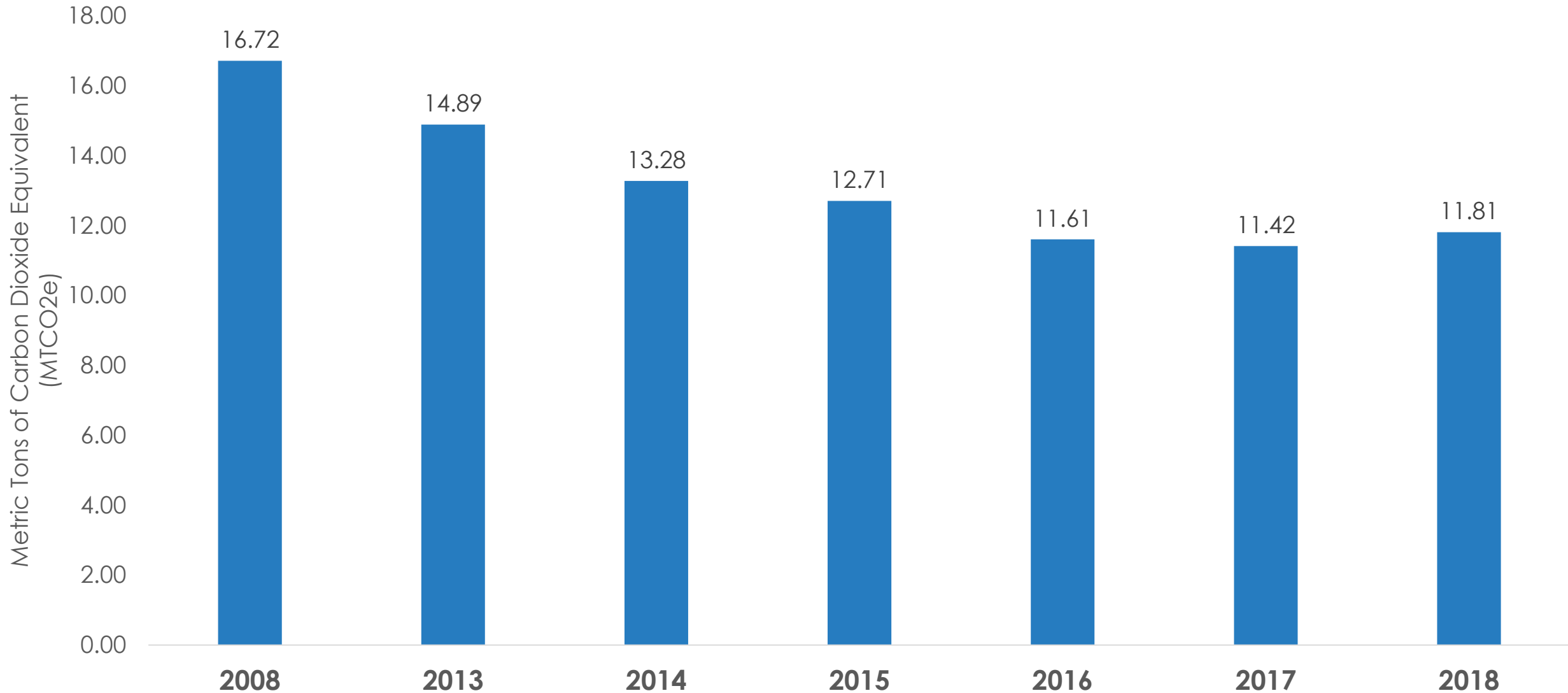
# Citywide GHG Emissions and Targets



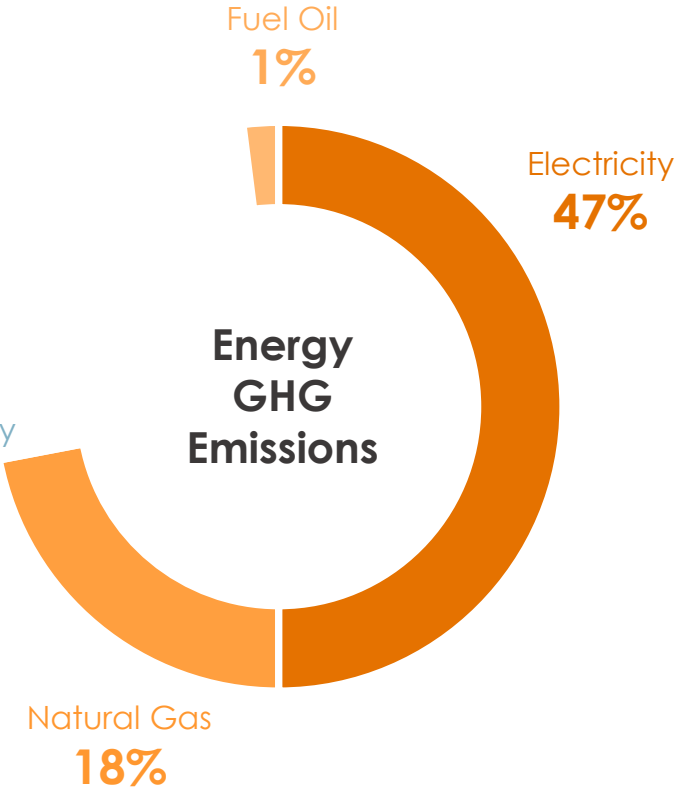
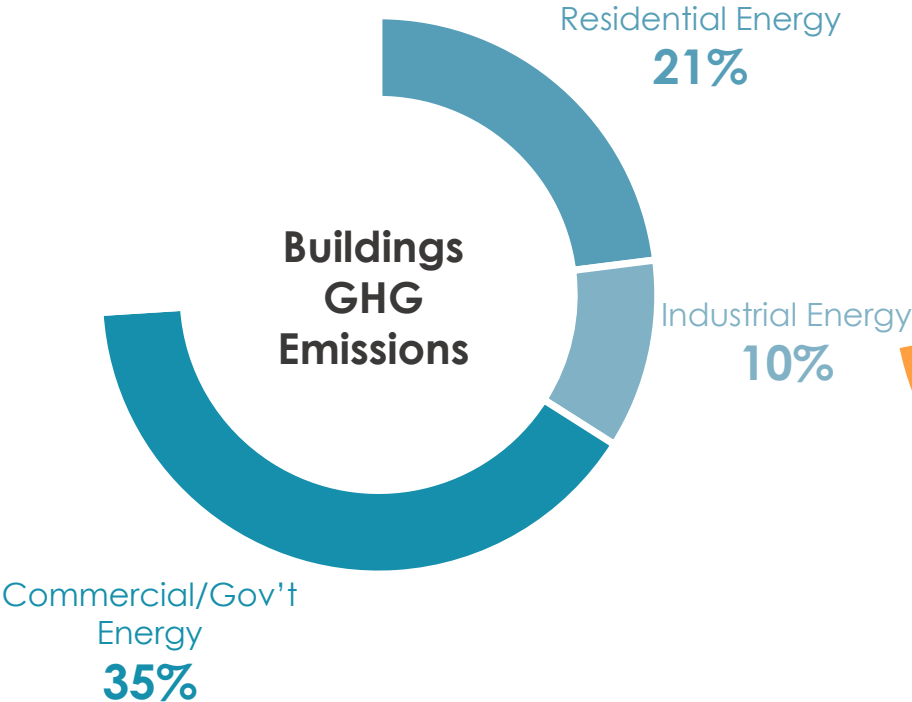
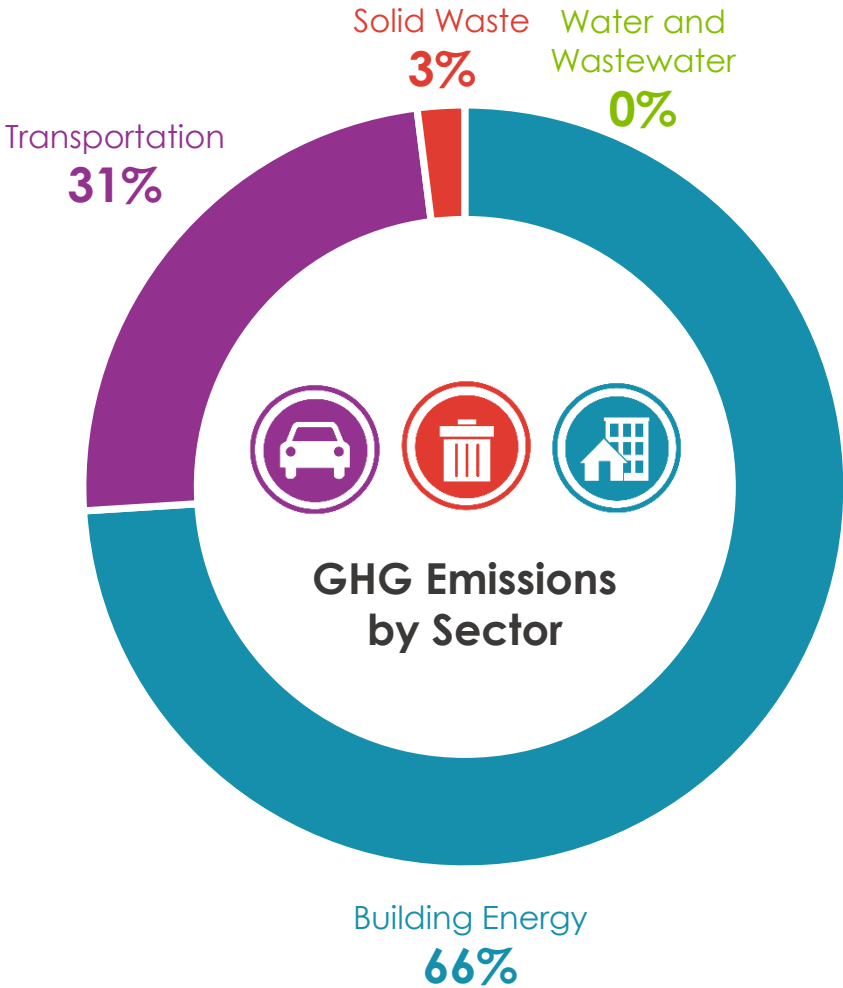
# Richmond Community GHG Emissions



