

RVAGreen 2050 Environment Working Group
11/16/2020

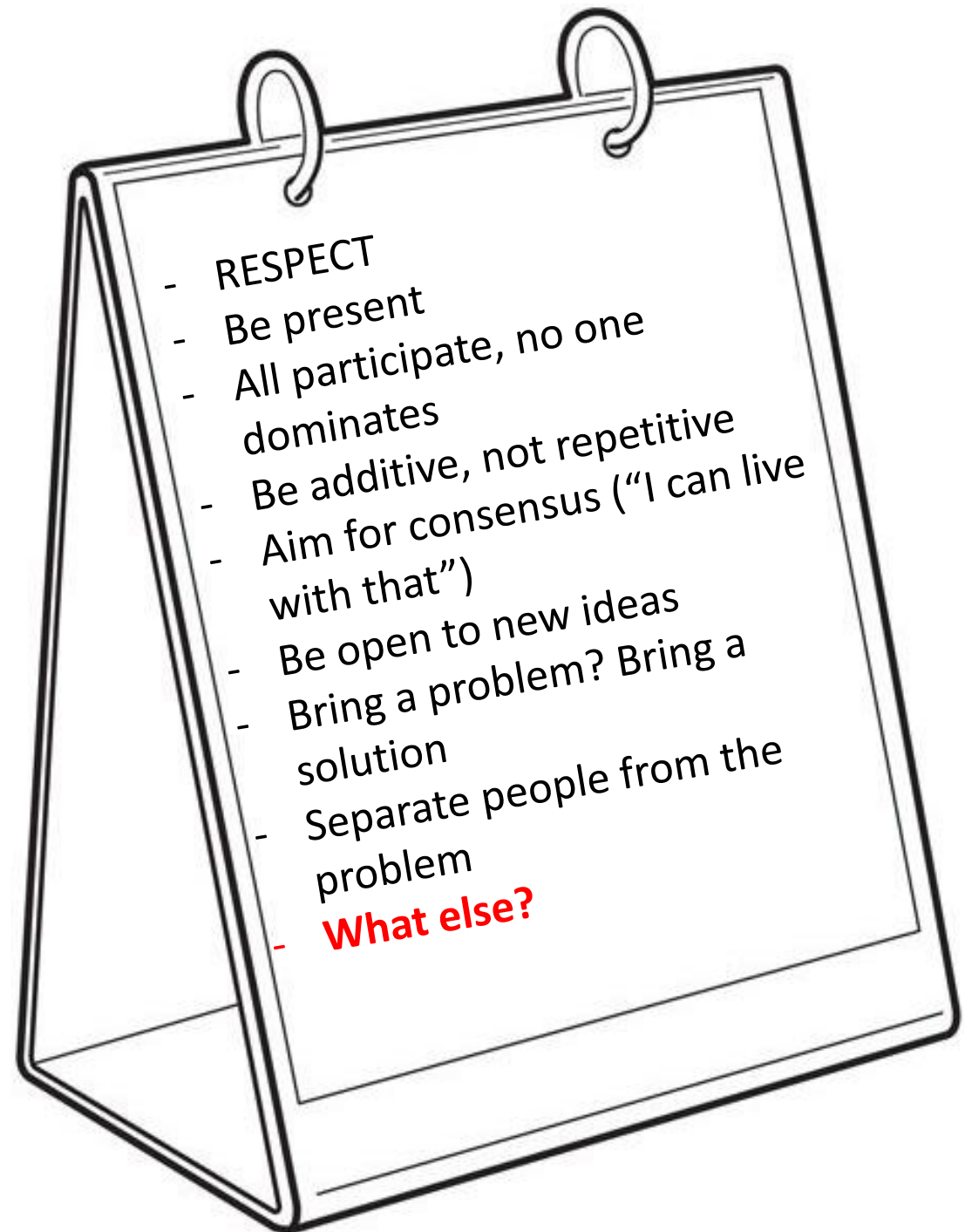
City of Richmond
RVAgreen
2050

Equitable climate action for a healthy and resilient Richmond

Agenda

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

Ground Rules / Group Expectations

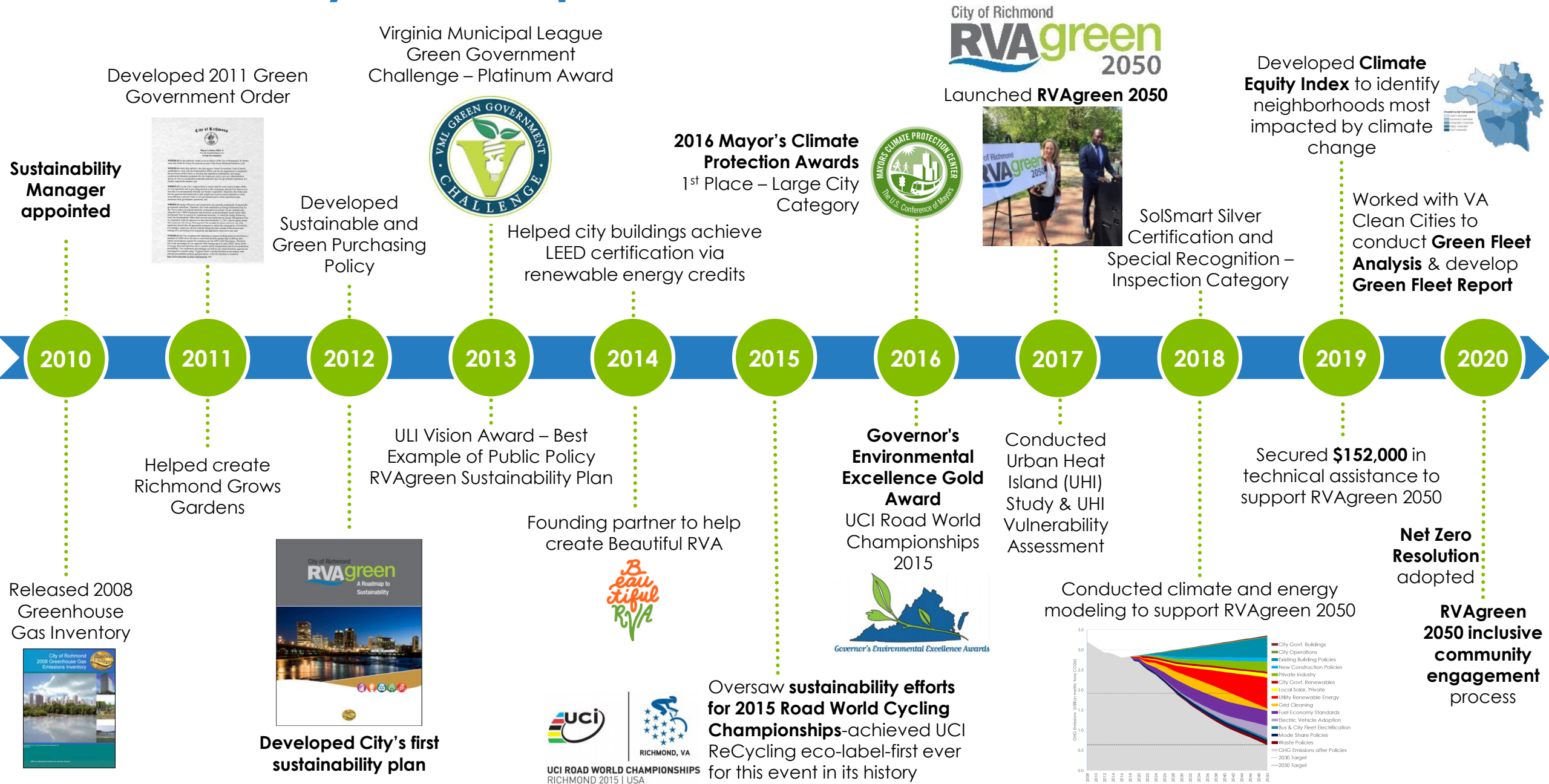


Who's in the room?

- Name
- Organization and/or neighborhood
- **Breakout rooms:** What motivates you to help make Richmond more equitable, healthy and resilient?



Sustainability Accomplishments

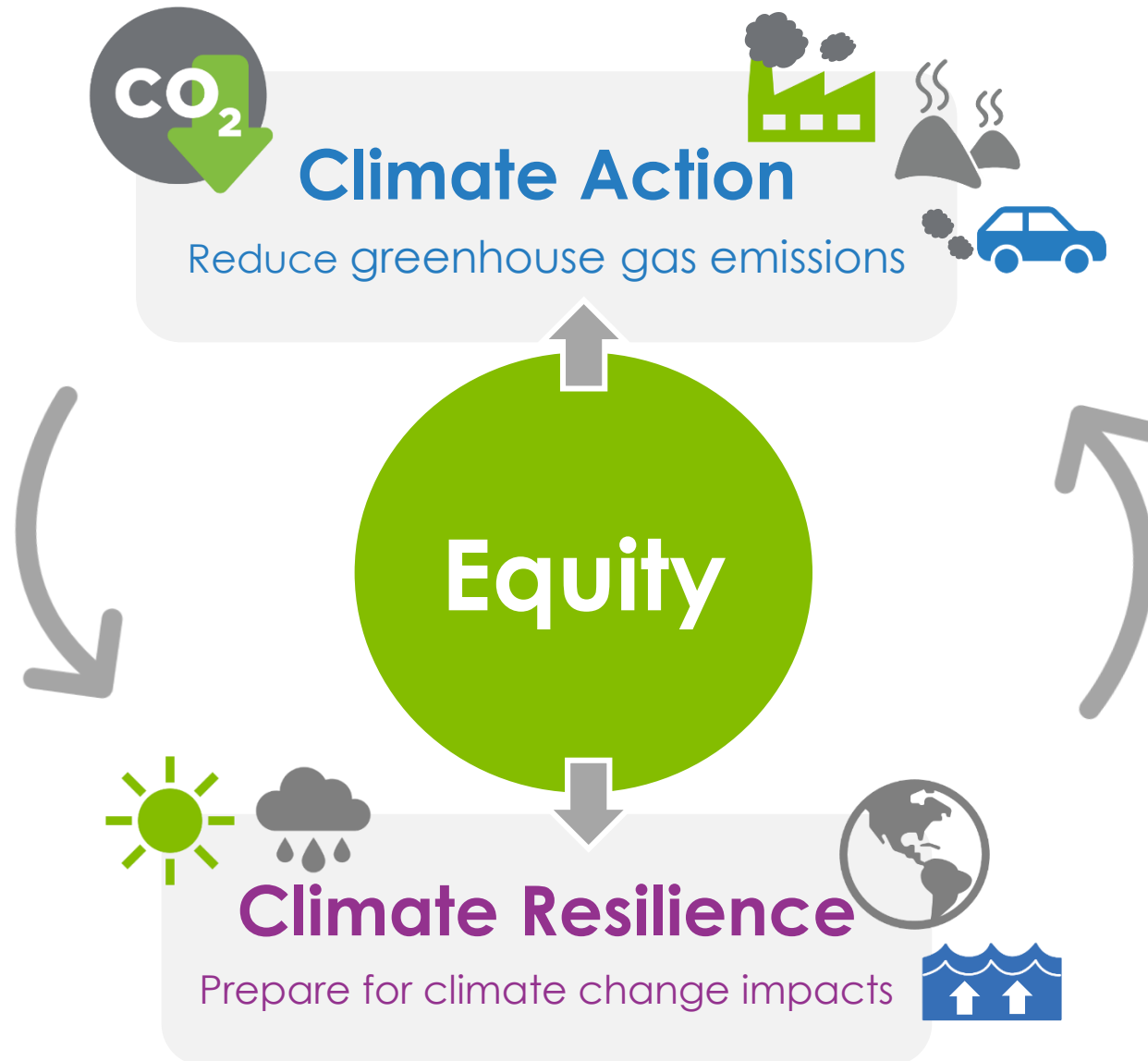


What is climate action and resilience planning?

Traditional approach:



RVAgreen 2050 - *Integrated approach:*



Climate Action

What is Climate Change?

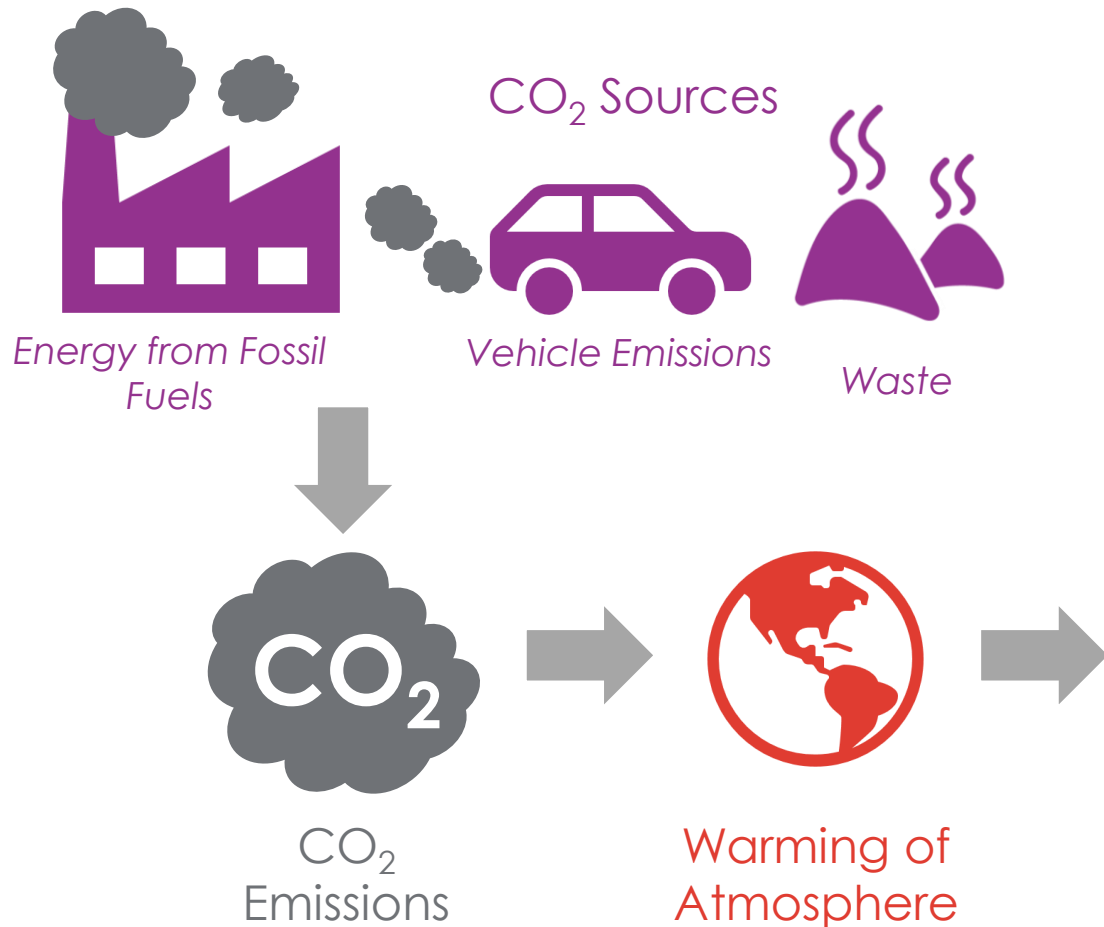


Climate change is
a shift in the
long-term, average
weather pattern



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



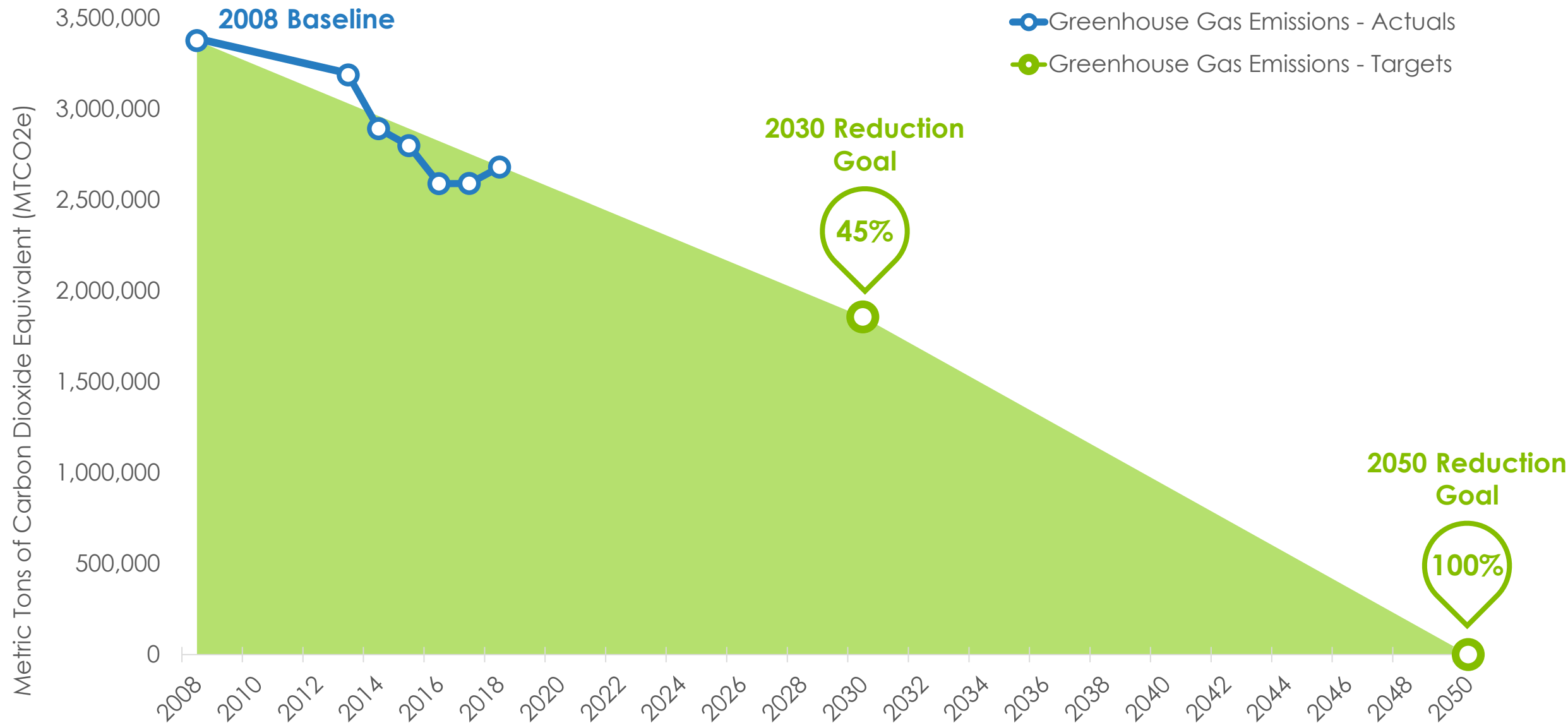
Public Safety
Public Health
Physical Damage
Displacement

Government



Public Safety
Core Services
Education
Poverty Mitigation
Financial/Credit Risk

Citywide GHG Emissions and Targets

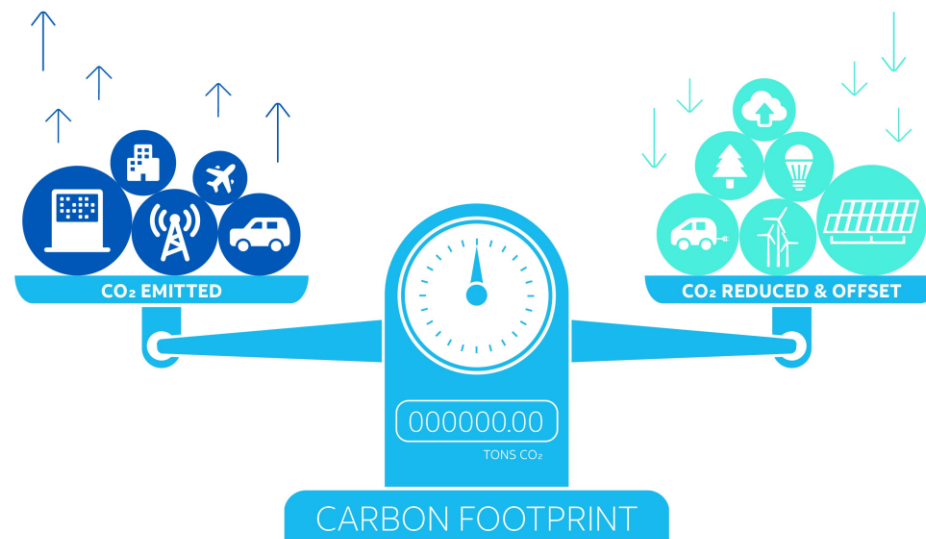


What is Carbon Neutrality?

