

**RVAgreen 2050 Environment Working Group**

2/22/2021

*Drafting Strategies*

City of Richmond  
**RVAgreen**  
2050

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

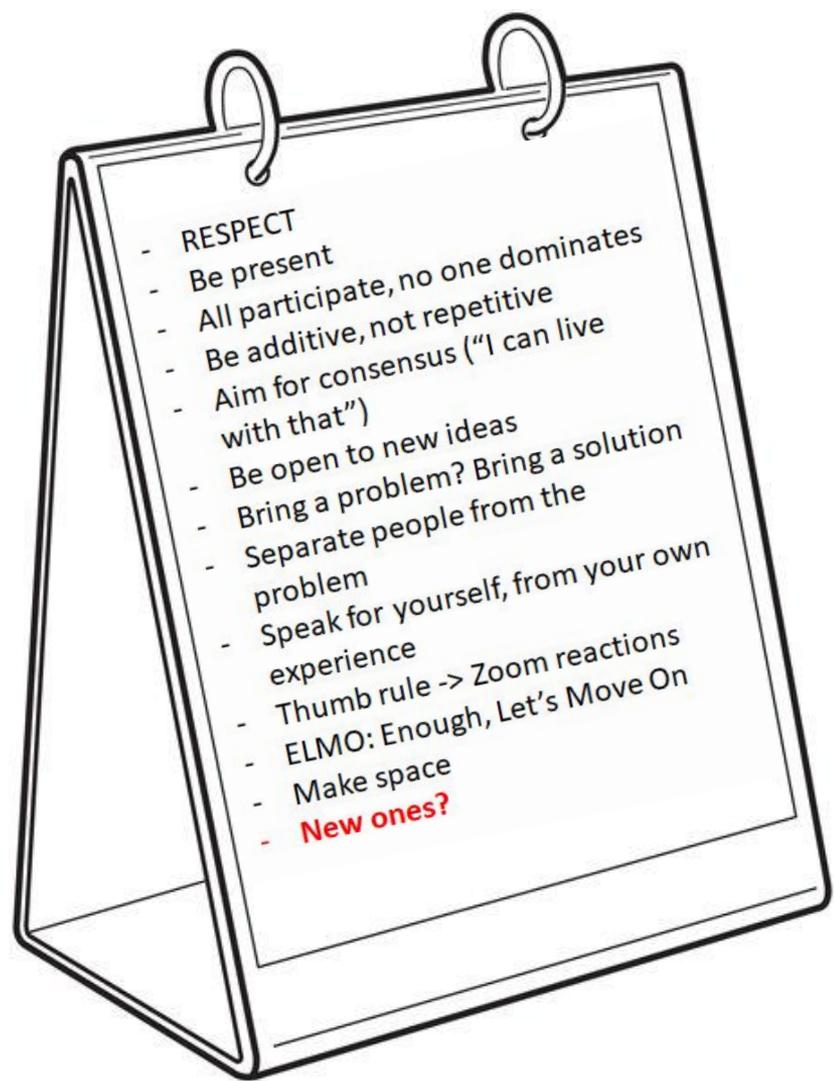
# Agenda

- Settling in and ground rules
- Review: RVAgreen 2050 structure
- Environment strategy inputs
- **Activity:** Drafting strategies
- Wrap-up and next steps

# Today's Objectives

- Understand the various inputs (tools, technical resources, existing plans, etc.) for RVAgreen 2050
- Draft equitable climate action and resilience strategies!

# Ground Rules / Group Expectations



# RVAgreen 2050 DRAFT Structure

<b>Goals</b>	<b>What is the purpose of RVAgreen 2050?</b>
<b>Vision</b>	<b>What does the ideal future look like when RVAgreen 2050 is implemented?</b>
<b>Community Priorities</b>	<b>What cross-cutting public values do we want to center in our plan?</b>
<b>Pathways</b>	<b>What leverage points will lead us towards realizing and operationalizing the goals and community priorities?</b>
<b>Objectives</b>	<b>What are the long-term aims we want to accomplish, organized into the different pathways?</b>
<b>Strategies</b>	<b>What are the SMARTIE actions that will lead us toward our objectives?</b>
<b>Implementation Plans</b>	<b>How are we going to implement, measure progress, and ensure accountability in this plan?</b>



# Goals

## Climate Action

Achieve a 45% reduction in greenhouse gas emissions by 2030 from the 2008 baseline

Achieve net zero greenhouse gas emissions by 2050

## Climate Resilience

Prepare for, adapt, and improve the City of Richmond's resilience to the local impacts of climate change

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# Vision

All Richmonders, regardless of their identity or neighborhood, thrive in a climate-resilient and climate-neutral community.

Supporting Principles:

- Community and personal **well-being, local ecosystems, and economic vitality** are balanced in a truly sustainable Richmond.
- Everyone has **equitable access across the entire city to resources that are clean, sustainable, and affordable**, including air, water, food, energy, housing, transportation, economic opportunities, and natural resources.
- **Everyone has the ability and resources to take ownership** of equitable climate action and community resilience planning and implementation.
- “Identity” includes but is not limited to: race, ethnicity, age, ability, gender, sexual orientation, and religion. **We lead with race** in our work to transform systems impacting all historically disenfranchised communities.



