City of Sterling Heights Climate Action Plan

CITY OF Sterling Heights
InnovatingLiving

Letter from the Sterling Heights Sustainability Commission

Dear Neighbors,

As members of the Sterling Heights Sustainability Commission, we firmly believe the Sterling Heights Climate Action Plan is a vital part of the City's commitment to sustainability and will serve as a critical guide to achieving the City's sustainability goals as expressed in its 2040 Visioning plan. Adopting this plan is a key milestone as the City implements the goals and recommends actions in its 2021 Sustainability Plan. But this plan is just an initial step toward climate action. In the coming months and years, the City will begin to implement the strategies and actions outlined in this plan. The City will also incorporate those strategies and actions into key guiding documents and plans, which will further the City's commitment to growing and developing the City in a sustainable manner.

Climate change and the need for climate action are not merely global or national issues. Sterling Heights is not—and has not been—immune to climate impacts. Residents have experienced extreme weather events, including flooding, heat waves, storm damage, sewage discharges, and poor air quality. They have also experienced climate-driven economic factors in food prices, insurance rates, and utility costs. All are expected to increase in severity and frequency as the planet's climate changes.

Global climate change is one of the most formidable challenges in human history. The urgency to take decisive action on this issue is unparalleled, complex, and difficult. It begins with measuring and accepting responsibility for our contributions and then demonstrating leadership on a better path forward—as the Sterling Heights Sustainability Plan suggests, meaningful and measurable action. The lives of millions of people worldwide and an estimated half of the Earth's plant and animal species could depend on the speed at which governments, businesses, and citizens unite to reduce greenhouse gas emissions.

We applaud the efforts of the Mayor, City Council, and City Administration for recognizing the critical need for climate action. The adoption of this Climate Action Plan will play a key role in ensuring that Sterling Heights is a city that is exceptionally maintained, sustainable, and environmentally responsible. Through our shared responsibility and community path forward, may we Strive on Behalf of All, as indicated in our City seal, to face this challenge together.

Sincerely,

The Sterling Heights Sustainability Commission

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EXECUTIVE SUMMARY

Climate Action Plan: Objectives and Vision

PLAN OBJECTIVES

Similar to many other cities throughout the United States and around the world, the City of Sterling Heights is making a commitment to ambitious climate action through this first-ever Climate Action Plan (CAP). The City of Sterling Heights is already experiencing climate change impacts and recognizes that timely and thoughtful action is imperative. This CAP establishes a road map for a sustainable future for the City; and lays out goals, strategies, and actions to guide the City of Sterling Heights to net zero greenhouse gas emissions by 2050. This goal is in alignment with the MI Healthy Climate Plan's goal of state-wide carbon neutrality by 2050. Interim greenhouse gas emissions reduction targets are provided on a sector-basis throughout the plan as well.

The intended outcomes of this Climate Action Plan are as follows:

1. Reduce community-wide and municipal greenhouse gas (GHG) emissions
2. Build community resilience to the impacts of climate change
3. Make Sterling Heights a better place to live and work for all
4. Identify priority actions, estimated impacts, and needed resources for the first five years of plan implementation.

Each of these CAP outcomes will strengthen the City of Sterling Heights and result in a more desirable place to live and work.

ALIGNMENT WITH SUSTAINABILITY PLAN

Sterling Heights' Sustainability Commission published a Sustainability Plan in June of 2021 that includes a call for climate action and more sustainable practices within the City of Sterling Heights. This CAP is in alignment with several of the Sustainability Plan's objectives and builds upon the call for climate action.

ALIGNMENT WITH VISIONING 2040

In 2024, the City of Sterling Heights adopted the 2040 Visioning Plan to plan for a prosperous and sustainable future. The plan's vision statement is: An inclusive, vibrant community that is safe, active, and sustainable. This Climate Action Plan directly supports and builds upon Visioning 2040. Further, the implementation of Visioning 2040 will support the successful implementation of this Climate Action Plan by building a thriving, vibrant, and engaged City and community.

ALIGNMENT WITH MASTER LAND USE PLAN UPDATE

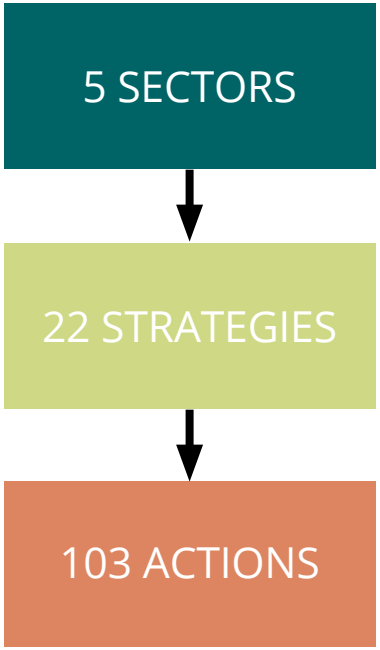
The development of this Climate Action Plan was initiated in conjunction with the Master Land Use Plan update in early 2024. The two plans were developed concurrently and collaboratively to ensure alignment in planning for a more sustainable and vibrant Sterling Heights.

