



Kansas City, Missouri

CLIMATE PROTECTION & RESILIENCY PLAN

September 2022



OUR COMMITMENT TO HONORING THE LAND & ANTI-RACIST PRACTICES



LAND ACKNOWLEDGEMENT

We acknowledge that Kansas City is located on the ancestral homelands of the Wahzhazhe (Osage), Kanza (Kaw), Jiwere (Otoe), and Nutachi (Missouria). We also acknowledge there are other Tribal Nations with ties to this land, including many removed here from their ancestral homelands. Despite being forced to cede all the land within the borders of the state and being prohibited from hunting or residing here, Indigenous People have an enduring relationship with this land. This land acknowledgment gives gratitude for the original caretakers and affirms the continuing relationship between Indigenous People and this land. Kansas City is committed to building reciprocity with the local native communities and seek their knowledge in climate mitigation and adaptation efforts. Through the KCMO Climate Protection and Resiliency Plan, we seek to work toward an equitable and resilient future as well as inspire Kansas City community members to honor and protect the land and resources.

ANTI-RACIST COMMITMENT

Kansas City recognizes the presence of inequity in and throughout our systems, both historically and currently. We acknowledge the ways in which many of our past plans and policies have impacted or contributed to racial segregation, discrimination, and oppression on Black, Indigenous, Latinx, and other historically marginalized communities. The climate crisis has only intensified these inequities, disproportionately impacting those facing systemic barriers toward living secure and healthy lives. This plan centers on equity because we believe that tackling systemic and institutional racism and climate change work in tandem. We trust that implementation can be used to generate bold ideas that lead to a more just and regenerative city.

CONTINUOUS ENGAGEMENT

We recognize that the COVID-19 crisis increased disparities in the community and affected some individuals' ability to engage in the development of this plan. Moving forward we are committed to continuous efforts to reach those we did not reach during this planning process.

MAYOR QUINTON LUCAS



Over the past 15 years, Kansas City has proudly enhanced our commitment to climate action, recognizing we are already experiencing dangerous climate change impacts like increased flooding and extreme heat. Throughout these years, we've made important progress such as reducing our greenhouse gas emissions by nearly 25% and working together with community partners to build more resilient systems. But we've also faced challenges – many of our neighbors are burdened by housing and utility costs, poor air quality, lack of mobility options, and food insecurity.

As we look forward to the next 20 years of climate action, there remains an urgency to act, to avoid the most damaging effects of climate change. Through the development of the Climate Protection and Resiliency Plan, we've learned the true power and solutions lie within our neighborhoods and community-based organizations. Kansas City is full of cultural diversity, passionate advocates, a skilled workforce, and caring neighbors – all of whom are necessary to addressing the causes and impacts of climate change in our community.

The Climate Protection and Resiliency Plan focuses on a framework built on ways our Kansas City community can work together to achieve our goal of a carbon-neutral, equity-focused, and resilient Kansas City by 2040. The plan is more than just a list of tactics to reduce greenhouse gas emissions; instead, it will serve as a bedrock of community-based climate action designed to prioritize and elevate our historically marginalized communities, centering equity every step of the way.

Thank you to the hundreds of community members who have already contributed to this planning process. Please know Kansas City is committed to building a sustainable community for the future, and I believe we can and will.

SPECIAL THANKS

Thank you to all of the Kansas City community members who contributed their time, creativity, and energy to this process. This plan was developed under the leadership of the following individuals who worked alongside the community to create a plan that reflects Kansas City neighborhoods.

KANSAS CITY COMMUNITY MEMBERS

Hundreds of community members who engaged in conversations, surveys, workshops, and open houses. For details on how engagement was done throughout the planning process, view the Engagement Summary in the [Supplemental Documentation](#).

KANSAS CITY LEADERSHIP

Mayor Quinton Lucas
Heather Hall, Councilwoman 1st District
Kevin O'Neill, Councilman 1st District-at-Large
Teresa Loar, Councilwoman 2nd District at-Large
Dan Fowler, Councilman 2nd District
Brandon Ellington, Councilman 3rd District at-Large
Melissa Robinson, Councilwoman 3rd District
Katheryn Shields, Councilwoman 4th District at-Large
Eric Bunch, Councilman 4th District
Lee Barnes, Jr., Councilman 5th District at-Large
Ryana Parks-Shaw, Councilwoman 5th District
Andrea Bough, Councilwoman 6th District at-Large
Kevin McManus, Mayor Pro Tem,
Councilman 6th District

CLIMATE PROTECTION STEERING COMMITTEE

Robin Ganahl, Co-Chair
Michael Kelley, Co-Chair
Angela Crawford
Ellen Fairchild
Thomas Grever
Bill Griffith
Shirley Mata
Bo Moreno
Beth Pauley
Kristin Riott
Bridget Sanderson

KANSAS CITY STAFF

Brian Platt, City Manager
Office of Environmental Quality

- Christopher Hays, Sustainability Analyst
- Lara Isch, Sustainability Manager
- Rachel O'Neal, Environmental Officer
- Andrew Savastino, Chief Environmental Officer
- Gerald Shechter, Sustainability Coordinator

City Communications Office

CONSULTANT TEAM



Idalia Cabrales, Project Intern
Lynn Coppedge, Planning Support
Judy Dorsey, Executive Project Manager
Angelica (Jellie) Duckworth, Climate Justice Worker
Justice Horn, Climate Justice Worker
Sarah Kaye, Technical Support
Katie Kershman, Graphic Design
Shelby Sommer, Planning and Engagement Lead
Becca Stock, Project Manager



Stephenie Smith, Equity Lead

A special thank you to Evergy and Spire Inc. for providing data to support our greenhouse gas inventory update.





EXECUTIVE SUMMARY

ABOUT OUR PLAN

The Kansas City Climate Protection and Resiliency Plan is an equity-centered roadmap to help our community achieve our greenhouse gas emission reduction goals of climate neutrality for city operations by 2030 and citywide by 2040 and adapt to flooding, extreme heat, and other climate change impacts we are already facing.

We understand that climate change does not impact everyone equally. Marginalized communities facing systemic racism, especially those affected by intersectional issues such as (but not limited to) households with lower income levels, peoples with disabilities, senior citizens, young children, people facing homelessness, formerly incarcerated citizens, and refugees, are often the most severely impacted and the least responsible for it. Because of this reality, we committed to an equitable planning process, letting proximity guide our understanding of the challenges our neighborhoods face and identifying solutions that reflect our community's priorities and assets. With the help of our Climate Justice Workers, we met people where they were, often engaging in one-on-one or group conversations and focusing on those who represent community members disproportionately impacted by climate change

This plan builds on the 2021 [KC Regional Climate Action Plan](#) by zooming in and developing climate action strategies based on the different realities in the Northland, Central Kansas City, and South Kansas City. Each strategy was evaluated to understand its greenhouse gas (GHG) emission reduction potential, resiliency benefits, and other community co-benefits: economic recovery, carbon sequestration, health and wellness, and environmental justice. To ensure this plan remains off the shelf and in action, we've identified detailed action plans for strategies that we'll implement through 2025. We invite community members to help implement this plan and reach the plan vision.



*Equity Guiding Principles from
Bryan Stevenson, Equal Justice Initiative*

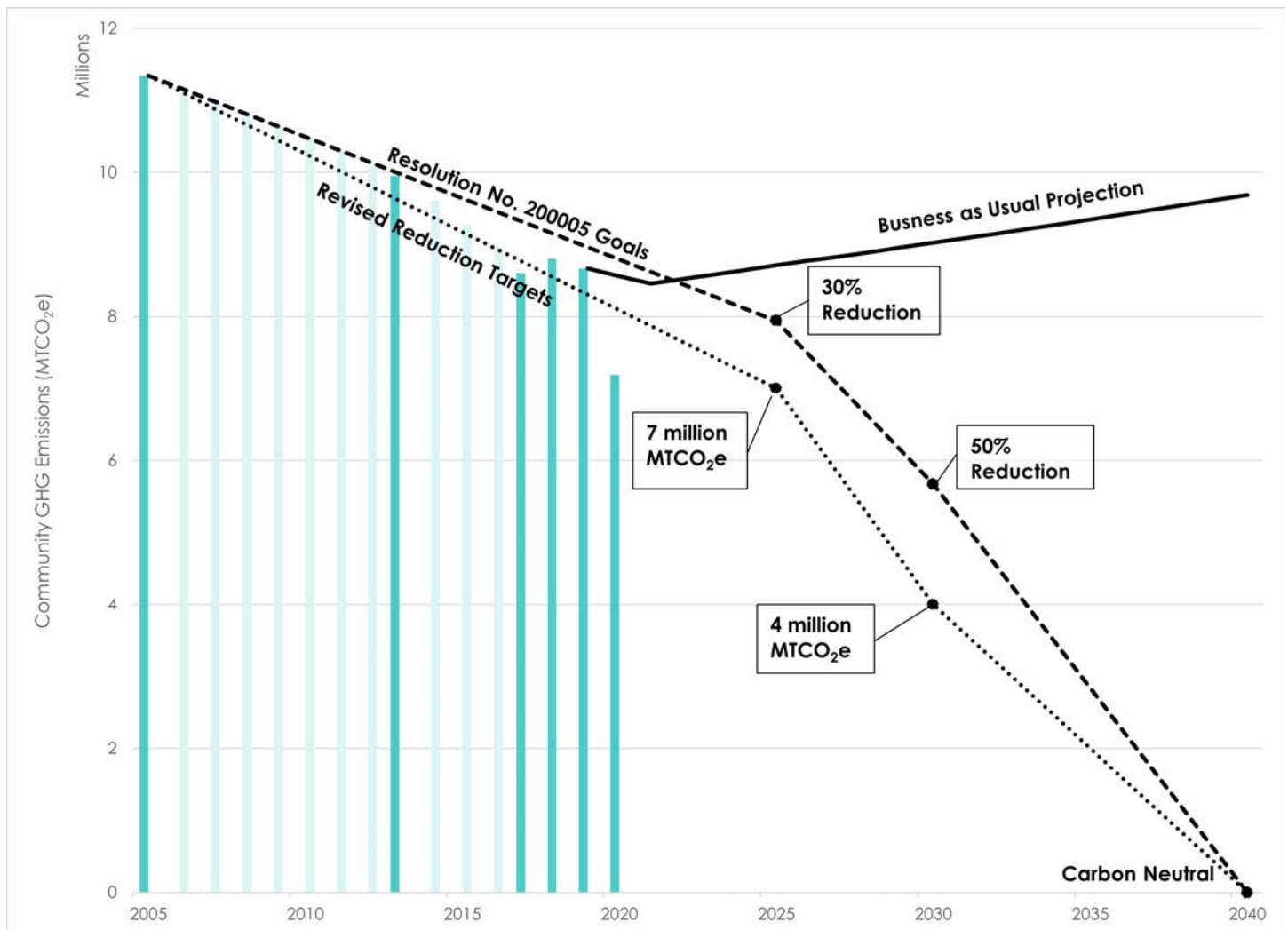
OUR CITY'S VISION

A CARBON-NEUTRAL, EQUITY-FOCUSED, AND
RESILIENT KANSAS CITY BY 2040.

OUR GREENHOUSE GAS EMISSIONS

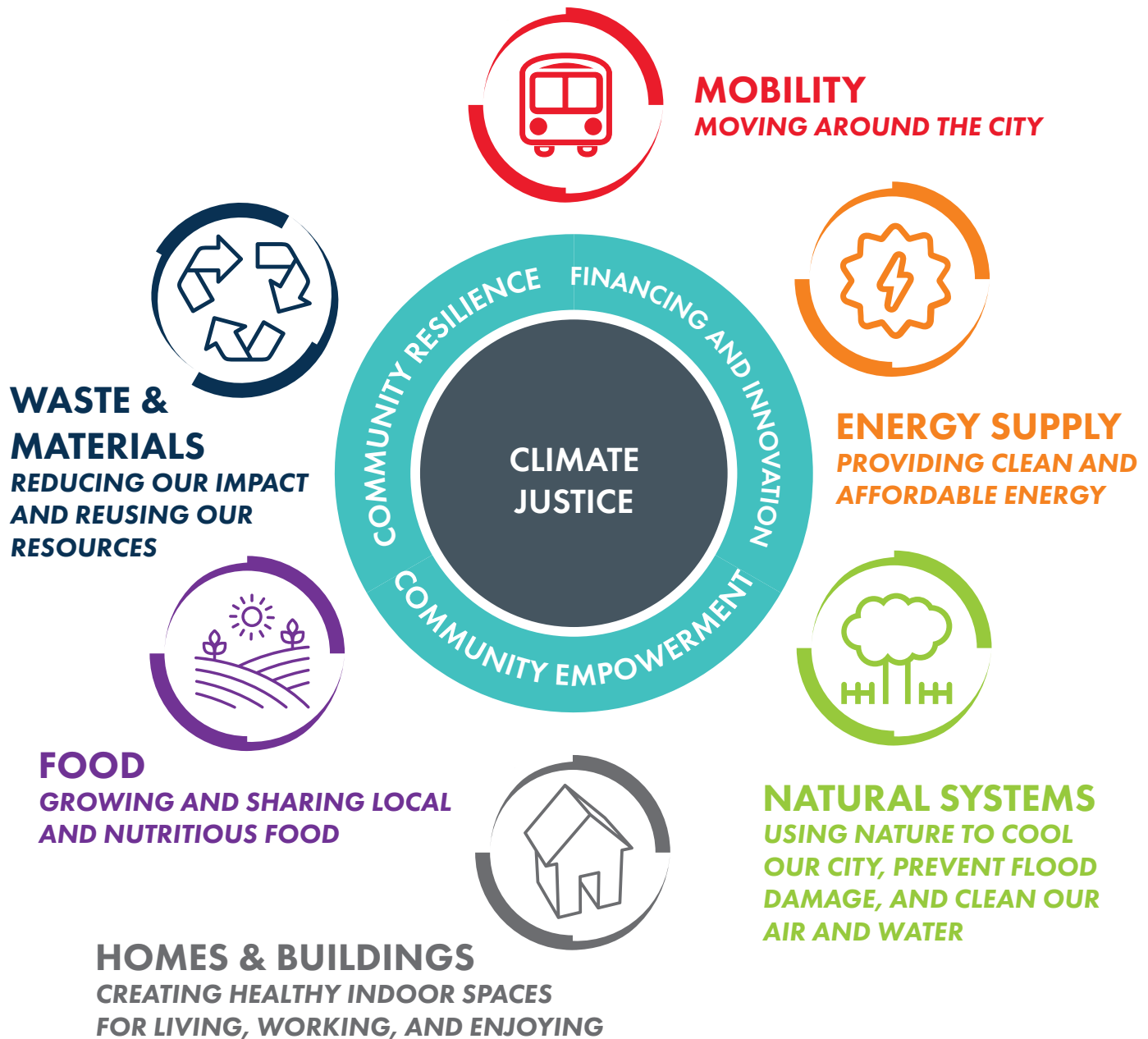


In our community, most GHG emissions come from burning fossil fuels to generate electricity, heat and power our homes and businesses, or fuel our vehicles. Looking ahead to 2040, GHG emissions are expected to rise if no changes are made in the community, as energy use per household and energy use per GDP has remained relatively unchanged over the last 15 years. This projection is shown in the figure below along with the goals outlined in Resolution No. 200005 and the revised goals established through this process.



OUR CLIMATE ACTION SECTIONS AND STRATEGIES

To achieve our vision, we identified strategies across the following six Climate Action Sections, with climate justice at the heart, and community resilience, financing and innovation, and community empowerment woven throughout.



Student Engagement

Throughout the plan you will find links to videos created by 9th grade biology students at LEAD Innovation Studio. In these videos students share recommendations on strategies to reduce carbon emissions in Kansas City by Action Area. Special thanks to all the students who participated and provided their ideas to create a carbon-neutral, equity-focused, and resilient Kansas City.

CLIMATE ACTION SECTIONS AND STRATEGIES



MOBILITY

M-1: Reduce vehicle miles traveled (VMT) through coordinated and planned development

M-2: Shift trips to bicycling and walking by expanding a network of safe and accessible routes

M-3: Shift trips to transit by building efficient and effective transit systems and mobility hubs

M-4: Reduce vehicle emissions from idling by reducing congestion and improving parking management

M-5: Reduce vehicle emissions through low- and no-emission vehicles



Watch this video and more student recommendations for the climate plan at youtu.be/NtE_eLdVvlo.



ENERGY SUPPLY

E-1: Transition energy grid mix to renewable energy

E-2: Expand neighborhood, commercial, and municipal renewable energy generation

E-3: Improve grid stability and resilience

E-4: Purchase utility-scale renewable energy



Watch this video and more student recommendations for the climate plan at youtu.be/W3GYk9msQvI.



NATURAL SYSTEMS

N-1: Expand network of trees and natural areas

N-2: Promote regenerative, ecologically healthy soils and landscapes

N-3: Sustainable water supply and use

N-4: Use natural systems to manage stormwater runoff



Watch this video and more student recommendations for the climate plan at youtu.be/JzzPXonjhbl.

CLIMATE ACTION SECTIONS AND STRATEGIES



HOMES & BUILDINGS

- B-1: Increase building efficiency and health for commercial and public buildings**
- B-2: Improve the efficiency, affordability, and durability of homes**
- B-3: Ensure climate-ready, efficient construction**
- B-4: Promote equitable building decarbonization**

Home and Building Pollutions and Solutions

Adrienne Fuentes, Larry Wilson, Lily Tsukioka, Marcus Sloan, and Yadon Netherland

Watch this video and more student recommendations for the climate plan at youtu.be/4bxBw9uZC2M.



FOOD

- F-1: Increase production of local food**
- F-2: Improve healthy and sustainable food access**

Greenhouse Gas Emission in the Food industry

Syd, Alyssa, Aidan and Hannah



Watch this video and more student recommendations for the climate plan at youtu.be/mf9JmeA2oSk.



WASTE & MATERIALS

- W-1: Divert Waste from Landfills and Reduce Illegal Dumping**
- W-2: Divert organic waste from the landfill through composting**
- W-3: Reduce waste and embodied carbon by expanding the reuse and repair economy**

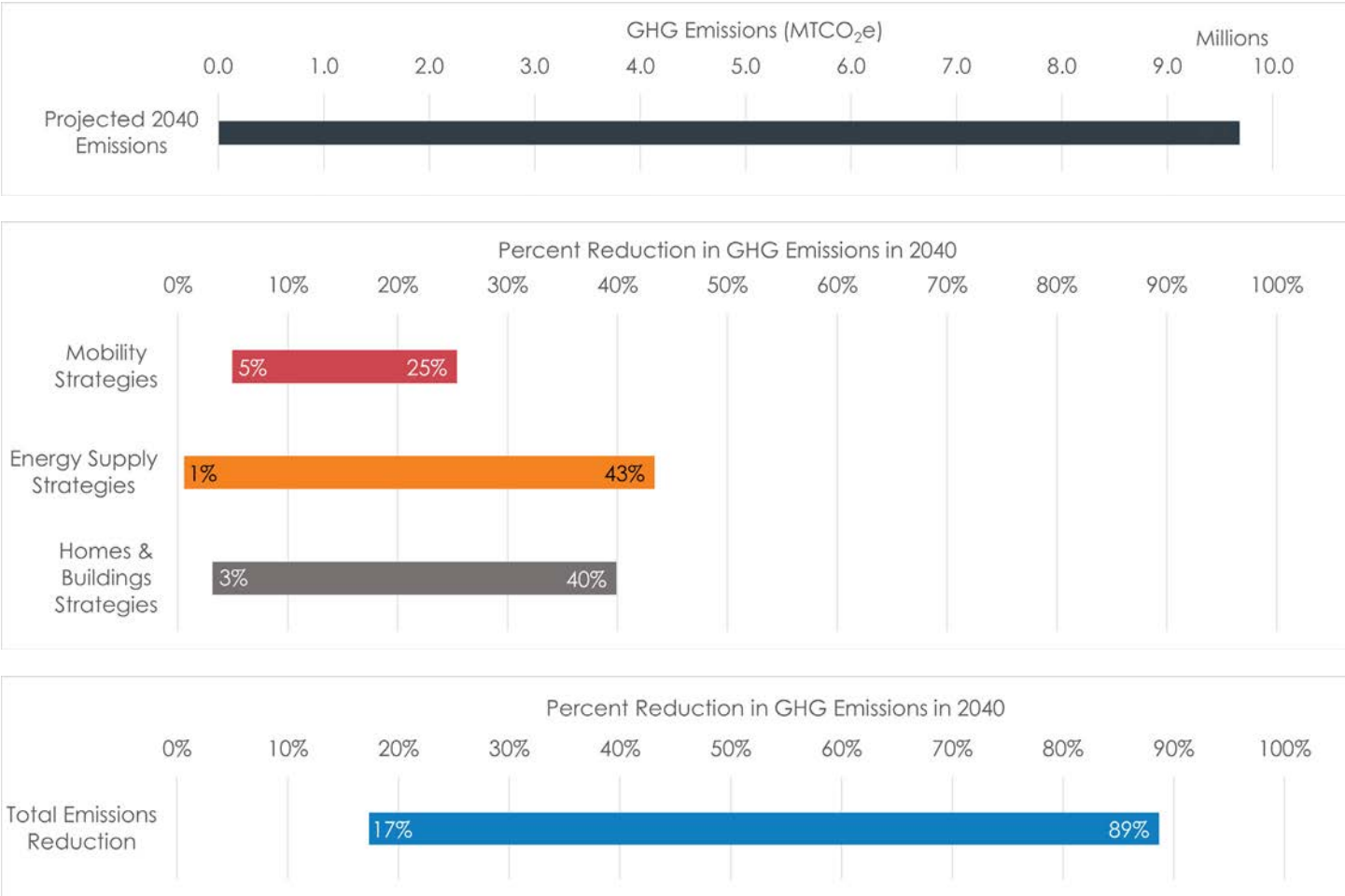
Waste Recommendation

By: Janae S. Sophie B. Erik M. Desi N.

Watch this video and more student recommendations for the climate plan at youtu.be/wzPOSflZxk4.

CARBON-NEUTRAL PATHWAY

Key strategies in our Energy Supply, Homes & Buildings, and Mobility sections put us on a path to achieve our vision of carbon neutrality. The impact of these strategies range based on the level of effort, emphasizing the need for all of our community members and partners to work together. Even with the combined strategies, there is a gap of about 11 percent between the identified emissions reduction and the goal of carbon neutral by 2040. This gap is mainly comprised of larger on-road vehicle emissions and the difficulty of electrifying building systems. To reach our goal, we will fill this gap by investments in local carbon dioxide removal through land use, biofuels, or direct carbon capture and/or other advances in technology.



Carbon Sequestration Opportunities in Kansas City

Carbon sequestration refers to any process that takes carbon from the atmosphere and traps it in the soil, plants, or rock formations. This process is an important part of combating climate change by both removing carbon that has already been emitted and removing future emissions.

Strategies contributing to this process of carbon sequestration can help us achieve our carbon-neutrality goals even faster, and are found in our Natural Systems, Food, and Waste & Materials sections, including preserving and enhancing our urban tree canopy, restoring our riparian zones, and supplementing our soil through urban farming and composting practices. Together these opportunities can close the gap that remains after implementing all of the greenhouse gas emission reduction strategies identified in this plan.

Based on the ranges of potential emissions reductions, the more aggressive emissions reduction targets were set to keep the city on track to meet the 2040 goal of carbon neutrality by 2040:

- Reduce emissions to 7 million MTCO₂e by 2025
- Reduce emissions to 4 million MTCO₂e by 2030
- Stretch goal of Zero Carbon by 2040

Strategy Name	Target Emissions Reductions from Business as Usual Forecast in Metric Tons of Carbon Dioxide (MTCO ₂ e)					
	2025		2030		2040	
B-1: Increase building efficiency and health for commercial and public buildings	411,500	5%	770,000	9%	1,506,700	16%
B-2: Improve the efficiency, affordability, and durability of homes	256,800	3%	479,900	5%	951,200	10%
B-3: Ensure climate-ready, efficient construction	77,700	1%	96,200	1%	183,600	2%
B-4: Transition building systems to use clean, reliable electricity	100,000	1%	441,900	5%	611,000	6%
E-1: Increase the percentage of renewable energy in the utility grid mix	674,300	8%	1,230,800	14%	2,489,300	25%
E-2: Expand neighborhood and commercial renewable energy generation	44,900	1%	83,900	1%	144,700	2%
E-3: Improve grid stability and resilience.	N/A any carbon impacts from microgrids are captured in E-2					
E-4: Purchase Utility-Scale Renewable Energy	0	0%	1,846,100	20%	0	0%
M-1: Reduce vehicle miles traveled (VMT) through coordinated and planned development	204,500	2%	409,000	5%	818,000	8%
M-2: Shift trips to bicycling and walking by expanding a network of safe and accessible routes	183,300	2%	366,700	4%	733,300	8%
M-3: Shift trips to transit by building convenient transit systems and mobility hubs	28,300	0%	53,500	1%	106,900	1%
M-4: Reduce vehicle emissions from idling by reducing congestion and improving parking management	79,100	1%	158,300	2%	316,500	3%
M-5: Reduce vehicle emissions through low- and no-emission vehicles	292,100	3%	502,000	6%	696,200	7%
Total Emissions Reduction from BAU	2,352,500	27%	6,438,300	71%	8,557,400	88%
Remaining GHG Emissions	6,357,200		2,583,300		1,129,000	

Over forty actions have been identified in the Implementation Plan for immediate (2022) action. The Climate Protection Steering Committee (CPSC) has identified the following as the top priorities for implementation and budget requests for the 2023 budget cycle.

Top Priorities for Immediate (or Continued) Action in 2022

- Participate in energy decisions at the Public Service Commission (PSC).
- Accelerate build out of sidewalks, Complete Streets, and protected bike lanes. (M2.1, M2.2, M2.3)
- Support increasing bus frequency and worker benefits.
- Join the Midwest Building Decarbonization Coalition and establish a City-run Equitable Building Decarbonization program. (B4)
- Shift City purchases away from gas-powered equipment, appliances, and vehicles to all-electric.
- Adopt 2021 IECC building efficiency code with strengthening amendments to make homes and buildings EV, solar, and electric appliance ready.
- Include rent control and clean energy in state legislative priorities.
- Protect and expand natural ecosystems.
- Establish Environmental Justice Advisory Committee.

Top Budget Requests for Calendar Year 2023 (Fiscal Year 2023-24)

- Advocate at PSC. (E1.4, E4.3, E1.2, B4)
- Invest in safe bike and pedestrian infrastructure, including end of trip facilities. (M2.3)
- Establish a City-run Equitable Building Decarbonization program. (B4)
- Build City-owned solar on city facilities, land and parking lots. (E4)
- Create centralized, online resources for residents and businesses. (E2.5, B2.2)
- Increase energy efficiency in municipal buildings. (B1.4)
- Require energy disclosures. (B2.4)
- Electrify new City buildings & transition existing City buildings. (B4.1)
- Green infrastructure. (M1.2)
- Expand network of trees and natural areas. (N4)
- Prevention of illegal dumping. (W1.2)
- Expand community waste disposal, composting and recycling. (W1.6)
- Expand local food production & soil regeneration. (F1.2,3)

Once established, the Environmental Justice Advisory Committee will set these priorities annually to ensure the communities most impacted lead implementation. For more information about the teams designated to lead implementation, see the Short-term [Implementation Plan](#).

CLIMATE RESILIENCY STRATEGIES

The Homes & Buildings, Natural Systems, and Food sections include the majority of our strategies that build resilience to extreme heat, flooding, and other climate risks such as drought, severe thunderstorms, tornado, and severe winter weather as identified by the vulnerability analysis. For more details, see the Climate Risk and Vulnerability Assessment in the [Supplemental Documentation](#).

 Builds Resilience to Extreme Heat	 Builds Resilience to Flooding	 Builds Resilience to Other Climate Change Impacts
---	---	---



MOBILITY

M-1: Reduce vehicle miles traveled (VMT) through coordinated and planned development



ENERGY SUPPLY

E-1: Transition energy grid mix to renewable energy



E-2: Expand neighborhood, commercial, and municipal renewable energy generation



E-3: Improve grid stability and resilience



NATURAL SYSTEMS

N-1: Expand network of trees and natural areas



N-2: Promote regenerative, ecologically healthy soils and landscapes



N-3: Sustainable water supply and use



N-4: Use natural systems to manage stormwater runoff



HOMES & BUILDINGS

B-1: Increase building efficiency and health for commercial and public buildings



B-2: Improve the efficiency, affordability, and durability of homes



B-3: Ensure climate-ready, efficient construction



B-4: Promote equitable building decarbonization



FOOD

F-1: Increase production of local food



F-2: Improve healthy and sustainable food access



OUR EQUITABLE FUTURE

The final and most important part of our vision is an equitable Kansas City. We've developed commitments for how we will approach each Climate Action Section with an equity focus. These commitments, which we call "Our Equitable Future", are rooted in community input and require everyone's participation to fulfill this vision and keep each other accountable as we implement the plan.

MOBILITY

Our mobility system will promote climate justice by enabling residents, regardless of ability, to move safely, freely, and independently. This includes increasing walkable, bikeable, and safe transit routes that support people with diverse abilities throughout Kansas City, and making electric transportation modes more accessible to everyone.

ENERGY SUPPLY

Our energy supply will promote climate justice by reducing our community's energy burden (the percentage of household annual income spent on electricity and natural gas utility costs), transitioning to clean energy, eliminating pollution most often impacting historically redlined and other frontline communities, and improving energy reliability, so everyone can live more securely as we move forward in our just, clean energy transition.

NATURAL SYSTEMS

Our natural systems will promote climate justice by reintegrating diverse, native ecosystems into all of our neighborhoods, especially in soil deficient, abandoned, and blighted areas, ridding unjust and unsustainable land practices, and by encouraging city-wide environmental stewardship to reduce flooding, increase water retention, reduce heat islands, repair the soil, improve air quality, and increase the overall wellbeing for our communities and our biome.

HOMES & BUILDINGS

Our homes and buildings will promote climate justice by reducing housing burden (the percentage of household annual income spent on rent or mortgage), addressing the housing crisis, and enabling people to have more agency over where they live and the conditions in which they live. This includes prioritizing the safety and stability of people facing homelessness, restoring older and abandoned homes, improving indoor air quality and other unsafe indoor health and living conditions, and investing in the infrastructure needed to advance energy efficiency and building decarbonization in affordable and multifamily housing for renters and low-income homeowners.

FOOD

Our food system will promote climate justice by prioritizing areas experiencing food apartheid (food deserts) in low-income and historically redlined communities, providing all our neighborhoods with access to fresh, healthy, and affordable food options, and support pathways towards self-sufficiency. This includes increasing the opportunities to participate in and reap the benefits of urban agriculture and home gardening, advancing native permaculture practices, integrating natural system and indigenous strategies, reducing the barriers to self-reliance, and supporting a circular food economy.



WASTE & MATERIALS

Our waste and materials system will promote climate justice by keeping our environment healthy, clean, and safe for our next generation. This includes addressing illegal dumping, expanding access to composting, and supporting a zero-waste, circular economy.

AREA PRIORITIES

We recognize that priorities vary from neighborhood to neighborhood. To reflect this reality, we've developed mini plans, referred to as "Area Summaries" for the Northland, Central Kansas City, and South Kansas City. These summaries include:

1. Highlights of how the community was engaged during the planning process

- » An in-person workshop was held in each area, along with a virtual option.
- » All residents were invited to contribute through online surveys, maps, and discussion boards.

2. The top climate risks and vulnerabilities in comparison to the other areas

- » While all areas are similarly exposed to flooding risks, Central Kansas City has the greatest exposure to urban heat island effects and has the highest socioeconomic stress, making it more difficult to adapt to climate impacts.

3. Priority climate action strategies and specific examples of how those strategies should be implemented

- » The Northland highlighted the need for sustainable and resilient neighborhoods with rooftop solar, native landscaping, and community gardens that bring people together.
- » Central Kansas City emphasized healthy, local food strategies and ways to use vacant lots for urban agriculture, green infrastructure, and other climate projects.
- » South Kansas City identified areas for bicycle and pedestrian improvements and ways to ensure new development is sustainable and resilient.

CALL TO ACTION

This plan is a framework that is intended to reflect the voice of our community, and be used as a tool for shaping policy, improving programming, and guiding partnerships. To fully utilize this plan and achieve our goals as quickly as possible, we must work together and empower our community members to play an active role. Kansas City neighborhoods are full of the skills and strength needed to implement our strategies and realize co-benefits like economic recovery and environmental justice. Through implementation tools like land banks and green jobs training, we can realize this potential and engage more and more of our neighbors in climate action.

During implementation, we will be collaborating with the community-based organizations and nonprofit organizations that serve historically marginalized populations, asking them to be a voice for their communities. We recognize that collective capacity building is the key to ensuring this plan has impact and that we will need to work to build relationships with those we've engaged through the planning process, and with those we have not yet reached.



TABLE OF CONTENTS

INTRODUCTION	1
WHERE WE ARE NOW	9
OUR CLIMATE ACTION VISION	17
 MOBILITY	33
 ENERGY SUPPLY	41
 NATURAL SYSTEMS	49
 HOMES & BUILDINGS	57
 FOOD	65
 WASTE & MATERIALS	71
CALL TO ACTION	77
GLOSSARY	83
WORKS CITED	85
APPENDIX: AREA SUMMARIES	89
NORTHLAND KANSAS CITY	90
CENTRAL KANSAS CITY	98
SOUTH KANSAS CITY	108
SUPPLEMENTAL DOCUMENTATION	119



INTRODUCTION

The climate crisis is here, affecting every inhabited region across the globe. Glaciers have shrunk, sea levels are rising, plant and animal ranges have shifted, and trees are flowering sooner. Many of these changes are irreversible for centuries, especially changes in the ocean, ice sheets, and global sea level.

With every additional amount of global warming, these changes will intensify. Unless there are immediate, rapid, and large-scale reductions in greenhouse gas (GHG) emissions, populations around the world will continue to experience increasing frequency and intensity of heat waves, heavy rainfall, droughts, tropical cyclones, and fires. (IPCC, 2021).

Kansas City is already experiencing climate change through hotter temperatures, drought, and flooding. As global temperatures increase, our community will likely continue to see more frequent and intense heat waves, more severe flooding, increased air pollutants and diseases, and more people displaced from their homes because of these disasters.

