Town of Wake Forest
SUSTAINABILITY PLAN

blue strike environmental

MEETING **AGENDA**

1. Plan Overview & Timeline
2. Baseline Findings
3. Engagement
4. Next Steps

Project Overview

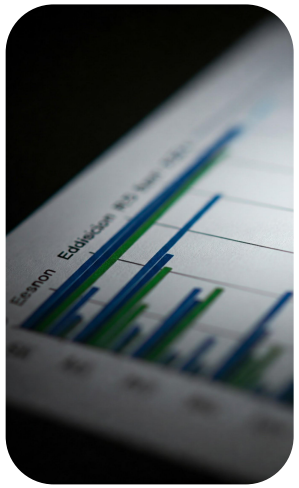
Goal of the Plan: Create a unified and strategic roadmap to guide Wake Forest's sustainability efforts over the next 10 years.

How We Get There

- Assess current conditions by reviewing existing Town policies, programs, and initiatives related to sustainability
- Establish a data-driven baseline through analysis such as the greenhouse gas inventory and demographic trends
- Evaluate future risks by identifying climate hazards and vulnerable community systems
- Develop goals, strategies, and actions that form a practical roadmap for implementation
- Incorporate input from Town staff, stakeholders, and residents throughout the process to ensure the plan reflects community priorities and is realistic to implement

PLAN TIMELINE

early Fall ‘25 - Winter ‘26



Baseline
and existing conditions assessment

Fall ‘25 - Spring ‘26

Engagement
& community outreach

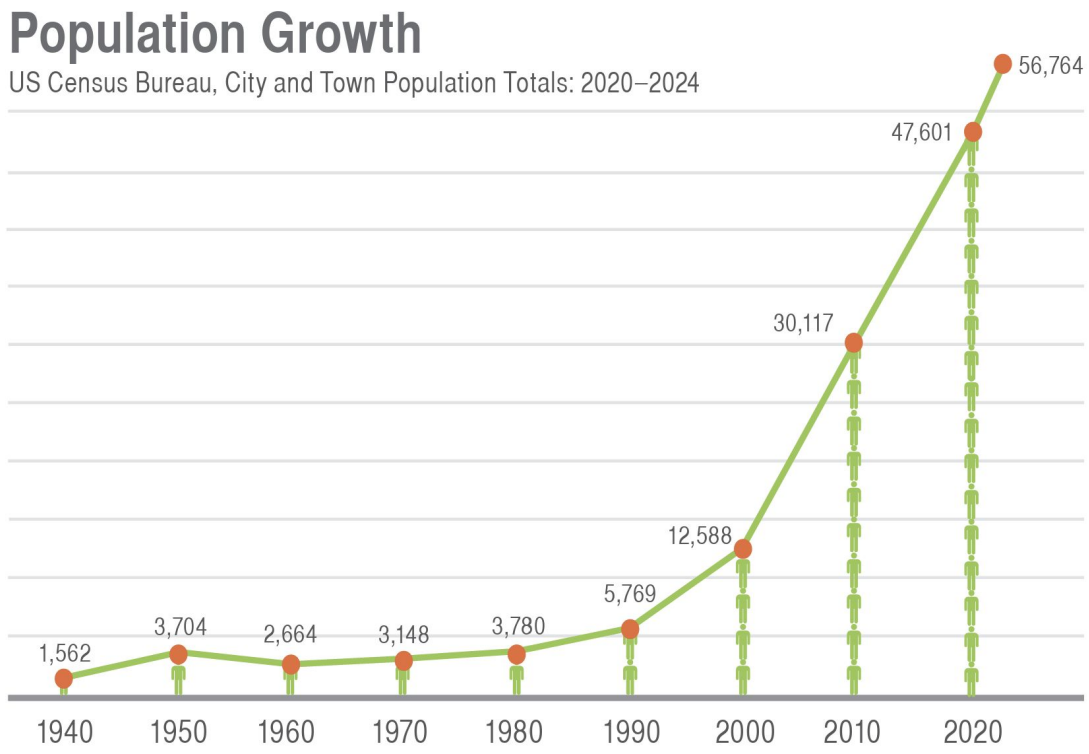
Spring ‘26 - late Fall ‘26

Strategy
development and plan delivery

BASELINE FINDINGS

Demographic and Socio-economic Analysis

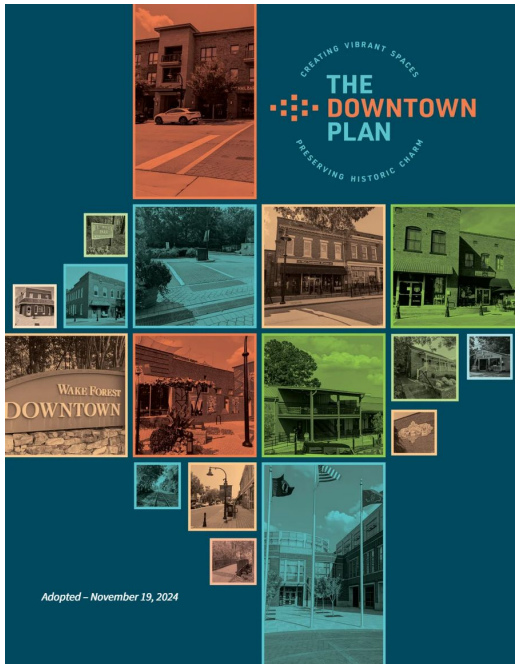
- Population has grown significantly in the last 25 years with continued growth expected
- Rapid growth is increasing demand for housing, transportation infrastructure, utilities, and municipal services
- Housing costs and the overall cost of living have risen in recent years, creating affordability pressures for some residents



Source: Town of Wake Forest 2025 Demographic Profile

Policy and internal analysis

- Review of plans and initiatives to understand current sustainability progress
- Existing comprehensive plans promote sustainability, for example:
  - Walkable, more compact development patterns
  - Transit oriented development and strong pedestrian infrastructure
  - Strategic conservation and recreation land acquisition; use of green stormwater infrastructure and native plant species
  - Incorporation of green building practices into Town buildings and expansion of EV infrastructure
- Existing watershed studies and internal waste management plan



Policy and internal analysis

- Successful projects and programs, such as:
  - Food waste drop off pilot
  - Bus and microtransit service
  - Public EV chargers and 1 EV within fleet
  - Tree City USA status
- These policies and actions are not yet coordinated with specific goals and targets

Peer analysis

- Peer and gap analysis to compare Wake Forest's current sustainability efforts with those of nearby municipalities, Wake County, and the State of North Carolina
- Analysis focused on measurable goals, targets, and certifications
- This analysis helps identify opportunities to consider new or more measurable goals
- Note peer communities operate within different financial, staffing, infrastructure, and policy contexts, so their targets are not one-size-fits-all

Baseline Assessment: GHG Inventory

What is a greenhouse gas inventory?

A greenhouse gas (GHG) inventory…

- quantifies the total emissions of greenhouse gases produced directly and indirectly over a specific period
- identifies major sources of emissions, helping highlight where the most significant reductions may be possible
- establishes a baseline for tracking progress

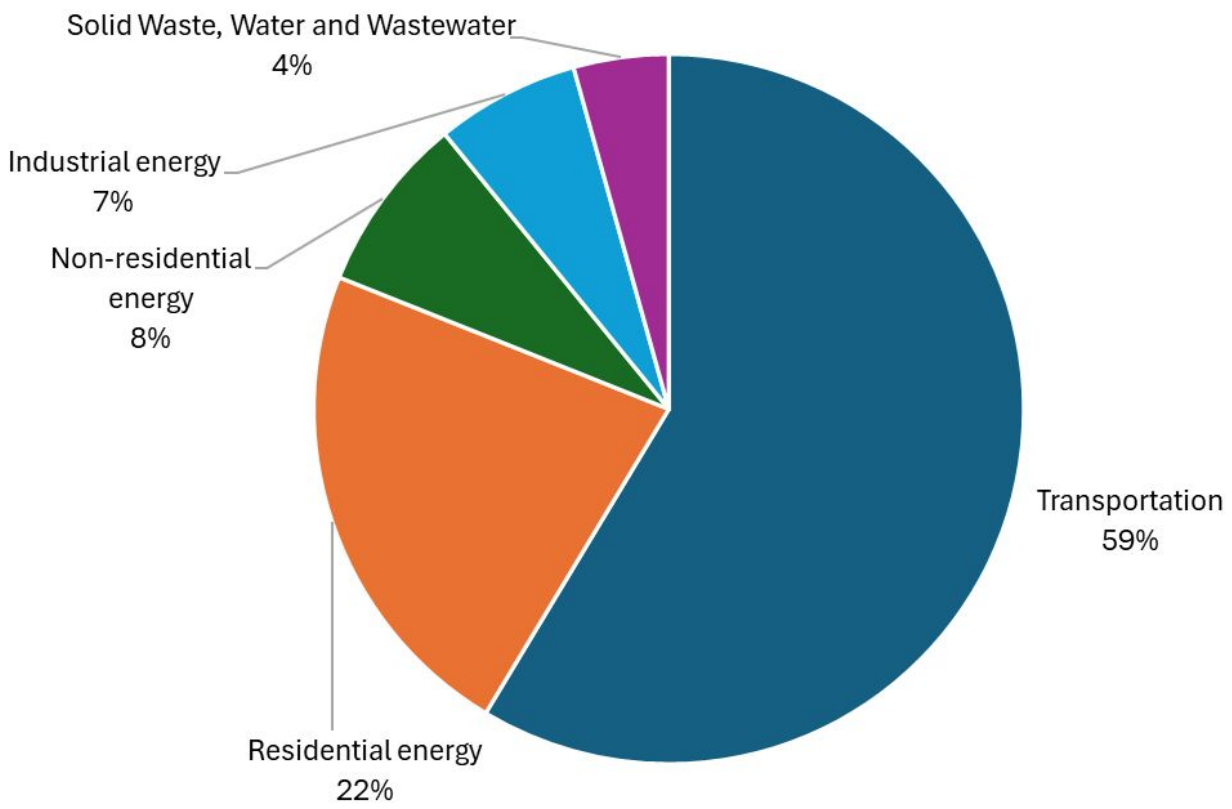
Two Types of Inventories

- **Local Government Operations Inventory** – measures emissions produced by Town-owned facilities, fleet vehicles, streetlights, and other municipal operations
- **Community-Wide Inventory** – measures emissions from the entire community, including residential and commercial buildings, transportation, waste, and local government operations

While the Town has greater control over its own operations, the largest potential emissions reductions often occur at the community-wide scale

