Raleigh Community Climate Action Plan

Implementation Progress Report

February 2023

Raleigh


CLEAN ENERGY ▸ ZERO EMISSIONS ▸ 100% ELECTRIC
GO Raleigh
Connecting the Capital Area
GO Raleigh


ANNUALS
SHADE


Yard Waste
Raleigh
Reuse

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Director's Message

I am so honored to share **Raleigh's first Community Climate Action Plan Implementation Report** with you.

Almost eight years ago, I found my dream job: to lead sustainability at the City of Raleigh, which allows me to work on complex issues that have positive impact and can change people's lives for the better. I feel eternally grateful to call Raleigh my community and home. Before joining the City, I lived in various cities across the United States; and spent many years working in communities across Asia, Africa and Australia on sustainable development projects in local villages. Admittedly, when I returned to the U.S., I had a hard time readjusting. My time spent with communities across the globe helped me realize that **the issues people face across the world - climate change, equity, resilience and other social, environmental, health and economic impacts - are all connected, and impact can be felt and learned across cultures and continents.** Being a part of the Raleigh community and tackling these issues collaboratively further ignites my drive to this work.

Raleigh is often rated in the "top places" lists, which brings with it great responsibility to both lead by example, using resources wisely, equitably and innovatively; while also creating innovative solutions that can have a big impact on climate change issues felt locally and globally. There are many great challenges our community faces; and as it is often the case with equity issues, **those communities that contribute the least to climate change are those that are most affected by the impacts**. This rings true in our own backyard and across the globe. **We have to work together. We have a great challenge and an even greater opportunity to impact climate change** and to continue to build on the successes of the Raleigh community.

I am so proud of the climate leadership Raleigh shows across North Carolina and throughout the U.S. and of the support that leaders across the community demonstrate. **Raleigh's Community Climate Action plan is one of the first of its kind** to not only integrate greenhouse gas (GHG) emission reductions; but to also include the vital components of **addressing equity across the community and building community resilience to the impacts of climate change**.

The Raleigh community proves again and again that we are innovative and can work together to tackle a challenge, from the:

1) **Record-breaking Solarize the Triangle program** for the most community sign-ups of any program across the U.S.; to
2) **Breaking national records for community volunteer participation** in heat island data collection; which led to **innovative, award-winning pilot projects** in heat, pollution and green infrastructure technology; to
3) Being one of the first of three cities to pilot electric vehicle (EV) technology in the U.S. almost 15 years ago, to now **leading the way in creating standards for EV's across the region**; to
4) **Local community members creating grassroots environmental justice projects to empower and educate their neighbors** and tackle our largest climate impacts in the communities that are being hit the hardest.

These are just a few of the innovative equity and resilience-driven projects you'll get to read about in this first Report.

As mentioned, we have both a great challenge and an even bigger opportunity, and **there is great momentum both locally and beyond to tackle climate change**. Raleigh and leaders across North Carolina have been joining forces. The State of N.C. created the first N.C. Clean Energy Plan and efforts to address equity, environmental justice, GHG emissions and a clean energy economy. The City of Raleigh's leadership worked to embed equity, environmental justice, climate action and resilience into Raleigh's Strategic Plan and the 2030 Comprehensive Plan, addressing both short and long-term community priorities.

The majority of Raleigh's GHG emissions come from the decisions we make in our daily lives – how we get around, how we live in our homes, work and environment; and **the solutions lie in how we work together to impact positive change**. The City of Raleigh's GHG emissions are less than two percent of community emissions, even considering all the services we provide across the region. The City will continue to innovate, lead by example, find ways to break down barriers, and create foundational opportunities that lead to high impact climate actions. However, to make a meaningful impact, we need the collective power of the community. I am continually inspired by the innovation, leadership and collaborative action of the community.

Please share this report with your neighbors, family, friends, and anyone who will listen; and **please take a moment to pause and celebrate – to wonder in – and feel proud of the great accomplishments and leadership Raleigh has achieved**. Then please join me and the many others on our shared journey to tackle, innovate, empower, and lead the charge to a brighter, cleaner, more resilient, and equitable Raleigh. Thank you for your contributions in taking climate action!

Megan Anderson

Introduction

The **CCAP Implementation Progress Report** documents implementation of projects and policy changes in each strategy area showing how the community's work has contributed to Raleigh's overall portfolio of climate action successes. Climate action work is taking place in many areas of the City of Raleigh government, as well as by many partners across the Raleigh Community.

In May 2019, Raleigh's City Council set a goal to reduce community-wide greenhouse gas (GHG) emissions 80% by the year 2050. In 2021, City Council adopted Raleigh's first Community Climate Action Plan (CCAP). CCAP's main objectives includes strategies to reduce community-wide GHG emissions; to address climate equity and to build community resilience to the impacts of climate change. This document is the first annual report of CCAP implementation progress.

The City of Raleigh has been addressing climate change for many years, even prior to the adoption of CCAP. Since the mid 2000's Raleigh has been adopting energy efficient technologies, building solar installations, promoting climate resilient development, and expanding multi-modal transportation options. In this first Implementation Report information related to past and present projects are provided as examples to demonstrate the foundation upon which Raleigh's current actions are being taken, and to convey the breadth of work happening across the City and community.

Since the creation of CCAP, staff have been actively working to advance the strategies and actions in CCAP both with internal departmental partners and externally with businesses, non-profits, and community partners. Staff have also been working to access resources and funding for high impact implementation actions, including the use of federal funds for renewable energy evaluations, electric vehicles, and electric vehicle charging infrastructure. Addressing equity and resilience within the implementation of all strategies, including Raleigh's top climate impacts: heat and flooding, are also priority areas of focus.

The City also continues to identify actions that create opportunities for the community to take action by:

- **Removing barriers for residents and businesses**
  The City of Raleigh is enabling residents and businesses to take climate action through various initiatives. One example includes making it easier, faster and cheaper to obtain permits for projects such as renewable energy installations, green stormwater infrastructure, and energy efficiency improvements.
- **Enabling and facilitating action**
  The City has identified opportunities to provide support and resources to community members for climate action through creating foundational projects to empower action in the community; piloting innovative ideas and technologies; continuing to grow partnerships and collaboration; and by leveraging and providing grant funding, education and outreach and other resources.
- **Leading by example**
  The City showcases climate action in public projects and outreach efforts to demonstrate its effectiveness and feasibility with the hope that residents and businesses will take actions themselves. The CCAP strategies are designed so that anyone in Raleigh can identify a path they can take for themselves and find a way to contribute to the various opportunities to take climate action.

Considering that less than 2% of community GHG emissions come from the City of Raleigh government operations, even considering all the services the City provides, the importance of everyone in the community taking action is vital to tackling climate change. This is Raleigh's first CCAP Annual Report, and over time, we will continue to provide updates and seek new opportunities to build partnerships in our community and throughout the Region.

Performance data related to the various CCAP strategies is included in this report and further measures will continue to be developed. Greenhouse gas emissions inventories are performed on a five to seven-year cycle. GHG projections are a high-level measure to demonstrate progress toward reaching our GHG goal, and do not shift greatly from year to year.

Metrics tied to strategy areas demonstrate progress on actions and will be used to measure yearly progress. While Raleigh's GHG inventories have demonstrated a decrease in per capita emissions, growth in Raleigh's population means that overall emissions are still on the rise.

The City of Raleigh is also a member of the North Carolina Sustainable Energy Association (NCSEA). The Office of Sustainability has partnered with NCSEA to provide data specific to clean energy and transportation so that we can showcase climate action metrics in these high impact areas of CCAP implementation. Data from NCSEA is showcased in this first Implementation Report and will also be used to develop maps and other visuals for education and outreach, and future decision making for implementation.

This report also contains upcoming plans and projects that will continue to gain impact over time. These projects have been conceptualized and developed over the course of the last few years and to demonstrate the types of new projects that City of Raleigh staff are planning as we set the foundation for continued CCAP action.

In future updates, we will continue to identify community partners taking climate action as well as measurements that show our progress on those actions. Please continue to reach out to Sustainable.Raleigh@raleighnc.gov and share your climate action work with us.

CCAP Summary

This section will provide a brief summary of the Community Climate Action Plan (CCAP) to provide background on the CCAP strategies and their impact.

The three main objectives of CCAP are:

- to **reduce greenhouse gas emissions** (GHGs) to meet Raleigh's community-wide goal of an 80% reduction in GHG emissions by the year 2050
- to **build community resilience** to the impacts of climate change
- and to **address climate equity** across Raleigh's communities

Effective climate action requires the contribution of the entire community, and CCAP lays out a set of strategies that are organized by high impact to meet the three objectives above.

The strategies are organized into three strategy areas:

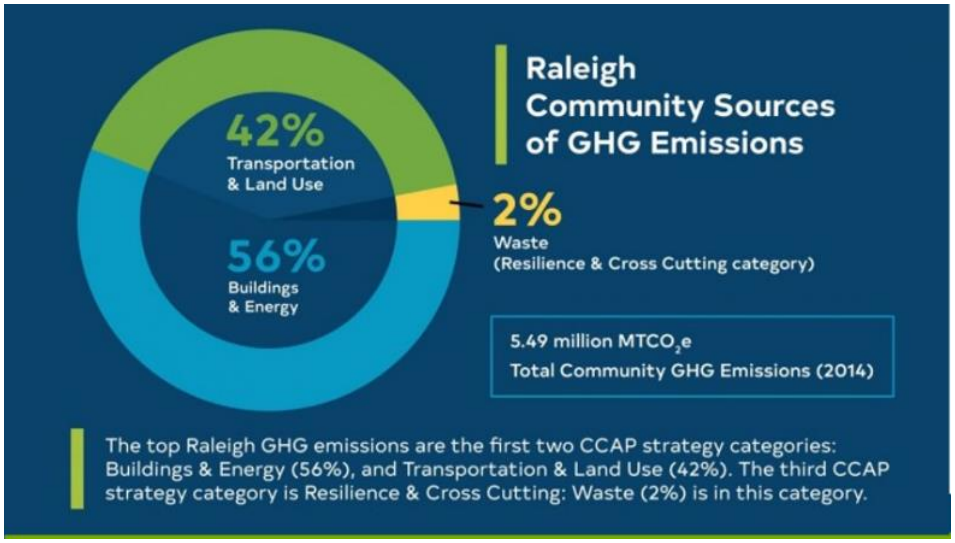
1. **Buildings and Energy**: *how we generate and use energy to power buildings*
2. **Transportation and Land Use**: *how we design our city and how we get around*
3. **Resilience and Cross-Cutting**: *how we prepare our community for climate change; how we deal with waste; and how we embed equity, funding, outreach and innovation into all CCAP strategies*

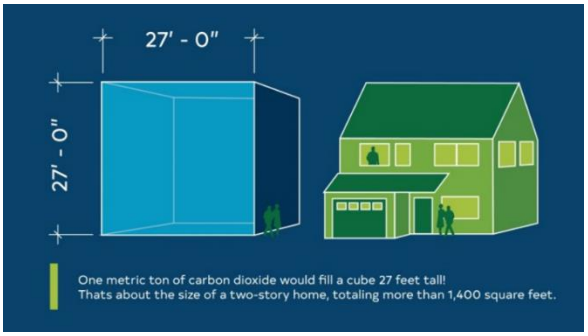
The Resilience and Cross-Cutting strategy area of CCAP incorporates 'cross-cutting' approaches that should be embedded throughout the implementation of all CCAP strategies. These are high impact approaches which include: *equity, resilience, funding, education* and *innovation*. This important cross-cutting work is highlighted throughout the CCAP Implementation Report categories, in addition to further examples being highlighted in the last Resilience & Cross-Cutting section of this Report.

Reducing GHG Emissions

The primary sources of community GHG emissions in Raleigh are Buildings & Energy (56%), Transportation & Land Use (42%) and Waste (2%).

For more specific information about these categories, review Raleigh's Community Climate Action Plan, Chapters 5-7.





Buildings and Energy

This chapter in CCAP includes strategies to reduce energy consumption and transition to renewable sources of energy:

- Energy efficiency standards and practices strategies aim to ensure that the built environment conserves energy with efficient systems and building envelopes.
- Energy supply strategies address the mix of fuels in the Duke Energy power grid. Strategies to transition to more renewable sources of energy at the grid level largely relate to Duke meeting its own climate goals and efforts at the State level.
- Renewable energy strategies encourage installation of community and rooftop solar and uptake of other green energy technologies at the community level.

Transportation and Land Use

This chapter in CCAP includes strategies to address development patterns in Raleigh to create more compact communities which encourage walkability, bikeability transit use, and clean transportation options:

- Reduction of vehicle miles traveled (VMT) and alternative mobility strategies include efforts to reduce congestion and traffic, encourage non-vehicle transportation, expand public transit and improve freight efficiency.
- Efficient land use strategies promote development that supports multi-modal transportation and more compact communities.
- Vehicle electrification and alternative fuel strategies look to transition vehicles in Raleigh to low- and zero-emission fuels and to improve fuel economy.

Resilience and Cross Cutting Strategies

Emissions reduction strategies in this chapter in CCAP largely deal with waste and conserving green space to act as carbon sinks; in addition to strategies to address equity, resilience, funding, outreach and innovation.

- Preservation and green space strategies encourage natural spaces to absorb carbon emissions.
- Waste reduction and efficiency strategies look to expand knowledge of waste management practices, encourage recycling, composting, and improve waste collection.

Building Community Resilience

CCAP also includes a number of strategies to prepare residents, buildings, and infrastructure for the impacts of climate change. For more specific information about resilience, review Raleigh's Community Climate Action Plan, Chapter 4.

Examples of building community resilience include:

- More energy efficient buildings allow people to cool and heat their homes more effectively, and efficient buildings will maintain comfortable temperatures longer in a power outage; in addition, energy efficiency can reduce energy burden where some residents pay a high percentage of their income on their utility bills.
- Renewable energy allows for supply chain resilience to shocks and shortages.
- Walkable and "complete streets" provide shaded sidewalks and increase overall green canopy cover to reduce the urban heat island effect and to protect residents from the top climate stressors of heat and flooding.
- Preserving and expanding green space and tree canopy reduces the impacts of extreme heat and absorbs flood waters. Urban agriculture and pollinator gardens also create resilience for people and habitat.
- Limiting development in the floodplain means fewer people are in harm's way in the case of a flood event.
- Some structures for electric vehicles allow for vehicle batteries to support the power grid or a building's energy supply in a power outage.

Addressing Equity and Other Cross Cutting Approaches

Equity is a core component of the implementation of CCAP. Equity and environmental justice project implementation updates are provided throughout this CCAP Implementation Report.

As CCAP was being developed, staff worked with community stakeholders to create an *Equity Impact Matrix* which provides equity focused guidance that the Raleigh community can use to embed equity into the implementation of strategies. For more information about equity, review Raleigh's Community Climate Action Plan, Chapter 3.

City of Raleigh's Equity Statement

Equity is already embedded in many City of Raleigh processes. As such, the CCAP aligns with and builds upon the citywide approach laid out in the following equity statement, which prioritizes racial equity to dismantle the policies and systems that have created and sustained inequities:

"The City of Raleigh is committed to establishing and advancing an equitable community for all. Because we know that race is the primary predictor of a person's outcomes across all social indicators and societal systems, the City of Raleigh will prioritize racial equity to dismantle the policies and systems that have created and sustained these inequities."

"Inequities in our systems and policies are costly and limit positive outcomes and quality of life for all of us. When we achieve racial equity, all people in Raleigh will benefit from a more just, equitable system. Raleigh aspires to be a model for equity in local government."

City of Raleigh Equity Statement, Adopted in June 2020

Not everyone is affected equally by the impacts of climate change or the implementation of climate action strategies. Many times, the communities that are most affected by climate change are those that contribute the least to GHG emissions. Equity considerations to evaluate when implementing climate action strategies include understanding how the strategies will impact:

- cost of living,
- quality of life,
- health,
- economic implications,
- delivery of City services, and
- the experience of the impacts of climate change across lines of difference in Raleigh.

CCAP aims to prepare community members for the impacts of climate change, as well as to plan across all CCAP strategies to embed cross cutting approaches (*equity, outreach and education, innovation,* and *creative funding*). A large part of the City's work on CCAP implementation has included outreach to communities to understand climate action opportunities, climate change impacts, and how the City can continue to integrate climate action into its many services. This work aligns with the City of Raleigh's Equity Statement, shown above.

Climate action implementation can be challenging as new and complex projects and programs are identified. Fortunately, innovative approaches, outreach and education efforts, and partnerships continue to be developed to address barriers. Examples of barriers to implementation include: high up-front investment costs for construction and technology to build more efficient buildings and expand transportation electrification; new technologies that need piloted to test their feasibility and readiness for larger investment; and prioritizing and aligning climate work among a host of competing priorities, complexity, and timing. To address these barriers, we need continued innovative solutions and partnerships.

CCAP's innovative approach to embed not only GHG mitigation, but also equity and resilience as key objectives, have also allowed for numerous funding and partnership opportunities that you will read about in this Report. CCAP explicitly includes strategies to pursue these various cross cutting needs to support CCAP implementation; and this Report provides updates and examples of where the City and its partners continue to pursue and build these opportunities.

Climate Action Implementation Progress Report

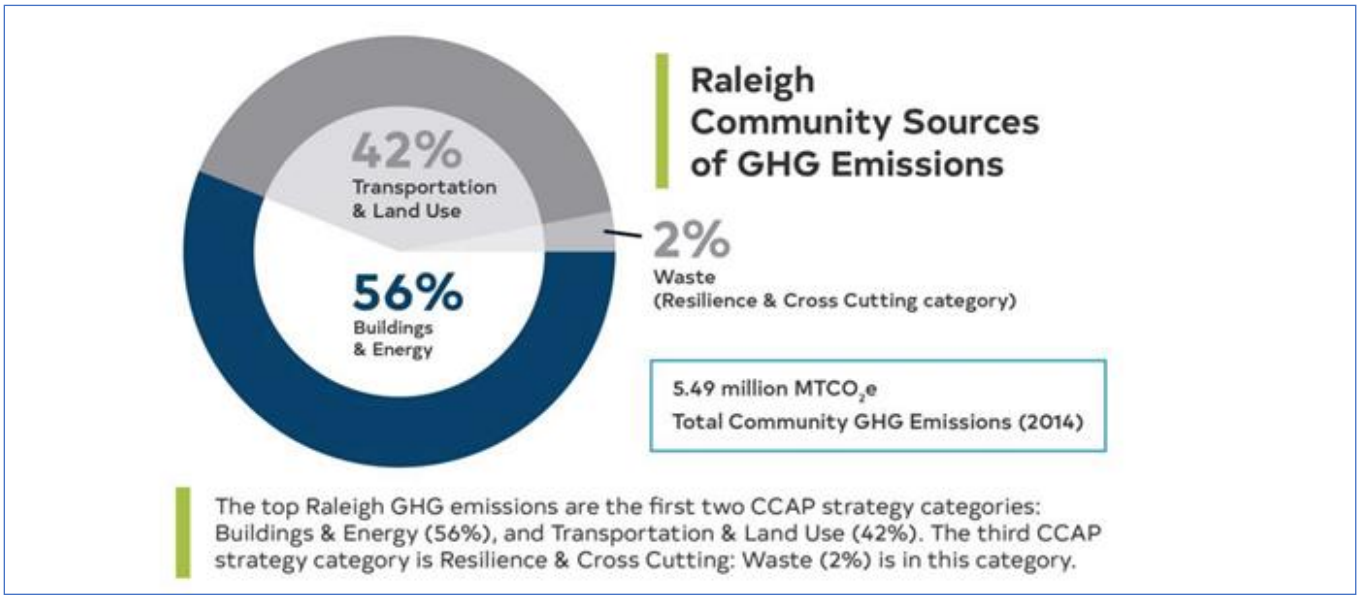
The Climate Action Implementation Progress Report is designed to align with the CCAP strategy area chapters: Buildings & Energy, Transportation & Land Use and Resilience & Cross Cutting. This Report documents implementation of projects and policy changes in each strategy area showing how the City and community's work has contributed to Raleigh's overall portfolio of climate action successes.