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# Community Priorities



Racial Equity & Environmental Justice



Engagement & Communication



Government Accountability



Community Wealth



Housing & Buildings



Neighborhoods



Health & Well-Being



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# Revised Pathways

<b>Buildings &amp; Energy</b>	<b>Accelerate the equitable transition to healthy, resilient, climate neutral buildings and energy sources</b>
<b>Waste Reduction &amp; Recovery</b>	<b>Fostering sustainable methods of waste reduction - wasting less, reusing more</b>
<b>Transportation &amp; Mobility</b>	<b>Accelerate the transition for all to clean and equitable mobility systems</b>
<b>Environment</b>	<b>Invest in resilient, healthy, and equitably distributed natural resources throughout the community to support biodiversity and human well-being</b>
<b>Community</b>	<b>Create an equitable and resilient Richmond that honors community priorities</b>



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# Where we are today...

<b>Goals</b>	What is the purpose of RVAgreen 2050?
<b>Vision</b>	What does the ideal future look like when RVAgreen 2050 is implemented?
<b>Community Priorities</b>	What cross-cutting public values do we want to center in our plan?
<b>Pathways</b>	What leverage points will lead us towards realizing and operationalizing the goals and community priorities?
<b>Objectives</b>	What are the long-term aims we want to accomplish, organized into the different pathways?
<b>Strategies</b>	What are the SMARTIE actions that will lead us toward our objectives?
<b>Implementation Plans</b>	How are we going to implement, measure progress, and ensure accountability in this plan?

**Refining**

**Drafting**

# Revised Objectives

1. **Make sure all residents have equitable connections** (information, engagement opportunities, and physical access) **to healthy and diverse natural resources, spaces, and species.**
2. **Reduce risks and impacts to the community and natural environment from heat and drought.**
3. **Reduce risks and impacts to the community and natural environment from extreme precipitation and flooding.**

*New objective? -> Greenhouse gas emissions reduction, carbon sequestration, air quality*



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# RVAgreen 2050 Inputs Overview



## Equity

- Climate Equity Index
- Training and capacity building
- Community priorities
- Equity Screening Tool

## Climate Action

- Greenhouse gas inventories
- Richmond 300 actions
- Best practices and examples
- Greenlink GHG emissions modeling

## Climate Resilience

- Climate change impacts data
- Richmond 300 actions
- Best practices and examples
- Climate Vulnerability & Risk Assessment



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# Drafting Process - Strategies

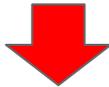
Environment  
Inputs

Technical Information  
Climate and Energy Modeling  
Climate Vulnerability & Risk Assessment

Policy Inputs  
RVAgreen 2050 Community Priorities  
Greenlink Policy Toolkit  
Examples from other cities

Today's activity

Starting Point for Strategies  
Richmond 300 Master Plan  
Your ideas from last time



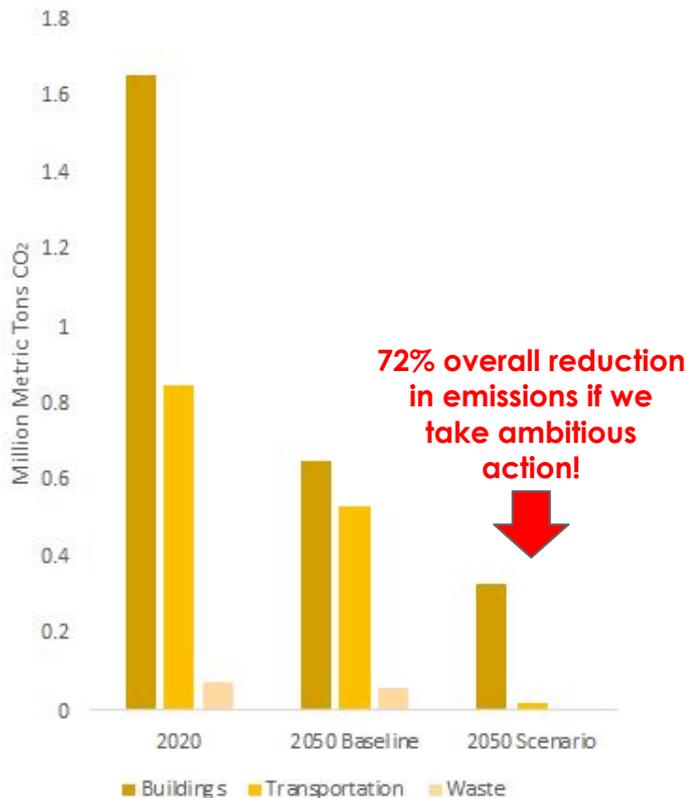
**Your task today: drafting strategies**

*Preliminary checklist for strategies:*

- Does it *reduce greenhouse gas emissions* **or** *increase resilience to climate change*?
- Is it equitable? (we will dive deeper into the equity tool at the next meeting)



# Environment Input: Climate & Energy Modeling



## Areas modeled:

- Buildings
  - Energy efficiency
  - Renewable energy
  - Energy storage
- Transportation
  - Private vehicle travel reduction
  - Electric vehicles
  - Transit and active transportation
- Waste
  - Recycling
  - Organics collection
  - Source reduction
  - Biogas capture and use