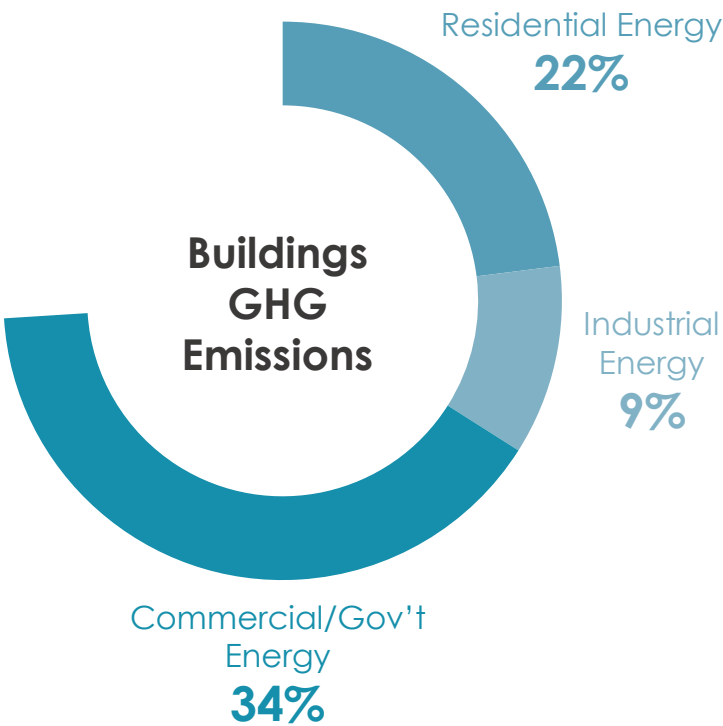
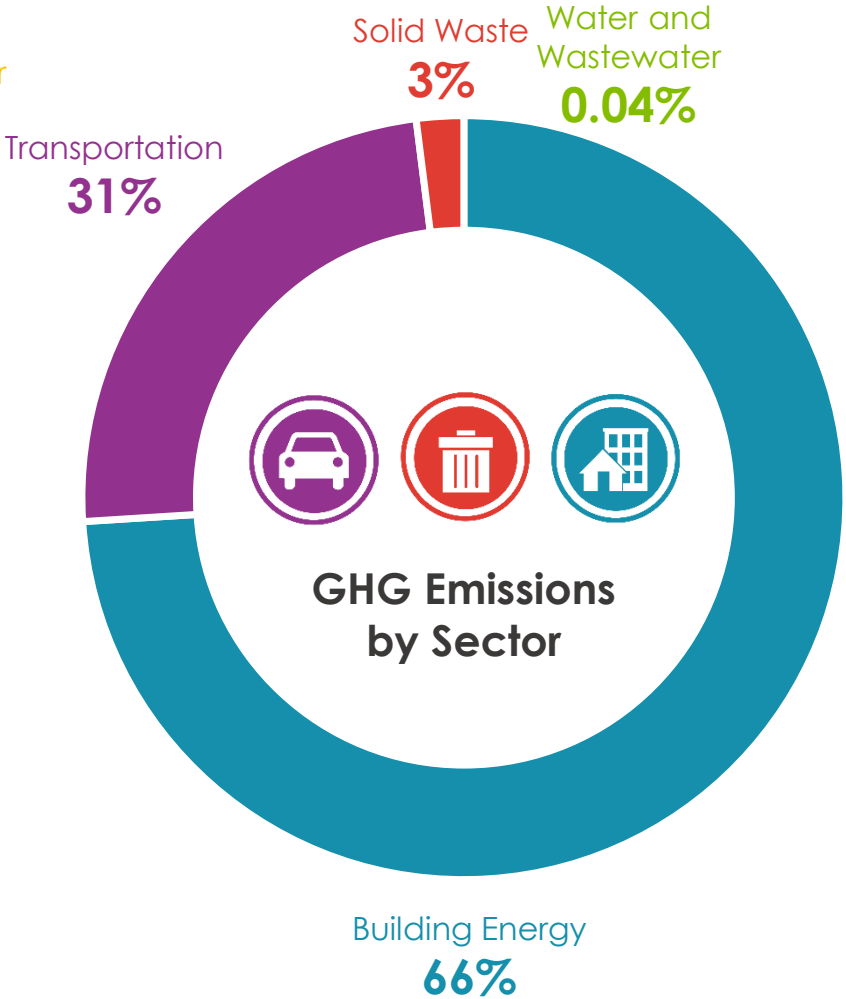
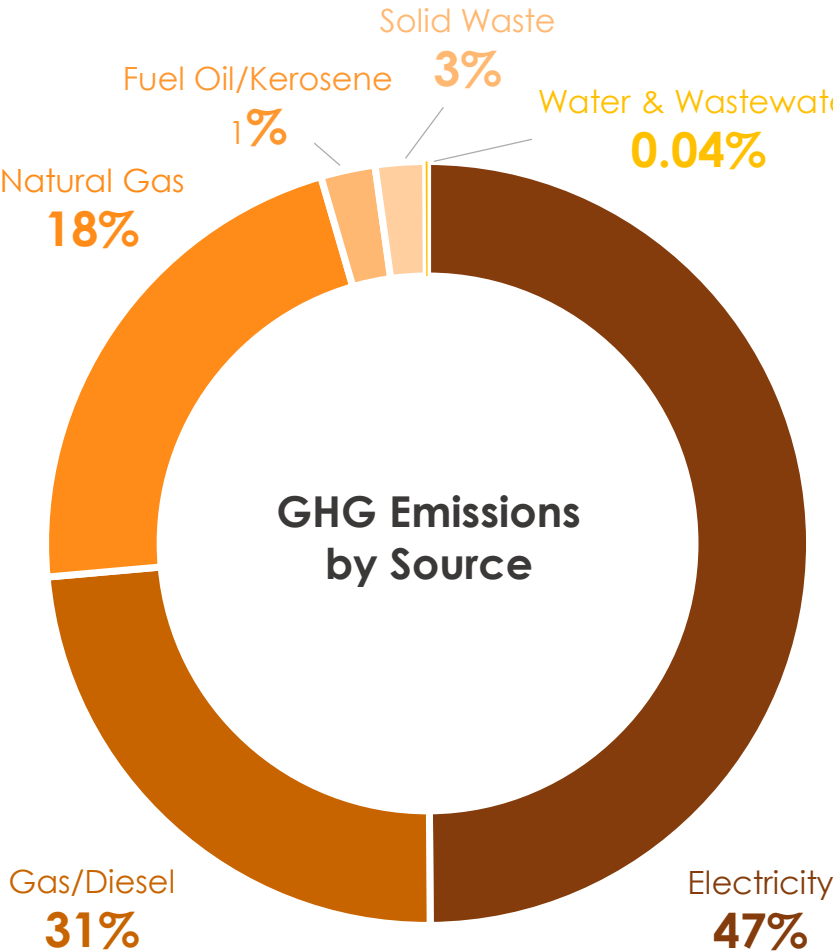
Emissions produced from energy supply +
buildings + transportation + waste

=

emissions captured locally + emissions offset



Richmond Community GHG Emissions



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



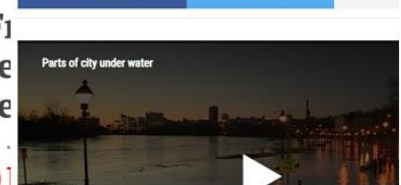
An enhanced satellite image from NOAA shows Hurricane Florence over the Atlantic Ocean. THE ASSOCIATED PRESS

February 25, 2019

James River hits highest level in 100 years

POSTED 4:08 PM, FEBRUARY 25, 2019, BY WEB STAFF AND BRENDAN KING, UPDATED AT 10:45 AM

FACEBOOK TWITTER



July 20, 2019

Excessive Heat Warning: in some parts of Central Virginia

POSTED 11:01 AM, JULY 20, 2019, BY MIKE STONE, UPDATED AT 03:59 PM, JULY 20, 2019

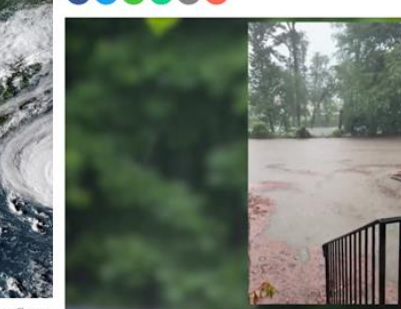
RICHMOND, VA. FACEBOOK TWITTER



August 5, 2019

'We haven't really seen anything like this in 100 years'
Richmond couple comes across flood during walk

FACEBOOK TWITTER WHATSAPP MESSAGING EMAIL



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. Drought Monitor shows a moderate drought. This is an increase from a previous report.

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 track 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

By: Elizabeth Bell Richmond Times-Dispatch Jul 20, 2020 1 of 11

January 2020 was Earth's warmest 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 to its highest levels since 1996

By: John Boyer



By: John Boyer

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 of 11



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

November 12, 2020

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

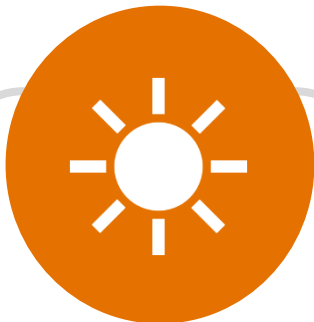
John Boyer 9 min ago 0 4 min to read



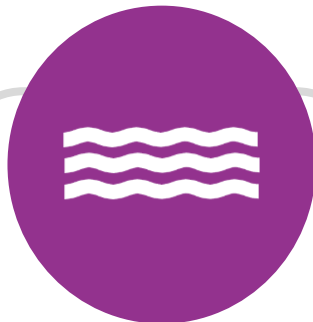
Richmond's Future Weather



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

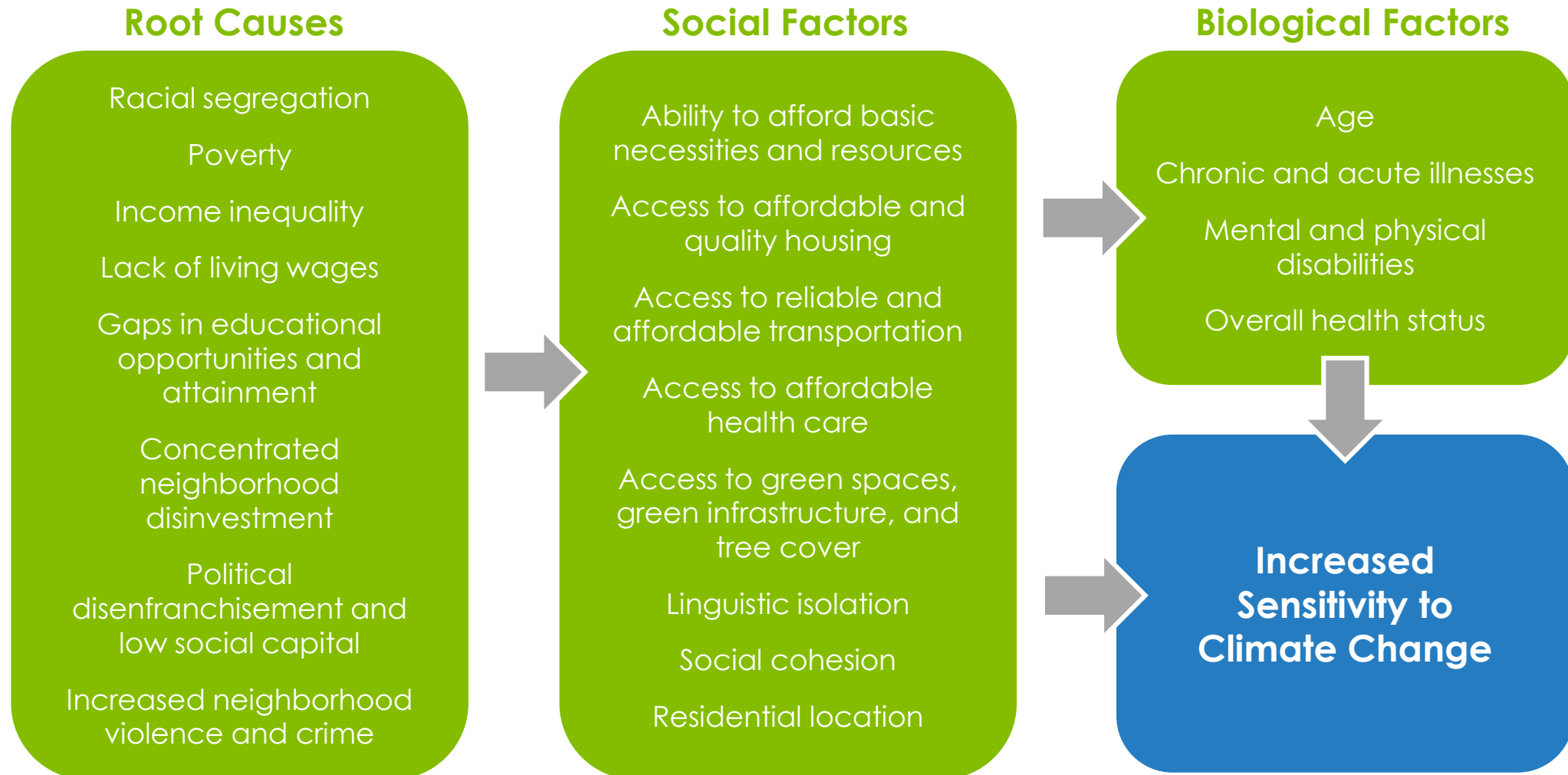
Schools closed/disrupted
Job disruption/loss
Property damage/loss



**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

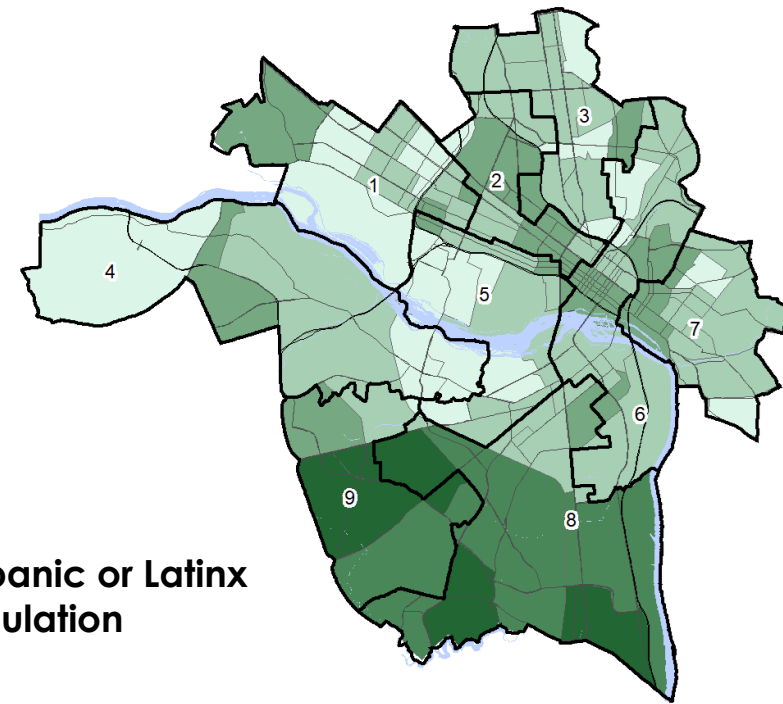
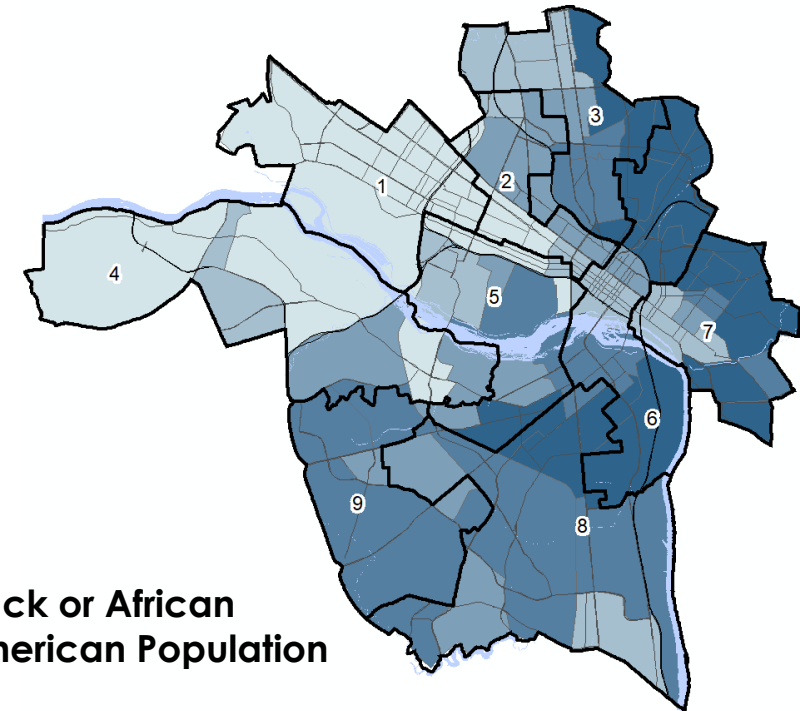
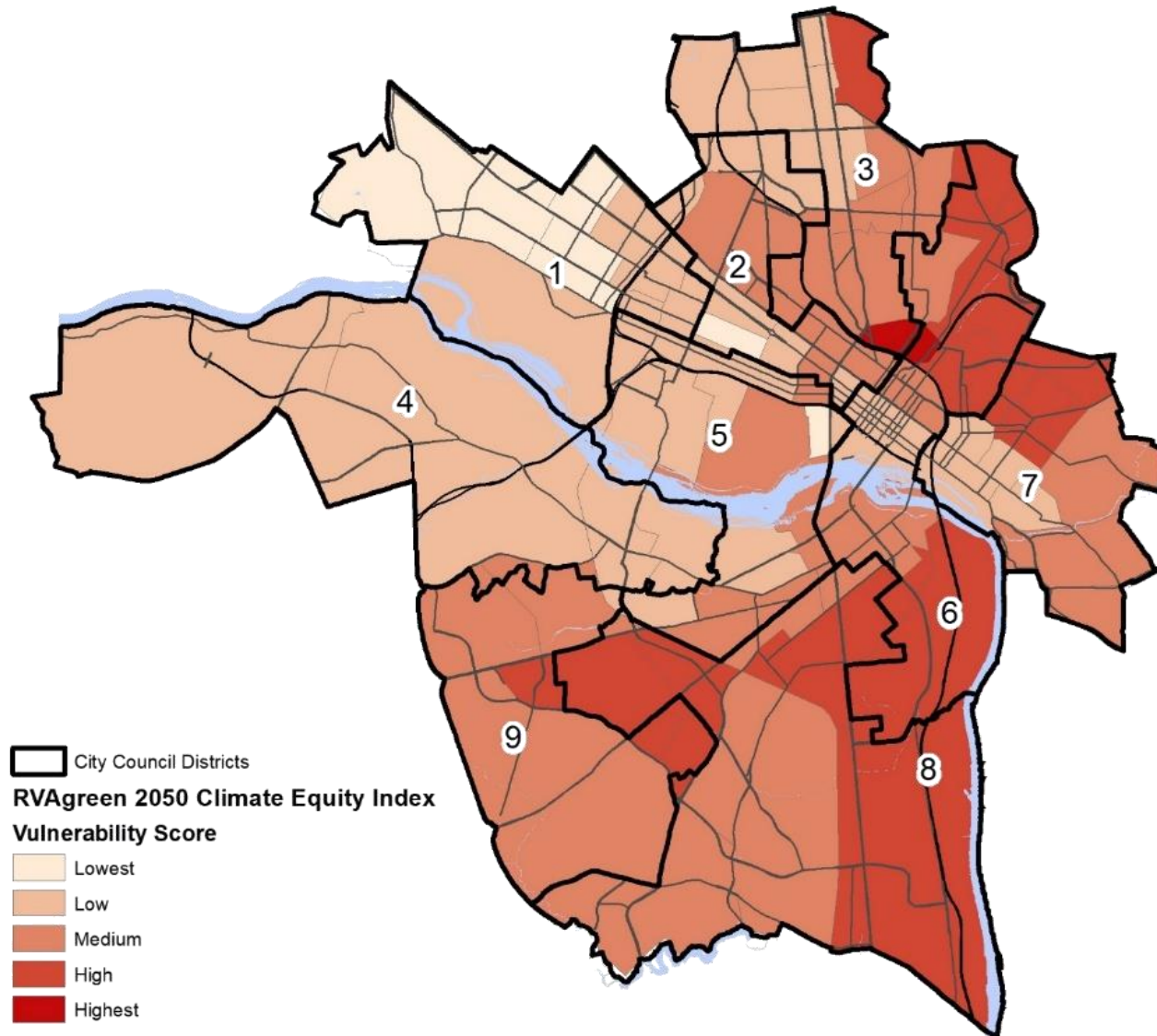