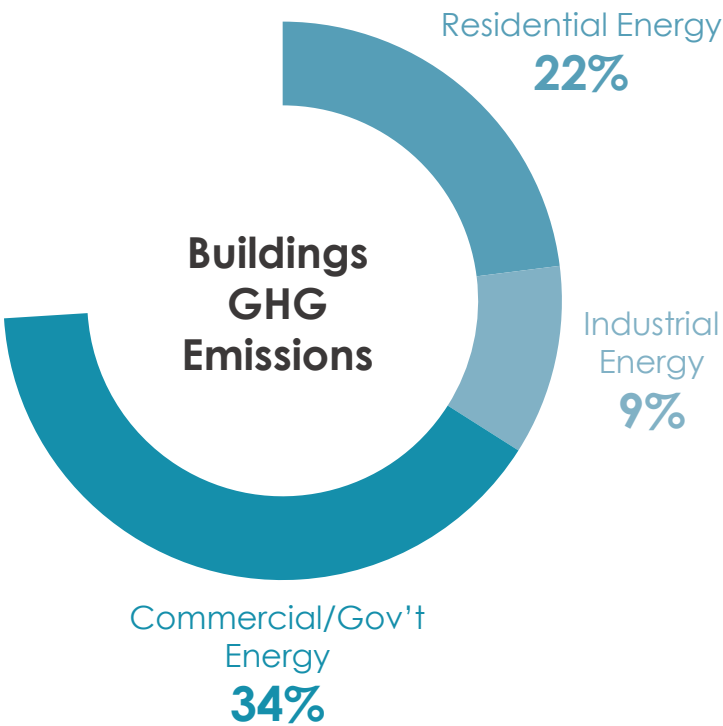
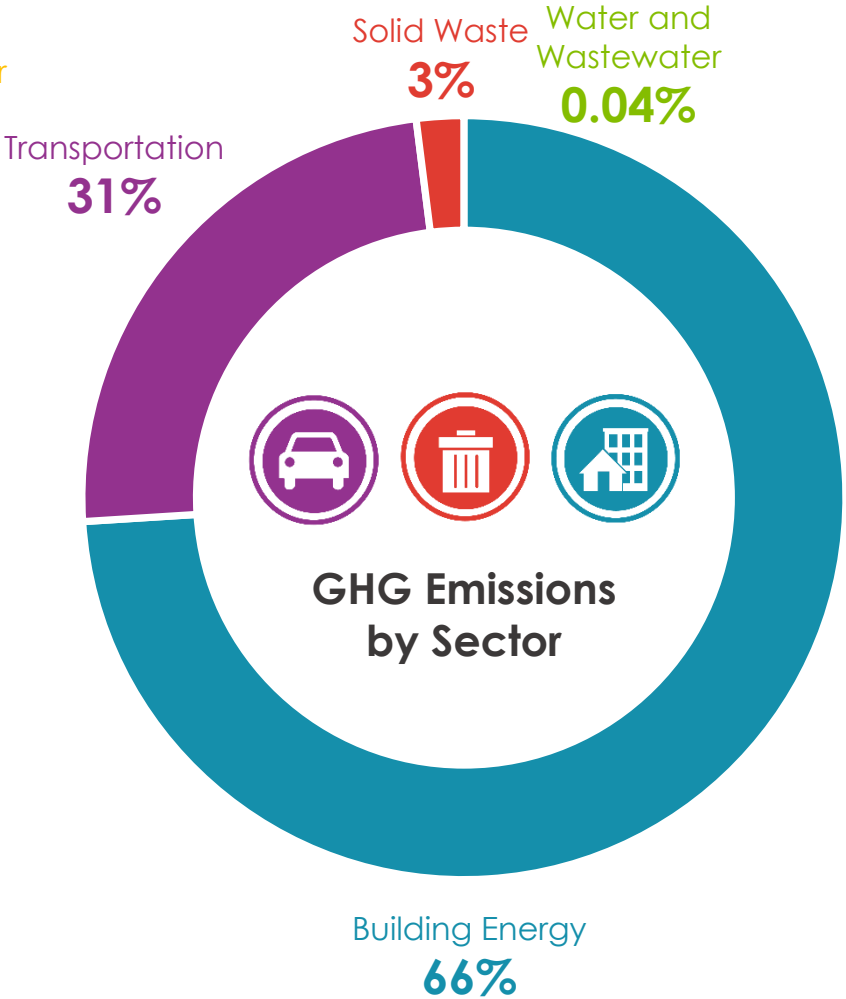
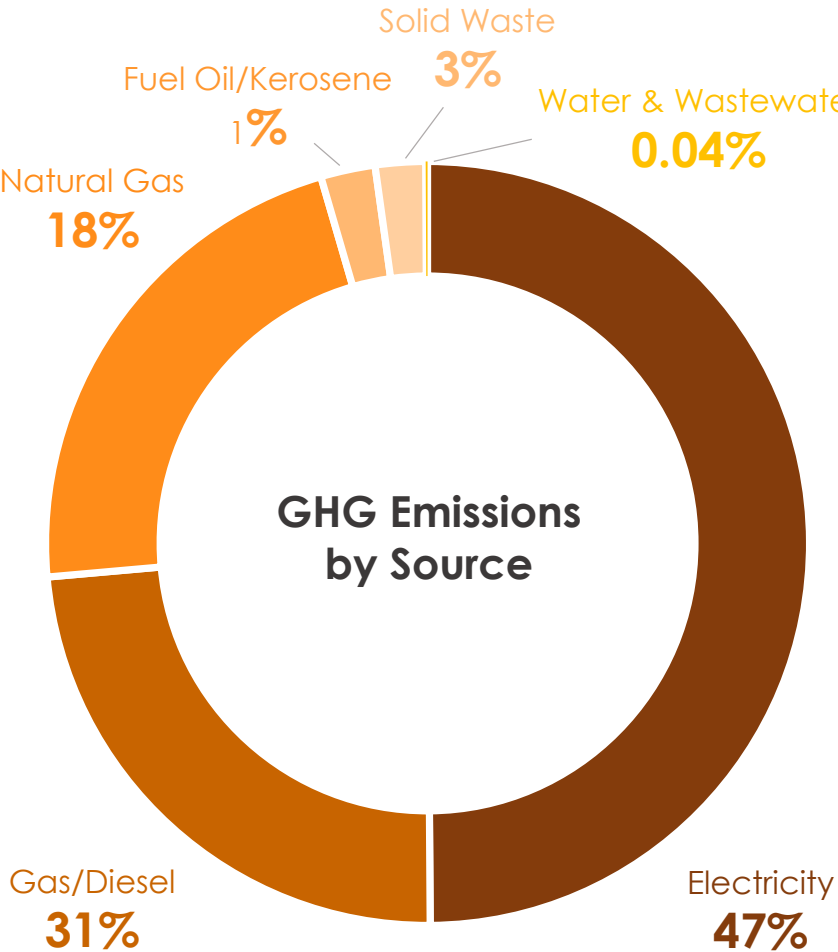
# Richmond Community GHG Emissions Per Capita