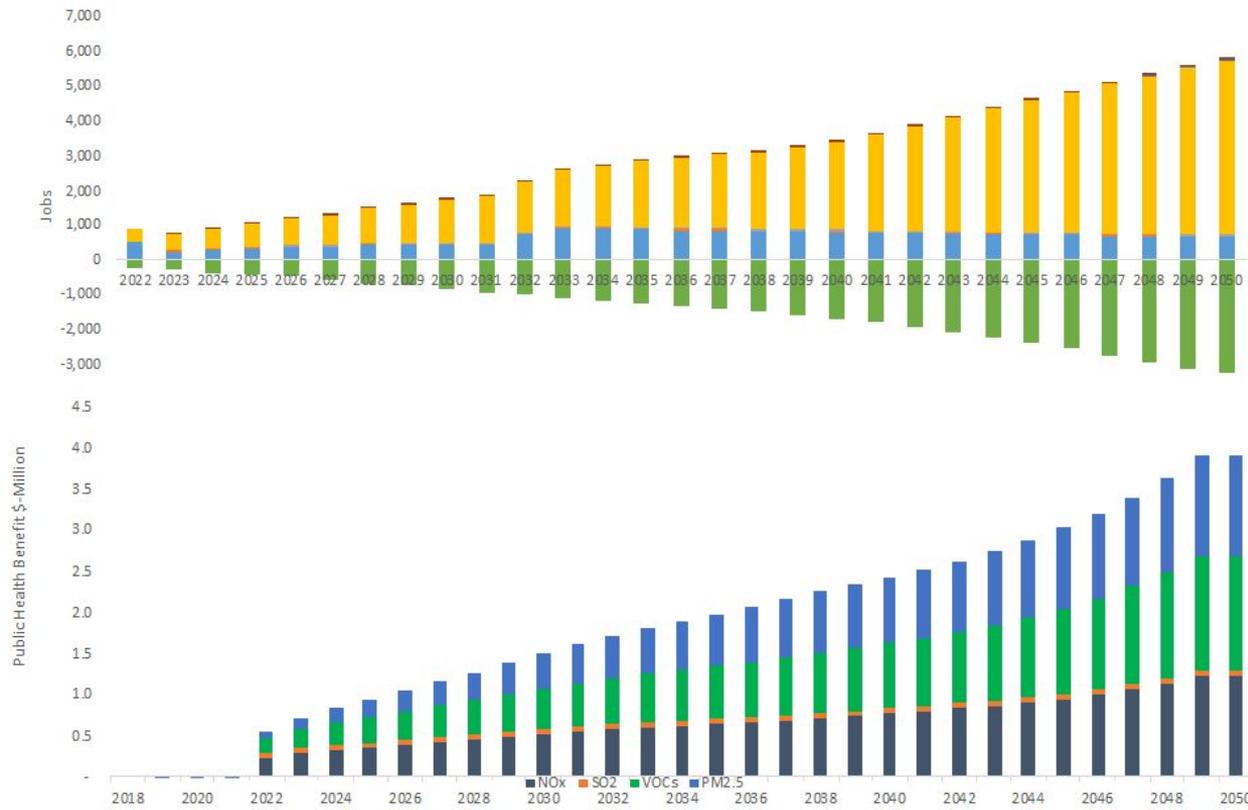
# Environment Input: Climate & Energy Modeling



*Co-benefits of taking  
ambitious action*

Thousands of new  
jobs

Millions in  
healthcare cost  
savings



# Environment Input: *Climate Vulnerability & Risk Assessment*

## **Sensitivity**

*How much would assets/systems be affected?*

## **Adaptive Capacity**

*Can the assets/systems “bounce back” on their own?*

## **Consequence**

- *People, esp. those most vulnerable*
- *Literal costs*
- *Public safety services*
- *Economic activities*
- *Public health*
- *Natural environment*

## **Probability**

*What assets/systems are actually in harm's way?*

Your input  
from the  
meeting

Detailed  
analysis of  
climate data

## **Relative vulnerability of assets/systems:**

- Stormwater & Sewer Infrastructure
- Water Supply Infrastructure
- Trees and Vegetation
- Protected Areas and Habitats
- Green/Community Spaces

# Environment Input: Climate Vulnerability & Risk Assessment

## Specific feedback:

Category	Asset/System	Heat Threats Priority	Water Threats Priority
Water Supply Infrastructure	Water pipes	1	1
Water Supply Infrastructure	Water Treatment Plant	2	2
Trees and Vegetation	Tree canopy	3	3
Trees and Vegetation	Vegetation/pervious surface cover	4	4
Stormwater & Sewer Infrastructure	Dams	12	5
Stormwater & Sewer Infrastructure	Sewer Outfalls	7	6
Protected Areas and Habitats	Terrestrial Habitat	9	7
Protected Areas and Habitats	Chesapeake Bay Protection Area	13	8
Protected Areas and Habitats	James River Islands	14	9
Stormwater & Sewer Infrastructure	Sewer Treatment Plant	5	10
Protected Areas and Habitats	Creeks	8	11
Protected Areas and Habitats	Lakes	11	12
Green/ Community Spaces	Community Gardens	6	13
Green/ Community Spaces	Cemeteries	10	14

- Water Infrastructure (water supply, stormwater and sewer infrastructure):** Significant impacts for heat and water. Heat impacts water quality (public health and environmental quality). Water impacts will strain system and threaten other assets. Service operations, economic, and community impacts.
- Trees and Vegetation:** Species and assets threatened by increased heat, Rainfall changes and flooding a threat.
- Protected Areas and Habitat:** Sensitivity to heat changes. Many valuable assets in floodplain. Biotic and economic impacts.
- Biodiversity:** Heat and flooding are threats to biodiversity. Development is also a threat.
- Green and Community Spaces:** Impact on cultural and historic assets (cemeteries).