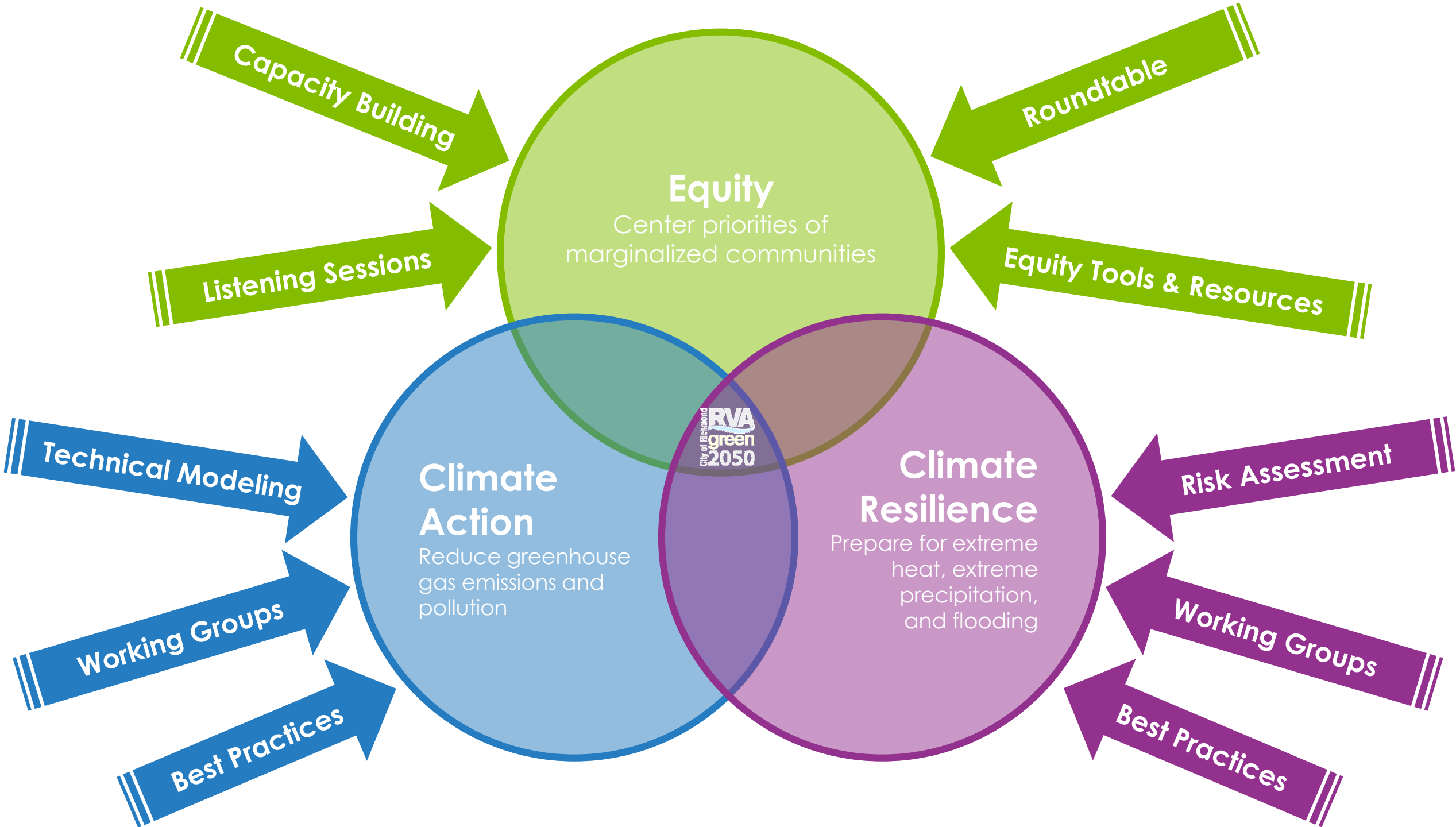
live in housing without air conditioning and are more vulnerable to heat related and respiratory illnesses and death



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

People of color face disproportionate impacts





Nexus Example



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

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.

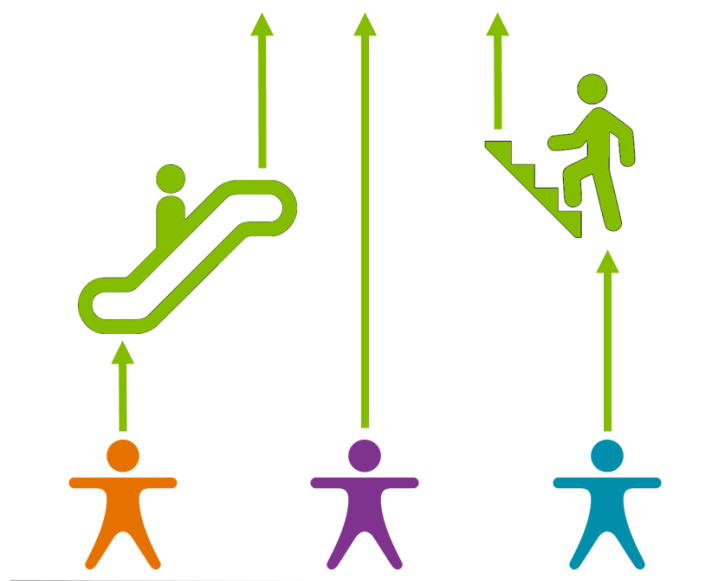
ONE SIZE
DOES NOT
FIT ALL

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



Inequity

Opportunities for Some, Barriers for Others

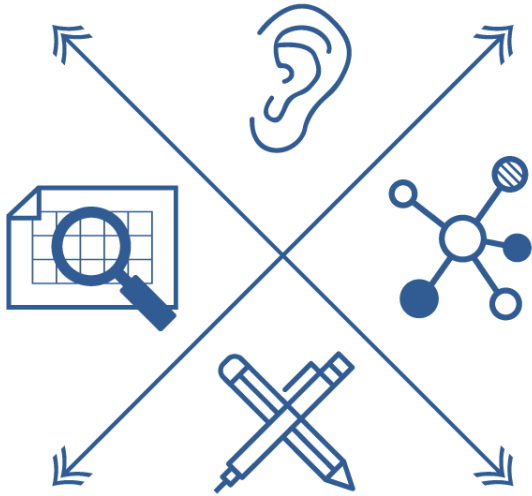


Equity

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

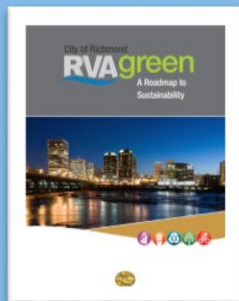
- Mid-process equity assessment
- Final equity assessment
- Racial equity-specific indicators



A Next Step in City Planning

2012

RVAgreen Sustainability Plan



2013

Richmond Connects Strategic Multimodal Transportation Plan

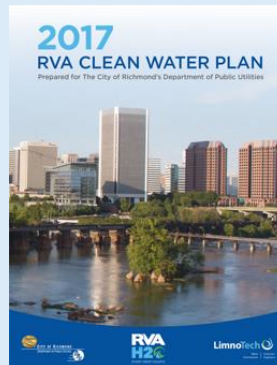
Recommends strategies for a multimodal transportation system for the city



2017

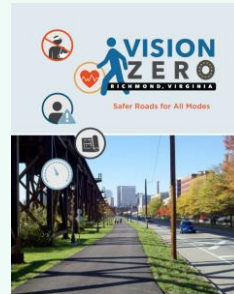
RVAH2O Clean Water Plan

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

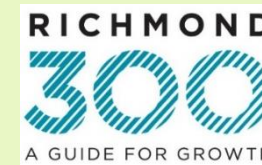
Richmond Regional Housing Framework



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

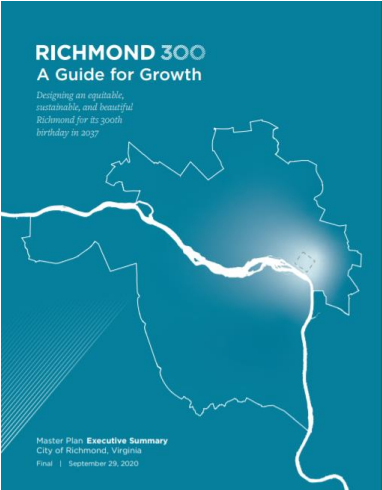
RVAgreen 2050 Roadmap

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



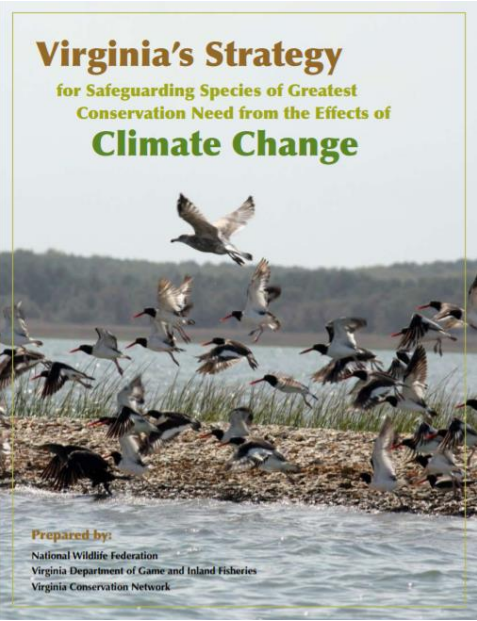
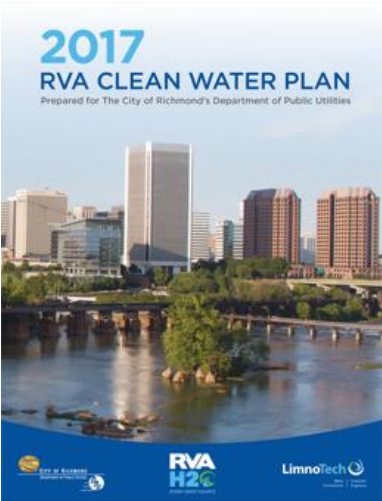
RVAgreen 2050 is equitable climate action for a healthy and resilient Richmond

Relevant plans and initiatives



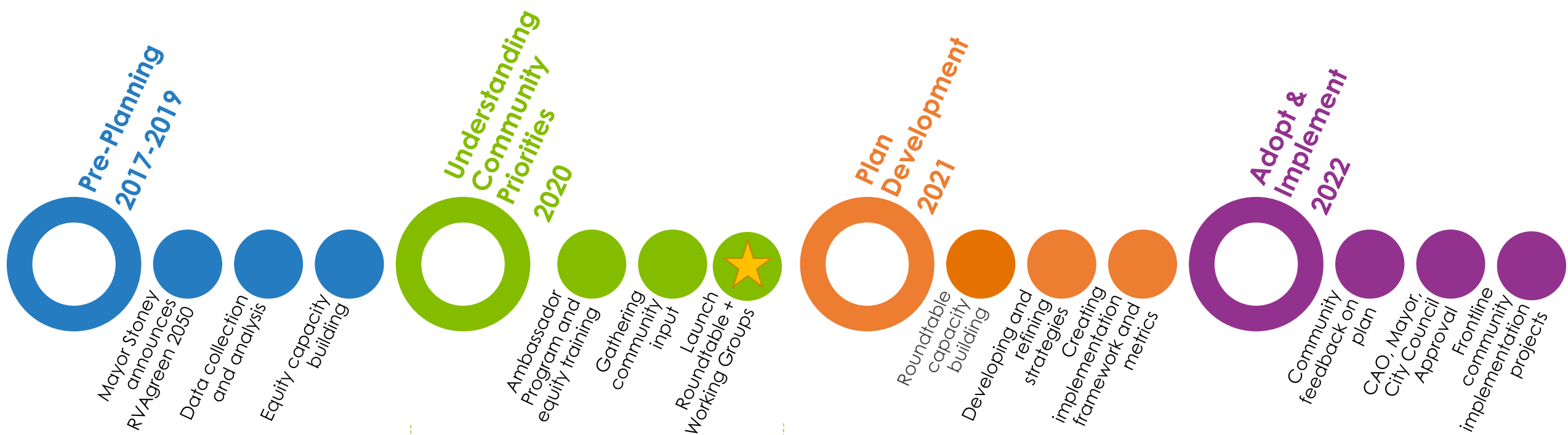
Thriving Environment

Richmond is a sustainable and resilient city with healthy air, clean water, and a flourishing ecosystem. Carbon emissions are low, air and water quality are high, and city-wide solid waste production is minimal. The City is positively adapting to the effects of a changing climate, with a built environment that enhances and protects natural assets, including the James River. All residents have equitable access to nature and a healthy community.



...others?

RVAgreen 2050 Process

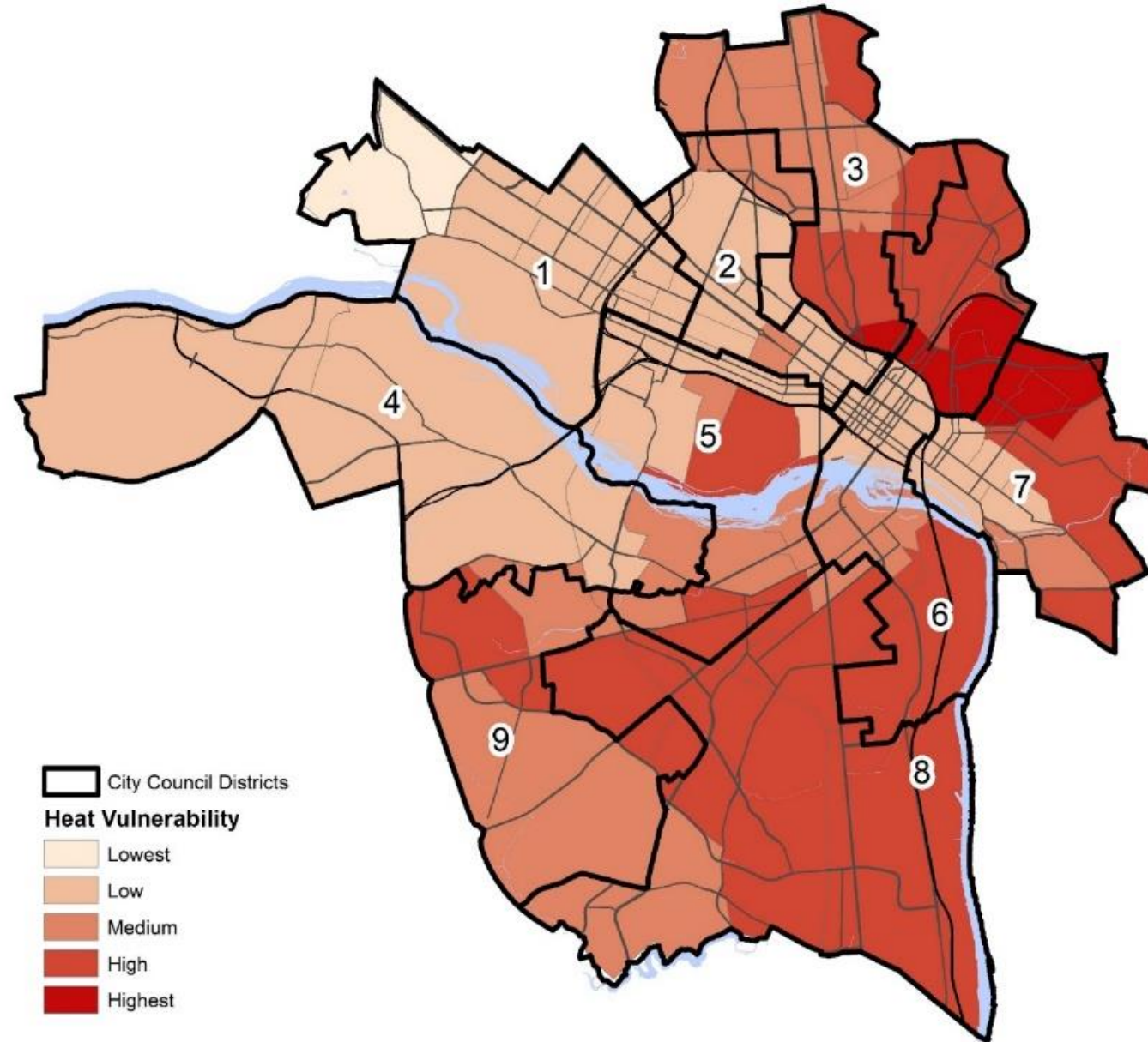


Strategies in this phase have been adapted to maintain health and safety during the COVID-19 pandemic

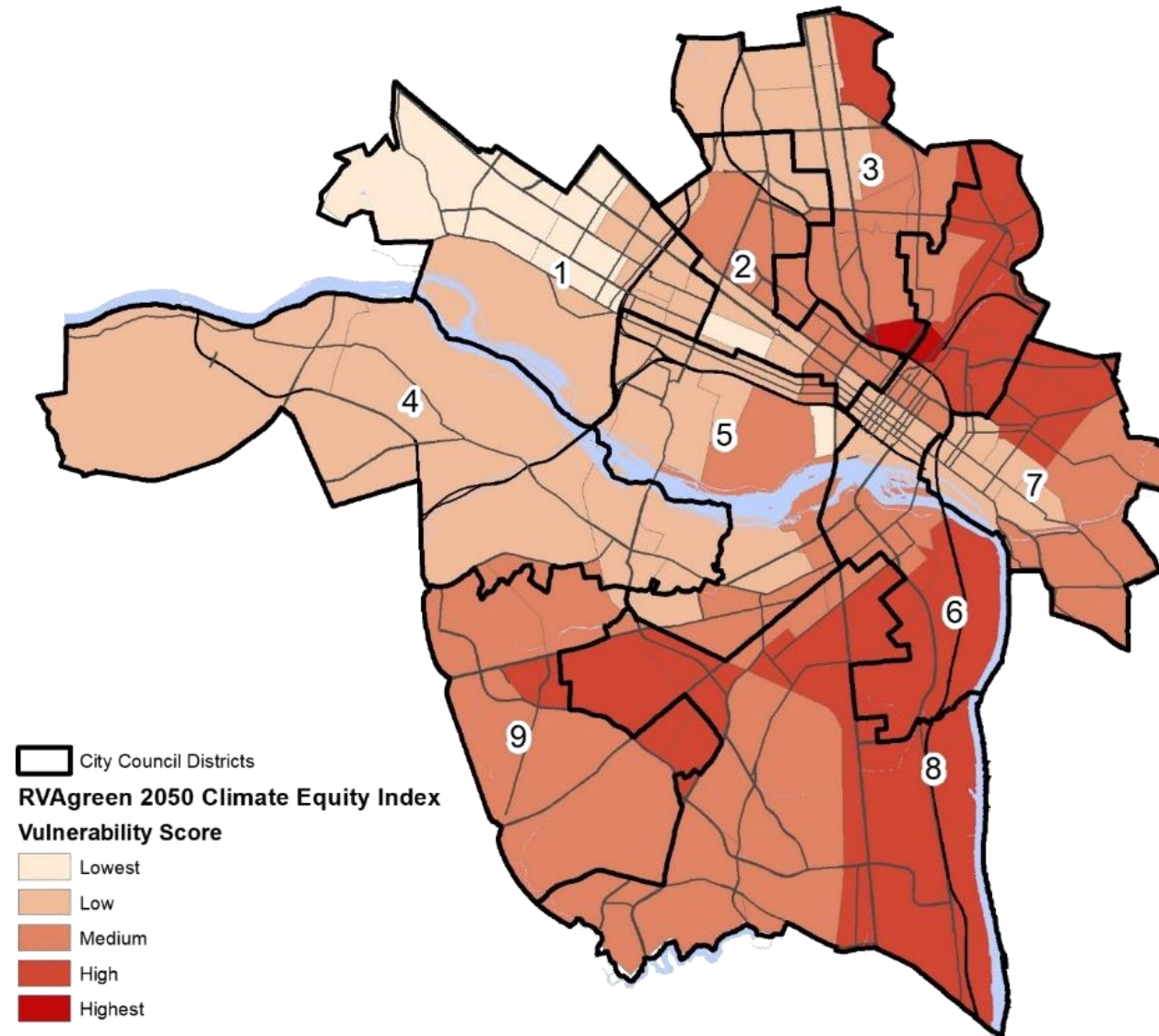
★ We are here!

Where we've been...