Buildings & Energy

How energy is produced and used in Raleigh's buildings accounts for 56% of community-wide GHG emissions, Raleigh's largest category of emissions. This section includes progress on strategies to transition our energy supply away from fossil fuels, increase the energy efficiency of new construction and existing buildings, increase the share of household and community level renewable energy, and identify data sources to demonstrate this progress. These strategies will help to reduce emissions from common uses of energy such as lighting, heating and cooling Raleigh's homes, offices, warehouses, stores and factories.

CCAP contains three strategy areas for Buildings and Energy. (For more information about buildings and energy, review Raleigh's Community Climate Action Plan, Chapter 5.)

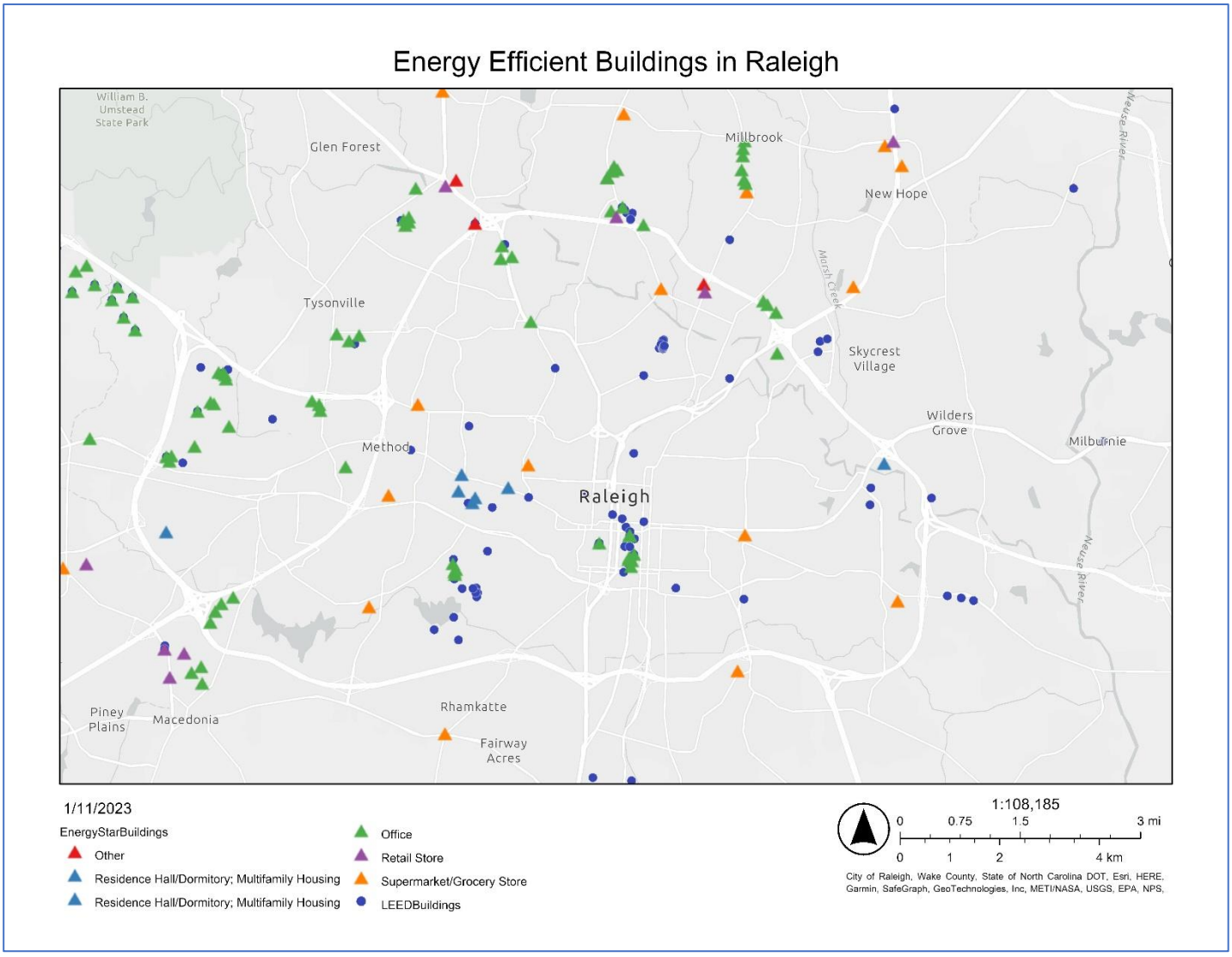
1. **Energy Efficiency Practices and Standards:** These strategies offer tools and resources to the community to encourage the tracking of energy use, benchmarking and reporting energy use, retro-commissioning of existing facilities, preventive maintenance to ensure that buildings remain efficient throughout their lifecycles, as well as encourage the construction of energy efficient buildings for residential and non-residential facilities.
2. **Energy Supply:** This strategy involves continuing to engage with Duke Energy as it transitions its energy sources away from fossil fuels.
3. **Renewable Energy:** These strategies promote and encourage the adoption of rooftop and household level renewable energy installations, as well as community renewable energy facilities.



Energy Efficiency Practices and Standards

Strategies to encourage energy efficiency in new buildings, including affordable housing and energy efficiency retrofits for existing buildings, are all key aspects of energy efficiency. This includes ensuring building envelopes allow for energy used for heating and cooling to be put to its maximum efficiency, installing efficient building systems, and encouraging growth of housing types that naturally utilize less energy, such as apartments, town homes, and tiny homes as options for Raleigh residents.

Sustainable Buildings in Raleigh: There are 134 LEED-Certified Buildings totaling over 12 million square feet and 114 Energy Star Buildings totaling over 15 million square feet in Raleigh.



Map 1: Certified energy efficient buildings in Raleigh. LEED and EnergyStar. Source: NC Sustainable Energy Association.

City of Raleigh LEED Certified Buildings

In 2008, at the recommendation of the Environmental Advisory Board, the Raleigh City Council adopted a policy that all new City-owned buildings constructed that are greater than 10,000 square feet must be built to at least a Leadership in Energy and Environmental Design (LEED) Silver standard, with a higher rating to be sought where practical and as funding is available. LEED is a building certification offered by the US Green Building Council, and the certification process requires buildings to achieve above code construction in energy and water efficiency and include other sustainability measures which encourage building occupants and users to adopt climate friendly practices.

Leadership in Energy and Environmental Design

LEED Buildings demonstrate a commitment to sustainable construction and building management through a certification process that requires building design and installed systems to achieve credits in the areas of carbon, energy, water, waste, transportation, materials, health and indoor environmental air quality. LEED Certification levels are: Certified, Silver, Gold and Platinum

The City continues to pursue LEED certification of new buildings, with the latest City facility—the Law Enforcement Training Center (LETC)—achieving a LEED Gold Certification and a finalist for a Carolinas USGBC award in 2022. The LETC has a variety of sustainable features, including: geothermal heating and cooling; electric vehicle charging stations; reclaimed water for plumbing; green stormwater infrastructure; construction waste recycling; using recycled material; daylight harvesting; and dimmable lights. LEED also encourages the installation of renewable energy such as solar photovoltaic and geothermal to offset energy consumption in buildings (see Renewable Energy section for city projects below). LEED Silver Raleigh Union Station received the Carolinas USGBC Judges Choice Award for Adaptive Reuse in 2022.

City of Raleigh Portfolio of LEED Certified Buildings		
Building	**Year Certified**	**LEED Certification**
Neuse River Resource Recovery Center Training	2008	Silver
Raleigh Convention Center	2009	Silver
Dempsey Benton Water Treatment Plant	2011	Silver
Five Points Center for Active Adults	2013	Gold
GoRaleigh Transit Operations Facility	2013	Platinum
Wilders Grove Solid Waste Services Building	2013	Platinum
Abbotts Creek Community Center	2022	Silver
Buffaloe Road Aquatic Center	2015	Silver
Emergency Communications Center	2016	Silver
Street Operations Building	2016	Silver
Traffic Engineering Building	2016	Silver
Vehicle Fleet Services Building	2016	Silver
Halifax Park and Community Center	2018	Silver
Annie Louise Wilkerson Nature Preserve Park	2018	Certified *
City of Raleigh Fire Station 12	2019	Silver
City of Raleigh Fire Station 14	2021	Gold
Raleigh Union Station	2021	Silver
City of Raleigh Fire Station 6	2021	Silver
John Chavis Memorial Park Community Center	2021	Silver
Law Enforcement Training Center	2022	Gold

Table 1: City of Raleigh LEED Certified Facilities. Annie Louise Wilkerson Nature Preserve Park was not required to achieve a certification based on the City of Raleigh policy, but certification was sought voluntarily and achieved.

Image 1: Rendering of the City's Law Enforcement Training Center (LETC). LETC exceeded the City's LEED Silver policy, achieving a LEED Gold certification in 2022. See Section above for a list of all the green building features included in this facility.

Energy Efficiency and Training Programs for Affordable Housing

The City partners with Advanced Energy to implement a program called System Vision for affordable housing projects to provide for both an energy efficient home that is comfortable, but also one that does not burden the homeowner with high energy costs. The City of Raleigh is requiring all new homes in the East College Park affordable housing project to meet System Vision energy efficiency standards. The System Vision program includes:

- building new affordable housing with the highest energy efficiency standards in mind
- guaranteeing low-cost energy bills for 2 years for the residents
- providing training/support for homeowners on how to keep homes comfortable and maintain energy efficiency
- providing training to the local workforce on best practices for building high-efficiency homes

Climate Definition

Energy Burden

Energy burden is the percentage of household income spent on energy each year. This percentage is markedly higher for low-income households and can force some people to choose between keeping their homes at a healthy temperature and buying household necessities. Managing energy burden can help to increase climate equity and overall community resilience.

Implementing Best Practice Energy Data Tracking

In order to properly manage energy demand, the City requires energy data to track energy use and efficiency. The City of Raleigh is part way through implementing a best practice analysis software solution named EnergyCap. This software will allow the City to track energy and non-energy utility usage, benchmark buildings, capture utility bill data, monitor meter readings, analyze and spot trends that identify areas for potential energy savings. The actual consumption data for energy use should be a game changer for the City of Raleigh organization as we work to identify areas for efficiencies.

Raleigh Sustainable Business Toolkit Rolls Out Green Business Resources

The City's Office of Sustainability has partnered with several City departments and external stakeholders, including the North Carolina Department of Environmental Quality to create a Sustainable Business Toolkit as a resource for businesses, non-profits and organizations on various sustainability programs, free resources and assistance, recognition for efforts, and funding opportunities. There are a wide variety of resources related to climate action included in the Toolkit; and energy efficiency is a main component, considering this is the highest impact greenhouse gas reduction area. The

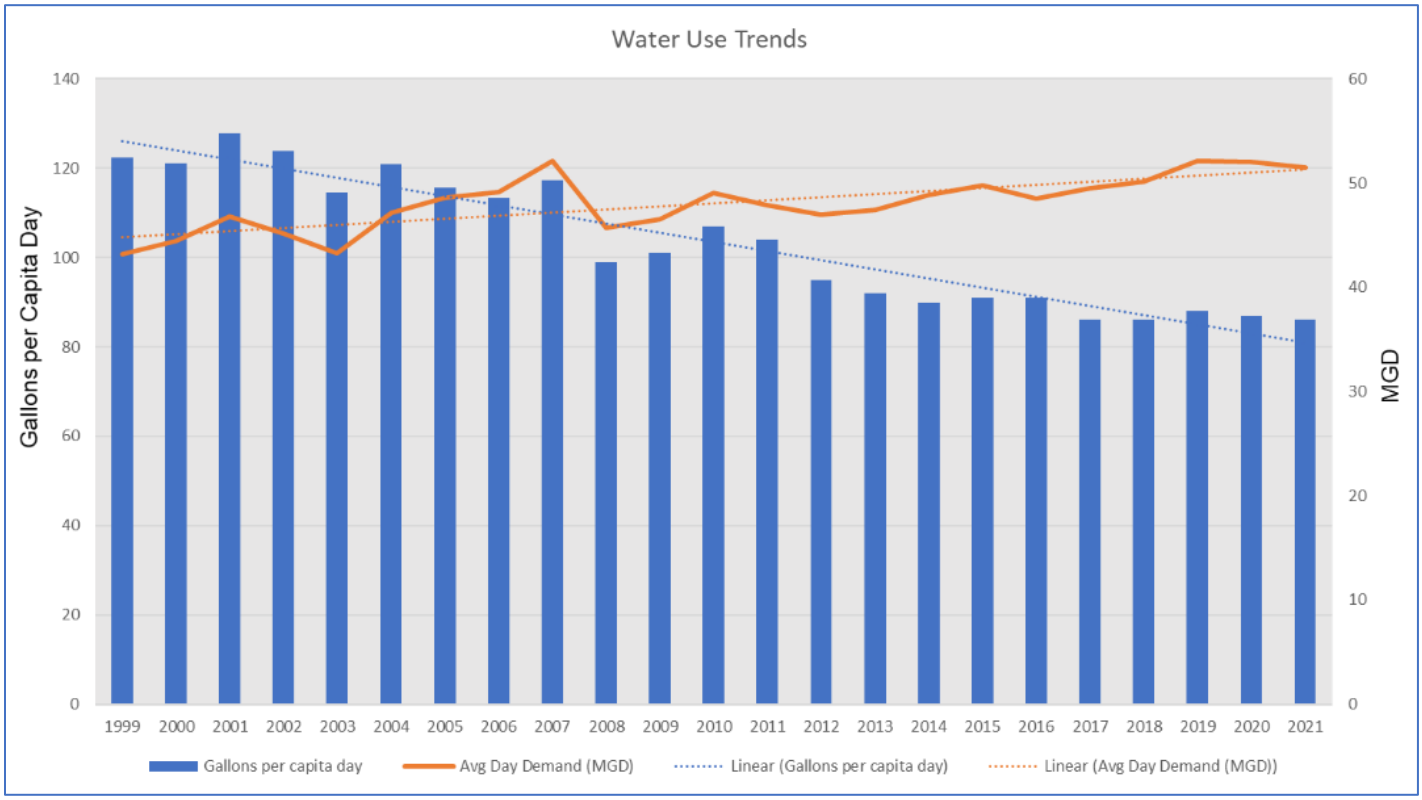
business and development community are one of the highest impact groups with their large employee and customer bases, that can help lead the way in Raleigh by taking climate action. This Toolkit also provides resources that anyone in Raleigh can use, including individual residents. The Toolkit is available on the City of Raleigh website with future outreach and education planned.

Energy Efficiency in City buildings – Raleigh Water

Raleigh Water is the largest power user of the City, providing water and sanitary sewer services to a service population of over 600,000 people in Raleigh, Garner, Wake Forest, Rolesville, Knightdale, Wendell and Zebulon areas. Raleigh Water has taken steps to identify and implement energy savings in operation of its water and wastewater treatment facilities. In 2018, Raleigh Water completed a baseline evaluation of current energy usage of its existing Resource Recovery Facilities and identified recommended strategies for reducing future energy usage.

Beginning in 2019, Raleigh Water established a goal to implement the Resource Recovery Facility Energy Intensity Reduction Plan and reduce energy intensity (measured as kWh used / million gallons treated) by 5% compared to a 2014 to 2017 baseline average. Raleigh Water has successfully met this 5% reduction goal, and the average energy intensity between 2019 and January 2022 has averaged 9% lower compared to the baseline.

At its drinking water facilities, Raleigh Water has also implemented operational strategies to reduce power usage during peak demand periods by shifting some pumping to off-peak hours and added a new pump.



Graph 1: Trends in Water Use by Raleigh Water customers 1999-2021. Raleigh residents' water use has decreased 30% since 1999. Source: City of Raleigh.

In addition, water conservation is also an important factor in energy efficiency. The water treatment process requires electricity to treat and process the raw water for drinking and uses pumps to send the water out into the distribution system in the community. The more customers that conserve and use the water efficiently, the less energy is required to

produce that water. The City's customers in the utility service area have realized overall reductions in average per capita water usage as a result of water conservation measures and trends.

As a community, Raleigh is using approximately the same amount of water as it did in 2007—despite rapid population growth. Raleigh Water's community outreach on water conservation and more efficient plumbing fixtures help reduce water use and generate significant energy savings for the City and its water utility customers.

Planning for Energy Efficient Housing Options: "More Homes, More Choices"

Per capita carbon emissions in the United States are much higher than most other countries with similar levels of development and population. Differences in land use regulation account for much of this difference. Exclusionary zoning, which bans apartments and townhouses and mandates large lots for single unit homes, was widely adopted in the previous century as a means to perpetuate racial and class separation after more direct means of segregation were outlawed. That has meant that the most energy efficient forms of housing (apartments and townhomes) are illegal to build in the majority of the land area of American cities. The resulting low-density pattern of development has also meant that nearly all transit trips are long and hard to serve the community in bus trips that replace vehicles, which, along with the increasingly large size of personal vehicles, generates the country's very high transportation-related GHG emissions.

In the last two years, Raleigh has taken major steps to allow a broader range of housing types in most of the city. Two development code changes that allow "missing middle" housing types – smaller apartments, townhouses, cottage courts, and small-lot detached houses – received approval in 2021 and 2022. These will allow new or existing residents to live in more energy-efficient housing types, which also are much less expensive overall than large new detached houses. Because they share walls, ceilings, or both with other units, these homes require much less energy to heat or to cool (the largest sources of energy use in most homes). In fact, an apartment unit uses less than half the energy of a detached house – meaning that a substantial portion of emissions reductions can be met simply by allowing more residents to choose these housing types. The second of the two major changes focused on walkable areas near frequent transit, allowing many more residents to make trips on foot or on transit or simply to have shorter car trips – all of which reduce transportation-related GHG emissions.

To provide more information about the "More Homes, More Choices" changes, the city will hold a set of community forums in the spring of 2023. These will provide an opportunity for residents to learn more about these housing types and the essential role they play in helping the city meet its GHG reduction goals.