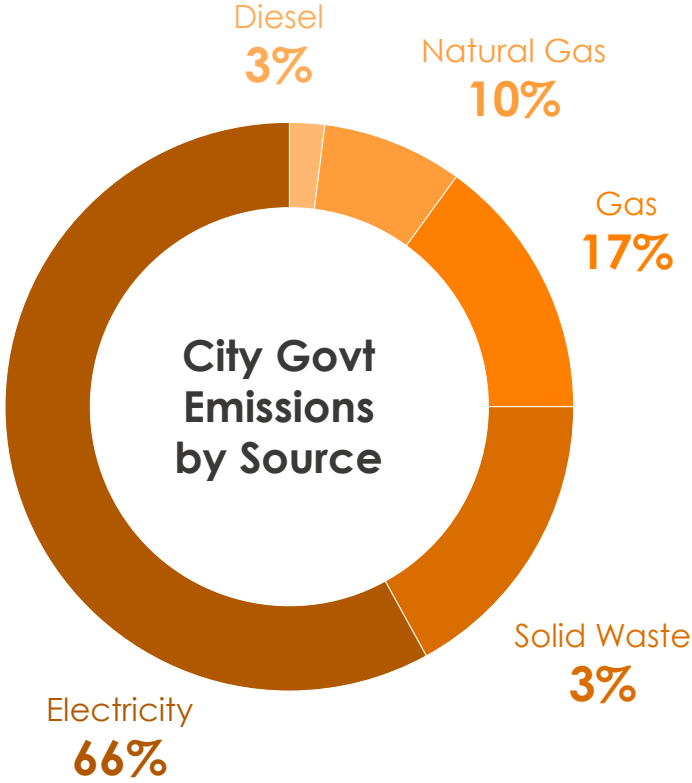
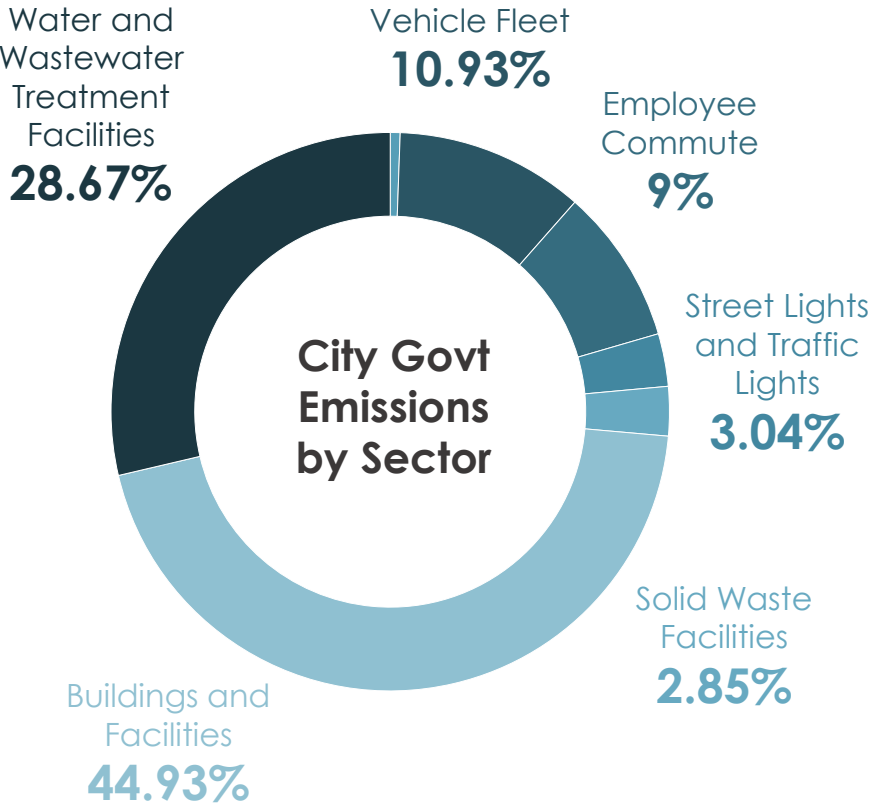
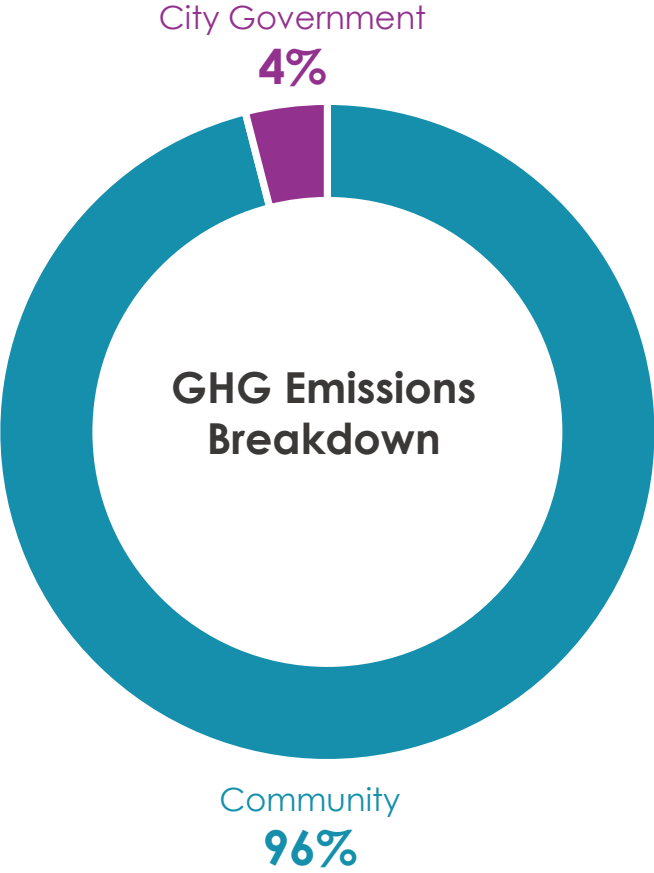
# Richmond Community GHG Emissions