“

We are seeing more precipitation in shorter durations and this is affecting the basements of buildings around the City. My own basement backed up and we had sewage over 4" high in our basement.

– Dominique,
Community Member

”

“

Urban neighborhoods are 10 - 20 degrees hotter due to all of the concrete and asphalt. Underserved neighborhoods do not have the same amount of tree cover you see on Rockhill Road and Ward Parkway.

– Imani, Community Member

”



Climate change does not impact everyone equally. Marginalized communities facing systemic racism, especially those affected by intersectional issues such as (but not limited to) households with lower income levels, peoples with disabilities, senior citizens, young children, people facing homelessness, formerly incarcerated citizens, and refugees, are often the most severely impacted and the least responsible for it.

Exposure

Those who live or work in high-risk areas are most exposed to the negative impacts of climate change. For example, on high-heat or poor air quality days, outdoor workers may experience significant exposure. Those who live in flood plains are at risk for flooding damage. Many live or work in these areas because they cannot afford to move or have been shut out of more desirable neighborhoods and jobs.

Susceptibility

Even if everyone experienced the same levels of exposure, some may experience climate change more severely. For example, older adults are already likely to suffer from chronic illnesses that may be intensified by heat. Households with lower incomes may be more affected by flood damage because all of their assets are located in their home.

Recovery

Once disaster strikes, the lack of ability to recover further intensifies these inequalities. For example, refugees may not have the same access to public resources or community networks. Recovery may also be influenced by discrimination. Historically, many public recovery resources have been targeted toward wealthier, white neighborhoods, forcing households with lower incomes and communities of color to move, or be disadvantaged as they work to recover (Islam & Winkel, 2017).

Each of these drivers works independently and often build on one another, creating a vicious cycle of inequality. It is important to note that climate change is not responsible for inequities but can worsen existing inequities that are often shaped by racism. This plan calls for equitable climate action that addresses racism and empowers Kansas City neighborhoods to shape and lead our climate future.



HISTORY OF CLIMATE ACTION IN KANSAS CITY

We aren't starting from scratch. In 2008, Kansas City adopted the Climate Protection Plan, which set a goal to reduce GHG emissions by 30% below 2000 levels by 2020. The plan recommended emission reduction strategies in the areas of energy, transportation, carbon offsets, waste management, policy, and outreach. Since, Kansas City municipal operations have exceeded that goal - achieving about a 40% reduction in 2017 and a citywide emissions decrease of 21%. These reductions are the result of work led by City staff, community partners, and our neighborhoods. To learn more about the existing momentum on climate action in Kansas City, explore the "Where We Stand" section in each of the Our Climate Action Sections.

Regionally, the Mid-American Regional Council and its partners formed [Climate Action KC \(CAKC\)](#), a compact of elected officials and community leaders, with support of the [Global Covenant of Mayors](#), to collaborate on GHG emission reduction and resilience. CAKC developed the [Climate Action Playbook](#) in 2019, providing local governments a list of actions and policies they could use to reduce GHG emissions. Using the playbook as a resource, CAKC completed the [KC Regional Climate Action Plan](#) in 2021 with an ambitious set of strategies to help reduce GHG emissions and adapt to and recover strongly from climate change risks and impacts. This regional coordination points to the greater impact that can occur as the 123 cities and 10 counties served by the plan implement their own climate action initiatives.

Bolder action is required. Despite these successful efforts, the global threat of climate change continues to intensify, calling for more immediate, rapid, and aggressive climate action. In 2020, Kansas City's City Council passed [Resolution No. 200005](#), directing staff to update the Climate Protection Plan to accelerate GHG emission reductions, and to elevate the importance of resiliency and equity. The resolution helped launch the planning process for this Climate Protection and Resiliency Plan, and Kansas City's journey toward a carbon neutral, equity-focused, and resilient future.

2006

- City Council ordinance establishing the climate planning process

2008

- Climate Protection Plan with first Greenhouse Gas Inventory

2013

- Greenhouse Gas Inventory Update

2017

- Greenhouse Gas Inventory Update

2019

- Greenhouse Gas Inventory Update

2020

- City Council Resolution directing an update to the Climate Protection Plan with new GHG, resiliency, and equity goals

2021

- Kansas City Regional Climate Action Plan

2022

- CLIMATE PROTECTION & RESILIENCY PLAN

2040

- A carbon-neutral, equity-focused, and resilient Kansas City

KEY GOALS FROM RESOLUTION NO. 20005

Reaffirm that **climate action** should be a **key factor** in **all City decisions**.

Achieve **carbon neutrality** for municipal operations by **2030**.

Achieve **carbon neutrality** citywide by **2040**.

Develop plans to accomplish these goals through a **transparent and inclusive stakeholder process**.

Work collaboratively with key stakeholders to **develop strategies** to achieve these **new targets**.



The Front Porch Alliance is one of Kansas City's many climate leaders focusing on environmental stewardship from a historical and social justice lens. In their Food Sovereignty Youth Group, students are learning how to create and maintain self-sustaining food systems while exploring the roots of urban food deserts— recognizing that race and redlining have interrupted their neighborhood's agency and ability to attain resources that support their security and wellbeing. – *From the Community*

A Note from Kansas City's Climate Justice Workers

"Our role as Climate Justice Workers was to listen, center, and empower the many people who call our community home here in the Kansas City Region. We ensured that all those who call Kansas City home were centered in this process, especially our frontline communities. We wanted to also make it clear from the very beginning that we are not experts in the community, but rather our role is to make sure we are bringing the community to the table by listening, centering, and empowering them. We can only combat the Climate Crisis and bring about Climate Justice to our community when we are moving as one. After engaging with the many people here in our community and ensuring this is their plan, we feel we can move forward as a collective to usher in a more just community."

– Justice Horn

"Engaging historically marginalized and disenfranchised communities is a critical and foundational element in the process of developing just policies. Specifically, proximity to the lived experiences of those most burdened by, but least responsible for, climate change is paramount to not only developing our collective empathy and cultural humility, but also ensuring vulnerable communities reap the benefits of these very programs and policies. Establishing integral relationships require holding space where diverse opinions can be debated healthily and where those most burdened by socioeconomic and climate inequities have the platform to speak and lead on the solutions they would like to see. This is about working cooperatively to cultivate safe neighborhoods where we thrive and that we all want to live in. My work as a climate justice worker reassured me that I could never be an expert, that I cannot touch every community, and that building trust is more important than making promises I cannot keep. The root of this work is about healing; healing democracy, Mother Earth, and each other. " – Angelica (Jellie) Duckworth



Student Engagement

Throughout the plan you will find links to videos created by 9th grade biology students at LEAD Innovation Studio. In these videos students share recommendations on strategies to reduce carbon emissions in Kansas City by Action Area. Special thanks to all the students who participated and provided their ideas to create a carbon-neutral, equity-focused, and resilient Kansas City.

Natural Systems; How We Can Strategize Their Protection

Watch this video and more student recommendations for the climate plan at youtu.be/Ada_v1DrBLA.

CHANGING THE NARRATIVE: EQUITY-CENTERED PLANNING

Kansas City is committed to equity and climate justice, which means we must acknowledge the systemic racism and other forms of discrimination that have conditioned many frontline communities to be vulnerable to socioeconomic and climate inequities. This is a commitment to eliminating the barriers that prevent our communities from living in safe, dignified, and healthy neighborhoods. Working in tandem with this commitment is the responsibility to change the narrative to one that genuinely reflects the lived experiences of marginalized communities by distributing leadership and incorporating their wisdom into local policies. Kansas City’s intentions are to bridge communities by acknowledging that prioritization does not mean exclusion because an effective, equitable climate plan requires all of us to work together.

We gained this understanding by including three distinct, equity-focused features in our planning process

- 1. Equity Guiding Principles:** Using the work done by Bryan Stevenson’s Equal Justice Initiative, major planning meetings and workshops began by walking through seven equity guiding principles (see Figure 1). These helped participants pause and reframe their approach toward community engagement, solutions development and prioritization, and action planning.
- 2. Climate Justice Workers:** Two Kansas City local community advocates were hired as Climate Justice Workers for the planning process. These individuals were tasked with supporting meaningful and equitable community engagement by meeting people where they are and facilitating conversations around the socioeconomic and environmental inequities faced by groups that experience the first and worst consequences of climate change, referred to as frontline communities. Their outreach was focused on frontline communities and target areas informed by climate risk and vulnerability mapping and data. For more information about this analysis see [Supplemental Documentation](#) Climate Risk and Vulnerability Assessment.
- 3. Neighborhood-Level Engagement:** Kansas City is a diverse community with varying priorities, skills, and challenges. To better address these differences, engagement was spread across the city and results were cataloged by City Council District or by area (Northland, Central Kansas City, South Kansas City). This plan reflects the priorities heard by these specific areas and the Appendix: Area Summaries describes each area’s risks, vulnerabilities, and priority climate action strategies.



FIGURE 1: Equity Guiding Principles from Bryan Stevenson, Equal Justice Initiative

Using this equity-focused approach, engagement was designed to listen to community members' lived experiences and to tap into local technical expertise. The combination resulted in this plan which provides realistic, impactful solutions that are specific to the Kansas City community and leverage equity as a conduit for climate justice. For details on how engagement was done throughout the planning process, view the Engagement Summary in the [Supplemental Documentation](#).

“

We can have a net-zero world
and still destroy the planet.

– Jacob Canopy, Community Member

We see this as a warning for how fossil fuels
continue to destroy our ecosystem, and a wake-
up call for what is at stake if we do not work
together to achieve a carbon-neutral future.

”

ENGAGEMENT HIGHLIGHTS



**60,000+ total website and
social media impressions**



**150 online survey
respondents**



**728 public
comments recorded**



**29 stories shared
on the project website**



**500+ hours of facilitated
community conversations**



**6 public workshops with
90+ participants**

What Did We Learn Through This Engagement Process?

Our Climate Justice Workers and our equity consultant, Sophic Solutions, reflected on this equity-centered engagement process to inform future outreach and engagement. Below are a few highlights; you can read more in the Engagement Summary in the [Supplemental Documentation](#).

- We learned that we cannot effectively do this work without our neighbors.
- We learned that the role of Climate Justice Workers was to serve as facilitators of conversations. We are merely a conduit for our neighbors and their needs throughout this plan. Our role was not to be a mouthpiece for the community, but a supporting role for the many community members who raised their voices to ensure that this plan was theirs.
- We learned that community engagement takes genuine time to listen and build trust so that those most marginalized in the process feel comfortable sharing their experiences.
- We learned that education and information about climate change is an important and ongoing need, and that seeking and sharing personal stories and experiences is an effective way to connect and learn.



INDULGE

THE DUBLINER

Irish Pub

Grand 200 E BLVD

WELCOME
TO
DUBLIN
CHULORON

WHERE WE ARE NOW: OUR GREENHOUSE GAS EMISSIONS AND CLIMATE VULNERABILITIES



GREENHOUSE GAS (GHG) EMISSIONS

In our community, most GHG emissions come from burning fossil fuels to generate electricity, heat and power our homes and businesses, or fuel our vehicles. During the planning process, we reviewed Kansas City’s current and historical GHG emissions to help develop strategies to eliminate these emissions. Using 2005 as the baseline, in line with the Paris Climate Accords, we have reduced our GHG emissions by 24 percent and are well on our way to meeting our goal of a 25 percent reduction by 2025 (Figure 2). These significant emissions reductions have resulted from more renewable energy and cleaner fuel used to generate electricity, as well as reduced emissions from industry.

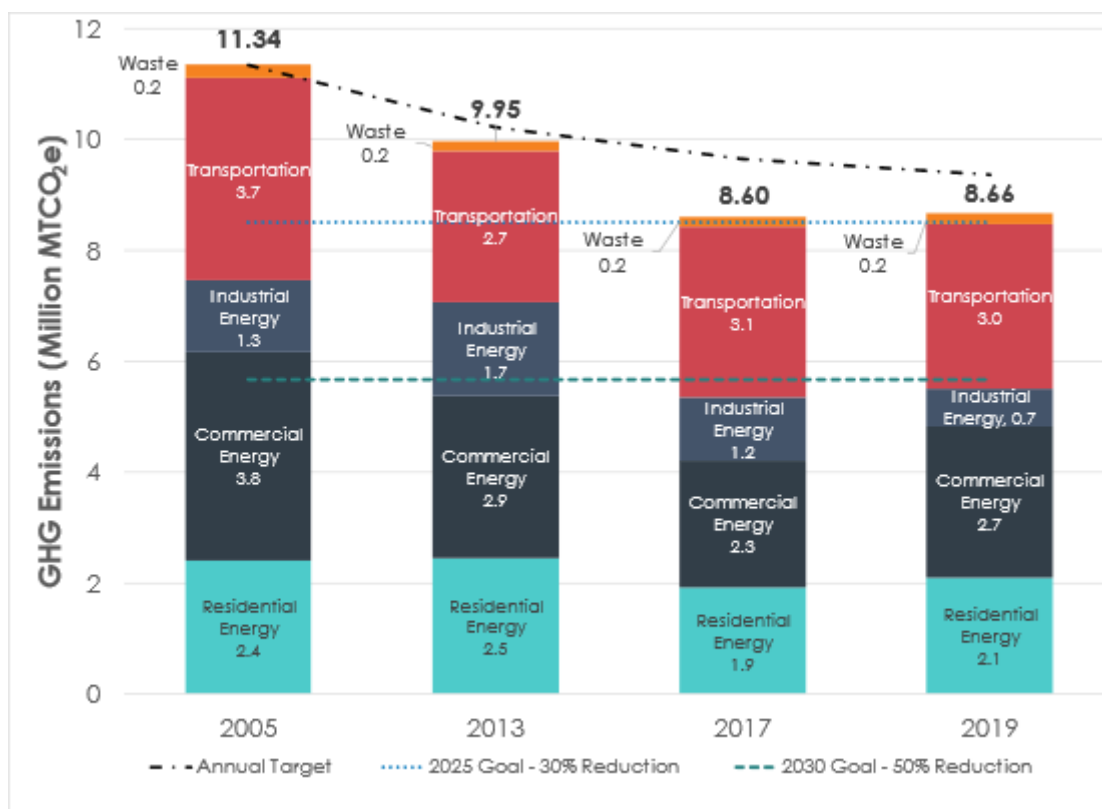


FIGURE 2: Historical GHG Emissions as Compared to Goals

For this analysis, 2019 was chosen to represent current community GHG emissions, as community stay-at-home orders and travel restrictions due to COVID-19 significantly impacted GHG emissions in 2020. For example, GHG emissions from on-road transportation decreased by 28 percent between 2019 and 2020. While this is likely not a permanent change in emissions, it shows the potential impact of increasing opportunities to work from home.

To better inform mitigation strategies, total GHG emissions in 2019 was broken out by fuel type as shown in Figure 3.

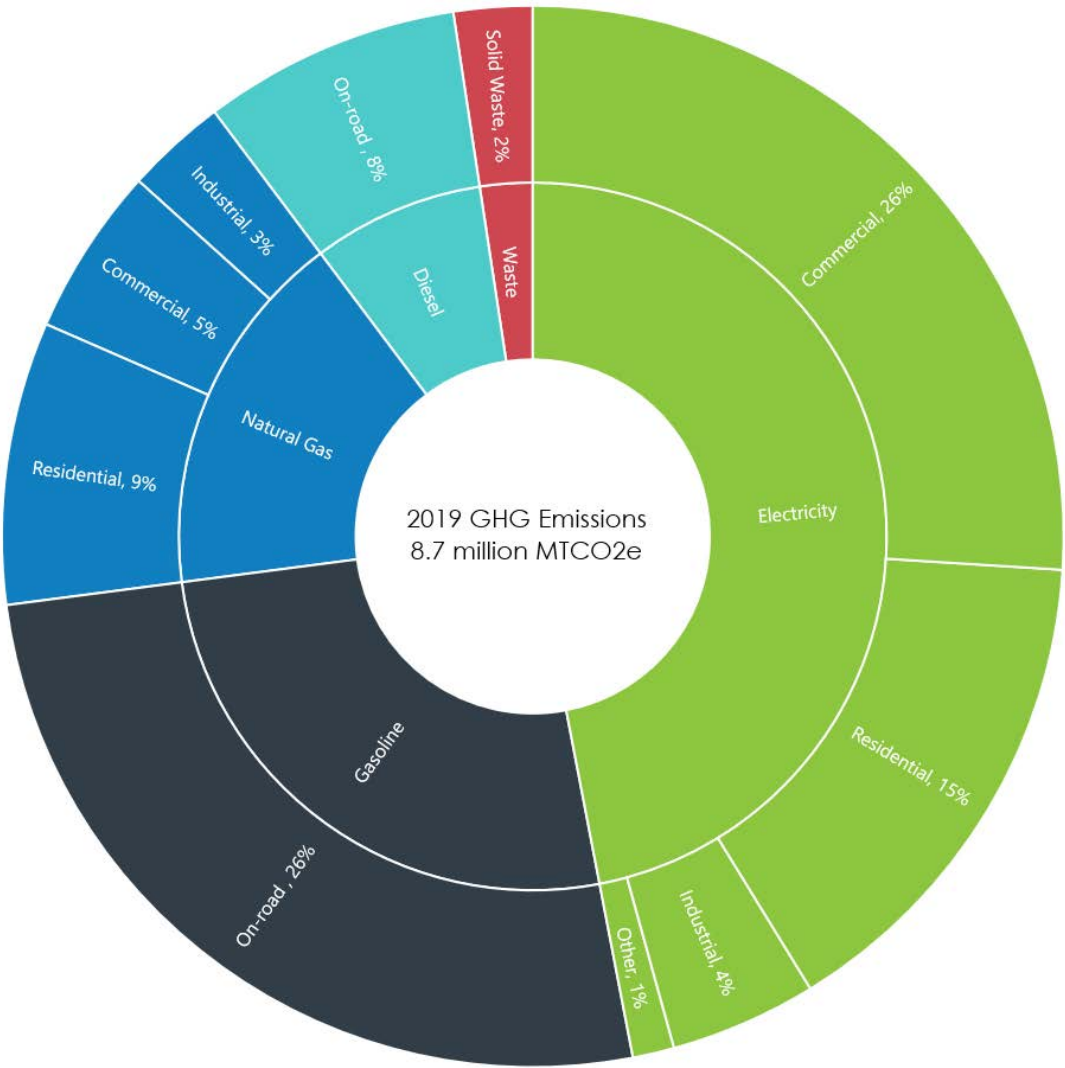


FIGURE 3: 2019 GHG Emissions by Source

This analysis shows that strategies targeting reduction in emissions from commercial and residential electricity, and gasoline use from on-road vehicles, will have the greatest impact on the city’s GHG emissions.

Looking ahead to 2040, GHG emissions are expected to rise if no changes are made in the community, as energy use per household and energy use per GDP has remained relatively unchanged over the last 15 years. This increase in emissions is driven by population and economic growth in the city projected to increase annually by about 0.8% and 1% respectively. This projection is shown in Figure 4 along with the goals outline in Resolution No. 20005 and the revised goals established through this process.

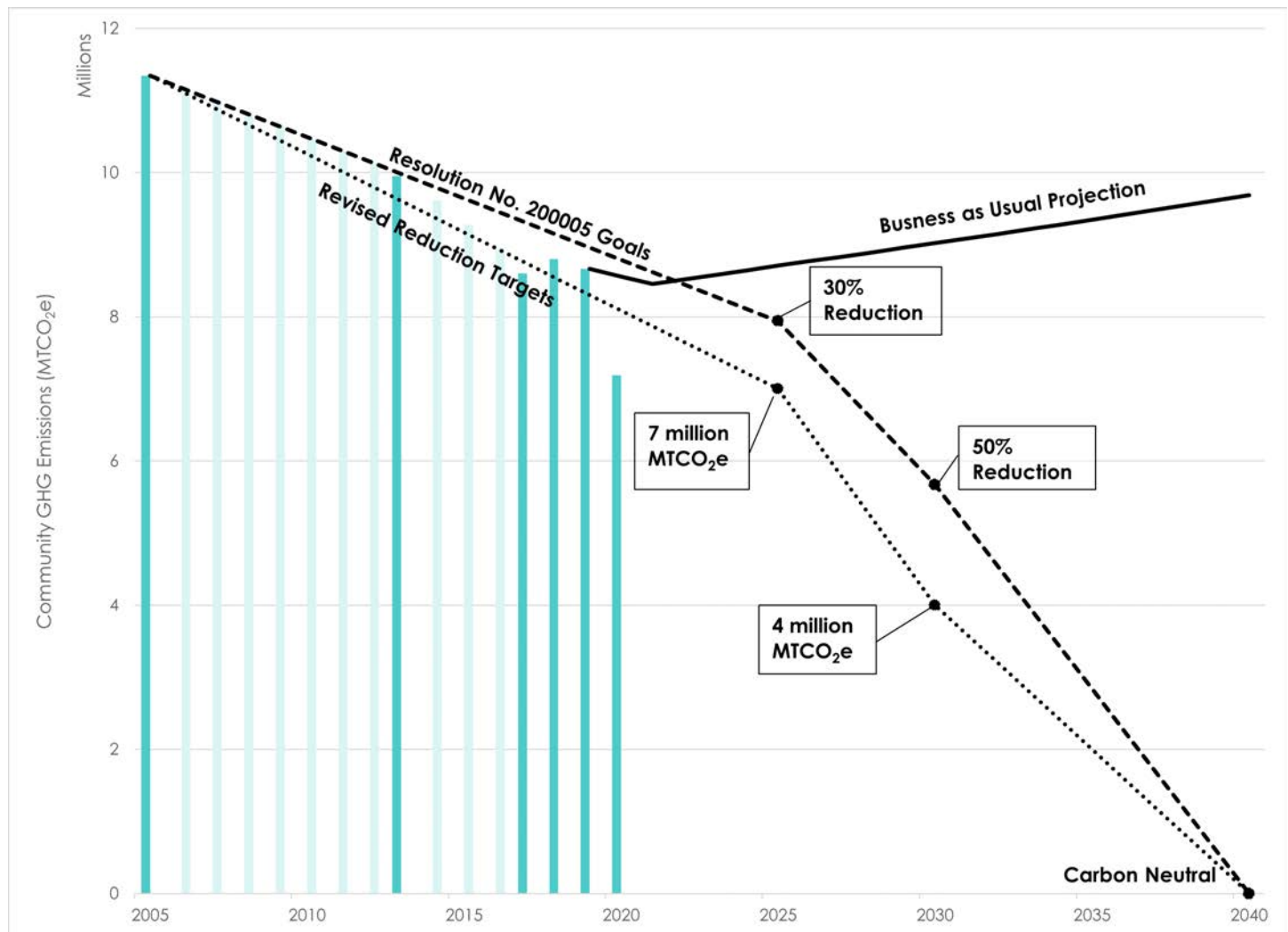


FIGURE 4: Projected Community GHG Emissions

The strategies outlined in this plan are designed to combat the increase in GHG emissions and help our community meet our ambitious climate goal of creating a carbon neutral, equity-focused, and resilient Kansas City by 2040. For more information about the GHG inventory, see the Greenhouse Gas Emissions Inventory Update and Mitigation Scenario Analysis in the [Supplemental Documentation](#) or review the story map at bit.ly/KCMOStoryMap.



HOW IS CLIMATE CHANGE AFFECTING US?

We are already experiencing flooding, extreme heat, and other climate impacts. While we work to fight climate change, we also need to adapt to the impacts that are expected or are already happening. As part of this process, we identified which climate hazards pose the greatest risk for Kansas City, where they are happening, and our ability to cope with or recover from these hazards (view the [Supplemental Documentation](#) for the full assessment).

WHAT ARE OUR BIGGEST CLIMATE RISKS?

Climate change increases the frequency and intensity of natural events, in weather cycles, which we call “climate hazards.” Examples of climate hazards in Kansas City include flooding, drought, extreme heat, severe storms, and tornadoes - with flooding and extreme heat posing the greatest risks. In addition, the region is facing cascading climate risks that result from these climate hazards. For instance, standing water associated with flooding may lead to mold and mildew in homes, which can cause serious health issues, emphasizing the connection between climate justice and health equity. Our cascading climate risks include air pollution and respiratory health, vector born disease, and forced migration – either receiving climate migrants from other areas or our residents becoming migrants due climate hazards (Figure 5). While Kansas City is vulnerable to heat, flooding, and other climate hazards, it is likely to be a “receiver” community of climate migrants and has already experienced this in 2005 when it served as a refuge for victims of Hurricane Katrina.

WHERE ARE WE EXPOSED TO CLIMATE HAZARDS?

While exposure to some climate hazards is unpredictable, some hazards are likely to impact certain neighborhoods more severely than others. For example, Figure 6 shows areas located in or near floodplains and Figure 7 shows how different neighborhoods are likely to experience extreme heat.

“

Crossroads is basically a huge heat island.
[We need] More trees and green roofs.

– Anonymous Community Member

Southwest boulevard is one of the worst spots that get flooded. When there is heavy rain it can get near 1 foot high of water.

– Eman, Community Member

”

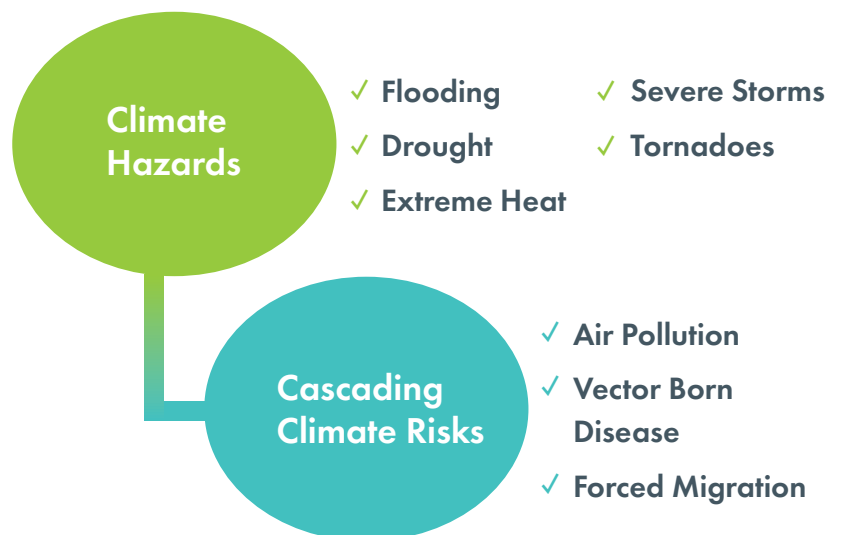
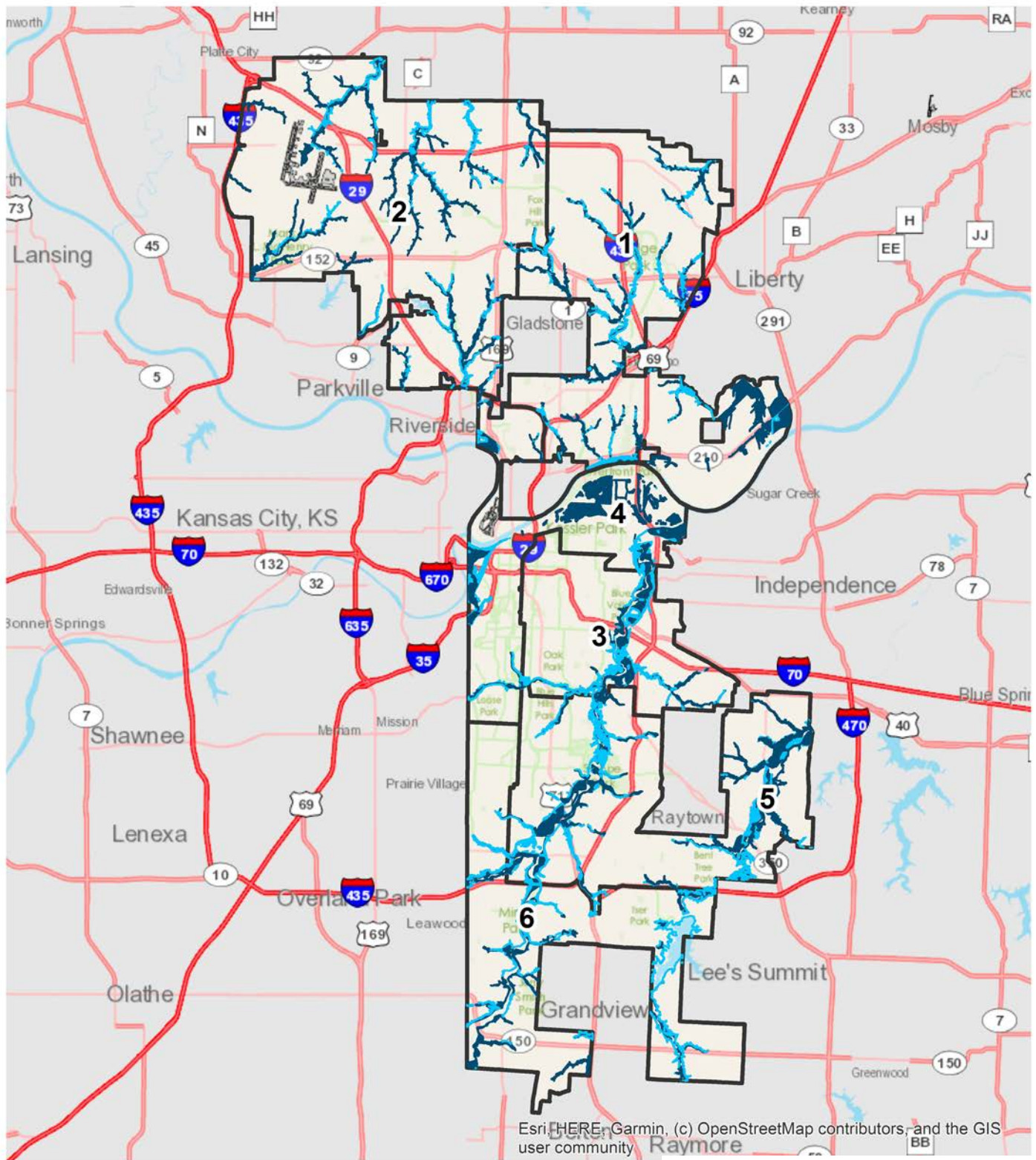


FIGURE 5: Kansas City Climate Hazards and Risks



Climate Hazard: Flooding

□ Council Districts

Flood Hazard Zones

■ 1% Annual Chance

■ 0.2% Annual Chance

FIGURE 6: Flooding Exposure Map

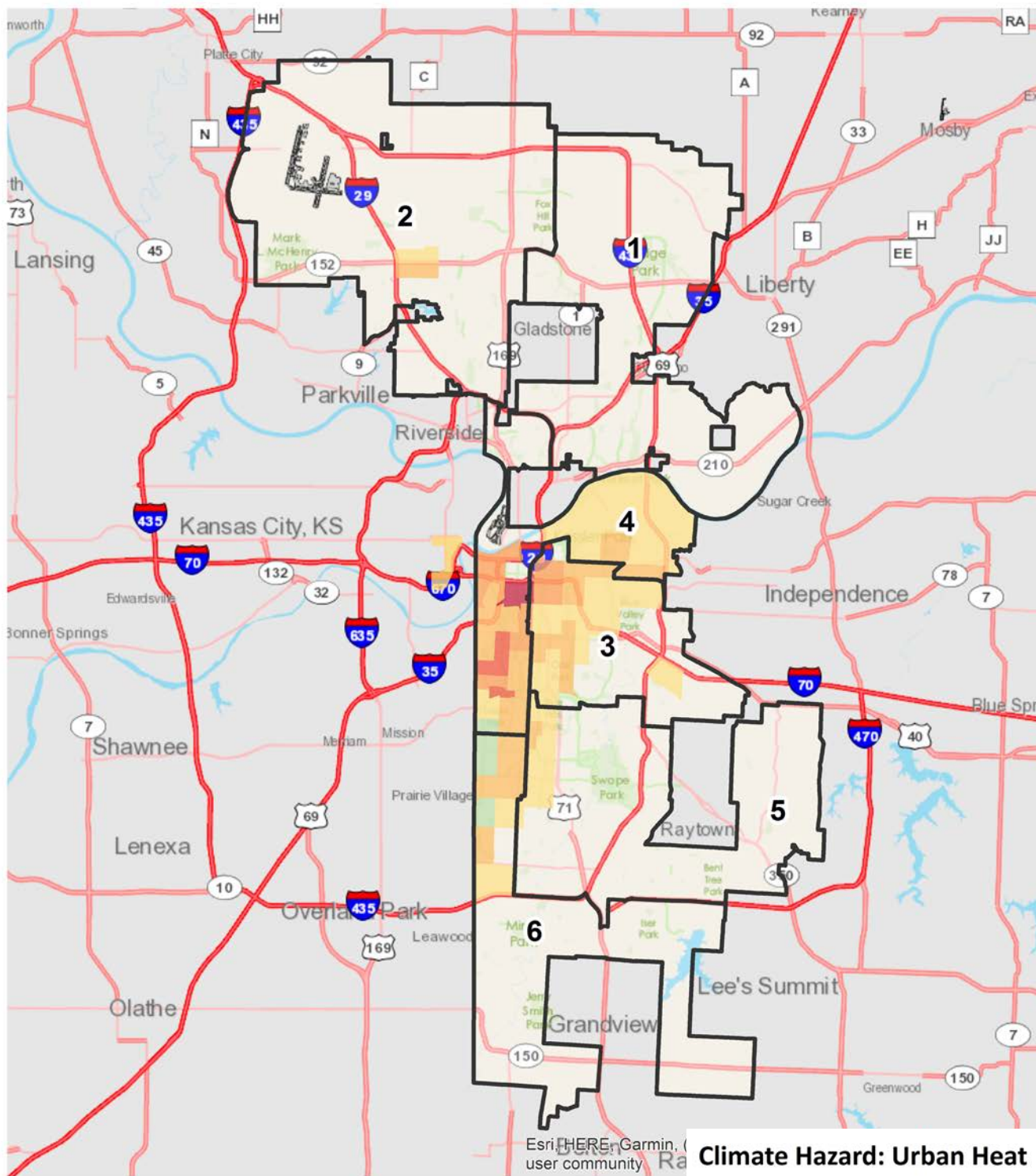


FIGURE 7: Urban Heat Exposure Map

ARE WE READY TO FACE CLIMATE HAZARDS?