Energy Supply

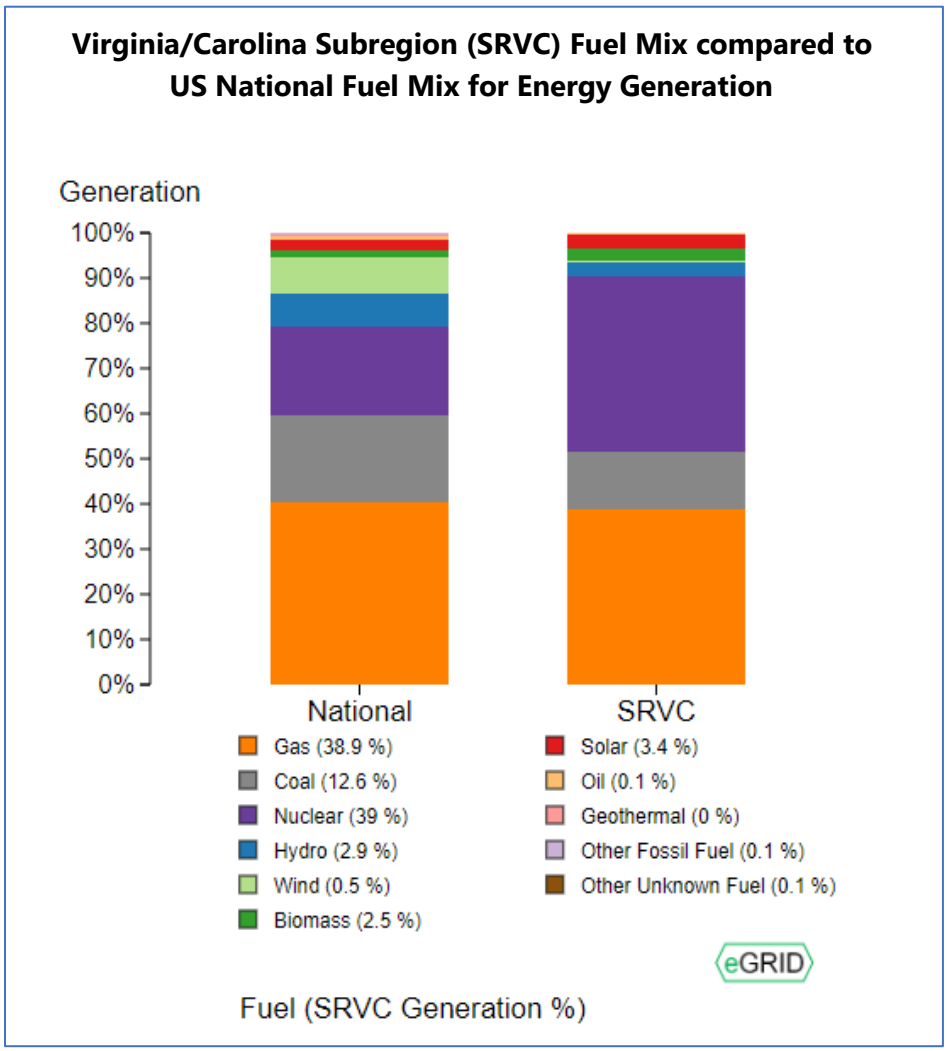
Climate action strategies related to a cleaner energy supply from our power grid relies heavily on Duke Energy and other local energy providers switching to clean and renewable energy sources. In 2019, Duke Energy announced an updated climate strategy, which includes a 50% reduction in CO_2 emissions by 2030, and net zero emissions by 2050. From 2018 to 2020, there was significant movement towards a cleaner energy grid mix, with reductions in coal use of 19.1%; and an increase in renewable energy utilization. The continued transition to a cleaner energy grid mix is vital to meaningful GHG reductions; and this transition must happen simultaneously to other high impact climate action strategies in the energy and transportation sectors.

Climate Definition

Generation Mix *or* ***Energy Mix***

The generation mix or energy mix is a statistic that shows which sources produce the power supplied by a provider (e.g. some companies predominantly own coal-burning plants and others own wind turbines). Many energy suppliers use multiple sources of energy to supply power to their customers. This mix changes according to provider and region.

For example, continued energy efficiency measures are needed for existing building stock to reduce overall energy consumption, and we need to continue to move towards electric vehicles and transition away from fossil fuels. As the demand for electricity to power electric vehicles goes up, we are going to need to continue to move towards a cleaner energy mix in order for us to meaningfully reduce our GHG emissions.



Graph 2: Virginia/Carolina Subregion (SRVC) fuel mix (%) compared to national fuel mix. Source: Power Profiler | US EPA. Data source: 2020 data from the Emissions & Generation Resource Integrated Database (eGRID) January 2022

As you'll read in the following sections, there is much preparation happening to plan and prepare for the complexity of these transitions to our energy mix and the transportation sectors over time.

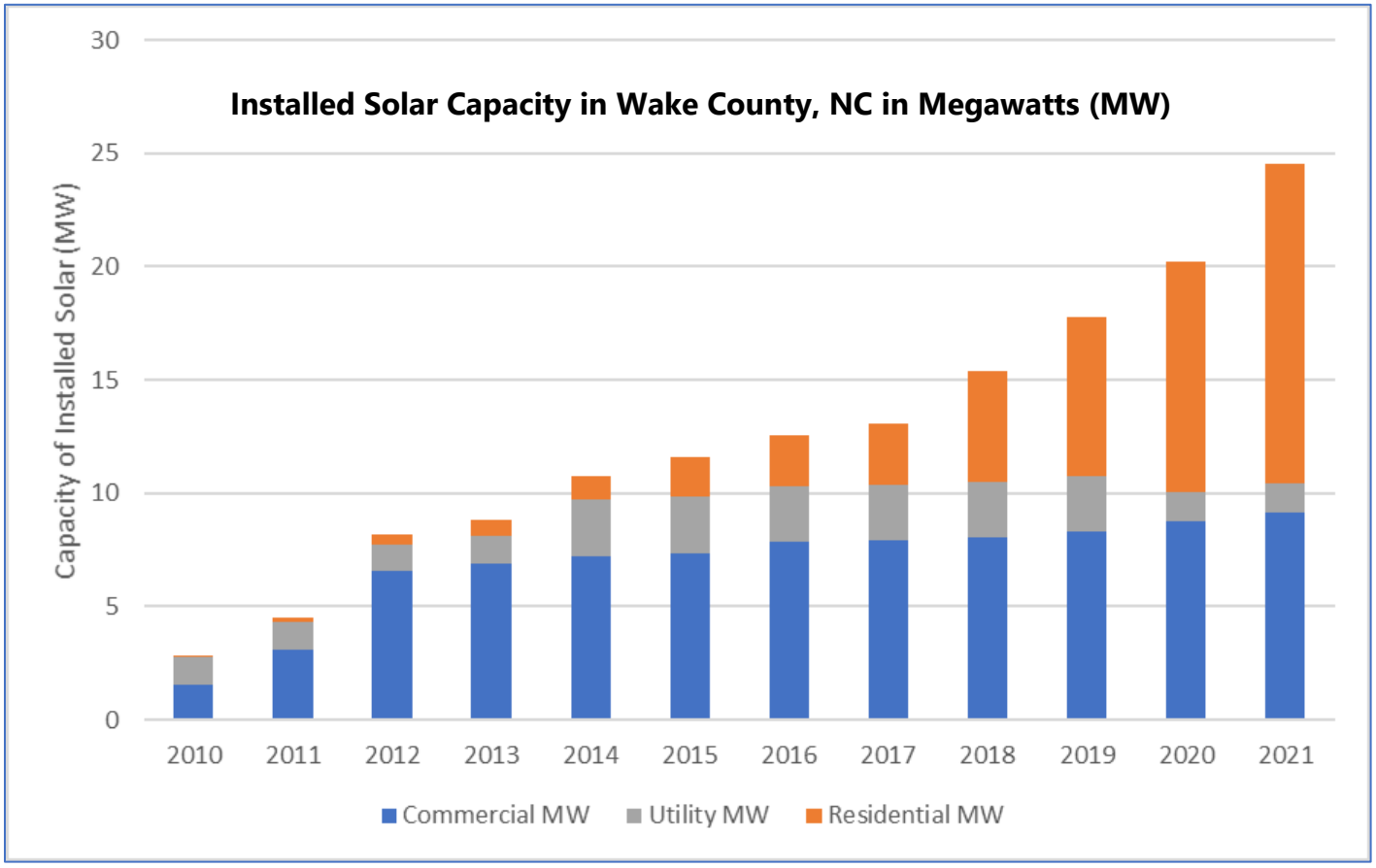
According to the U. S. Environmental Protection Agency, electricity supplied in the Virginia/Carolina Subregion (SRVC) in 2020 was generated from natural gas (38.9%), coal (12.6%), and oil and other fossil fuels (.3%), and the remainder was from nuclear and renewable sources (39% and 9.3%, respectively).

Raleigh and Local Governments Provide Feedback to the Duke Energy Integrated Resource Plan

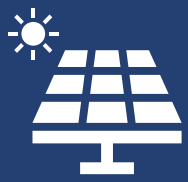
The City of Raleigh engaged with the North Carolina Utilities Commission, in partnership with several other North Carolina local governments in the recent Duke Integrated Resource Plan (IRP) process to share the City's interest in greenhouse gas emissions reduction and carbon reduction in energy production. The NC Utilities Commission requires utilities to file a long-range energy plan, called an Integrated Resource Plan (IRP) every two years. In these plans, Duke Energy maps out the mix of coal, gas, nuclear, renewable energy, energy storage and energy efficiency they'll leverage to meet energy needs over the next 15 years. Cities, towns and counties are significant users of the state's power supply, both because of the amount of energy consumed in local municipal facilities and because of the energy consumed by businesses and residents at-large. The City of Raleigh and other local governments and partners across NC continue to collaborate in efforts to support the transition to a clean energy future. The greening of the grid and the Duke Energy transition to a cleaner energy supply will both contribute to a reduction of community greenhouse gas emissions.

Renewable Energy

Renewable energy is energy derived from natural processes that are regenerative over short periods of time, or which cannot be depleted. Solar and geothermal are the most viable renewable energy sources in Raleigh. Some of the energy derived from the renewable energy is used onsite and in other cases the energy is sold back to the grid. The renewable energy strategies in CCAP refer to building level or community level renewable energy installations, rather than grid-level installations which are covered in the Energy Supply section.



Graph 3: Installed solar generation capacity has grown rapidly in Wake County over the last decade, with total capacity more than quadrupling over that span. Source: NCSEA



As of 2022, there were 1,398 residential, 75 commercial scale, and one utility scale photovoltaic systems installed in Raleigh. The total installed capacity of these systems in megawatts (MW) is 9.29, 6.84 and 1.27 respectively. That is enough electricity to power 2,500 detached houses, 3,670 townhouses, or more than 6,000 apartments annually.

With the launch of the Solarize the Triangle campaign, we have broken the record of being the largest Solarize campaign for community participation across the United States. Raleigh also leads the 11 other participating Triangle communities with the most community sign-ups. This program will ensure that the growth of Solar in Raleigh continues to grow exponentially.

Solarize Raleigh and Solarize the Triangle breaks National Records and Addresses Energy Burden

The City of Raleigh partnered with 11 other local governments to create the Triangle Sustainability Partnership (TSP) and launch the Solarize the Triangle program in June of 2022. The largest program of its kind, Solarize the Triangle is a community-based group-purchasing program for solar energy; including local and national partners Solar Crowdsource, Triangle J Council of Governments (TJCOG), and several community-based non-profits and organizations. This initiative is designed to serve residents, and help Triangle homeowners, businesses, and nonprofits within the Triangle to become more resilient, reduce energy expenses, and save on the cost of renewable-energy systems by obtaining volume discounts on materials and installation services.

Creation of the program supports the growth of clean and renewable energy in Raleigh and the region and is on track to achieve and surpass several goals and records, including: the lowest tier of pricing, local solar investments well over $1 million, a great expansion of renewable solar energy to the energy grid, the largest number of solar sign ups ever achieved across the country, and creating a first of its kind solarize low-to-moderate income program.

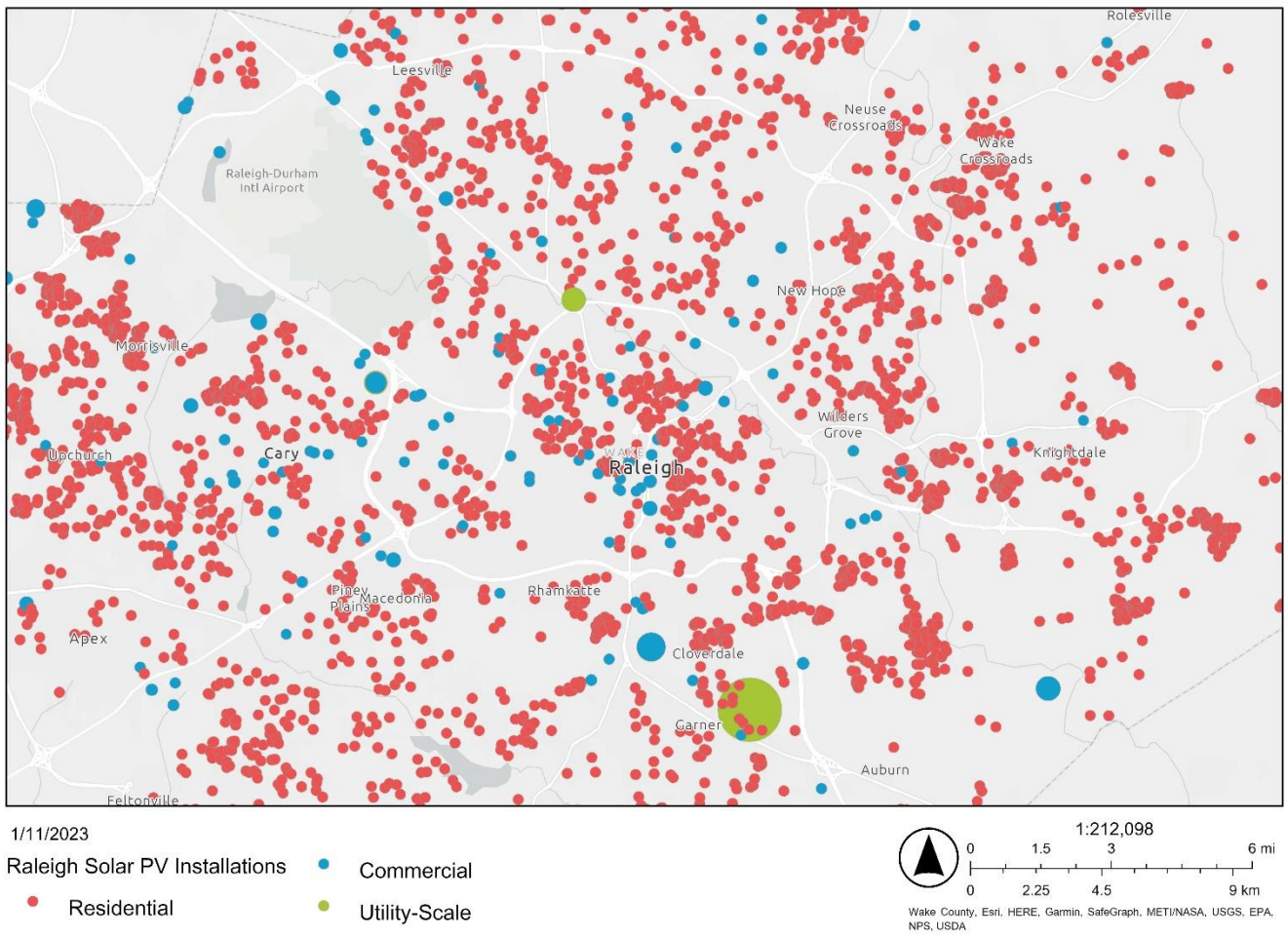
In 2022, the first year of the program, Solarize the Triangle had 1,500 residents and businesses sign up to receive a free solar assessment. Raleigh is leading the eleven participating communities with a total of 352 sign-ups. In addition, the Solarize the Triangle campaign broke the national record and has now surpassed all other Solarize programs community sign-ups across the United States, moving past Atlanta, Georgia's total of 1,103. As of January of 2023, fifteen Raleigh residents have already signed solar contracts with Yes Solar Solutions, the program's selected contractor. Eighteen non-profits and 26 businesses, including seven in the greater Raleigh municipal area, have also registered for a solar evaluation. Since the program's August 2022 launch, 850 kW of renewable solar power – nearly one megawatt – has been purchased through the program, with 93 established homeowner contracts to date. Upon installation and activation of these current contracts, over 1.5 million pounds *of* CO_2 in the Triangle region will be avoided – the equivalent of 125 gasoline-powered passenger vehicles driven for an entire year.

The Solarize the Triangle is designed to support residents, businesses, organizations and non-profits; and to also address equity and resilience. Staff are designing a low-to-moderate income (LMI) program for the summer of 2023. In 2022, Raleigh City Council approved $210,000 in American Rescue Plan Act funds to be used for the Solarize program for LMI residents of Raleigh to access renewable energy. In addition, inclusive community supportive approaches are being designed to include: a widespread community outreach campaign, LMI programs to address energy burden, charitable community projects, offerings for homes where fixed solar PV is not feasible, minority participation, green jobs, and workforce development.

City of Raleigh achieves a SolSmart Silver Designation and Plans for Gold

The SolSmart program certifies cities that: address local community barriers to solar energy, develop innovative solutions to promote solar installation, and educate and engage community members on the benefits of solar energy. In 2022, Raleigh achieved the SolSmart Silver designation. The Office of Sustainability and Planning and Development Department partnered to lead city departments and community stakeholders in a process to update the permitting procedures for residential and commercial solar energy installations making it easier and faster to receive solar installation permits, in addition to updating other resources to promote solar growth in Raleigh. The city plans to implement additional changes to achieve a SolSmart Gold designation in FY23.

The SolSmart program, along with Solarize the Triangle and similar efforts, is designed to accelerate the pace of solar installations across the city. Raleigh currently has approximately 1,400 residential installations, 75 commercial building installations, and one utility-scale installation (see map below for details).



Map 2: Solar PV installations in Raleigh city limits. Size of dot represents megawatt (MW) capacity. Source: North Carolina Sustainable Energy Association (NCSEA)

City of Raleigh Renewable Energy Achievements

The City of Raleigh has a long history of supporting renewable energy, installing at a number of facilities with the total capacity of these City-owned systems at 1.9 Megawatts (MW). The new City of Raleigh LEED Gold Certified Law Enforcement Training Center, certified in 2022, continues to expand the City's renewable energy portfolio by including over 80 wells of geothermal technology for heating and cooling.

In 2022, Raleigh City Council approved $2 million in American Rescue Plan (ARPA) funds to be used for the evaluation and installation of various solar projects across the City, ranging from an evaluation of a solar farm at the closed Wilder's Grove Landfill, solar installations on city facilities, as well as other solar technologies. Staff will identify, evaluate and implement these projects over the course of the next few years. In addition, staff continue to pilot solar technologies such as solar powered mobile EV stations that provide shade and a resilient power supply for vehicles in addition to installing solar shades at 19 of the new bus stops being planned for the Bus Rapid Transit expansion across Raleigh. In 2022, City Council approved $2 million in ARPA funds to be used for the evaluation and installation of various city solar projects over the next several years.