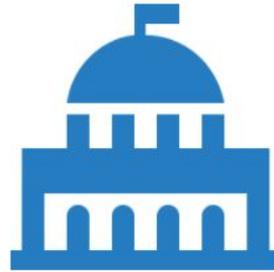
# Environment Input: *Community Priorities*



Racial Equity &  
Environmental Justice



Engagement &  
Communications



Government  
Accountability



Community  
Wealth



Housing &  
Buildings



Neighborhoods



Health & Well-  
Being

# Environment Input:

## *Greenlink Policy Toolkit*

*Example strategies (these are in your [Laundry List](#) reference spreadsheet!)*

- Pursue efforts to promote increase tree coverage to address social stresses induced by urban heat island issues.
- Encourage business owners to obtain a water-efficient certification for their buildings.
- Reduce cost by bulk-purchasing water-saving equipment.
- Phase-in code requirements that new buildings match total water consumed with water obtained from rain, reuse, or returned to the original source.

# Environment Input: *Examples from other cities*

## Topics in plans from other cities

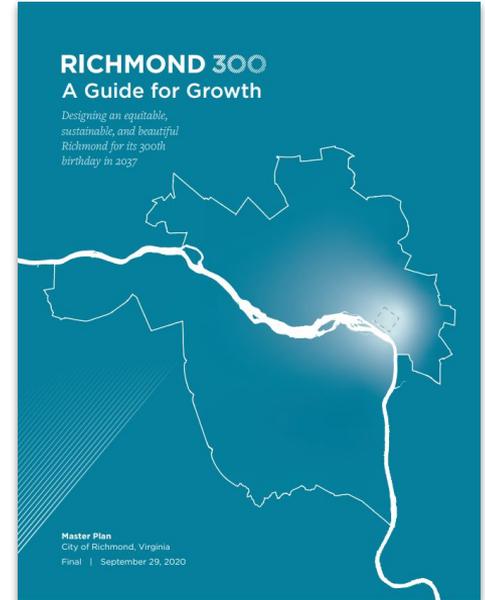
- Green stormwater infrastructure
- Biodiversity
- Tree canopy
- Green and open space
- Water conservation
- Urban heat island reduction
- Urban agriculture

Example strategies are in your [Laundry List](#) reference spreadsheet!

# Environment Input: *Richmond 300 Master Plan*

## Relevant Richmond 300 Goals & Objectives

- **Complete Neighborhoods:** greenways, parks
- **City-Owned Assets:** parks
- **Historic Preservation:** viewsheds, natural features
- **Urban Design:** heat reduction, nature access
- **Jobs and Businesses:** trees, green space
- **Tourism:** Riverfront Plan, JRPS Master Plan
- **Clean Water:** reduce consumption, restore and protect natural areas, green stormwater infrastructure
- **Resilient and Healthy Communities:** tree canopy, reduce urban heat, green space, floodplain management, habitat



# Environment Input:

## *Your ideas from last time!*

### ***Examples:***

- Engage individual communities / neighborhoods on what they would like to see within a 10-minute walk in terms of green and open space.
- Create workforce development opportunities and increase capacity of city stewardship teams for managing water resources.
- Partner with upstream counties and the Department of Environmental Quality on preserving wetlands to reduce downstream flooding impacts in Richmond.

# Drafting Process - Strategies

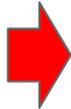
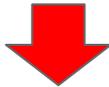
Buildings & Energy Inputs

Technical Information  
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Today's activity

Starting Point for Strategies  
Richmond 300 Master Plan  
Your ideas from last time



**Your task today: drafting strategies**

*Preliminary checklist for strategies:*

- Does it *reduce greenhouse gas emissions* **or** *increase resilience to climate change*?
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# Activity

- Divide into 3 breakout rooms
- Facilitators will switch between rooms to guide discussion on strategies within one of the draft objectives
  - Objective 1: Connections and access to the environment (Jenn)
  - Objective 2: Reducing risks from heat and drought (Khilia)
  - Objective 3: Reducing risks from precipitation and flooding (Brianne)
  - *Also see slide for strategies that may not fit within these objectives*
- Take 20 minutes per objective (~5 mins. per strategy bucket) to:
  - Refine draft objectives
  - Draft strategies

**Strategy rules for today:**

- MUST reduce GHGs and/or increase resilience
- MUST be equitable (high-level review at this point)

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# Objective #3: Reduce risks and impacts to the community and natural environment from extreme precipitation and flooding.

Strategy bucket: GREEN STORMWATER INFRASTRUCTURE

**Strategy rules:**  
- MUST reduce GHGs and/or increase resilience  
- MUST be equitable (we'll discuss in more detail next time)  
  
**If it doesn't follow the rules, don't write it down!**

-  = Richmond 300
-  = ideas from our last meeting
-  = your new ideas!

Explore creating incentives or requirements in zoning and development processes for green infrastructure on private property.