Many factors, including race, age, disability status, income, access to a vehicle, English proficiency, age of your home, and housing type, influence our ability to respond to or cope with the impacts of climate hazards. Figure 8 shows how these factors, referred to as the socioeconomic stress index, vary across the city - with some neighborhoods at greater risk to climate-related impacts than others.

“

The people who need the trolley most do not have access to the trolley. – Maria, Community Member

Electrification and weatherization is too expensive for the per capita incomes of inner city census tracts. – Imani, Community Member

”

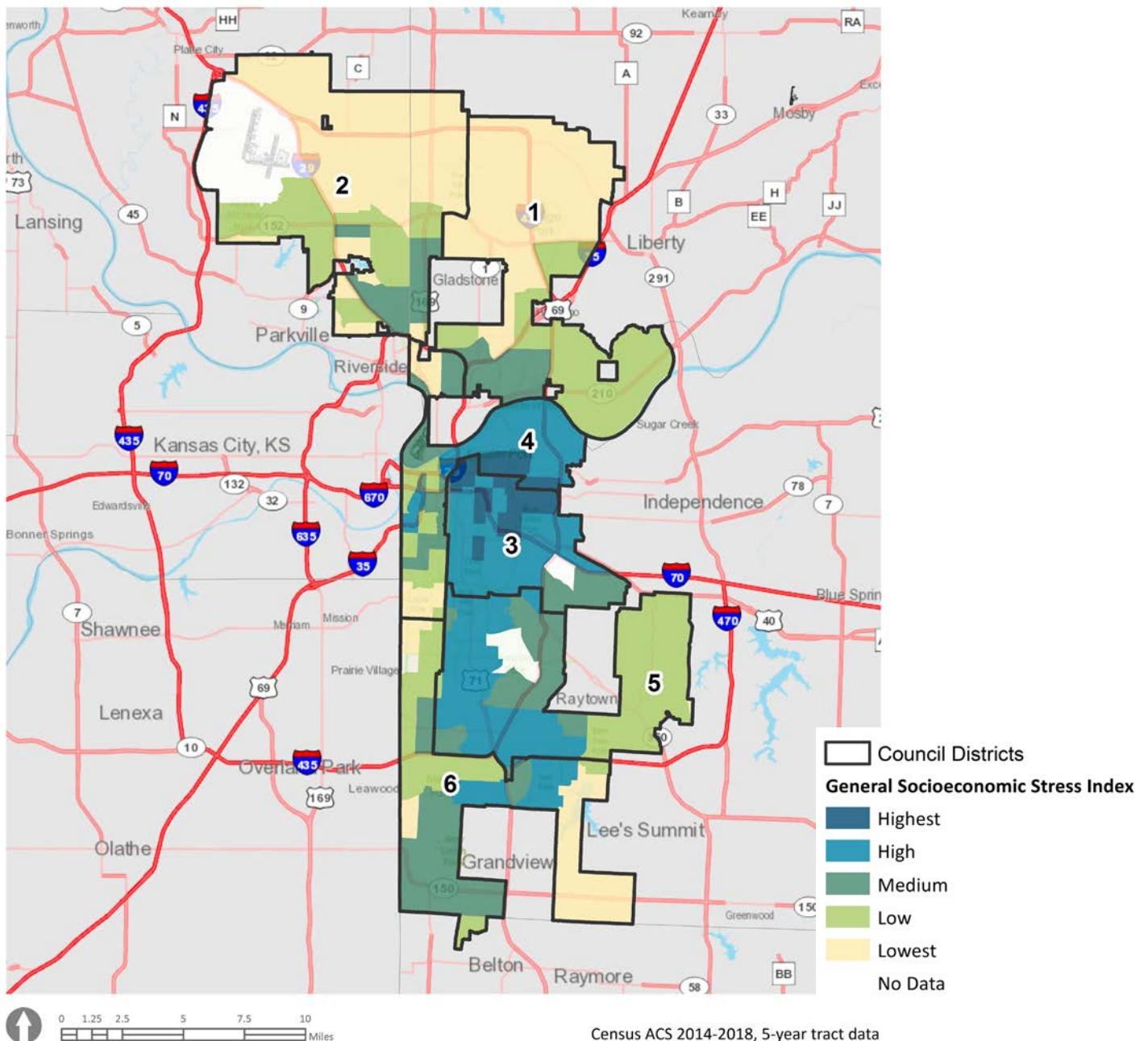


FIGURE 8: General Ability to Adapt
Communities with highest socioeconomic stress are least able to adapt

HOW DOES CLIMATE CHANGE AFFECT OUR HEALTH?

Climate change is already impacting our health through flooding, extreme heat, air pollution, flooding, severe storms, and the spread of disease. These climate hazards directly affect our quality of life and life expectancy, especially for those with lower incomes or limited access to clean air and water, nature, and nutritious food. As illustrated in Figure 9, life expectancy in Kansas City ranges from 69 to 85 years, depending on where you live (Kansas City, Missouri Health Commission, 2022). These geographic disparities are closely tied to race, with the highest life expectancy in a majority white community and the lowest life expectancy in a majority black community.

Life Expectancy by ZIP Code

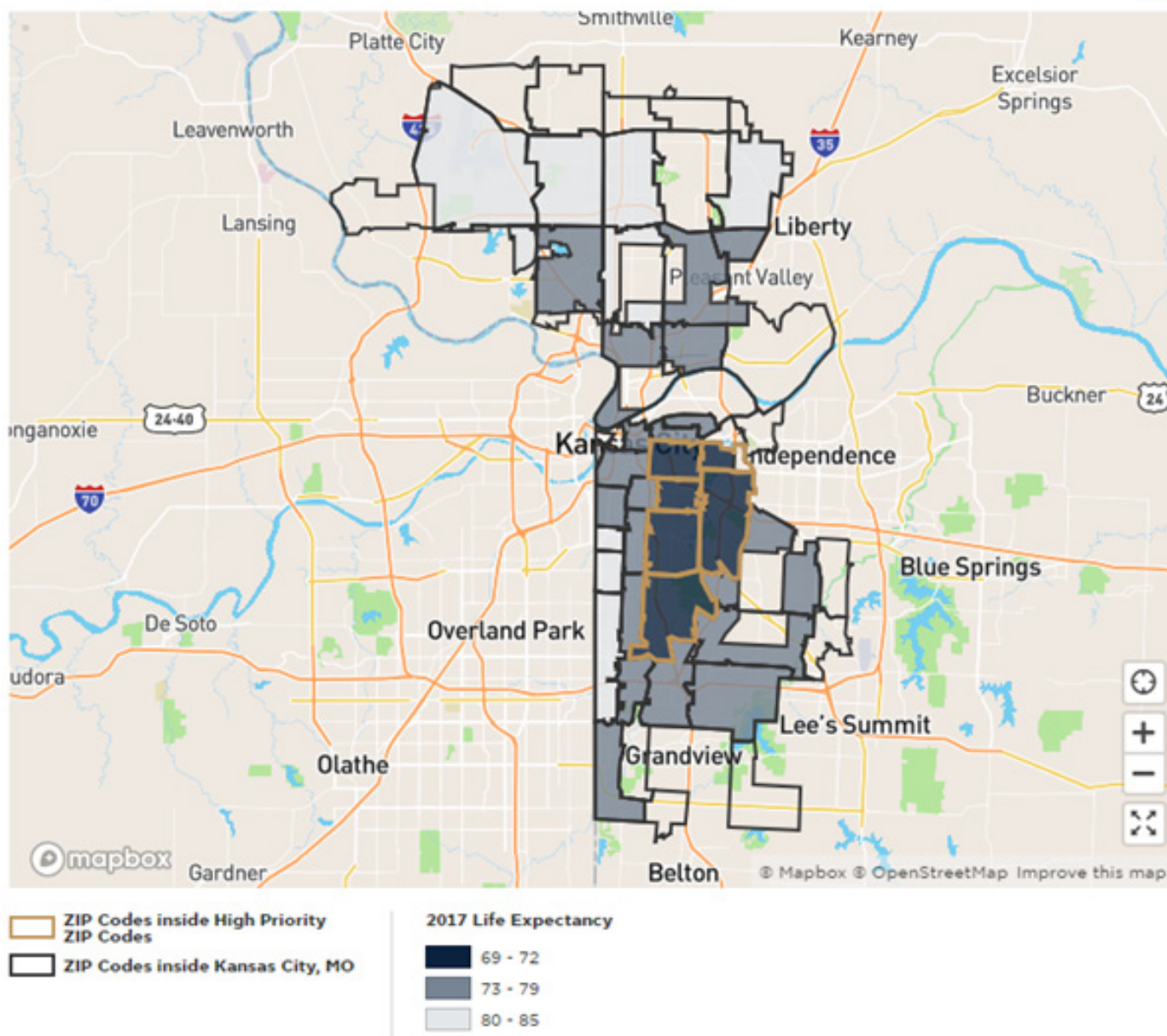
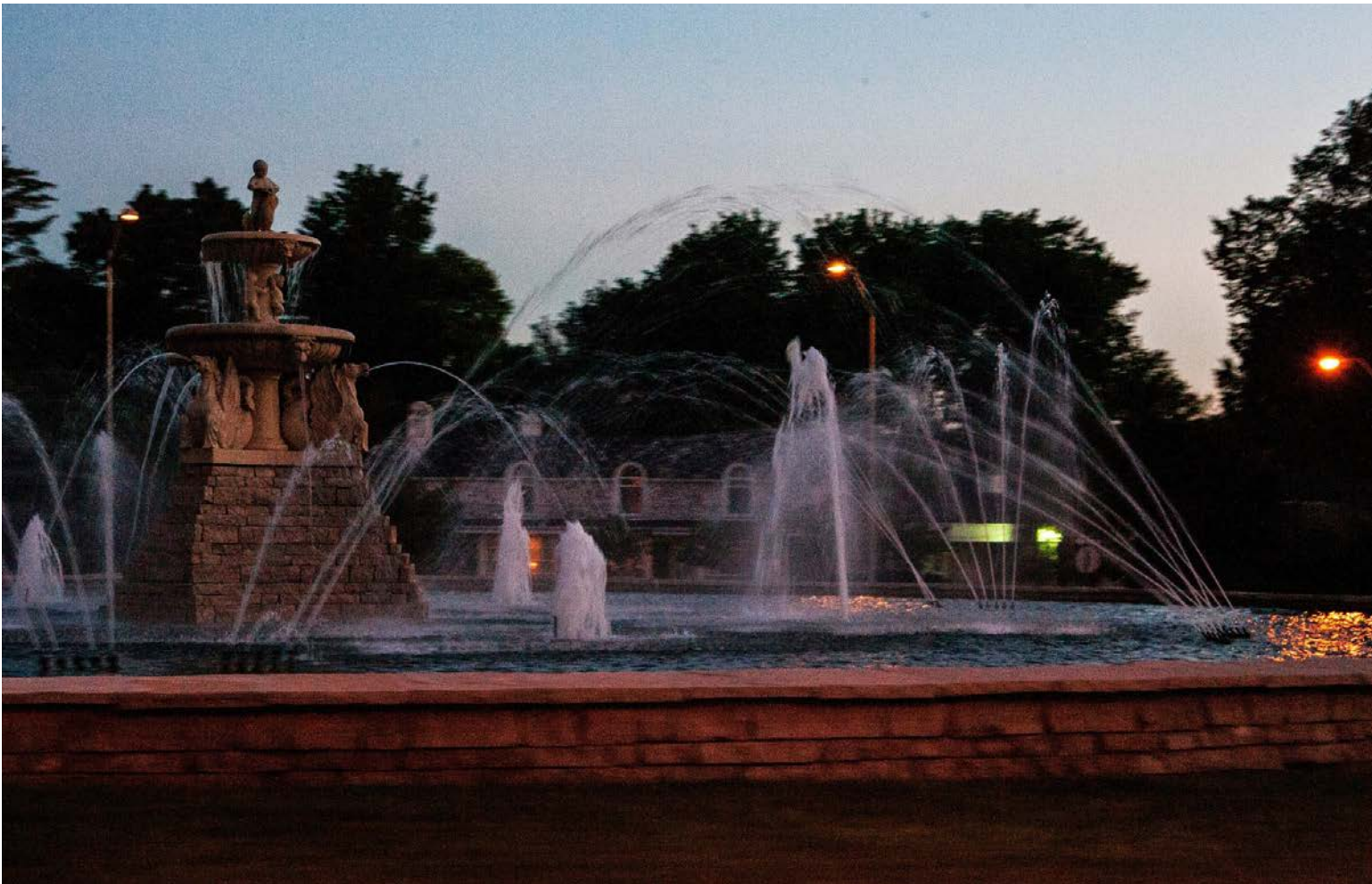


FIGURE 9: Life Expectancy by Zip Code,
Kansas City, MO Community Health Improvement Plan 2016-2021

To combat these disparities, we must implement our climate action strategies in a way that prioritizes resources in communities who have been disproportionately impacted by climate change impacts due to historically racist policies and practices. Examples of improving health through climate action include:

- Improving air quality by promoting development patterns that support emissions free transportation such as biking or electric buses through mobility strategies, especially in areas where pollution has historically impacted communities of color.
- Improving access to nutritious food by transforming underutilized urban spaces into food production areas. Land bank vacant lots that would be good targets for this action are identified on this [map](#).
- Expand the tree canopy to combat the heat island effect making reducing impact of extreme heat, especially in lower-income areas with households that do not have air conditioning or those with a higher energy cost burden.

As we implement these solutions, we must be proactive in combatting green gentrification – the process by which environmental or climate investments lead to higher property values and rents without also lifting up residents' incomes, resulting in vanishing community institutions and physical displacement. These considerations look different in each area and will be a critical part of implementation





OUR CLIMATE ACTION VISION

Our climate action vision is **A CARBON-NEUTRAL, EQUITY-FOCUSED, AND RESILIENT KANSAS CITY BY 2040.**

Reaching our vision requires action from all areas of our community. To organize all of these activities, we've divided this plan into the following six Climate Action Sections, with climate justice at the heart, and community resilience, financing and innovation, and community empowerment woven throughout (Figure 10).

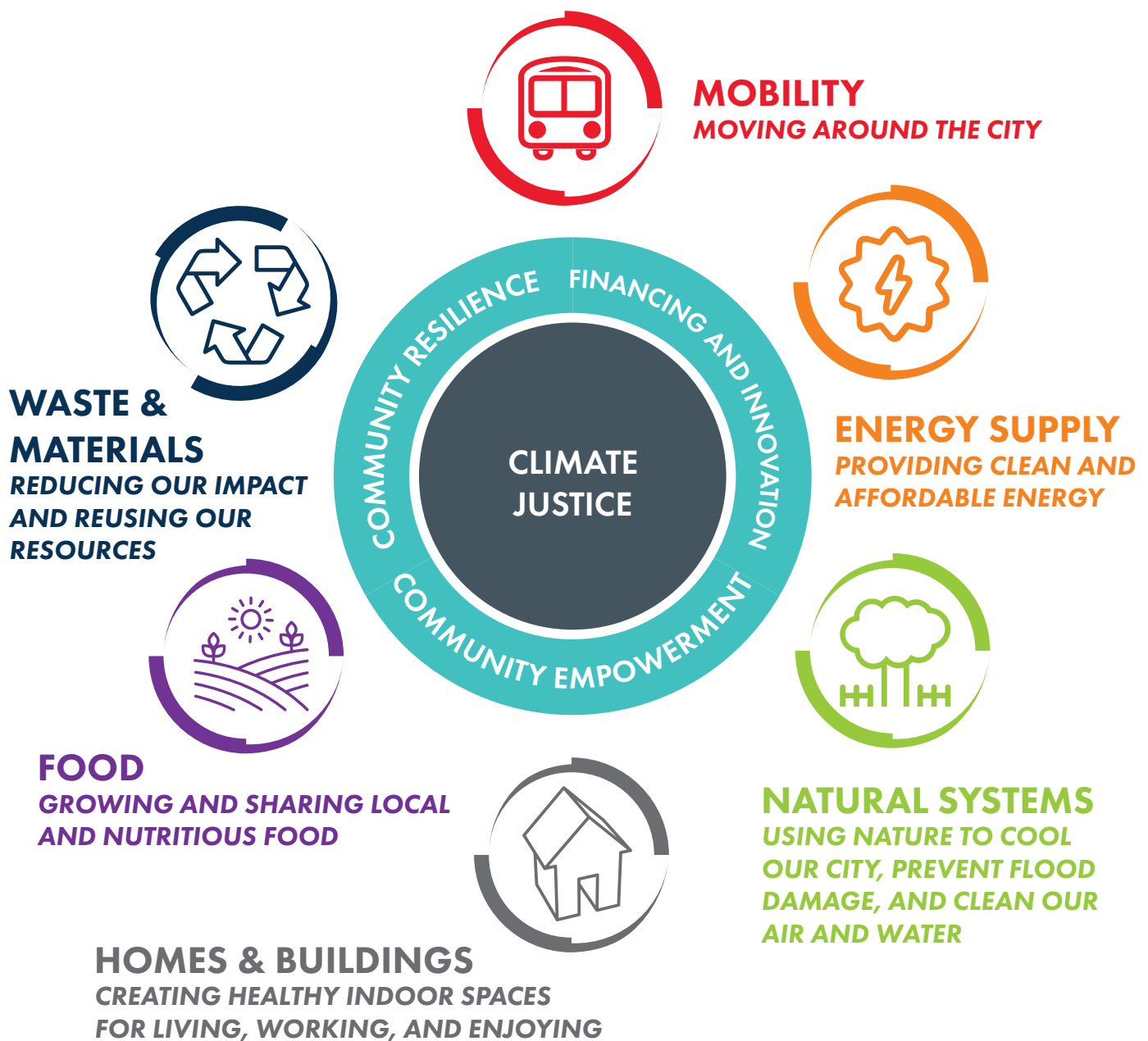


FIGURE 10: Climate Action Sections

CLIMATE ACTION SECTIONS AND STRATEGIES



MOBILITY

- M-1:** Reduce vehicle miles traveled (VMT) through coordinated and planned development
- M-2:** Shift trips to bicycling and walking by expanding a network of safe and accessible routes
- M-3:** Shift trips to transit by building efficient and effective transit systems and mobility hubs
- M-4:** Reduce vehicle emissions from idling by reducing congestion and improving parking management
- M-5:** Reduce vehicle emissions through low- and no-emission vehicles



ENERGY SUPPLY

- E-1:** Transition energy grid mix to renewable energy
- E-2:** Expand neighborhood, commercial, and municipal renewable energy generation
- E-3:** Improve grid stability and resilience
- E-4:** Purchase utility-scale renewable energy



NATURAL SYSTEMS

- N-1:** Expand network of trees and natural areas
- N-2:** Promote regenerative, ecologically healthy soils and landscapes
- N-3:** Sustainable water supply and use
- N-4:** Use natural systems to manage stormwater runoff



HOMES & BUILDINGS

- B-1:** Increase building efficiency and health for commercial and public buildings
- B-2:** Improve the efficiency, affordability, and durability of homes
- B-3:** Ensure climate-ready, efficient construction
- B-4:** Promote equitable building decarbonization



FOOD

- F-1:** Increase production of local food
- F-2:** Improve healthy and sustainable food access



WASTE & MATERIALS

- W-1:** Divert waste from the landfill and reduce illegal dumping
- W-2:** Divert organic waste from the landfill through composting
- W-3:** Reduce waste and embodied carbon by expanding the reuse and repair economy

OUR VISION OF CARBON-NEUTRALITY, CLIMATE RESILIENCY, AND AN EQUITABLE FUTURE

As you explore each Climate Action Section, you'll find strategies that reduce carbon emissions, build resiliency, and provide other community co-benefits. These strategies were identified as priorities for Kansas City by first cataloging strategy ideas from past regional local climate planning efforts, researching national best practices, and community ideas collected through engagement activities. Then, community members were invited to prioritize which strategies should be implemented citywide, and in the Northland, Central Kansas City and South Kansas City (see Appendix: Area Summaries). Finally, the resulting 22 strategies across our six Climate Action Sections were evaluated to understand how they achieved our goals.

Explore Figure 11 shows how each strategy contributes to three impact areas. You can see that we need all of our strategies to make the greatest impact.

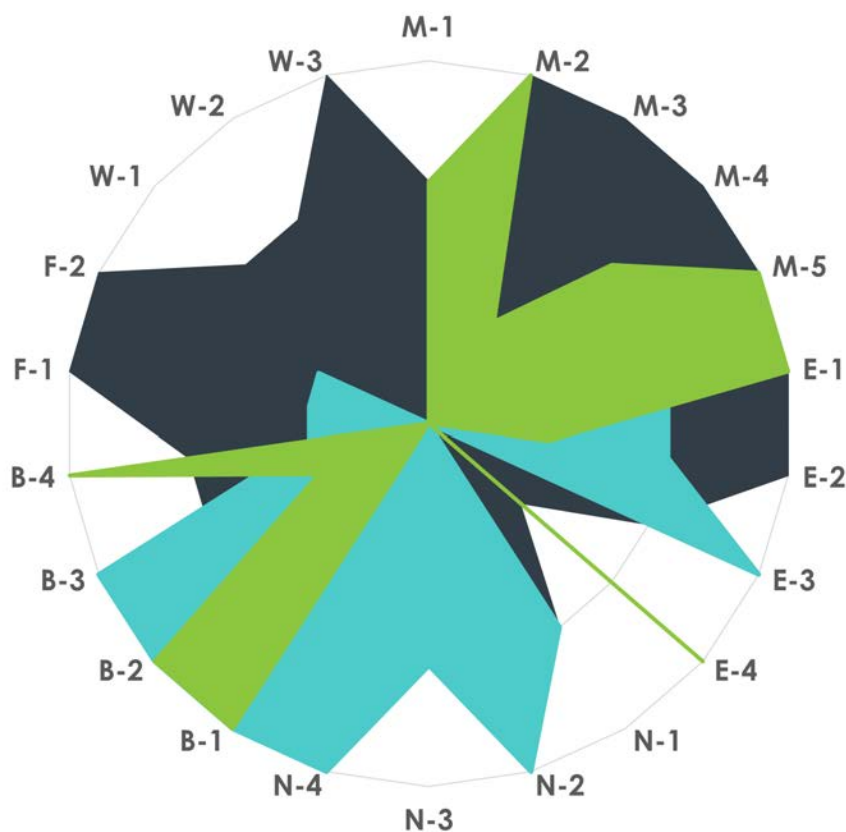


FIGURE 11: Community Benefits of Identified Strategies

CARBON-NEUTRALITY

Achieving carbon neutrality means that carbon emissions released from activities in Kansas City are balanced by an equivalent amount being removed or offset, resulting in a net neutral impact on the environment. As shown in Figure 12 strategies in the Energy Supply, Homes & Buildings, and Mobility sections will address the City's carbon (or GHG) reduction goals. Figure 11 shows the range of potential impact of the strategies identified in each section as compared to the projected total GHG emissions in 2040. The lower end of the range shows the impact of the strategies without additional effort from our community. For example, on-road vehicles are likely to become more efficient - reducing gasoline emissions without a transition to no-emissions vehicles. Many of the strategies interact with each other, so maximum impact is not possible from all three sections. There is a gap of about 11 percent between the identified emissions reduction and the goal of carbon neutral by 2040. This gap is mainly comprised of on-road vehicle emissions and the difficulty of electrifying building systems. To reach our goal, we will need to fill this gap by investments in carbon offsets, carbon sequestration or advances in technology. For more information, see the Mitigation Scenario Analysis in the [Supplemental Documentation](#).

Reducing Carbon Emissions o Homes and buildings in KC



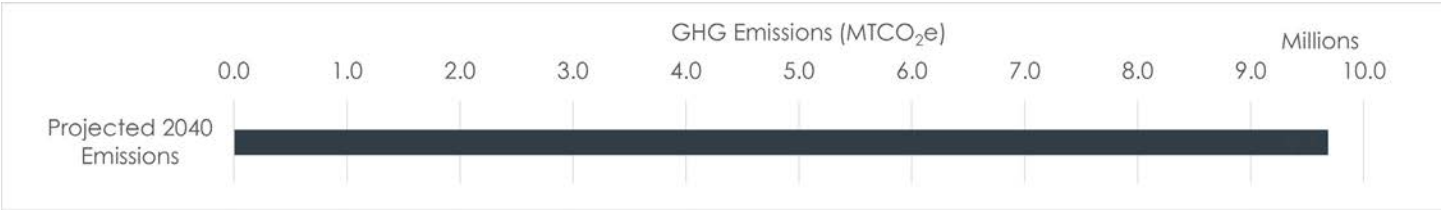
by Moira, Robert, Grace,
Muntadher, and Caden



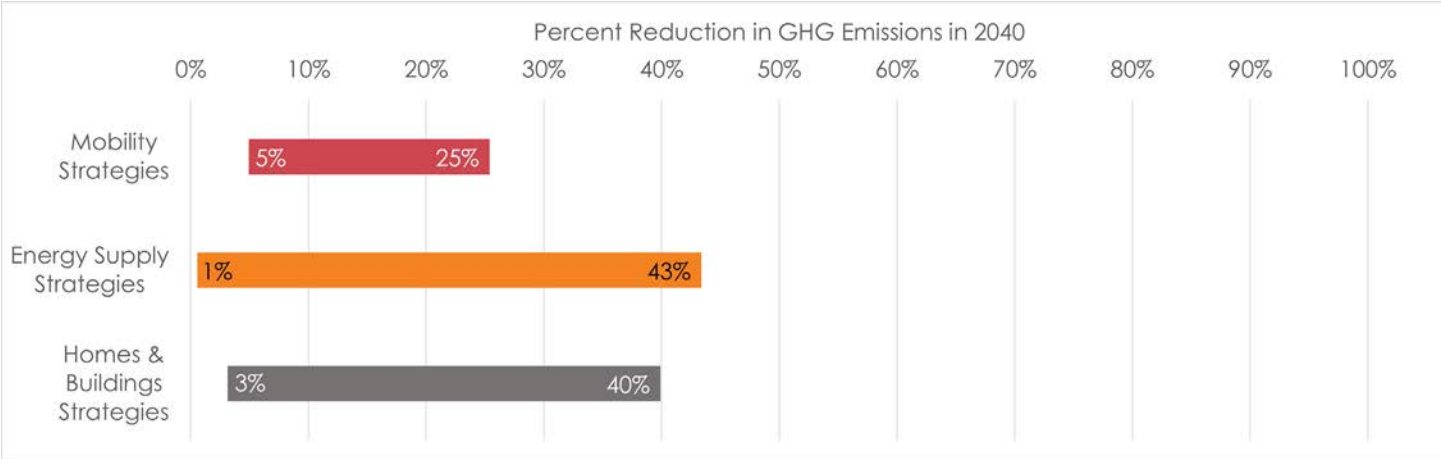
Watch this video and more student recommendations
for the climate plan at youtu.be/g2LepGyOWLw.



Based on the projections shown in Figure 4, the total GHG emissions from the City are expected to be 9.7 million MT CO₂e in 2040.



The range of potential GHG emissions reductions from each mitigation focus area are shown by the bars below. The lower end of the bar represents the likely reductions if the city continues efforts at the current level. The high end of the bar shows the most best in class emissions reductions. For more information on the assumptions used in these calculations see the [Supplemental Documentation](#).



Since the emissions reductions in the three focus areas above interact with each other, full emissions reduction potential is not possible in all focus areas simultaneously. The range of potential combined impact of these three focus areas is shown by the bar below.

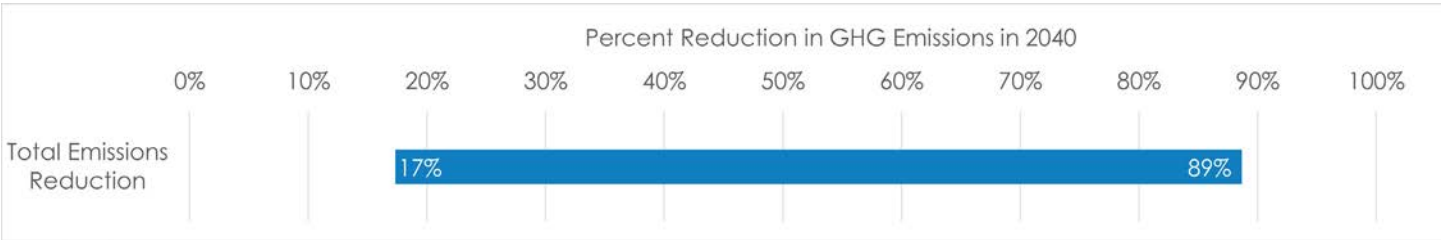


FIGURE 12: Potential GHG Emissions Reduction by Climate Action Section

Twelve strategies in this plan set us on course to reduce 89 % of our carbon emissions by 2040. These strategies are found in three of our Climate Action Sections: Mobility, Energy Supply, and Homes & Building. Figure 13 shows how these strategies contribute toward our goal compared to our business-as-usual forecast (solid line), which is what we can expect if we don't take action.

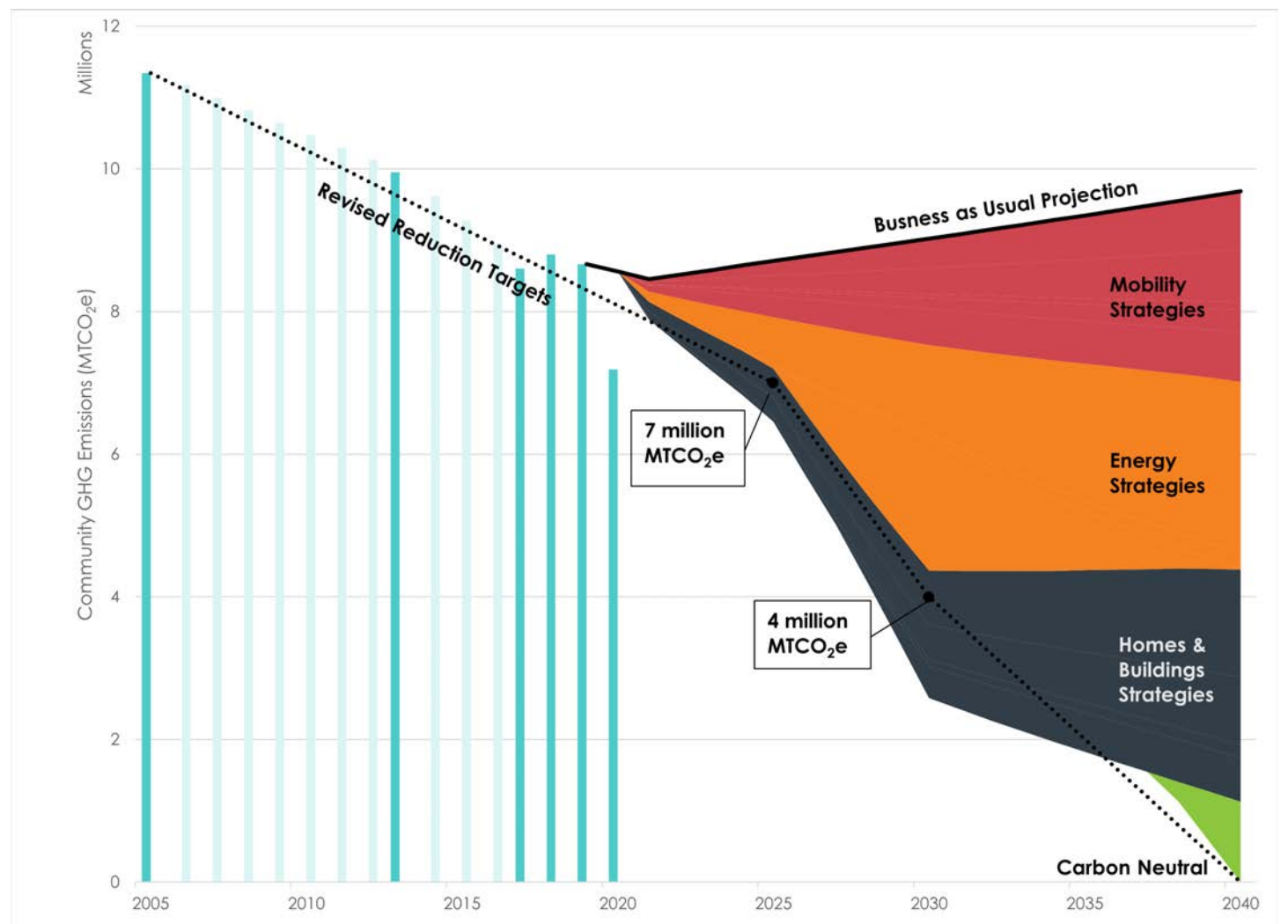


FIGURE 13: Best in Class Emissions Reduction Scenario

Based on the ranges of potential emissions reductions, the more aggressive emissions reduction targets were set to keep the city on track to meet the 2040 goal of carbon neutrality by 2040:

- Reduce emissions to 7 million MTCO₂e by 2025
- Reduce emissions to 4 million MTCO₂e by 2030
- Stretch goal of Zero Carbon by 2040

The impact of each mitigation strategy by year is detailed in the table below. Even with the combined strategies, there is a gap of about 11 percent between the identified emissions reduction and the goal of carbon neutral by 2040. To reach our goal, we will fill this gap by investments in local carbon dioxide removal through land use, biofuels, or direct carbon capture and/or other advances in technology.

Strategy Name	Target Emissions Reductions from Business as Usual Forecast in Metric Tons of Carbon Dioxide (MTCO ₂ e)					
	2025		2030		2040	
B-1: Increase building efficiency and health for commercial and public buildings	411,500	5%	770,000	9%	1,506,700	16%
B-2: Improve the efficiency, affordability, and durability of homes	256,800	3%	479,900	5%	951,200	10%
B-3: Ensure climate-ready, efficient construction	77,700	1%	96,200	1%	183,600	2%
B-4: Transition building systems to use clean, reliable electricity	100,000	1%	441,900	5%	611,000	6%
E-1: Increase the percentage of renewable energy in the utility grid mix	674,300	8%	1,230,800	14%	2,489,300	25%
E-2: Expand neighborhood and commercial renewable energy generation	44,900	1%	83,900	1%	144,700	2%
E-3: Improve grid stability and resilience.	N/A any carbon impacts from microgrids are captured in E-2					
E-4: Purchase Utility-Scale Renewable Energy	0	0%	1,846,100	20%	0	0%
M-1: Reduce vehicle miles traveled (VMT) through coordinated and planned development	204,500	2%	409,000	5%	818,000	8%
M-2: Shift trips to bicycling and walking by expanding a network of safe and accessible routes	183,300	2%	366,700	4%	733,300	8%
M-3: Shift trips to transit by building convenient transit systems and mobility hubs	28,300	0%	53,500	1%	106,900	1%
M-4: Reduce vehicle emissions from idling by reducing congestion and improving parking management	79,100	1%	158,300	2%	316,500	3%
M-5: Reduce vehicle emissions through low- and no-emission vehicles	292,100	3%	502,000	6%	696,200	7%
Total Emissions Reduction from BAU	2,352,500	27%	6,438,300	71%	8,557,400	88%
Remaining GHG Emissions	6,357,200		2,583,300		1,129,000	

Over forty actions have been identified in the Implementation Plan for immediate (2022) action. The CPSC has identified the following as the top priorities for implementation and budget requests for the 2023 budget cycle.