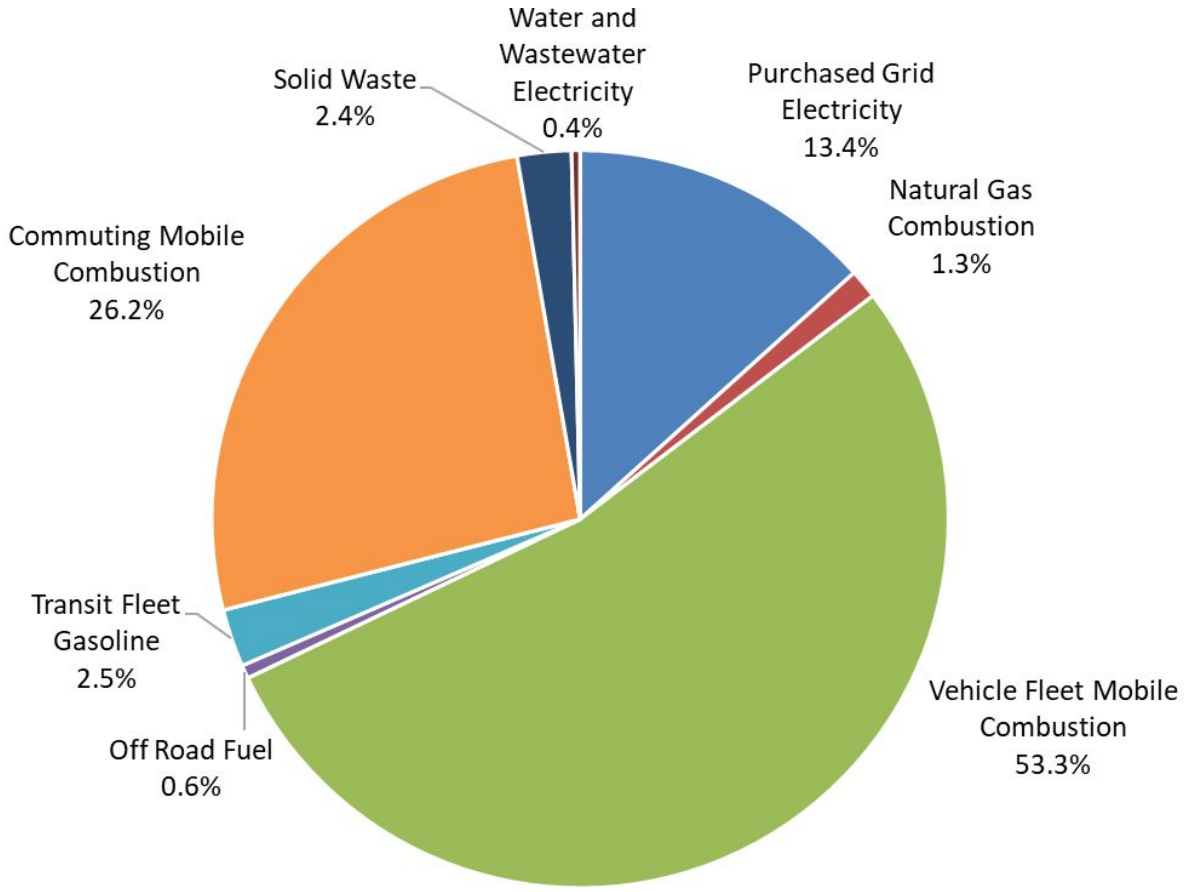
Results: GHG Inventory

Community-wide GHG Emissions



Total Emissions (MT CO2e): 270,826

Emissions from Government Operations



Total Emissions (MT CO2e): 4,098

Risk and Vulnerability Assessment

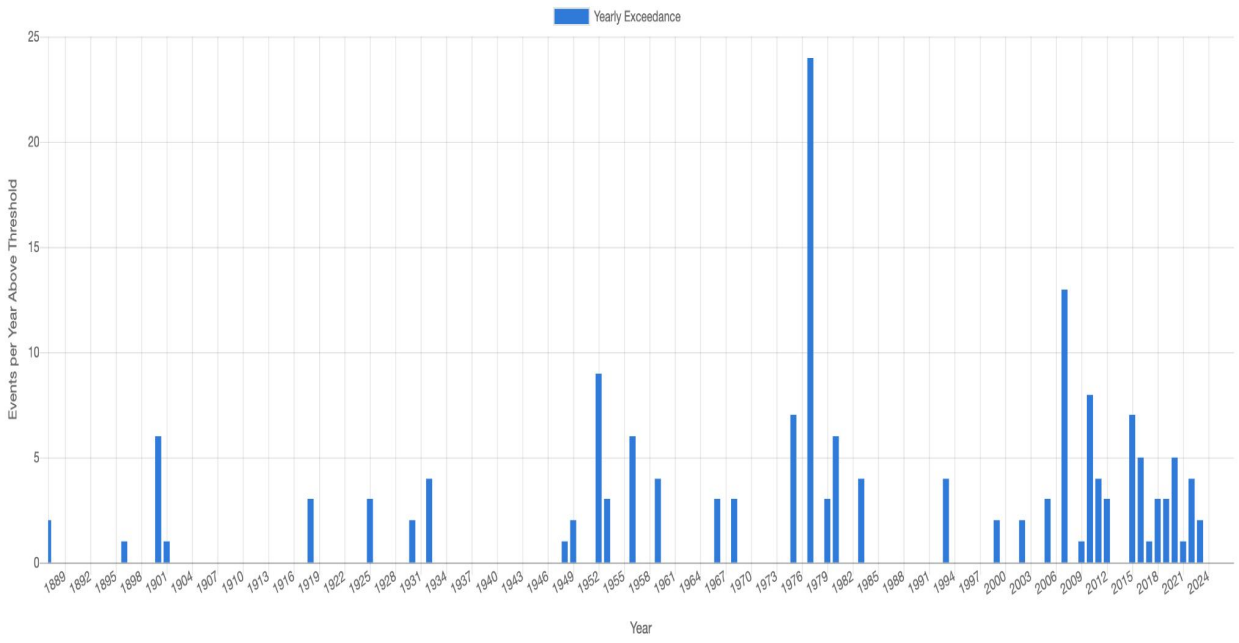
- Sought to identify material hazards and vulnerability of community systems
- Hazards were identified through NC Climate Risk Assessment then prioritized by public input (survey, open houses)
    - Which hazard are you most concerned about in Wake Forest ?

Hazards	Community Systems
1. Extreme Heat 2. Flooding 3. Drought 4. Ecosystem Health and Habitat Loss	1. Natural Areas and Open Space 2. Transportation Infrastructure 3. Buildings

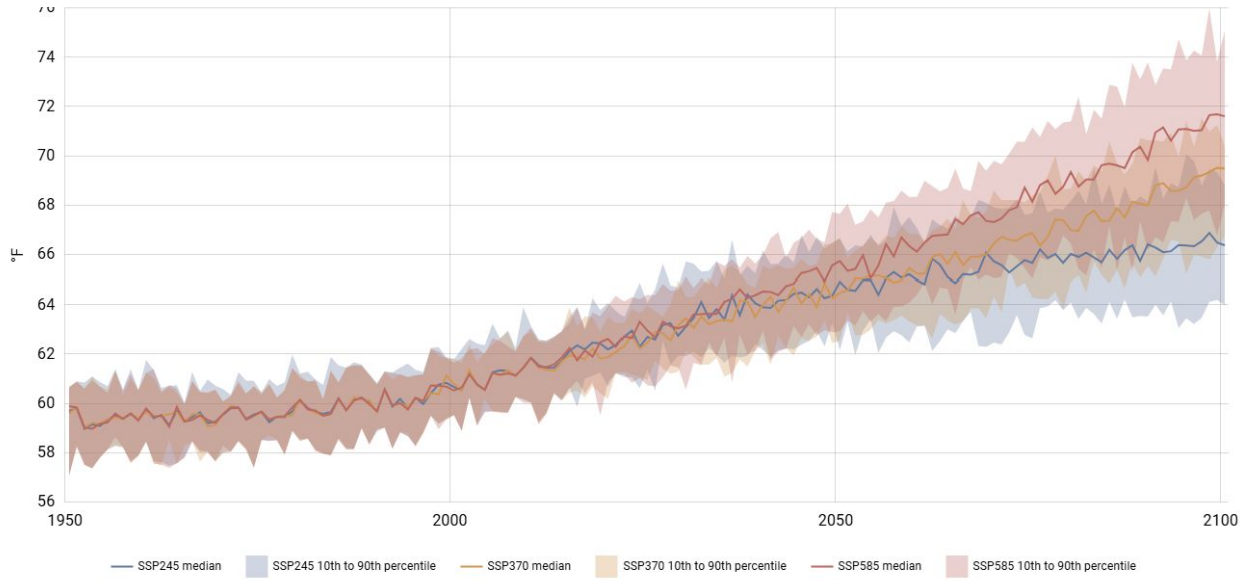
Hazards and community systems evaluated as part of the assessment

Sample Research: Extreme Heat

Historical Frequency of Prolonged Extreme Heat Events (≥10 Days Above 90°F) (Raleigh)



Multi-Model Annual Mean Temperature (Wake Co.)



Findings

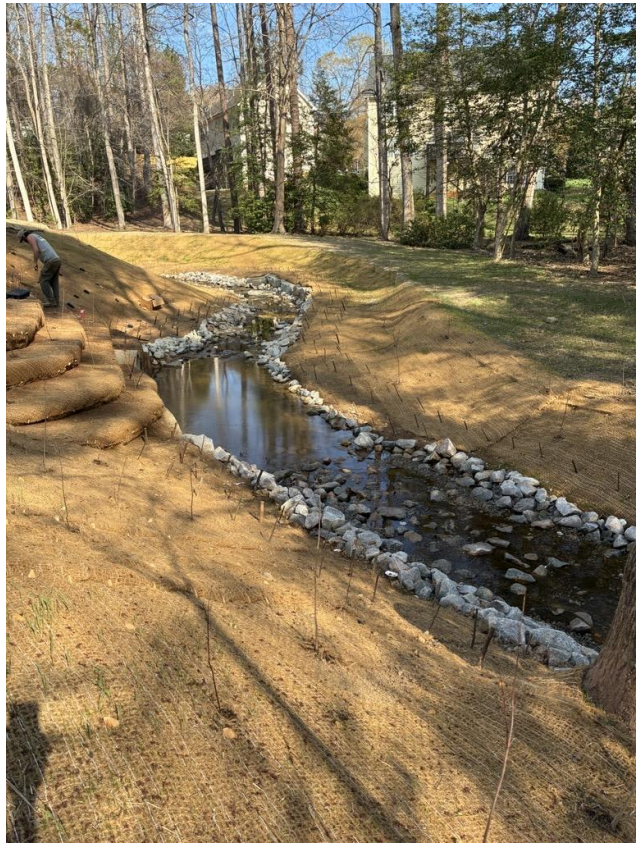
		Community Systems		
		Natural Areas and Open Space	**Transportation Infrastructure**	**Buildings**
Hazards	Extreme Heat	Moderate	Moderate	Moderate
	Flooding	Moderate	Moderate	Moderate
	Drought	Moderate	Low	Low
	Ecosystem Health and Habitat Loss	Moderate	Moderate	Moderate
Overall System Vulnerability		High	Medium	Medium