Identify opportunities for green infrastructure on public lands and rights-of-way; explore creating green infrastructure guidelines within the Better Streets manual

Market the City's stormwater credit program, and explore changes to the program to increase its use and encourage more landowners to plant vegetation that reduces the quantity and improves the quality of stormwater runoff.

Request that the Federal Emergency Management Agency update the flood plain maps

Explore programs to daylight streams and deculvert streams

Expand the green alleyway program.

Across the board: more capacity for maintenance and include workforce development opportunities

Focus on neighborhoods with historic flooding issues

Implement RVAH2O Clean Water Plan with a more ground-up approach

*Look at RVA311 data at the neighborhood level to identify places where solutions are needed*



5-minute break

*Go into breakout  
rooms!*

# Objective #1

***Make sure all residents have equitable connections***

*(information, engagement opportunities, and physical access) to healthy natural resources, spaces, and species.*

# Objective #1: Make sure all residents have equitable connections (information, engagement opportunities, and physical access) to healthy natural resources, spaces, and spaces.

**Strategy rules:**  
 - MUST reduce GHGs and/or increase resilience  
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Expand the City's Adopt-a-Street Program to include waterways, greenways, and bike lanes.

Develop a strategy for acquiring land for new parks and open spaces, and develop a Parks Master Plan (see Goal 2).

Create public-private partnerships to help the City maintain and manage high-quality parks, green infrastructure, and public open space.

Develop a Park Master Plan providing all Richmonders access to a quality public park within a 10-minute walk of their home  
Include a component to engage individual communities / neighborhoods on what they would like to see within a 10-minute walk in terms of green and open space.

Expand the Adopt-A-Tree program for community organizations to buy trees in bulk and commit to steward the trees

Include an education/advocacy/engagement process in helping folks understand why they should care about water resilience, quality.

Ensure equitable geographic distribution of resources (and things that may have negative impacts such as industry).

Increase outreach about how to get to parks and green spaces and how you can use them. Address intergenerational inequities in use, access, and awareness.

Increase physical connectivity and access to parks, green spaces, and nature with safe and multi-modal transportation options.

Trauma reduction as a benefit and more needed in impacted communities - human restoration and regeneration.

Also consider "blue space" (river, other water bodies) access, recreation, information

*Create ways for residents and neighborhoods to "report" desire for things like more street trees (sort of like a solutions-based 311)*



# Objective #1: Make sure all residents have equitable connections to healthy natural resources, spaces, and species.

**Strategy rules:**  
- MUST reduce GHGs and/or increase resilience  
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**If it doesn't follow the rules, don't write it down!**

employ community members in the stewardship of green spaces



*Collaborate with Richmond Public Schools to incorporate experiences in parks and green spaces into the school's curriculum or programming*



Connecting existing and new green and natural spaces.



Create a "parks holiday" in which residents and park staff are encouraged to enjoy, steward, and celebrate their local park



Explore the adoption of policies that PREVENT green gentrification, especially by ensuring affordable housing options amidst improvements to green infrastructure in communities



Promote urban agriculture programs (training, community gardens, increase local food production)



Establish a sense of community ownership in community green spaces



Prioritize apartment dwellers in Richmond Grows Gardens community garden program and on their waitlists -- not first come for first serve, which can allow folks (and homeowners) with outdoor space to join first



Develop privately owned public space program (look at [NYC POPS program](#) as an example) to incentivize private land owners and/or developers to include publicly-accessible green/open space in underserved areas



Develop partnerships with local media to run series of spotlight stories highlighting local parks, green spaces, and the people and wildlife that use them. Look especially to the Richmond Free Press and other outlets that liaise with communities of color.



Develop partnerships with local churches and places of worship to develop pathways to engaging their congregation in the value of parks and green spaces near them



In addition to expanding accessible spaces, ensure that investment for maintenance and/or repairs is prioritized to meeting needs of existing parks/open spaces in underserved geographies



# Objective #1: Make sure all residents have equitable connections to healthy natural resources, spaces, and species.

**Strategy rules:**  
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Richmond 300: Adopt a goal of all residents having a 5-minute walk to a park or green space.

Facilitate community-driven park planning efforts and create opportunities for all members of the community to benefit from the creation of new parks. Engage youth and hire women and minority contractors to design and construct parks.

Review Mayor's Green Team recommendations and the 5 parcels to be converted to greenspace to create a 10-minute walk...find a way to actually fund the creations of these greenspaces now that they have been identified.

Consider greenway connectors along existing corridors, especially in Churchill/East End.

Engage Richmond's diverse community in park planning efforts to ensure parks meet local needs first and foremost.

Identify healthy, uncontaminated soils to protect citywide as a means to food security and resilience.

Make places safe and welcoming

Make spaces welcoming and let Richmonders know what to expect within that park--manage expectations and help new users to feel comfortable and informed

Establish a citywide charge to fund the acquisition of new green spaces and/or maintenance of green infrastructure. \$0.005 or half a cent on the real estate taxes would generate \$ millions.

Create connections to other existing green spaces in surrounding jurisdictions that benefit Richmonders - al a Evergreen Cemetery, Bandy Field, Bryan Park, etc.



# Objective #2

*Reduce risks and impacts to the community and natural environment from heat and drought.*

# Objective #2: Reduce risks and impacts to the community and natural environment from heat and drought.

## Strategy bucket: TREE CANOPY / GREEN SPACE

**Strategy rules:**  
 - MUST reduce GHGs and/or increase resilience  
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-  = Richmond 300
-  = ideas from our last meeting
-  = your new ideas!