City of Raleigh Renewable Energy Installations		
Type	**Location**	**System Size**
Geothermal	Law Enforcement Training Center	81 Wells
	Wilders Grove Solid Waste Services Truck Parking Lot	60 Wells
	GoRaleigh Transit Facility Paved Lot	150 wells
Solar LED lighting with battery storage	Marsh Creek Maintenance Facility	1,300 kW
Solar Photovoltaic Array	EM Johnson Water Treatment Facility	250kW
	Neuse River Resource Recovery Facility	1,300kW
Solar Photovoltaic Array (Rooftop)	Raleigh Convention Center	500 kW
	Brentwood Road Downtown Remote Operations Facility	29.61 kW
	Wilders Grove Solid Waste Services: Administration Building & Vehicle Wash Station	75 kW
	A. L . Wilkerson, MD Nature Preserve Park	3.76 kW
Solar Thermal	Buffaloe Road Aquatic Center	
	Raleigh Fire Stations (#1,6,9, 16,17,19,23,24,28)	
	Raleigh Municipal Building	

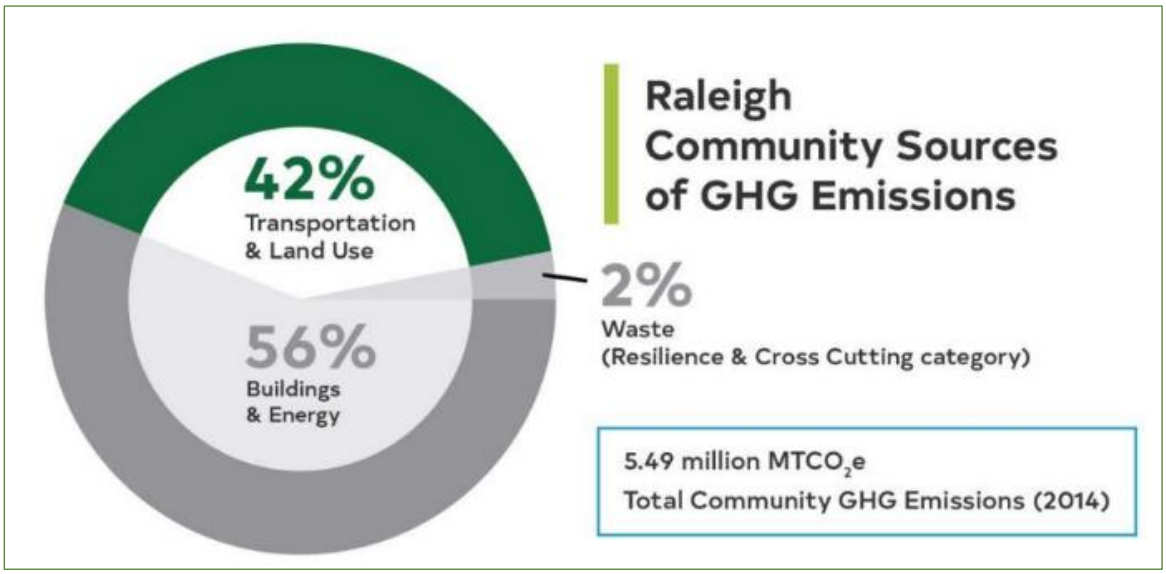
Table 2: City of Raleigh Renewable Energy Installations. Future CCAP Implementation reports will include plans for future renewable energy installations.

Transportation & Land Use

Transportation-related emissions account for 42% of the total community GHG emissions in Raleigh. These emissions are largely determined by how frequently we need to use cars to get to work, school, shopping, and activities. In areas where necessities and amenities are closer to residential areas, and which have safe and reliable transportation alternatives, people use cars less and produce fewer emissions. Strategies to increase density in Raleigh will create more walkable or bikeable communities and reduce our community's reliance on vehicles. While working to reduce vehicle miles traveled overall, transitioning fleets to electric and clean fuels and supporting the adoption of electric vehicles is one of the highest impact areas to reduce emissions, as well as to ensure equity so that everyone has access to the benefits of clean fuel technologies.

CCAP contains three categories of strategies for Transportation and Land Use. For more specific climate actions in these categories, review Raleigh's Community Climate Action Plan, Chapter 6.

1. **Efficient Land Use** (LU): Strategies to encourage efficient land use will create more compact development patterns and walkable spaces that contain commercial and retail space intermingled with residential units. Working and living in these spaces allows residents to spend fewer resources and less time on travel.
2. **VMT Reduction and Alternative Mobility** (VMT): Vehicle Miles Traveled (VMT) is a measure of vehicle travel made by a private vehicle, regardless of the number of occupants. Strategies to reduce VMT include encouraging alternative modes of transportation, promoting walkability and bikeability.
3. **Transportation Electrification and Alternative Fuels** (EV): These strategies encourage fuel efficiency standards, and a transition to electric vehicles and alternatives to fossil fuels.



Efficient Land Use

The design of the city largely determines how residents and visitors will get around. A shift towards denser urban areas means it becomes more possible to walk or bike to work, to go shopping or to school, rather than rely on vehicles powered by fossil fuels. In addition to the "Missing Middle" reforms described in the previous section, the following actions were taken to move toward more compact development patterns:

Remove Minimum Parking Requirements

Vehicle parking minimums provide a subsidy for car ownership, increase the cost of housing, and reduce the walkability of the built environment by reserving space for cars, rather than people. The City Council approved removing vehicle parking minimums and adding requirements for long term (covered, secured) bicycle parking in March of 2022, which will reduce the amount of greenhouse gases that Raleigh residents emit by incentivizing residents to take the bus, walk or a ride a bike.

Transit Oriented Development Zoning to Decrease Cars and Increase Sustainable Transportation Options

Allowing more density (more people per square mile) to live close to high-frequency transit increases ridership on bus lines and means more people leave their cars at home when going to work, school or to activities. The City has fully or nearly completed two major efforts to remove zoning barriers to develop additional housing and employment space near transit investments. The first, a change to existing zones that permits taller buildings and increased residential density near all current or planned frequent transit routes (15 minutes or less between buses), was approved in May 2022. The second, a city-initiated rezoning to apply a Transit Overlay District that will align with bus rapid transit lines, is in the last steps of the process. That district allows a large height bonus if a percentage of housing units are priced below market rate. This will reduce the cost of living, traffic, and encourage more people to take the bus.

Carbon Emissions Rezoning Analysis to Inform Community Planning Decisions

Planning and Development created and is including a carbon emissions analysis in rezoning, area plans, and other planning studies and decisions. The analysis supports the City's goal to significantly reduce carbon emissions by 2050. The analysis considers the effect of a plan or zoning change on per-capita emissions. If a zoning change allows more people to live and work in places where trips are more likely to be on foot or on transit or in the form of shorter car trips, or if it permits more energy-efficient building types, such as townhouses or apartments, then emissions will tend to be lower. If a zoning change or plan is likely to lower per-capita emissions, then the consistency with those long-term city goals is included in staff reports and in public presentations.

Vehicle Miles Traveled (VMT) Reduction and Alternative Mobility

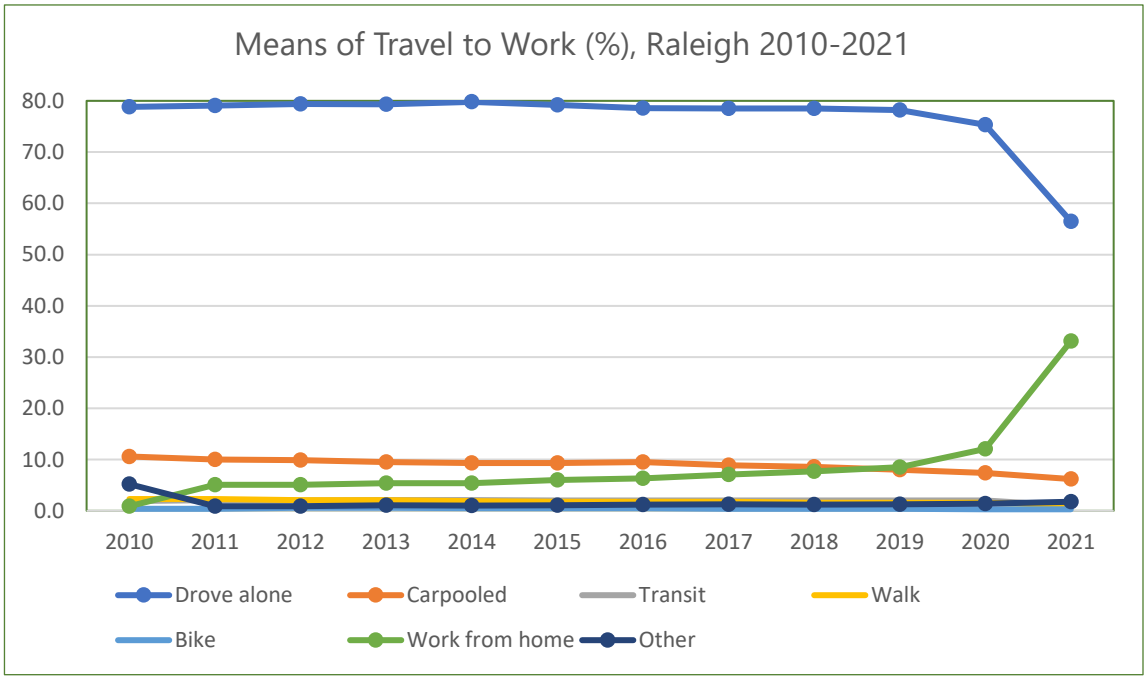
VMT is directly related to the City's greenhouse gas reduction goals. Over 40 percent of emissions in Raleigh's greenhouse gas inventory are due to transportation, and the amount of emissions from transportation is directly related to miles traveled. Reducing VMT's is an area of high GHG reduction impact for local governments and can be achieved through coordinated land use and transportation planning. VMT is closely related to mode share, which refers to the different means of travel used to get from place to place. As the chart shows, Raleigh is heavily oriented to driving, with the large majority of commuting trips made by people driving alone. However, non-commute trips are more likely to not involve cars, and the pandemic-related rise in working from home offers the opportunity to rethink future investments in transportation.

Climate Definition

Vehicle Miles Traveled or VMT

A measurement of the total miles driven each year by vehicles on the roads in a specific area.

Raleigh is a growing city and total vehicle miles traveled are expected to increase as our population grows. Compared to other US cities, a high percentage of commute trips in Raleigh consist of one person in a car. This declined from 2020 to 2021 with the rise of working from home during the COVID-19 pandemic. However, VMT reduction strategies combined with strategies for more dense urban forms that enable people to rely less on their cars to get around will reduce VMT on a per person basis. Over time, these strategies can lead to a total VMT decline, even as the city welcomes new residents. Recent studies have found that areas, such as Midtown, that have seen dense mixed-use development see far more walking trips than other parts of Raleigh, with little to no increase in vehicle traffic on nearby streets. The City of Raleigh has adopted the following policies and programs to help to reduce vehicle miles traveled and promote individuals walking, biking, and taking transit.



Graph 4: Means of travel to work (%) Raleigh, NC. Source: US Census

Complete Streets Implementation Program

The goal of the City of Raleigh's Complete Streets Implementation Program is to construct projects that improve safety, access, mobility, and connectivity of existing streets for all users. The City of Raleigh updated the Complete Streets program designed to accommodate all modes of transportation, allowing bicyclists, pedestrians, transit users, vehicles, as well as commercial and emergency vehicles. The more community members feel safe navigating streets on bikes, scooters, and walking, the more likely they are to get out of their vehicles, thus reducing the emissions associated with their travel.

Image 2: Hillsborough Street roadway design to serve the needs of people walking safely and to calm vehicle traffic.

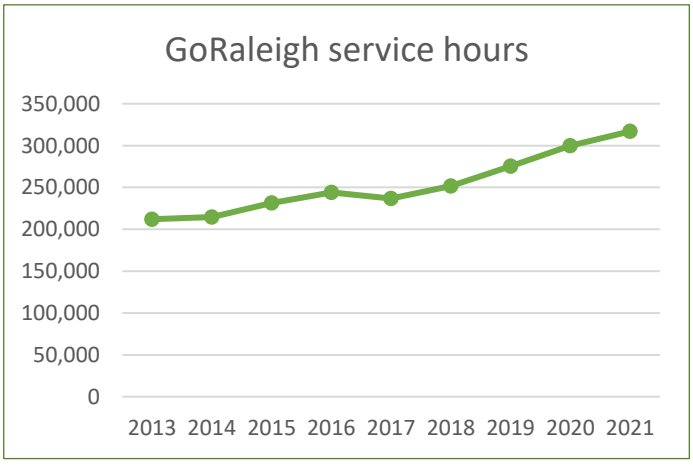
Traffic Calming to Improve Safety and Emissions for Walkers and Cyclists

The Neighborhood Traffic Management Policy updates provide a policy for traffic calming or to slow the speed of traffic on particular streets. Community members are more likely to walk and bike in areas that feel and are safer for traveling outside of a vehicle. An example would be students walking in an area to school instead of being driven and picked up from school in a vehicle that is idling and emitting emissions. Transportation has made changes in the project delivery process to increase the volume of traffic calming interventions completed.

Vision Zero to Improve Safety on Raleigh Streets

Vision Zero is a global movement that states that no traffic fatalities are acceptable (the vision is zero fatalities). In 2021, Raleigh Transportation utilized consultant services to prepare a report exploring successful Vision Zero practices in peer cities. In 2022, Raleigh hired a "Vision Zero" Program Manager, who will be responsible for coordinating efforts to improve safety for pedestrians and other street users; and with a focus on equity issues related to traffic incidents and fatalities. This position will supervise a small team of existing staff with a safety focus and will develop a Vision Zero program.

Transit Service Expansion Across Raleigh



Graph 5: Annual service hours of the GoRaleigh Transit System (2013-2021) Source: National Transit Database

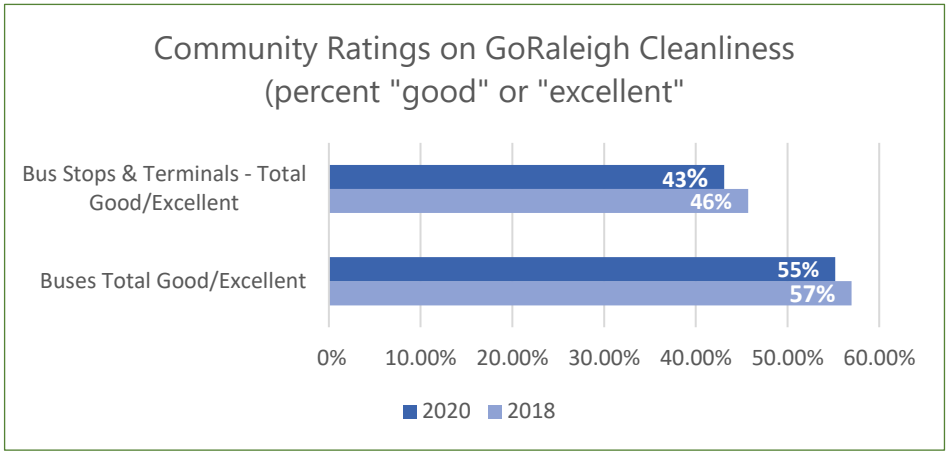
Raleigh is a key partner in the implementation of the Wake Transit Plan, which was adopted in 2016. The plan provides for increased transit service in frequency, span, and geographic availability. Among many other benefits, increased transit service reduces vehicle miles traveled which reduces GHG emissions. Raleigh steadily grew transit service from 2013 through 2021 (demonstrated in the graph to the left). In 2022, despite planned service expansion, a bus driver shortage that was fueled by the COVID-19 pandemic forced service cuts across the transit system. The City continues to work on increasing services as we emerge from the pandemic.

Improved Transit Amenities for an Improved Rider Experience

GoRaleigh is actively improving transit stops, providing more shelters, benches, and other amenities that improve the rider experience and incentivize transit usage. Improving the cleanliness and safety of bus stops, stations, terminals, and buses will encourage ridership and utilization of the GoRaleigh and GoTriangle systems.

GoRaleigh also partners with the City's Raleigh Arts to work with local artists to design transit stops and bus wraps that showcase beautiful and aesthetically pleasing designs. Many transit stops also feature solar panels on top that power amenities.

The City of Raleigh also provides transportation services for people with disabilities through the GoRaleigh Access program that enables eligible persons to access public transportation.



Graph 6: City of Raleigh Community Survey data on GoRaleigh cleanliness.

Bus Rapid Transit (BRT) and Equitable Development

Image 3: Illustration of future Bus Rapid Transit corridor along New Bern Avenue. In accordance with the Wake Transit Plan, planning for BRT is underway to continue to provide service along four key corridors. Construction expected to begin in 2023.

Bus Rapid Transit as defined by the Federal Transportation Administration is a high-capacity bus-based transit system that delivers fast and efficient service that may include dedicated lanes, busways, traffic signal priority, off-board fare collection, elevated platforms and enhanced stations. These amenities combine to provide transit service that is faster, more reliable, and has higher capacity than traditional fixed route bus service. There are four corridors being developed in Raleigh for BRT: New Bern Avenue, Western Boulevard, Southern, and Northern. BRT connects people to jobs, education resources, and other opportunities, it supports walkable places that support both housing and commercial destinations, and it improves air quality by reducing the number of vehicles on the road. In addition, individuals can save money by driving less or opt-out of car ownership altogether. This reduces GHGs related to travel.

The development around the transit corridors is also important. The Equitable Development Around Transit plan, completed in 2021, created a policy framework for growth that centers more around transit rather than driving

infrastructure for single occupancy vehicles. This provided a foundation for the zoning changes outlined above, and additional planning along the BRT corridors is setting the stage for subsequent zoning changes. This work helps to addresses equity by providing options for all Raleigh residents that promote affordability, including housing options that are accessible to services and transportation modes.

Bicycle, Micromobility and Pedestrian Programs

Bike and pedestrian system improvements and safety are underway to encourage community members to use alternative modes of transportation and thereby reduce emissions. The City of Raleigh has its own city-run public bikeshare program, Cardinal Bikeshare and has dockless scooters provided by BOLT, LIME and SPIN. Pedestrian improvements include sidewalks and bike lanes help to protect bikers. Ongoing work is underway to install more bike lanes as identified in the bike plan. In 2021, Cardinal Bikeshare members rode 136,951 miles. If these miles replaced vehicle trips, they will have reduced 60.99 tons of CO_2e during the year. Additionally, from May 2021-May 2022, Raleigh scooter members across the three scooter providers took 410,480 scooter trips totaling nearly 500,000 miles. To continue encouraging cycling and micromobility, Raleigh also added 15 miles of bike lanes through annual resurfacing projects and text change TC-3-21 calls for bike lanes behind curbs in new development—making cycling an increasingly safe and easy mode of transportation.