Potential Impacts

	Natural Areas and Open Space	Buildings	Transportation Infrastructure
Extreme Heat	- Declining soil and tree health - Changes in plant and wildlife patterns	- Increased electrical demand	- Infrastructure damage - Mode shift towards vehicles
Flooding	- Reduced water quality - Closure of parks, greenways and programs	- Property damage	- Access disruption, including emergency response - Infrastructure damage
Drought	- Reduced water supply - Increased risk of wildfires, potentially leading to reduced air quality - Tree health and ecosystem disruption	- Structural damage	- Infrastructure damage
Ecosystem Health & Habitat Loss	- Reduced access to green space for recreation, physical and emotional health - Reduced habitat leading to increase in threatened and endangered species	- Loss of wetlands and reduced tree canopy, reducing natural flood resiliency	- Increased maintenance needs due to reduced stability (caused by increase in erosion)

Vulnerability: Existing Adaptive Capacity

- Development regulations (stormwater, riparian buffers, floodplain) reduce flood risk and protect water quality
- Stormwater utility and capital projects (culverts, stream restoration, greenways) help manage runoff and reduce flooding impacts
- Urban forestry program (40%+ canopy) provides shade, cooling, and heat mitigation
- Greenway expansion supports walking and biking alternatives to driving and provides cooler, shaded routes through natural areas
- Long-range planning preserves natural areas and manages growth in higher-risk areas
- Public outreach and emergency communication improve preparedness and response



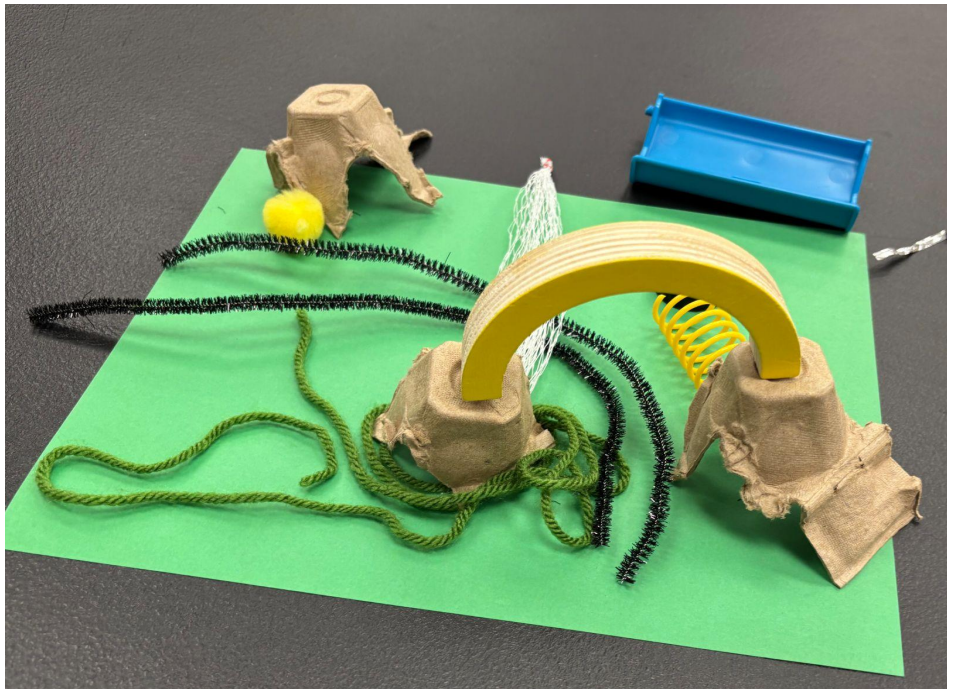
Stream restoration project

ENGAGEMENT

Targeted Engagement

Stakeholder activities and participants

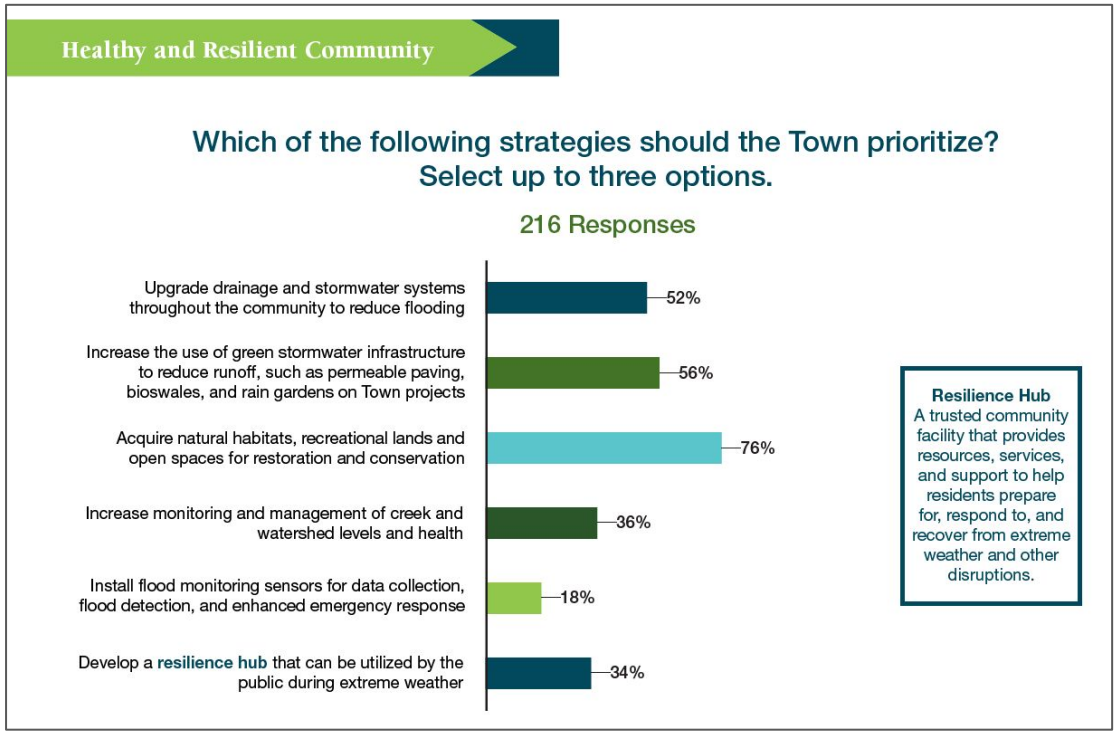
- 3 Town staff focus groups [20 participants]
- 3 Community focus groups [20 participants]
  - Community organizations
  - Local businesses
  - High school students
- Steering Committee [10 participants]
  - Community organizations
  - Residents
  - Regional partners
  - Service providers

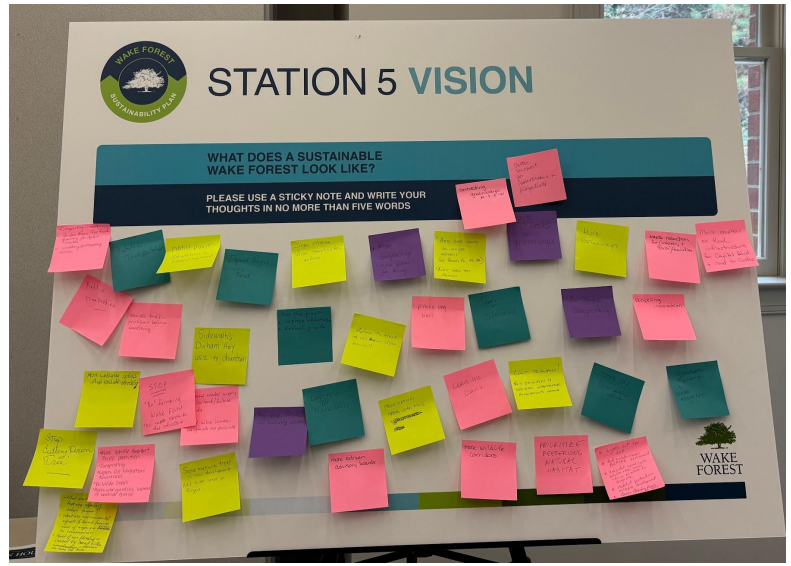


Student focus group activity illustrating a multi-modal and connected Wake Forest

Public Engagement

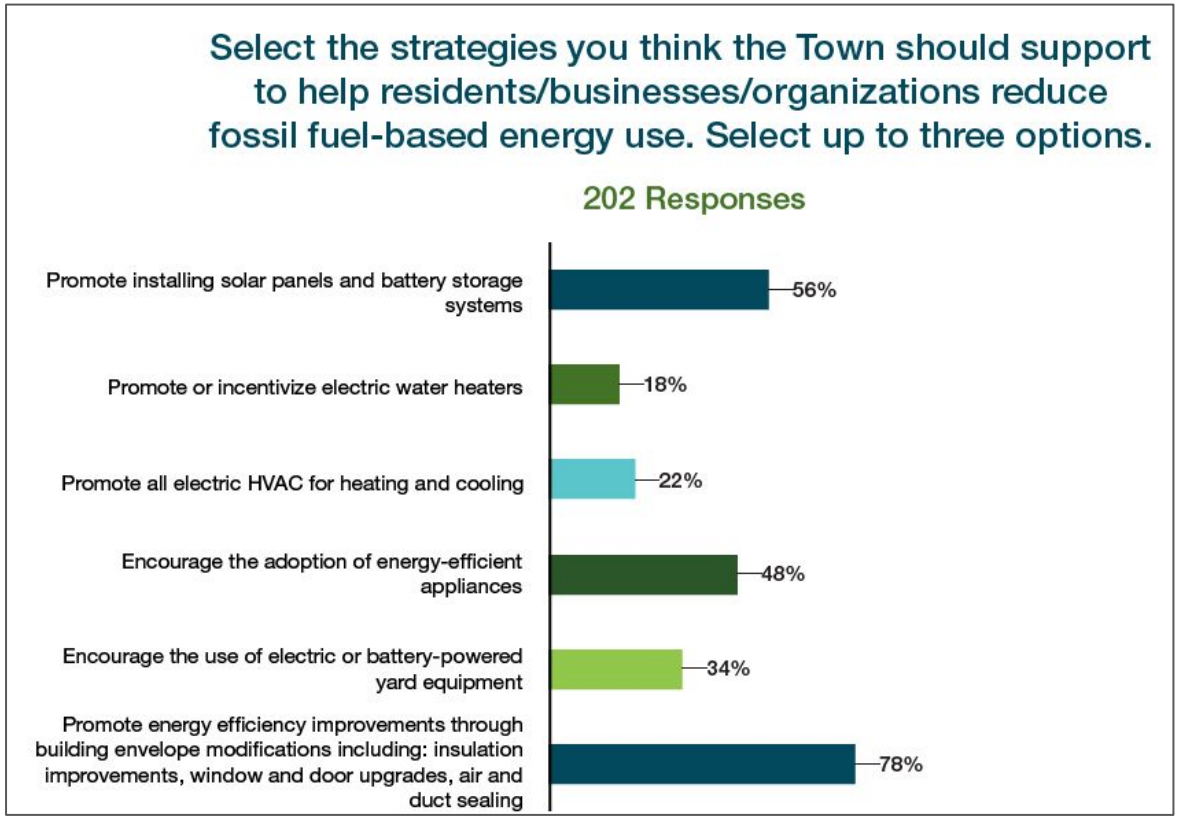
- Two open house events
- Online survey





Recurring themes from engagement

- Protect and conserve natural lands and the tree canopy
- Walkability (with added emphasis on safety on shade from trees)
- Energy efficiency
- Renewable energy- especially solar paired with battery storage
- Upfront cost is a major barrier