Develop industrial park design standards to ensure industrial areas have trees, green space, sidewalks, and other urban design elements.



Continue funding programs to plant trees and educate public on importance of trees focusing on places with less resources first ●



Relocate overhead utilities to alleys or bury overhead utilities to accommodate mature canopy street tree planting

Develop a tree management plan that provides specific guidance on tree planting, care, species options, and other strategies

Develop an urban forest master plan



Revise the Zoning Ordinance to increase the parking screening requirements and require a 10% tree canopy coverage of surface parking lots



Explore incentives, programs, and requirements for new developments and additions to existing buildings to retain mature trees, replace lost trees, and plant more trees if none were there originally. **(non invasive)**



Implement RVA Clean Water strategy to increase tree canopy on City property by 5%

Across the board: more capacity for maintenance and include **education**, workforce development opportunities



Assess impacts of heat on invasive species and plan for increased management; increase native resilient plantings

*Look at RVA311 data at the neighborhood level to identify places where solutions are needed*



When increasing green space clarify that we mean spaces w/ co-benefits like water quality, carbon sequestration (not turf lawns)  
**Include native plants**



# Objective #2: Reduce risks and impacts to the community and natural environment from heat and drought.

## Strategy bucket: TREE CANOPY / GREEN SPACE

**Strategy rules:**  
- MUST reduce GHGs and/or increase resilience  
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Develop a standard requiring inclusion of tree plantings / green space / green infrastructure in any new City capital project. e.g. any time a road is reconstructed or a facility is built or renovated, certain green space standards must be met.

Consider creative ways to increase engagement between neighborhood residents and their natural assets (e.g. Signs that tell the age and species of the tree, resources for children to explore nature such as magnifying glasses)

Incorporate a #/ mile-radius target for green space/parks/ outdoor recreational areas across the city from what currently exists

Incentivize extraordinary planting areas (rooftop tree gardens, underhangs of bridges and expressways)

Above streets and other impervious surfaces, hang string lights that also allow native vines and plants to grow. This will reduce heat, slow rainwater runoff, and look really cool.

Identify depaving opportunities (removal of impervious surfaces) in areas of the city that experience extreme urban heat. Replace impervious surfaces with tree canopy and green spaces. Plan and implement green streets projects.

Get a tree canopy assessment done. Update the very old one.

In addition to new trees, implement a program to care for existing ones.

30x30 is the Campaign for Nature. With only 6% of the city's land use set aside as park and green space, identify a higher benchmark as a goal. 15% is closer to peer cities. Is 20% unobtainable?

Make it easier for citizens to get information about street trees..planting, care, etc.

Consider reduction of insecticides use within city limits, healthier native insect populations= healthier tree canopies

James River Park was included in the Old Growth Forest Network. Should each Council district strive to set aside a substantially large parcel to be added to the OGFN?



# Objective #2: Reduce risks and impacts to the community and natural environment from heat and drought.

## Strategy bucket: WATER CONSERVATION

**Strategy rules:**  
 - MUST reduce GHGs and/or increase resilience  
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-Benchmark water usage in utility bills by comparing usage to average usage,  
 -Benchmark water usage in City facilities and develop plan to reduce consumption



Implement RVA Clean Water Plan



Encourage on-site graywater uses in public and private facilities



Encourage planting of drought-resistant species.

Develop incentives for commercial/ institutional water reduction.



Promote community/neighborhood driven water consumption awareness and action (HOA, community groups, neighborhood groups, etc)



Across the board: more capacity for maintenance and include workforce development opportunities

Invest in pipe upgrades and/or repairs in areas of the city with aging infrastructure, including house connections. Reduces water lost through leakage while also addressing potential for harmful chemical leaching from old pipes.



Stormwater utility credits for native / non-turf grass lawn plantings (related to encouraging planting of drought-resistant species above).



Further revise DPU's tiered billing structure to incentivise water conservation. .

Pay close attention to areas of the city that are heavily forested...like south of the river/huguenot area for tree canopy/maintenance during weather events.

No economic development incentives that would discount water consumption for large users without an evaluation of cost/benefit analysis.



# Objective #2: Reduce risks and impacts to the community and natural environment from heat and drought.

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Create a corporate/business outreach to help them understand how to maintain trees around parking lots, common areas, etc. Incentive developers of housing to create common shaded areas with trees and gardens.

Make the wholesale water customers pay a higher rate. It's not right to have discounted rates for Henrico and Chesterfield.

When crews come in to cut around power lines, they are not necessarily cutting for preservation or tree care...how could we use these cutbacks to our advantage for tree care?

Require all rehabilitation tax credit projects and low-income tax credit projects utilize low-flow fixtures - enforce on the permits

Should private lots over 1 acre be required to have XX% tree canopy?

Also, we should plan to define the "tree canopy" and at what height does it add climate benefits.

Need a revised City tree policy to cycle through live, but nearing end of life cycle, trees. Many neighborhoods have too large of trees that need to begin cycling out.



# Objective #3

*Reduce risks and impacts to the community and natural environment from extreme precipitation and flooding.*

# Objective #3: Reduce risks and impacts to the community and natural environment from extreme precipitation and flooding.

## Strategy bucket: GREEN STORMWATER INFRASTRUCTURE

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-  = ideas from our last meeting
-  = your new ideas!