Raleigh's Bikeshare riders rode nearly 137,000 miles, avoiding nearly 70 tons of emissions from cars in 2021. From 2021-2022, Raleigh riders took 410,480 scooter trips totaling nearly 500,000 miles; and the City added 15 more miles of bike lanes across Raleigh.

Revised Street Standards to Support Biking and Bus Service Expansion

The City adopted two changes to the Unified Development Ordinance that change street standards to benefit biking and transit. Text Change TC-3-2021 added curb separated bikeways to all avenue streets and TC-4-2021 added busway street sections to the code to facilitate build out of a world class BRT system. These changes will benefit residents' experiences in walking and biking around Raleigh, and the quality of service and accessibility of transit.

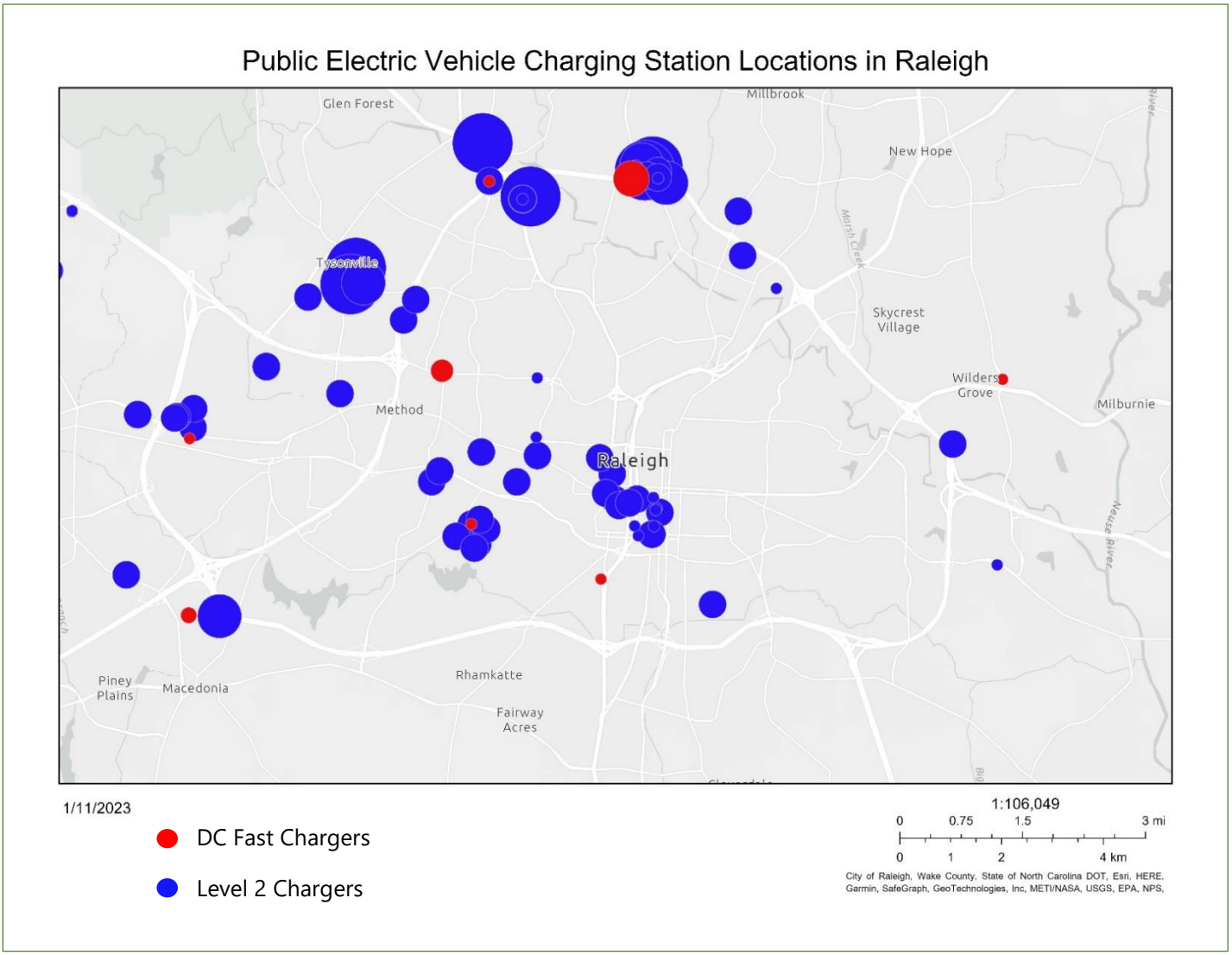
Greenway Updates to Focus on Equity and Alternative Modes of Transportation

Raleigh currently has over 100 miles of greenways for the community to explore. On April 19, 2022, the Raleigh City Council unanimously adopted the Capital Area Greenway Master Plan. This project is the first update to the Greenway Plan since 1989 and has a focus on priorities including equity, added amenities, and other topics that reflect the extraordinary growth the City has experienced in the last 30 years. Greenways provide many community benefits and green space around Raleigh, but also serve as an important alternative mode of transportation to keep drivers out of single occupancy vehicles and reducing vehicle emissions. There is a downloadable Triangle Greenspace App for help in navigating the Greenway system.

Transportation Electrification and Alternative Fuels

Emerging trends continue to show a great shift to electric vehicles (EV) and alternative modes of transportation, and the Raleigh region is a hot spot for this shift due to our long history of supporting sustainability, innovation and technology (the City of Raleigh was 1 of the 1st 3 cities in the U.S. to test the EV technology). Most charging of personal EVs happens at home, and public charging availability is also important to support travelers, commuters, fleets, multi-family residential EV owners. Public chargers have the economic benefit of supporting small businesses by increasing customer foot traffic in vicinity to charging station access.

However, most vehicles are still utilizing fossil fuels (e.g., gasoline), including our cars, buses, and trucks that travel through Raleigh. The City is working to achieve its goals to reduce greenhouse gas (GHG) emissions by changing how people move around the city as a first step, whenever possible reducing vehicle miles traveled. In addition, a shift to cleaner fuel technologies for vehicles, is one of the biggest opportunities that Raleigh can make in reducing our emissions. As part of this work, the City of Raleigh is supporting the transition of our own vehicle, equipment and bus fleet to electric and alternative fuels, while also supporting opportunities for the private adoption of electrical vehicle infrastructure and clean fuels.



Map 3: Map of Public Electric Vehicle charging stations in Raleigh. The larger the dot size indicates a greater number of charging ports at that location. Source: NREL, USDOE

Raleigh and Wake County have among the highest levels of EV uptake in North Carolina, with only Orange and Chatham counties with more EVs per capita. As of 2021, there were 163 active publicly available electric vehicle charging stations in Wake County with 98 of those in Raleigh. The charging stations range from Level 1, Level 2, to DC fast chargers.

Raleigh is also supporting the growth of community EV charging stations These efforts include an EV "playbook", set to be published in early 2023, which provides information about selecting, permitting, and installing EV charging stations (see more information below). A proposed EV ordinance, which would require a percentage of parking spaces in new development include the electrical infrastructure to support charging, will be considered in 2023. While the numbers of charging locations will naturally rise as electric vehicles become commonplace, government can assist in addressing equity gaps in charging access, such as in older apartments or on street parking, and for small and minority owned businesses who can increase customer foot traffic and time spent with nearby vehicle charging infrastructure. In addition to the actions mentioned above, city staff continue to work to identify resources and actions that can ensure access to charging facilities across the city. The City of Raleigh is supporting the transition of our own vehicle, equipment and bus fleet to electric and alternative fuels, while also supporting opportunities for the private adoption of electrical vehicle infrastructure and clean fuels.

Go Raleigh's Transition to Electric and Renewable Natural Gas Buses

GoRaleigh serves the greater Raleigh community in partnership with the GoTriangle bus system which links colleges and universities, employment centers, medical facilities, dense residential areas, Raleigh-Durham International Airport and downtowns across the Triangle. Due to the innovative technology of the City's Raleigh Water Bioenergy Project providing renewable natural gas to fuel a large amount of our transit bus fleet, the City of Raleigh is making great strides in reducing GHG's in our transit system. The Raleigh Transit Authority has a goal to convert 75% of its fleet to renewable natural gas, and the remainder to other advanced technologies, including electric buses.

Image 4: GoRaleigh has goals to convert their bus fleet to electric, renewable natural gas and other new technologies as they become available. Conversion efforts to date have significantly reduced greenhouse gas emissions.

The City of Raleigh added five zero emission electric buses to the GoRaleigh fleet in the fall of 2021 and is expanding its electric charging infrastructure capacity to accommodate up to 14 electric buses charging simultaneously.

GoRaleigh has achieved a conversion of a 70% low to no emission fleet as of FY2023. In addition to the five electric buses, GoRaleigh began converting their bus fleet from diesel to Compressed Natural Gas (CNG) in 2018. CNG buses are being purchased to support Raleigh's innovative sustainable Bio-Energy Recovery Project to fuel buses with Renewable Compressed Natural Gas created from the community's wastewater (see section below). Raleigh's transition from diesel fuel to 76 CNG buses, has already significantly decreased emissions: running Raleigh's current 76 CNG buses is the equivalent emissions to running just 1 diesel bus. If those 76 buses were burning diesel fuel, they would have created 14,612 metric tons of greenhouse gases; while the CNG bus engines have only produced 3.5 metric tons since they came online in 2018. The emissions savings will continue as these buses start to use the fuel created from the City's Bioenergy Recovery Project.

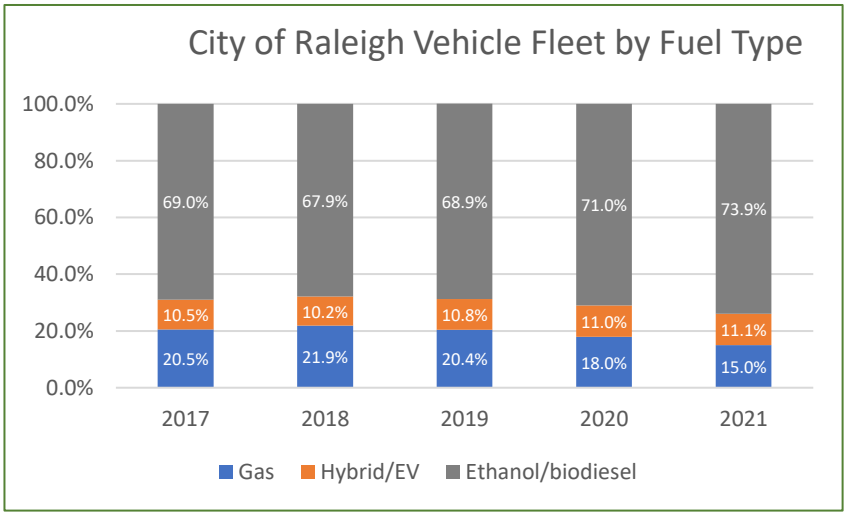
Renewable Natural Gas from Raleigh's Wastewater will Fuel our Transit Buses

As Raleigh and the region's population continues to grow, the amount of wastewater that we flush down our toilets (i.e. biosolids) and that the Raleigh Water department treats throughout the region (a service area of over 600,000 people) continues to grow exponentially. As the City planned for needed biosolid equipment replacements, it identified an

opportunity to adopt new innovative technology to be more sustainable. The community's waste will be converted to Renewable Natural Gas through the Bio-energy Recovery Project, which uses an advanced anaerobic digestion process to treat solids generated from the City's wastewater treatment facilities. Methane-rich biogas produced from the anaerobic digestion process will be processed into Renewable Natural Gas which will offset natural gas used to fuel up to 70+ GoRaleigh buses. The advanced anaerobic digestion process utilizes an innovative technology called a thermal hydrolysis pretreatment process, which will be one of the first installations of this innovative technology in the United States. The project has a projected completion date of 2024.

Transforming the City of Raleigh's Vehicle Fleet

The City of Raleigh Vehicle Fleet Services was recently named number 10 of the 2022 top 50 fleets in the United States by Government Fleet magazine. This award recognizes the top fleets for criteria including efficiency, modernity, metrics, leadership within the community, visioning for the future, and overcoming challenges. Raleigh's Vehicle Fleet Services manages a fleet of over 2,500 rolling stock vehicles, and Raleigh has already been leading the way by transitioning a large portion of this fleet to clean alternative fuel vehicles over the past several years, as that technology became available.



Graph 7: City of Raleigh fleet transition from fossil fuel to alternative fuel, hybrid and electric vehicles 2017-2021. The City's EV Implementation rollout is planned for the next ten years to speed the transition toward electric vehicles.

As electric vehicle technology advances, to build on the ongoing work of Raleigh's Transportation Electrification Study, the Office of Sustainability and Vehicle Fleet are leading the development of Raleigh's Electric Vehicle Implementation Rollout Strategy which will map out the plan to transform the City's fleet to electric over the next 10 years. This Implementation Strategy will continue to identify opportunities to transition to electric vehicles (EVs) and the associated costs based on vehicle fleet replacement cycles, including the needed electric charging infrastructure and software. This strategy will include considerations for equity and public electric charging opportunities, alternative fuel options where electric is not yet viable for heavy duty vehicles, and the associated GHG emission reductions associated with the vehicle replacements.

City of Raleigh New Electric Vehicle Shared Motor Pool

The City's motor pool provides vehicles for any staff member to schedule use of a car and provides a very visible opportunity to expose and educate a large number of staff on driving and experiencing an electric vehicle. As a part of the City of Raleigh's plans for transforming our fleet to electric, we have started piloting electric motor pool vehicles with plans to expand to various park and ride electric vehicle charging locations throughout the city. The City of Raleigh's first electric vehicle motor pool system was recently installed at Raleigh Water's Lake Woodard Drive location. The transformer that was installed is large enough to power a total of six chargers with 12 parking spots to accommodate the expansion of the EV fleet over time.

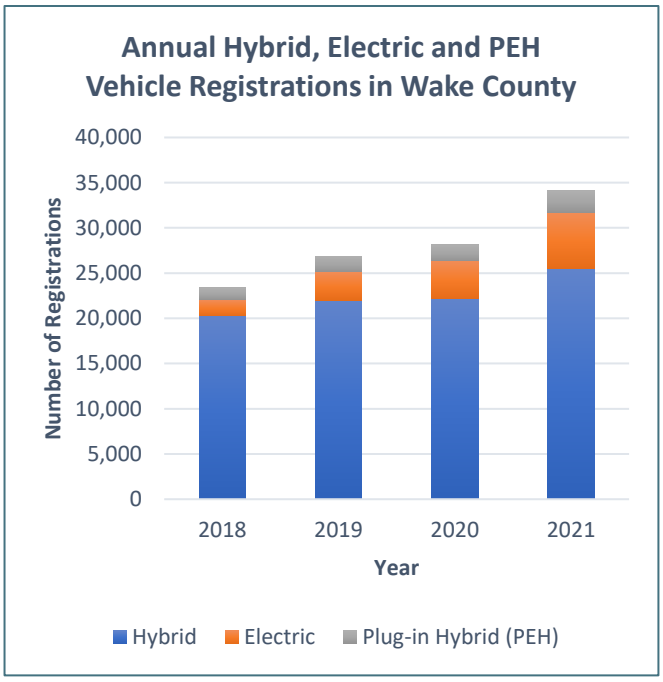
Image 5: The City of Raleigh's first electric vehicle motor pool system was recently installed for use by City staff.

Electrifying Raleigh Park's Community Vehicles and Lawn Equipment

Parks, Recreation, and Cultural Resources (PRCR), Sustainability and Vehicle Fleet Services have partnered to work on transitioning lawn equipment to electric, as well as vehicles that serve the community. PRCR has piloted and transitioned various electric maintenance equipment to electric power. This equipment reduces fuel consumption, maintenance costs, noise pollution, eliminate the chance of fuel spills and contribute to improved air quality and the experience of residents enjoying the park system. PRCR has also transitioned some maintenance vehicles to electric. Through Volkswagen Settlement Funds, the City also obtained a community electric bus to be used to transport residents to various programs throughout Raleigh. The ribbon cutting for the new electric bus occurred this April 2022 during an Earth Day event. Staff continue to work on plans and funding opportunities to electrify equipment and vehicles.

Image 6: Raleigh's newest electric bus is used by the Parks Department to transport community members for activities and events. The bus was unveiled at the City's 2022 community Earth Day Celebration.

Raleigh's EV Mapping Tool Supports Expansion of EVs across NC



Graph 8: Electric, Hybrid, and Plug-in Hybrid Vehicles registered in Wake County (2018-2021) Source: NC Department of Transportation

The City of Raleigh won the Research Triangle Cleantech Cluster's Transportation Innovation Award for the creation of Raleigh's EV mapping tool. This tool was part of the foundational work of Raleigh's Transportation Electrification Study and CCAP to support the rapid expansion of transportation electrification across Raleigh and all of North Carolina. This GIS-based tool identifies the most suitable, priority locations for publicly available EV charging stations in the city to serve the community. The suitability of an area is based on criteria including EV driver behavior, location convenience, charger utilization, economic development opportunities, environmental justice, and equity. The EV Mapping Tool was designed so that other local governments across NC can adapt it for their own communities. The expansion and availability of EV infrastructure across the region and the State will hasten the adoption of Electric vehicles by the public. The City can utilize the EV Mapping Tool to leverage strategic conversations with developers, businesses and EV charging station providers across Raleigh in locations that are identified as hot spots for EV charging. Market forces are also expanding EV purchases throughout the county, with steady growth in EV purchases as well as hybrid and plug-in electric hybrid vehicles.

Raleigh's EV Ready Playbook to Set Standards for North Carolina

The City of Raleigh is leading North Carolina by partnering with Advanced Energy to create an EV Ready Playbook that is planned to launch in early 2023 and will provide guidance across the State and beyond. This playbook will provide information for all stakeholders (residents, developers, businesses) on best practices for EV infrastructure- including guidance on codes and permitting, signage, ADA accessibility, installation, hardware and software considerations and much more. This Playbook is also designed so that other local governments and organizations across NC can adapt it for their own communities, further supporting the growth of EV infrastructure and the EV market.

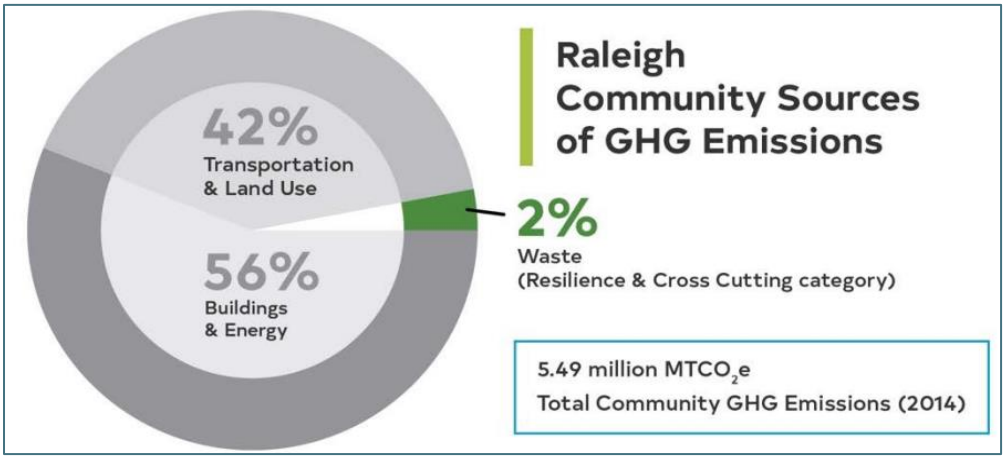
Climate Resilience & Cross-cutting Strategies

Resilience is the ability of our community to bounce back from stressors such as climate change impacts, economic, environmental and health related issues, and the growing pressures of development and growth. Preparedness for weather and climate-related emergencies is key to addressing both resilience and equity. Raleigh is already feeling the impacts of climate change, and those that contribute the least to greenhouse gas emissions are often those that are most affected by climate impacts. We are experiencing the effects of more frequent and stronger hurricanes, increased rainfall and flooding, more frequent heat waves and more extreme temperatures.