Sample question and results from the survey

LOOKING AHEAD

Evaluation and Prioritization Criteria

- Plainly sets the priorities for the plan
- Used to objectively select which strategies should be included in the plan (how well do they align with plan priorities)
- Helps to prioritize the implementation of strategies that are most aligned with the priorities

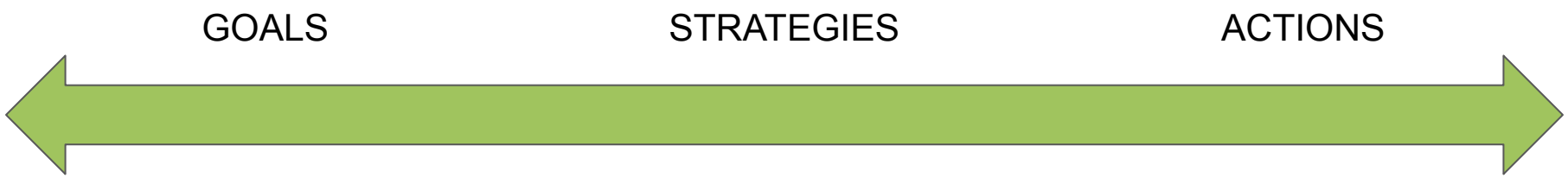
Criteria	Description
Adaptation and resilience impact	Degree to which the strategy enhances resilience or improves adaptive capacity to climate and weather-related hazards
Cost	Forecasted cost to implement a strategy
GHG reduction potential	Potential to reduce emissions community-wide or from government operations
Resident and community support	Perceived support from the community as seen in results of the survey, open house, or other form of public input
Staff Capacity	Ability and capacity for current staff to attend to the effort or initiative

Sample criteria for prioritization

Goal, Strategy, and Action Development

Recommendations for the plan will be based on:

- Engagement with town residents, leadership, and a diverse group of stakeholders
- Existing momentum from other plans
- Best practices from other communities
- Hotspot analysis of the GHG inventory
- Anticipated value (cost and impact)
- Alignment with the prioritization criteria



QUESTIONS?

APPENDIX

Framework Categories with sample topics

Built Environment & Energy	Transportation & Mobility	Resource Conservation	Resilient & Healthy Community
Energy efficiency	Vehicle types (EV infrastructure and adoption)	Water usage	Preparedness and adaptation
Energy sources (renewables)	Public transportation	Waste reduction	Natural habitats and biodiversity (tree canopy)
Building materials, codes, and zoning	Active transportation (walking and biking)		Stormwater management and water quality (green infrastructure)

Strategy Development and Organization

Samples

SECTION 4: STRATEGIC ROADMAP

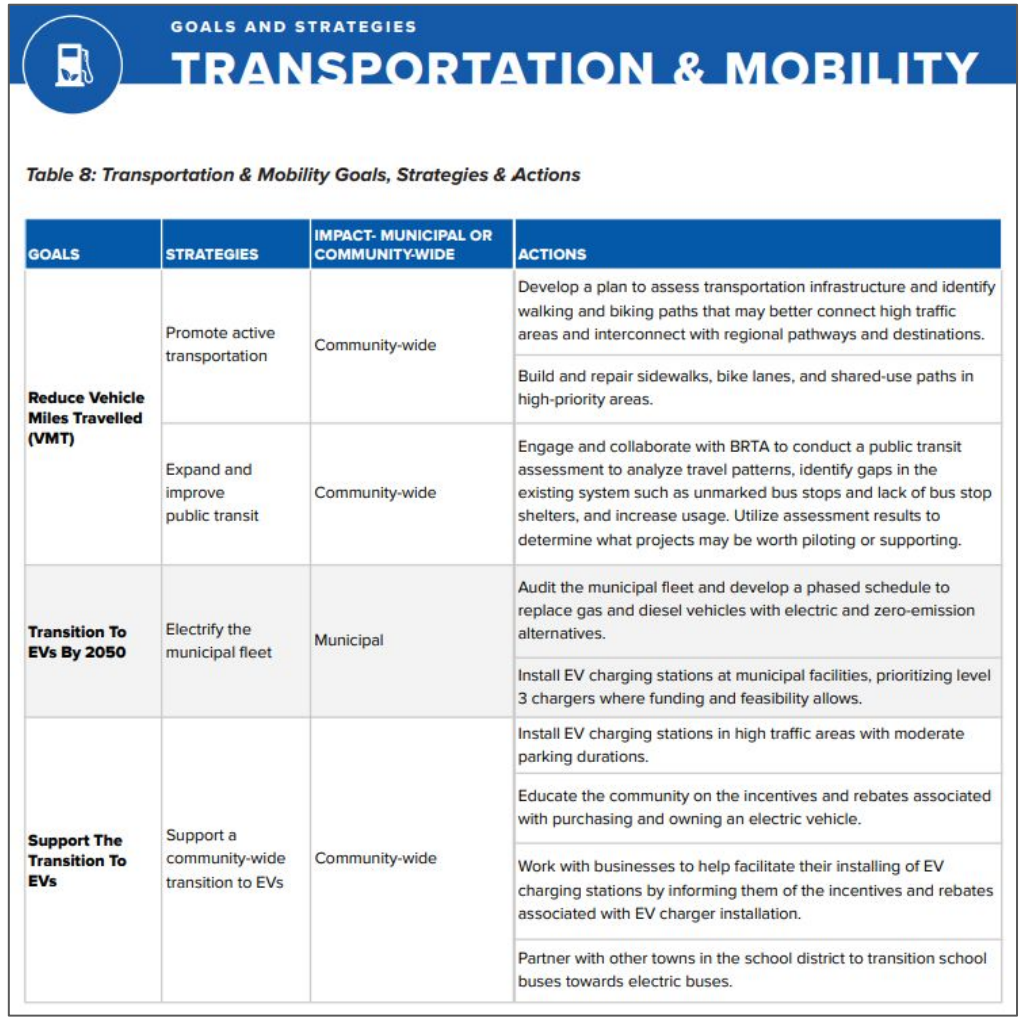
PUBLIC HEALTH & COMMUNITY RESILIENCE (PHCR)

PUBLIC HEALTH AND RESILIENCE

GOAL PHCR 2

INCREASE COMMUNITY SUSTAINABILITY THROUGH CLIMATE ADAPTATION AND MITIGATION EFFORTS.

STRATEGY	ACTION
PHCR 2. Support Community Preparedness and Health for Extreme Weather Events	**PHCR 2.1.** Support the design, collaboration, and implementation of Canton's "Early Warning Systems" to alert residents of extreme weather events in a timely manner. This may include sourcing funding and promoting a flood emergency preparedness and response plan, severe storm warning system, and related public health and resilience initiatives.
	PHCR 2.2. Support the development, collaboration, and implementation of Town and other applicable policies and programs to increase indoor and outdoor air quality. This may come in the form of reducing Canton resident's exposure to air pollution, including particulate matter and methane, especially among our most vulnerable and environmental justice populations. **See also CI 5.1.**



GOALS AND STRATEGIES

TRANSPORTATION & MOBILITY

Table 8: Transportation & Mobility Goals, Strategies & Actions

GOALS	STRATEGIES	IMPACT- MUNICIPAL OR COMMUNITY-WIDE	ACTIONS
Reduce Vehicle Miles Travelled (VMT)	Promote active transportation	Community-wide	Develop a plan to assess transportation infrastructure and identify walking and biking paths that may better connect high traffic areas and interconnect with regional pathways and destinations.
			Build and repair sidewalks, bike lanes, and shared-use paths in high-priority areas.
	Expand and improve public transit	Community-wide	Engage and collaborate with BRTA to conduct a public transit assessment to analyze travel patterns, identify gaps in the existing system such as unmarked bus stops and lack of bus stop shelters, and increase usage. Utilize assessment results to determine what projects may be worth piloting or supporting.
Transition To EVs By 2050	Electrify the municipal fleet	Municipal	Audit the municipal fleet and develop a phased schedule to replace gas and diesel vehicles with electric and zero-emission alternatives.
			Install EV charging stations at municipal facilities, prioritizing level 3 chargers where funding and feasibility allows.
Support The Transition To EVs	Support a community-wide transition to EVs	Community-wide	Install EV charging stations in high traffic areas with moderate parking durations.
			Educate the community on the incentives and rebates associated with purchasing and owning an electric vehicle.
			Work with businesses to help facilitate their installing of EV charging stations by informing them of the incentives and rebates associated with EV charger installation.
			Partner with other towns in the school district to transition school buses towards electric buses.