# Richmond Community GHG Emissions



# Richmond City Government GHG Emissions



# Community Survey Results

We will be accepting survey responses throughout the planning process – please share!

English: <https://www.surveymonkey.com/r/VCNGMMY>

Spanish: <https://www.surveymonkey.com/r/TRJSMTC>

# RVAgreen 2050 Community Survey Results

As of 11/5/2020: 471 responses

## Respondent Demographics

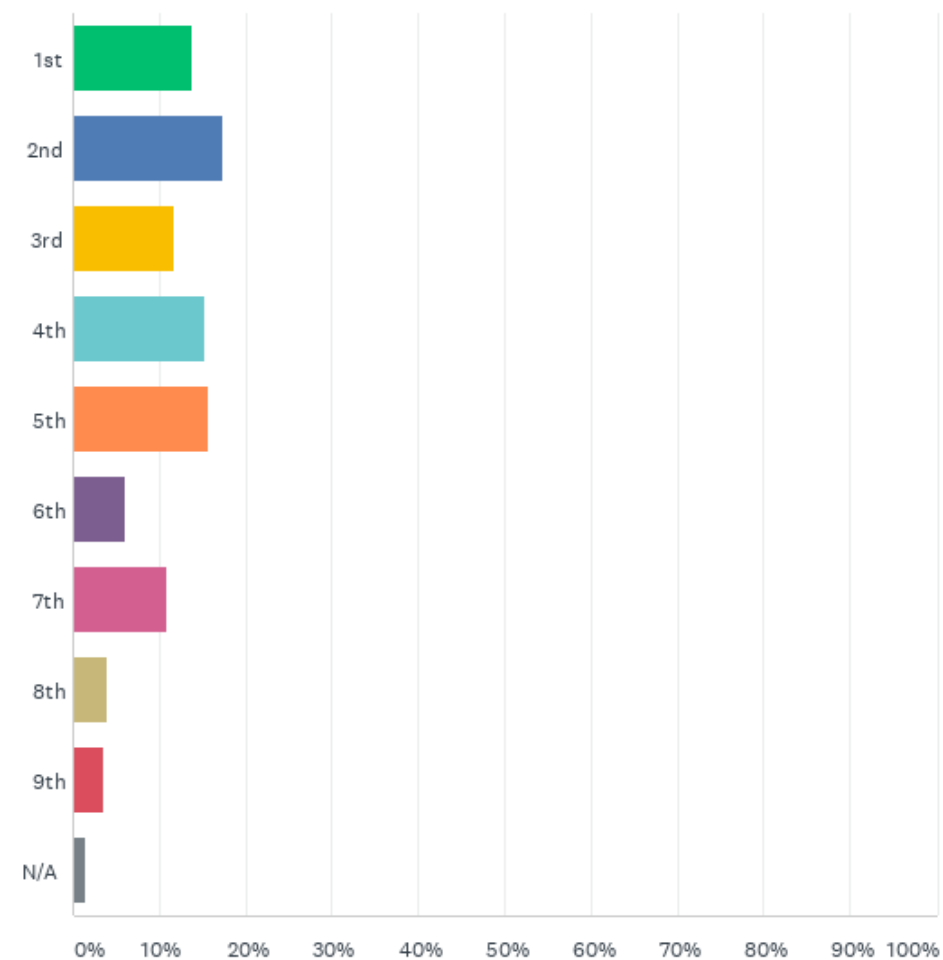
- 17.6% are from the 2<sup>nd</sup> District
- 37.9% are 30-39 years old
- 65.0% are women
- 83.0% are white
- 99.1% speak English at home
- 80.5% have a bachelor's or higher
- 18.6% earn between \$100,000-\$150,000
- 24.7% have a child in the home
- 65.0% own their home

## City of Richmond Demographics

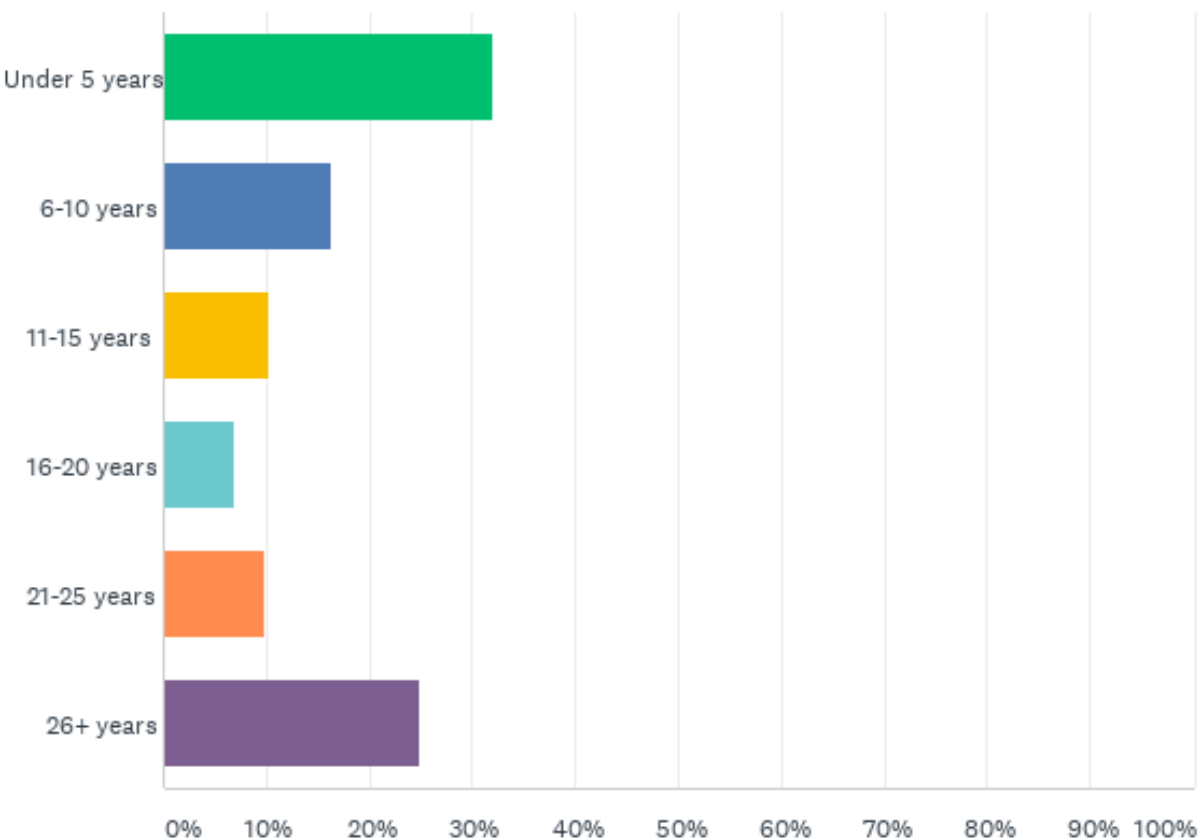
- 17.7% are 30-39 years old
- 52.3% are women
- 44.6% are white
- 10.2% speak another language
- 39.3% have a bachelor's or higher
- Median household income \$51,285
- 18.2% have children in the home
- 43.6% own their home