Urban Heat Vulnerability Assessment

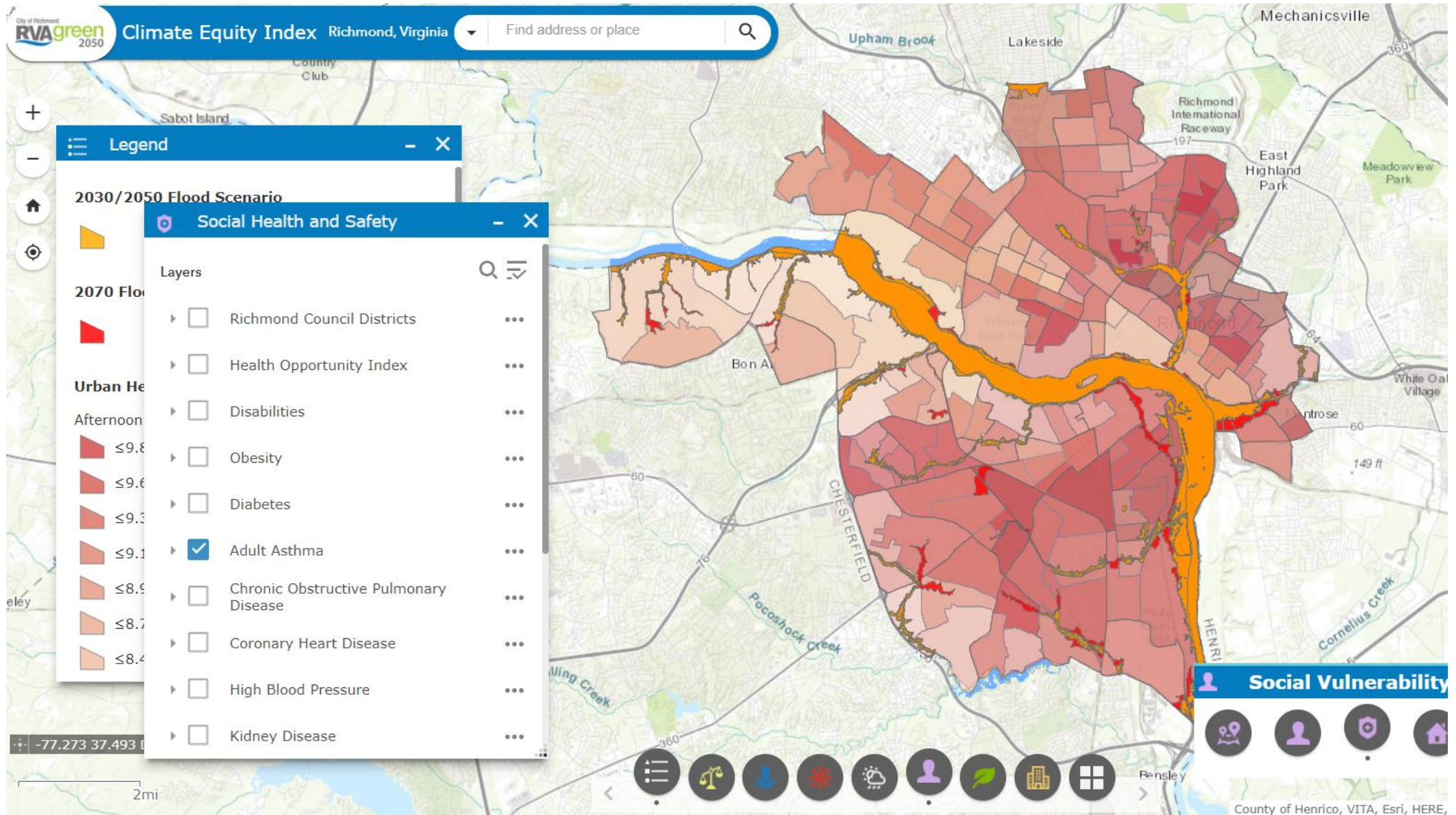


Climate Equity Index



- 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?

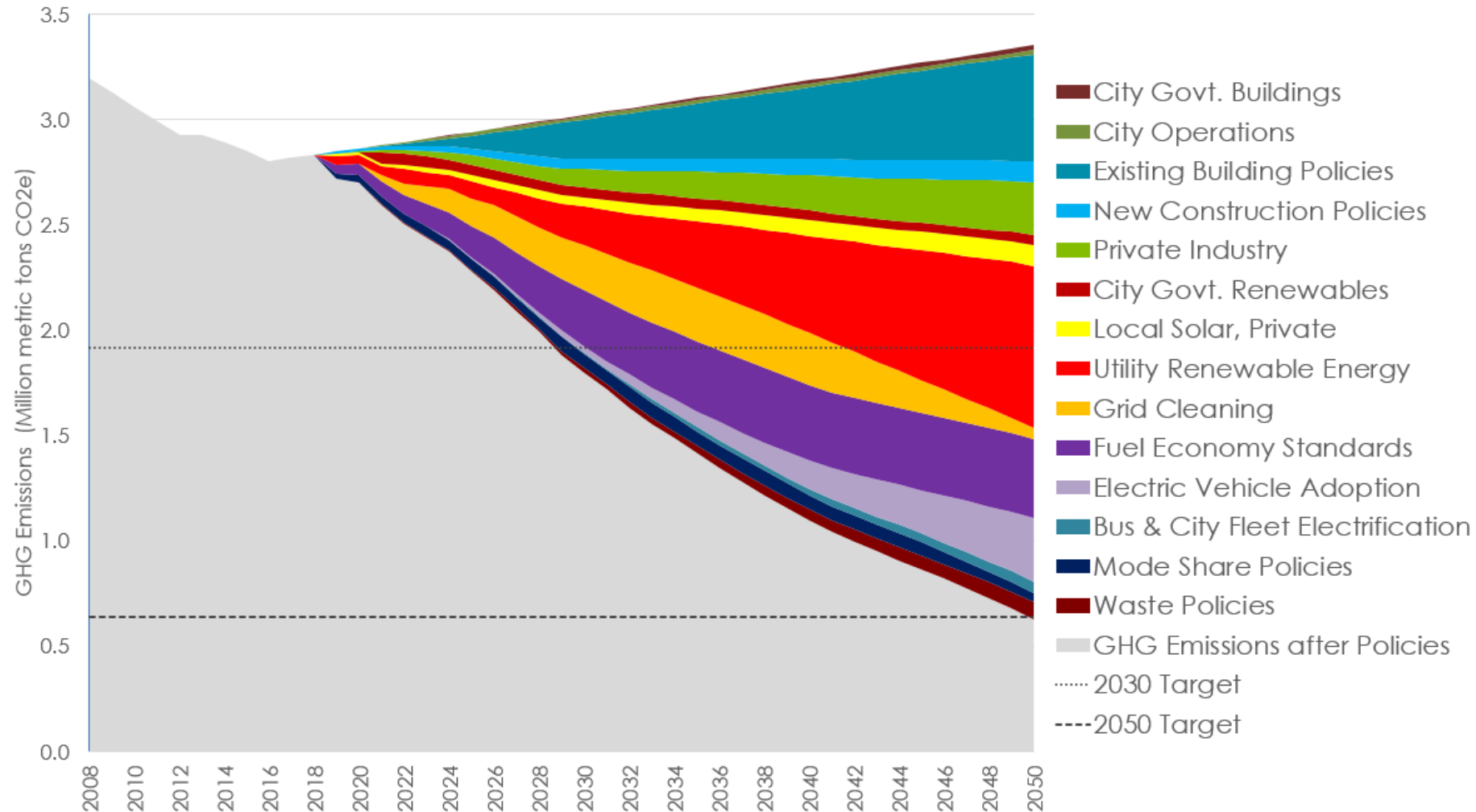
Risk Analysis

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

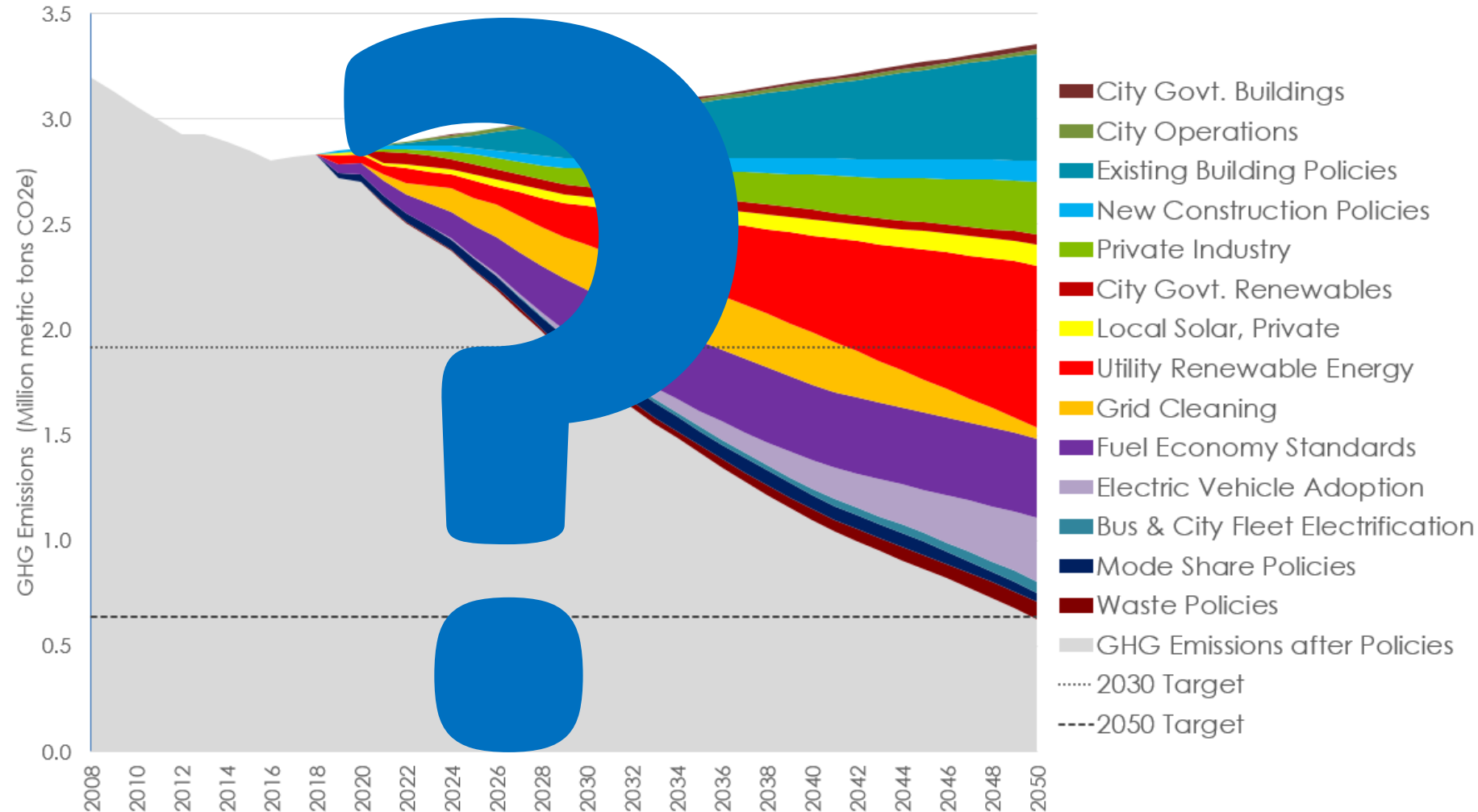
GHG Mitigation Modeling

PREVIOUS GHG Reductions for Goal Scenario (80% by 2050)



Climate and Energy Modeling-2020

GHG Reductions for Net Zero by 2050



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

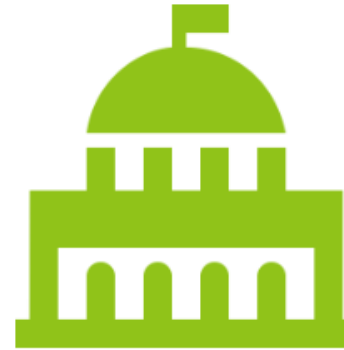
The RVAgreen 2050 planning process is centered in equity and the priorities of the Richmond community. What we've heard so far:



Racial Equity &
Environmental Justice



Engagement &
Communication



Government
Accountability



Community
Wealth



Housing &
Buildings



Neighborhoods

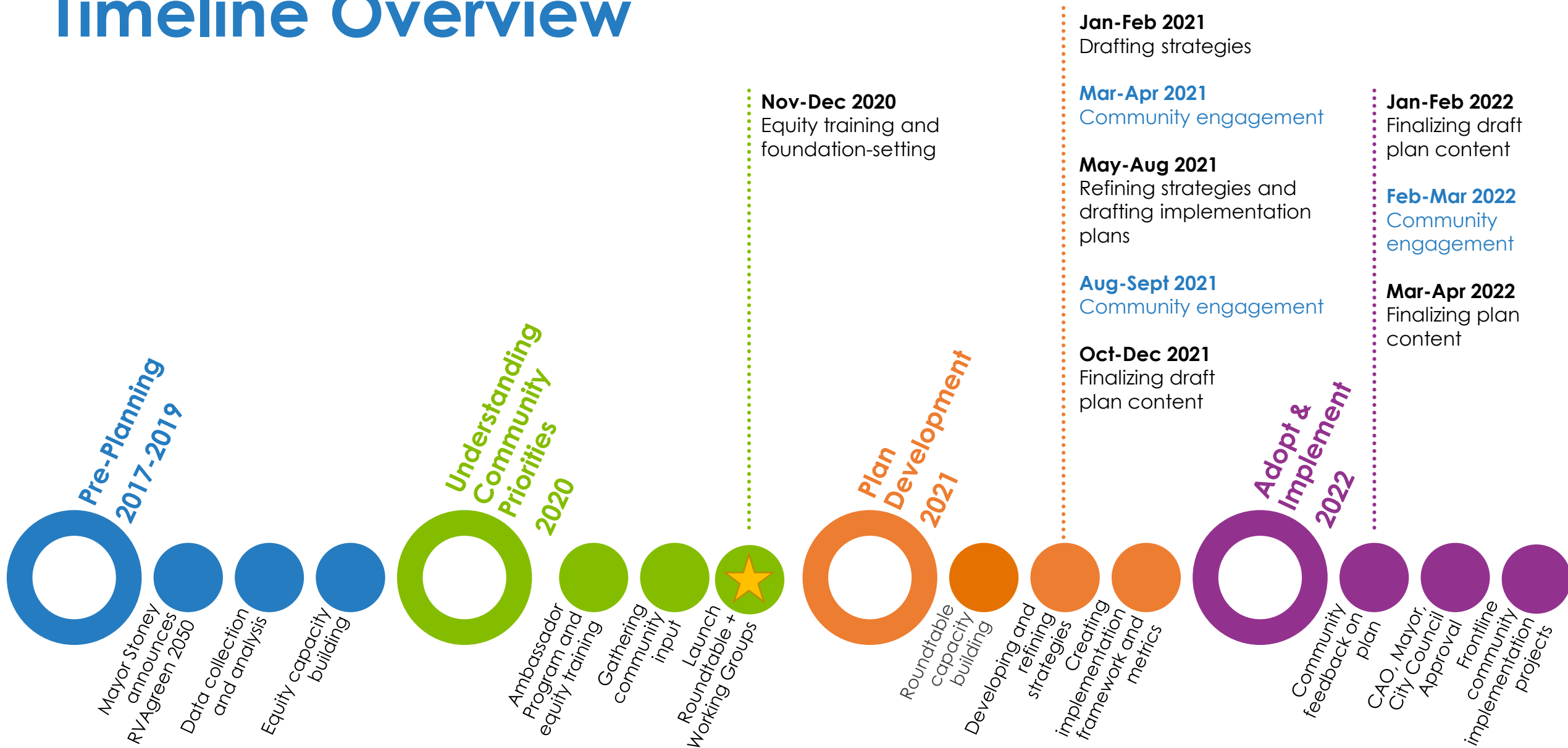


Health & Well-
Being

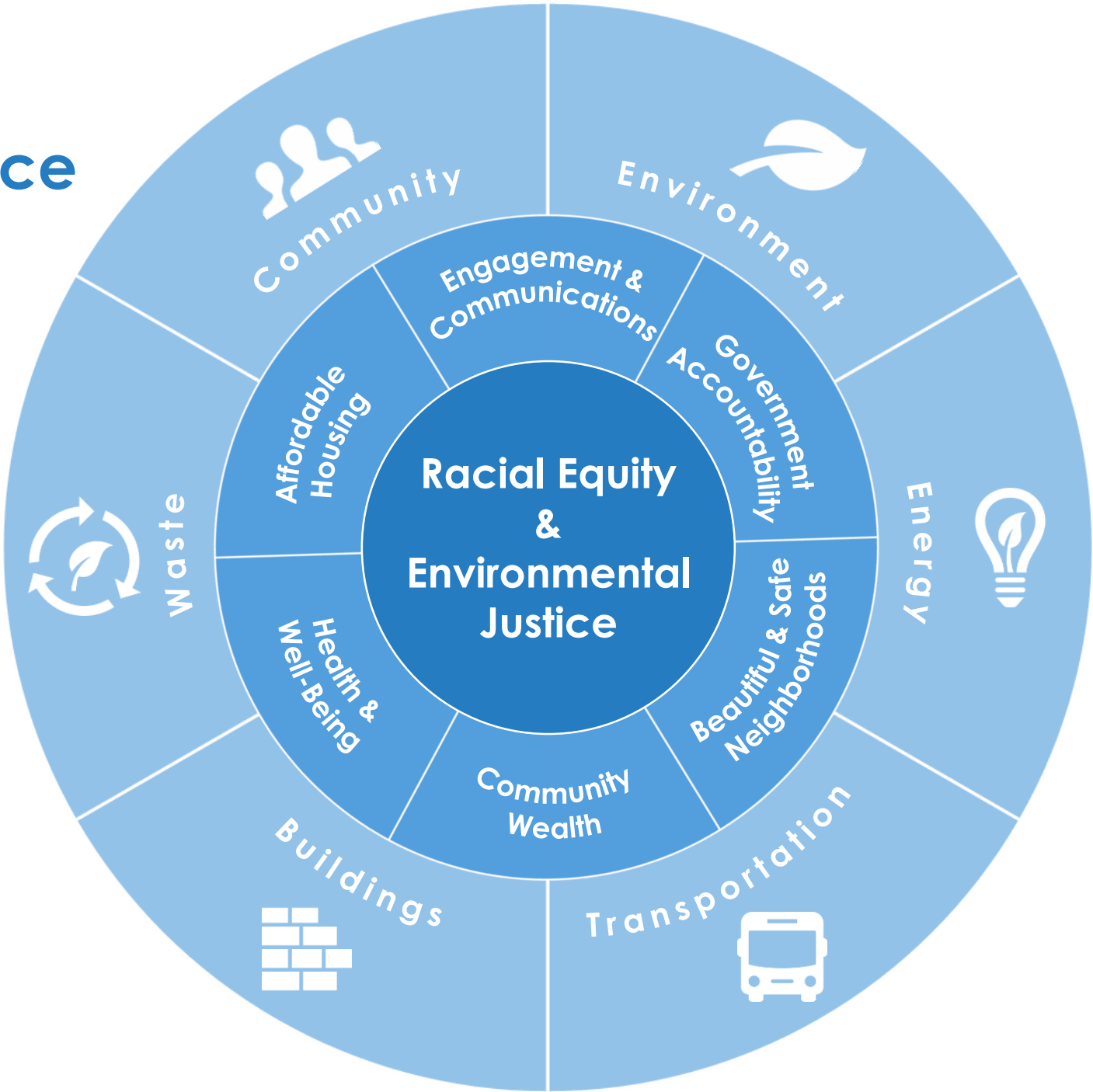
Where we're going...

RVAgreen 2050 Process: Working Groups

Timeline Overview



Centering Community Priorities & Lived Experience



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

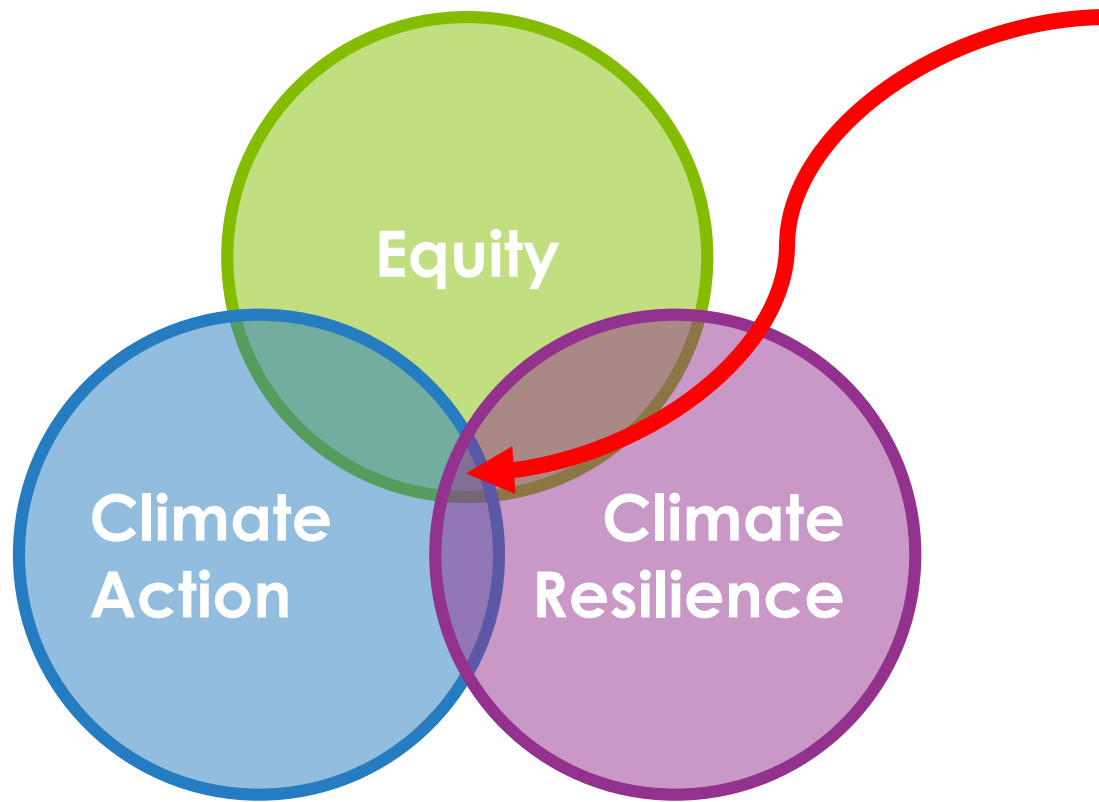
Sustainability Office

- 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

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?