Top Priorities for Immediate (or Continued) Action in 2022

- Participate in energy decisions at the Public Service Commission (PSC).
- Accelerate build out of sidewalks, Complete Streets, and protected bike lanes. (M2.1, M2.2, M2.3)
- Support increasing bus frequency and worker benefits.
- Join the Midwest Building Decarbonization Coalition and establish a City-run Equitable Building Decarbonization program. (B4)
- Shift City purchases away from gas-powered equipment, appliances, and vehicles to all-electric.
- Adopt 2021 IECC building efficiency code with strengthening amendments to make homes and buildings EV, solar, and electric appliance ready.
- Include rent control and clean energy in state legislative priorities.
- Protect and expand natural ecosystems.
- Establish Environmental Justice Advisory Committee.

Top Budget Requests for 2023

- Advocate at PSC. (E1.4, E4.3, E1.2, B4)
- Invest in safe bike and pedestrian infrastructure, including end of trip facilities. (M2.3)
- Establish a City-run Equitable Building Decarbonization program. (B4)
- Build City-owned solar on city facilities, land and parking lots. (E4)
- Create centralized, online resources for residents and businesses. (E2.5, B2.2)
- Increase energy efficiency in municipal buildings. (B1.4)
- Require energy disclosures. (B2.4)
- Electrify new City buildings & transition existing City buildings. (B4.1)
- Green infrastructure. (M1.2)
- Expand network of trees and natural areas. (N4)
- Prevention of illegal dumping. (W1.2)
- Expand community waste disposal, composting and recycling. (W1.6)
- Expand local food production & soil regeneration. (F1.2,3)

Once established, the Environmental Justice Advisory Committee will set these priorities annually to ensure the communities most impacted lead implementation. For more information about the teams designated to lead implementation, see the Short-term [Implementation Plan](#).



Carbon-Neutrality Leads to a Clean Energy Economy

The most compelling economic case for the carbon reduction strategies in this plan comes from the job opportunities that can be created. Many employment sectors comprise the green job industry, such as green building and construction trades, renewable energy generation, green infrastructure, civil engineers, technical trades, and supporting positions. Nationally, it has been shown that investment in clean energy provides more jobs than does investment in fossil fuels. For example, almost three times as many jobs are created by investing in energy efficiency than by investing in coal (Garrett-Peltier & Heidi, 2016). And these jobs tend to be high-paying jobs that do not require a college education and can be leveraged to decrease income inequality within the community - with targeted professional development efforts (Figure 14).

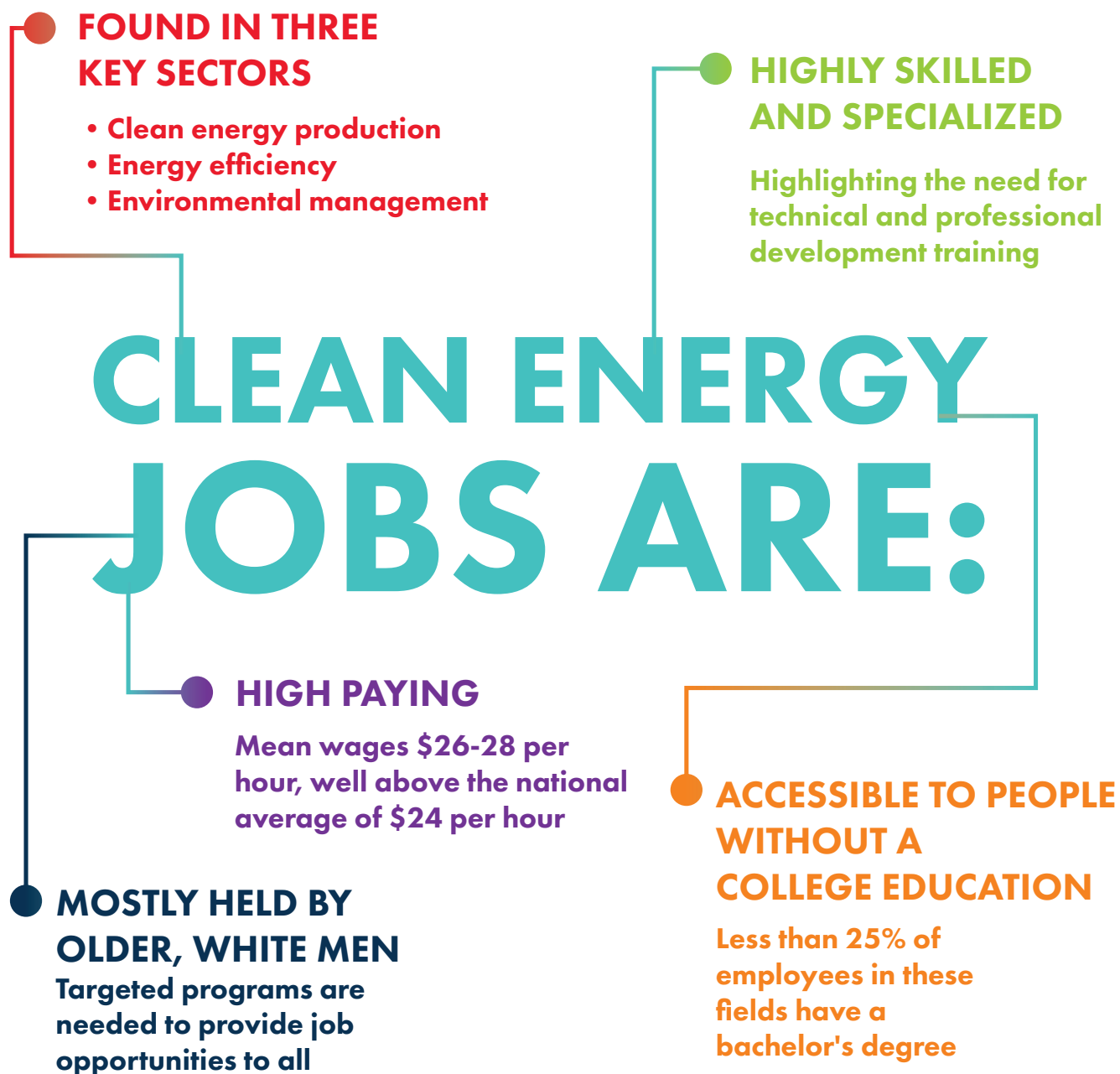


FIGURE 14: Characteristics of Clean Energy Jobs (Muro, Tomer, Shivaram, & Kane, 2019)

Carbon-Neutrality Leads to Energy Cost Savings

In 2019, the residents, businesses, and institutions in the Kansas City community spent about \$1.6 billion on fuel for electricity, natural gas, gasoline, and diesel - about the same amount as the entire annual budget for City operations (\$1.77 billion for FY 2020-2021). Based on rising fuel prices and projected fuel use increases, this number is expected to rise to \$2.1 billion in 2040 if the community continues business as usual. There is significant uncertainty in the projection of fuel costs - especially natural gas, gasoline, and diesel as they are more strongly driven by market conditions. For example, in the winter of 2020 when a severe winter storm in Texas caused huge increases in natural gas prices throughout the region.

Each of the carbon mitigation strategies were evaluated to understand their financial impact (Table 1). Based on this analysis, **energy efficiency** for new and existing homes and businesses as well as **mobility** strategies have the largest fuel cost savings potential. **Energy efficiency** strategies, especially for new construction, have strong returns on investment and present a strong financial case for private investment. On the other hand, the **mobility** strategies rely more strongly on public investment for transportation infrastructure.

For additional details on the assumptions used in these calculations, see the Mitigation Scenario Analysis in the [Supplemental Documentation](#). Please note that the cost savings shown represents the maximum possible cumulative cost savings between 2022 and 2040 for the strategy. Since many strategies interact with each other, maximum cost savings for all strategies is not possible. For example, a resident can either save money on transportation fuel by choosing to drive an electric vehicle or choosing to ride their bike, but not both at the same time.

TABLE 1: Financial Impact of Carbon Mitigation Strategies (summarized by section)



MOBILITY

M-1: Reduce vehicle miles traveled (VMT) through coordinated and planned development

Cost Savings: \$1.3 billion **ROI:** Public investment; Solution participants reducing trips save on fuel costs without bearing the capital investment directly

M-2: Shift trips to bicycling and walking by expanding a network of safe and accessible routes

Cost Savings: \$1.7 billion **ROI:** Public investment; Solution participants reducing trips save on fuel costs without bearing the capital investment directly

M-3: Shift trips to transit by building efficient and effective transit systems and mobility hubs

Cost Savings: \$510 million **ROI:** Public investment; Solution participants reducing trips save on fuel costs without bearing the capital investment directly

M-4: Reduce vehicle emissions from idling by reducing congestion and improving parking management

Cost Savings: \$990 million **ROI:** Public investment; Solution participants reducing trips save on fuel costs without bearing the capital investment directly

M-5: Reduce vehicle emissions through low- and no-emission vehicles

Cost Savings: \$4.7 billion **ROI:** Varies based on vehicle type and use patterns



ENERGY SUPPLY

E-1: Transition energy grid mix to renewable energy

Cost Savings: Unknown

ROI: No capital investment involved for community members

E-2: Expand neighborhood, commercial, and municipal renewable energy generation

Cost Savings: \$140 million

ROI: 2.5%-5.6% for solar depending on net metering and electric TOU rates (Nadel, 2020)

E-3: Improve grid stability and resilience

Resilience-focused strategy, so not analyzed. Supports other energy strategies.

E-4: Purchase utility-scale renewable energy

Cost Savings: Unknown – may be subscription-based cost

ROI: Unknown, project dependent, and whether subscription-based or capital project with directed end-use customers



HOMES & BUILDINGS

B-1: Increase building efficiency and health for commercial and public buildings

Cost Savings: \$1.6 billion **ROI:** 4% for deep energy retrofits; 5.9% for medium retrofits (Nadel, 2020)

B-2: Improve the efficiency, affordability, and durability of homes

Cost Savings: \$990 million **ROI:** 4% for deep energy retrofits; 5.9% for medium retrofits (Nadel, 2020)

B-3: Ensure climate-ready, efficient construction

Cost Savings: \$330 million **ROI:** 10-13% (Emerson & Sullivan, 2020)

B-4: Promote equitable building decarbonization

Cost Savings: Unknown

ROI: Varies based on existing systems, utility rate structures



Watch this video and more student recommendations for the climate plan at youtu.be/BonoDT5nqKY.

What is the Cost of Not Achieving Carbon-Neutrality?

The necessary investment to address the city's carbon emissions should be weighed against the cost of inaction. The social cost of carbon is one way to estimate the economic impact of climate change on our lives. It is an estimate of the economic damages done from emitting one metric ton of carbon dioxide. The most recent estimate for the social cost of carbon is \$51 per MTCO₂e (Interagency Working Group on the Social Cost of Greenhouse Gases, 2021) . This means the social cost of the 2019 carbon emissions in the city was \$440 million. This price can be seen in increased healthcare costs due to asthma and other respiratory disorders, as well as increasing frequency and severity of damage from natural disasters. In Missouri, the number of events causing at least \$1 billion in damages has risen from 7 events in the 1980s to 29 events between 2007 and 2016 (Watson, McCarthy, & Hisas, 2017) . If the city continues along its current path, the social cost of the city's carbon emissions will rise to \$490 million.

MTCO₂e

Metric tons of carbon dioxide equivalent (MTCO₂e) is how we measure greenhouse gas emissions. The unit "CO₂e" represents an amount of a greenhouse gas whose atmospheric impact has been standardized to one-unit mass of carbon dioxide (CO₂), based on the global warming potential of the gas.

The Social Cost of Carbon Emissions: 2019 Flooding

The costs of federal relief efforts for the 2019 flooding events in Missouri were:

- \$68.7 million paid to Missouri residents from The National Flood Insurance Program
- \$7.3 million in grants for homes without flood insurance.
- \$15.2 million in disaster relief for small businesses
- \$2.4 million for crisis counseling

These totals show the cost to taxpayers from federal assistance and do not consider personal costs of home and business repairs and lost items.

CLIMATE RESILIENCY

There are six climate hazards posing the greatest risk to the Kansas City region: flooding, extreme heat, drought, severe thunderstorms, severe winter weather, and tornadoes. These hazards can also lead to cascading effects such as poor air quality exacerbated by extreme heat and forced migration and relocation due to floods and other natural disasters. Strategies that help address these climate risks fall primarily in the Homes & Buildings, Natural Systems, and Food sections (Table 2). Based on the [MARC regional Climate Risk & Vulnerability Assessment](#) flooding, and extreme heat pose the greatest risk to the region and, therefore, are called out as separate columns in Table 2, while drought, severe thunderstorms, severe winter weather, and tornadoes are grouped and referred to as "other climate impacts." For more information on the analysis of Kansas City's vulnerability to climate risks, see the Climate Risk and Vulnerability Assessment Methodology in the [Supplemental Documentation](#) or review the story map at bit.ly/KCMOStoryMap.

TABLE 2: Climate Resiliency Strategies

	Builds Resilience to Extreme Heat	Builds Resilience to Flooding	Builds Resilience to Other Climate Change Impacts
 MOBILITY			
M-1: Reduce vehicle miles traveled (VMT) through coordinated and planned development			
 ENERGY SUPPLY			
E-1: Transition energy grid mix to renewable energy			
E-2: Expand neighborhood, commercial, and municipal renewable energy generation			
E-3: Improve grid stability and resilience			
 NATURAL SYSTEMS			
N-1: Expand network of trees and natural areas			
N-2: Promote regenerative, ecologically healthy soils and landscapes			
N-3: Sustainable water supply and use			
N-4: Use natural systems to manage stormwater runoff			
 HOMES & BUILDINGS			
B-1: Increase building efficiency and health for commercial and public buildings			
B-2: Improve the efficiency, affordability, and durability of homes			
B-3: Ensure climate-ready, efficient construction			
B-4: Promote equitable building decarbonization			
 FOOD			
F-1: Increase production of local food			
F-2: Improve healthy and sustainable food access			

COMMUNITY CO-BENEFITS

In addition to contributing to our vision of a carbon-neutral, equity-focused, and resilient community, many of our strategies also contribute to other community priorities. To better understand this larger picture, we evaluated each strategy for the following four co-benefits. Strategies with these co-benefits are noted with the associated icons and found across all Climate Action Sections in the following sections.

Economic Recovery

COVID-19 had devastating effects on our families and our businesses. Strategies contributing to economic recovery help our business community adjust to new conditions and help households get back on their financial feet. For example, many of the strategies in the Homes & Buildings section provide energy cost savings for residents and businesses that can be used for other financial needs. Strategies contributing to economic recovery are found in the Mobility, Energy Supply, Homes & Buildings, Food, and Waste & Materials sections.

Carbon Sequestration

Urban agriculture, community forests, riparian restoration, composting, and even some technologies are able to capture and store carbon from the atmosphere. Strategies contributing to this process of carbon sequestration can help us achieve our carbon-neutrality goals even faster, and are found in our Natural Systems, Food, and Waste & Materials sections.

Health & Wellness

We must care for each community member's personal health and wellness if our community is going to reach our full potential. This requires clean air and water, wholesome food options, and restorative surroundings, especially for those who have experienced health disparities due to their race, ability, or income. Health equity is an integral part of climate justice. Strategies contributing to physical, mental, and spiritual health and wellness are found in the Mobility, Homes & Buildings, Natural Systems, and Food sections.

Environmental Justice

Environmental justice addresses the reality that those who live and work in our most polluted environments are often part of communities of color and have lower incomes. To recognize and remedy this fact, we must be deliberate in prioritizing resources to support those who have suffered or are suffering. Strategies contributing to environmental justice are found in all Climate Action Sections, reflecting our equity-focused vision.

OUR EQUITABLE FUTURE

Most importantly, Kansas City has made a commitment to how it will approach each Climate Action Section with an equity focus. These commitments, which we call "Our Equitable Future", are rooted in community input and found in each of the six Climate Action Sections. We will look to the community to contribute toward this equity-focus and keep each other accountable as we implement the plan.

Carbon Sequestration Opportunities in the City

Carbon sequestration refers to any process that takes carbon from the atmosphere and traps it in the soil, plants, or rock formations. This process is an important part of combating climate change by removing carbon that has already been and will continue to be emitted as we implement the strategies outlined in this plan to reduce and eliminate carbon emissions in the city. There is also a gap of about 1 million MTCO₂e per year to meet the City's carbon neutral goal. This gap could be addressed through some carbon sequestration opportunities. Opportunities for carbon sequestration in this plan include:

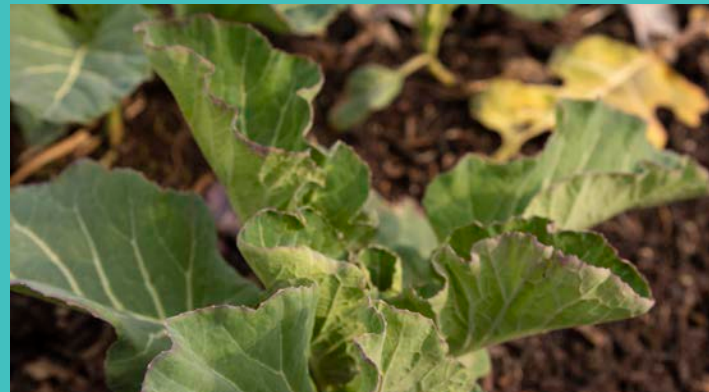
1. Urban Tree Canopy: Urban forests in Missouri are estimated to sequester 0.9 metric tons of carbon per hectare (Nowak & Crane, 2002). Based on the Kansas City Urban Forest Master Plan, the preferable tree canopy is 121,700 acres or 49,250 hectares (Davey Resource Group, Inc., 2018). If Kansas City meets this goal, the urban forest could sequester 44,300 metric tons of carbon each year or about 4% of the identified gap.



2. Riparian Zone Restoration: Preserving and restoring riparian corridors could sequester carbon and improve water quality, 150,000 metric tons within City limits and 2 million metric tons regionally. (Heartland Conservation Alliance, 2021). Investing in carbon offsets through these projects could cover the identified gap to meet the City's carbon neutral goals.



3. Soil Management: Using soil management practices such as supplementing soil with compost or specific silicate-based rocks, can result in the storage of 1.28 kg carbon/m² in the soil (Haque, Santos, & Chiang, 2021). According to the Urban Forest Master Plan, there are 22,700 acres of bare soil in Kansas City. If this was all converted to urban farms using carbon sequestration best practices, they could sequester 117,600 metric tons of carbon each year or about 12% of the identified gap.



“

What does a neighborhood that embraces and supports climate equity look like?

Everyone lives in a comfortable and healthy, carbon-positive home, and neighbors really know and treasure each other! – Anonymous Community Member in Central KC

A neighborhood that offers healthy food options, accessible transportation, and healthy and safe living conditions. – Anonymous Community Member in South KC

The people are housed, neighborhoods are connected, and energy is green, affordable, abundant, and local. – Anonymous Community Member in Central KC

”

Climate Protection Steering Committee

The Climate Protection Steering Committee (CPSC) is an advisory committee established by Ordinance No. 140760 in 2014 to guide City leadership on matters related to climate protection including guiding implementation of the 2008 Climate Protection Plan. The committee is comprised of no more than eleven members, balanced among stakeholder interests and appointed by the Mayor. Current committee members are listed below:

Robin Ganahl, Co-Chair	Thomas Grever	Beth Pauley
Michael Kelley, Co-Chair	Bill Griffith	Kristin Riott
Angela Crawford	Shirley Mata	Bridget Sanderson
Ellen Fairchild	Bo Moreno	

With the development of this new Climate Protection and Resiliency Plan, the CPSC’s role as advisors continued. The CPSC met periodically throughout the development of this plan and participated in many of the community engagement activities. Additionally, the CPSC reviewed the draft plan and provided additional recommendations for prioritizing actions. CPSC top priorities can be found on page 26.

As with the 2008 plan, the CPSC will play a key role in supporting implementation of this plan, leveraging each of their respective area(s) of expertise to guide KCMO toward a carbon-neutral, equity-focused, and resilient future.

GUIDE TO READING THE CLIMATE ACTION SECTIONS

Climate Action Sections:

Broad topics to help us better organize our climate action activities.



Equitable Future Commitment:

How Kansas City will keep equity at the forefront of this Climate Action Section.



Strategies:

Actionable climate solutions that contribute toward our vision

Greenhouse Gas (GHG) Emissions Reduction Potential: What amount of GHG emissions do we expect will be avoided if the strategy is implemented?	Resiliency Benefits: Does the strategy increase our resilience to flooding, extreme heat, or other climate risks?	Co-Benefits: What additional positive impacts would result from this strategy (e.g., economic recovery, carbon sequestration, health and wellness, and/or environmental justice)?
<i>How it Appears</i>	<i>How it Appears</i>	<i>How it Appears</i>
<i>Maximum Greenhouse Gas Emissions Reduction Potential by 2040</i>	<i>Resiliency Benefit</i>	<i>Other Co-Benefits</i>
Percentage	Yes	   

Co-Benefits Legend:  Economic Recovery  Carbon Sequestration  Health & Wellness  Environmental Justice

Short-Term Actions:

What specific steps will communities take between 2022 and 2025 to implement this strategy (additional details about these actions and other, longer-term actions can be found in the Short-Term Implementation Plan located in the [Supplemental Documentation](#)).

Note that strategies and actions are not listed in order of priority, as all are necessary for achieving our climate goals.





MOBILITY

MOVING AROUND THE CITY

OVERVIEW

Mobility is foundational to how we live, work, and enjoy our city. Whether we travel by foot or on wheels, it is important that all of us can move around easily, affordably, and safely. But in reality, many of our neighborhoods face mobility challenges and are breathing in the exhaust from cars, buses, and trucks. This Climate Action Section focuses on improving our mobility system through better infrastructure, coordinated planning, and vehicle electrification. These strategies must work together to provide a comprehensive transportation network, giving residents sustainable and convenient ways to access their community.

STRATEGY M-1

Reduce vehicle miles traveled (VMT) through coordinated and planned development

STRATEGY M-2

Shift trips to bicycling and walking by expanding a network of safe and accessible routes

STRATEGY M-3

Shift trips to transit by building efficient and effective transit systems and mobility hubs

STRATEGY M-4

Reduce vehicle emissions from idling by reducing congestion and improving parking management

STRATEGY M-5

Reduce vehicle emissions through low- and no-emission vehicles

OUR EQUITABLE FUTURE

Our mobility system will promote climate justice by enabling residents, regardless of ability, to move safely, freely, and independently. This includes increasing walkable, bikeable, and safe transit routes that support people with diverse abilities throughout Kansas City, and making electric transportation modes more accessible to everyone.



WHERE WE STAND

In 2019, on-road transportation became the largest source of GHG emissions in Kansas City, accounting for about one third of total emissions or three million MT CO₂e (Figure 15). These emissions primarily come from gasoline and diesel used in cars and trucks traveling on roads in the city, including commuters traveling into and through Kansas City from surrounding areas. Since 2005, emissions from on-road vehicles have decreased by about 19 percent. This decrease is driven by increasing fuel efficiency of vehicles, even though vehicle miles traveled (VMT) per person has increased by about five percent over the last ten years. The increase in VMT is driven by sprawling development, as well as the closure of grocery stores, schools, and other key amenities in certain neighborhoods, requiring residents to drive to other areas of the city for necessities.

The fastest way to reduce our transportation-related emissions is to drive less by choosing to walk, bike, or ride transit instead, and if you must drive choose an electric vehicle with no tailpipe emissions. These strategies will need to work together to provide a convenient and safe transportation system for residents of all abilities and all trip types. Connected KC 2050, the region's transportation plan, supports multimodal transportation options and efficient development by providing a policy framework that focuses on activity centers and corridors, limiting sprawl, and increasing connectivity. Concurrently with the development of this plan, Kansas City is also updating its Comprehensive Plan to guide decisions to ensure Kansas City remains a thriving, people-centered community.

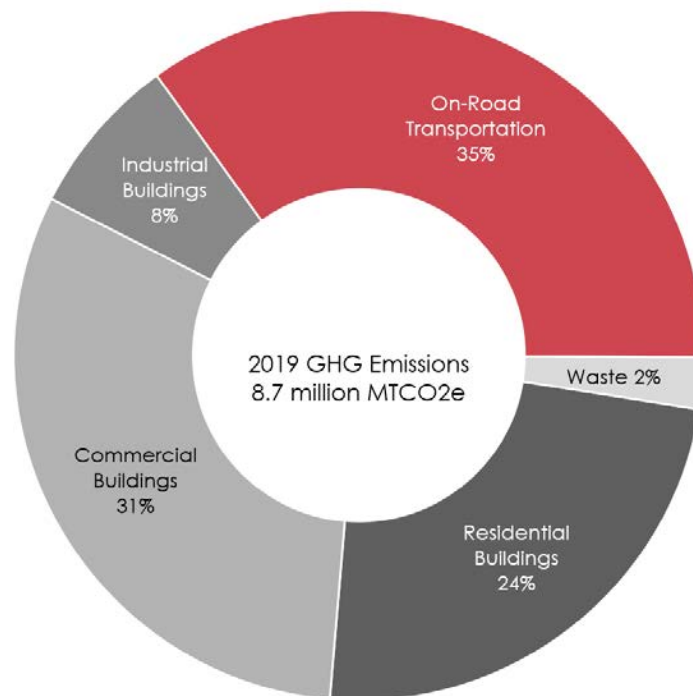


FIGURE 15: On-Road Transportation Emissions as a Portion of 2019 Total Emissions



When safety is prioritized for people of all abilities, walking, biking, and riding public transit are great ways to reduce vehicle emissions while improving our health and wellbeing. Below are just a few of the many efforts underway to make it easier for our community members to choose these alternate mobility options.

- The Go KC Sidewalk Program launched in 2017, focusing on ADA ramp and sidewalk issues, sidewalk repair requests, and an inventory of sidewalk conditions across the city to inform repairs.
- Through the leadership of organizations like BikeWalkKC, Kansas City has maintained a Bronze Bicycle Friendly Ranking from the League of American Bicyclists since 2011; and the Bike KC Master Plan includes a goal to increase this ranking to silver by 2024.
- Smart Moves 3.0 provides Kansas City with a 20-year plan to improve high-demand corridors, enable vibrant places, create mobility hubs, deliver mobility innovations, and build partnerships.
- The KC Streetcar system opened for service in 2016 and is in the process of launching the Main Street Extension and Riverfront Extension.
- Ride KC began operation of three electric buses in 2021, serving MAX lines and local routes.

OUR PLAN FOR 2040

See the Short-Term Implementation Plan as part of the plan's [Supplemental Documentation](#) for implementation roles, equity and funding considerations, and other details. Note that strategies and actions are not listed in order of priority, as all are necessary for achieving our climate goals.



STRATEGY M-1: REDUCE VEHICLE MILES TRAVELED (VMT) THROUGH COORDINATED AND PLANNED DEVELOPMENT

Ensure that new developments are designed to reduce the distance residents need to travel to reach their workplace and necessary amenities such as grocery stores and medical clinics, and provide easy access to public transit. Development planning should reduce the need and opportunity for commercial traffic to occur where people live and play and all improvements must be deliberate in avoiding green gentrification.

EQUITABLE FUTURE HIGHLIGHTS

To move toward our equitable future, we will prioritize reinvestment in neglected areas, working with neighborhoods to transform abandoned or misused properties into new, affordable opportunities that fit the character and context of the neighborhood and prevent gentrification. Specific priority areas include historic neighborhoods in Central Kansas City.

STRATEGY IMPACTS

Maximum Greenhouse Gas Emissions Reduction Potential by 2040	Resiliency Benefit	Other Co-Benefits
8% By increasing population density by 36%.	Yes	   

Co-Benefits Legend:  Economic Recovery  Carbon Sequestration  Health & Wellness  Environmental Justice

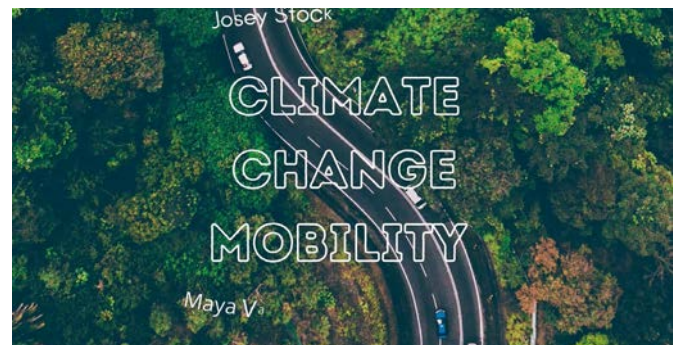
SHORT-TERM ACTIONS

Immediate (2022 or already underway)

- None identified

Near Term (2023-2025)

- M-1.1: Promote development patterns that prevent sprawl and support alternative modes of transportation, including road diets and traffic calming.
Use codes, permits, taxes, and other mechanisms to require or incentivize infill development, accessory dwelling units, transit-oriented development, and other development patterns that build density in key areas of the city, support alternative modes of transportation, and avoid sprawl.
- M-1.2: Expand the use of green development practices.
Comprehensively evaluate opportunities to incorporate trees at transit stops, tree-lined corridors, bioswales, and other types of green infrastructure considerations into the development process to increase the use and impact of green development practices.



Watch this video and more student recommendations for the climate plan at youtu.be/Xu-cfPQaeY.



STRATEGY M-2: SHIFT TRIPS TO BICYCLING AND WALKING BY EXPANDING A NETWORK OF SAFE AND ACCESSIBLE ROUTES

Adopt and implement the Bike KC Master Plan and update and implement the Walkability Plan and KC Trails Plan to ensure all communities have equal access to safe bike and walk infrastructure. Bicycle commuting has been shown to support the local economy through jobs as well as health care savings from people who choose active transport (Flusche, 2012).

EQUITABLE FUTURE HIGHLIGHTS

To move toward our equitable future, we will consider users of all abilities when designing infrastructure and programs and continue to prioritize improvements in zip codes with lower life expectancies.

STRATEGY IMPACTS

Maximum Greenhouse Gas Emissions Reduction Potential by 2040	Resiliency Benefit	Other Co-Benefits
More than 8% By changing how people commute to 32% walking, 5.4% biking, and 10% working from home.	No	   

Co-Benefits Legend:  Economic Recovery  Carbon Sequestration  Health & Wellness  Environmental Justice

SHORT-TERM ACTIONS

Immediate (2022 or already underway)

- M-2.1: Continue applying the Complete Streets policy.
Continue implementing the Complete Streets ordinance to improve mobility for a range of complementary uses, including transit, bikes, pedestrians, and cars. Consider adopting a goal of at least 40% of city streets considered “Complete” by 2040.
- M-2.2: Work toward a system of protected and connected bike lanes, greenways, and sidewalks, that use universal design principles.
Continue efforts (e.g., planning, program development, projects, education, advocacy) that promote protected and connected bike lanes, greenways, and sidewalks, using universal design principals to increase access for all users. Continue to implement the Vision Zero strategy of adding 15 miles of protected bike lanes each year while maintaining existing bike infrastructure and enhancing visibility of existing multimodal transit options through signage and other wayfinding methods.

Near Term (2023-2025)

- M-2.3: Invest at minimum 3% of City transportation infrastructure expenditures in safe bicycle and pedestrian infrastructure, including end of trip facilities.
To ensure continued investment in creating safe, quality travel for pedestrians and bicyclists, set aside a minimum of three percent of the transportation infrastructure budget for pedestrian and bicycle infrastructure, including public restrooms, parking, and other end of trip facilities.
- M-2.4: Explore programs to provide electric micromobility options for City employees, businesses, and residents. Expand on the City’s 2019 scooter and e-bike pilot program as a way to provide additional modes of zero emission transportation for City employees, residents, and businesses.



STRATEGY M-3: SHIFT TRIPS TO TRANSIT BY BUILDING EFFICIENT AND EFFECTIVE TRANSIT SYSTEMS AND MOBILITY HUBS

Expand public transit infrastructure to provide low-cost, reliable, convenient transportation for all residents, prioritizing east/west transit lines. To ensure success of this strategy, ensure that public transit workers are valued and paid fairly. Investing in high-quality public transit has been shown to support the local economy with about \$5 in economic returns for every \$1 invested in public transit (Economic Development Research Group, 2020).

EQUITABLE FUTURE HIGHLIGHTS

To move toward our equitable future, we will consider users of all abilities, ages, and cultures when designing infrastructure, programs, and outreach materials and prioritize investments in U.S. EPA Environmental Justice areas and for populations that rely on transit as a primary mode of transportation.

STRATEGY IMPACTS

Maximum Greenhouse Gas Emissions Reduction Potential by 2040	Resiliency Benefit	Other Co-Benefits
Less than 1% By electrifying all transit buses and increasing the number of commuting by transit to 12%.	No	   

Co-Benefits Legend:  Economic Recovery  Carbon Sequestration  Health & Wellness  Environmental Justice

SHORT-TERM ACTIONS

Immediate (2022 or already underway)

- M-3.1: Expand alternative transportation programs.
Expand alternative transportation programs including, but not limited to transit ridership, carpooling, telecommuting, and innovative work scheduling.
- M-3.2: Build out the Smart Moves transit and mobility system, including the network of mobility hubs.
Continue the implementation of the Smart Moves 3.0 regional 20-year plan, with a focus on mobility hubs.

Near Term (2023-2025)

- M-3.3: Initiate a public education and marketing program to promote alternative transportation programs.
Launch an education and marketing effort to increase awareness about the benefits of alternative transportation and encourage participation in existing alternative transportation programs.
- M-3.4: Improve reliability of existing transit and decrease wait times for public transit to make it comparable to driving a personal vehicle.
Implement and expand the RideKCNext initiative to decrease wait times to between 15 and 20 minutes and expand east/west routes.