The strategies in this section aim to help prepare Raleigh's community for climate related impacts and address GHG emissions from waste. Two percent of Raleigh's community GHG emissions are generated from the breakdown of wastes in the landfill. In addition to resilience, the cross-cutting strategies of climate equity, innovation, education and outreach and funding for climate action are applied in the implementation of strategies in all sections of this report (ranging from Buildings and Energy; Transportation and Land Use; and Resilience and Cross Cutting sections), and further examples of these cross-cutting areas are reported in this section.

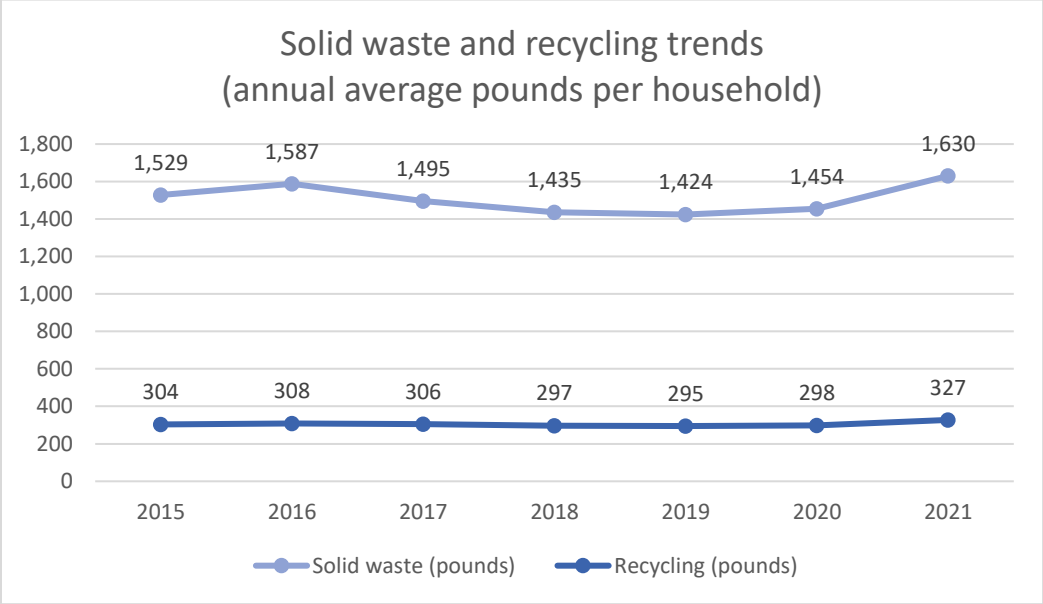
There are four strategy areas in the Resilience and Cross-cutting Strategies chapter and a further four cross-cutting strategy areas reported below. For more specific climate actions in these categories, review Raleigh's Community Climate Action Plan, Chapter 7.

1. **Waste Reduction and Diversion**: includes measures to improve recycling practices among Raleigh residents and expand composting and yard waste programs.
2. **Community Resilience**: includes measures to address climate and non-climate stressors that affect the Raleigh community
3. **Green Infrastructure**: includes strategies to limit development in flood-prone areas of Raleigh and expand the uptake natural stormwater absorbing technologies like green stormwater infrastructure.
4. **Preservation and Green Space**: include measures preserve natural landscape features which absorb flood waters and provide protection from extreme heat.
5. **Cross-cutting strategies**:
    a. Equity: promotes equitable implementation of all climate strategies
    b. Funding: encourages seeking diverse funding sources for climate action
    c. Innovation: encourages the adoption of new technologies for climate action.
    d. Education and Outreach: encourages engagement with Raleigh's communities on climate awareness, climate action, and City climate initiatives.



Waste Reduction and Efficiency

Waste and the processes of managing and moving the various streams of waste all produce greenhouse gas emissions. CCAP includes strategies to address waste, which include Raleigh Water's Bioenergy Recovery Project that will turn wastewater into a biogas, which will be used to fuel a large portion of the transit bus fleet (See the Transportation section above for more details). Additional waste reduction strategies include increasing recycling, reducing waste production, and increased composting to reduce GHG emissions from our landfills. For more information on the various waste reduction strategy programs the City offers, visit the Solid Waste Services (SWS) website; and stay tuned for various seasonal waste reduction education campaigns that are conducted year round (ie: recycling pumpkins, leaves and Christmas trees, reducing waste in holiday gift wrapping, etc). The Solid Waste Services Department works proactively to reduce waste and to increase recycling in Raleigh, while demonstrating a commitment to sustainability in all areas of the operations.



Graph 9: Household Waste and recycling trends. Raleigh's average household waste had been declining prior to 2020, when the COVID-19 pandemic shifted consumption patterns. Source: City of Raleigh Solid Waste Services

Green Yard Waste Carts

The City transitioned last Spring to Green Yard Waste Carts. The yard waste carts replace yard waste that is left in plastic bags. Beginning July 5, 2022, the City no longer collects yard waste left in customer-owned containers. The new yard waste carts support staff health and safety, plastics reduction, idling reduction, and efficiency of yard waste collection and vehicle routing. This program was designed as an opt-out program, and 87.5% of Raleigh residential customers are participating in this program. Solid Waste Services will evaluate this service change by analyzing feedback from residents, monitoring the volume at the curb, and tracking data such as missed collections, route completion times, and contamination rates. The future of green waste will consider opportunities for curbside organics, long term planning for green waste, and fully automated yard waste collections.

Image 7: City of Raleigh Yard Waste Carts

The yard waste stream is converted into high-quality mulch and compost products which are available to the community. Solid Waste Services produces organic compost, organic mulch, leaf mulch and wood chips. Using these products can improve soil conditions, improve plant establishment, increase water capture and reduce erosion. Over the past several years, the City has worked to greatly improve its efficiency, processing, operations and yields to provide a high-quality affordable product. See the Raleigh Yard Waste Center Resources webpage for more details and information on how to use these products; and what are and are not acceptable to drop off at the Yard Waste Center.

City of Raleigh Sustainable Events Guide

The City of Raleigh Sustainable Events Guide focuses on integrating sustainability into City-run events of all sizes, from small community meetings to large public festivals. The Guide was planned to debut at the City's large 2020 50th Anniversary of Earth Day Celebration at Dix Park. Unfortunately, COVID caused this event to move virtual, but staff worked with Dix Park to embed the best practices into their operations for use at all future events, and other departments are following suit as events get back up and running. The Guide includes strategies to better manage purchasing to reduce consumption, manage swag and giveaways, reduce waste prior to and during events, support multi-modal transportation, and offset GHG emissions. The Sustainability Office created the guide in partnership with COR departments and external partners. The guide encourages proper event waste management, waste reduction, GHG emissions reductions related to events, and community engagement with proper signage.

City of Raleigh Internal Plastic and Waste Reduction Strategies

The City has undertaken a number of initiatives to reduce, eliminate or manage plastic waste internally and in partnership with the community. Plastics are a particularly difficult waste stream to manage. Americans use about 50 billion disposable bottles every year. Of those, about 38 billion are not recycled properly. They end up in landfills, or they make their way to our streams, rivers and oceans.

City of Raleigh freeFILL program to reduce plastic water bottle use and waste: The Raleigh freeFILL program aims to promote the use of refillable water bottles among Raleigh residents and visitors. The program highlights locations around the city that will allow people to fill their water bottle for free. Using a reusable water bottle and filling it with Raleigh's award-winning tap water can save a person hundreds of dollars every year, while replacing dozens of single-use bottles.

Reducing and reusing plastic in Raleigh Water operations The Neuse River Resource Recovery Plant laboratory setting a goal to reduce its plastic usage for their water sampling program by 15%. To date, they have achieved a 59% reduction in plastic usage. Additionally, the Smith Creek Plant reduce its plastic usage by 21%; and the Little Creek Plant reduced by 18%, by washing and reusing water sampling bottles.

Refill Everywhere, Raleigh Water program In an effort to encourage COR departments and staff to reduce their purchase of single-use plastics, Raleigh Water purchased four 10-gallon water coolers, which are available for use during community engagement activities. They can be reserved by departments for events and meetings. This allows smaller COR events to offer cold water to participants without added waste. Additionally, Raleigh Water provides refillable water pitchers for the Council Chamber and their conference rooms as well as providing departmental staff with a 33 oz. durable, high quality refillable water bottle.

Installation of Water Bottle Fillers across the City buildings Engineering Services and Raleigh Water have worked to upgrade water fountains to include bottle filling stations across City of Raleigh facilities. These filler-fountains make it easy to refill a water bottle, pitcher, or other vessel, and can be found across Raleigh facilities and including multiple Parks community centers with more locations being added.

Reduction in plastic bottle waste in Solid Waste Services SWS greatly reduced their costs and use of single use bottles for their solid waste drivers on routes (water consumption is particularly important for outdoor operations crews during the summer months when they are outside running routes across Raleigh). Prior to their transition, SWS purchased four to five palettes of bottled water every month. In late 2019, SWS invested in high-quality drinking vessels for all staff, as well as 5-gallon water coolers for trucks and 1-gallon drinking vessels for truck crews. The break-even period on this investment was 8 months. Since inception, this transition has saved the department $7200/year and by avoiding the purchase of over 250,000 plastic water bottles.

Community Resilience

Resilience is the ability of a community to 'bounce back' from a stress or emergency and resume normal life as quickly as possible. This involves adequate preparedness for emergency events, ensuring that infrastructure, housing and other buildings are not exposed to hazards and built to withstand them. City staff have been creating community partnerships, gathering data, sharing information and working to strengthen resilience in our community. Addressing climate equity is also a key part of resilience. The projects in this section integrate both resilience and equity by addressing those most impacted by climate change and economic, social, environmental, health and other stressors.

Flood Early Warning System to Protect Residents

Raleigh's Flood Early Warning System helps protect the public from dangerous flooding by identifying and predicting locations of flooding as early as possible. The system uses a network of creek elevation gauges, street flooding sensors, strategically-placed flood cameras, and a sophisticated rainfall gaging and prediction network to identify and predict flooding risks across the city. With this information, Stormwater staff alert first-responders and other emergency personnel where flood risks are occurring or are about to occur so they can mobilize to help protect Raleigh residents.

Ready Raleigh Emergency Preparedness Guide to Build Resilience and Prepare Residents

The City of Raleigh created the Ready Raleigh Emergency Preparedness Guide as a tool for communities to Be Connected, Be Prepared and Be Informed about potential emergencies and disasters that may impact the Raleigh area. The guide is focused on the household level and places a strong emphasis on community level preparedness: connecting with and supporting friends and neighbors during emergency situations. This guide provides recommended steps for residents to increase their knowledge, preparedness, and reduce risks in case of emergency. The guide is currently available in both English and Spanish with hopes to expand to other languages. The Hispanic and Immigrant Affairs board worked hard promoting the Ready Raleigh guide in the community. They worked with the Spanish language news outlets, other non-profits and the Spanish chamber of commerce

Image 8: City staff are interviewed on Spanish language news about the Ready Raleigh Guide. Communities with non-English language preference are particularly vulnerable to hazards and to prepare for emergencies. The Ready Raleigh Guide is available in English and Spanish.

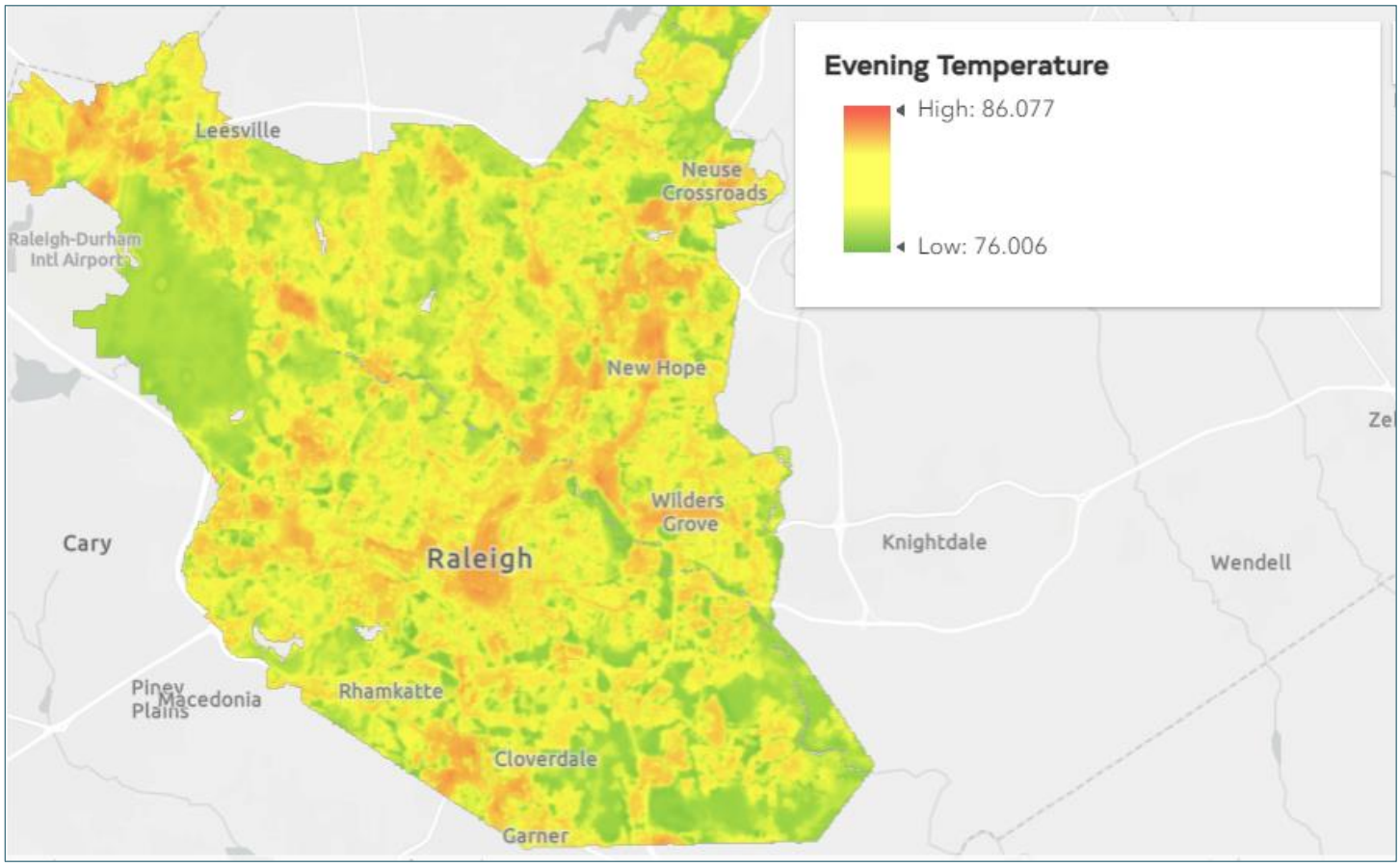
Work to promote the guide and encourage emergency preparedness across the Raleigh community has been undertaken in the 2021-2025 Strategic Plan in Safe, Vibrant, Healthy Communities Initiative 1.3, which promotes community resilience and emergency preparedness. The initiative team is developing outreach materials to promote preparedness for hurricanes, extreme heat and other natural disasters likely to affect the Raleigh area.

Walnut Creek Watershed Learning Network to Empower the Local Community

Through a grant from the National League of Cities Leadership in Community Resilience in 2021, the City of Raleigh partnered with Partners for Environmental Justice (PEJ) on the Walnut Creek Watershed Learning Network, where participants gain knowledge and skills to develop sustainable solutions and take action in their communities. Two cohorts from Southeast Raleigh neighborhoods participated in the six-week course on watershed management, environmental justice and civic engagement. This program focused on education and empowerment for local residents, and allowed opportunities for relationship building and information sharing between the City and key stakeholders. Each participant received a stipend to design and implement a watershed management project in their neighborhood or on their property. City staff are continuing to partner with PEJ on opportunities to continue and expand this program in the coming years.

Urban Heat Mapping and Extreme Heat Mitigation

This City recently won the North Carolina League of Municipalities Direct Reflection Award for the urban heat island project at the City Vision Conference in 2022. This award honors a municipality that adapted an approach or changed its services to address inequity in an area of concern for the community in an inspiring or innovative way that provides the best hope of a successful outcome.



Map 4: Raleigh's Urban Heat Island Map Evening Traverse. Source: NOAA National Integrated Heat Health Information System (NIHHIS) and CAPA Strategies

The City of Raleigh partnered with Durham County and several community partners including the North Carolina Climate Office, the National Weather Service, the North Carolina Museum of Life and Science and Activate Good in the 2021 NIHHIS-CAPA HeatWatch Campaign to map urban heat islands. This Raleigh-Durham project had the most community volunteers of any city that has ever participated in the history of the program.

The data from the urban heat island mapping project is being used to identify projects to mitigate urban heat islands, which includes the City's award winning project (see below) to pilot a heat and pollution mitigation pavement technology and other initiatives to create "cool roadway corridors." Several city departments are evaluating the heat mapping data to incorporate into programs such as mitigating heat and flooding (two of Raleigh's largest climate impacts) with stormwater green infrastructure, and tree preservation and planting.

Cool Roadways Pilot Project to Mitigate Heat and Pollution

The City of Raleigh won the 2021 Transportation Cleantech Impact Award for piloting a new pavement technology to mitigate urban heat islands, reduce GHG emissions and address water pollutant issues. This innovative technology involves adding Titanium Dioxide to the asphalt rejuvenation process to create "Cool Pavement." At the completion of the pilot project, treated roads showed a 37% reduction in Nitrogen Oxides (a type of roadway pollutant), and an average Solar Reflective Index (SRI) of 38.2- a nearly 400% improvement over the untreated locations.

The pilot project was a success and the Office of Sustainability, and the Transportation Department continue to partner to fund a continuation of this program to address urban heat islands and other benefits. Sustainability and Transportation partnered to create a GIS mapping tool utilizing the Urban Heat Island maps to guide best practice application of this coating. Increased usage of this coating requires additional funding and staff are looking at options to expand the program in future years.

These results fostered a relationship between the City of Raleigh and the Global Cool Cities Alliance's - Cool Roadways Program, which provides opportunities to share best practices with governments throughout the country and world.