STERLING HEIGHTS COMMUNITY VISION

Throughout the planning process, Sterling Heights residents and business owners were invited to provide input on their climate action priorities and vision for a more sustainable Sterling Heights. The following visual represents input provided by Sterling Heights residents for the development of the CAP.

Figure 1. Sterling Heights' Community Vision for Climate Action

The Climate Action Plan Structure



This CAP's content is organized into five sectors, twenty-two strategies, and 103 actions. Each of the five sectors – buildings, transportation, waste, public health, and natural resources – represent an area of focus within the CAP in which strategies and actions are designed to contribute to CAP objectives.

Each sector includes several strategies, which outline high-level pathways to achieve sector-specific objectives. These strategies represent long-term desired CAP outcomes and provide flexibility in how they are implemented.

Within each strategy, there are multiple actions, which detail specific programs, projects, policies, and efforts that contribute to the overarching strategy. Actions are more targeted in scope than strategies and may evolve as new opportunities and technologies emerge. This CAP is intended to be a living document, allowing for innovation and adaptation over time. An evaluation and update of this plan is recommended for consideration after five years of implementation.

Climate Action Plan Strategies

Below is a summary of the five sectors and twenty-two strategies included in this CAP.

BUILDINGS

- Reduce residential energy consumption
- Reduce commercial/industrial energy consumption
- Reduce public sector energy consumption
- Support electrification of all existing and new building stock
- Increase use of renewable energy

TRANSPORTATION

- Reduce GHG emissions from vehicles
- Build a strong public transit system
- Improve walkability and bikeability of Sterling Heights
- Reduce GHG emissions from municipal vehicle fleet

WASTE

- Provide community-wide waste diversion education
- Reduce organic waste community-wide
- Reduce waste from municipal facilities
- Reduce waste at city-run community events

NATURAL RESOURCES

- Increase carbon sequestration potential of public and private lands
- Promote and incentivize the use of native plants to enhance local biodiversity
- Improve city-wide stormwater infrastructure
- Improve natural systems resiliency to current and projected climate conditions
- Improve native landscape connectivity in urban spaces

PUBLIC HEALTH

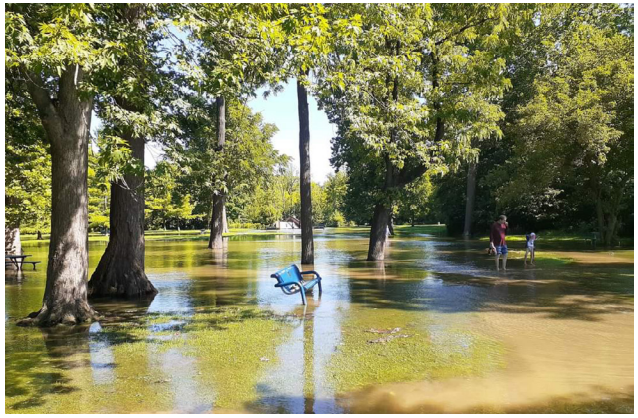
- Build community resilience to extreme heat and weather events
- Support local food production and urban agriculture
- Strengthen neighborhoods and communities within Sterling Heights
- Reduce use/occurrence of harmful chemicals in Sterling Heights

02
INTRODUCTION

Climate Change and Sterling Heights, Michigan

WHAT IS CLIMATE CHANGE?

Climate change refers to long-term shifts in weather patterns and rising global temperatures, driven largely by human activities like burning fossil fuels, deforestation, and industrial processes that emit heat-trapping greenhouse gases (GHGs). These gases, including carbon dioxide (CO_2), methane (CH_4), and nitrous oxide (N_2O), trap heat from the sun and intensify the natural greenhouse effect. The increased concentrations of GHGs have accelerated temperature rises, resulting in profound changes across the Earth's atmosphere, oceans, cryosphere, and biosphere. The disruption of ecosystem health in conjunction with intensified natural disasters and extreme weather events pose significant challenges to infrastructure, public health, and economic stability.