Peer and Gap Analysis

Built Environment & Energy

	CHAPEL HILL	MORRISVILLE	CARY	WAKE COUNTY	STATE OF NC
Government building emissions or energy use intensity reduction goal	Achieve 100% net zero emissions in new municipal buildings and 50% in existing buildings by 2030.	Reduce electricity consumption 5% by 2026, 12 municipal buildings with an expected 15% efficiency improvement	- No numeric for municipal buildings (Electrify 75% of residential homes and 65% of commercial buildings by 2040 - Electrify 100% of both residential homes and commercial buildings)	The Wake County Board of Commissioners believes that achieving Clean Energy by 2050 requires also having a goal of transitioning 80% of energy consumed by County operations from fossil fuel-based energy to such renewable sources by 2035	Executive Order 80: the state will strive to reduce building energy use intensity by at least 40% by 2025 from the 2005 baseline.
Renewable energy procurement	- 80% clean, renewable energy by 2030 - 100% clean, renewable energy by 2050	Solar generation of 200 kW by 2026	Installed solar capacity goal: - 112 MW by 2030 - 280 MW by 2040 - 560 MW by 2050 Share of rooftop solar potential reached: - 20% by 2030 - 50% by 2040 - 100% by 2050	Clean Energy by 2050 is defined as transitioning 100% of energy consumed and stored by County operations from fossil fuel-based energy to renewable energy including Solar, Wind, Tidal & Wave, Hydroelectric, and Geothermal.	Under House Bill 589 (2017) in North Carolina, the goal set for Duke Energy was 6,160 MW of utility-scale solar generation capacity.
SolSmart designation	Gold	Gold	Gold	N/A	N/A

Peer and Gap Analysis

Transportation & Mobility

	CHAPEL HILL	MORRISVILLE	CARY	WAKE COUNTY	STATE OF NC
Town fleet conversion goal (% of fleet converted by 20XX)	Electrify all Town fleet passenger vehicles, light and medium duty trucks by 2040, and all heavy duty vehicles by 2050.	Reduce gasoline consumption by 20% by 2026	- Electrify 60% of passenger vehicles and 45% of commercial vehicles by 2040 - Electrify 100% of passenger vehicles and 80% of commercial vehicles by 2050	None	Under Executive Order 246 (2022), North Carolina set the following statewide targets: - 1.25 million registered zero-emission vehicles (ZEVs) by 2030 - 50 percent of in-state vehicle sales to be zero-emission by 2030 - Net-zero emissions by 2050
EV charger installation goal (# of chargers installed at facilities or public gathering areas)	Create a Town-wide network of workplace and residential EV charging stations that helps to convert 50% of all community internal combustion engine vehicles to EVs by 2030 and 100% by 2050. Target investments and partnerships that deliver at least 629 public level 2, 99 public level 3 (fast charge), and 761 private level 2 charging stations by 2050.	None (Four ChargePoint EV chargers (8 ports) were added to MCP and Town Hall. Public Works will continue to explore funding opportunities to install additional charging stations)	Number of publicly-accessible EV charging ports is at 168 in 2024, goal is 300 in 2030, 1500 in 2040, 3000 in 2050	None	No numerical (Electric cooperatives have already deployed 39 cooperative owned charging stations to serve rural communities and intend on investing another $1 million in 2019-2020.)
EV ready development	None (some language about maybe requiring chargers in new construction)	None	None (despite calling itself “EV-ready”)	None	None

Peer and Gap Analysis

Resource Conservation

	CHAPEL HILL	MORRISVILLE	CARY	WAKE COUNTY	STATE OF NC
Zero Waste or waste diversion goal	Produce zero waste by 2045.	- Increase efficiency of waste/recycling of Town Operations - Educate residents to increase recycling rate to 70%	- Share of recoverable materials in the waste stream: 35% by 2030, 12% by 2040, 0% by 2050 - Share of residential food waste avoided/composted: 50% by 2030, 75% by 2040, 100% by 2050 - Share of commercial food waste avoided/composted: 30% by 2030, 65% by 2040, 100% by 2050 - Divert 65% of residential solid waste and 65% of commercial food waste from landfills by 2040 - Divert 100% of both residential solid waste and commercial food waste from landfills by 2050	Not specified	Statewide goal to reduce the amount of landfilled material 40 percent by 2001 (on a per capita basis). Statewide, the goal has not been met as of 2024.
Native Landscaping	N/A	Consider Town policy requiring a 70% native plant minimum for required landscaping on Town projects	N/A	Not specified	Not specified

Peer and Gap Analysis

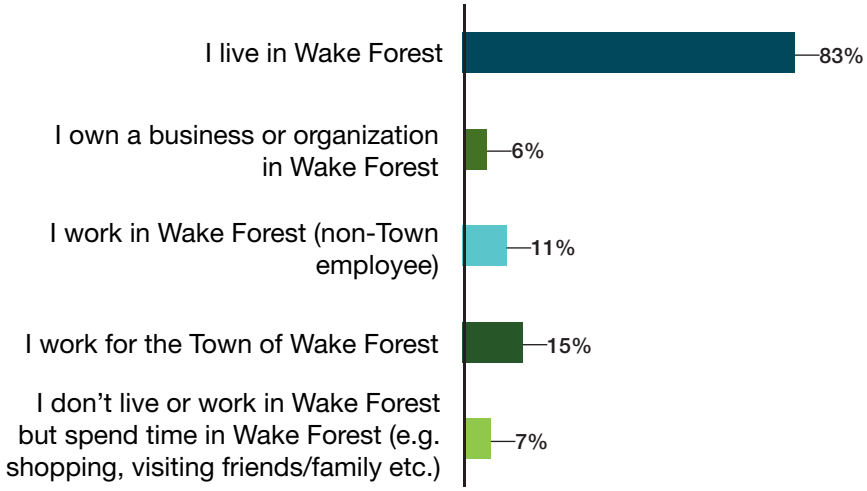
Resilient & Healthy Community

	CHAPEL HILL	MORRISVILLE	CARY	WAKE COUNTY	STATE OF NC
Tree canopy coverage goal	Not specified (Plant an average of 200 or more canopy trees every year and enact a new green infrastructure ordinance by 2022)	Not specified (current canopy coverage: 33.7%, The assessment identified 10,612 individual planting areas totaling 1,233 acres.)	Maintain and manage existing canopy of 51%	Not Specified (current canopy coverage: 54.2% The analysis identified 404,879 individual PPA totaling 82,460 acres of available planting space.)	Not specified (As of 2020, 45% of land cover in North Carolina was natural forests and 10% was non-natural tree cover.)
Early warning systems and communication	Provide residents and business owners advanced warning and faster emergency response times through enhanced smart city early warning system technology by 2030.	- Implement Wake County's Everbridge text alert system to notify citizens and Town staff of potential safety hazards or concerns in the next year. - Purchase and implement new online civic engagement platform to be used in part to inform citizens on disaster preparation, emergency response training opportunities, and evacuation information in the next year.	Establish a relationship/partnership with the Renaissance Computing Institute (RENCI) to create a web-based tool capable of providing real-time flood data to emergency managers and historic data for future emergency response planning in the next 5 years.	- Upload dam failure inundation maps to Everbridge system for notification and evacuation in the next year. - Increase public awareness and participation in the Ready Wake program and resources in the next 2-3 years.	Not specified
Bee City USA	no	no	no	N/A	Other nearby participating communities: Raleigh, Durham, Carrboro Apex, Zebulon, and Garner

Sustainability Plan Survey Results

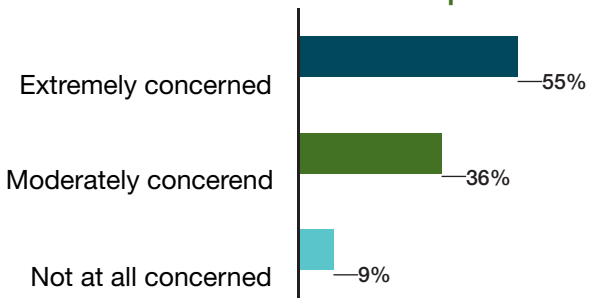
What is your connection to Wake Forest? Select all that apply.

217 Responses



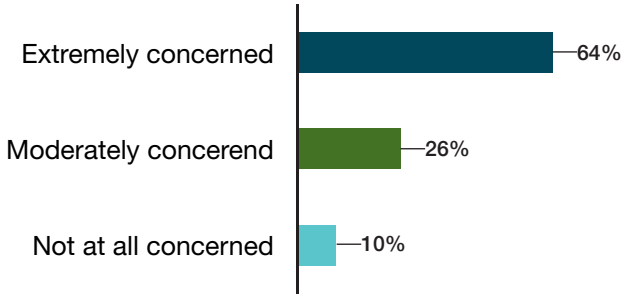
How concerned are you about current or future environmental challenges or conditions?

218 Responses



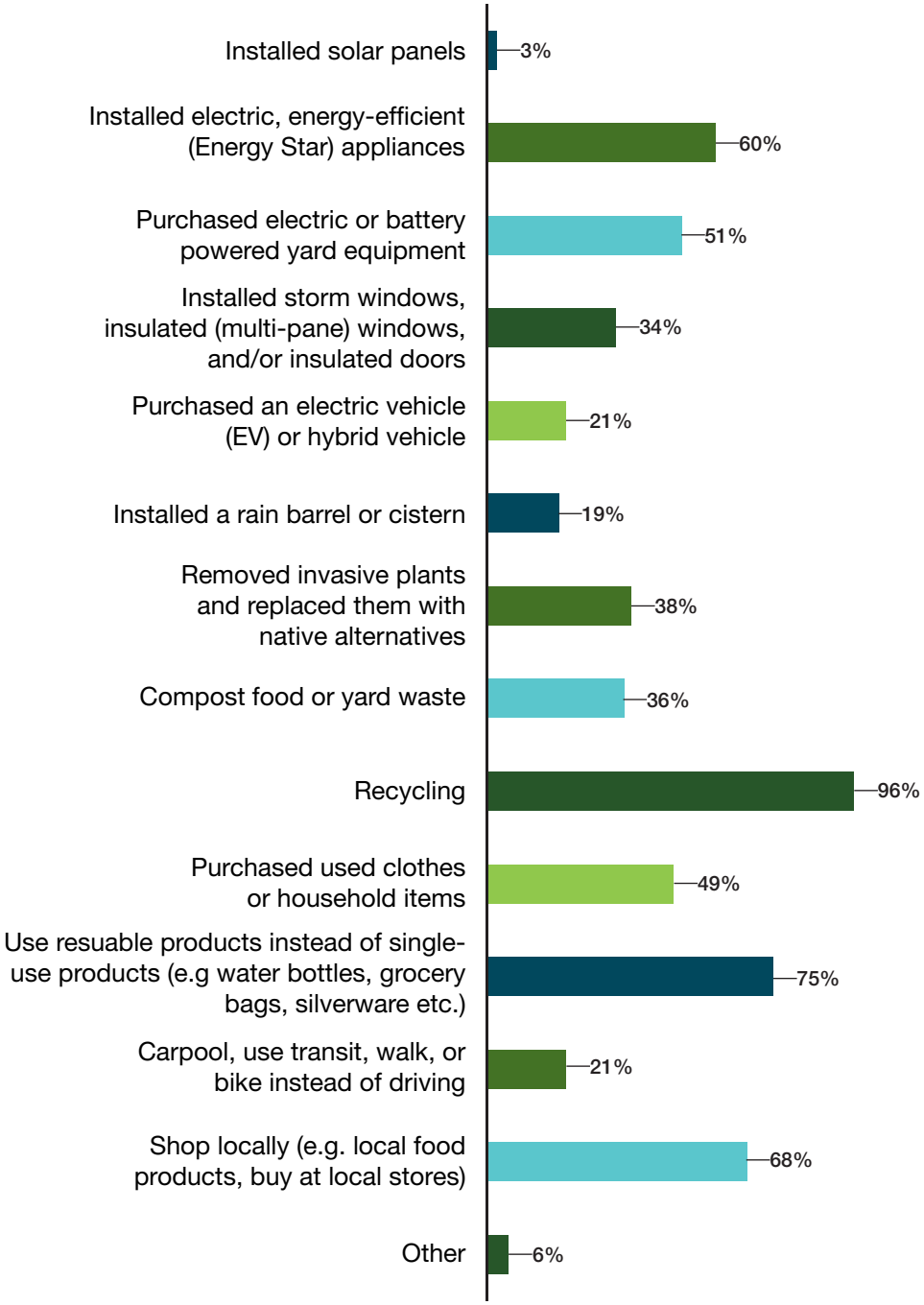
How important is it to you that the Town take proactive measures to increase the community's resilience and ability to adapt to climate challenges and extreme weather and improve environmental conditions?