Watch this video and more student recommendations for the climate plan at youtu.be/FQ4_OBdJN0s.



STRATEGY M-4: REDUCE VEHICLE EMISSIONS FROM IDLING BY REDUCING CONGESTION AND IMPROVING PARKING MANAGEMENT

Employ traffic management strategies to reduce congestion, idling, and rapid acceleration and deceleration, through traffic signals, light synchronization, and enforcement. This not only decreases GHG emissions from vehicles, but also particulate matter that can cause respiratory problems such as asthma (Barth & Boriboonsomsin, 2009). Coordinate traffic management efforts with Vision Zero efforts to protect all road users.

EQUITABLE FUTURE HIGHLIGHTS

To move toward our equitable future, we will consider the cost implications of any policy to community members, avoiding increasing costs in areas that already experience a transportation cost burden.

STRATEGY IMPACTS

Maximum Greenhouse Gas Emissions Reduction Potential by 2040	Resiliency Benefit	Other Co-Benefits
3% By reducing congestion and stop and start traffic to reduce vehicle emissions by 20%.	No	   

Co-Benefits Legend:  Economic Recovery  Carbon Sequestration  Health & Wellness  Environmental Justice

SHORT-TERM ACTIONS

Immediate (2022 or already underway)

- M-4.1: Improve anti-idling efforts citywide.
Promote the MARC Idle-Free Zones and encourage anti-idling policies at schools and businesses.

Near Term (2023-2025)

- M-4.2: Revise parking policies to promote other modes of transportation.
Encourage a shift to other modes of transportation through parking policy and management, such as reducing or removing minimum on-site parking requirements and enacting parking maximum time limits.
- M-4.3: Develop a market-value parking strategy to reduce congestion and promote alternative transportation in high-use districts.
Develop a parking strategy based on supply and demand in high use districts and direct a portion of the revenue to improve micro-mobility hubs and end of use facilities.
- M-4.4: Conduct local air pollution studies.
Conduct local air pollution studies in lower income communities within ¼ mile of trafficways, boulevards, and highways. Prioritize zones with unhealthy exposure to emissions for improved urban tree canopy and other linked mitigation strategies.



STRATEGY M-5: REDUCE VEHICLE EMISSIONS THROUGH LOW- AND NO-EMISSION VEHICLES

Transition on-road vehicles to electric vehicles (EVs), including buses, e-bikes, and commercial vehicles, or other low- and no-emission vehicles. This reduces GHG emissions and local air pollutants from vehicles; EVs also cost about 40 percent less to maintain than conventional vehicles, lowering transportation costs (US Department of Energy, 2021).

EQUITABLE FUTURE HIGHLIGHTS

To move toward our equitable future, we will consider users of all abilities and cultures when designing infrastructure, programs, and outreach materials and prioritize affordable EV access for lower-income households.

STRATEGY IMPACTS

Maximum Greenhouse Gas Emissions Reduction Potential by 2040	Resiliency Benefit	Other Co-Benefits
7% By transitioning 27% of light-duty and 29% of heavy-duty vehicles to EVs.	No	   

Co-Benefits Legend:  Economic Recovery  Carbon Sequestration  Health & Wellness  Environmental Justice

SHORT-TERM ACTIONS

Immediate (2022 or already underway)

- M-5.1: Promote community-wide electric vehicle adoption.
Continue and enhance efforts to increase EV adoption through education, incentive programs, and development codes.
- M-5.2: Expand the charging station network.
Increase the number of charging stations on public and private property, to support EV adoption.
- M-5.3: Electrify public-serving fleets.
Demonstrate leadership by continuing to electrify the public-serving fleets, including municipal, transit, and school fleets. Explore other zero-emission vehicles as alternatives for heavy-duty equipment or other vehicles that may be difficult to electrify.



Watch this video and more student recommendations for the climate plan at youtu.be/zVR6pl_zw10.



Near Term (2023-2025)

- M-5.4: Implement an electric vehicle car-share program in communities with lower income levels.
Increase EV accessibility in communities with lower incomes by establishing an EV car-share program.
- M-5.5: Electrify transportation network companies (TNC) and carshare fleets.
Accelerate EV adoption by partnering with transportation network companies (TNC) and carshare companies to electrify their fleets.
- M-5.6: Reduce the use of polluting lawnmowers and other landscaping equipment.
Develop a program to improve neighborhood air quality by providing electric landscaping equipment or promoting alternative landscaping techniques for municipal, general, and commercial uses.







ENERGY SUPPLY

PROVIDING CLEAN AND AFFORDABLE ENERGY

OVERVIEW

Utility-scale renewable energy technologies such as wind and solar are more cost-effective than fossil fuels for utilities to invest in to make their grid mix cleaner and more affordable for their customers. At the same time, decentralized, distributed renewable and clean energy technologies have not been built out to their full potential to increase grid resiliency, reliability, and lower utility bills for customers. Residential solar, community solar, and energy efficiency programs must be prioritized for households that are in danger of or have experienced utility shut offs, missed utility payments, evictions, housing insecurity, and other symptoms of racist redlining policies and subsequent energy insecurity. Kansas City should pursue a portfolio that factors in the impacts of reliability and affordability of customers as the city moves toward a clean energy future.

STRATEGY E-1

Transition energy grid mix to renewable energy

STRATEGY E-2

Expand neighborhood, commercial, and municipal renewable energy generation

STRATEGY E-3

Improve grid stability and resilience

STRATEGY E-4

Purchase utility scale renewable energy

OUR EQUITABLE FUTURE

Our energy supply will promote climate justice by reducing our community's energy burden (the percentage of household annual income spent on electricity and natural gas utility costs), transitioning to clean energy, eliminating pollution most often impacting historically redlined and other frontline communities, and improving energy reliability, so everyone can live more securely as we move forward in our just, clean energy transition.



WHERE WE STAND

GHG emissions from fuel burned to generate the electricity used in the city accounts for about 46 percent of Kansas City's total emissions or four million MTCO₂e (Figure 16). Evergy has committed to a 70 percent carbon emission reduction by 2030 goal and a net-zero by 2045 goal (Evergy, 2021). In addition to grid improvements, many organizations have set renewable energy goals for their own operations, such as Kansas City municipal operations which has set a goal to reduce 100% of emissions related to electricity consumption by 2022.

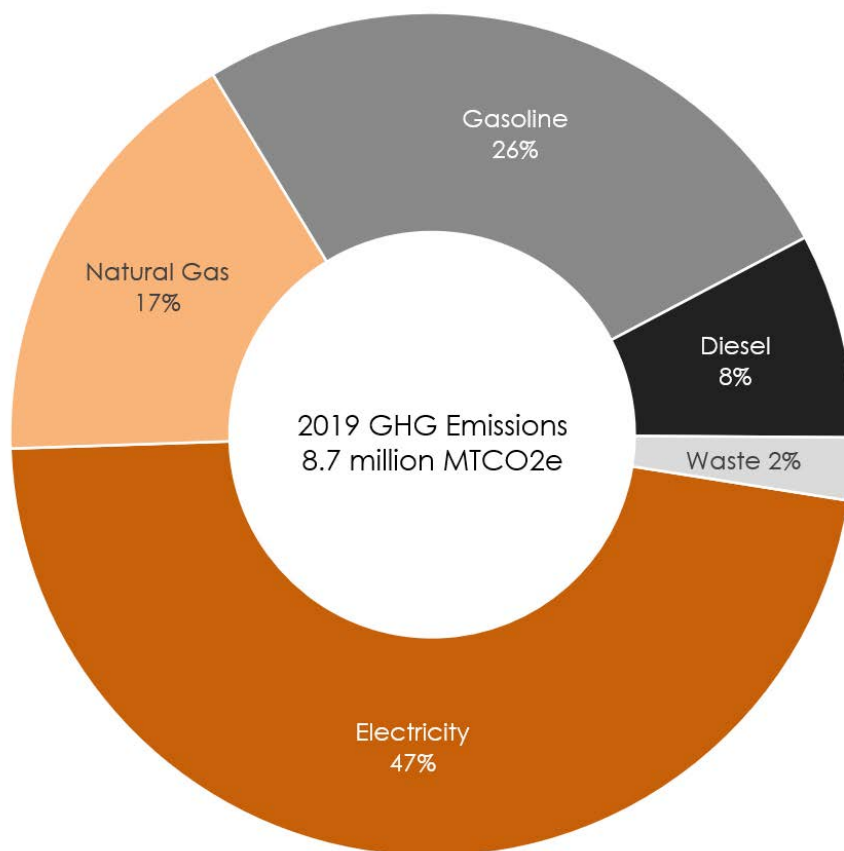


FIGURE 16: Energy Supply Emissions as a Portion of 2019 Inventory

Emissions from natural gas used in our homes and buildings released about 1.5 million MTCO₂e or about 17 percent of Kansas City's 2019 GHG emissions. Despite Spire Energy's efforts to reduce methane emissions from its gas utilities by 39 percent from 2005 to 2019 (Spire, 2022), these emissions have increased over the last ten years due to an increase in natural gas use in homes and businesses.

Renewable energy generation projects like the 172-kW solar system installed on the Foley Equipment site help reduce emissions from energy use in buildings by providing about one third of the building's electricity needs from clean renewable energy. Additionally, this project built in resiliency with solar panels that integrate with on-site energy storage to provide power in case of a power outage. This system is expected to save the company \$23,000 in the first year and increases the building's resiliency in the event of natural disasters such as flooding (CAT, 2021).

Kansas City Leading the Way

To meet their goal to reduce 100 percent of emissions related to electricity consumption by 2022, Kansas City municipal operations have undertaken several renewable energy projects.



CITY OF
KANSAS CITY,
MISSOURI

SOLAR ENERGY PROJECT
CONCEPT RENDERING

KANSAS CITY
AVIATION DEPARTMENT
OCTOBER 2021

Solar at the Airport

Kansas City is working to install one of the largest solar arrays in the country, and the largest city-owned solar array, at Kansas City International Airport. The land surrounding the runway has strict height restrictions limiting development options but making it a perfect location for solar. This solar system could power all City facilities and have an energy surplus to provide community solar. To make this project a reality, the City will need to partner with Evergy to support energy distribution. This project also aligns with Evergy's goal of increasing renewable energy generation with 350 MW solar capacity added in 2023 (Uhlenhuth, 2021). Look for more information about the array in the feasibility study expected to be completed in 2022.

Rooftop Solar

Kansas City has 60, 25 kW solar panel installations on rooftops of 58 City buildings, generating 1.5 MW annually. These solar systems produce about 2.1 MWh per year, which is less than 1% of the City's total electric energy use.

Renewable Energy Purchases

The City participates in Evergy's Renewables Direct program, enabling the City to procure energy for municipal operations through utility-scale renewable sources. Currently, the City has an 15-year, 18 MW power purchase agreement (PPA) for wind energy, which covers an estimated 20 percent of the City's electricity usage. Looking forward, the City is working with Evergy on a 57 MW PPA to continue to move toward its renewable energy goal.



OUR PLAN FOR 2040

See the Short-Term Implementation Plan as part of the plan's [Supplemental Documentation](#) for implementation roles, equity and funding considerations, and other details. Note that strategies and actions are not listed in order of priority, as all are necessary for achieving our climate goals.

STRATEGY E-1: TRANSITION ENERGY GRID MIX TO RENEWABLE ENERGY

Work with Evergy, the Public Service Commission, and other cities in Evergy territory to eliminate GHG emissions from grid delivered electricity by retiring coal and gas plants early and replacing them with a fair mix of utility-owned wind, solar, and storage and customer-owned solar and storage.

EQUITABLE FUTURE HIGHLIGHTS

To move toward our equitable future, we will consider the impact of energy generation sources on utility rates to avoid increasing costs for energy burdened homes.

STRATEGY IMPACTS

Maximum Greenhouse Gas Emissions Reduction Potential by 2040	Resiliency Benefit	Other Co-Benefits
25% By reaching 100% carbon-free electricity on the grid.	Yes	   

Co-Benefits Legend:  Economic Recovery  Carbon Sequestration  Health & Wellness  Environmental Justice

SHORT-TERM ACTIONS

Immediate (2022 or already underway)

- E-1.1: Expand utility-owned renewable energy production.
Encourage Evergy to continue to invest in local renewable energy production through utility-scale solar and wind projects, to increase the percentage of renewable energy in the grid mix through the integrated resource planning (IRP) process.
- E-1.2: Leverage House Bill 734: Modifies provisions relating to utilities.
In August 2021, the Missouri legislature passed a bill approving financing mechanisms that will reduce the costs of closing fuel plants to transition them to renewable energy and keep customers' bills low. Evergy will adjust IRP updates to account for these opportunities, taking into account the City's preference to close coal plants by 2030 and transitioning to renewable energy sources more rapidly.
- E-1.3: Coordinate legal review and response by the City for state renewable energy policies.
The City will review, advocate for, and intervene when appropriate on policies that support renewable energy generation and electrification, and prioritize community health through early coal plant retirements, including a preferred retirement date for Hawthorn coal plant of 2025.

Near Term (2023-2025)

- E-1.4: Advocate for performance-based regulation for Evergy.
Work at the state legislative level to create and pass a bill creating performance-based regulation standards for Evergy, including renewable energy and energy efficiency targets.

STRATEGY E-2: EXPAND NEIGHBORHOOD, COMMERCIAL, AND MUNICIPAL RENEWABLE ENERGY GENERATION

Invest in local solar generation on homes, businesses, and City-owned properties and parking lots. Batteries should be installed with onsite generation to form a microgrid that can provide power in case of power outages at critical locations, improving resiliency to natural disasters. Installing solar panels on homes not only decreases utility bills but has also been shown to increase home values (US Department of Energy, 2021).

EQUITABLE FUTURE HIGHLIGHTS

To move toward our equitable future, we will focus solar workforce development initiatives and solar installations in historically marginalized communities and ensure solar development doesn't hinder affordable housing opportunities.

STRATEGY IMPACTS

Maximum Greenhouse Gas Emissions Reduction Potential by 2040	Resiliency Benefit	Other Co-Benefits
2% By installing 285 MW of local solar generation.	Yes	   

Co-Benefits Legend:  Economic Recovery  Carbon Sequestration  Health & Wellness  Environmental Justice

SHORT-TERM ACTIONS

Immediate (2022 or already underway)

- E-2.1: Provide career training for solar installers.
Provide opportunities for training in solar installation (technicians) to support the growing market focusing on recruitment from multicultural communities.
- E-2.2: Expand community solar options.
Install community solar throughout the city to provide renewable energy options for renters, and businesses or homes without suitable roof-top opportunities. Consider leveraging the KCMO Land Bank and Urban Homesteading programs. Leverage these installations to demonstrate solar energy best practices and encourage homeowners and businesses to invest in distributed generation. Support changes at the state level to allow for true community solar. See the spotlight on page 49 for how the [City Leading the Way](#).
- E-2.3: Encourage solar for new construction receiving tax abatements or other City incentives.
Develop policy encouraging projects receiving City funds, incentives, or tax abatements to install rooftop solar or, in the case that roof area is insufficient, to use utility renewable energy sources.

Near Term (2023-2025)

- E-2.4: Adopt and advocate for solar-friendly policies and practices.
Review City codes, permitting, policies, and procedures to identify and remove barriers to distributed solar installation, including a solar-ready ordinance for new construction and increasing incentives to lower costs.
- E-2.5: Create an online hub with climate action resources for residents and businesses.
Create a City-maintained online resource that residents and businesses can visit to learn more about climate action. Include resources on renewable energy, electrification, natural resources, green jobs, and other climate-related initiatives.



STRATEGY E-3: IMPROVE GRID STABILITY AND RESILIENCE

Use climate models to ensure the local power grid can provide reliable electricity even with the predicted impacts of climate change and increased grid demand from building and transportation electrification strategies. For example, the increase in extreme heat events will increase the electrical demand from air conditioning during these events; so, strategies to reduce these peak demand events may be needed to avoid brownouts.

EQUITABLE FUTURE HIGHLIGHTS

To move toward our equitable future, we will consider the impact of smart grid strategies on utility rates to avoid increasing costs for energy burdened homes and prioritize grid improvements in areas burdened by the digital divide and in low income and traditionally redlined areas.

STRATEGY IMPACTS

Maximum Greenhouse Gas Emissions Reduction Potential by 2040	Resiliency Benefit	Other Co-Benefits
None	Yes	   

Co-Benefits Legend:  Economic Recovery  Carbon Sequestration  Health & Wellness  Environmental Justice

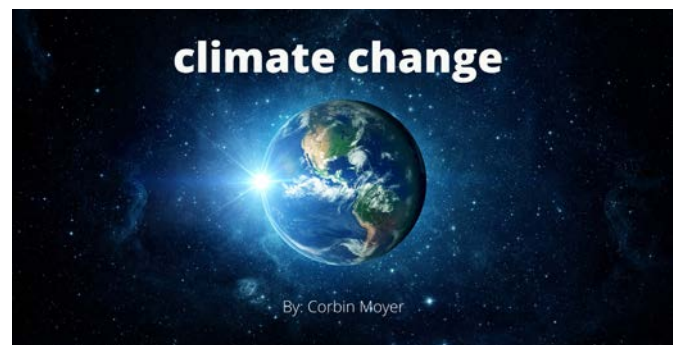
SHORT-TERM ACTIONS

Immediate (2022 or already underway)

- E-3.1: Implement grid flexibility and smart grid strategies.
Leverage smart grid strategies, virtual power plants, and grid flexibility technologies to help ensure grid reliability with increasing renewable energy generation and the expected impacts of climate change.

Near Term (2023-2025)

- E-3.2: Implement microgrids.
Pair on-site storage and microgrid controls with on-site solar generation to provide a microgrid that can provide power in grid blackouts or brownouts.
- E-3.3: Model future electricity demand to inform a resilient clean energy plan.
Ensure that future energy use trends such as increased temperatures, extreme weather, building electrification, and vehicle electrification are considered during electric energy planning to ensure a reliable, clean energy supply that can meet demand increases as we implement electrification strategies and actions within this plan.



Watch this video and more student recommendations for the climate plan at youtu.be/ncBHDyoUDJw.



STRATEGY E-4: PURCHASE UTILITY-SCALE RENEWABLE ENERGY

Purchase renewable energy from utility-scale solar and wind sources to supplement renewable energy available through the grid. Because of project size, utility-scale solar is a cost-effective way to reduce carbon emissions and can provide access to those who cannot generate renewable energy on-site. This will be a crucial strategy for meeting the City's carbon neutral electricity goal by 2030.

EQUITABLE FUTURE HIGHLIGHTS

To move toward our equitable future, we will consider the impact of energy generation sources on utility rates to avoid increasing costs for energy burdened homes and develop community-based programs where additional costs are covered if residents earn a limited income.

STRATEGY IMPACTS

Maximum Greenhouse Gas Emissions Reduction Potential by 2040	Resiliency Benefit	Other Co-Benefits
0% This strategy is key to hitting 2030 goals but will be phased out between 2030 and 2040.	No	   

Co-Benefits Legend:  Economic Recovery  Carbon Sequestration  Health & Wellness  Environmental Justice

SHORT-TERM ACTIONS

Immediate (2022 or already underway)

- None identified.

Near Term (2023-2025)

- E-4.1: Increase participation in the renewable energy direct program.

The City is working on a purchase agreement for renewable energy to supply City facilities and can continue to expand participation to meet the City's 100% renewable energy goal. See the spotlight on page 49 for how the [City Leading the Way](#).

- E-4.2: Develop a program to procure renewable energy at community scale.

Based on the public facing goals from Evergy and the projected local distributed generation, there will be a significant need for additional renewable energy to meet the 2030 goal. This will need to be filled by a large-scale renewable energy agreement.

- E-4.3: Advocate for community choice energy legislation.

Work at the state legislative level to create and pass a bill supporting community choice energy as a mechanism for accelerating the renewable energy transition.



Watch this video and more student recommendations for the climate plan at youtu.be/pBlm1bwjxpg.







NATURAL SYSTEMS

USING NATURE TO COOL OUR CITY, PREVENT FLOOD DAMAGE, AND CLEAN OUR AIR AND WATER

OVERVIEW

Trees, plants, soils, waterways, and wildlife – all of these are part of the natural systems that cool our cities and keep us healthy, safe, and happy. Natural systems are complex and interconnected and must be addressed holistically and not just as a set of independent actions. Healthy ecosystems naturally reduce water and air pollution, lessen the effect of heat islands, sequester carbon, and contribute to human health and well-being. This Climate Action Section focuses on being responsible stewards of our environment so we can fully realize the benefits of functioning and healthy ecosystems.

STRATEGY N-1

Expand network of trees and natural areas

STRATEGY N-2

Promote regenerative, ecologically healthy soils and landscapes

STRATEGY N-3

Promote sustainable water supply and use

STRATEGY N-4

Use natural systems to manage stormwater runoff

OUR EQUITABLE FUTURE

Our natural systems will promote climate justice by reintegrating diverse, native ecosystems into all of our neighborhoods, especially in soil deficient, abandoned, and blighted areas, ridding unjust and unsustainable land practices, and by encouraging city-wide environmental stewardship to reduce flooding, increase water retention, reduce heat islands, repair the soil, improve air quality, and increase the overall wellbeing for our communities and our biome.



WHERE WE STAND

Nationwide and statewide, our stormwater systems are not achieving passing grades, scoring a D and C- grade respectively (American Society of Civil Engineers, 2021). Kansas City is actively working to change this poor grade and is home to more than 230 green infrastructure sites that help manage stormwater the way nature intended—slowing, absorbing, and filtering stormwater before it enters Kansas City’s sewer system. Kansas City Water Services also participate in FEMA’s Community Rating System (CRS) Program, which means we are actively working to help residents prevent or reduce flood losses.

Many community organizations are working to improve our soils, protect our biodiversity, and grow our community forest. Deep Roots provides education on regenerative native landscapes and the Giving Grove provide the trees, supplies, and training necessary to grow a fruitful orchard in neighborhoods with high rates of food insecurity. Since 2005, the Heartland Tree Alliance volunteers have planted nearly 18,000 trees and maintain more than 2,500 more.

Kansas City updated its Urban Forest Master Plan in 2018 to expand the City’s capacity to care for its tree canopy, which provides more than \$28 million in annual community benefits. The plan sets an ongoing goal of 35 percent tree canopy cover, an increase from the 31 percent baseline. To combat a declining tree canopy, the plan outlines strategies to expand outreach, leverage collaboration opportunities, and address threats from pests and climate change.



Watch this video and more student recommendations for the climate plan at youtu.be/liOtkYdux2o.

Why Biodiversity Matters

Biodiversity refers to the variety of life on Earth— from genes to ecosystems—and provides the life-supporting services upon which we depend. Many of these services are critical to climate resiliency, such as providing food and water, regulating climate and soil erosion, and controlling pests and diseases. For example, close to 75 percent of the world’s production of fruits and seeds for human consumption depends, at least in part, on pollinators (Food and Agriculture Organization of the United Nations, 2018). Biodiversity of our soils is just as critical as the biodiversity of plants and animals, as soil biodiversity determines the productivity of land, and thus the provision of food, water, and the regulation of climate. Unfortunately, climate change is a major and growing driver of biodiversity loss. By restoring and reconnecting habitats for increased biodiversity, we can combat the negative effects of climate change, better sequester carbon in soils and landscapes, and increase our resiliency.

OUR PLAN FOR 2040

See the Short-Term Implementation Plan as part of the plan’s [Supplemental Documentation](#) for implementation roles, equity and funding considerations, and other details. Note that strategies and actions are not listed in order of priority, as all are necessary for achieving our climate goals.



STRATEGY N-1: EXPAND NETWORK OF TREES AND NATURAL AREAS

Expand and protect Kansas City's network of trees and natural areas, prioritizing native plants that are resilient to climate impacts. Increasing tree canopy coverage and other types of green space helps reduce urban heat islands, provides healthy spaces for residents to enjoy, cleans the air, and provides wildlife habitat. Air pollution benefits alone are estimated at more than \$117,000 annually per tree (i-Tree Canopy, 2021).

EQUITABLE FUTURE HIGHLIGHTS

To move toward our equitable future, we will prioritize efforts in areas most impacted by extreme heat and on abandoned and neglected lands, ensure adequate investment in urban core areas, consider beautification efforts in areas with lower incomes, prioritize areas near and surrounding the Blue River, and work with Indigenous communities on native plant initiatives.

STRATEGY IMPACTS

Maximum Greenhouse Gas Emissions Reduction Potential by 2040	Resiliency Benefit	Other Co-Benefits
Indirect Green infrastructure can reduce temperatures, decreasing energy used by cooling systems as well as the associated GHG emissions.	Yes	   

Co-Benefits Legend:  Economic Recovery  Carbon Sequestration  Health & Wellness  Environmental Justice

SHORT-TERM ACTIONS

Immediate (2022 or already underway)

- N-1.1: Preserve and enhance green space and trees to increase the tree canopy.
Preserve and enhance green space and trees to increase the tree canopy, from 31% (and declining) to a goal of 35% for City property and an additional 15% on private property by enhancing existing tree preservation and planting programs and exploring new policy mechanisms (e.g., tree preservation ordinance), public/private partnerships, and programs. Focus efforts on historically underserved neighborhoods where heat islands exist. See the spotlight on page 33 for more information on [Carbon Sequestration](#).
- N-1.2: Systematically protect, acquire, and restore floodplain and riparian forests.
Reforest Kansas City's floodplains to achieve carbon sequestration, recreation, and other benefits by systematically protecting, acquiring, and restoring forests. See the spotlight on page 33 for more information on [Carbon Sequestration](#).
- N-1.3: Promote and incentivize the use of native plants, grasses, shrubs, groundcover, and trees.
Encourage, incentivize, or require the use of native plants on City property, vacant lots, medians, and communitywide. Native plants are beautiful and iconic to our region, support local pollinators, can survive Kansas City's weather extremes, need less irrigation, and reduce annual expenses (including mowing).

Near Term (2023-2025)

- N-1.4: Implement heat island mitigation strategies through development.
Evaluate development codes for opportunities to encourage or require urban heat island mitigation strategies as part of new development or redevelopment.

STRATEGY N-2: PROMOTE REGENERATIVE, ECOLOGICALLY HEALTHY SOILS AND LANDSCAPES

Adopt and promote healthy soil practices to support biodiversity, improve water and air quality, reduce erosion, and improve plant health. Climate change not only threatens humans, but disrupts fragile ecosystems on which human activity depend, and further stresses endangered species. In addition to supporting Kansas City’s ecosystems and improving quality of life, soil stores three times more carbon than plants, making it a powerful GHG emissions reduction tool (Schwartz, 2014).

EQUITABLE FUTURE HIGHLIGHTS

To move toward our equitable future, we will prioritize beautifying corridors and other opportunities in areas with lower incomes, simultaneously revitalizing urban ecosystems and addressing neglected areas, and will prioritize soil restoration in historically industrial districts.

STRATEGY IMPACTS

Maximum Greenhouse Gas Emissions Reduction Potential by 2040	Resiliency Benefit	Other Co-Benefits
Indirect Green infrastructure can reduce temperatures, decreasing the amount of energy used by cooling systems as well as the associated GHG emissions.	Yes	   

Co-Benefits Legend:  Economic Recovery  Carbon Sequestration  Health & Wellness  Environmental Justice

SHORT- TERM ACTIONS

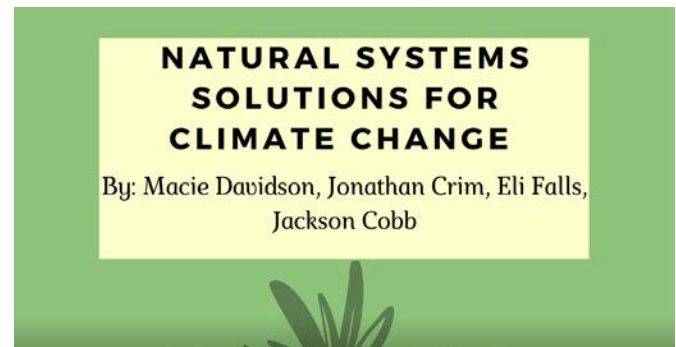
Immediate (2022 or already underway)

- N-2.1: Maintain healthy ecosystems supportive of biodiversity.
Maintain healthy ecosystems supportive of biodiversity by connecting landscapes and corridors to enable migrations, removing invasive species in parks and along greenways, repairing and promoting healthy soils, and conserving key natural assets and open space including working lands and riparian corridors.
- N-2.2: Apply compost and microorganism-nurturing inoculants in parks, in gardens, and along greenways.
Microorganisms promote a robust soil biome which is essential for soil structure that adequately holds water and oxygen and that adequately sequesters carbon.



Near Term (2023-2025)

- N-2.3: Promote urban- and landscape-scale sequestration projects.
Promote urban- and landscape-scale sequestration projects, including preservation of sequestering lands, expansion and protection of the urban forest, and promotion of soil health and soil repair.
- N-2.4: Consider new development's impact on ecosystems and healthy soil structure.
Explore ways to integrate ecosystem health impacts evaluation and soil regeneration into the development review and implementation process.
- N-2.5: Revise policies for City operations to protect ecological health for City-managed landscapes and encourage other public and private entities to do the same.
Ban City use of pollinator-threatening pesticides and insecticides (neonicotinoids and chlorpyrifos) in green spaces and government property to protect pollinator biodiversity. Explore alternatives to salt and other ice and snow treatments (e.g., calcium magnesium acetate, beetroot powder) to protect water quality and nearby vegetation and soil.



Watch this video and more student recommendations for the climate plan at youtu.be/v_OriPTT_xc.



STRATEGY N-3: PROMOTE SUSTAINABLE WATER SUPPLY AND USE

Employ reliable and resilient approaches to water management to ensure fresh water is available and affordable to all community members. Climate change manifests itself primarily through changes in the water cycle, emphasizing the importance of a resilient water management supply that addresses drought, flooding, and storm risks.

EQUITABLE FUTURE HIGHLIGHTS

To move toward our equitable future, we will prioritize improvements in old historic and industrial districts where there are higher risks of water contamination due to old infrastructure and will work with nonprofit organizations and neighborhood associations to provide grants for rain barrels and other water conservation materials to help communities cover costs.

STRATEGY IMPACTS

Maximum Greenhouse Gas Emissions Reduction Potential by 2040	Resiliency Benefit	Other Co-Benefits
Indirect Water conservation can lessen the amount of energy required for transport and treatment, reducing the associated GHG emissions.	Yes	   

Co-Benefits Legend:  Economic Recovery  Carbon Sequestration  Health & Wellness  Environmental Justice

SHORT-TERM ACTIONS

Immediate (2022 or already underway)

- None identified.

Near Term (2023-2025)

- N-3.1: Practice water conservation and demand management.
Practice water conservation and demand management through education and outreach, incentivizing water efficiency measures, and pursuing an EPA WaterSense partnership.
- N-3.2: Incentivize rainwater collection.
Develop a program to incentivize the collection and reuse of rainwater by community members.



STRATEGY N-4: USE NATURAL SYSTEMS TO MANAGE STORMWATER RUNOFF

Increase the capacity of Kansas City's landscape to manage stormwater and protect water quality. Green infrastructure, like roadside plantings, vegetated rooftops, and bioswales, can prevent runoff by capturing rain where it falls and can help clean stormwater by breaking down or capturing pollutants. This offers a cost-effective solution for managing flooding and stormwater pollution.

EQUITABLE FUTURE HIGHLIGHTS

To move toward our equitable future, we will prioritize projects in areas disproportionately impacted by flooding, like Central City. We will work toward eliminating combined sewer outfalls that directly affect neighborhoods and will consider the impact on stormwater fees to avoid increasing costs for households with lower incomes.

STRATEGY IMPACTS

Maximum Greenhouse Gas Emissions Reduction Potential by 2040	Resiliency Benefit	Other Co-Benefits
Indirect Green infrastructure can reduce temperatures, decreasing the amount of energy used by cooling systems as well as the associated GHG emissions.	Yes	   

Co-Benefits Legend:  Economic Recovery  Carbon Sequestration  Health & Wellness  Environmental Justice

SHORT-TERM ACTIONS

Immediate (2022 or already underway)

- N-4.1: Ensure climate considerations are incorporated into planning for natural processes.
Ensure climate considerations are incorporated into planning and engineering for natural processes and systems, such as increased wet weather infiltration and inflow into sewers.
- N-4.2: Promote education on the value of rain gardens to homeowners.
Use educational materials already developed regionally and at the city level to increase the number of rain gardens planted on private property.
- N-4.3: Educate and advocate for the value of healthy soil to infiltrate stormwater on all surfaces.
Integrate messaging and best practices related to healthy soil and infiltration into existing educational materials.

Near Term (2023-2025)

- N-4.4: Increase capacity for stormwater collection and treatment.
Use green infrastructure to address changes to rainfall patterns caused by climate change that may overwhelm existing stormwater systems.
- N-4.5: Incentivize, educate, and encourage community members and businesses to replace hardscapes with pervious surfaces and greenspace.
Work to develop a program to incentivize projects and processes that can prove infiltration results.
- N-4.6: Develop a regional or watershed-scale plan for stormwater management.
Look for opportunities to develop a regional or watershed-scale plan for stormwater management. This may be more cost effective than developing individual plans. This is also an opportunity to incorporate Mobility and Food strategies through restoration of riparian corridors.







HOMES & BUILDINGS

CREATING HEALTHY INDOOR SPACES FOR LIVING,
WORKING, AND ENJOYING

OVERVIEW

We spend nearly 90 percent of our time indoors (Klepeis, et al., 2001). However, many of our homes, workplaces, and community spaces need improvements to eliminate indoor air pollutants, shield us from extreme weather, and save us money on our utility bills. Additionally, the rising cost of housing is displacing lower-income residents and pushing people farther out from transit, jobs, and amenities. This Climate Action Section focuses on retrofitting existing buildings and constructing new buildings that reduce greenhouse gas emissions, improve our community resilience, support our health and wellbeing, and support efforts to address the housing affordability crisis.

STRATEGY B-1

Increase building efficiency and health for commercial and public buildings

STRATEGY B-2

Improve the efficiency, affordability, and durability of homes

STRATEGY B-3

Ensure climate-ready, efficient construction

STRATEGY B-4

Promote equitable building decarbonization

OUR EQUITABLE FUTURE

Our homes and buildings will promote climate justice by reducing housing burden (the percentage of household annual income spent on rent or mortgage), addressing the housing crisis, and enabling people to have more agency over where they live and the conditions in which they live. This includes prioritizing the safety and stability of people facing homelessness, restoring older and abandoned homes, improving indoor air quality and other unsafe indoor health and living conditions, and investing in the infrastructure needed to advance energy efficiency and building decarbonization in affordable and multifamily housing for renters and low-income homeowners.