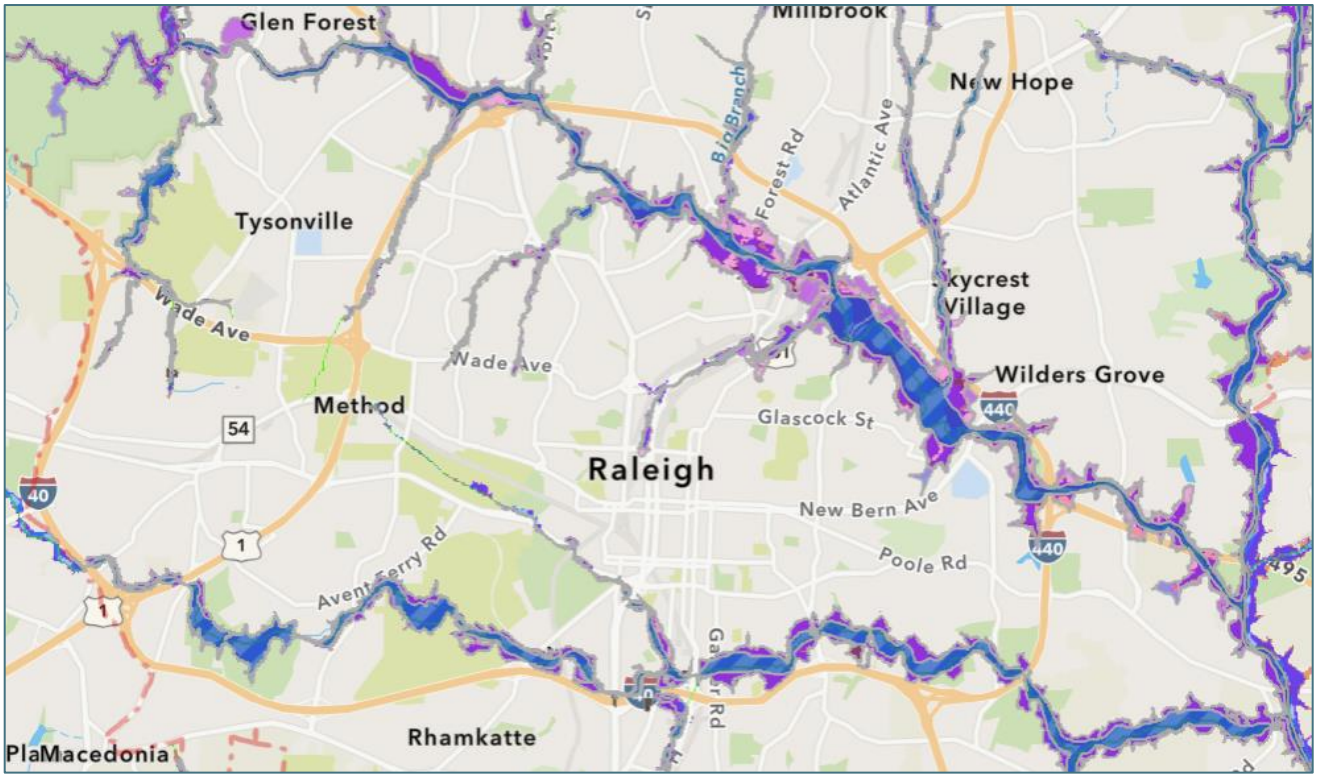
Image 9: Cool Roadways coating was applied to Cyrus Street (white segment in top photo) in 2021, before the UHI mapping project. Heat impacts from the coating are visible in the heat map (bottom of image) compared to non-coated streets in the same neighborhood.

Green Infrastructure

The City of Raleigh adopted regulations in 2017 to make it easier to include green stormwater features in land development. Using these features, will reduce environmental impacts to streams, lakes, and rivers. Raleigh's stormwater management system includes traditional stormwater infrastructure to divert water out of occupied areas of our city and a growing portfolio of green stormwater infrastructure to absorb, retain and filter stormwater naturally. Additionally, limiting development in floodplains allows reduces community exposure to flood hazards.

Updated Floodplain Regulations and Programs to Protect the Community

The City implemented new flood plain maps in July of 2022. City Council has approved regulations to limit development in the undeveloped floodplain. This change will ensure that areas that are currently natural in the FEMA floodplain will stay that way, ensuring protection of these sensitive areas. The new maps are much more accurate and also incorporate a 'future floodplain' zone that adds even more protection. This is particularly important for at risk community members that may lose everything every time their home floods. In addition, the city has recently restricted new development from vacant properties in the floodplain and is embarking on a voluntary flood-prone property buy-out program to improve our community's resilience against flooding from large storm events such as hurricanes. These measures are all aimed at making Raleigh a safer and more resilient community during large rainfall and flooding events.



Map 5: City of Raleigh Floodplain Map. The pink areas denote the floodway and blue areas are Flood Risk Information System (FRIS) flood zones. Source: City of Raleigh, Stormwater Management Division

Raleigh Rainwater Rewards

Raleigh Rainwater Rewards program offers reimbursement of up to 90% of the cost for homeowners, businesses, non-profits, and communities organizations to install green stormwater infrastructure (GSI), remove impervious surface or install rain cisterns and other GSI technologies. City staff work with property owners to determine what types of GSI are a good fit and meet the program requirements. As mentioned above, green stormwater infrastructure provides many community benefits, including mitigating the top climate impacts of heat and flooding, providing various green space benefits, pollinator habitat, water conservation measures, and can greatly enhance the beauty, aesthetics and health of your yard and community spaces.

Image 10: Neighborhood rain garden funded by the Raleigh Rainwater Rewards Program.

Preservation and Green Space

CCAP supports open and natural space plans like tree planting, pollinator habitats, and parks acquisitions, which reduce urban heat islands, provide local food access, and increase physical and psychological resilience in our community. Trees create and define spaces; connect people to others and nature; and benefit the environment by consuming carbon, cooling the air, and collecting rainwater. On November 8, 2022, Raleigh voters approved a $275 million Parks bond referendum. Projects will provide improved equitable, resilient park and greenway access across the City of Raleigh.

Pollinator Habitat Protection and Expansion

The City of Raleigh joined BeeCity USA in 2017, which provides a framework for communities to come together to conserve pollinators by providing them with healthy habitat. According to Bee City; pollinators are keystone species in essentially every ecosystem on earth, assisting in plant reproduction and supporting other species of wildlife. Pollinators touch our lives in numerous ways each day, including being responsible for approximately one third of the food and drink we consume. The value of crop pollination has been estimated between $18 and $27 billion annually in the U.S. Research has shown significant declines in native pollinator population sizes and ranges globally. In fact, up to 40% of pollinator species on earth may be at risk of extinction in the coming years as a result of habitat loss, pesticide use, and climate change. Each year, the City's Sustainability Office organizes and has expanded efforts with partnerships across multiple departments and community partners that is highlighted through a social media campaign to celebrate Pollinator Week each June to continue to share best practices and educate the community. The Parks, Recreation and Cultural Resources Department (PRCR) has ongoing programming to support pollinators throughout the parks and greenway trail system and also participates in the Monarch Waystation program. In addition, PRCR integrated best management practices for pesticide use into their operations. The Stormwater Division is also installing pollinator habitat as part of their Green

Image 11: Bee on a Sunflower at Dix Park. The sunflowers planted each year by the city provide habitat and food for several different pollinator species.

Infrastructure programs (mentioned above). The Convention Center has installed pollinator habitats at various locations with educational signage. Raleigh Water has educational signage and pollinator habitat at plant locations (see also Dix Sunflowers section below). The Office of Sustainability has also created a regional group of other BeeCity and BeeCampus members to facilitate collaborative work.

Tree Canopy Study

A joint study is underway with City of Raleigh and Wake County to assess tree canopy cover for the Raleigh area. The study is planned for release in the summer of 2023 and will help inform Tree Canopy policies and goals moving forward. Tree Canopy provides many community benefits, including environmental, health, social, economic and aesthetic. Some examples of the benefits include the removal of pollutants from the water, air and soil; mitigation of urban heat islands; mitigation of stormwater runoff; reduced costs to manage mitigation measures; reduced GHG emissions; energy savings due to shading of buildings and spaces; carbon sequestration; supportive pollinator habitat and increased property values.

Image 12: Trees in a City of Raleigh park. Urban trees provide GHG mitigation as well as shade and evapotranspiration to reduce the urban heat island effect.

Raleigh named a Biophilic City

Raleigh became a Biophilic City in 2022, which further demonstrates Raleigh's commitment to the environment and climate change. Cities partner across the globe to build an understanding of the value and contribution of nature in cities to the lives of urban residents. Partner cities work together to conserve and celebrate nature in all its forms and the many important ways in which cities and their inhabitants benefit from biodiversity and wild urban spaces. Biophilic Cities acknowledges the importance of daily contact with nature as an element of a meaningful urban life, as well as the ethical responsibility that cities have to conserve global nature as shared habitat for non-human life and people. See Raleigh's Biophilic City webpage to learn more about how this designation supports continued climate action implementation by connecting urban spaces, nature and people with innovative design and ideas.

Raleigh's Open Space Plan to Build the Community's Access to Parks

The City of Raleigh Open Space Plan, which was developed in 2020, includes criteria to prioritize park development and land acquisition opportunities, to identify areas of the city that are currently underserved and to identify those communities which, based on population growth and demographic factors, will benefit most from improved park access. These prioritization and evaluation criteria are organized into the following categories:

- Social Equity
- Economic Viability
- Environmental Protection
- Mitigation Potential
- Accessibility and Connectivity
- Development Potential

Climate Equity

Climate change impacts will be felt most strongly by those who contribute least to GHG emissions. CCAP includes a focus on equity to ensure that we prioritize our community members most vulnerable to climate change. An Equity Impact Matrix was created in CCAP to review the distribution of benefits and burdens of the CCAP strategies across the Raleigh community.

Climate action is an opportunity to build a more equitable city for all our residents. Equity and resilience are main objectives of the CCAP. Examples of equity initiatives and projects are mentioned throughout this CCAP Implementation Report, as all projects should consider equity in their implementation. Below are a few additional examples of where the city is implementing projects to lead with equity.

Equity Budgeting Tool

The City of Raleigh created and piloted an equity budgeting tool in FY2023. This tool will be further refined and embedded into the budgeting process for FY24. -This tool ensures the city is prioritizing resources, services, infrastructure and programs that serve those in our community more equitably. The Equity Impact Matrix from the CCAP is being used as a tool for this initiative which can help to align city projects to climate equity (to learn more about the Equity Impact Matrix see Chapter 3 in the Community Climate Action Plan.

Environmental Justice Mapping Project

The City of Raleigh's 2021-2025 Strategic Plan includes an initiative to develop a GIS mapping tool to identify areas of the city experiencing environmental injustice. The map will include data on flood risk, extreme heat risk, food deserts, toxic waste sites, traffic and congestion, age of City infrastructure as well as social vulnerability data. This map will allow COR departments to identify and prioritize geographical areas for projects to further mitigate environmental harms in our communities.

Food Security, Community Gardens and Urban Farms

The City of Raleigh partners with Wake County on Food Security and the Food Security Plan. This plan outline recommendations on policy, partnerships, and activities to establish pathways to comprehensive food security in Wake County, and this plan is currently being updated through a community engagement process. The Wake County update to the Food Security Plan will not replace the existing plan but will identify five to six measurable food system investments to support a more equitable and food secure county. Strategies will have measurables to assess progress and impact and align with the following values: attention to root causes of hunger, racial equity, economic development, climate change resilience, and community leadership. Stakeholder meetings are underway to engage content experts and community members with lived experiences. The update will be complete in FY23.

Image 13: Raleigh City Farm harvest for its pay-what-you-can farmstand. Raleigh City Farm won the 2022 Raleigh Environmental Stewardship Award for its work on food access and equity in Raleigh. Image credit: Raleigh City Farm

The City's Parks, Recreation, and Cultural Resources department also partners with Wake County on providing summer meals and snacks to campers at Community Centers in qualifying geographic areas through the Summer Food Service program. The City is also a member of the Capital Area Food Network which is made up of various community partners and stakeholders working together on these issues.

Food Access and Food Security have been highlighted during the pandemic in actions such as maps on the website of publicly available food, expansion of the summer feeding program at community centers, and removing parking restrictions outside of restaurants for the pickup of take-out food.

There are two City of Raleigh Strategic Plan initiative teams made up of City staff that are working on Food Security, Community Gardens and Urban Farms on private and public land. The private land team is identifying and addressing barriers for gardens and urban agriculture on private land. This team has updated and created an online website to provide clear information for interested community members to provide guidance on how to navigate the process and needs to set up various types of community gardens and urban farms. The public land team has performed a suitability analysis for the location of community gardens on city land. A number of factors were taken into consideration including proximity to bus stops, distance from multi-unit dwellings, location of other community gardens, the Wake County Vulnerability Index (providing equity, disparity and access information), and the proximity to neighboring food stores. A future pilot project for a community garden on city owned land is being planned.

City staff are also working to break down barriers to community gardens, encouraging community garden partners, and developing community programs. The City created the collaborative Garden Corps program with the Food Bank of Central and Eastern North Carolina along with Wake County Extension, the Master Gardeners, and City youth and adult programs to teach area young people about growing and preparing nutritious food. Various additional educational food and gardening programs are also available through the Parks, Recreation, and Cultural Resources department.

Funding

Climate Action Implementation Funding and Resources

The City of Raleigh Office of Sustainability works with City of Raleigh departments to identify opportunities to increase climate impacts with funding opportunities. In addition, the City also seeks funding through private foundations, professional associations, and other sources to perform or supplement climate work. The chart below includes recent and ongoing funding in support of climate action.

The following are just a few examples of projects and funding opportunities that the City pursues. Funding opportunities are continually evaluated for relevance and feasibility.

City of Raleigh funding for Climate Action

Funding Source	Funding Amount	Program/Project	CCAP Alignment
American Rescue Plan Act City Council approved over $6.5 million in ARPA funds to be used on a portfolio of climate action projects in July of 2022.	$500,000	Solar panels on Bus Rapid Transit (BRT) stations (19 station platforms total) along New Bern Avenue. The solar will be used to power station amenities and offset station utility costs.	**Buildings and Energy** Renewable Energy
	$210,000	Solarize the Triangle Low-to-Middle Income (LMI) projects. Solarize Raleigh is part of the regional "Solarize the Triangle" campaign, a community-based group purchasing program to make renewable energy more accessible across the region. Funding will specifically support solar access for LMI residents as a part of the larger campaign	**Buildings and Energy** Renewable Energy
	$600,000	fleet electrification. This project will support the transition of Raleigh's city fleet to electric vehicles in accordance with the City's fleet replacement cycle	**Transportation and Land Use** Transportation Electrification and Alternative Fuels
	$400,000	for EV charging infrastructure. This project will fund EV chargers and infrastructure in support of Raleigh's city fleet transitioning to electric vehicles. The funding will be used primarily for EV infrastructure for city fleet vehicles, but also includes EV infrastructure for publicly available EV parking at city facilities, and solar-powered EV charging infrastructure pilots	**Transportation and Land Use** Transportation Electrification and Alternative Fuels
	$3 million	Stormwater projects that to address flooding and urban heat mitigation projects and to prioritize areas of Raleigh with the greatest need.	**Resilience and Cross-Cutting** Community Resilience Green Stormwater Infrastructure
	$500,000	To address food access with projects to make low cost, fresh produce available to underserved areas of Raleigh	**Resilience and Cross-Cutting** Community Resilience
US Department of Commerce Heat Watch 2021 Campaign through the National Oceanic and Atmospheric Administration (NOAA)	Technical assistance and data	City of Raleigh received in-kind technical assistance and resources through the NOAA Office of Education for Community Climate Education programming to implement the Urban Heat Mapping campaign	**Resilience and Cross-Cutting** Community Resilience
National League of Cities Leadership in Community Resilience Grant (LCR). Raleigh was one of eight participating communities in the 2021 cohort for the LCR program.	$10,000 and one year of technical support	These grants fund municipal plans and programs designed to increase community resilience and connectivity in advance of climate shocks and other events can save lives and reduce recovery costs. The City of Raleigh partnered with Partners for Environmental justice to implement the Watershed Learning Network program to empower and educate local communities most impacted by climate, flooding, resilience and equity issues.	**Resilience and Cross-Cutting** Community Resilience

2022 Parks Bond Parks bond referendum was passed by Raleigh voters in 2022	$275 million	Includes projects for equitable, resilient park and greenway access across Raleigh. Please refer to the Parks Bond website for information about all of the projects that were included.	**Resilience and Cross-Cutting** Preservation and Green Space
US Department of Transportation Federal Transit Administration (FTA) Low or No Emissions Vehicle (Low-No) Program Supports the transition of the nation's transit fleet to the lowest polluting and most energy efficient transit vehicles.	$2,030,000	The City utilizes this program to assist in funding the new clean technology transit buses, including the 5 new electric transit buses and the charging infrastructure.	**Transportation and Land Use** Transportation Electrification and Alternative Fuels
North Carolina Clean Energy Technology Center Clean Fuels Advanced Technology (CFAT) grants support transportation-related projects that reduce emissions in North Carolina's non-attainment and maintenance counties for National Ambient Air Quality Standards.	*$57,000 application submitted September 2022*	The City has applied for several CFAT grants over time, including to pilot clean technologies, and electric vehicle infrastructure replacements. The most recent application is for 15 propane upfit kits to transition various City fleet vehicles away from fossil fuels.	**Transportation and Land Use** Transportation Electrification and Alternative Fuels VMT Reduction and Alternative Mobility
North Carolina Department of Environmental Quality Volkswagen Settlement Funds are available from the EPA's lawsuit against VW for the installation of vehicle emissions cheat devices. These funds prioritize projects that significantly reduce GHG emissions and improve air quality.	$852,153	The City has successfully applied and received funding for the Parks electric bus and the Raleigh Trolley as well as $20,000 for new public electric vehicle charging infrastructure. Phase 1 funds were awarded in 2020 and Phase 2 funds were awarded in 2022.	**Transportation and Land Use** Transportation Electrification and Alternative Fuels
Wake County Transit Plan Funded by a half-cent transit-designated sales tax that was approved by the Wake County voters in 2016.	Approximately $100,000,000 per year	Over the next 10 years, the Wake Transit Plan will triple countywide bus service, increase the number of routes running every 15 minutes or less and add bus rapid transit and commuter rail systems.	**Transportation and Land Use** VMT Reduction and Alternative Mobility

Federal Emergency Management Agency (FEMA) Hazard Mitigation Grants	Sought as needed for buyouts	These funds are used for the voluntary acquisition of flood prone properties. The properties are acquired and buildings are demolished returning the site to greenspace in perpetuity and deed restricted in accordance with all applicable federal, tribal, state, and local laws, regulations, floodplain standards, permit requirements and conditions as a means of mitigating against future flood damage and losses at these sites.	**Resilience and Cross-Cutting** Preservation and Green Space Green Stormwater Infrastructure
US Department of Transportation Congestion Mitigation and Air Quality Improvement Program (CMAQ) Funds to reduce emissions from transportation-related sources.	$105,000 in 2022 for TDM $747,000 In 2019 for RDOT *$4,500,000* *Application pending*	These funds are utilized for Raleigh's regional transportation work for both the Congestion Management Process (CMP) which provides up-to-date information on transportation system performance and assesses alternative strategies for congestion management that meet State and local needs; and Transportation Demand Management (TDM) which provides programs and projects that aim to provide more competitive transportation options to driving alone, reducing trips and improving traffic congestion without building more roads	**Transportation and Land Use** VMT Reduction and Alternative Mobility

Innovation

Supporting Innovation with Raleigh's Climate Action Fund

In 2021, the City of Raleigh transitioned its Sustainability Fund to a Climate Action Fund to align with the creation of CCAP. Like the Sustainability fund, the Climate Action Fund is a tool to help catalyze innovative pilot project ideas aimed at addressing the objectives in CCAP. This program provides small catalytic funding, and guidance from city staff leaders on how to implement the project with the CCAP objectives of equity, resilience and GHG mitigation as priorities.