Explore creating incentives or requirements in zoning and development processes for green infrastructure on private property.



Identify opportunities for green infrastructure on public lands and rights-of-way; explore creating green infrastructure guidelines within the Better Streets manual

Market the City's stormwater credit program, and explore changes to the program to increase its use and encourage more landowners to plant vegetation that reduces the quantity and improves the quality of stormwater runoff.

Request that the Federal Emergency Management Agency update the flood plain maps

Explore programs to daylight streams and deculvert streams

Expand the green alleyway program.



Across the board: more capacity for maintenance and include workforce development opportunities



Focus on neighborhoods with historic flooding issues

Implement RVAH2O Clean Water Plan with a more ground-up approach

*Look at RVA311 data at the neighborhood level to identify places where solutions are needed*



Expand the stream restoration efforts currently underway and do a better job with community engagement to promote the benefits.

Create a restoration credit bank for the City to incentivize sustainable development and fund under-resourced municipal projects



# Objective #3: Reduce risks and impacts to the community and natural environment from extreme precipitation and flooding.

Strategy bucket: LAND/DEVELOPMENT

**Strategy rules:**  
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Replant stream buffers in riparian areas on City owned property, and encourage private property owners to do same



Prevent building in riparian areas


Create watershed plans for each of the watersheds in the city, on both public and private land, including impervious reduction targets

Implement RVA Clean Water Plan



Explore programs to daylight streams and deculvert streams

Request that the Federal Emergency Management Agency update the flood plain maps

Encourage development in areas at lower risk of flooding

Conduct a sea-level-rise impact analysis to identify areas in Richmond that may be affected.

Identify opportunities for acquiring land in the Resource Management Areas (RMAs) and Resource Protection Areas (RPAs), to conserve, discourage development, and implement strategies to slow, spread, and infiltrate floodwater.

Convert large City-managed non-recreational mown areas, such as floodwall impoundment areas, to native community wildflower/pollinator species meadows, mown or bush-hogged once or twice each year


Partner with upstream counties and the Department of Environmental Quality on preserving wetlands to reduce downstream flooding impacts in Richmond.

Identify depaving opportunities (removal of impervious surfaces) in watersheds that experience stormwater flooding.





# Objective #3: Reduce risks and impacts to the community and natural environment from extreme precipitation and flooding.

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 - MUST reduce GHGs and/or increase resilience  
 - MUST be equitable (we'll discuss in more detail next time)  
  
**If it doesn't follow the rules, don't write it down!**

Create workforce development opportunities and increase capacity of city stewardship teams for managing water resources.



Have City acquire flood prone private properties through new state grant funding pertaining to climate resiliency. (+ expand beyond flood)



Utilize conservation easements to protect private land that is flood prone and find funding mechanisms to pay landowners for protection - Clean Water Revolving Loan Fund



Clean out culverts, street gutters, pick up leaves! Overflow and runoff from clogged street gutters, culverts contributes to runoff. Good opportunity for stewardship, neighborhoods.



Remove channelized portions of natural stream areas to restore flood plain - focus upstream to reduce volume and velocity downstream



Explore installing "band-along" traps to capture trash, litter and other debris from the stormwater system



Implement recommendations of Mayor's Green Team initiative - Policy team and other team  
[https://docs.google.com/document/d/1tjF\\_fyX-1SYZIUqOMQDdDYwIxbHE5N61ZN5ehF5l4n0/e/dit](https://docs.google.com/document/d/1tjF_fyX-1SYZIUqOMQDdDYwIxbHE5N61ZN5ehF5l4n0/e/dit)

Identify depaving opportunities (removal of impervious surfaces) in watersheds that experience stormwater flooding. This strategy can also promote good local stream health.

Explicitly address human health impacts of flooding/extreme precipitation - like after receding floodwaters, rain -> mold, etc.



Plan and implement complete and green streets projects to better manage stormwater in communities impacted by extreme precipitation and flooding. (See: Bellemeade Green Street Project)



Support what we already have rather than bringing in something new (both in terms of plans and infrastructure?)

Explicitly address vulnerable populations - like people experiencing homelessness - needs will get more acute as climate change progresses (and don't just put bandaids on bullet wounds)



# Objective #3: Reduce risks and impacts to the community and natural environment from extreme precipitation and flooding.

**Strategy rules:**  
- MUST reduce GHGs and/or increase resilience  
- MUST be equitable (we'll discuss in more detail next time)

**If it doesn't follow the rules, don't write it down!**

Start w/ review of existing plans and adding climate resilience - emergency operations? Others? - and making them better

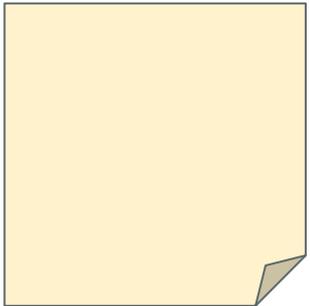
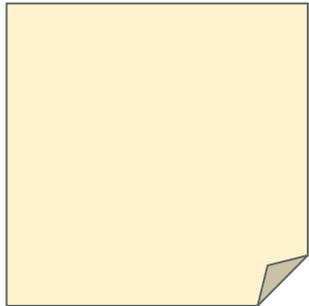