WHERE WE STAND

In 2019, energy use in homes and buildings accounted for almost two thirds of the GHG emissions in Kansas City or 5.5 million MT CO₂e (Figure 17). These emissions come from electricity and natural gas use in these buildings.

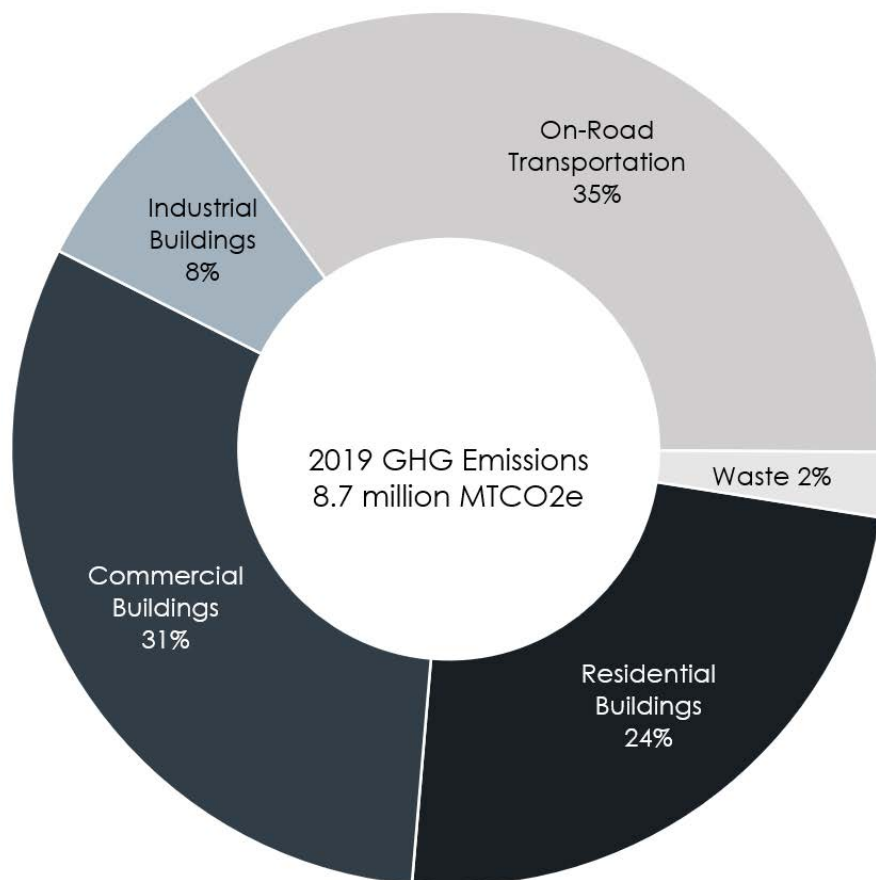


FIGURE 17: Industrial, Commercial, and Residential Building Emissions as a Portion of 2019 Total Emissions

Since 2010, energy use in commercial buildings has remained constant when compared to local economic conditions measured by the regional gross domestic product (GDP). Similarly, the average energy use per household has remained relatively unchanged since 2010. Based on these historical trends, we expect energy use and emissions in homes and businesses to continue to increase without the implementation of strategies designed to improve energy efficiency.

Building design and location is critical in our ability to overcome climate risks. High performing buildings like the LEED Certified Woodneath Library are more comfortable during extreme heat events, reducing the risk of heat stroke and other health complications. But buildings can also make extreme heat worse through the urban heat island effect. The Woodneath Library helps reduce this effect using a cool roof that reflects sunlight rather than absorbing heat.



Kansas City is one of the founding members of the Building Performance Standards Coalition, a first-of-its-kind partnership between 33 state and local governments dedicated to delivering cleaner, healthier, and more affordable buildings. With nearly 20% of the nation’s building footprint in their jurisdictions, the partnership facilitates new commitments to design and implement building performance standards at the state and local level, create good-paying, union jobs, lower energy bills for consumers, keep residents and workers safe from harmful pollution, and cut emissions from the building sector. With these improvements, we must be deliberate in avoiding green gentrification, ensuring that the investments benefit our existing neighborhoods, rather than displacing them.

Urban Heat Island Effect

Structures such as buildings, roads, and other infrastructure absorb and re-emit the sun’s heat more than natural landscapes. This, combined with waste heat from vehicles, air conditioners, factory equipment, and other machinery result in urban areas that are typically hotter than outlying areas.

OUR PLAN FOR 2040

See the Short-Term Implementation Plan as part of the plan’s [Supplemental Documentation](#) for implementation roles, equity and funding considerations, and other details. Note that strategies and actions are not listed in order of priority, as all are necessary for achieving our climate goals.

Kansas City Leading the Way

City facilities report energy use through as part of the annual energy benchmarking requirements. Analysis of these data are used to identify key City facilities that should be targets for energy efficiency investments. In 2021, eight office buildings were reviewed. Their ENERGY STAR score is shown in the table. A score of 75 or higher indicates that the building is eligible for ENERGY STAR certification. Of the nine office buildings reviewed, six are eligible for certification and the remaining three have low scores and should be targets for energy efficiency upgrades. For more information about City building energy performance see the [Energy Benchmarking Annual Report 2021](#).

ENERGY STAR® Score Range

Property Name	ENERGY STAR Score	Square Feet
PW Streets District 1 Main Building	93	25,848
Water Services Department IT Building	92	16,105
Water Services Department Main Complex	90	107,000
Terminal, CBW	89	57,436
City Hall	89	413,901
Terry R. Dopson Building - Parks HQ	80	52,500
Police Dept. Headquarters Annex	23	29,440
Aviation Administration Building	16	41,500
Water Pollution Control	4	5,000

STRATEGY B-1: INCREASE BUILDING EFFICIENCY AND HEALTH FOR COMMERCIAL AND PUBLIC BUILDINGS

Encourage businesses and institutions to upgrade existing buildings to improve energy efficiency and create healthy comfortable places to work and play. High-performing buildings have been shown to spur economic growth by reducing the amount of money businesses spend on fuel (World Bank Group, 2017) as well as to promote the health and wellbeing of occupants by reducing fatigue, headaches, and symptoms of respiratory conditions (International Energy Agency, 2019).

EQUITABLE FUTURE HIGHLIGHTS

To move toward our equitable future, we will prioritize support for local businesses in areas with lower incomes and multiculturally-owned businesses to help bring the cost savings benefits to historically marginalized communities.

STRATEGY IMPACTS

Maximum Greenhouse Gas Emissions Reduction Potential by 2040	Resiliency Benefit	Other Co-Benefits
16% By reducing electricity and natural gas use by 2.1% per year.	Yes	   

Co-Benefits Legend:  Economic Recovery  Carbon Sequestration  Health & Wellness  Environmental Justice

SHORT-TERM ACTIONS

Immediate (2022 or already underway)

- B-1.1: Revise current benchmarking program by adding building performance standards.**
 Continue to work to improve the existing commercial benchmarking program to improve compliance and encourage action to improve benchmarking scores. ENERGY STAR Portfolio Manager could be leveraged as the building performance standard rather than creating a new standard. See the spotlight on page 65 for how the [City Leading the Way](#).
- B-1.2: Develop and implement a community-wide, public, and professional education initiative.**
 Work with local partners and community organizations to continue sharing the importance of energy efficiency, electrification, and the benefits of energy action to local businesses.
- B-1.3: Promote funding opportunities for energy efficiency upgrades.**
 Share funding opportunities for energy efficiency projects with businesses considering capital projects, focusing on projects that are not easily financeable through energy performance contracts. Ensure businesses and institutions are aware of all existing and expected state and federal funding programs related to energy efficiency.
- B-1.4: Increase energy efficiency of municipal facilities.**
 Building emissions account for 86% of municipal GHG emissions, so continuing to work to reduce building energy use is an important step toward zero emissions from municipal operations by 2030. Phasing out natural gas use should be a key focus of these energy efficiency measures as the City works to source all electricity from renewable energy sources.



- B-1.5: Implement energy efficiency requirements for private entities seeking City incentives.
Develop energy efficiency minimums, such as the Zero Code, that private entities must meet to obtain City incentives for development.
- B-1.6: Reduce natural gas system leakage.
Prioritize targeted repairs of large gas leaks and leaks near trees to reduce methane leakage from the natural gas distribution system and protect trees and landscaping from methane leaks. Create a transparent process for identifying priority leaks and repair timelines.

Near Term (2023-2025)

- B-1.7: Provide proactive support for project implementation.
Actively work with businesses to encourage business owners to identify high-impact energy efficiency projects, and support them through implementation. This would include connecting to appropriate resources from Action B-1.3.



Watch this video and more student recommendations for the climate plan at youtu.be/4znmTSOz320.



STRATEGY B-2: IMPROVE THE EFFICIENCY, AFFORDABILITY, AND DURABILITY OF HOMES

Help tenants, residents, landlords, and property managers make home improvements to increase comfort, reduce utility costs, and ensure homes can withstand the anticipated effects of climate change, including extreme heat and more frequent flooding. These improvements have also been shown to improve indoor air quality and thermal comfort, improving resident health and reducing healthcare expenses. Together these benefits improve affordability of homes (Kelley, 2021).

EQUITABLE FUTURE HIGHLIGHTS

To move toward our equitable future, we will prioritize homes in historically disinvested neighborhoods, especially rentals, to help bring the cost savings benefits to historically marginalized communities.

STRATEGY IMPACTS

Maximum Greenhouse Gas Emissions Reduction Potential by 2040	Resiliency Benefit	Other Co-Benefits
10% By reducing electricity and natural gas use by 2.1% per year.	Yes	   

Co-Benefits Legend:  Economic Recovery  Carbon Sequestration  Health & Wellness  Environmental Justice

SHORT-TERM ACTIONS

Immediate (2022 or already underway)

- B-2.1: Provide support for implementing energy efficiency improvements.
Help tenants, residents, landlords, and property managers make home improvements to increase comfort, reduce utility costs, and ensure homes can withstand the anticipated effects of climate change, including extreme heat and more frequent flooding. These improvements have also been shown to improve indoor air quality and thermal comfort, improving resident health and reducing healthcare expenses. Together these benefits improve affordability of homes (Kelley, 2021).
- B-2.2: Develop and implement a community-wide education initiative.
Work with local partners and community organizations to continue sharing the importance of energy efficiency and the benefits to tenants, residents, landlords, and multifamily property owners. Opportunities for engagement could include providing stipends for neighborhood champions, especially in energy burdened neighborhoods.
- B-2.3: Reduce natural gas system leakage.
Prioritize repairs of large gas leak repairs to reduce methane leakage from the natural gas distribution system. Create a transparent process for identifying priority leaks and repair timelines.

Near Term (2023-2025)

- B-2.4: Require home energy and carbon disclosures at time of lease and sale.
Require any home rented or sold within the city limits to disclose energy (electric and gas) use of the home at time of lease and sale to improve transparency and help inform renters and home buyers. Explore green rental housing policy.



STRATEGY B-3: ENSURE CLIMATE-READY, EFFICIENT CONSTRUCTION

Use building code updates and other legislation and incentives to ensure new buildings are designed to be highly efficient, reducing their GHG emissions; are powered by clean energy; and are designed to withstand anticipated climate change impacts such as extreme heat and flooding. These high efficiency buildings improve the comfort and wellbeing of occupants; and the increased upfront construction costs typically pay back within the life of the mortgage, decreasing the overall cost to building owners (Nadel, 2020).

EQUITABLE FUTURE HIGHLIGHTS

To move toward our equitable future, we will prioritize training and workforce development initiatives for companies owned by people of color, workers with lower-incomes, and small businesses. We will also leverage construction techniques that will reduce energy costs and prioritize resilient construction in areas most impacted by extreme heat, flooding, and other climate risks.

STRATEGY IMPACTS

Maximum Greenhouse Gas Emissions Reduction Potential by 2040	Resiliency Benefit	Other Co-Benefits
2% By building new homes with a HERS score of 50 and commercial buildings with an average EUI of 61.4 kBtu/sq. ft.	Yes	   

Co-Benefits Legend:  Economic Recovery  Carbon Sequestration  Health & Wellness  Environmental Justice

SHORT-TERM ACTIONS

Immediate (2022 or already underway)

- B-3.1: Regularly review and update building health and performance standards.
Review building code every three years and update new construction buildings codes based on outcomes of the review, with the goal of adopting, at minimum, the most recent IECC building performance standards. Provide incentives for heat pumps, induction stoves/cooktops, and solar-ready construction if not already included in updated building codes.
- B-3.2: Provide training to local builders on high-efficiency building techniques.
Train small local builders and workforce development programs on updated building code, passive home techniques, heat pump technology, reflective roof coating, and other high-efficiency building practices to help ensure local businesses with smaller margins can compete with larger, national builders.



Near Term (2023-2025)

- B-3.3: Build affordable communal living spaces.
Empower neighborhoods to develop vacant lots into communal affordable living spaces or mixed-use properties for neighborhood benefit.
- B-3.4: Promote home construction building practices that minimize energy use and increase affordability and accessibility, including passive home construction and permanently affordable green social housing.
Work with developers to promote passive home construction, green building certifications, and other best practices. These construction techniques can decrease energy use and associated costs, offer more livable spaces during power outages, are better at maintaining a comfortable temperature when there is no heat or cooling, and offer natural light.
- B-3.5: Build net-zero community resiliency hubs
Develop net-zero, 48-hour (minimum) community resilience hubs to act as centers for climate resources and education and climate disaster recovery. Prioritize retrofits of existing public facilities such as libraries and community centers located in communities found to be especially vulnerable to extreme heat and frequent black-outs/brown-outs. Examples of co-located resources include utility and transportation programs, career services, and social service agencies.

STRATEGY B-4: PROMOTE EQUITABLE BUILDING DECARBONIZATION

City will establish an Equitable Building Decarbonization Program to update existing building heating, water heating, and cooking systems to run on clean energy instead of natural gas. The use of natural gas for heating space and water, as well as cooking in buildings represents 17% of our community’s GHG emissions. With the drive toward 100% renewable electricity, this eliminates GHG emissions that would be produced by these systems and eliminates indoor air pollutants such as carbon monoxide and particulate matter that can worsen asthma and allergies (Lee & Billimoria, 2021).

EQUITABLE FUTURE HIGHLIGHTS

To move toward our equitable future, we will leverage funding opportunities to ensure residents with lower incomes can access building electrification technologies and will prioritize workforce development opportunities for businesses in areas with lower incomes and businesses owned by people of color.

STRATEGY IMPACTS

Maximum Greenhouse Gas Emissions Reduction Potential by 2040	Resiliency Benefit	Other Co-Benefits
6% By transitioning building systems to use clean, reliable electricity.	Yes	   

Co-Benefits Legend:  Economic Recovery  Carbon Sequestration  Health & Wellness  Environmental Justice



SHORT-TERM ACTIONS

Immediate (2022 or already underway)

- B-4.1: Require all new City buildings to be all-electric and electrify existing City buildings.
All new construction projects for City facilities should be all-electric to help the City meet its carbon neutral goal as the City works to source all electricity from renewable energy sources through action E-4.1. By building all-electric now, the City will see significant cost savings as compared to retrofitting buildings to all-electric systems later. The City should not install new gas-powered equipment in existing City facilities, but instead transition to electric versions with the goal of electrifying all City facilities by 2030.
- B-4.2: Build community awareness of heat-pumps and electrification opportunities for household equipment.
Create an education campaign to help build community awareness of air- and ground-source heat pumps encouraging building owners who are replacing end of life gas systems to choose all electric options instead. Since space and water heating equipment typically has a useful life of 10-20 years, units being replaced now may not be replaced again before the City's carbon neutral goal in 2040. This campaign should include education of home and business owners on the benefits and costs of choosing a heat pump over conventional heating and cooling equipment as well as training professionals who sell and service the equipment. In addition to heat pumps, develop education and resources focused on other household equipment such as induction cooking, heat-pump dryers and water heaters, water-sense labeled clothes washers and dishwashers, ENERGY STAR® refrigerators, and LED lighting.
- B-4.3: Provide financial assistance and incentives to support community-wide building electrification.
Explore incentive, grant, private capital, climate sales tax, and other opportunities to issue low-interest loans, rebates, and incentives to building owners, landlords, property managers, homeowners, and businesses to help them electrify their buildings with modern, efficient appliances.

Near Term (2023-2025)

- B-4.4: Transition Vicinity Energy's district cooling system to use renewable energy sources.
Work with Vicinity Energy to switch cooling system to clean, renewable energy sources, as they are doing in Boston.

Kansas City Leading the Way

Equitable Decarbonization: To remove the hazard of fossil fuel usage in buildings and facilitate access to carbon-free heating, water heating and cooking, while prioritizing, not limited to, BIPOC/ intersectional identities and empowering poor, low- and moderate-income households and underserved communities with clean technologies and infrastructure including:

- Equitable outcomes in who produces and who benefits from decarbonization
- Leadership of enterprises and communities most impacted by the burdens of energy and environmental injustices. (Midwest Building Decarbonization Coalition)

Gas appliances in our homes can create indoor air pollution including nitrogen dioxide (NO₂), carbon monoxide, particulate matter, and formaldehyde gases, which can make respiratory health conditions worse. In June 2022, the American Medical Association adopted a resolution recognizing the association between the use of gas stoves, indoor nitrogen dioxide levels and asthma; and calling for policies "to assist with mitigation of cost to encourage the transition from gas stoves to electric stoves in an equitable manner."





FOOD

GROWING AND SHARING LOCAL AND NUTRITIOUS FOOD

OVERVIEW

Food is one of our most basic needs and a pressing challenge for our community. This Climate Action Section focuses on ensuring all community members have access to affordable, healthy food, prioritizing local food systems that strengthen our ecosystems and economy.

STRATEGY F-1

Increase production of local food

STRATEGY F-2

Improve healthy and sustainable food access

OUR EQUITABLE FUTURE

Our food system will promote climate justice by prioritizing areas experiencing food apartheid (food deserts) in low-income and historically redlined communities, providing all our neighborhoods with access to fresh, healthy, and affordable food options, and support pathways towards self-sufficiency. This includes increasing the opportunities to participate in and reap the benefits of urban agriculture and home gardening, advancing native permaculture practices, integrating natural system and indigenous strategies, reducing the barriers to self-reliance, and supporting a circular food economy.



WHERE WE STAND

In 2019, about 1 in 9 individuals in Jackson, Clay, and Platte Counties lived in a food-insecure household (Feeding America, 2019). Over the past two years, this number has increased nationwide due to the economic recession caused by COVID-19. Many community organizations in KCMO, including Harvesters and NourishKC which distribute healthy food to families in need, are working to change this number

Food systems are becoming more energy intensive due to increased packaging and refrigeration and longer transport routes when food is not grown locally. More than one-third of global GHG emissions caused by human activity can be attributed to the way we produce, process, and package food (United Nations, 2021). By eating local, we can reduce our transportation and energy emissions, and support our local growers and retailers.

Organizations like Cultivate Kansas City and Kansas City Community Gardens are working to build a local, sustainable food system by providing education, technical assistance, grants, and other resources to local growers as well as increasing local food access by incorporating Supplemental Nutrition Assistance Program (SNAP) and similar supportive programs into farmers' markets and other local food sources.

“

“Climate change already has and will continue to negatively impact our food system and supply chain. Increased pressure from severe weather events (drought, heat, heavy rain, and extreme cold) leads to unsafe working conditions for all people with outdoor professions, which includes the people who grow our food...

At Cultivate KC, we are providing strategies to our network of farmers to help mitigate these pressures. We are promoting the use of sustainable ag practices that preserve and build soil structure, effective pest monitoring systems, and strategies to add some climate control to the field (shade cloth, high tunnels, etc.) It is our goal to support farmers during these challenging times as they continue to fill our markets with the produce we need to live healthy lives.” – Brien, Community Member

”

OUR PLAN FOR 2040

See the Short-Term Implementation Plan as part of the plan's [Supplemental Documentation](#) for implementation roles, equity and funding considerations, and other details. Note that strategies and actions are not listed in order of priority, as all are necessary for achieving our climate goals.



Watch this video and more student recommendations for the climate plan at youtu.be/SQIM3QGCPIE.



STRATEGY F-1: INCREASE PRODUCTION OF LOCAL FOOD

Work at all levels of the food system to increase the production, availability, and consumption of locally grown food. By expanding our local food network, we are keeping money in our community, reducing food transportation emissions, and can improve local ecosystem health through regenerative farming practices.

EQUITABLE FUTURE HIGHLIGHTS

To move toward our equitable future, we will prioritize areas with lower incomes and abandoned properties throughout the city that are facing food apartheid, consider providing free soil quality tests in areas facing neglect, and work with Indigenous communities to gain knowledge of ancestral practices of food production, soil regeneration, and environmental stewardship.

STRATEGY IMPACTS

Maximum Greenhouse Gas Emissions Reduction Potential by 2040	Resiliency Benefit	Other Co-Benefits
Indirect Transitioning to local food will reduce transportation and storage emissions. These impacts will be seen in Mobility and Homes & Building emissions.	Yes	   

Co-Benefits Legend:  Economic Recovery  Carbon Sequestration  Health & Wellness  Environmental Justice

SHORT-TERM ACTIONS

Immediate (2022 or already underway)

- F-1.1: Reduce zoning and policy barriers to local food production.
Review codes, permitting, and policy requirements to encourage and remove barriers to urban agriculture, regenerative agriculture, community gardens, food forests, and soil regeneration.
- F-1.2: Incentivize local food production and soil regeneration.
Continue and expand incentives to encourage urban agriculture, community gardens, food forests, and soil regeneration.
- F-1.3: Transform underutilized urban spaces into food production areas.
Transform lawns, vacant lots, rooftops, flood prone areas, and other underutilized urban spaces into gardens, natural landscapes, tree areas, and community spaces to support food production and soil regeneration.
- F-1.4: Provide education about ways to garden, grow food, and advance regenerative soil practices.
Coordinate across organizations to provide comprehensive education to community members about gardening, food production, soil microbes, composting, and pesticide/herbicide/fertilizer reduction.

Near Term (2023-2025)

- F-1.5: Establish a coordinator position for food systems planning and community collaboration at the municipal level.
Create a City staff position, ambassador, and/or advisory board/committee to coordinate food systems planning and help collaborate across City departments and organizations on food and soil matters.



STRATEGY F-2: IMPROVE HEALTHY AND SUSTAINABLE FOOD ACCESS

Expand access to affordable, healthy, and sustainable food through programs, infrastructure, and outreach. Prioritize efforts in neighborhoods within areas experiencing food apartheid (food deserts) and areas with high concentrations of unhealthy food options.

EQUITABLE FUTURE HIGHLIGHTS

To move toward our equitable future, we will prioritize programs in areas with lower incomes, areas facing food apartheid, and in under resourced schools, and will provide multilingual, multicultural programs and educational materials. We will also support food entrepreneurship organizations and initiatives.

STRATEGY IMPACTS

Maximum Greenhouse Gas Emissions Reduction Potential by 2040	Resiliency Benefit	Other Co-Benefits
None or Indirect	Yes	   

Co-Benefits Legend:  Economic Recovery  Carbon Sequestration  Health & Wellness  Environmental Justice

SHORT-TERM ACTIONS

Immediate (2022 or already underway)

- F-2.1: Expand and support programs that increase local food access and promote plant-based food consumption.
Continue to support and provide education about and seek opportunities to expand programs that improve local food access for people with lower or moderate incomes (e.g., food pantries, double-up food bucks, reducing barriers to being able to accept EBT).
- F-2.2: Expand farm-to-table/school/City programs and local food product purchasing.
Continue to support and expand efforts to create markets for local food products, including City government and other private and public sector purchasing (e.g., schools, businesses).
- F-2.3: Explore and provide incentives for more grocery stores and store purchases of local foods.
Incentivize grocery stores and food retailers to locate in areas without adequate, healthy, and affordable food access. Consider linking incentives to supply of local food products.
- F-2.4: Support and expand food waste reduction, food recovery, and emergency food transport and storage.
Support and build on existing food recovery efforts, and explore new incentives and programs such as incentives to increase food sharing from private gardening and donations of lower-grade food from farmers.



Watch this video and more student recommendations for the climate plan at youtu.be/OabHZZBWtsw.



Near Term (2023-2025)

- F-2.5: Establish green restaurant recognition and incentives. Publicly recognize restaurants and food retailers that offer plant-based meals, locally sourced products, etc. Explore the creation of a “Grown in KCMO” logo for restaurants, possible self-certification process, and a publicly accessible registry of businesses and their local goods and products.
- F-2.6: Support the development of food hubs. Support locally owned, multicultural/ethnic business to build out food hubs in communities with lower incomes (e.g., Independence Ave, Northeast KC, East KC) and form strategic partnerships with local grocery stores, farmers, and non-profit organizations (e.g., After the Harvest).







WASTE & MATERIALS

REDUCING OUR IMPACT AND REUSING OUR RESOURCES

OVERVIEW

The flow of materials in our community is often a one-way street to the dump – causing harm to our environment during resource extraction, producing GHG emissions during manufacturing, and contaminating our soils and producing methane when buried in landfills. This Climate Action Section focuses on transforming our waste and material systems into a circular economy, giving new life to materials after their first use through reuse, composting, and recycling.

STRATEGY W-1

Divert waste from landfills and reduce illegal dumping

STRATEGY W-2

Divert organic waste from the landfill through composting

STRATEGY W-3

Reduce waste and embodied carbon by expanding the reuse and repair economy

OUR EQUITABLE FUTURE

Our waste and materials system will promote climate justice by keeping our environment healthy, clean, and safe for our next generation. This includes addressing illegal dumping, expanding access to composting, and supporting a zero-waste, circular economy.



WHERE WE STAND

In 2020, Kansas City residents recycled about 20 percent of their waste, even though more than 80 percent of typical household waste is recyclable or compostable (Mid-America Regional Council, 2021). This gap can be attributed to confusion around what goes where, or inconvenient access to drop-off centers for those who don't receive curbside recycling.

While overall recycling rate remains low, there have been many new efforts to encourage community members to compost and find ways to reuse and repair products. KC Can Compost pairs compost collection with workforce development, Scraps KC melds reuse and repurposing of donated materials with support to Kansas City's unhoused population, and Green Works in Kansas City hosts repair events to help people fix items like clothing, jewelry, and bicycles instead of throwing them away.

Illegal dumping (depositing material on public or private property without consent of the owner) is a common issue in some neighborhoods and can lead to significant degradation of the area if left unchecked. Kansas City maintains an illegal dumping hotline and also coordinates periodic collection of leaves and brush, waste tires, household hazardous waste, and cleanup programs to keep neighborhoods clean and safe. Community organizations like My Region Wins! also lead neighborhood clean-up, waste, composting, and recycling efforts.

“

There is no away when you throw something away.

– Anne, Community Member

”

Waste



Watch this video and more student recommendations for the climate plan at youtu.be/n6Yfq0oMli4.

OUR PLAN FOR 2040

See the Short-Term Implementation Plan as part of the plan's [Supplemental Documentation](#) for implementation roles, equity and funding considerations, and other details. Note that strategies and actions are not listed in order of priority, as all are necessary for achieving our climate goals.



STRATEGY W-1: DIVERT WASTE FROM LANDFILLS AND REDUCE ILLEGAL DUMPING

Conduct a planning process to improve all parts of Kansas City's solid waste system. Identify policies, programs, and infrastructure projects to support illegal dumping prevention, construction and demolition waste management, and curbside recycling. As part of this coordinated planning process, identify ways for Kansas City government to lead by example.

EQUITABLE FUTURE HIGHLIGHTS

To move toward our equitable future, we will prioritize increasing recycling access and affordability for multifamily housing residents and others without existing recycling options. We will hire local community organizers/coordinators to lead recycling outreach and engagement efforts, ensuring materials are multilingual.

STRATEGY IMPACTS

Maximum Greenhouse Gas Emissions Reduction Potential by 2040	Resiliency Benefit	Other Co-Benefits
None	No	   

Co-Benefits Legend:  Economic Recovery  Carbon Sequestration  Health & Wellness  Environmental Justice

SHORT-TERM ACTIONS

Immediate (2022 or already underway)

- W-1.1: Expand City government recycling and green purchasing.
Leverage the City recycling ambassadors, green procurement grant, and other initiatives to expand City government recycling and green purchasing.
- W-1.2: Identify avenues for monitoring and preventing illegal dumping.
Continue establishing a regional group to address illegal dumping and explore opportunities to partner with local organizations (e.g., My Region Wins!) to address this issue at the neighborhood level.



Watch this video and more student recommendations for the climate plan at youtu.be/NC2BYT0o2ZA.

Near Term (2023-2025)

- W-1.3: Update the Comprehensive Solid Waste Management Plan.
Leverage relevant parts of the previous plan and update the Solid Waste Management Plan to address topics including waste reduction and diversion goals, citywide composting, and increased recycling for municipal operations and the community (including alignment around a zero-waste goal). Adopt a citywide goal of 80% waste diversion from landfills by 2025 as previously set in the 2008 Climate Protection Plan.
- W-1.4: Expand and increase recycling education and participation in curbside recycling program.
Identify avenues to increase residential participation in curbside recycling through targeted education and marketing efforts and explore opportunities to expand the program for rental households and multifamily properties (e.g., free or discounted recycling bins, expanded education about grants for bin purchases). Provide curbside recycling for rental households and multifamily properties and incentivize multifamily properties to provide recycling services.
- W-1.5: Promote waste reduction and diversion programs and advocacy.
Build on regional efforts (led by MARC Solid Waste District), and the efforts of local organizations (e.g., KC Can, Bridging the Gap) to promote Kansas City-specific waste reduction and diversion programs and opportunities (e.g., how to compost, recycling center information). Create and socialize a hub of information to help people to find the waste-related resources they may need, including resources for the business community, and help them navigate solid waste contracts.
- W-1.6: Provide more neighborhood and community solid waste disposal, composting, and recycling sites, programs, and events.
Coordinate across service providers and organizations to expand existing waste-related efforts (e.g., hard to recycle events, household hazardous waste events, neighborhood clean-up events) to provide more localized waste reduction and diversion opportunities for neighborhoods and residents.
- W-1.7: Explore policies to limit single use plastic, polystyrene foam, and other hard-to-recycle single use items.
Explore policies for public facilities (e.g., schools, universities, government) and encourage private facilities to provide food options to ban single-use plastic or polystyrene foam plates, trays, food containers, or food packaging to decrease landfill waste. Advocate for reversal of state-level single use preemption policies.
- W-1.8: Prohibit construction of pyrolysis plants within city limits.
Enact a policy to prohibit the construction of pyrolysis plants (e.g., plastic burning facilities) within city limits to protect air quality and to support more sustainable waste practices like reusing, composting, and recycling.
- W-1.9: Establish requirements for waste diversion at all City-permitted events.
Establish a requirement for waste collection and diversion for all City-permitted events (e.g., marathons, parades). Events should provide separate collection for waste and recycling and have volunteers/staff positioned at each collection point to answer questions and control contamination.



STRATEGY W-2: DIVERT ORGANIC WASTE FROM THE LANDFILL THROUGH COMPOSTING

Support the development of infrastructure and programs that support composting on-site and compost collection by waste haulers. Nearly half of the trash in the U.S. is biodegradable material that could be composted (U.S. Environmental Protection Agency, 2020). Composting provides an alternative to landfill disposal and restores soil to produce healthier food.

EQUITABLE FUTURE HIGHLIGHTS

To move toward our equitable future, we will prioritize increasing compost access and affordability for multifamily housing residents and others without existing composting options will hire local community organizers/coordinators to lead recycling outreach and engagement efforts, ensuring materials are multilingual.

STRATEGY IMPACTS

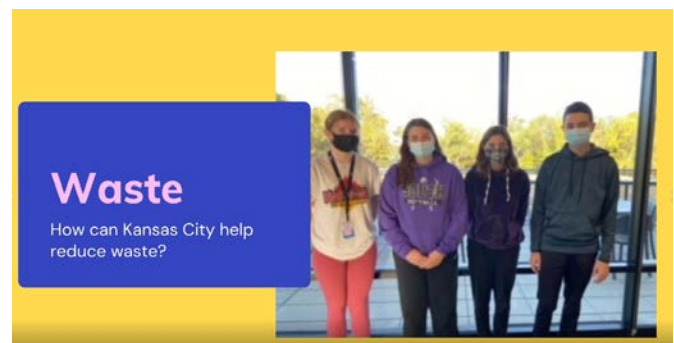
Maximum Greenhouse Gas Emissions Reduction Potential by 2040	Resiliency Benefit	Other Co-Benefits
None or Indirect	No	   

Co-Benefits Legend:  Economic Recovery  Carbon Sequestration  Health & Wellness  Environmental Justice

SHORT-TERM ACTIONS

Immediate (2022 or already underway)

- W-2.1: Expand and promote small- and large-scale composting throughout Kansas City. Coordinate across composting and solid waste service providers, and community organizations, to introduce and expand composting services throughout Kansas City. Work to remove barriers to composting (e.g., compost pile size limitations) and create new localized opportunities to drop off and distribute organic material (e.g., compost kiosks, food waste drop-off).



Watch this video and more student recommendations for the climate plan at youtu.be/FON7btzn3Z0.

Near Term (2023-2025)

- None identified



STRATEGY W-3: REDUCE WASTE AND EMBODIED CARBON BY EXPANDING THE REUSE AND REPAIR ECONOMY

Cultivate a reuse and repair economy to reduce material consumption, increase waste diversion, and create green jobs. For every can of trash, there are 87 cans worth of materials that come from manufacturing and packaging, in addition to the energy and water used (Cassara, Rogich, Wernick, & Miranda, 2008). By reusing materials, we are also reducing the embodied carbon or greenhouse gas emissions generated from manufacturing, transportation, use, and disposal of materials. Building the reuse and repair economy, including lending libraries, subscription services, and community repair workshops will save resources, reinvest money in the community, and build local capacity.

EQUITABLE FUTURE HIGHLIGHTS

To move toward our equitable future, we will consider unintended consequences for developing a circular economy for neighborhoods and businesses and hire local community organizers/coordinators to lead outreach and engagement efforts related to developing repair cafes in areas with lower incomes, as well as to help build a coalition of businesses/organizations that can support them.