218 Responses



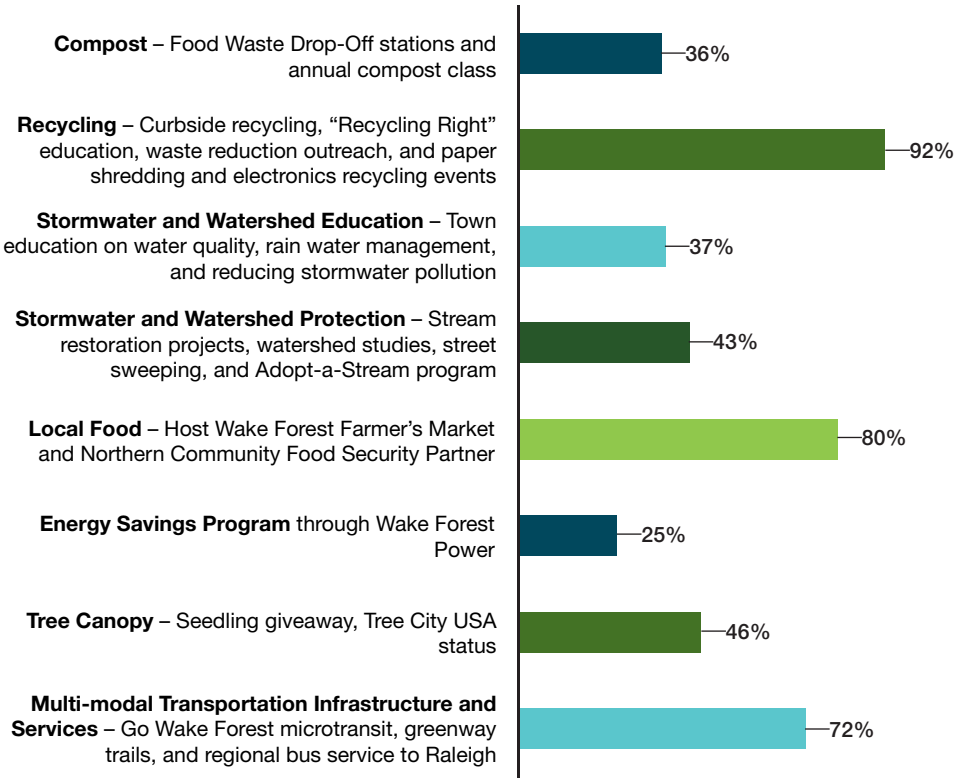
Which of the following strategies have you already adopted to be more environmentally sustainable? Select all that apply.

215 Responses



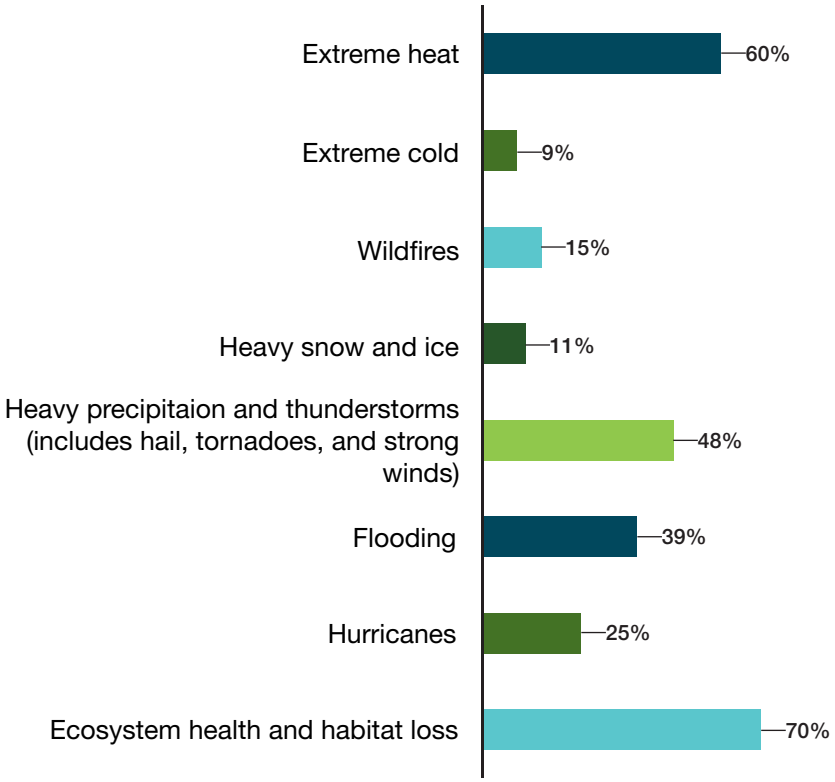
Which of the following sustainability initiatives led by the Town of Wake Forest are you aware of? Select all that apply.

211 Responses



Please select the 3 weather and climate-related risks you are most concerned about in Wake Forest. Select up to three options.

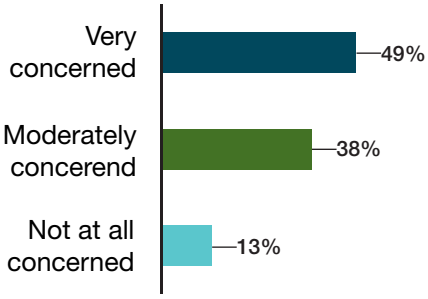
213 Responses



Evaluate each of the following climate-related risks for your level of concern:

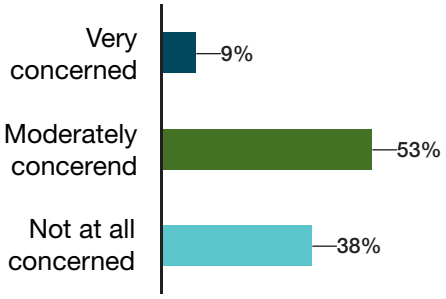
Extreme Heat

216 Responses



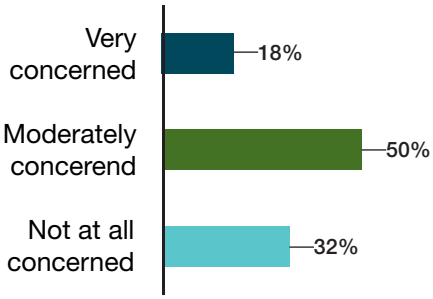
Extreme Cold

213 Responses



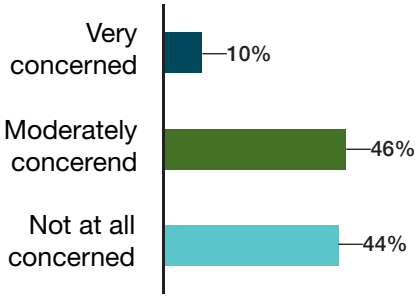
Wildfires

212 Responses



Heavy Snow and Ice

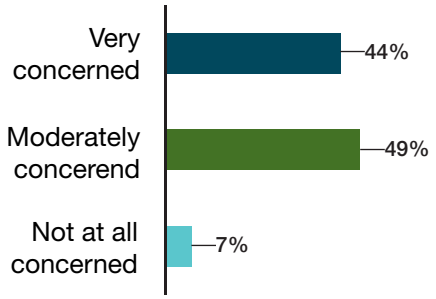
214 Responses



Evaluate each of the following climate-related risks for your level of concern:

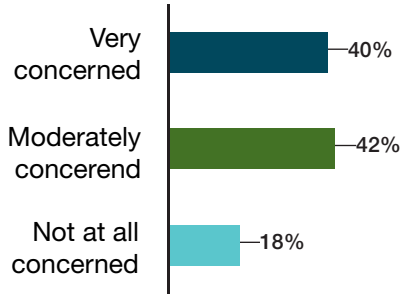
Heavy Precipitation and Thunderstorms (Includes hail, tornadoes, and strong winds)