# RVAgreen 2050 Community Survey Results

## Which City Council district do you live in?



## How long have you lived in Richmond?

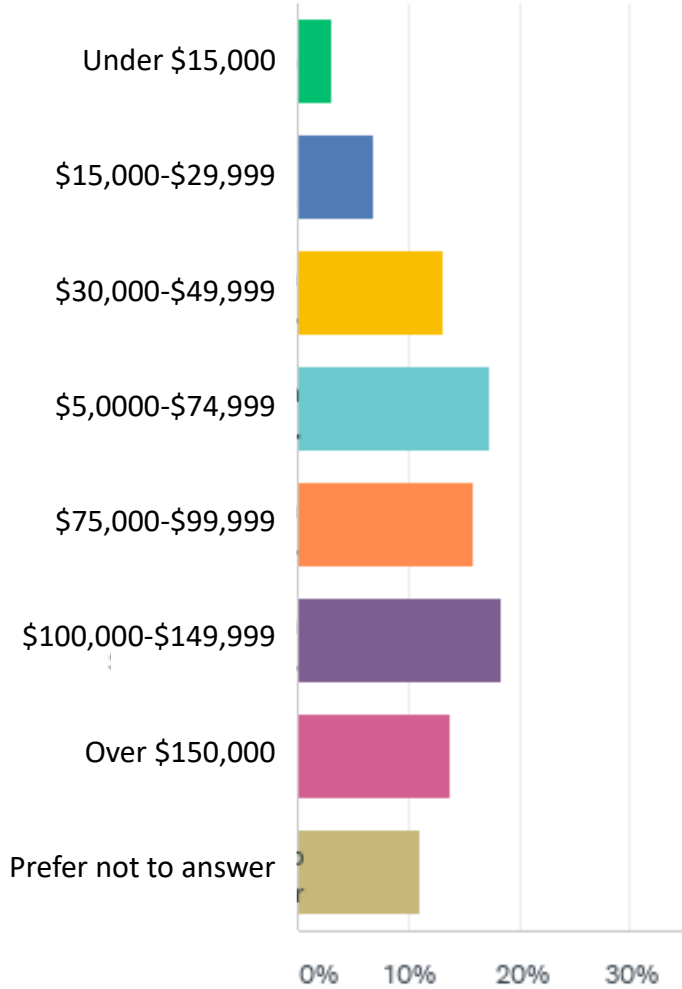
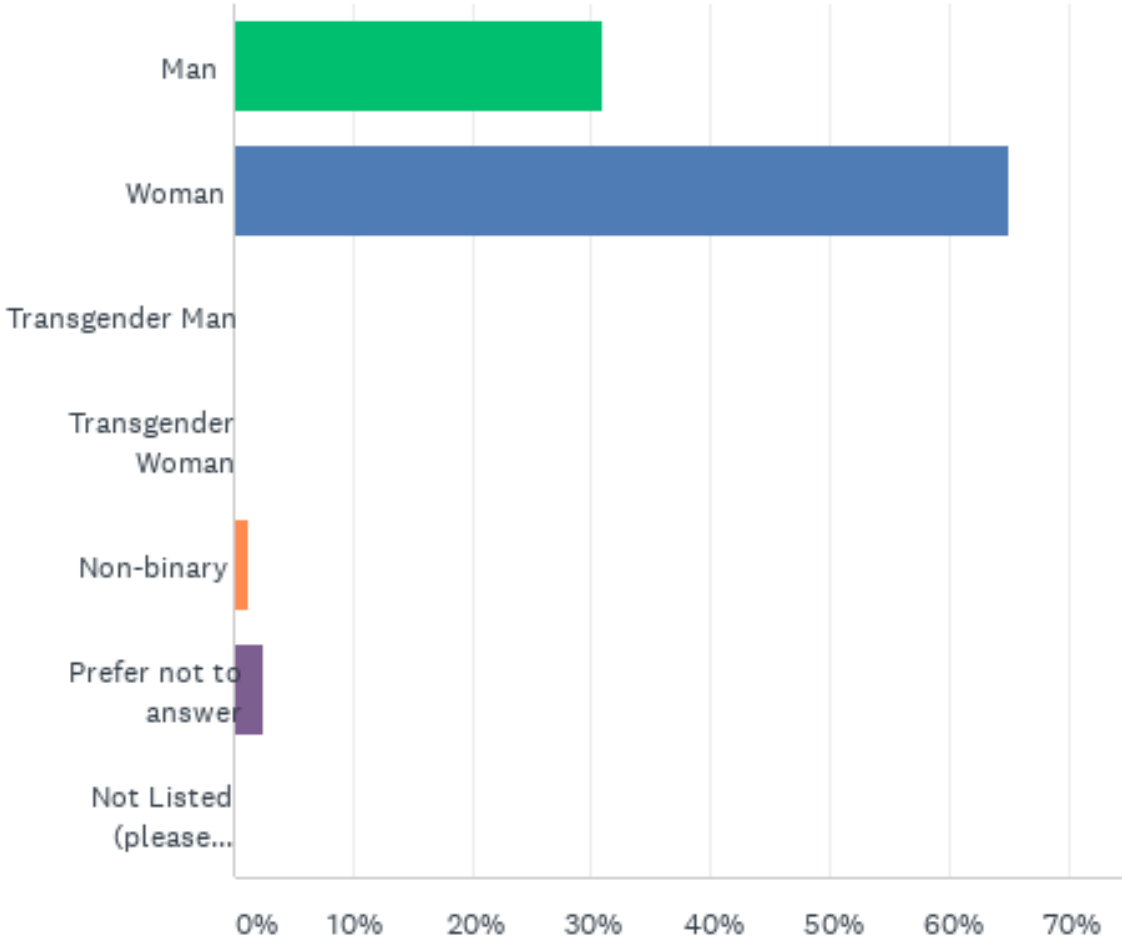
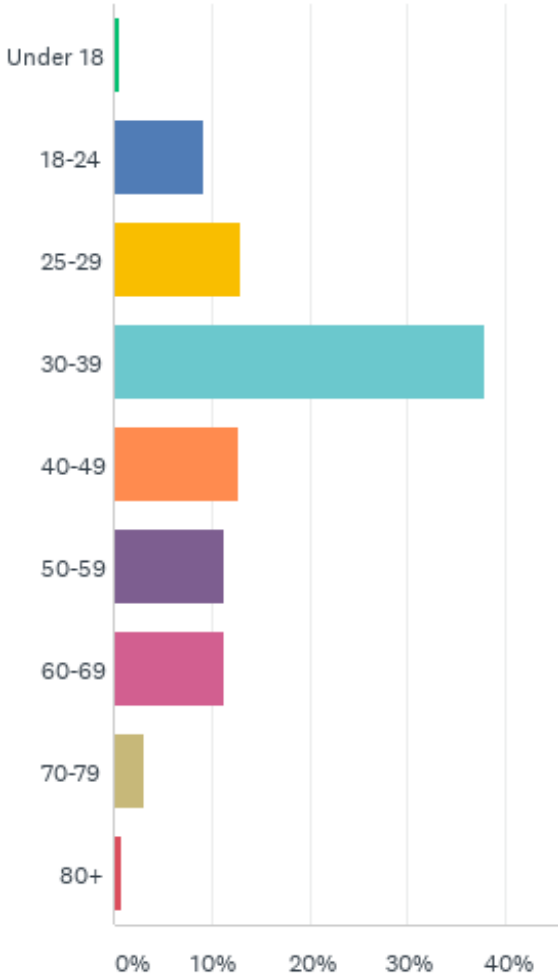