Over the years, various climate and sustainability related pilots and projects have been evaluated and funded. Since the Climate Action Fund was created to align with the CCAP in 2021, the following projects have been funded in partnership with various city Departments. Various other projects are in the evaluation phase with the fund and will be reported out in future CCAP Implementation Reports.

- EV Implementation Rollout Strategy (June 2022) $50,000
  Transportation and Land Use: Electric Vehicle and EV infrastructure strategy for City of Raleigh fleet vehicles, including equity impacts
- Cool Roadways Pavement Project (June 2022) $20,000
  Resilience and Equity: Mitigating urban heat islands with pavement coating to increase the albedo of roadway surfaces.
- EnergyCap Utility Data Management Project (April 2021) $180,000
  Energy Use in Buildings: Utility and energy data tracking and management for municipal buildings.

A few examples of other projects funded over the years are included below. In addition to these, several other projects and pilots have been evaluated and funded ranging from flooding and heat mitigation projects, electric and alternative fuels, green and energy efficient building upgrades, food waste, waste reduction, food security and pollinator support, and more.

Special Event Barricades Pilot

In 2019, the City's Sustainability department partnered with the Police department to help fund a pilot of new technology barricades for special events, protests, rallies, parades, political gatherings and road closures throughout Raleigh to reduce vehicle idling and GHG emissions, increase safety, reduce costs and increase efficiency. This new technology allowed for a significant decrease in fuel use when dump trucks were no longer needed to block the road and intersections – as they would be required to idle their engines for the duration of an event for safety reasons. The pilot program aimed to address the risks, liability and dangers that vehicles present in street gatherings as well as address various best practices, including vehicle mitigation, barricade effectiveness, resident safety, mitigation of noise and air pollution, the portability of the barricades, ease of setup and removal, versatility of deployment locations, a true and tangible cost recovery system, and GHG reduction. This pilot was a success and the City is able to reduce idling, fuel usage and costs, as dump trucks are no longer

Image 14: Orange street barricades are used for special events to block streets. These barricades prevent cars from entering closed streets and replace idling Police or Solid Waste vehicles which previously served this purpose. Image credit: Office of Emergency Management and Special Events

needed to block the road and intersection. In addition, less staff time is required for the drivers that were previously required to stay in the trucks during the course of the event.

Dix Park Sunflowers and Biofuels Processor Pilot Project

The City's Sustainability and Raleigh Water department partnered to pilot a custom-built biofuels processor trailer at Raleigh Water's Neuse River Resource Recovery Facility. Sunflowers were planted on wastewater effluent irrigated municipal fields as part of a research project to determine if the sunflower seeds could be converted into a viable biofuel for the farm equipment. While the project was successful, and biofuel was created there have been a number of operational challenges. The Biofuels processor now operates for demonstration purposes to educate the community. This pilot project led to Sustainability, Raleigh Water and Parks, Recreation and Cultural Resources partnering to start growing sunflowers at Dorothea Dix where the community could more easily access the sunflowers, enjoy them safely, and learn about the many sustainability benefits of pollinator habitats and alternative fuels. The sunflowers are now celebrated across the community; and have become an iconic symbol of Raleigh, drawing thousands of people from near and far, to gather together and enjoy nature. These sunflowers provide the opportunity to educate the community on the various benefits of pollinator habitat, as well as biofuel and many other sustainability and climate actions the city is taking.

Image 15: The annual planting of sunflowers at Dorothea Dix Park. In 2022, nearly 200,000 sunflower seeds were planted by the City for the enjoyment and education of the community- drawing crowds from across the region and beyond.

Outreach, Education and Partnerships

Climate Action Webinars and Events

The City hosts various community engagement events and participates in various community sponsored programs. The CCAP is often featured in various events through tabling, discussions, panels and/or to dig in further to various implementation areas such as energy, buildings, transportation, waste, equity and resilience. The Office of Sustainability also partners with all City departments to embed climate action into their public outreach materials. Considering the small team in Sustainability, continued efforts are being made to further embed climate action into existing community outreach channels, internally and externally, including the creation of tools for the community to educate their networks on CCAP.

In 2021, during the pandemic, the Office of Sustainability held public climate action panel discussions to inform the community about the Community Climate Action Plan and climate action implementation. Recordings of these panel events can be found on the City of Raleigh website, and can be used to help inform individual groups wanting to learn more about CCAP.

Partnership Raleigh Community Climate Internship program

The Partnership Raleigh Community Climate Intern Program is a partnership between the City of Raleigh Office of Sustainability, the Housing and Neighborhoods Partnership Raleigh Youth Employment Program, Bank of America Charitable Foundation and Verizon Workforce Development Initiative. This award winning program for Cleantech Talent Development is a ten-week hybrid internship program which provides opportunities for college-aged students to engage in projects with City of Raleigh departments in support of the implementation of climate action projects. The program also focuses on providing opportunities for youth of color that are under-represented in these fields. The program supports youth in developing the technical and professional skills that create opportunities for employment in the local community. It also provides interns with technical training and knowledge in fields such as stormwater engineering, civic engagement, data analysis, green and sustainable infrastructure, equity evaluations and increased knowledge of climate equity, sustainability and climate issues affecting the Raleigh community.

"[My] projects allowed me to support the Raleigh Community Climate Action Plan through creating public education and outreach materials about sustainability efforts in the City of Raleigh. Most importantly, the Community Climate Action Plan is not effective without the help of the community"

Kaitlyn O'Donnell
2022 Climate Action Intern
Office of Sustainability

The inaugural 2021 intern cohort included 7 interns working in the Sustainability, Transportation, Planning and Development, Stormwater Management, Raleigh Water, Parks, Recreation & Cultural Resources Departments. In 2022, 10 interns participated in the Sustainability, Stormwater, Engineering Services, Public Utilities and the Office of Strategy and Innovation.

Annual City of Raleigh Environmental Awards

The City's Office of Sustainability partners with the City's Environmental Advisory Board to host an Annual Environmental Awards Celebration. The awards recognize individuals or organizations in Raleigh making a difference to improve the environment and for taking climate action to support the implementation of CCAP. Worthy individuals, groups or projects are eligible for awards that reduce GHG emissions, build resilience and/or address climate equity; and include a focus on youth climate action, environmental justice, air and water quality, natural resources, energy, transportation, land use, and waste. The City's Stormwater, Raleigh Water and Solid Waste Services Departments also partner and host relevant awards that support climate action in their respective fields. A favorite event is the Trashion Fashion Show where winners model and parade their winning fashion made of recycled materials. You can view the previous community winners on the Environmental Awards webpage. In 2022, Sustainability and EAB hosted an in-person event to honor the 2020-2022 winners that had been awarded during COVID. In 2023, the Department of Transportation and Office of Innovation are also joining to host relevant awards, and the awards will be hosted at a community Earth Day event at Dix Park in April.

Image 16: Raleigh Environmental Awards Oak Leaf trophy, made locally by an artist in Wake Forest, NC of found or repurposed wood.

Youth Conservation Corps

In 2022, the City of Raleigh hosted the Conservation Corps of North Carolina's (CCNC) Dix Park Youth Conservation Corps. The program provides an opportunity for Raleigh-area youth (ages 14-18) to learn about conservation and develop career skills in the field. The partnership between Raleigh Parks, and CCNC carries on the original 1930's Civilian Conservation Corps mission of cultivating new generations of land stewards through conservation-based projects in the heart of downtown Raleigh. Two crews, each consisting of two young adult leads and six youth members, spent a month working on roughly 14 conservation projects on the property. Their tasks included trail building, invasive plant removals, cemetery restoration, hammock installs, and more. The teens gained hands-on skills in construction, water quality testing, trail maintenance, public relations, and invasive plant management. Each project promoted the health of native wildlife, helped preserve the park's rich history, and supported the mission of 'a park for everyone.'

Image 17: Youth Conservation Corps member "learning the ropes"

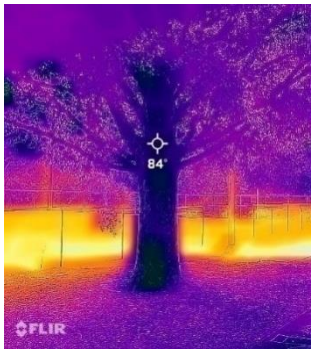


Image 18: Thermal image taken in a Raleigh Park

Urban Heat Island Mapping Citizen Science Project

One of the largest climate outreach projects Raleigh participated in was the Heat Watch Campaign (mentioned above). The City of Raleigh and Durham County participated in a single campaign, led by NOAA and the National Weather Service in partnership with the North Carolina Climate Office, NC Museum of Natural Sciences, Museum of Life and Science and Activate Good, a local non-profit that coordinated volunteer outreach. Community members volunteered to collect data by driving, cycling or walking routes around Raleigh capturing temperature and humidity data as well as thermal images from around the city. Over 165 volunteers participated in the Raleigh and Durham campaign—the most volunteers of any of the Heat Watch campaigns around the U.S.!

Climate Action Outreach and Implementation through Partnerships

The Office of Sustainability works internally with all City departments to help share climate action stories with the community; and also works through partnerships internally and externally on programming. There are numerous examples of climate action partnerships and outreach mentioned throughout this Implementation Report; and many more examples that departments implement across a wide variety of climate action topics with a wide variety of local, national and global stakeholders. There are far too many to mention here. Included below, are just a few examples of annual partnerships and programs, which include:

CCAP Education and Outreach Partnership with Communications and City Departments: Sustainability is partnering with the Communications Department to educate staff throughout the City about how to embed climate messages into communications. This includes web and social media outreach and other strategies for integrating climate messages into COR communications. The Communications Department focuses its city-wide messaging around key areas and the department has recognized Sustainability as one of its priority communication topics.

***Sustainable Business Toolkit*:** Sustainability partnered with the State of North Carolina Department of Environmental Quality and several City Departments to create Raleigh's Sustainable Business Toolkit that provides free resources, funding, guidance and recognition opportunities to businesses, non-profits, residents and organizations. The Toolkit resources cover a broad set of categories: energy and water conservation, waste reduction, stormwater funding, renewable energy programs, transportation reduction strategies and more. The city is also partnering with several organizations throughout Raleigh and the Triangle on engagement for the Toolkit.

Building Safety Month: For the past several years Sustainability staff partnered with Planning and Development on programming for Building Safety month. In 2021, Sustainability partnered to host the *Building Sustainability* webinar; and in 2022 Sustainability hosted weekly community tours of the Wilders Grove Solid Waste Services LEED Platinum facility. Staff will continue to collaborate and share resources on the connections between building safety, energy efficiency, opportunities for renewable energy, integration of electric vehicle infrastructure and more.

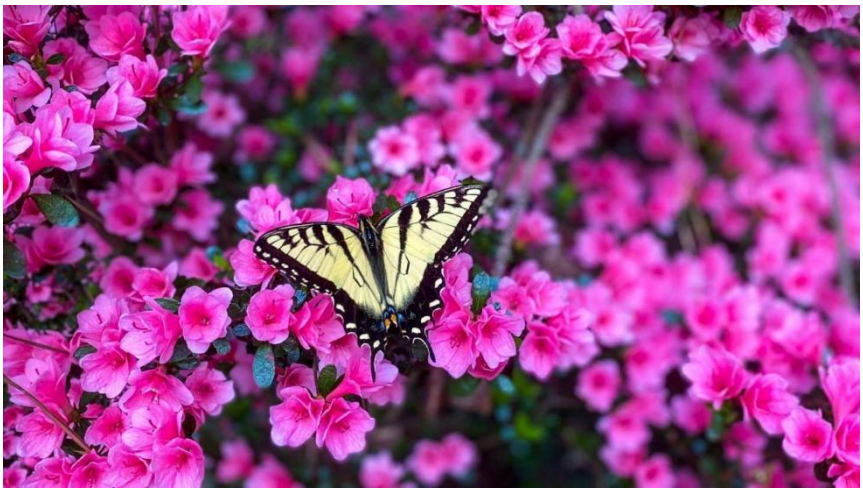
Annual Earth Day Celebrations: The city has long been celebrating Earth Day with the community. In 2019 and early 2020, Sustainability partnered with Parks, Stormwater, Raleigh Water and Solid Waste to host a large 50th Anniversary of Earth Day celebration in Dix Park, which was to focus on climate action, community involvement and volunteerism, as well as host a showcase of City capital projects. Unfortunately, due to COVID-19, the in-person event was cancelled; and the event was moved to an online celebration with many interactive hands-on activities and education that people could do to connect and celebrate Earth Day at home. As we moved back to in-person events in 2022, an Earth Day event was held in Dix Park. An Earth Day event is scheduled for April 2023, which will include the Annual Environmental Awards celebration.

Go Green Transportation Events: In August 2021, GoRaleigh launched its first electric buses at a public event at the Dix Park Chapel. Sustainability hosted an in-person panel on climate action and Transportation at that event with panelists from the City of Raleigh's Department of Transportation, Office of Sustainability, Raleigh Water, and Oaks and Spokes. Various transportation related events, ranging from Bike Month, biking events, walking and biking safety, transportation electrification education and outreach events, etc. are conducted throughout the year.

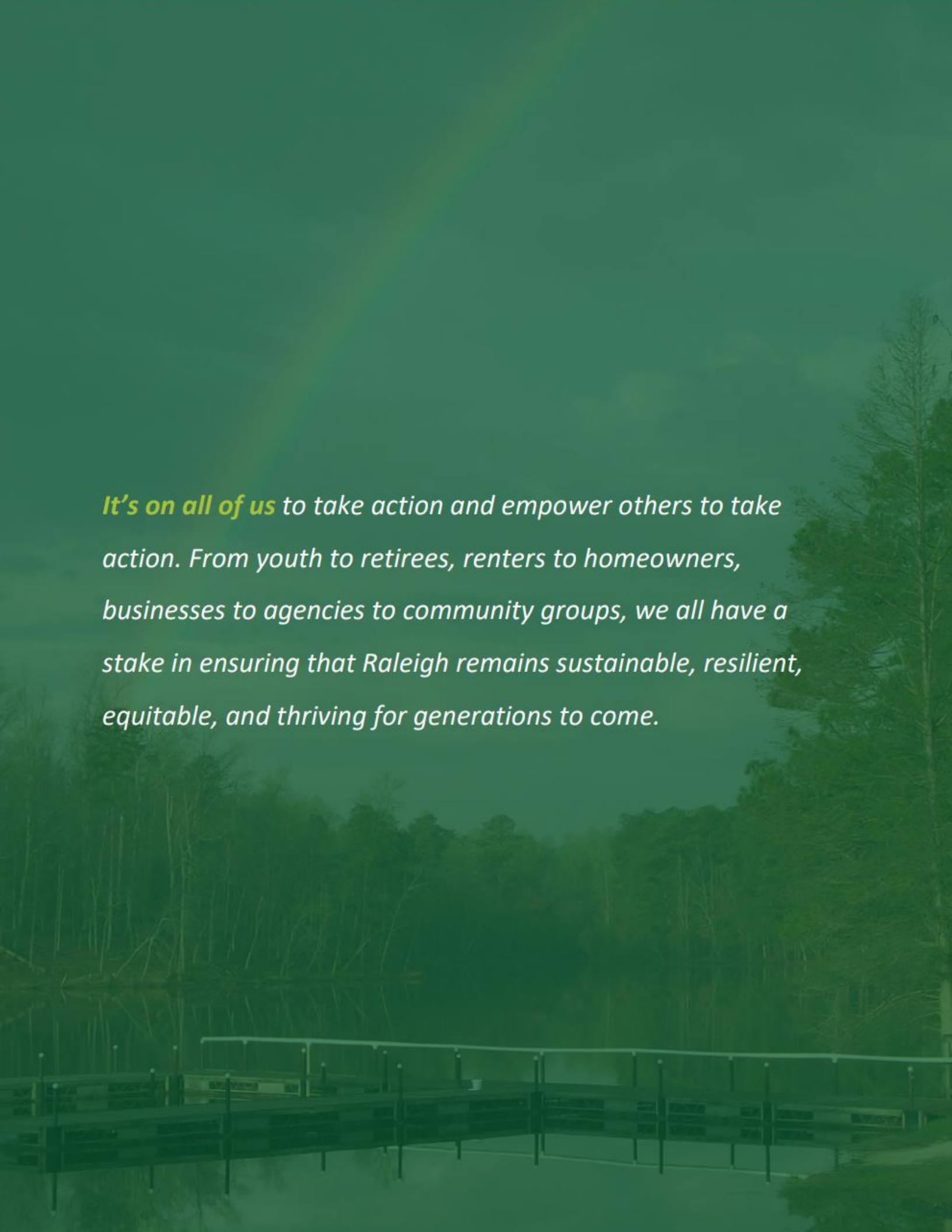
Bee City USA and Pollinator Week: As a BeeCity USA member, Raleigh City staff and community members work to protect and preserve pollinator habitat. Each year, during Pollinator Week (mid-June), Departments partner on programming, led by the Parks Department. Sustainability creates Raleigh's Annual Bee City USA report which highlights City- and community-wide efforts like green stormwater infrastructure installations, Neighborhood Enrichment Funds for pollinator gardens and beehives, and many other city and community projects and resources.

External Partnerships: The most vital part of implementing CCAP is the community taking collective action. Hundreds of organizations and individuals came together to create CCAP and these partnerships continue to grow. City staff throughout all the departments partner with the community on various climate actions. Several examples of these partnerships are listed throughout this document. CCAP is only successful if we all work together, demonstrate leadership, create opportunities for change, find ways to implement in our daily lives, and plan for the future. The city will continue to look to its partners across the region and beyond to implement climate action over time.


11 AVENT FERRY




We're Plugged In!
EMERGENCY EXIT



It's on all of us *to take action and empower others to take action. From youth to retirees, renters to homeowners, businesses to agencies to community groups, we all have a stake in ensuring that Raleigh remains sustainable, resilient, equitable, and thriving for generations to come.*

Raleigh's Community Climate Action Plan (CCAP) implementation and reporting will continue over time. Additional tracking metrics and community climate actions will be developed and reported out in future CCAP Annual Reports.

Please reach out to us if you have information you'd like to share related to community climate actions at Sustainable.Raleigh@raleighnc.gov

Raleigh