215 Responses



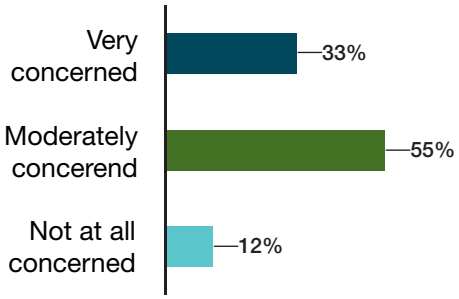
Flooding

212 Responses



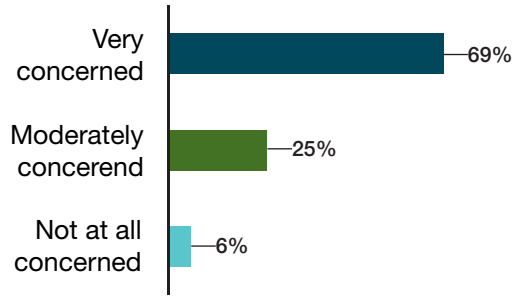
Hurricanes

216 Responses



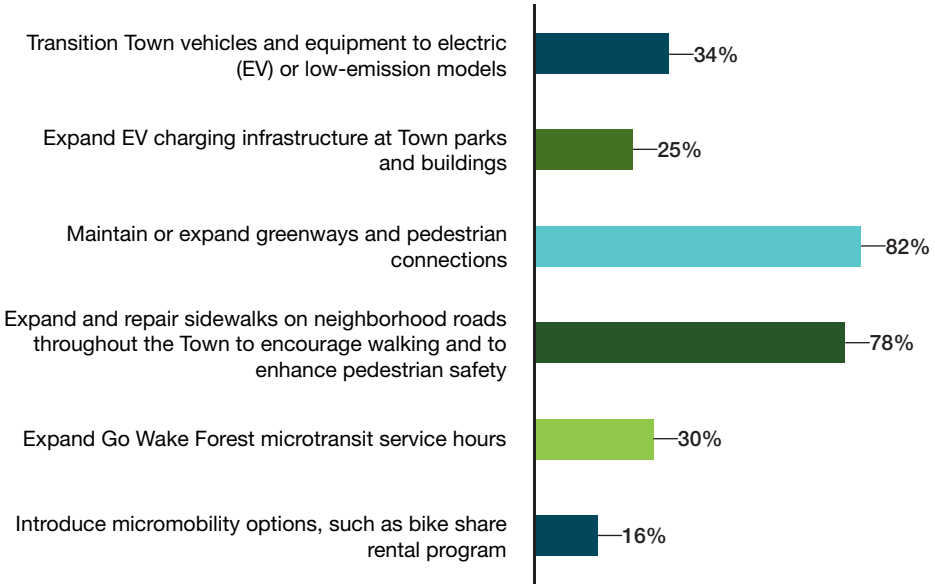
Ecosystem Health and Habitat Loss

215 Responses



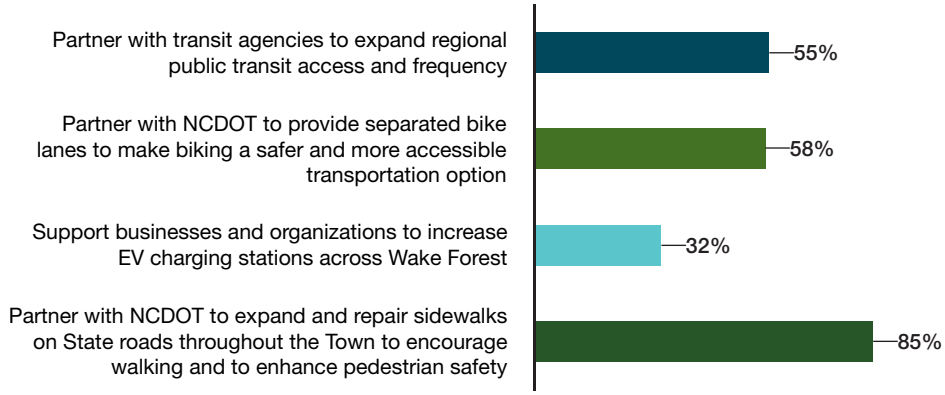
Select the types of Government (Municipal) transportation strategies the Town should prioritize. Select up to three options.

211 Responses



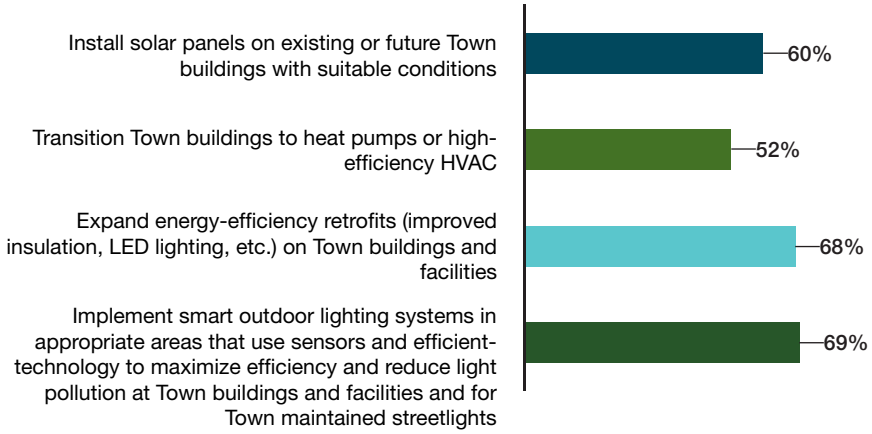
Select the types of community-wide transportation strategies the Town should prioritize. Select up to three options.

210 Responses



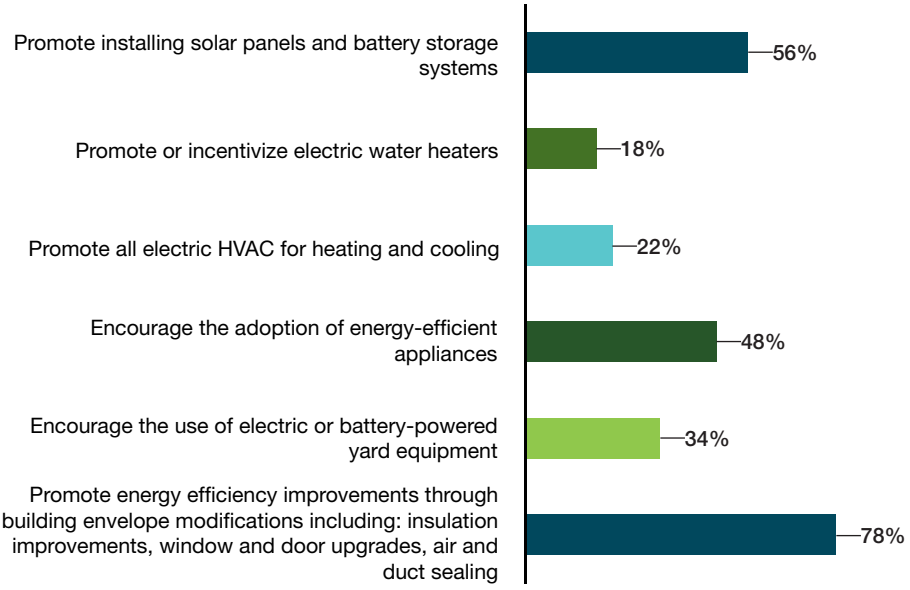
Select which strategies you think the Town should pursue to save energy in municipal buildings. Select up to three options.

206 Responses



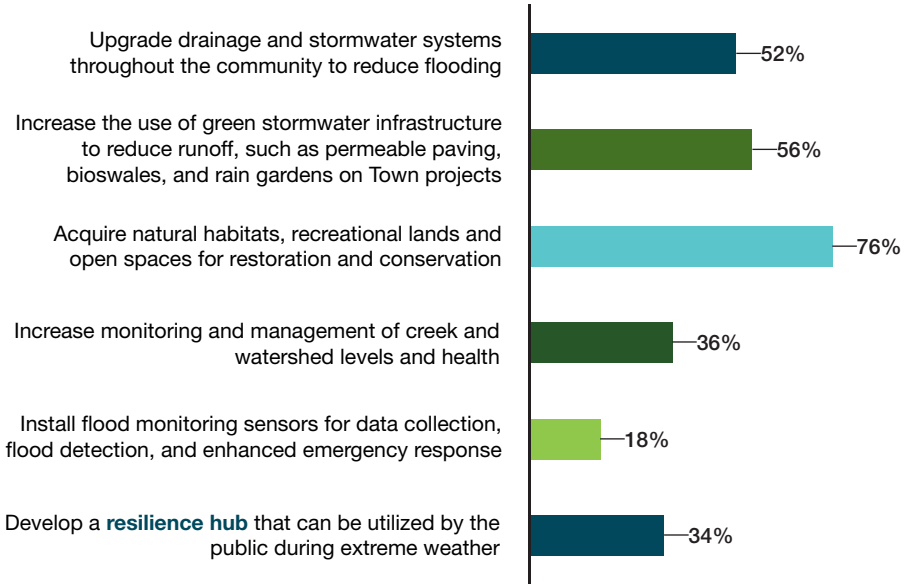
Select the strategies you think the Town should support to help residents/businesses/organizations reduce fossil fuel-based energy use. Select up to three options.

202 Responses



Which of the following strategies should the Town prioritize? Select up to three options.

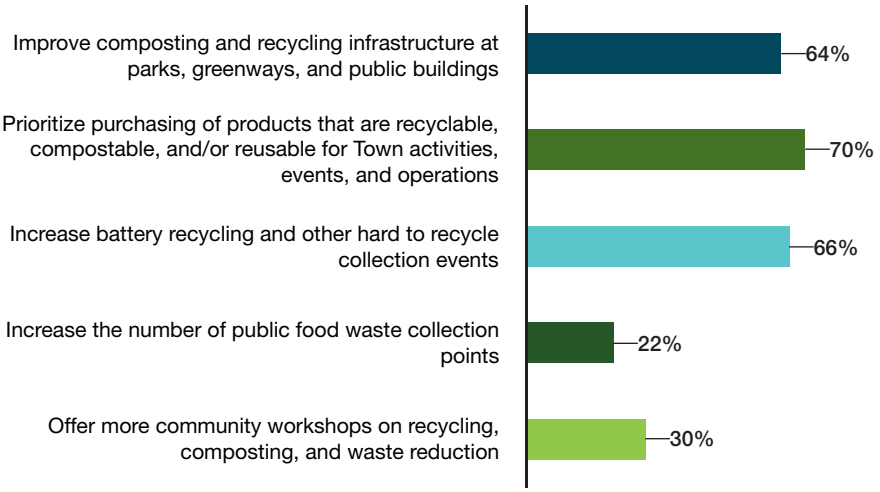
216 Responses



Resilience Hub
A trusted community facility that provides resources, services, and support to help residents prepare for, respond to, and recover from extreme weather and other disruptions.

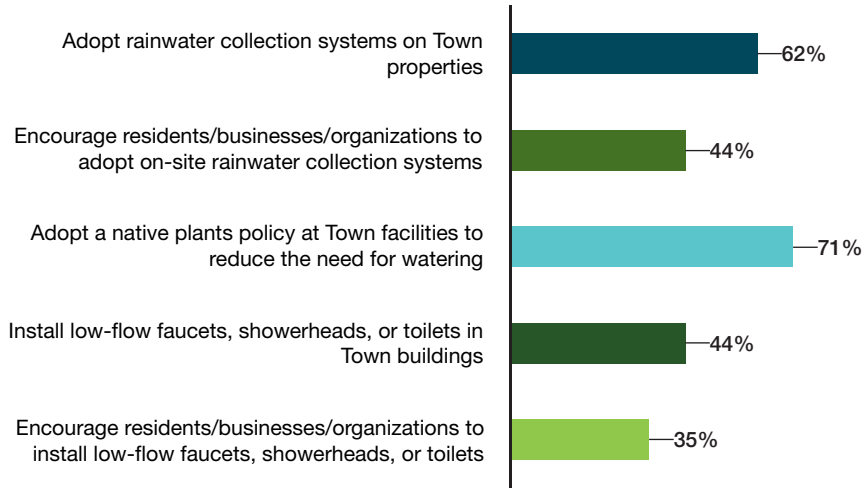
What types of waste-reduction programs should the Town of Wake Forest prioritize? Select up to three options.

204 Responses



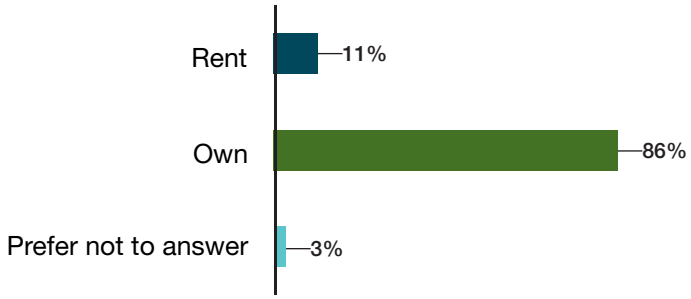
What actions should the Town prioritize or promote to reduce water usage? Select up to three options.