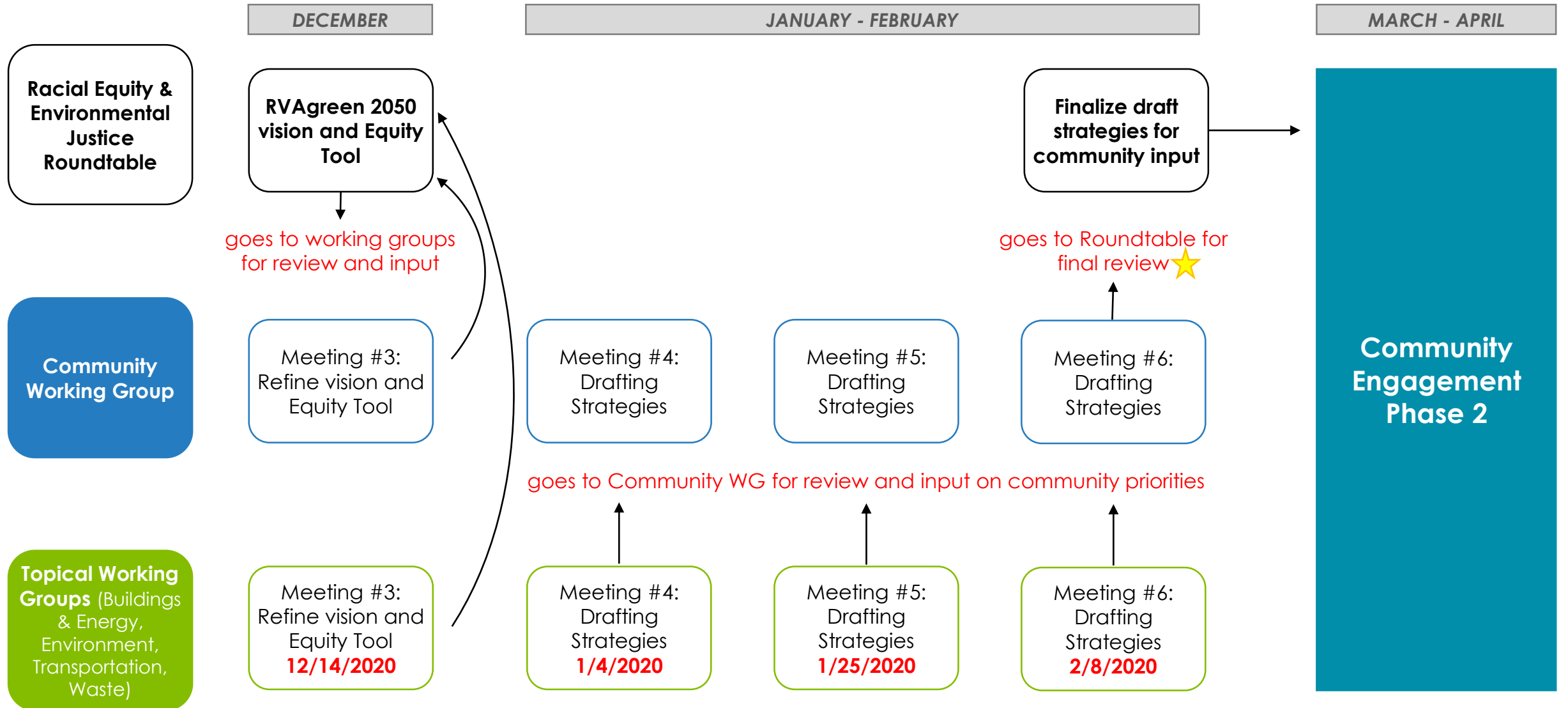
Our task: drafting **SMARTIE** strategies at the equity-climate action-resilience nexus

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.

Workflow (Nov.-Mar.)



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

Topics we'll address in this working group

- Green space
- Biodiversity
- Green stormwater infrastructure
- Protected/sensitive environmental areas
- Tree canopy
- Water quality and conservation
- Urban heat island reduction
- *And more!*



Next Steps

Homework!

- Take the equity training [follow-up survey](#) by **Sunday, 11/22!**
- Review this presentation and additional information slides
- Explore the shared [Google Drive](#)
- [Email us](#): what other information would be helpful?

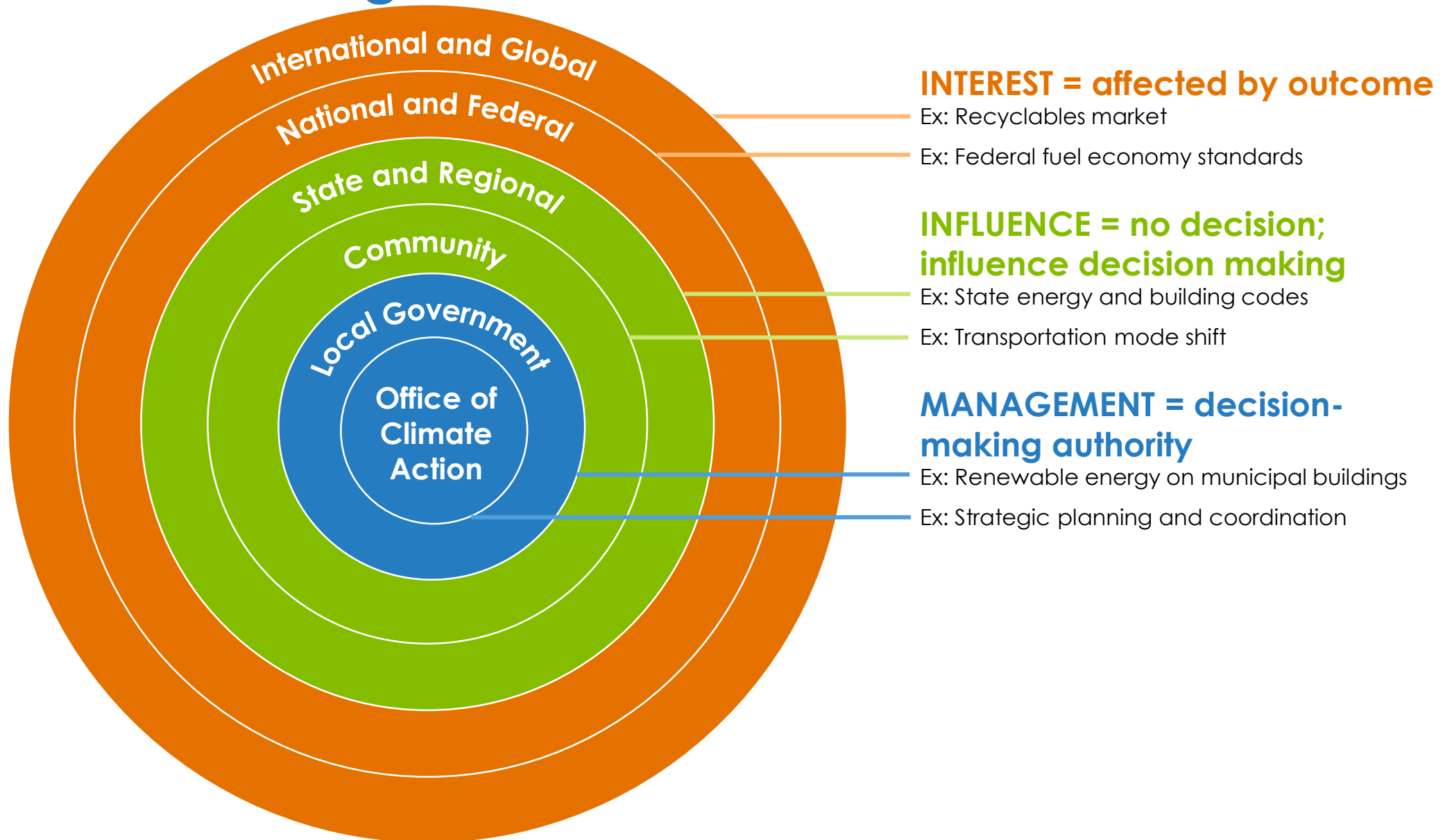
Next meeting: Monday, 12/14

- Reviewing RVAgreen 2050 vision and equity tool from Roundtable

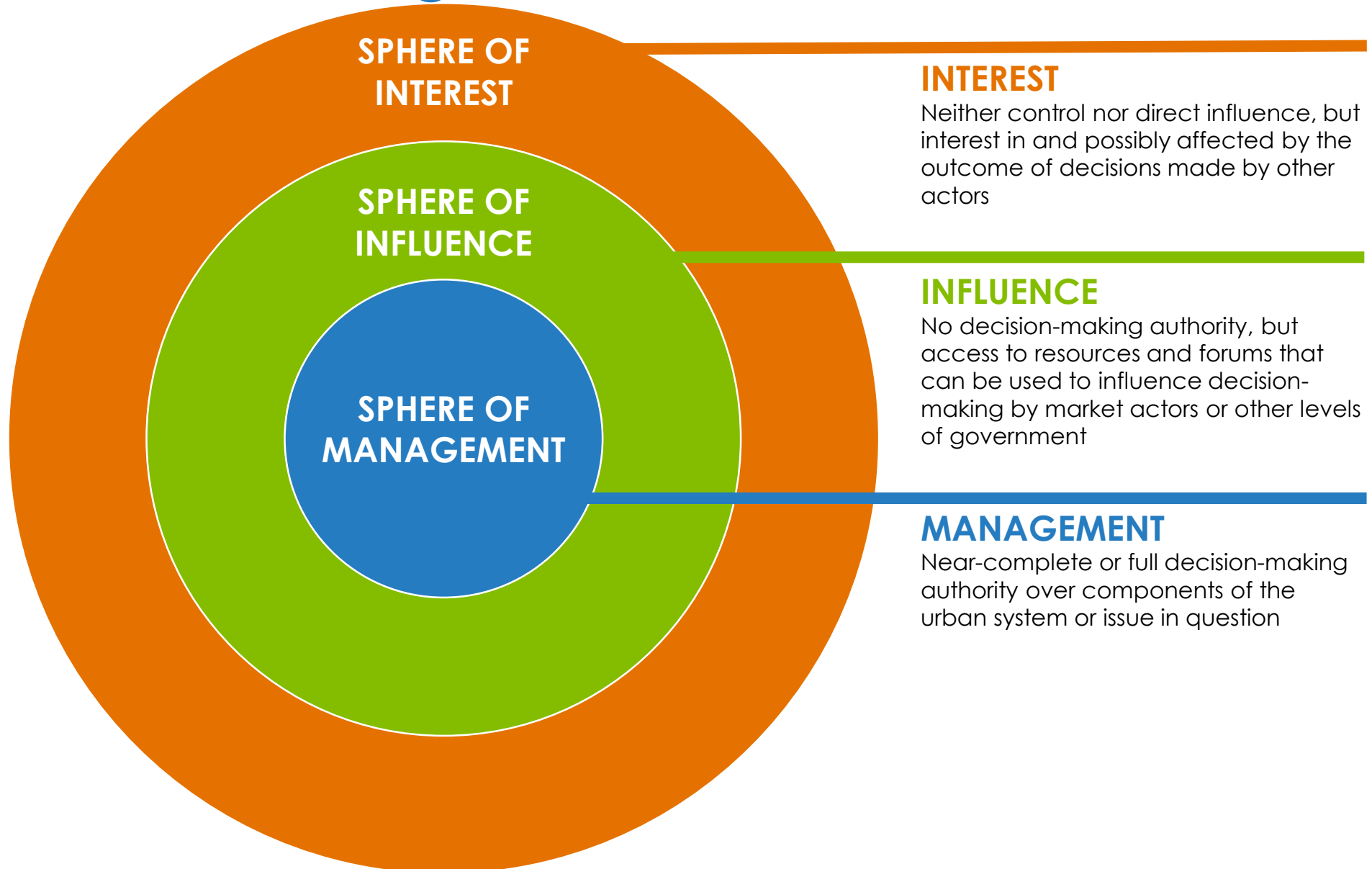
Complete [this feedback survey](#)-help us improve for next time!

MORE INFORMATION!

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



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



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

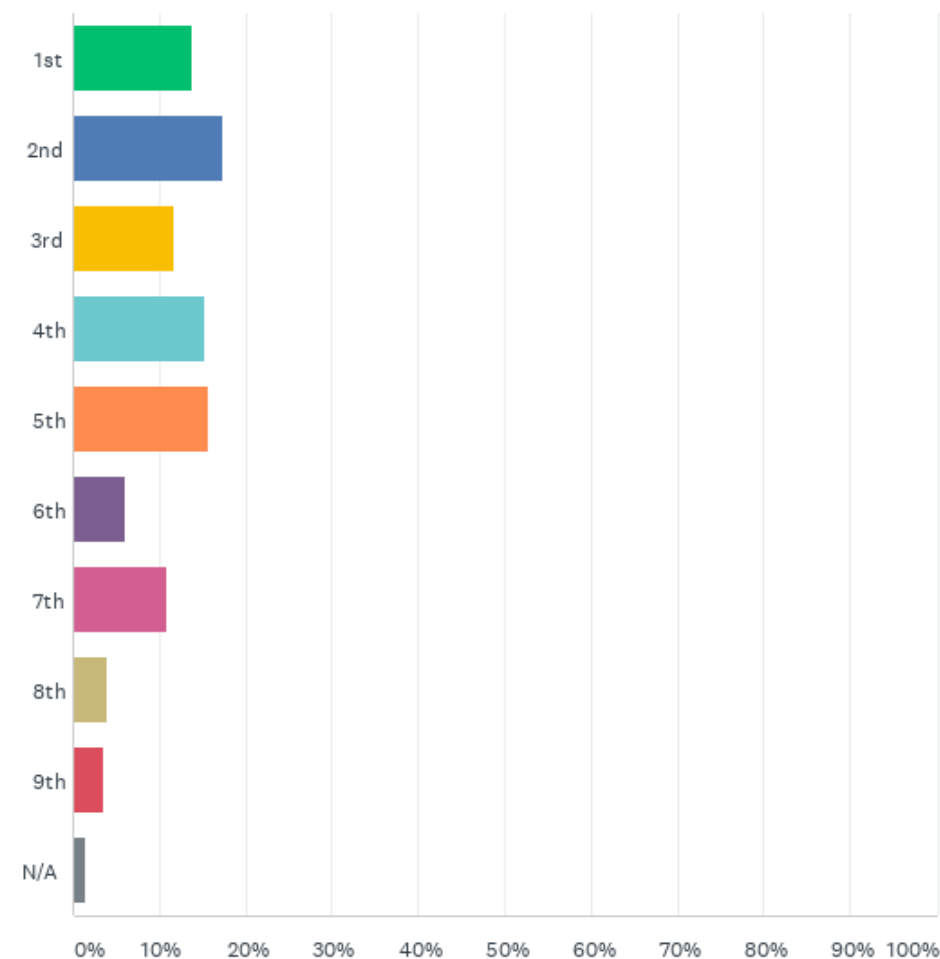
- 17.6% are from the 2nd District
- 37.9% are 30-39 years old
- 65.0% are women
- 83.0% are white
- 99.1% speak English at home
- 80.5% have a bachelor's or higher
- 18.6% earn between \$100,000-\$150,000
- 24.7% have a child in the home
- 65.0% own their home

City of Richmond Demographics

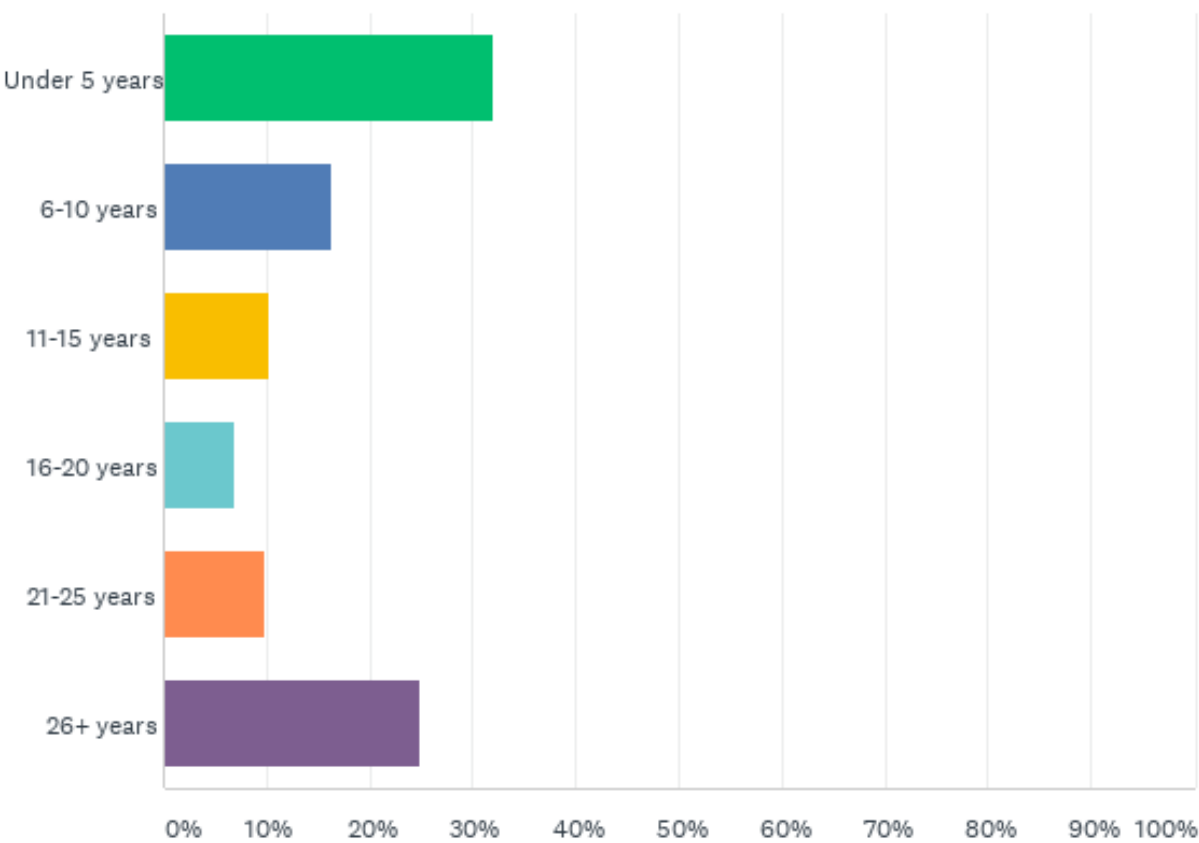
- 17.7% are 30-39 years old
- 52.3% are women
- 44.6% are white
- 10.2% speak another language
- 39.3% have a bachelor's or higher
- Median household income \$51,285
- 18.2% have children in the home
- 43.6% own their home

RVAgreen 2050 Community Survey Results

Which City Council district do you live in?



How long have you lived in Richmond?