# RVAgreen 2050 Community Survey Results

Age

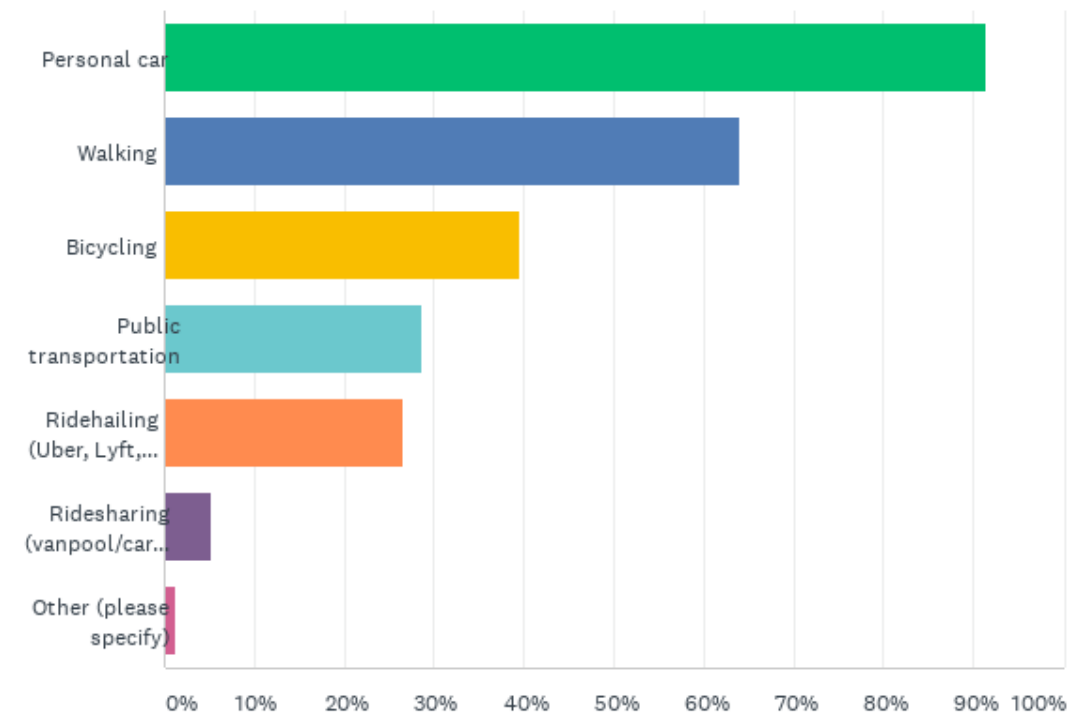
Gender Identity

Income



# How Do You Get Around Richmond?

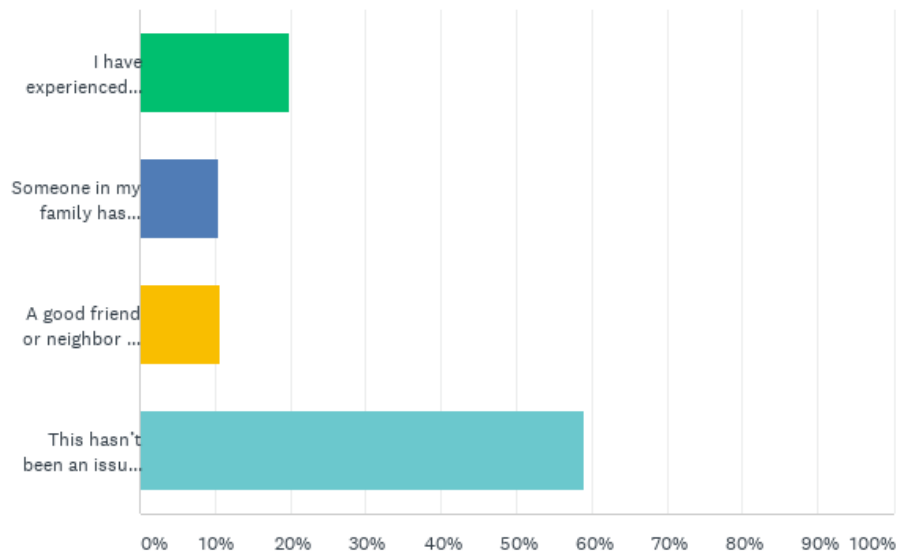
- Personal Car..... 91.4%
- Walking..... 64.3%
- Bicycling..... 39.8%
- GRTC..... 29.0%
- Ride-hailing..... 26.5%
- Ride-sharing..... 5.2%



# Environmental Experiences

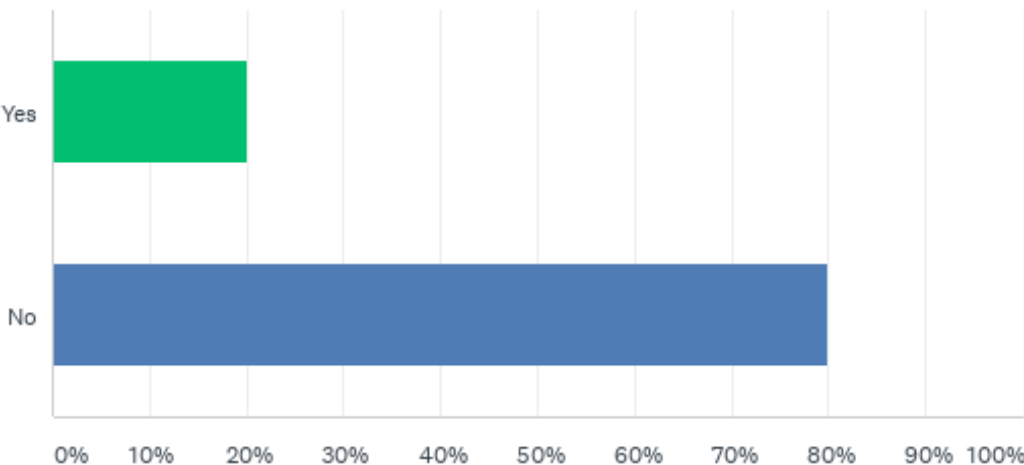
## Experienced Extreme Heat?