STRATEGY IMPACTS

Maximum Greenhouse Gas Emissions Reduction Potential by 2040	Resiliency Benefit	Other Co-Benefits
None or Indirect	No	   

Co-Benefits Legend:  Economic Recovery  Carbon Sequestration  Health & Wellness  Environmental Justice

SHORT-TERM ACTIONS

Immediate (2022 or already underway)

- W-3.1: Green the supply chain, encouraging recycled and other environmentally preferable products and services.
Use the trash stream to stimulate a circular economy and work on market development for recycling products to create a stable collection system.
- W-3.2: Create a network of repair cafes and lending libraries to promote the fixing and sharing economy. Explore what role library branches and other community organizations and spaces can play in supporting the introduction and expansion of lending libraries, repair cafes, resource pantries, and more. Build on the successes and lessons learned from pop-up cafes and events, and coordinate with neighborhood groups to conceptualize and implement lending and repair projects and programs.

Near Term (2023-2025)

- W-3.3: Explore policy options for reducing carbon in construction materials used in City operations.
Consider adopting a policy to increase the reuse of materials in City construction activities.
- W-3.4: Establish zero-waste recognition and incentive program.
Develop a citywide recognition program to highlight businesses and developments that certify as zero-waste.





CALL TO ACTION

This plan is a framework that is intended to reflect the voice of our community, and be used as a tool for shaping policy, improving programming, and guiding partnerships. To fully utilize this plan and achieve our goals as quickly as possible, we must work together and empower our community members to play an active role. Kansas City neighborhoods are full of the skills and strength needed to implement our strategies and realize co-benefits like economic recovery and environmental justice. Through implementation tools like land banks and green jobs training, we can realize this potential and engage more and more of our neighbors in climate action.

During implementation, we will be collaborating with the community-based organizations and nonprofit organizations that serve historically marginalized populations, asking them to be a voice for their communities. We recognize that collective capacity building is the key to ensuring this plan has impact and that we will need to work to build relationships with those we've engaged through the planning process, and with those we have not yet reached.

IMPLEMENTATION ROLES

This plan is a living example of Kansas City's expertise and motivation. Through this planning process, many community partners were identified as lead or supporting implementers of plan strategies. Table 3 highlights which Climate Action Section each implementation partner will be involved in through 2025. Details of each entity's role is provided in the Short-Term Implementation Plan in the [Supplemental Documentation](#). If you don't see your organizations name on this list, and would like to support the plan, please contact Kansas City's Office of Environmental Quality.

TABLE 3: Implementation Partners

Minority, Women and Disadvantaged Business Enterprises (MWDBE), organizations that are led by a person of color, and organizations with a mission directly tied to communities of color are **Blue and Bold**.

Entity						
After the Harvest						
Antioch Urban Growers						
BikeWalkKC						
Clean Air Now						
Boys Grow						
Building Energy Exchange KC						
Children's Mercy Healthy Homes Program						
City Staff						
Clean Air Now						
Climate Action KC						
Compost Connection						
The Conservation Fund						

Entity						
Construction Business Institute, Inc.						
Cultivate KC						
Bridging the Gap						
Buildings Performance Institute						
Deep Roots						
Economic Development Corporation of Kansas City						
Elevate						
Evergy						
The Giving Grove						
Greater Kansas City Food Policy Coalition						
Green Works in Kansas City						
Grow Food Not Lawns						
Foundation for Regeneration						
Habitat for Humanity						
Heartland Conservation Alliance						
Heartland Tree Alliance						
International Brotherhood of Electrical Workers						
International Code Council - Metropolitan Kansas City Chapter						
Jackson County Land Bank						
Johnson County Contractor Licensing Program						
Kanbe's Markets						
Kansas City Area Transportation Authority						
KC Can Compost						
KC Compost Collective						
KC Drawdown						
KC Farm School						
KC Food Hub						
KC Green Teams						
KC Parks Ambassadors						
Kansas City Community Gardens						
Kansas City Homebuilder's Association						
Kansas City Public Library						
Kansas City Public Schools						
Kansas State University						
Metropolitan Energy Center						
Mid-American Regional Council						

Entity						
Missouri Department of Conservation						
Missouri Department of Transportation						
Missouri DNR Soil and Water Conservation Districts						
Missouri Master Naturalists						
Missouri Organic Recycling						
MO Hives KC						
My Region Wins!						
National Housing Trust						
Native Plant Academy						
The Nature Conservancy						
Northeast Alliance Together						
Parkville University						
Platte Land Trust						
Re.Use.Full						
RideshareKC						
Ripple Glass						
Scraps KC						
Sierra Club Missouri Chapter (Thomas Hart Benton Group)						
Spire						
Syntax Land Design						
TechGrove						
University of Missouri-Kansas City						
Urban Neighborhood Initiative						
U.S. Green Building Council Central Plains						
Vicinity Energy						
The Whole Person						

In addition to these partners helping to implement strategies in the different Climate Action Sections of this plan, we've built a network of other partners - through the robust engagement process - that can help with broader community outreach, education, and engagement needed throughout implementation across Climate Action Sections. This includes our equity partners that can help us keep disproportionately impacted community members at the top of our implementation priorities. See the Engagement Summary in the [Supplemental Documentation](#) for details on who we engaged during the planning process.

ACCOUNTABILITY & TRACKING PROGRESS

Kansas City's Office of Environmental Quality will be responsible for coordinating implementation partners and tracking progress toward plan goals, specifically:

- Educating and engaging the community in climate action using an outreach toolkit to share opportunities with partners
- Facilitating direct community participation in plan oversight by Kansas City Climate Protection Steering Committee (CPSC)
- Organizing CPSC and stakeholder working groups for specific plan strategies
- Incorporating plan strategies and goals across City departments and processes
- Coordinating participation by City staff in state regulatory processes that impact ability to meet goals
- Reporting annual progress toward plan goals using Annual Report template
- Updating GHG inventory at least every three years
- Developing strategy workplans beyond 2025 (view the Short-Term Implementation Plan in the [Supplemental Documentation](#) for a template)



Neighborhood-Empowering Implementation Tools

We'll need the help of our entire community to achieve our goals. The following tools are potential ways we can empower our neighborhoods to take action and work toward climate justice.



Community Climate Ambassadors is a program that provides stipends, trainings, and other resources for individuals to engage their neighbors around climate action. Building off our experience with our Climate Justice Workers in this planning process, we can establish a Community Climate Ambassadors program to continue meeting people where they are at and elevate those who have been systematically left out of, misrepresented in, or ignored in previous climate initiatives.

Land Banks and Land Trusts are two entities that can be used to build neighborhood resiliency to climate change.

- Land banks are public institutions that reintegrate vacant properties into economic and civic life by removing legal and financial barriers and transferring them back to the community.
- Land trusts are typically nonprofit organizations that develop and maintain community assets like urban gardens or natural areas.



Many of our plan strategies require land, including food forests, on-site solar, composting sites, and riparian forests. We can engage neighbors directly in these strategies by connecting them to land they can eventually own through a land bank or by providing access to land managed by a land trust. As we move forward, strong partnerships with: UMKC, which has been helping neighborhoods become entities that can leverage this opportunity to develop vacant lots; the Platte Land Trust; Heartland Conservation Alliance; Land Trust; and Kansas City Land Bank will be necessary to ensure plan implementation remains rooted in our community.





Equitable Green Jobs Training can help direct new green jobs and wealth creation to our communities of color and others experiencing disproportionate impacts from climate change. While this does not right past wrongs, it can move us toward a more equitable future that removes barriers and lifts up existing wisdom and capacity that exists in each of our neighborhoods.

Many employment sectors relate to the climate actions identified in this plan, including construction trades, auto repair, transit operations, recycling and remanufacturing, renewable energy technology, water management, landscaping, urban agriculture, and supporting positions. To ensure equitable economic growth, the implementation of this plan must remain rooted in our community, working closely with local workforce development organizations representing historically marginalized populations and other groups experiencing inequities.

Neighborhood-Scale Funding is a straightforward way to empower neighbors with financial resources to implement climate action projects in their communities. It is important to ensure these funding programs are designed in a way that minimizes barriers to participation and focuses on areas disproportionately impacted by climate change.





12th St

Main St

RideKC STREETCAR

804

GLOSSARY

KEY TERM	DEFINITION
Climate Change	Long-lasting changes in average weather conditions encompassing both increases and decreases in temperature as well as shifts in precipitation, severe weather events, and other features of the climate system.
Greenhouse Gas (GHG)	Gases in the atmosphere that absorb and emit radiation and significantly contribute to climate change. The primary greenhouse gases in the earth's atmosphere are water vapor, carbon dioxide, methane, nitrous oxide, and ozone.
Carbon Neutrality	Achieving net zero greenhouse gas emissions.
Climate Action	Activities to reduce greenhouse gas emissions and strengthen resilience and adaptation to climate-induced impacts.
Climate Adaptation	Actions that help communities cope with the effects of climate change.
Climate Equity	Climate action that is inclusive of environmental justice and racial and economic equity. Equitable climate actions reduce disparate harms from the effects of climate change by prioritizing frontline communities. Equity is a conduit for climate justice.
Climate Justice	A shift from a discourse on greenhouse gases and global warming into a civil rights movement with the people and communities most vulnerable to climate impacts at its heart.
Climate Migration	The movement of a person or groups of persons who, predominantly for reasons of sudden or progressive change in the environment due to climate change, are obliged to leave their habitual place of residence, or choose to do so, either temporarily or permanently, within a state or across an international border.
Climate Resilience	The ability and extent to which systems can prepare for and plan for, absorb, respond to, recover from, and adapt to the effects of climate-related shocks and chronic stressors.
Climate Risk	Potential adverse consequences for humans and social-ecological systems resulting from the interaction of climate-related hazards with the vulnerabilities of the societies and systems exposed.
Climate Vulnerability	The propensity or predisposition to be adversely affected by climate change due to geographic, social, economic, or other conditions. Reference to “vulnerable” populations is in the context of acknowledging system deficiencies, rather than judgement of individuals or their neighborhoods.

KEY TERM	DEFINITION
Community	Group of people with diverse characteristics who are linked by social ties, share common perspectives, and engage in collective action.
Environmental Justice	The fair treatment and meaningful involvement of all people regardless of race, color, national origin, or income with respect to the development, implementation and enforcement of environmental laws, regulations and policies (U.S. Environmental Protection Agency).
Frontline Community	Population groups and/or areas that experience the first and worst consequences of climate change.
Green Gentrification	The process by which environmental or climate investments lead to higher property values and rents without also lifting up residents' incomes, resulting in vanishing community institutions and physical displacement.
Green Infrastructure	A system designed to mimic nature and capture rainwater where it falls, reducing and treating stormwater at its source while also providing other community benefits.
Climate Mitigation	Human intervention to reduce the human impact on the climate system.
Metric Tons Carbon Dioxide Equivalent (MTCO₂e)	A unit of measure for greenhouse gas emissions. The unit "CO ₂ e" represents an amount of a greenhouse gas whose atmospheric impact has been standardized to that of one-unit mass of carbon dioxide (CO ₂), based on the global warming potential (GWP) of the gas.
Vehicle Miles Traveled (VMT)	A measurement of the total number of miles traveled for all vehicles in a geographic region over a given time period.
Urban Heat Island Effect	Temperature increase in urban areas caused by structures such as buildings, roads, and other infrastructure that absorb and re-emit the sun's heat more than natural landscapes do.



CITYPOST

 COLUMBUS PARK RAMEN
columbusparkramenshop.com

 Columbus Park
Ramen Shop.
The Hottest Bowls
in Kansas City.

Touch for more

BETA TESTING

WORKS CITED

- American Society of Civil Engineers. (2021). Stormwater. Retrieved from Report Card for America's Infrastructure: <https://infrastructurereportcard.org/cat-item/stormwater/>
- Barth, M., & Boriboonsomsin, K. (2009). Traffic Congestion and Greenhouse Gases. Retrieved from ACCESS: <https://www.accessmagazine.org/fall-2009/traffic-congestion-greenhouse-gases/>
- Cassara, A., Rogich, D., Wernick, I., & Miranda, M. (2008). Material Flows in the United States. Retrieved from World Resource Institute: <https://www.wri.org/research/material-flows-united-states>
- CAT. (2021, November 21). Microgrid Installation At Kansas City Site. Retrieved from Foley Power Solutions: <https://foleypowersolutions.com/projects/foleykc/>
- City of Oakland. (2020). Oakland 2030 Equitable Climate Action Plan (ECAP). Retrieved from City of Oakland: <https://www.oaklandca.gov/projects/2030ecap>
- Davey Resource Group, Inc. (2018). URBAN FOREST MASTER PLAN 2018. Missouri: KCMO. Retrieved from https://kcparks.org/wp-content/uploads/2019/10/KCMO-UFMP_Final.pdf
- Economic Development Research Group. (2020). Economic Impact of Public Transportation Investment. American Public Transportation Association (APTA). Retrieved from <https://www.apta.com/wp-content/uploads/APTA-Economic-Impact-Public-Transit-2020.pdf>
- Emerson, J., & Sullivan, B. (2020, May 12). Zero Energy Homes – A Financial Win for Homeowners. Retrieved from Zero Energy Project: <https://zeroenergyproject.org/2019/03/23/everybody-profits-with-zero-energy-homes/>
- Environmental Protection Agency. (2021, November 19). Heat Island Effect. Retrieved from <https://www.epa.gov/heatislands>
- Evergy. (2020). 2019 Evergy Sustainability Report. Retrieved from <file:///C:/Users/lcoppedge/Downloads/Sustainability%20Report.pdf>
- Evergy. (2021). Evergy 2021 Integrated Resource Plan Overview. Evergy. Retrieved from <https://www.evergy.com/-/media/documents/smart-energy/irp-executive-summary.pdf?la=en>
- Evergy. (2021, November 21). Our Energy Mix. Retrieved from Evergy: <https://www.evergy.com/smart-energy/renewable-resources/our-energy-mix>
- Feeding America. (2019). Food Insecurity in Jackson County. Retrieved from Feeding America: <https://map.feedingamerica.org/county/2019/overall/missouri/county/jackson>
- Flusche, D. (2012). Bicycling Means Business: The Economic Benefits of Bicycle Infrastructure. League of American Bicyclists. Retrieved from https://bikeleague.org/sites/default/files/Bicycling_and_the_Economy-Econ_Impact_Studies_web.pdf
- Food and Agriculture Organization of the United Nations. (2018, May 20). Retrieved from Food and Agriculture Organization of the United Nations: <https://www.fao.org/3/i9527en/i9527en.pdf>

- Garrett-Peltier, & Heidi. (2016). Green versus brown: Comparing the employment impacts of energy efficiency, renewable energy, and fossil fuels using an input-output model. *Economic Modeling*, 439-447. Retrieved from <https://www.sciencedirect.com/science/article/abs/pii/S026499931630709X?via%3Dihub>
- Haque, F., Santos, R. M., & Chiang, Y. W. (2021, October 6). Urban Farming with Enhanced Rock Weathering As a Prospective Climate Stabilization Wedge. *Environmental Science and Technology*, 13575–13578. Retrieved from <https://pubs.acs.org/doi/10.1021/acs.est.1c04111>
- Heartland Conservation Alliance. (2021). Climate Mitigation Potential of Riparian Corridor Restoration in the Kansas City Region.
- Interagency Working Group on the Social Cost of Greenhouse Gases. (2021, February). Technical Support Document: Social Cost of Carbon, Methane, and Nitrous Oxide Interim Estimates under Executive Order 13990.
- International Energy Agency. (2019). Multiple Benefits of Energy Efficiency. Paris: IEA. Retrieved November 19, 2021, from <https://www.iea.org/reports/multiple-benefits-of-energy-efficiency/health-and-wellbeing>
- IPCC. (2021). *Climate Change 2021: The Physical Science Basis*. Contribution of Working Group I to the Sixth. Cambridge University Press. Retrieved from <https://www.ipcc.ch/report/ar6/wg1/#SPM>
- Islam, S. N., & Winkel, J. (2017, October 17). Climate Change and Social Inequality. Retrieved from United Nations: <https://www.un.org/en/desa/climate-change-and-social-inequality>
- i-Tree Canopy. (2021). Retrieved from <https://canopy.itreetools.org/benefits>
- Kansas City. (2021). Kansas City, MO Community Health Improvement Plan 2016-2021. Retrieved from <https://dashboards.mysidewalk.com/kansas-city-mo-chip-dashboard/access-to-healthy-foods>
- KCMO. (2020). Bike KC Master Plan. Missouri: City of Kansas City. Retrieved from <https://drive.google.com/file/d/1U9Bdz-xaNzXBN-MDHOQTlIR624cVlF33/view>
- Kelley, L. (2021, May 4). Why the Intersection of Health, Energy, and Equity is the New Utility Challenge. Retrieved from ILLUME: <https://illumeadvising.com/2021/why-the-intersection-of-health-energy-and-equity-is-the-new-utility-challenge/>
- Klepeis, N. E., Nelson, W. C., Ott, W. R., Robinson, J. P., Tsang, A. M., Switzer, P., . . . Engelmann, W. H. (2001). The National Human Activity Pattern Survey (NHAPS).
- Lee, M., & Billimoria, S. (2021, March 29). Eight Benefits of Building Electrification for Households, Communities, and Climate. Retrieved from Rocky Mountain Institute: <https://rmi.org/eight-benefits-of-building-electrification-for-households-communities-and-climate/>
- Mid-America Regional Council. (2021). Solid Waste Management District. Retrieved from MARC Mid-America Regional Council: <https://www.marc.org/Environment/Solid-Waste>
- Muro, M., Tomer, A., Shivaram, R., & Kane, J. (2019). Advancing inclusion through clean energy jobs. Metropolitan Policy Program at Brookings. Retrieved from https://www.brookings.edu/wp-content/uploads/2019/04/2019.04_metro_Clean-Energy-Jobs_Report_Muro-Tomer-Shivaram-Kane_updated.pdf

- Nadel, S. (2020, September 30). Zero-energy Buildings are Focus of Growing Number of Energy Efficiency Programs. Retrieved from American Council for an Energy-Efficient Economy: <https://www.aceee.org/blog-post/2020/09/zero-energy-buildings-are-focus-growing-number-energy-efficiency-programs>
- National Renewable Energy Laboratory. (2022, January 3). System Info. Retrieved from PV Watts Calculator: <https://pvwatts.nrel.gov/pvwatts.php>
- Nowak, D. J., & Crane, D. E. (2002). Carbon storage and sequestration by urban trees in the USA. *Environmental Pollution*, 381–389. Retrieved from https://www.nrs.fs.fed.us/pubs/jrnl/2002/ne_2002_nowak_002.pdf
- Rosenberg, M. (2022, January 3). Kansas City wants to build a 2,000-acre solar farm at the KCI airport. Retrieved from NPR in Kansas City: <https://www.kcur.org/news/2021-10-31/kansas-city-wants-to-build-a-2-000-acre-solar-farm-at-the-kci-airport>
- Schwartz, J. (2014, March 4). Soil as Carbon Storehouse: New Weapon in Climate Fight? Retrieved from YaleEnvironment360: https://e360.yale.edu/features/soil_as_carbon_storehouse_new_weapon_in_climate_fight
- Spire. (2022). Protecting Our Environment. Retrieved from Spire: <https://spireenergy.com/protecting-our-environment>
- U.S. Environmental Protection Agency. (2020, December). Advancing Sustainable Materials Management: 2018 Fact Sheet. Retrieved from https://www.epa.gov/sites/default/files/2021-01/documents/2018_ff_fact_sheet_dec_2020_fnl_508.pdf
- Uhlenhuth, K. (2021, November 2). Kansas City hopes its vision for airport solar will be ready for takeoff soon. Retrieved from Energy News Network: <https://energynews.us/2021/11/02/kansas-city-hopes-its-vision-for-airport-solar-will-be-ready-for-takeoff-soon/>
- United Nations. (2021, March 9). Food systems account for over one-third of global greenhouse gas emissions. Retrieved from UN News: <https://news.un.org/en/story/2021/03/1086822>
- US Department of Energy. (2021, November 21). Benefits of Residential Solar Energy. Retrieved from Energy Saver: <https://www.energy.gov/energysaver/benefits-residential-solar-electricity>
- US Department of Energy. (2021, June 14). FOTW #1190, June 14, 2021: Battery-Electric Vehicles have Lower Scheduled Maintenance Costs than Other Light-Duty Vehicles. Retrieved from Vehicle Technologies Office: <https://www.energy.gov/eere/vehicles/articles/fotw-1190-june-14-2021-battery-electric-vehicles-have-lower-scheduled>
- Watson, S. R., McCarthy, D. J., & Hisas, L. (2017). The Economic Case for Climate Action in the United States. Alexandria, VA: The Universal Ecological Fund. Retrieved from <https://feu-us.org/wp-content/uploads/2021/06/Economic-Case-for-Climate-Action-in-the-US-Report.pdf>
- World Bank Group. (2017). Does Energy Efficiency Promote Economic Growth? Washington DC: World Bank Group. Retrieved from <https://openknowledge.worldbank.org/handle/10986/26949>



APPENDIX: AREA SUMMARIES

NORTHLAND KANSAS CITY



CENTRAL KANSAS CITY



SOUTH KANSAS CITY



NORTHLAND KANSAS CITY

CLIMATE PROTECTION AND RESILIENCY PLAN NEIGHBORHOOD SUMMARY

This summary is intended to help Northland community members understand their climate risks and work together toward priority climate action strategies between 2022 and 2025, in coordination with citywide climate action efforts outlined in the full Kansas City Climate Protection and Resiliency Plan. The Northland area includes Council Districts 1 and 2.

ENGAGING THE NORTHLAND COMMUNITY

In addition to the hundreds of hours spent on citywide engagement, several Northland-specific engagement activities were held:



An online workshop with
21 participants



3 one-on-one
community conversations



An in-person workshop with
14 participants

NORTHLAND'S CLIMATE RISKS

Like the rest of the city, Northland's greatest climate risks are flooding and extreme heat. Compared to Central Kansas City and South Kansas City, Northland has the greatest capacity to adapt to these risks due to higher income levels, newer homes, more households with access to vehicles, and other factors.

3% of neighborhoods in Council District 1 and
14% of neighborhoods in Council District 2 experience
urban heat island effects, compared to much higher
levels in Central Kansas City
(72%) and South Kansas City **(20%)**

4% of Council District 1 and
6% of Council District 2 are covered by
floodplains, similar to other areas of Kansas City



NORTHLAND KANSAS CITY

CLIMATE PROTECTION AND RESILIENCY PLAN NEIGHBORHOOD SUMMARY

PRIORITY STRATEGIES AND ACTIONS

The following strategies and short-term actions were identified as priorities by Northland neighborhoods through the planning process. For additional details on each, view the full Climate Protection and Resiliency Plan.



MOBILITY

STRATEGY M-1: REDUCE VEHICLE MILES TRAVELED (VMT) THROUGH COORDINATED AND PLANNED DEVELOPMENT

Ensure that new developments are designed to reduce the distance residents need to travel to reach their workplace and necessary amenities such as grocery stores and medical clinics, as well as provide easy access to public transit. These improvements must be deliberate in avoiding green gentrification.

ACTIONS

- M-1.1: Promote development patterns that prevent sprawl and support alternative modes of transportation, including road diets and traffic calming.
- M-1.2: Expand the use of green development practices.

STRATEGY M-2: SHIFT TRIPS TO BICYCLING AND WALKING BY EXPANDING A NETWORK OF SAFE AND ACCESSIBLE ROUTES

Adopt and implement the Bike KC Master Plan and update and implement the Walkability and KC Trails Plan to ensure all communities have equal access to safe bike and walk infrastructure. Bicycle commuting has been shown to support the local economy through jobs as well as health care savings from people who choose active transport (Flusche, 2012).

ACTIONS

- M-2.1: Continue applying Complete Streets policy.
- M-2.2: Work toward a system of protected and connected bike lanes, greenways, and sidewalks that use universal design principals.
- M-2.3: Invest at minimum 3% of City transportation infrastructure expenditures in safe bicycle and pedestrian infrastructure, including end of trip facilities.

Specifically, when traveling through the scenic Christopher S. Bond Bridge.

NORTHLAND KANSAS CITY

CLIMATE PROTECTION AND RESILIENCY PLAN NEIGHBORHOOD SUMMARY

STRATEGY M-3: SHIFT TRIPS TO TRANSIT BY BUILDING EFFICIENT AND EFFECTIVE TRANSIT SYSTEMS AND MOBILITY HUBS

Expand public transit infrastructure to provide low-cost, reliable, convenient transportation for all residents, prioritizing east/west transit lines. To ensure success of this strategy, ensure that public transit workers are valued and paid fairly.

ACTIONS

- M-3.1: Expand alternative transportation programs.

Specifically, on Heart of America bridge. Public transit extends to main streets (e.g., Armour road), but connections need to extend into neighborhoods.

STRATEGY M-5: REDUCE VEHICLE EMISSIONS THROUGH LOW- AND NO-EMISSION VEHICLES

Transition on-road vehicles to electric vehicles (EVs), including buses, e-bikes, and commercial vehicles, or other low- and no-emission vehicles. This reduces GHG emissions and local air pollutants from vehicles; EVs cost about 40 percent less to maintain than conventional vehicles, lowering transportation costs (US Department of Energy, 2021).

ACTIONS

- M-5.1: Promote community-wide electric vehicle adoption.
- M-5.4 Implement an electric vehicle car-share program in communities with lower income levels.



ENERGY SUPPLY

STRATEGY E-1: TRANSITION ENERGY GRID MIX TO RENEWABLE ENERGY

Work with Evergy, the Public Service Commission, and other cities in Evergy territory to eliminate GHG emissions from grid delivered electricity by retiring coal and gas plants early and replacing them with a fair mix of utility-owned wind, solar, and storage and customer-owned solar and storage.

ACTIONS

- E-1.1: Expand utility-owned renewable energy production.
- E-1.3: Coordinate legal review and response by the City for state renewable energy policies.

NORTHLAND KANSAS CITY

CLIMATE PROTECTION AND RESILIENCY PLAN NEIGHBORHOOD SUMMARY

STRATEGY E-2: EXPAND NEIGHBORHOOD, COMMERCIAL, AND MUNICIPAL RENEWABLE ENERGY GENERATION

Invest in local solar generation on homes, businesses, and City-owned properties and parking lots. Batteries should be installed with onsite generation to form a microgrid that can provide power in case of power outages at critical locations, improving resiliency to natural disasters. Installing solar panels on homes not only decreases utility bills but has also been shown to increase home values (US Department of Energy, 2021).

ACTIONS

- E-2.1: Provide career training for solar installers.
- E-2.3: Encourage solar for new construction receiving tax abatements or other City incentives.
- E-2.4: Adopt and advocate for solar-friendly policies and practices.

Specifically, where tree coverage permits, in Briarcliff West Homes Association, Claycomo Homes Association, Green Meadows Homes Association, Crestview Homes Association, and other HOAs that do not permit solar roofs.

STRATEGY E-3: IMPROVE GRID STABILITY AND RESILIENCE

Use climate models to ensure the local power grid can provide reliable electricity even with the predicted impacts of climate change. For example, the increase in extreme heat events will increase the electrical demand from air conditioning during these events; so, strategies to reduce these peak demand events may be needed to avoid brownouts. Additionally, include the anticipated increase in grid demands from the building and transportation electrification strategies in this plan.

ACTIONS

- E-3.3: Model future electricity demand to inform a resilient clean energy plan.

NORTHLAND KANSAS CITY

CLIMATE PROTECTION AND RESILIENCY PLAN NEIGHBORHOOD SUMMARY



NATURAL SYSTEMS

STRATEGY N-1: EXPAND NETWORK OF TREES AND NATURAL AREAS

Expand and protect Kansas City's network of trees and natural areas, prioritizing native plants that are resilient to climate impacts. Increasing tree canopy coverage and other types of green space helps reduce urban heat islands, provides healthy spaces for residents to enjoy, cleans the air, and provides wildlife habitat. Air pollution benefits alone are estimated at more than \$117,000 annually per tree (i-Tree Canopy, 2021).

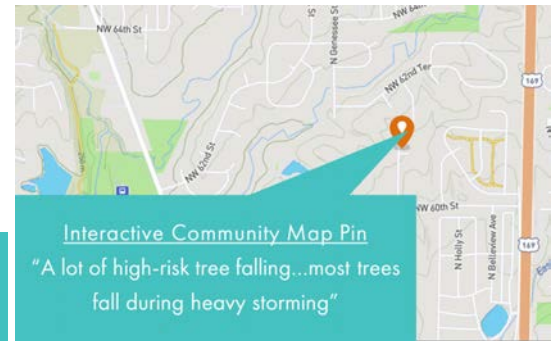
ACTIONS

- N-1.1: Preserve and enhance green space and trees to increase the tree canopy.
- N-1.3: Promote and incentivize the use of native plants, grasses, shrubs, groundcover, and trees.

Specifically, north of Riverfront Park.

- N-1.4: Implement heat island mitigation strategies through development.

Specifically in industrial businesses along E. 14th Avenue, adding green roofs would decrease ambient temperatures.



STRATEGY N-2: PROMOTE REGENERATIVE, ECOLOGICALLY HEALTHY SOILS AND LANDSCAPES

Adopt and promote healthy soil practices to support biodiversity, improve water and air quality, reduce erosion, and improve plant health. Climate change not only threatens humans, but disrupts fragile ecosystems on which human activity depend, and further stresses endangered species. In addition to supporting Kansas City's ecosystems and improving quality of life, soil stores three times more carbon than plants, making it a powerful GHG emissions reduction tool (Schwartz, 2014).

ACTIONS

- N-2.1: Maintain healthy ecosystems supportive of biodiversity.

Northland has many regulated streams; conservation of those streams will promote and preserve natural habitats.

NORTHLAND KANSAS CITY

CLIMATE PROTECTION AND RESILIENCY PLAN NEIGHBORHOOD SUMMARY

STRATEGY N-3: PROMOTE SUSTAINABLE WATER SUPPLY AND USE

Employ reliable and resilient approaches to water management to ensure fresh water is available and affordable to all community members. Climate change manifests itself primarily through changes in the water cycle, emphasizing the importance of a resilient water management supply that addresses drought, flooding, and storm risks.

ACTIONS

- N-3.1: Practice water conservation and demand management.

Anita B. Gordman park has an annual 0.2% flood chance hazard and is centered around businesses.

STRATEGY N-4: USE NATURAL SYSTEMS TO MANAGE STORMWATER RUNOFF

Increase the capacity of Kansas City's landscape to manage stormwater and protect water quality. Green infrastructure, like roadside plantings, vegetated rooftops, and bioswales, can prevent runoff by capturing rain where it falls and can help clean stormwater by breaking down or capturing pollutants. This offers a cost-effective solution for managing flooding and stormwater pollution.

ACTIONS

- N-4.6: Develop a regional or watershed-scale plan for stormwater management.

Specifically, east of Lakewood Greenway to avoid flooding and erosion during heavy rainfall.



HOMES & BUILDINGS

STRATEGY B-1: INCREASE BUILDING EFFICIENCY AND HEALTH FOR COMMERCIAL AND PUBLIC BUILDINGS

Encourage businesses and institutions to upgrade existing buildings to improve energy efficiency and create healthy comfortable places to work and play. High-performing buildings have been shown to spur economic growth by reducing the amount of money businesses spend on fuel (World Bank Group, 2017) as well as to promote the health and wellbeing of occupants by reducing fatigue, headaches, and symptoms of respiratory conditions (International Energy Agency, 2019).

ACTIONS

- B-1.1: Revise current benchmarking program by adding building performance standards.
- B-1.2: Develop and implement a community-wide, public, and professional education initiative.
- B-1.3: Promote funding opportunities for energy efficiency upgrades.
- B-1.5: Implement energy efficiency requirements for private entities seeking City incentives.

NORTHLAND KANSAS CITY

CLIMATE PROTECTION AND RESILIENCY PLAN NEIGHBORHOOD SUMMARY

STRATEGY B-2: IMPROVE THE EFFICIENCY, AFFORDABILITY, AND DURABILITY OF HOMES

Help residents make home improvements to increase comfort, reduce utility costs, and ensure homes can withstand the anticipated effects of climate change, including extreme heat and more frequent flooding. These improvements have also been shown to improve indoor air quality and thermal comfort, improving resident health and reducing healthcare expenses. Together these benefits improve affordability of homes (Kelley, 2021).

ACTIONS

- B-2.1: Provide support for implementing energy efficiency improvements.
- B-2.2: Develop and implement a community-wide education initiative.

STRATEGY B-3: ENSURE CLIMATE-READY, EFFICIENT CONSTRUCTION

Use building code updates and other legislation and incentives to ensure new buildings are designed to be highly efficient, reducing their GHG emissions; are powered by clean energy; and are designed to withstand anticipated climate change impacts such as extreme heat and flooding. These high efficiency buildings improve the comfort and wellbeing of occupants; and the increased upfront construction costs typically pay back within the life of the mortgage, decreasing the overall cost to building owners (Nadel, 2020).

ACTIONS

- B-3.2: Provide training to local builders on high-efficiency building techniques.
- B-3.3: Build affordable communal living spaces.

Specifically, in Golden Oaks Park where encampments have been reported to 311.



FOOD

STRATEGY F-1: INCREASE PRODUCTION OF LOCAL FOOD

Work at all levels of the food system to increase the production, availability, and consumption of locally grown food. By expanding our local food network, we are keeping money in our community, reducing food transportation emissions, and can improve local ecosystem health through regenerative farming practices.

ACTIONS

- F-1.1: Reduce zoning and policy barriers to local food production.
- F-1.2: Incentivize local food production and soil regeneration.
- F-1.3: Transform underutilized urban spaces into food production areas.
- F-1.4: Provide education about ways to garden, grow food, and advance regenerative soil practices.

NORTHLAND KANSAS CITY

CLIMATE PROTECTION AND RESILIENCY PLAN NEIGHBORHOOD SUMMARY

F-2: IMPROVE HEALTHY AND SUSTAINABLE FOOD ACCESS

Expand access to affordable, healthy, and sustainable food through programs, infrastructure, and outreach. Prioritize efforts in neighborhoods within areas experiencing food apartheid (food deserts) and areas with high concentrations of unhealthy food options.

- ACTIONS**
- F-2.1: Expand and support programs that increase local food access and promote plant-based food consumption.