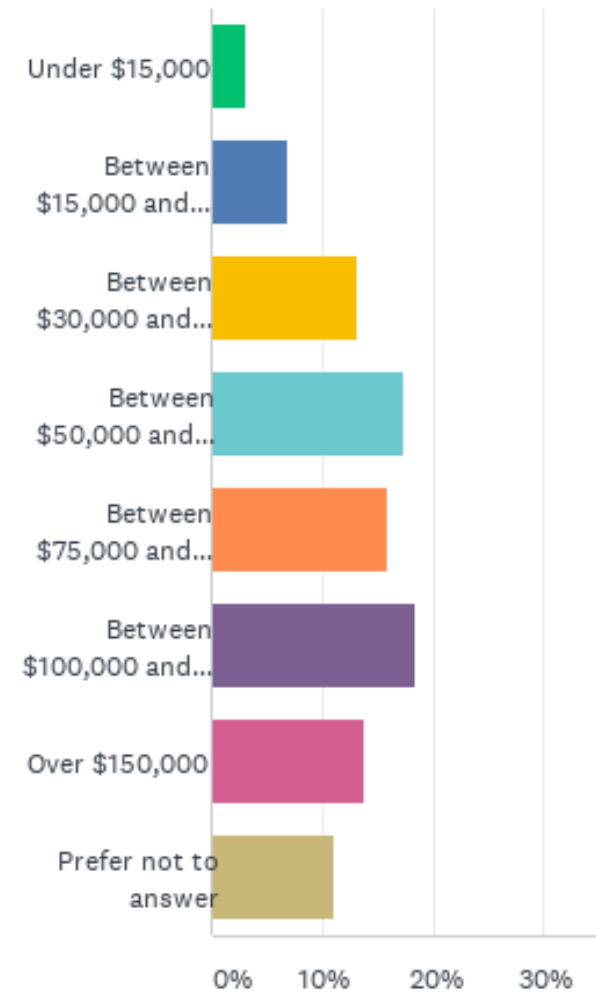
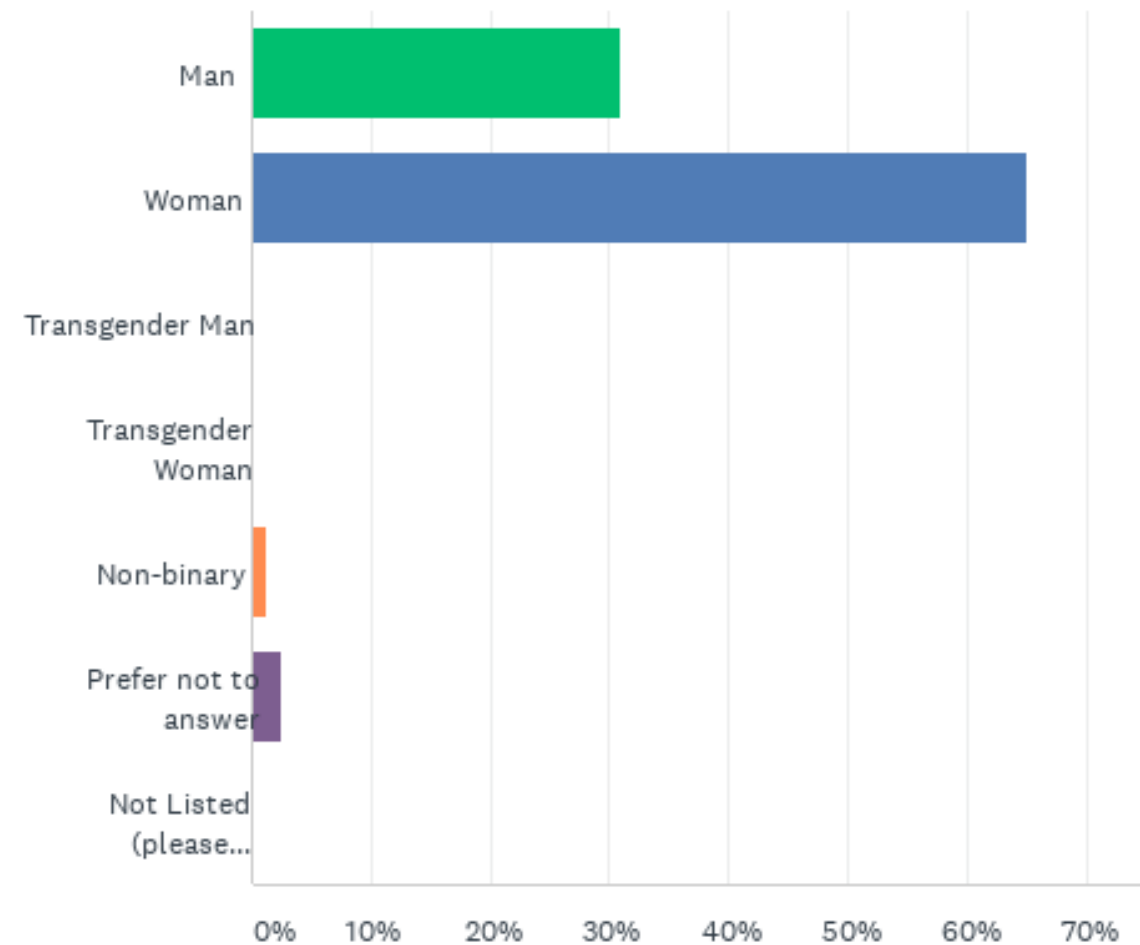
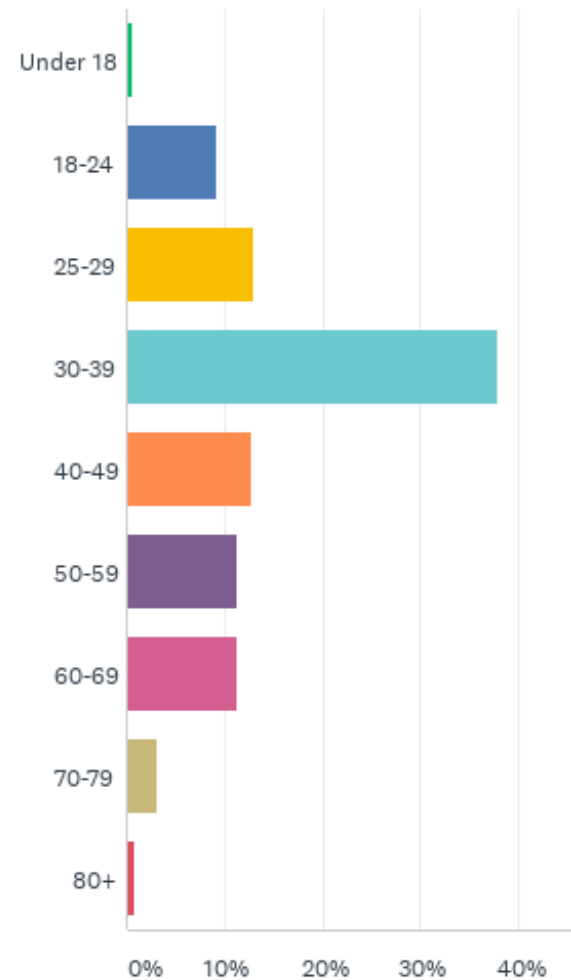


RVAgreen 2050 Community Survey Results

Age

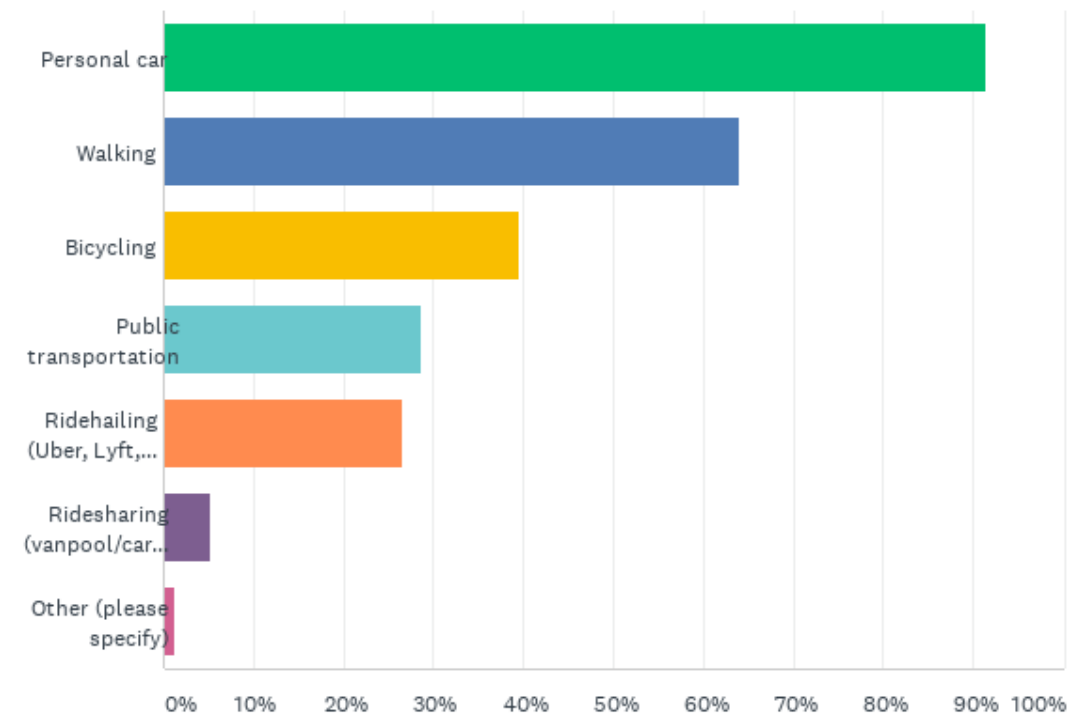
Gender Identity

Income



How Do You Get Around Richmond?

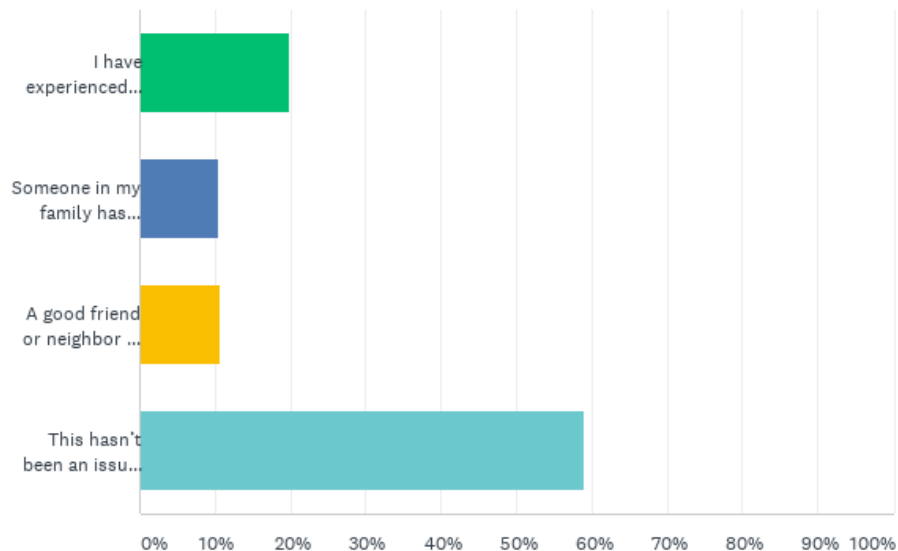
- Personal Car..... 91.4%
- Walking..... 64.3%
- Bicycling..... 39.8%
- GRTC..... 29.0%
- Ride-hailing..... 26.5%
- Ride-sharing..... 5.2%



Environmental Experiences

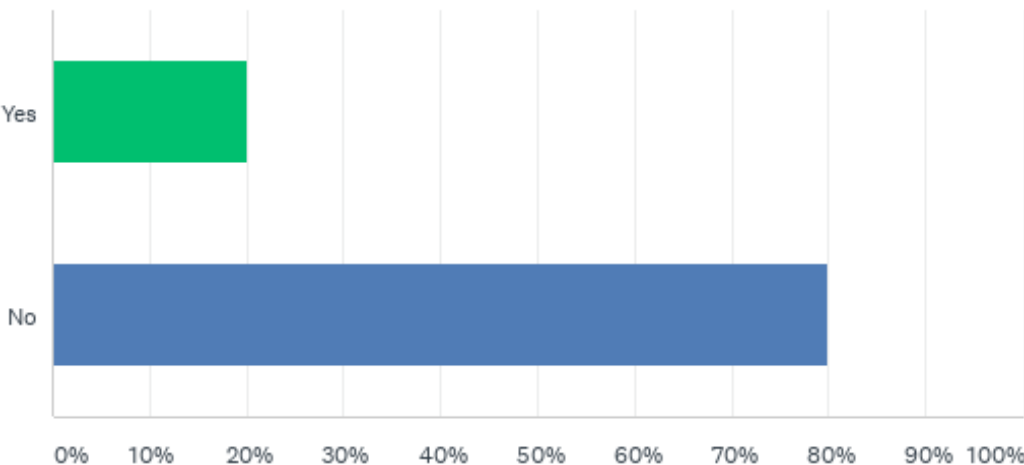
Experienced Extreme Heat?

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



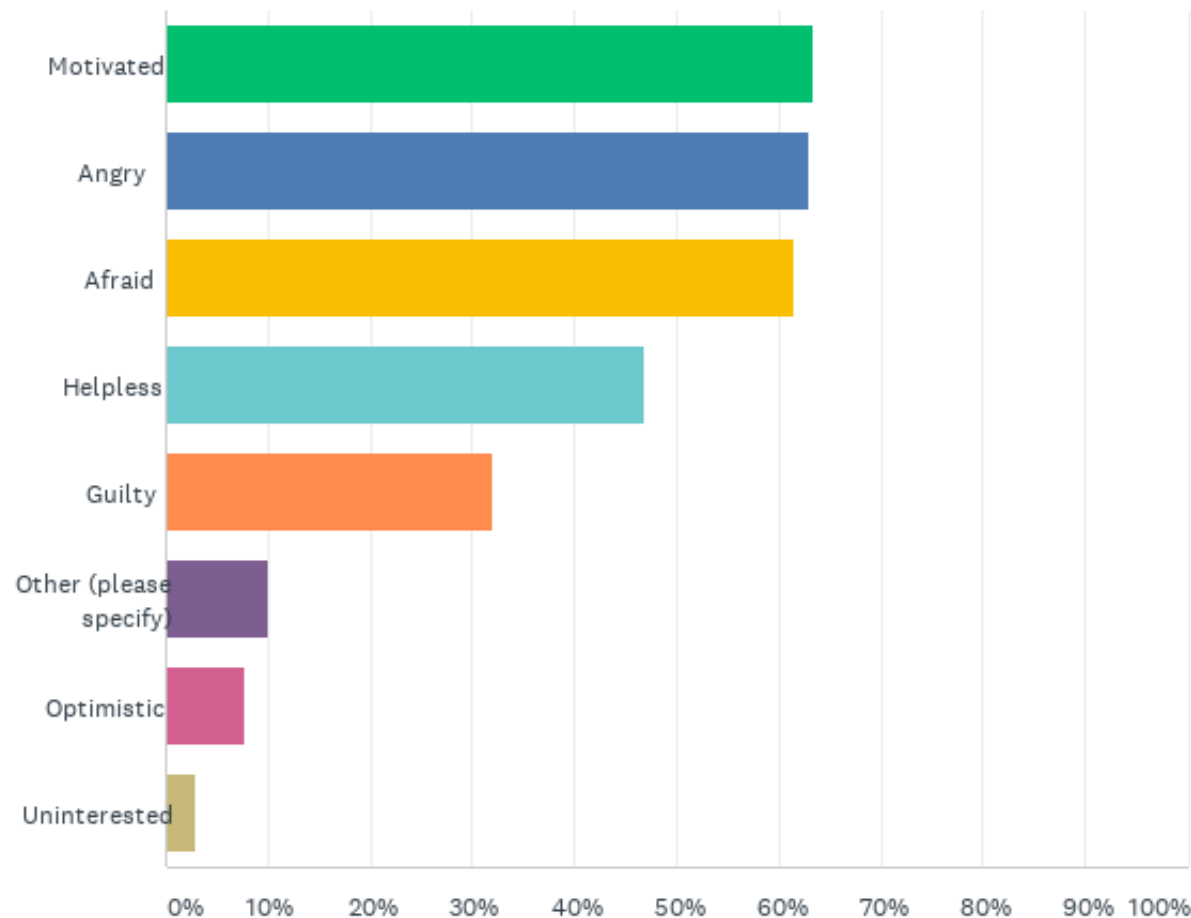
Experienced Flooding?

- 20.4% have experienced
- 79.6% have not experienced



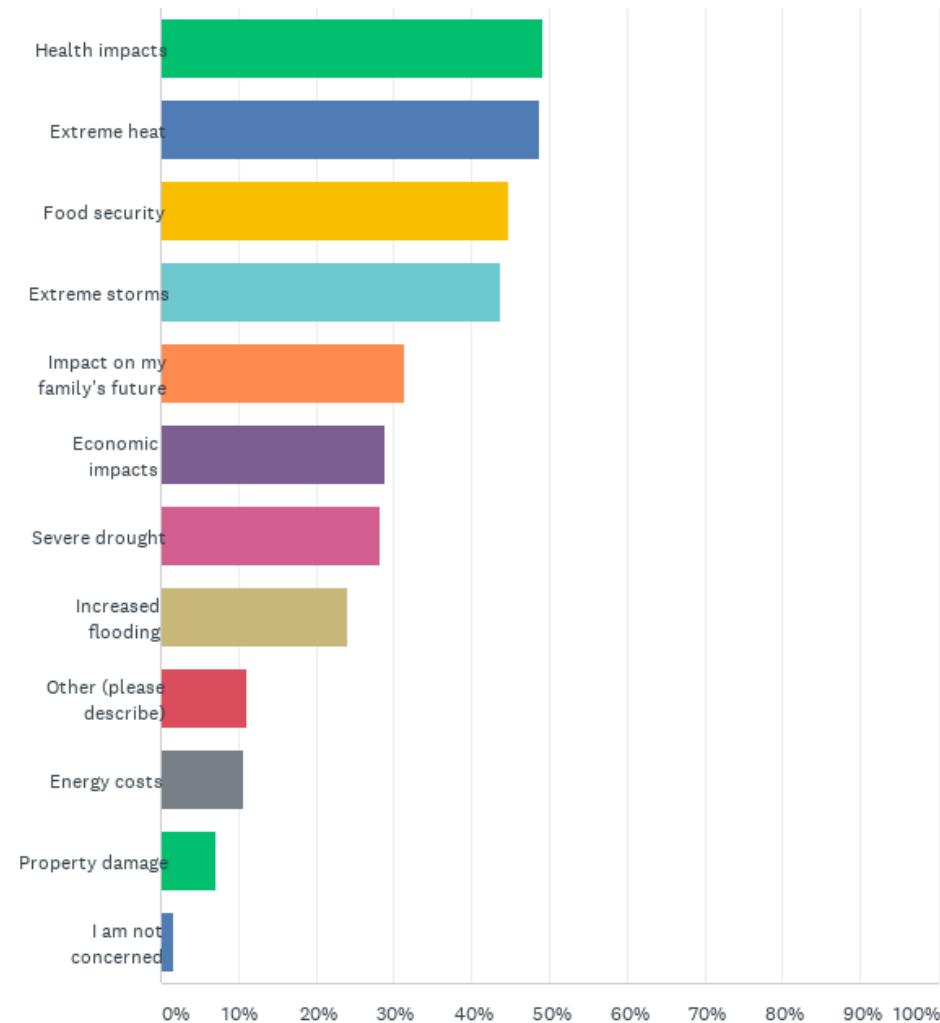
Climate Change Makes Me Feel...

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

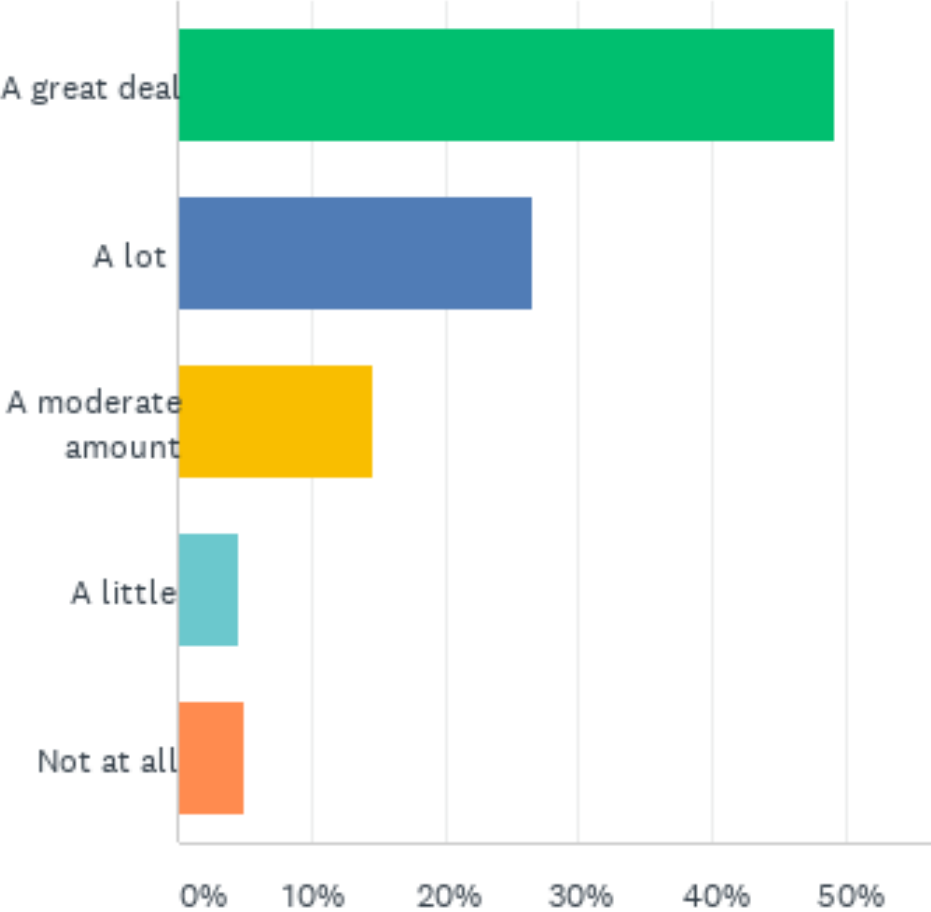
19.5% Green Jobs

Some Key Takeaways

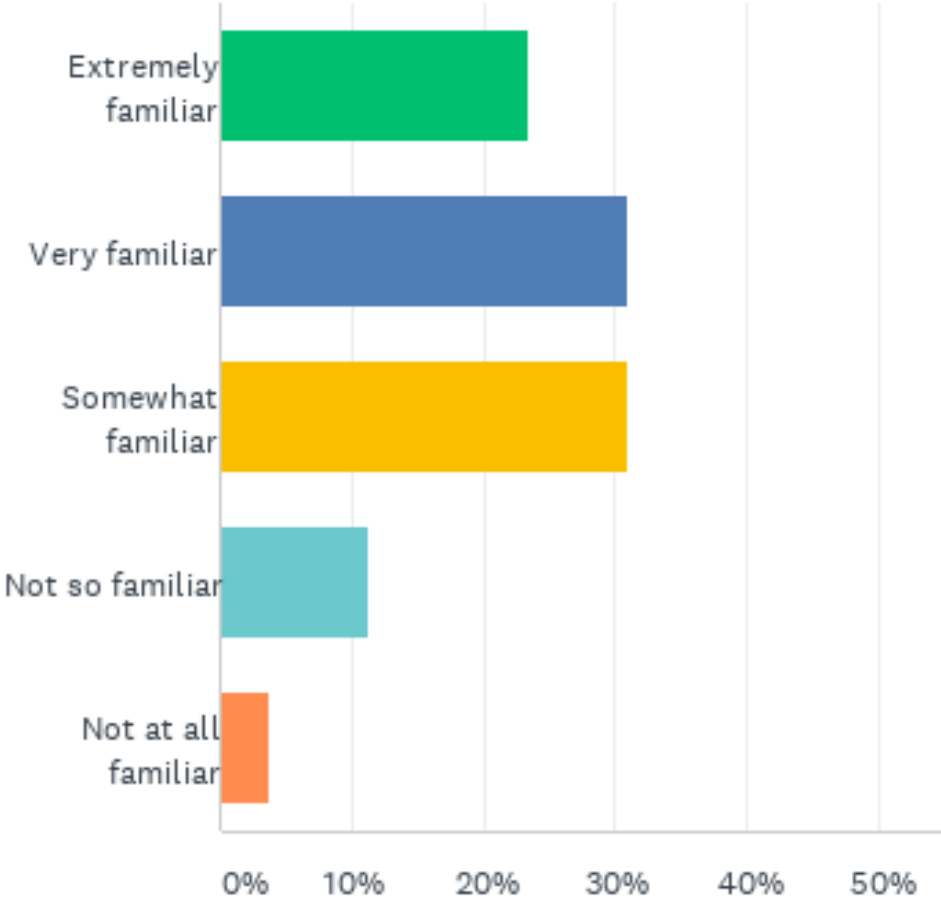
- 84.5% of respondents believe the largest barrier for addressing climate change is a **lack of political support and / or will**
- 94.9% of respondents believe are at least a little concerned with environmental justice in Richmond, VA
- 85.0% of respondents are at least somewhat familiar with the goals 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