- 20.1% have experienced
- 20.6% know someone who has experienced
- 59.3% have not experienced



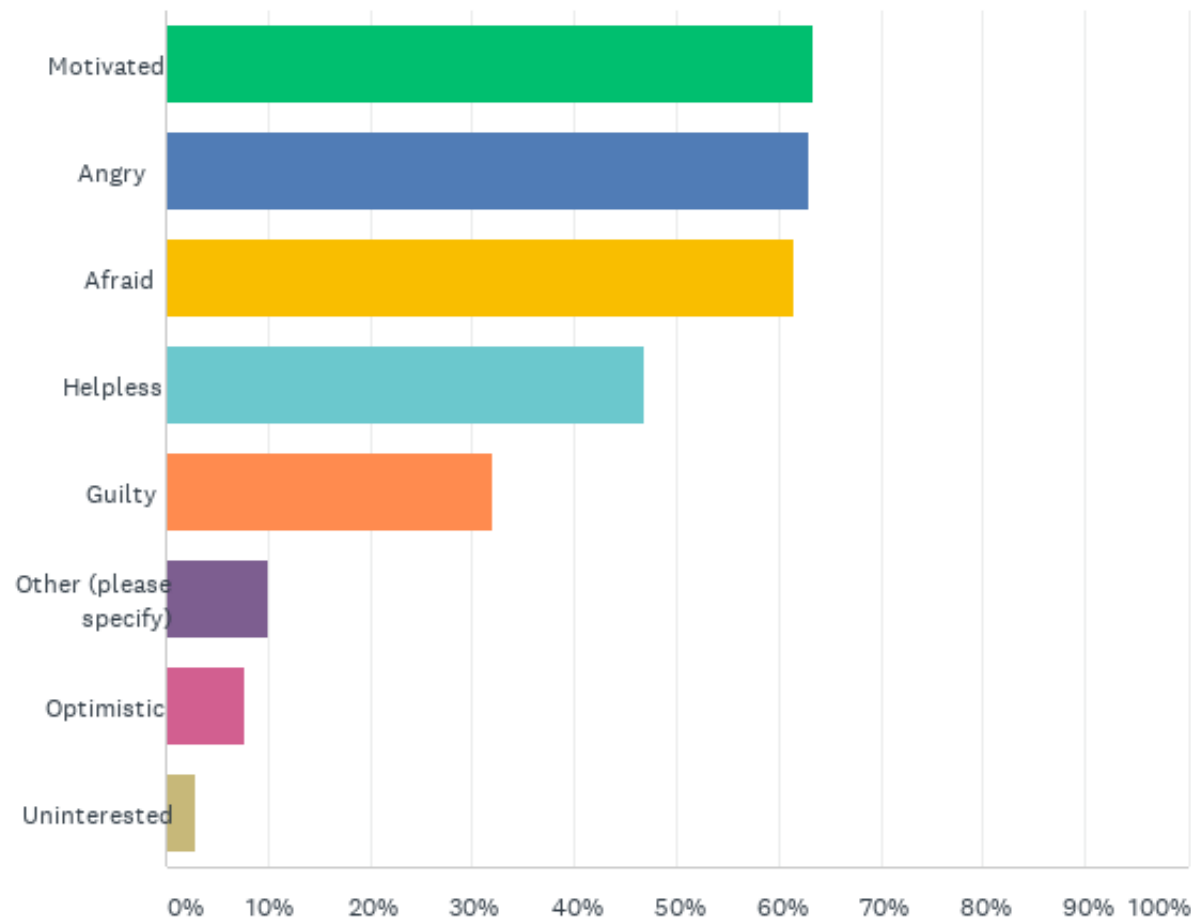
## Experienced Flooding?

- 20.4% have experienced
- 79.6% have not experienced



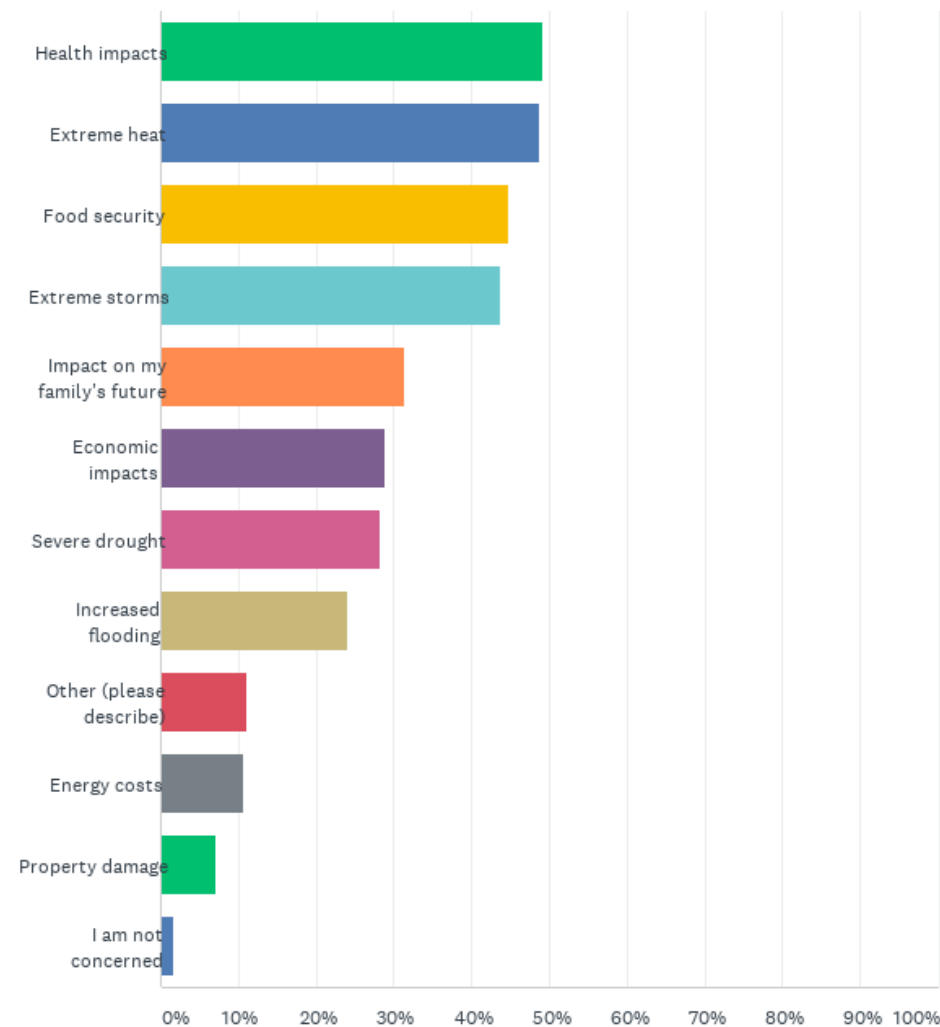
# Climate Change Makes Me Feel...