WASTE & MATERIALS

STRATEGY W-1: DIVERT WASTE FROM LANDFILLS AND REDUCE ILLEGAL DUMPING

Conduct a planning process to improve all parts of Kansas City's solid waste system. Identify policies, programs, and infrastructure projects to support illegal dumping prevention, construction and demolition waste management, and curbside recycling. As part of this coordinated planning process, identify ways for Kansas City government to lead by example.

- ACTIONS**
- W-1.5: Promote waste reduction and diversion programs and advocacy.

STRATEGY W-2: DIVERT ORGANIC WASTE FROM THE LANDFILL THROUGH COMPOSTING

Support the development of infrastructure and programs that support composting on-site and compost collection by waste haulers. Nearly half of the trash in the U.S. is biodegradable material that could be composted (U.S. Environmental Protection Agency, 2020). Composting provides an alternative to landfill disposal and restores soil to produce healthier food.

- ACTIONS**
- W-2.1: Expand and promote small- and large-scale composting throughout Kansas City.

Parks in the Northland should include initiatives from Johnson Co. Compost.

CENTRAL KANSAS CITY

CLIMATE PROTECTION AND RESILIENCY PLAN NEIGHBORHOOD SUMMARY

This summary is intended to help Central Kansas City community members understand their climate risks and work together toward priority climate action strategies between 2022 and 2025, in coordination with citywide climate action efforts outlined in the full Kansas City Climate Protection and Resiliency Plan. Central Kansas City includes Council Districts 3 and 4.

ENGAGING THE CENTRAL COMMUNITY

In addition to the hundreds of hours spent on citywide engagement, several engagement activities specific to Central Kansas City were held:



An online workshop with
13 participants



39 one-on-one
community conversations



An in-person workshop with
11 participants

CENTRAL'S CLIMATE RISKS

Like the rest of the city, Central Kansas City's greatest climate risks are flooding and extreme heat. Compared to the Northland and South Kansas City, Central Kansas City has the lowest capacity to adapt to these risks due to lower income levels, older homes, more households without access to vehicles, and other factors. Income levels in Central Kansas City are significantly lower than the state average, emphasizing the need for additional resources to increase the adaptive capacity of the area.

73% of neighborhoods in Council District 3 and 71% of neighborhoods in Council District 4 experience **urban heat island effects**, compared to much lower levels in Northland (**9%**) and South Kansas City (**20%**)

4% of Council District 3 and **7%** of Council District 4 are covered by **floodplains**, similar to other areas of Kansas City



CENTRAL KANSAS CITY

CLIMATE PROTECTION AND RESILIENCY PLAN NEIGHBORHOOD SUMMARY

PRIORITY STRATEGIES AND ACTIONS

The following strategies and short-term actions were identified as priorities by Central Kansas City neighborhoods through the planning process. For additional details on each, view the full Climate Protection and Resiliency Plan.



MOBILITY

STRATEGY M-1: REDUCE VEHICLE MILES TRAVELED (VMT) THROUGH COORDINATED AND PLANNED DEVELOPMENT

Ensure that new developments are designed to reduce the distance residents need to travel to reach their workplace and necessary amenities such as grocery stores and medical clinics, as well as provide easy access to public transit. These improvements must be deliberate in avoiding green gentrification.

ACTIONS

- M-1.1: Promote development patterns that prevent sprawl and support alternative modes of transportation, including road diets and traffic calming.
- M-1.2: Expand the use of green development practices.

Specifically, within the Crossroads District, from Broadway and Southwest Boulevard to 19th Street and Troost.

Specifically, within the Crossroads District, Power & Light District, and Downtown Kansas to the Westside Neighborhood bordering Kansas.

STRATEGY M-2: SHIFT TRIPS TO BICYCLING AND WALKING BY EXPANDING A NETWORK OF SAFE AND ACCESSIBLE ROUTES

Adopt and implement the Bike KC Master Plan and update and implement the Walkability and KC Trails Plan to ensure all communities have equal access to safe bike and walk infrastructure. Bicycle commuting has been shown to support the local economy through jobs as well as health care savings from people who choose active transport (Flusche, 2012).

ACTIONS

- M-2.1: Continue applying Complete Streets policy.
- M-2.2: Work toward a system of protected and connected bike lanes, greenways, and sidewalks that use universal design principals.
- M-2.3: Invest at minimum 3% of City transportation infrastructure expenditures in safe bicycle and pedestrian infrastructure, including end of trip facilities.

Specifically, develop bike lanes along MLK Jr. Boulevard and extend bike lanes from Paseo through 18th and Vine, and east toward Brooklyn Ave.

CENTRAL KANSAS CITY

CLIMATE PROTECTION AND RESILIENCY PLAN NEIGHBORHOOD SUMMARY

STRATEGY M-3: SHIFT TRIPS TO TRANSIT BY BUILDING EFFICIENT AND EFFECTIVE TRANSIT SYSTEMS AND MOBILITY HUBS

Expand public transit infrastructure to provide low-cost, reliable, convenient transportation for all residents, prioritizing east/west transit lines. To ensure success of this strategy, ensure that public transit workers are valued and paid fairly.

ACTIONS

- M-3.1: Expand alternative transportation programs.
- M-3.2: Build out the Smart Moves transit and mobility system, including the network of mobility hubs.

STRATEGY M-5: REDUCE VEHICLE EMISSIONS THROUGH LOW- AND NO-EMISSION VEHICLES

Transition on-road vehicles to electric vehicles (EVs), including buses, e-bikes, and commercial vehicles, or other low- and no-emission vehicles.. This reduces GHG emissions and local air pollutants from vehicles; EVs cost about 40 percent less to maintain than conventional vehicles, lowering transportation costs (US Department of Energy, 2021).

ACTIONS

- M-5.1: Promote community-wide electric vehicle adoption.
- M-5.2: Expand the charging station network.
- M-5.3: Electrify public-serving fleets.
- M-5.6: Reduce the use of polluting lawnmowers and other landscaping equipment.

Specifically, near 18th and Vine, East High School, East Midtown in 31st Street District, and along East Linwood Boulevard.

CENTRAL KANSAS CITY

CLIMATE PROTECTION AND RESILIENCY PLAN NEIGHBORHOOD SUMMARY



ENERGY SUPPLY

STRATEGY E-1: TRANSITION ENERGY GRID MIX TO RENEWABLE ENERGY

Work with Evergy, the Public Service Commission, and other cities in Evergy territory to eliminate GHG emissions from grid delivered electricity by retiring coal and gas plants early and replacing them with a fair mix of utility-owned wind, solar, and storage and customer-owned solar and storage.

ACTIONS

- E-1.1: Expand utility-owned renewable energy production.
- E-1.2: Leverage House Bill 734: Modifies provisions relating to utilities.
- E-1.3: Coordinate legal review and response by the City for state renewable energy policies.
- E-1.4: Advocate for community choice energy legislation.

Specifically, for the Northeast Industrial District in neighborhoods encompassed from Prospect to Highway 435 and Independence Avenue to 31st Street.

STRATEGY E-2: EXPAND NEIGHBORHOOD, COMMERCIAL, AND MUNICIPAL RENEWABLE ENERGY GENERATION

Invest in local solar generation on homes, businesses, and City-owned properties and parking lots. Batteries should be installed with onsite generation to form a microgrid that can provide power in case of power outages at critical locations, improving resiliency to natural disasters. Installing solar panels on homes not only decreases utility bills but has also been shown to increase home values (US Department of Energy, 2021).

ACTIONS

- E-2.1: Provide career training for solar installers.
- E-2.2: Expand community solar options.
- E-2.3: Encourage solar for new construction receiving tax abatements or other City incentives.
- E-2.4: Adopt and advocate for solar-friendly policies and practices.

Specifically, at affordable housing complexes east of Troost, as well as in the Westside Neighborhood downtown near the Crossroads.

CENTRAL KANSAS CITY

CLIMATE PROTECTION AND RESILIENCY PLAN NEIGHBORHOOD SUMMARY

STRATEGY E-3: IMPROVE GRID STABILITY AND RESILIENCE

Use climate models to ensure the local power grid can provide reliable electricity even with the predicted impacts of climate change. For example, the increase in extreme heat events will increase the electrical demand from air conditioning during these events; so, strategies to reduce these peak demand events may be needed to avoid brownouts. Additionally, include the anticipated increase in grid demands from the building and transportation electrification strategies in this plan.

ACTIONS

- E-3.1: Implement grid flexibility and smart grid strategies.
- E-3.2: Implement microgrids.

Specifically, for Rockhurst University, University of Missouri Kansas City, and Lincoln Prep High School.



NATURAL SYSTEMS

STRATEGY N-1: EXPAND NETWORK OF TREES AND NATURAL AREAS

Expand and protect Kansas City's network of trees and natural areas, prioritizing native plants that are resilient to climate impacts. Increasing tree canopy coverage and other types of green space helps reduce urban heat islands, provides healthy spaces for residents to enjoy, cleans the air, and provides wildlife habitat. Air pollution benefits alone are estimated at more than \$117,000 annually per tree (i-Tree Canopy, 2021).

ACTIONS

- N-1.1: Preserve and enhance green space and trees to increase the tree canopy.

Specifically, in downtown around the Crossroads District, Westside, and River Market.

Specifically, at bus stops on the East side of KCMO, along Troost MAX, Prospect MAX, 10, 11, 21, 24, and 25 routes.

- N-1.3: Promote and incentivize the use of native plants, grasses, shrubs, groundcover, and trees.

Specifically, along road and highway medians that cut through the city, such as Highways 40, 70, 71, and 435.

- N-1.4: Implement heat island mitigation strategies through development.

Specifically, at bus stops on the East side of KCMO, along Troost MAX, Prospect MAX, 10, 11, 21, 24, and 25 routes.

CENTRAL KANSAS CITY

CLIMATE PROTECTION AND RESILIENCY PLAN NEIGHBORHOOD SUMMARY

STRATEGY N-2: PROMOTE REGENERATIVE, ECOLOGICALLY HEALTHY SOILS AND LANDSCAPES

Adopt and promote healthy soil practices to support biodiversity, improve water and air quality, reduce erosion, and improve plant health. Climate change not only threatens humans, but disrupts fragile ecosystems on which human activity depend, and further stresses endangered species. In addition to supporting Kansas City's ecosystems and improving quality of life, soil stores three times more carbon than plants, making it a powerful GHG emissions reduction tool (Schwartz, 2014).

ACTIONS

- N-2.1: Maintain healthy ecosystems supportive of biodiversity.
- N-2.3: Promote urban- and landscape-scale sequestration projects.

Specifically, at abandoned properties and neighborhoods near and surrounding the Blue River and Blue River Road (e.g., Heart of the City, Dunbar, Blue Valley Park).

Specifically, in vacant Lots near the Blue River (see [map](#)).

- N-2.4: Consider new development's impact on ecosystems and healthy soil structure.

N-4: USE NATURAL SYSTEMS TO MANAGE WATER RUNOFF

Increase the capacity of Kansas City's landscape to manage stormwater and protect water quality. Green infrastructure, like roadside plantings, vegetated rooftops, and bioswales, can prevent runoff by capturing rain where it falls and can help clean stormwater by breaking down or capturing pollutants. This offers a cost-effective solution for managing flooding and stormwater pollution.

ACTIONS

- N-4.1: Ensure climate considerations are incorporated into planning for natural processes.

CENTRAL KANSAS CITY

CLIMATE PROTECTION AND RESILIENCY PLAN NEIGHBORHOOD SUMMARY



HOMES & BUILDINGS

STRATEGY B-1: INCREASE BUILDING EFFICIENCY AND HEALTH FOR COMMERCIAL AND PUBLIC BUILDINGS

Encourage businesses and institutions to upgrade existing buildings to improve energy efficiency and create healthy comfortable places to work and play. High-performing buildings have been shown to spur economic growth by reducing the amount of money businesses spend on fuel (World Bank Group, 2017) as well as to promote the health and wellbeing of occupants by reducing fatigue, headaches, and symptoms of respiratory conditions (International Energy Agency, 2019).

- ACTIONS**
- B-1.1: Revise current benchmarking program by adding building performance standards.
 - B-1.2: Develop and implement a community-wide, public, and professional education initiative.
 - B-1.3: Promote funding opportunities for energy efficiency upgrades.
 - B-1.4: Increase energy efficiency of municipal facilities.

STRATEGY B-2: IMPROVE THE EFFICIENCY, AFFORDABILITY, AND DURABILITY OF HOMES

Help residents make home improvements to increase comfort, reduce utility costs, and ensure homes can withstand the anticipated effects of climate change, including extreme heat and more frequent flooding. These improvements have also been shown to improve indoor air quality and thermal comfort, improving resident health and reducing healthcare expenses. Together these benefits improve affordability of homes (Kelley, 2021).

- ACTIONS**
- B-2.1: Provide support for implementing energy efficiency improvements.
 - B-2.2: Develop and implement a community-wide education initiative.
 - B-2.4: Require home energy and carbon disclosures at time of lease or sale.

Specifically, for Midtown Westport, as well as the Hyde Park and Gilham Park areas.

CENTRAL KANSAS CITY

CLIMATE PROTECTION AND RESILIENCY PLAN NEIGHBORHOOD SUMMARY

STRATEGY B-4: : PROMOTE EQUITABLE BUILDING DECARBONIZATION

City will establish an Equitable Building Decarbonization Program to update existing building heating, waterheating, and cooking systems to run on clean energy instead of natural gas. The use of natural gas for heating space and water, as well as cooking in buildings represents 17% of our community's GHG emissions. With the drive toward 100% renewable electricity, this eliminates GHG emissions that would be produced by these systems and eliminates indoor air pollutants such as carbon monoxide and particulate matter that can worsen asthma and allergies (Lee & Billimoria, 2021).

ACTIONS

- B-4.2: Build community awareness of heat-pumps and electrification opportunities for household equipment.



FOOD

STRATEGY F-1: INCREASE PRODUCTION OF LOCAL FOOD

Work at all levels of the food system to increase the production, availability, and consumption of locally grown food. By expanding our local food network, we are keeping money in our community, reducing food transportation emissions, and can improve local ecosystem health through regenerative farming practices.

ACTIONS

- F-1.1: Reduce zoning and policy barriers to local food production.
- F-1.2: Incentivize local food production and soil regeneration.
- F-1.3: Transform underutilized urban spaces into food production areas

Specifically, in vacant Lots (see [map](#)).

Specifically, east of Prospect until Stadium Drive, between Independence Ave and East Gregory Boulevard.

- F-1.4: Provide education about ways to garden, grow food, and advance regenerative soil practices.
- F-1.5: Establish a coordinator for food systems planning and community collaboration.

CENTRAL KANSAS CITY

CLIMATE PROTECTION AND RESILIENCY PLAN NEIGHBORHOOD SUMMARY

F-2: IMPROVE HEALTHY AND SUSTAINABLE FOOD ACCESS

Expand access to affordable, healthy, and sustainable food through programs, infrastructure, and outreach. Prioritize efforts in neighborhoods within food deserts and areas with high concentrations of unhealthy food options.

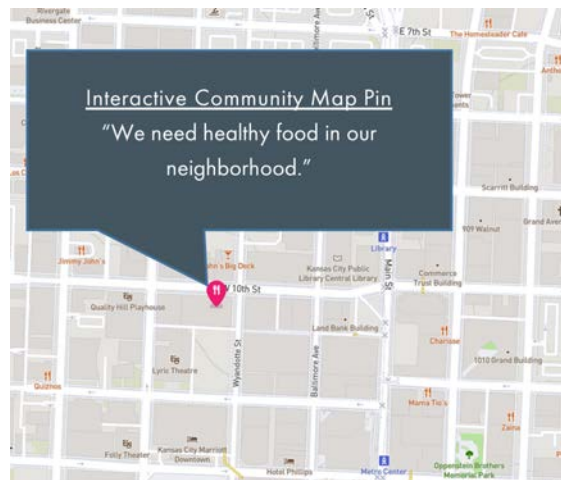
- F-2.2: Expand farm-to-table/school/City programs and local food product purchasing.
- F-2.4: Support and expand food waste reduction, food recovery, and emergency food transport and storage.

ACTIONS

Specifically, around East Independence Avenue to North Blue Ridge, Westport/Plaza Area, Midtown and East 31st Street.

- F-2.5: Establish green restaurant recognition and incentives.

Specifically, for locally owned restaurants along Troost, between 31st and 63rd Street, along Independence Avenue, along West 39th Street, and Westport/Plaza area.



WASTE & MATERIALS

STRATEGY W-1: DIVERT WASTE FROM THE LANDFILL AND REDUCE ILLEGAL DUMPING

Conduct a planning process to improve all parts of Kansas City's solid waste system. Identify policies, programs, and infrastructure projects to support illegal dumping prevention, construction and demolition waste management, and curbside recycling. As part of this coordinated planning process, identify ways for Kansas City government to lead by example.

ACTIONS

- W-1.3: Update the Comprehensive Solid Waste Management Plan.
- W-1.5: Promote waste reduction and diversion programs and advocacy.
- W-1.6: Provide more neighborhood and community solid waste disposal, composting, and recycling sites, programs, and events.

Specifically, near Dunbar/Heart of the City and along Emanuel Cleaver II and MLK Jr. Boulevard.

CENTRAL KANSAS CITY

CLIMATE PROTECTION AND RESILIENCY PLAN NEIGHBORHOOD SUMMARY

STRATEGY W-2: DIVERT ORGANIC WASTE FROM THE LANDFILL THROUGH COMPOSTING

Support the development of infrastructure and programs that support composting on-site and compost collection by waste haulers. Nearly half of the trash in the U.S. is biodegradable material that could be composted (U.S. Environmental Protection Agency, 2020). Composting provides an alternative to landfill disposal and restores soil to produce healthier food.

ACTIONS

- W-2.1: Expand and promote small- and large-scale composting throughout Kansas City.

STRATEGY W-3: REDUCE WASTE AND EMBODIED CARBON BY EXPANDING THE REUSE AND REPAIR ECONOMY

Cultivate a reuse and repair economy to reduce material consumption, increase waste diversion, and create green jobs. For every can of trash, there are 87 cans worth of materials that come from manufacturing and packaging, in addition to the energy and water used (Cassara, Rogich, Wernick, & Miranda, 2008). Building the reuse and repair economy, including lending libraries, subscription services, and community repair workshops will save resources, reinvest money in the community, and build local capacity.

ACTIONS

- W-3.2: Create a network of repair cafes and lending libraries to promote the fixing and sharing economy.

SOUTH KANSAS CITY

CLIMATE PROTECTION AND RESILIENCY PLAN NEIGHBORHOOD SUMMARY

This summary is intended to help South Kansas City community members understand their climate risks and work together toward priority climate action strategies between 2022 and 2025, in coordination with citywide climate action efforts outlined in the full Kansas City Climate Protection and Resiliency Plan. South Kansas City includes Council Districts 5 and 6.

ENGAGING THE SOUTH COMMUNITY

In addition to the hundreds of hours spent on citywide engagement, several engagement activities specific to South Kansas City were held:



An online workshop with
14 participants



14 one-on-one
community conversations



An in-person workshop with
11 participants

SOUTH'S CLIMATE RISKS

Like the rest of the city, South Kansas City's greatest climate risks are flooding and extreme heat. Compared to the Northland and Central Kansas City, South Kansas City has fairly average capacity to adapt to these risks due to a mix of income levels, ages of homes, households without access to vehicles, and other factors.

15% of neighborhoods in Council District 5 and 25% of neighborhoods in Council District 6 experience **urban heat island effects**, compared to much lower levels in Northland (**9%**) and much higher levels in Central Kansas City (**72%**)

7% of Council District 5 and **5%** of Council District 6 are covered by **floodplains**, similar to other areas of Kansas City



SOUTH KANSAS CITY

CLIMATE PROTECTION AND RESILIENCY PLAN NEIGHBORHOOD SUMMARY

PRIORITY STRATEGIES AND ACTIONS

The following strategies and short-term actions were identified as priorities by the South Kansas City neighborhoods through the planning process. For additional details on each, view the full Climate Protection and Resiliency Plan.



MOBILITY

STRATEGY M-1: REDUCE VEHICLE MILES TRAVELED (VMT) THROUGH COORDINATED AND PLANNED DEVELOPMENT

Ensure that new developments are designed to reduce the distance residents need to travel to reach their workplace and necessary amenities such as grocery stores and medical clinics, as well as provide easy access to public transit. These improvements must be deliberate in avoiding green gentrification.

- M-1.1: Promote development patterns that prevent sprawl and support alternative modes of transportation, including road diets and traffic calming.

ACTIONS

Specifically, along 63rd Street between Swope Parkway and Ward Parkway.

- M-1.2: Expand the use of green development practices.

Specifically, within the Crossroads District, Power & Light District, and Downtown Kansas to the Westside Neighborhood bordering Kansas.

SOUTH KANSAS CITY

CLIMATE PROTECTION AND RESILIENCY PLAN NEIGHBORHOOD SUMMARY

STRATEGY M-2: SHIFT TRIPS TO BICYCLING AND WALKING BY EXPANDING A NETWORK OF SAFE AND ACCESSIBLE ROUTES

Adopt and implement the Bike KC Master Plan and update and implement the Walkability and KC Trails Plan to ensure all communities have equal access to safe bike and walk infrastructure. Bicycle commuting has been shown to support the local economy through jobs as well as health care savings from people who choose active transport (Flusche, 2012).

ACTIONS

- M-2.1: Continue applying Complete Streets policy.
- M-2.2: Work toward a system of protected and connected bike lanes, greenways, and sidewalks that use universal design principals.
- M-2.3: Invest at minimum 3% of City transportation infrastructure expenditures in safe bicycle and pedestrian infrastructure, including end of trip facilities.

Specifically, along the East-West connect on 63rd Street and MLK Jr. Boulevard, as well as Gregory Boulevard and Bannister.

Specifically, along 63rd Street between Swope Parkway and Ward Parkway, the East-West connect on 63rd Street and MLK Jr. Boulevard, and Gregory Boulevard and Bannister.

STRATEGY M-3: SHIFT TRIPS TO TRANSIT BY BUILDING EFFICIENT AND EFFECTIVE TRANSIT SYSTEMS AND MOBILITY HUBS

Expand public transit infrastructure to provide low-cost, reliable, convenient transportation for all residents, prioritizing east/west transit lines. To ensure success of this strategy, ensure that public transit workers are valued and paid fairly.

ACTIONS

- M-3.1: Expand alternative transportation programs.
- M-3.2: Build out the Smart Moves transit and mobility system, including the network of mobility hubs.

Specifically, along 63rd Street between Swope Parkway and Ward Parkway, the East-West connect on 63rd Street and MLK Jr. Boulevard, and Gregory Boulevard and Bannister.

SOUTH KANSAS CITY

CLIMATE PROTECTION AND RESILIENCY PLAN NEIGHBORHOOD SUMMARY

STRATEGY M-5: REDUCE VEHICLE EMISSIONS THROUGH LOW- AND NO-EMISSION VEHICLES

Transition on-road vehicles to electric vehicles (EVs), including buses, e-bikes, and commercial vehicles, or other low- and no-emission vehicles. This reduces GHG emissions and local air pollutants from vehicles; EVs cost about 40 percent less to maintain than conventional vehicles, lowering transportation costs (US Department of Energy, 2021).

- ACTIONS**
- M-5.1: Promote community-wide electric vehicle adoption.
 - M-5.2: Expand the charging station network.
 - M-5.3: Electrify public-serving fleets.
 - M-5.6: Reduce the use of polluting lawnmowers and other landscaping equipment.

Specifically, near Ruskin High School, Hickman Mill, and Avila University.



ENERGY SUPPLY

STRATEGY E-1: TRANSITION ENERGY GRID MIX TO RENEWABLE ENERGY

Work with Evergy, the Public Service Commission, and other cities in Evergy territory to eliminate GHG emissions from grid delivered electricity by retiring coal and gas plants early and replacing them with a fair mix of utility-owned wind, solar, and storage and customer-owned solar and storage.

- ACTIONS**
- E-1.1: Expand utility-owned renewable energy production.
 - E-1.2: Leverage House Bill 734: Modifies provisions relating to utilities.
 - E-1.3: Coordinate legal review and response by the City for state renewable energy policies.
 - E-1.4: Advocate for community choice energy legislation.

SOUTH KANSAS CITY

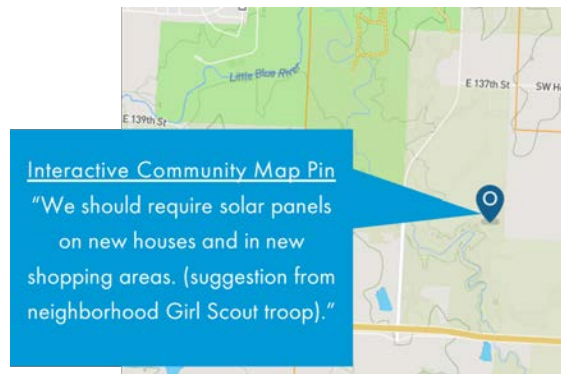
CLIMATE PROTECTION AND RESILIENCY PLAN NEIGHBORHOOD SUMMARY

STRATEGY E-2: EXPAND NEIGHBORHOOD, COMMERCIAL, AND MUNICIPAL RENEWABLE ENERGY GENERATION

Invest in local solar generation on homes, businesses, and City-owned properties and parking lots. Batteries should be installed with onsite generation to form a microgrid that can provide power in case of power outages at critical locations, improving resiliency to natural disasters. Installing solar panels on homes not only decreases utility bills but has also been shown to increase home values (US Department of Energy, 2021).

ACTIONS

- E-2.1: Provide career training for solar installers.
- E-2.2: Expand community solar options.
- E-2.4: Adopt and advocate for solar-friendly policies and practices.



STRATEGY E-3: IMPROVE GRID STABILITY AND RESILIENCE

Use climate models to ensure the local power grid can provide reliable electricity even with the predicted impacts of climate change. For example, the increase in extreme heat events will increase the electrical demand from air conditioning during these events; so, strategies to reduce these peak demand events may be needed to avoid brownouts. Additionally, include the anticipated increase in grid demands from the building and transportation electrification strategies in this plan.

ACTIONS

- E-3.1: Implement grid flexibility and smart grid strategies.
- E-3.2: Implement microgrids.

Specifically, south of Bannister Road (e.g., Hickman Mills and Martin City).

Specifically, south of Bannister Road (e.g., in and surrounding the neighborhoods of Hickman Mills and Red Bridge).

SOUTH KANSAS CITY

CLIMATE PROTECTION AND RESILIENCY PLAN NEIGHBORHOOD SUMMARY



NATURAL SYSTEMS

STRATEGY N-1: EXPAND NETWORK OF TREES AND NATURAL AREAS

Expand and protect Kansas City's network of trees and natural areas, prioritizing native plants that are resilient to climate impacts. Increasing tree canopy coverage and other types of green space helps reduce urban heat islands, provides healthy spaces for residents to enjoy, cleans the air, and provides wildlife habitat. Air pollution benefits alone are estimated at more than \$117,000 annually per tree (i-Tree Canopy, 2021).

- ACTIONS**
- N-1.1: Preserve and enhance green space and trees to increase the tree canopy.
 - N-1.3: Promote and incentivize the use of native plants, grasses, shrubs, groundcover, and trees.

STRATEGY N-2: PROMOTE REGENERATIVE, ECOLOGICALLY HEALTHY SOILS AND LANDSCAPES

Adopt and promote healthy soil practices to support biodiversity, improve water and air quality, reduce erosion, and improve plant health. Climate change not only threatens humans, but disrupts fragile ecosystems on which human activity depend, and further stresses endangered species. In addition to supporting Kansas City's ecosystems and improving quality of life, soil stores three times more carbon than plants, making it a powerful GHG emissions reduction tool (Schwartz, 2014).

- ACTIONS**
- N-2.1: Maintain healthy ecosystems supportive of biodiversity. Specifically, in and surrounding Swope Park, Indian Creek, and Blue River.
 - N-2.3: Promote urban- and landscape-scale sequestration projects. Specifically, around Holmes and Bannister, and Blue Ridge Road and Holmes.
 - N-2.4: Consider new development's impact on ecosystems and healthy soil structure. Specifically, for Wolf Creek, Tomahawk Creek, and Blue River.

SOUTH KANSAS CITY

CLIMATE PROTECTION AND RESILIENCY PLAN NEIGHBORHOOD SUMMARY

N-3: PROMOTE SUSTAINABLE WATER SUPPLY AND USE

Employ reliable and resilient approaches to water management to ensure fresh water is available and affordable to all community members. Climate change manifests itself primarily through changes in the water cycle, emphasizing the importance of a resilient water management supply that addresses drought, flooding, and storm risks.

ACTIONS

- N-3.1: Practice water conservation and demand management.
- N-3.2: Incentivize rainwater collection.

N-4: USE NATURAL SYSTEMS TO MANAGERM WATER RUNOFF

Increase the capacity of Kansas City's landscape to manage stormwater and protect water quality. Green infrastructure, like roadside plantings, vegetated rooftops, and bioswales, can prevent runoff by capturing rain where it falls and can help clean stormwater by breaking down or capturing pollutants. This offers a cost-effective solution for managing flooding and stormwater pollution.

ACTIONS

- N-4.1: Ensure climate considerations are incorporated into planning for natural processes.
- N-4.4: Increase capacity for stormwater collection and treatment.
- N-4.5: Incentivize, educate, and encourage community members and businesses to replace hardscapes with pervious surfaces and greenspace.

Specifically, near Indian Creek and Blue River, East and West 85th Street, and East 63rd Street.

SOUTH KANSAS CITY

CLIMATE PROTECTION AND RESILIENCY PLAN NEIGHBORHOOD SUMMARY



HOMES & BUILDINGS

STRATEGY B-1: INCREASE BUILDING EFFICIENCY AND HEALTH FOR COMMERCIAL AND PUBLIC BUILDINGS

Encourage businesses and institutions to upgrade existing buildings to improve energy efficiency and create healthy comfortable places to work and play. High-performing buildings have been shown to spur economic growth by reducing the amount of money businesses spend on fuel (World Bank Group, 2017) as well as to promote the health and wellbeing of occupants by reducing fatigue, headaches, and symptoms of respiratory conditions (International Energy Agency, 2019).

- ACTIONS**
- B-1.2: Develop and implement a community-wide, public, and professional education initiative.
 - B-1.4: Increase energy efficiency of municipal facilities.
 - B-1.6: Reduce natural gas system leakage.

STRATEGY B-2: IMPROVE THE EFFICIENCY, AFFORDABILITY, AND DURABILITY OF HOMES

Help residents make home improvements to increase comfort, reduce utility costs, and ensure homes can withstand the anticipated effects of climate change, including extreme heat and more frequent flooding. These improvements have also been shown to improve indoor air quality and thermal comfort, improving resident health and reducing healthcare expenses. Together these benefits improve affordability of homes (Kelley, 2021).

- ACTIONS**
- B-2.2: Develop and implement a community-wide education initiative.
 - B-2.3: Reduce natural gas system leakage
 - B-2.4: Require home energy and carbon disclosures at time of lease and sale.

STRATEGY B-3: ENSURE CLIMATE-READY, EFFICIENT CONSTRUCTION

ACTION STEPS AND EXAMPLES

- B-3.2: Provide training to local builders on high-efficiency building techniques.
- B-3.3: Build affordable communal living spaces.

Specifically, near South Blue Valley and Noble and Gregory Ridge.

SOUTH KANSAS CITY

CLIMATE PROTECTION AND RESILIENCY PLAN NEIGHBORHOOD SUMMARY



FOOD

STRATEGY F-1: INCREASE PRODUCTION OF LOCAL FOOD

Work at all levels of the food system to increase the production, availability, and consumption of locally grown food. By expanding our local food network, we are keeping money in our community, reducing food transportation emissions, and can improve local ecosystem health through regenerative farming practices.

ACTIONS

- F-1.1: Reduce zoning and policy barriers to local food production.
- F-1.2: Incentivize local food production and soil regeneration.
- F-1.3: Transform underutilized urban spaces into food production areas

Specifically, east of Troost from
63rd Street to Redbridge
(see [Community Gardens Partner Map](#)).

F-2: IMPROVE HEALTHY AND SUSTAINABLE FOOD ACCESS

Expand access to affordable, healthy, and sustainable food through programs, infrastructure, and outreach. Prioritize efforts in neighborhoods within food deserts and areas with high concentrations of unhealthy food options.

ACTIONS

- F-2.1: Expand and support programs that increase local food access and promote plant-based food consumption.
- F-2.3: Explore and provide incentives for more grocery stores and store purchases of local foods.

SOUTH KANSAS CITY

CLIMATE PROTECTION AND RESILIENCY PLAN NEIGHBORHOOD SUMMARY



WASTE & MATERIALS

STRATEGY W-1: DIVERT WASTE FROM THE LANDFILL AND REDUCE ILLEGAL DUMPING

Conduct a planning process to improve all parts of Kansas City's solid waste system. Identify policies, programs, and infrastructure projects to support illegal dumping prevention, construction and demolition waste management, and curbside recycling. As part of this coordinated planning process, identify ways for Kansas City government to lead by example.

ACTIONS

- W-1.2: Identify avenues for monitoring and preventing illegal dumping.
- W-1.4: Expand and increase recycling education and participation in curbside recycling program.
- W-1.5: Promote waste reduction and diversion programs and advocacy.
- W-1.6: Provide more neighborhood and community solid waste disposal, composting, and recycling sites, programs, and events.

Specifically, near Bannister and 85th, from Blue River Road to Wornall, and South Wornall Road.

STRATEGY W-3: REDUCE WASTE AND EMBODIED CARBON BY EXPANDING THE REUSE AND REPAIR ECONOMY

Cultivate a reuse and repair economy to reduce material consumption, increase waste diversion, and create green jobs. For every can of trash, there are 87 cans worth of materials that come from manufacturing and packaging, in addition to the energy and water used (Cassara, Rogich, Wernick, & Miranda, 2008). Building the reuse and repair economy, including lending libraries, subscription services, and community repair workshops will save resources, reinvest money in the community, and build local capacity.

ACTIONS

- W-3.2: Create a network of repair cafes and lending libraries to promote the fixing and sharing economy.



SUPPLEMENTAL DOCUMENTATION



Supplemental documentation can be found at www.kcmo.gov/climate and includes the following resources:

- Engagement Summary
- Greenhouse Gas Emissions Inventory Update
- Climate Risk and Vulnerability Assessment
- Climate Risk and Vulnerability Assessment Methodology
- Mitigation Scenario Analysis
- Short-Term Implementation Plan



**KANSAS CITY
MISSOURI**