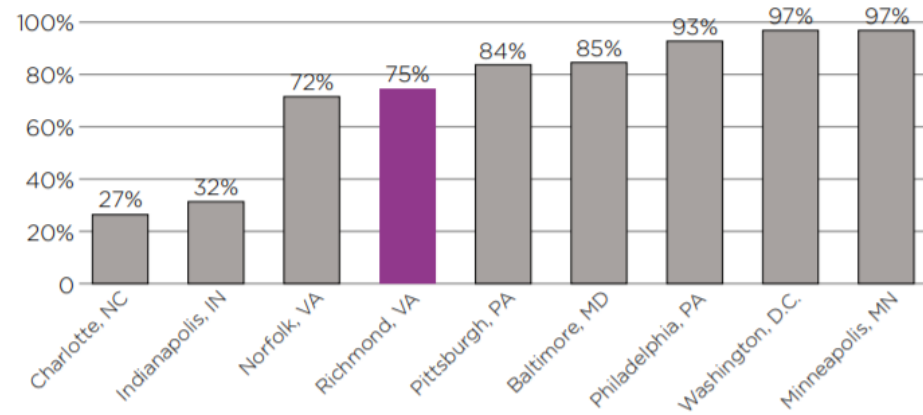
implement now trees cars help part renewable energy solutions affordable especially
actions go clean energy safe residents efforts including way work transition
creating efficient equitable climate action etc provide issues resources
green jobs reduce accessible focus see affordable housing equitable
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

Existing Conditions

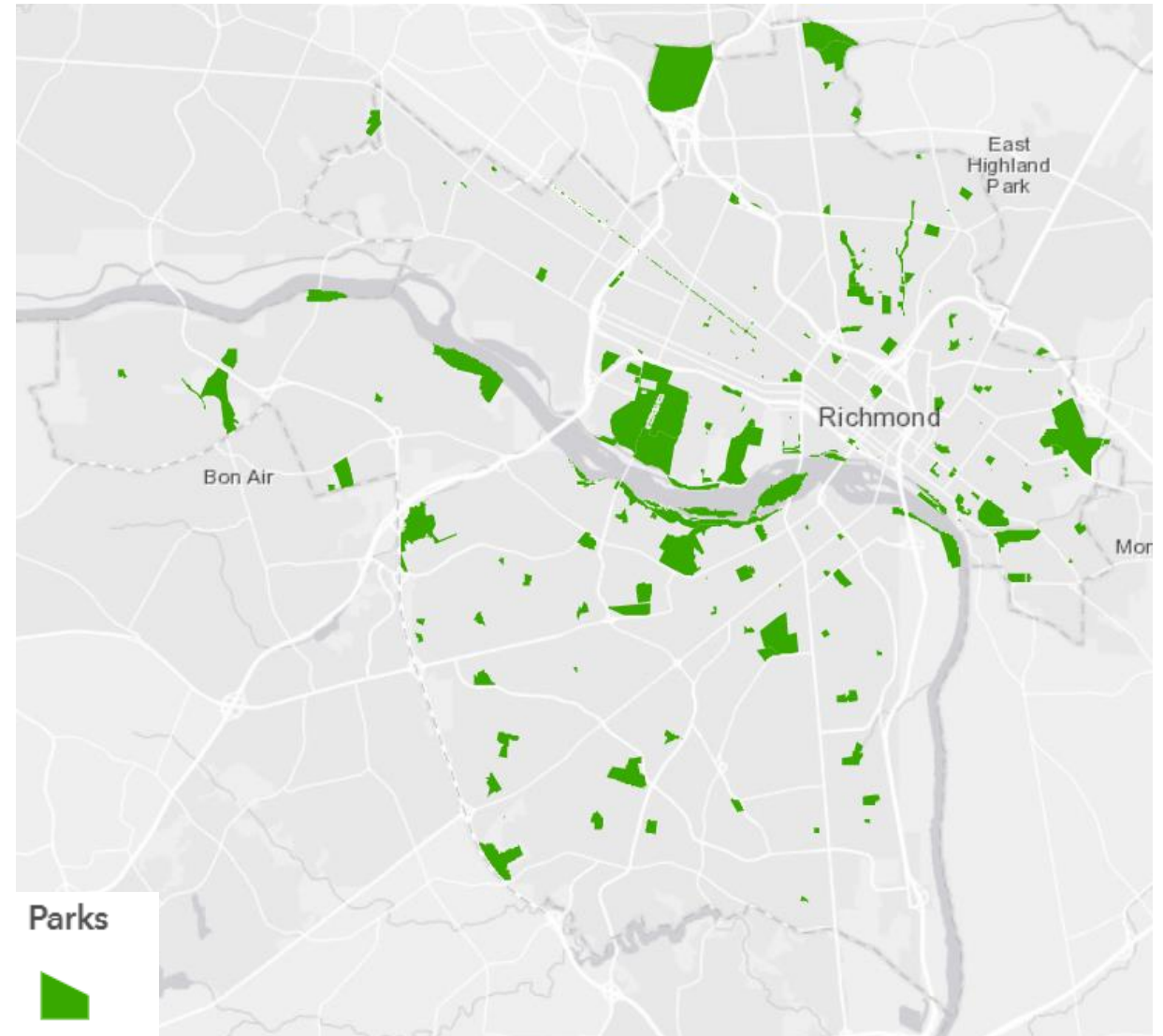
Parks & Access

// FIGURE 32. Percentage of Population within 10-minute Walk of Parks

Source: City of Richmond, Trust for Public Land, 2017

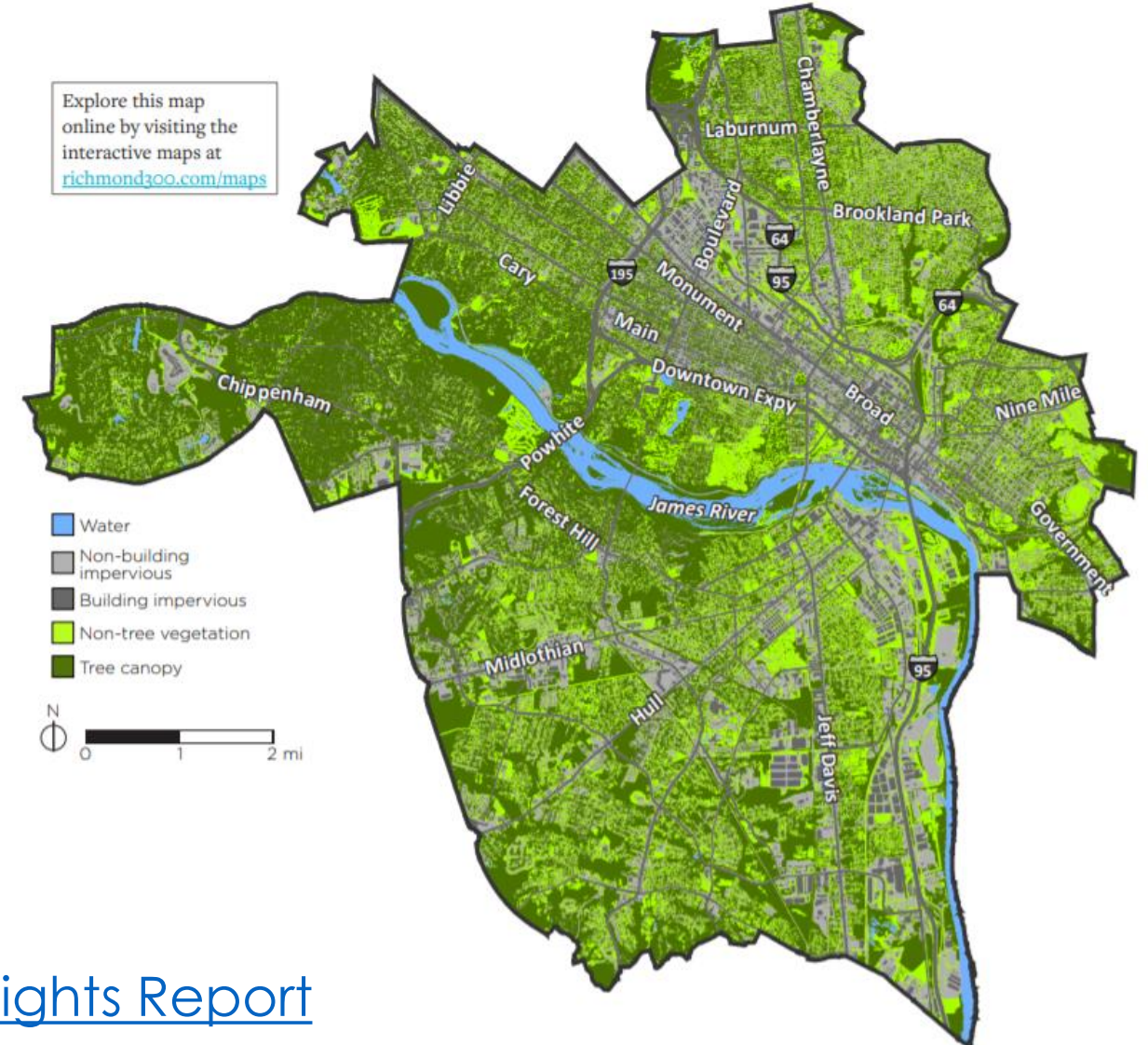


Read more in the [Richmond 300 Insights Report](#)



Tree Canopy

// FIGURE 35. Land Coverage
Source: City of Richmond: GIS



Read more in the [Richmond 300 Insights Report](#)

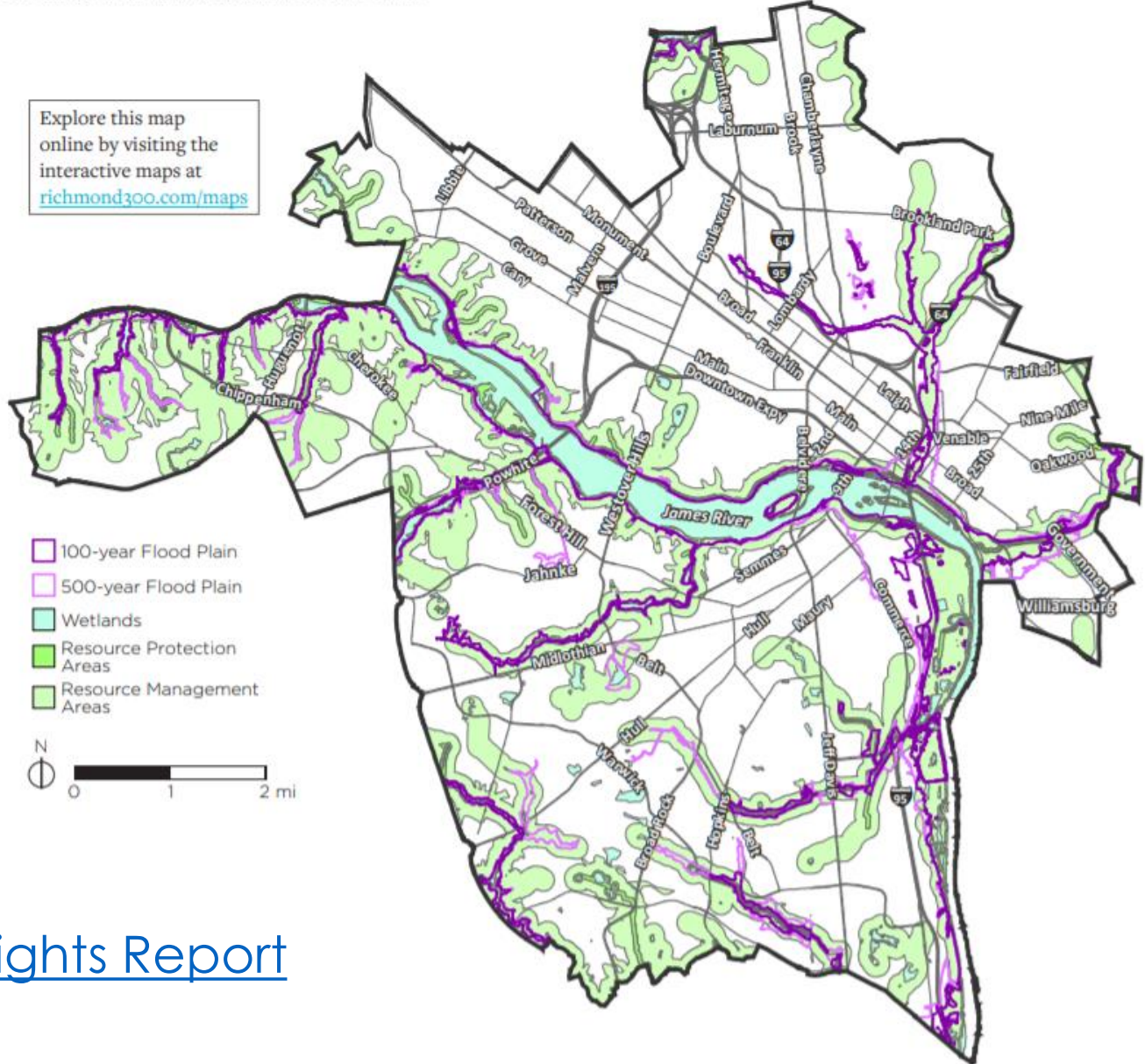
Sensitive /

Protected Areas

// FIGURE 36. Environmentally-sensitive Areas

Source: City of Richmond: Department of Public Utilities

Explore this map online by visiting the interactive maps at richmond300.com/maps



Read more in the [Richmond 300 Insights Report](#)

Water & Stormwater Projects



4200 Blk Seminary Ave. @ Westminster Int

Street Address

1099 Westminster Ave

Why Needed

Drainage improvements

Scope

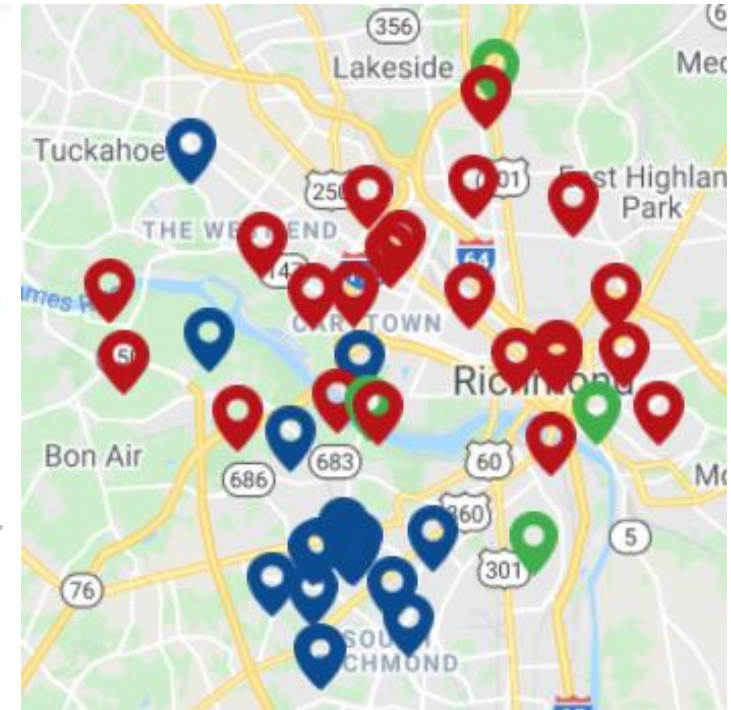
Installed two DI's, Installed one manhole, replaced CG6 96',
Installed 75' of 15" SDR pipe, restored roadway