201 Responses



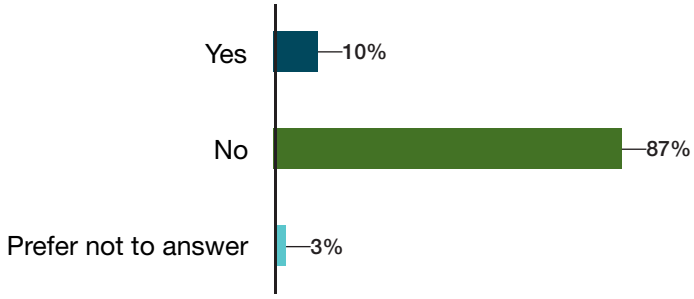
Select if you rent or own.

216 Responses



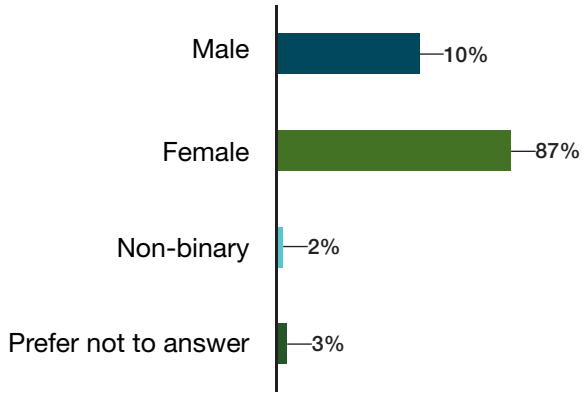
Do you have a disability?

218 Responses



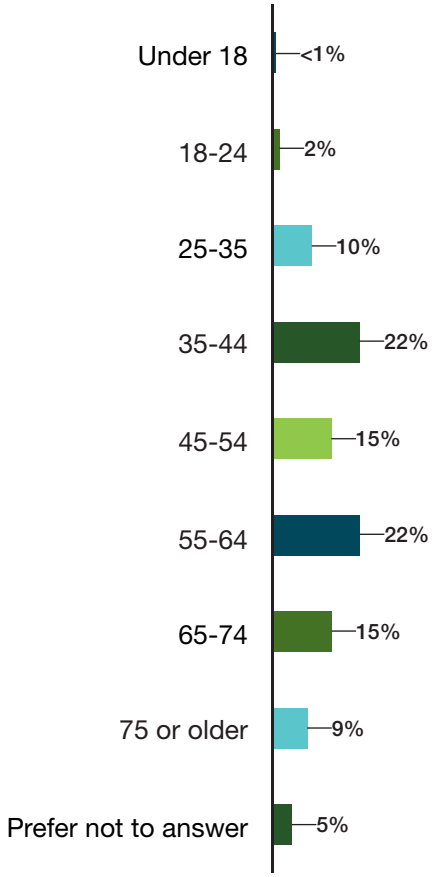
Select the gender you identify with.

217 Responses



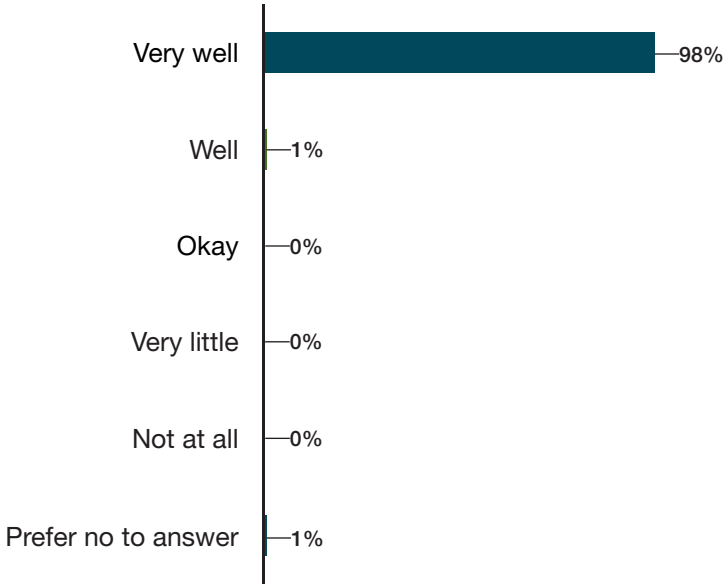
Select your age.

218 Responses



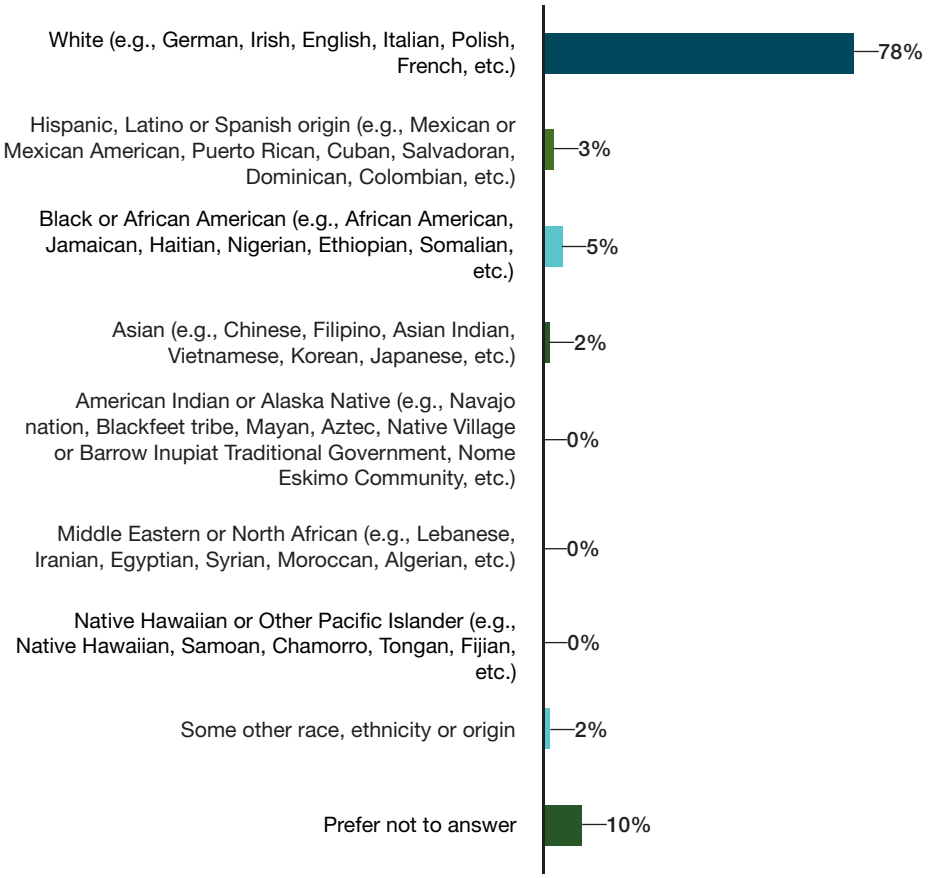
How well do you speak English?

218 Responses



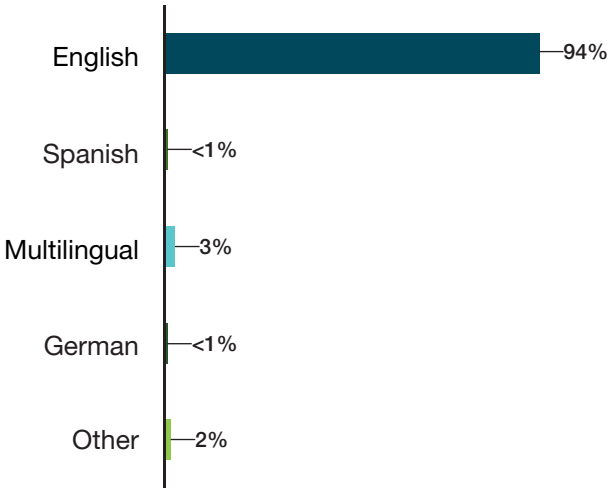
Which category best describes you?

217 Responses



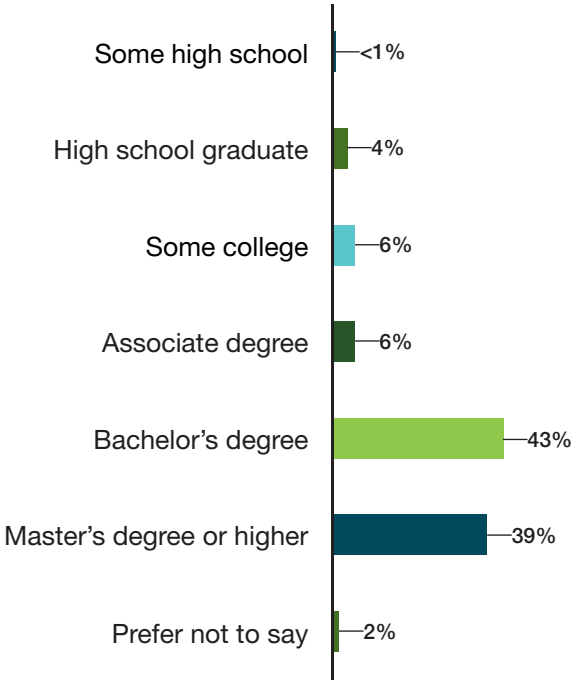
What language do you speak at home?

184 Responses



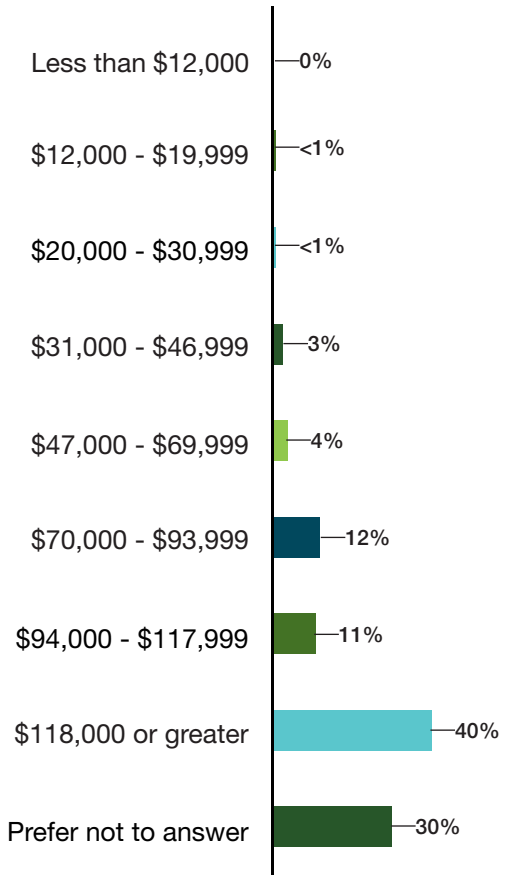
Select your highest level of education attainment.

217 Responses



What is your approximate annual household income?

216 Responses



How did you hear about this survey?

216 Responses