64.2% Motivated  
63.0% Angry  
61.4% Afraid  
46.5% Helpless  
32.1% Guilty  
7.9% Optimistic  
3.0% Uninterested



# Climate Change Impact Concerns

49.0% Extreme Heat  
48.7% Health Impacts  
44.8% Food Security  
43.6% Extreme Storms  
31.3% Impact on Family  
29.0% Economic Impacts  
27.8% Severe Drought  
24.1% Increased Flooding  
11.3% Other (please describe)  
10.9% Energy costs  
6.5% Property damage  
1.8% I am not concerned



# Where Would You Allocate Money?

56.5% Affordable and Sustainable Housing

50.6% Clean Energy

47.8% Trees and Urban Green Spaces

47.3% Sustainable Transportation

29.7% Waste Reduction

26.3% Healthy Food Access

22.1% Stormwater Infrastructure

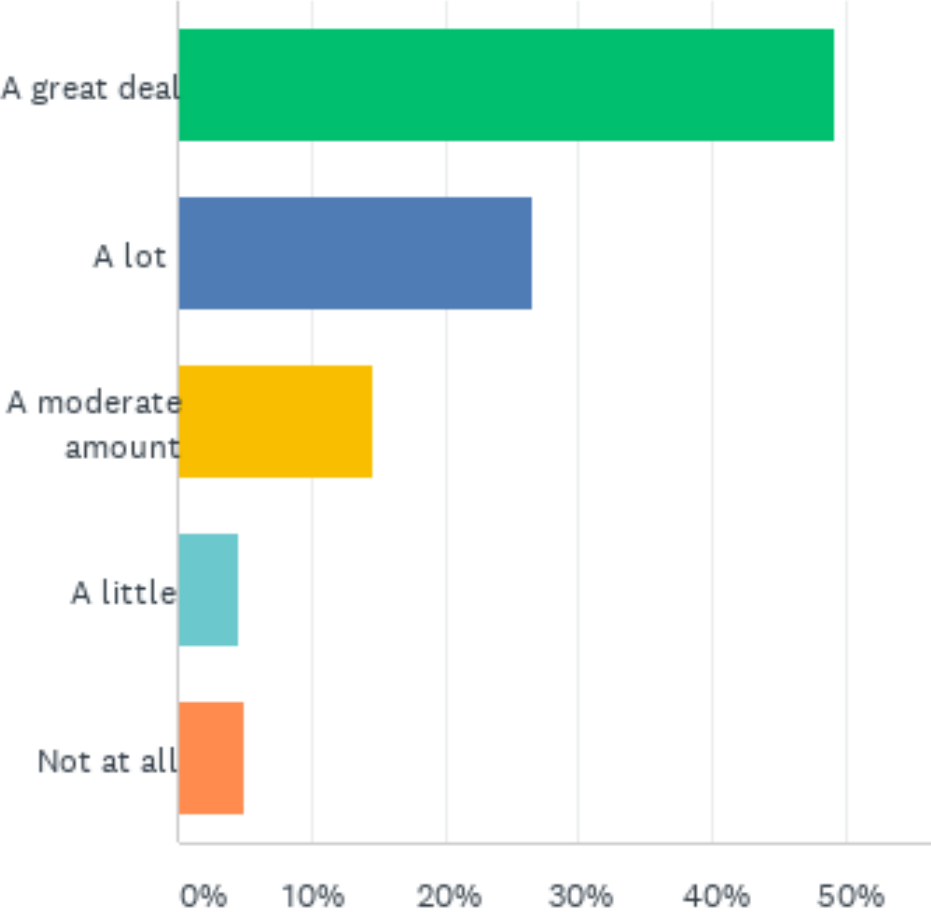
19.5% Green Jobs

## Some Key Takeaways

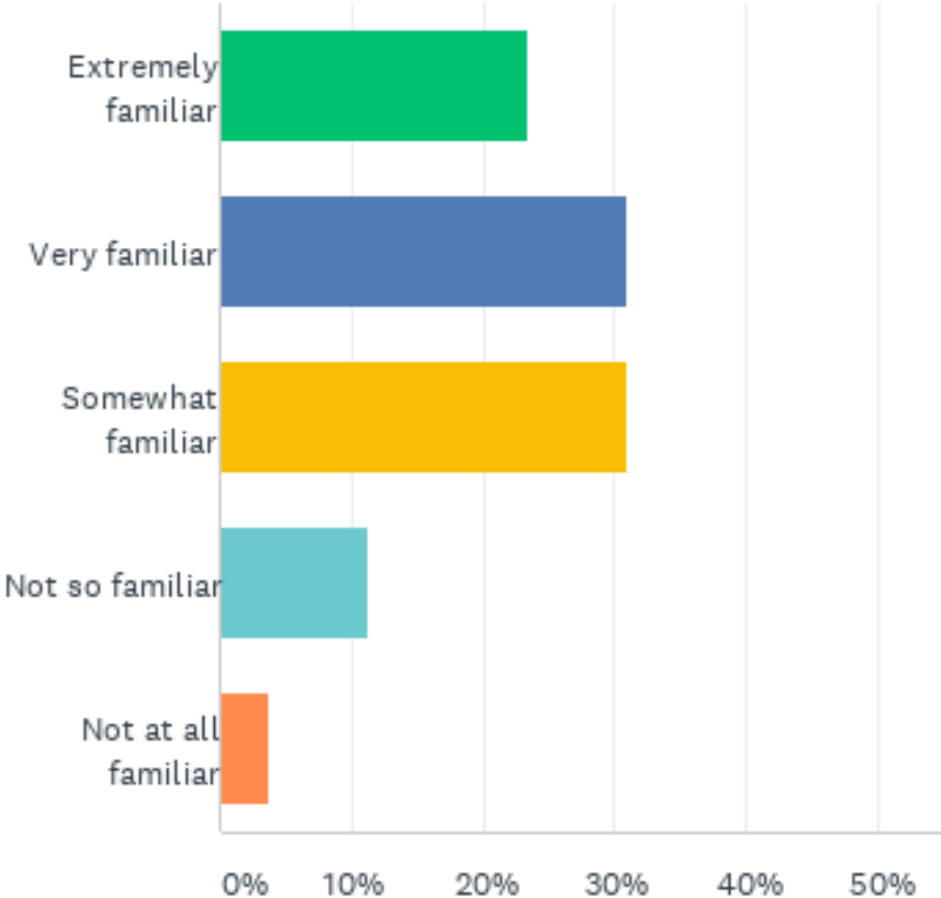
- 84.5% of respondents believe the largest barrier for addressing climate change is a **lack of political support and / or will**
- 94.9% of respondents believe are at least a little concerned with environmental justice in Richmond, VA
- 85.0% of respondents are at least somewhat familiar with the goals of environmental justice
- 70.2% of respondents **have not participated in a City of Richmond planning process before**

RVAgreen 2050 Community Survey Results

Concerned with Environmental Justice in Richmond, VA



Familiar with the Goals of Environmental Justice



# Vision of equitable climate action for a healthy and resilient Richmond

implement now trees cars help part renewable energy solutions affordable especially  
actions go clean energy safe residents efforts including way work transition  
creating efficient equitable climate action etc provide issues resources  
green jobs reduce accessible focus see affordable housing equitable  
good Improve access easier sustainable recycling green  
incentives areas use neighborhoods future  
Richmond education communities local city  
without need think green spaces investing will  
government people flood housing home food spaces live  
problems climate change corporations building support public places  
changes low-income energy jobs public transportation plan makes lead  
everyone pollution increased prioritize infrastructure public transit businesses  
great health kept programs class ensure care transportation private citizens income  
environment new