Develop public art and communication measures that will convey the urgency of impending flooding (e.g. signs or murals that indicate where water might reach unless we take bold action)



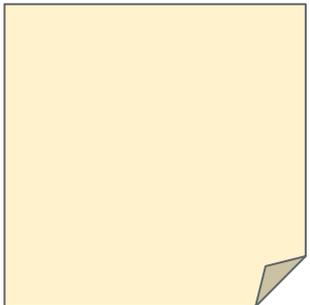
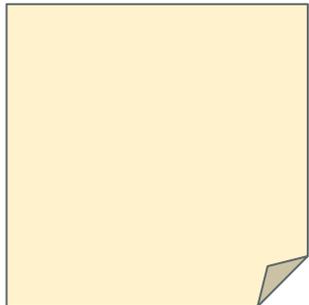
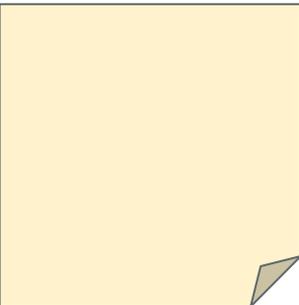
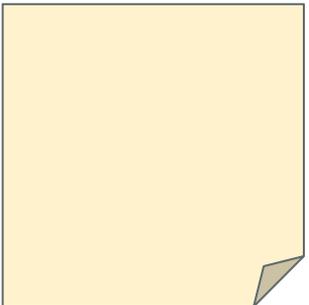
Develop RVA Resilient Design Guidelines to encourage new construction (of any type - buildings or infrastructure) to reflect changing climate, especially increased precipitation projections and future floodplain projections. Similar examples from other cities have started out as voluntary best practices and some have eventually progressed to regulatory requirements.

Use 311 data or other community information-gathering to identify places that experience repetitive flooding that may not be on FEMA maps. Prioritize investment in these areas as they are least likely to have flood insurance or other protective measures in place.



Address power dynamics w/ Dominion when it comes to need for resilience measures - clear procedures, etc to operate - "these are the rules" - need to advocate for this at the state level

Sending out mailers/postcards to community and HOAs with tips and reminders to consider in preparation for extreme precipitation (seasonal: snow + ice in winter and high rains in spring)



*Strategies that may not  
fit in these objectives*

# Strategies that may not fit within the current draft objectives

**Strategy rules:**  
- MUST reduce GHGs and/or increase resilience  
- MUST be equitable (we'll discuss in more detail next time)

**If it doesn't follow the rules, don't write it down!**

Carbon sequestration

Improve air quality

We do want a specific objective more closely aligned with GHG reductions, air quality, air pollution and objective should be specifically focused on measuring the reduction

 Want to point responsibility to corporate entities in some of the strategies



*Exit breakout rooms*

# Wrap-up and next steps

- Homework: Continue adding ideas to these slides (by 2/24)
- Next meeting: **Wednesday, March 3, 3-5 pm**
- NOW:
  - Fill out feedback survey
  - Share updates, upcoming events, and resources in the chat

# Community Priorities

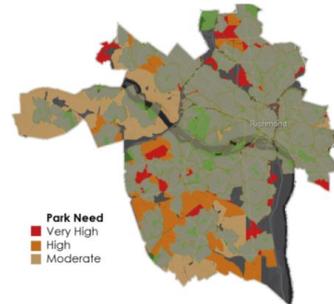
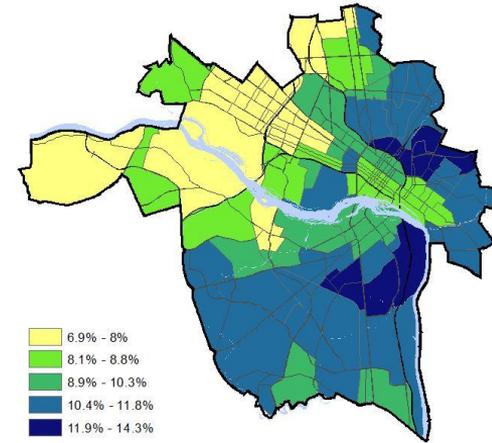


## Natural Environment, Neighborhoods, and Health

### Richmonders want safe, beautiful, and healthy neighborhoods

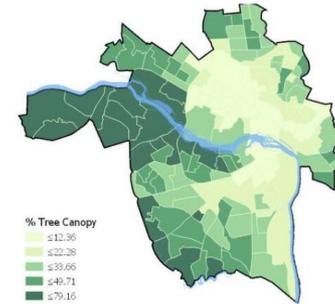
- Specific concerns included green space and parks access, physical and mental health, and flooding
- Due to historic and institutional racism, people of color are more likely to live in hotter neighborhoods where vulnerability to heat-related illnesses is higher

## Adults with Asthma 2016 American Community Survey



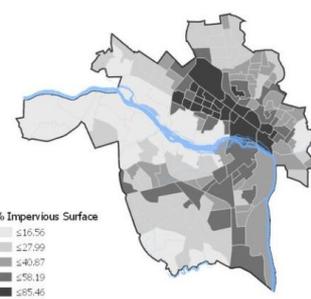
Areas Not Within 10-Minute Walk to a Park

Source: Trust for Public Land



Tree Canopy

Source: Jeremy Hoffman, Science Museum of Virginia



Impervious (Paved) Surface

Source: Jeremy Hoffman, Science Museum of Virginia