Timeline


Project completed 11/1/2018


Estimated Cost

\$78,623.62



 Capital Improvement Projects

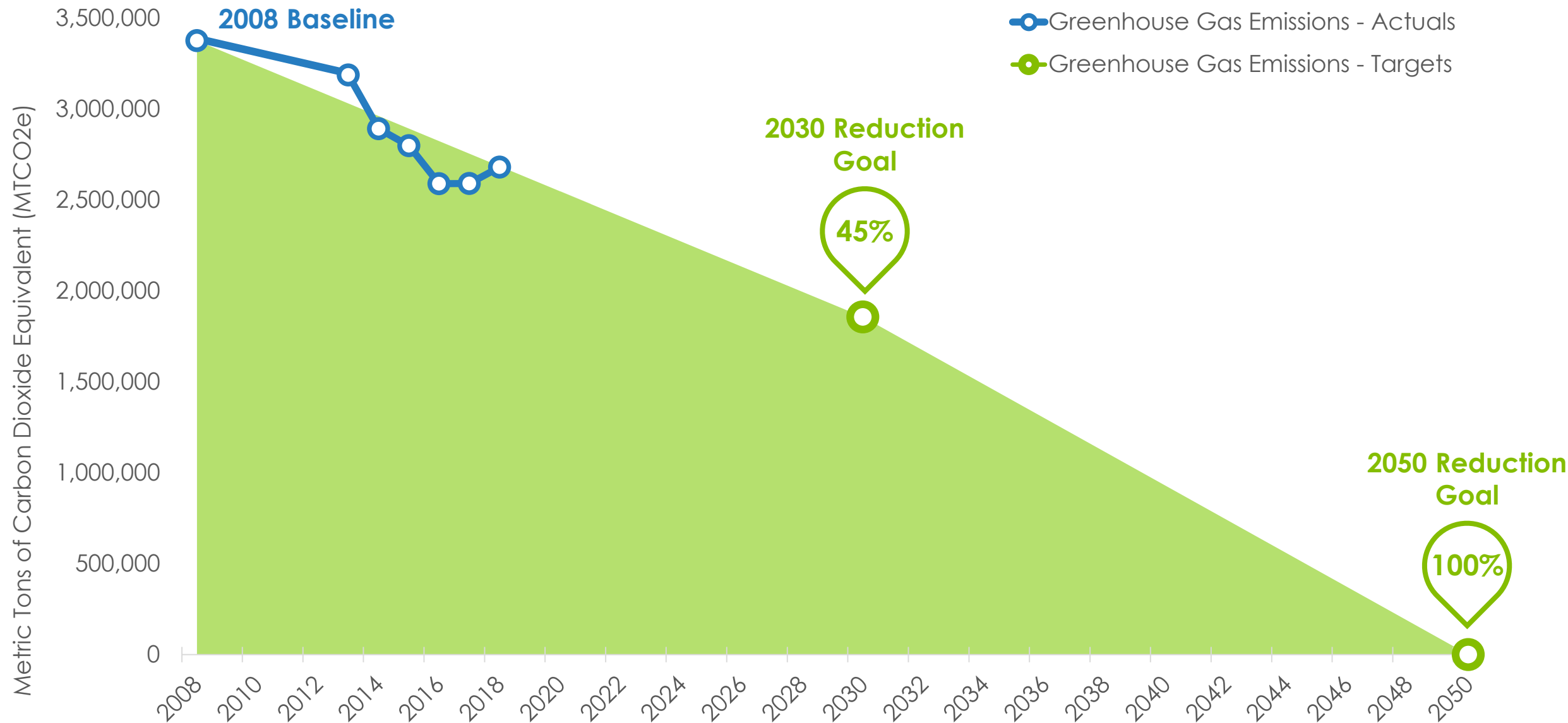
 Operations & Maintenance

 Partner Projects

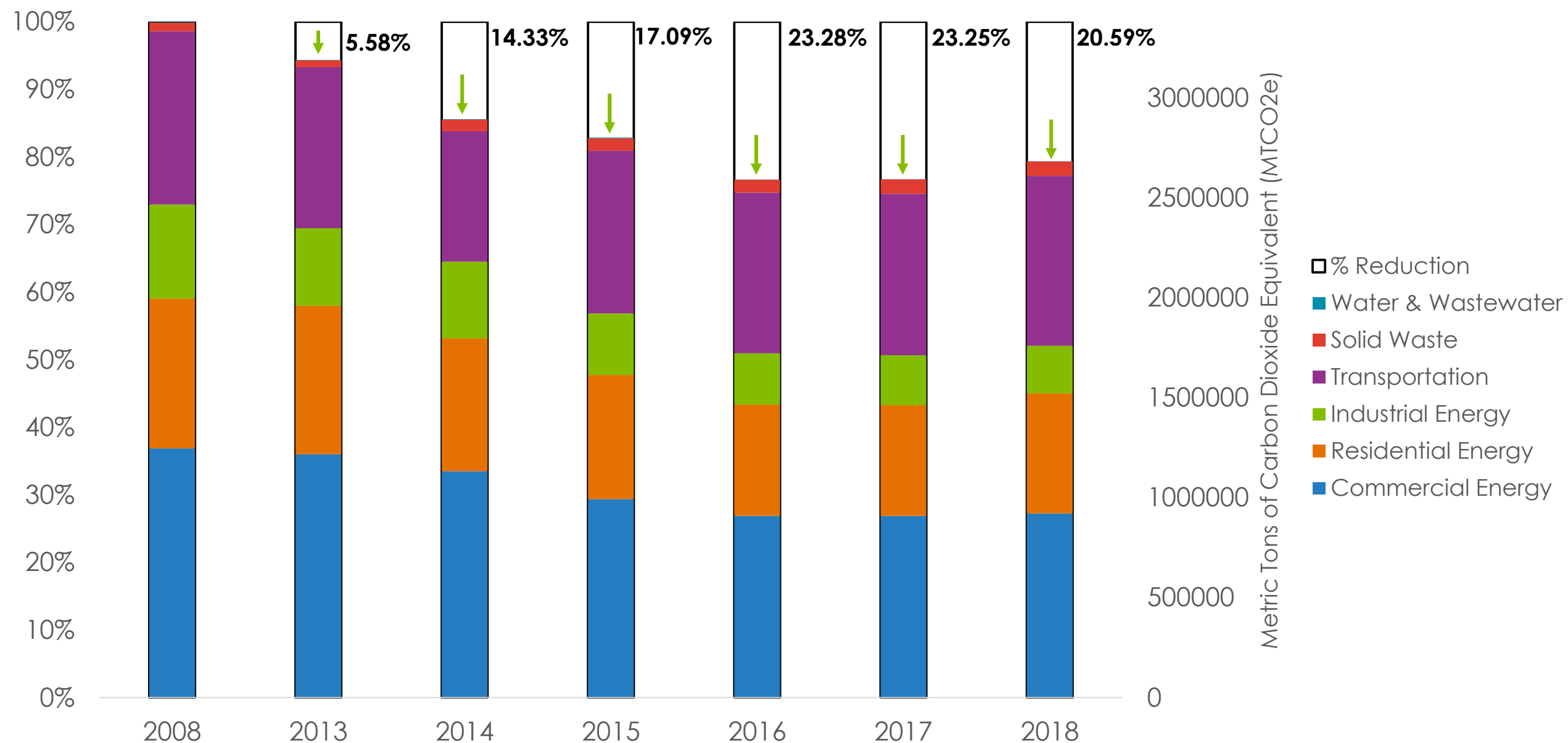
Read more from [RVAH2O](https://www.rva-h2o.com/)

Greenhouse Gas Emissions Inventory

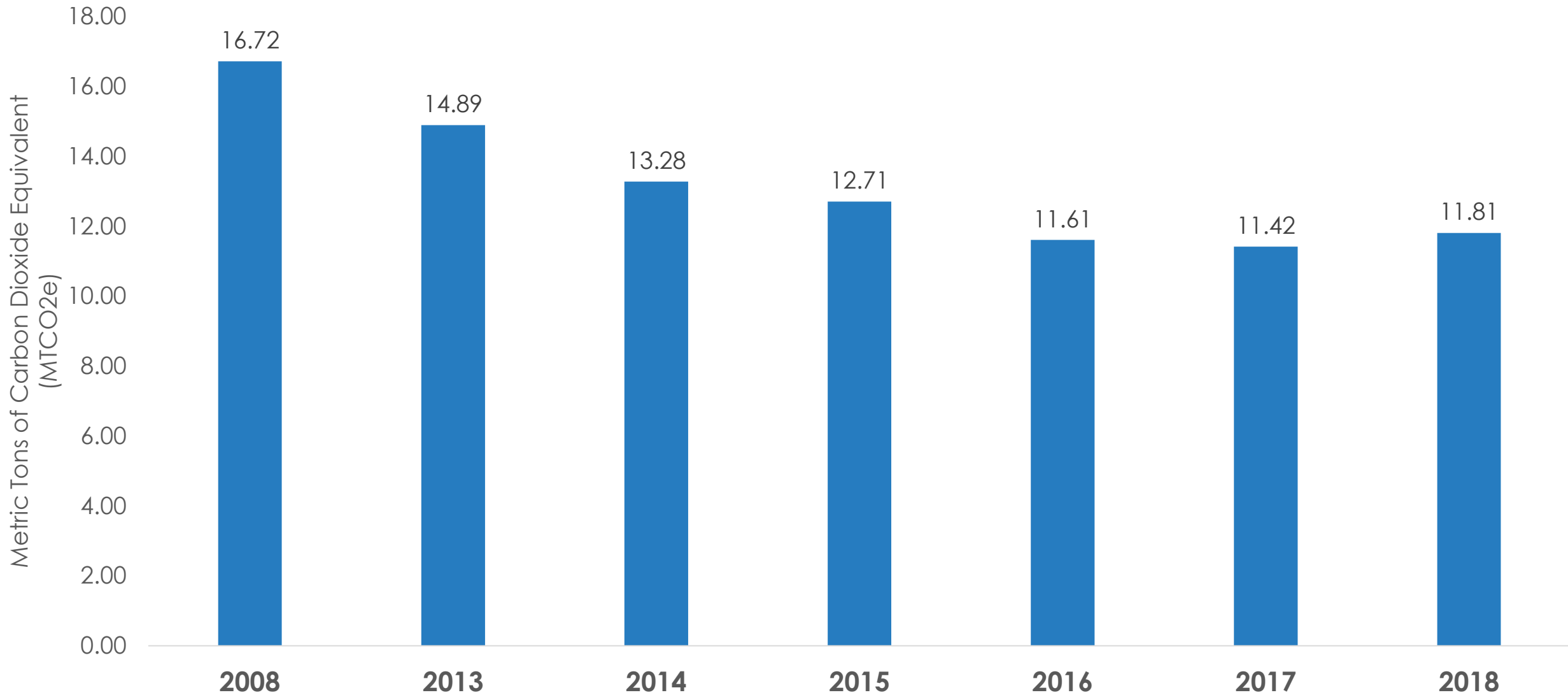
Citywide GHG Emissions and Targets



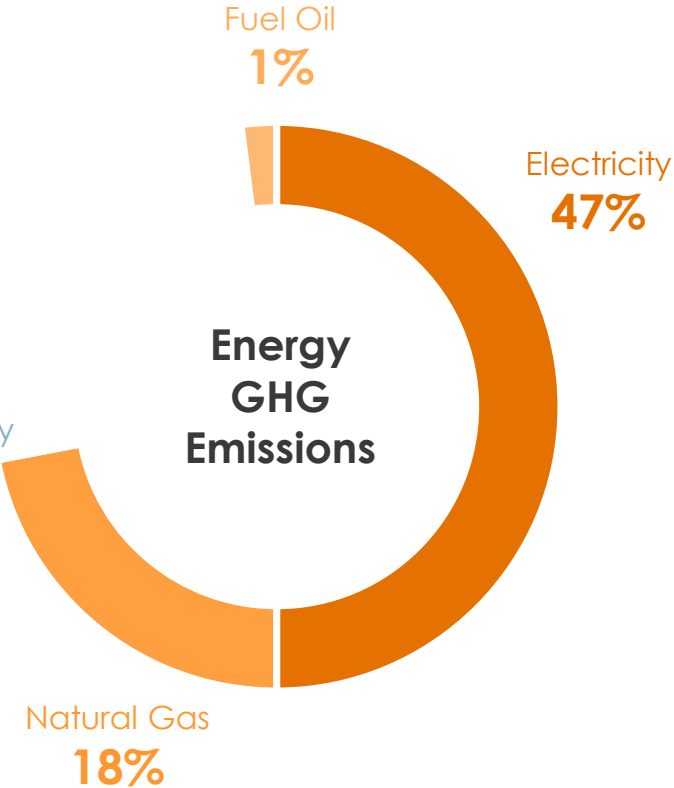
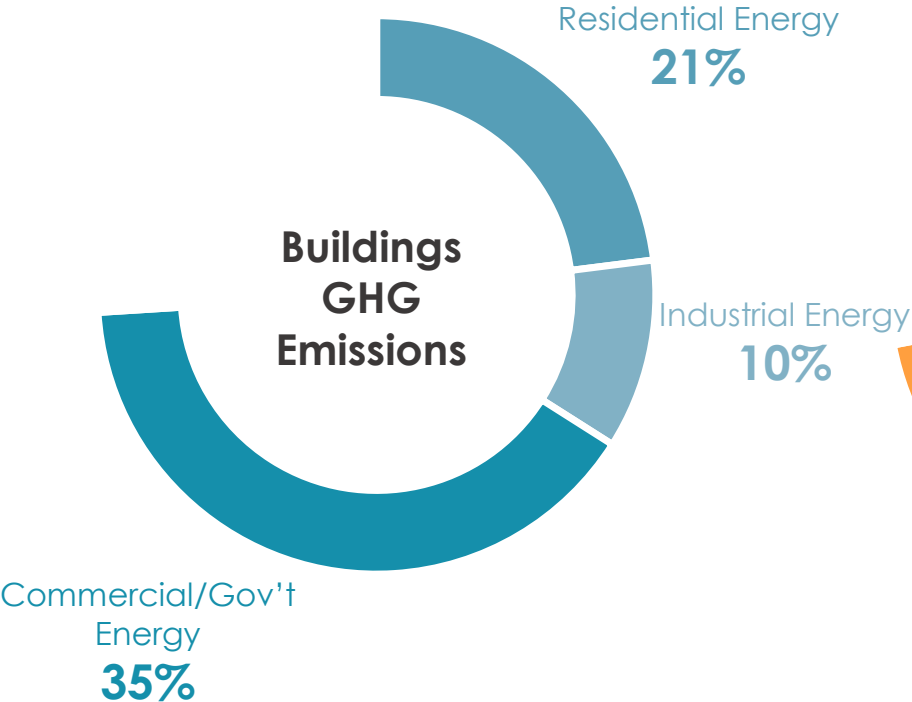
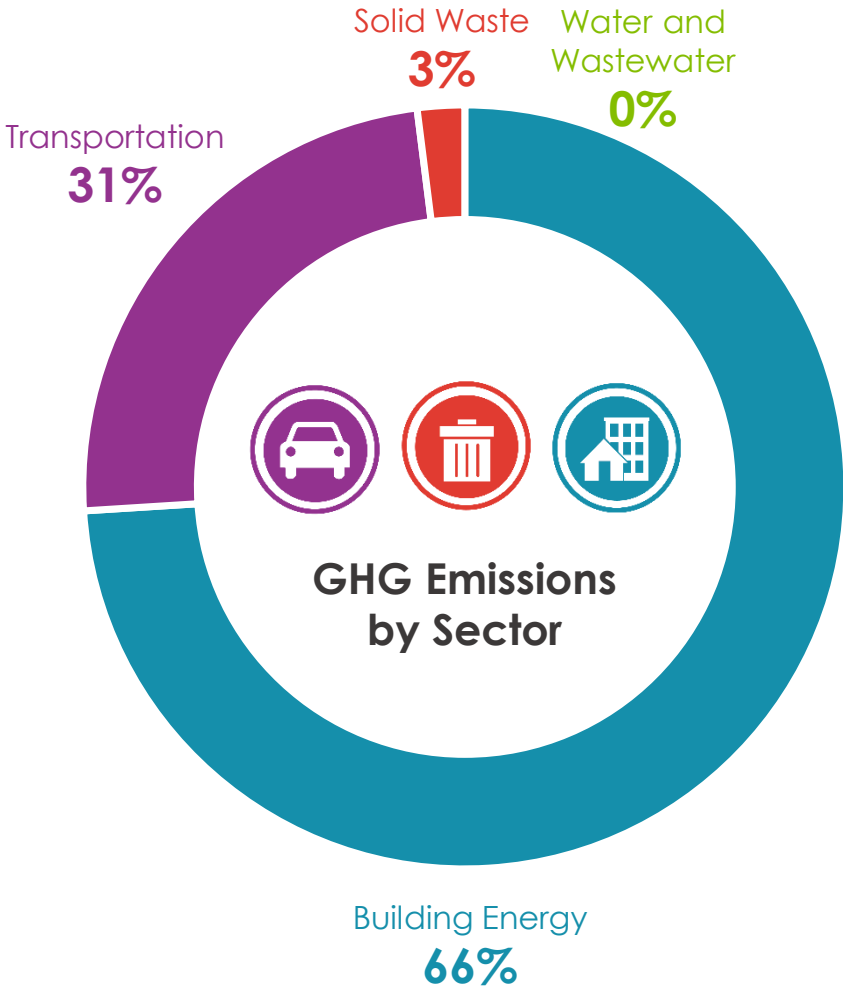
Richmond Community GHG Emissions



Richmond Community GHG Emissions Per Capita

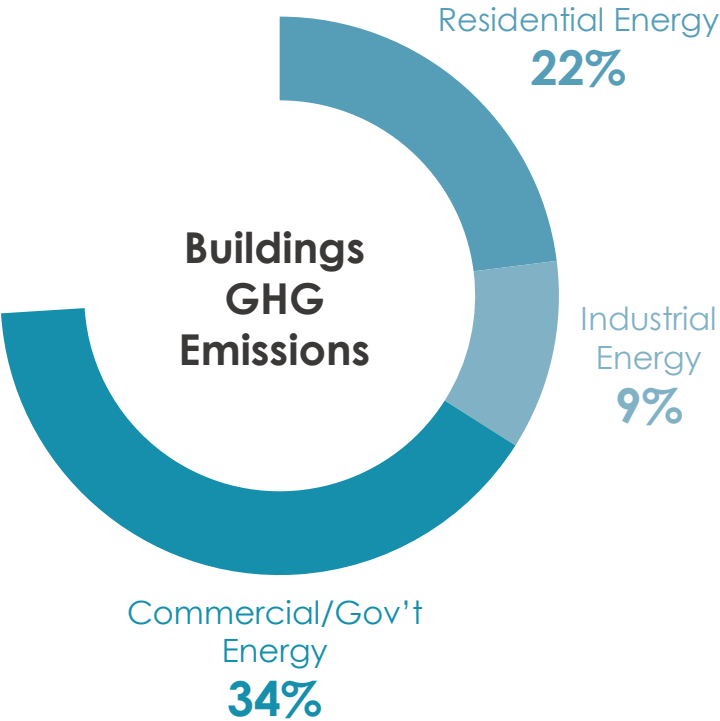
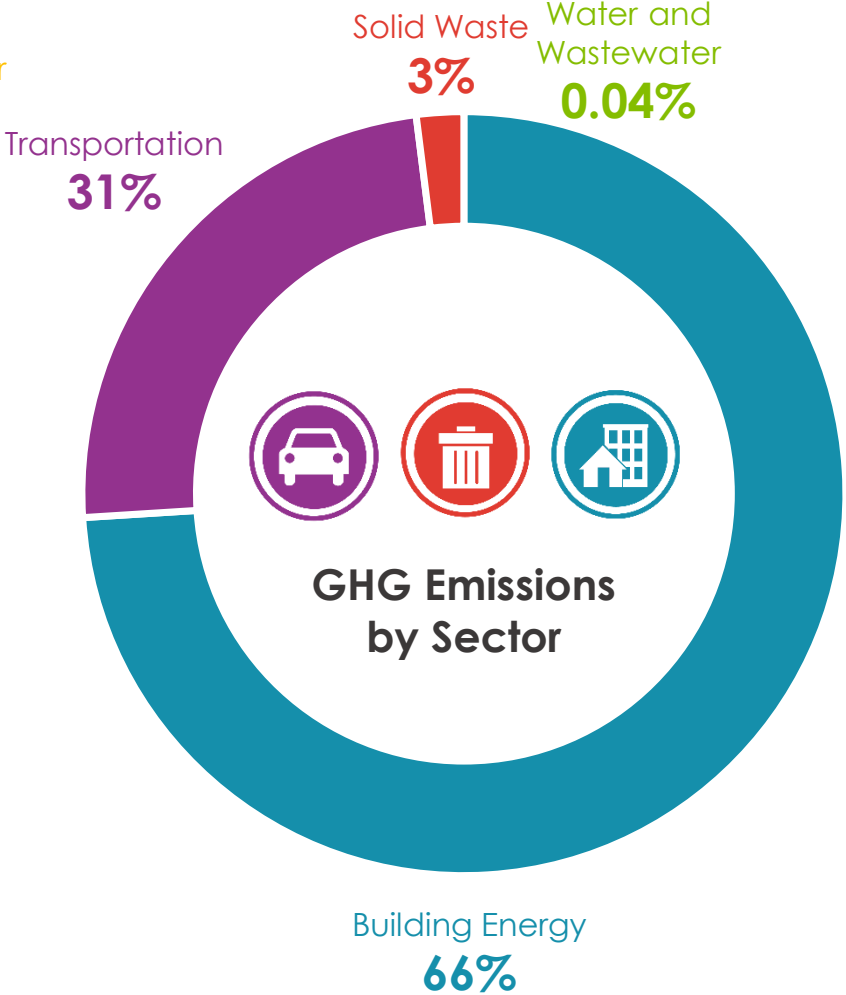
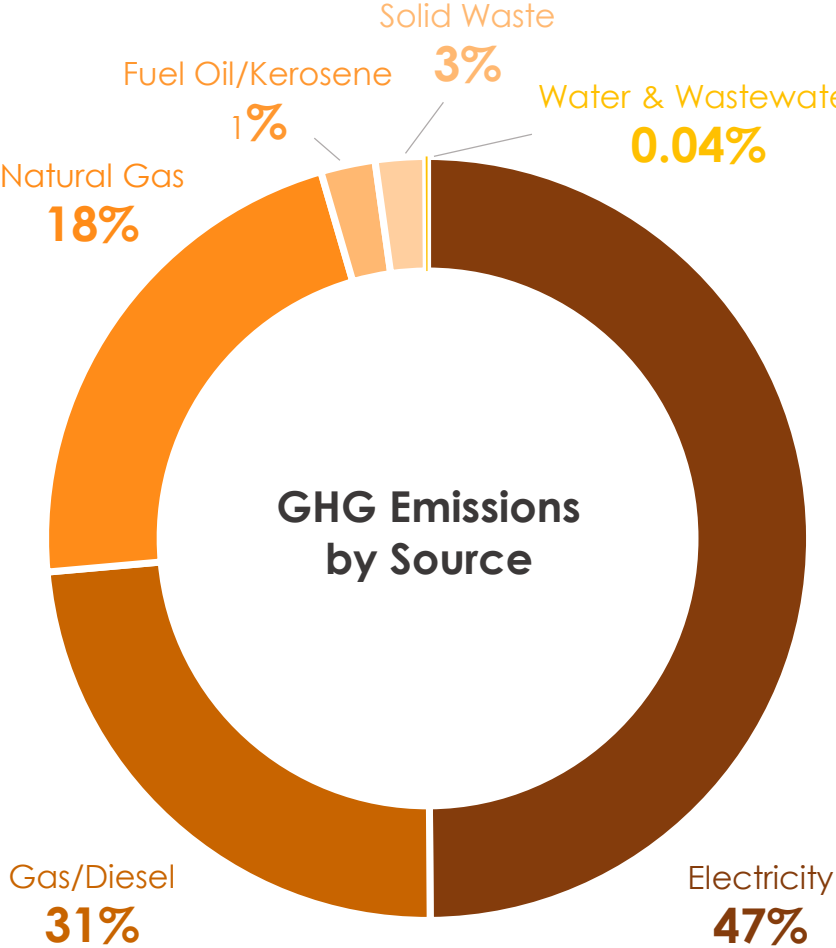


Richmond Community GHG Emissions



2018 Community GHG Emissions
Source: Richmond Greenhouse Gas Inventory

Richmond Community GHG Emissions



Richmond City Government GHG Emissions