CLIMATE CHANGE IN STERLING HEIGHTS

The City of Sterling Heights, nestled in the southeast region of the Michigan Mitten, experiences a unique climate influenced by its proximity to the Great Lakes. The region's climate is characterized by hot summers, cold winters, and significant precipitation throughout the year. Climate trends indicate that Sterling Heights is already experiencing warmer temperatures, with both summer highs and winter lows projected to increase by the end of the century. In the Great Lakes Region, annual temperatures have increased by 2.3˚F between 1951 and 2017, and are projected to rise an additional 3˚F to 6˚F by 2050.[1]

In addition to average temperatures rising, the frequency of heat waves and number of days with dangerously hot temperatures each year are also increasing.[2] In 2024 alone, there were approximately 27 days above 90˚F; this number is expected to increase to 42 days over the next 30 years.[3] Summer nights are also becoming warmer, resulting in increasing air conditioning needs, utility costs, and health risks posed by climate change.

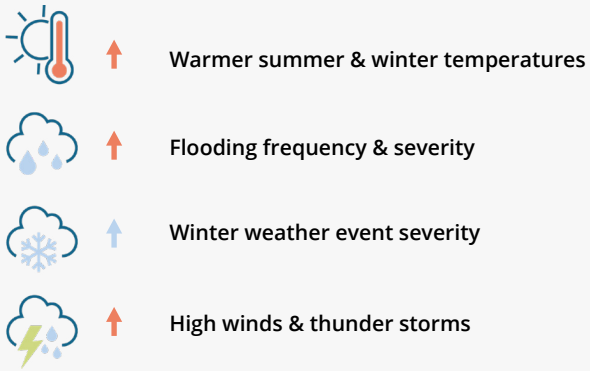


Figure 2. Graphical summary of projected climate change impacts to affect Sterling Height, MI

Climate change also impacts precipitation patterns in Sterling Heights. More frequent and intense precipitation is expected, with both an increase in over-all precipitation and an increase in the percent of precipitation that takes place during downpours.[4] Detroit-area 100-year storm events have increased by 14% since 1961, and 10-year storm events are forecasted to increase by 67% mid-century and 138% by late century.[5] This increase in flooding is projected to strain the City's aging infrastructure, increasing the risk of flooding. An estimated 8,134 properties, or 23% of all properties are estimated to be at risk of flooding over the next 30 years.[6] This expected increase in storm-related damage will impact residents, business owners, and the City of Sterling Heights, highlighting an urgency for investment in resilient infrastructure and flood mitigation measures.

In summary, Sterling Heights is experiencing significant changes in climate, including rising temperatures, increased precipitation, more extreme weather events, and the associated challenges to infrastructure and public health. The City must prepare for these changes to ensure the safety and well-being of its residents. By improving resource management, reducing emissions, and enhancing infrastructure, the City is positioning itself to lead by example in addressing climate challenges.

[1] Michigan Department Of Health And Human Services, "Michigan Extreme Heat."

[2] Michigan Department Of Health And Human Services, "Climate Effects On Health Extreme Heat And Heat-Related Illness."

[3] "Sterling Heights, Mi Extreme Heat Map And Heat Wave Forecast," Firststreet.org, First Street Technology, Inc., 2024, https://Firststreet.org/City/Sterling-Heights-Mi/2676460_/Heat.

[4] "Sterling Heights, Mi Top Climate Change Risks: Precipitation, Heat, Flood," Climatecheck.com, Climatecheck, Inc., N.d., https://Climatecheck.com/Michigan/Sterling-Heights.

[5] Authors Et Al., "Climate Change Preparedness Of Great Lakes Communities."

[6] First Street, "Sterling Heights Flooding Risk."

SOCIAL IMPACTS OF CLIMATE CHANGE IN STERLING HEIGHTS

Climate change is felt by everyone, but disproportionately affects disadvantaged populations with less resources to cope with its impacts. Populations most vulnerable to the impacts of climate change in Sterling Heights include low-income communities, the elderly, outdoor workers, those with pre-existing conditions, those with limited English proficiency, women who are pregnant, and other marginalized populations. These groups often lack the resources, infrastructure, and social support systems necessary to effectively respond to and recover from the impacts of climate change. As a result, climate change worsens existing social inequalities and increases the overall vulnerability of these populations.

Existing social vulnerabilities in Sterling Heights include high asthma rates, income disparities, educational disparities, and language barriers.[8] These vulnerabilities are concentrated in several census tracts, compounding risks for many residents. These interconnected challenges make certain populations in Sterling Heights more susceptible to the impacts of climate change, such as worsening air quality, job losses in climate-sensitive sectors, and rising costs resulting from factors such as natural disasters, supply chain disruptions, and increases in utility bills.

Climate change is expected to exacerbate these vulnerabilities, particularly affecting the City's aging population and socially isolated groups. As the population ages and extreme weather events become more common, the need for targeted interventions to protect the most vulnerable becomes more urgent. Addressing these challenges through community-wide climate action, which will improve air quality and reduce pollution, offers Sterling Heights an opportunity to enhance public health and create a more sustainable environment for all residents.

Most pressing vulnerabilities in Sterling Heights: asthma rates, income disparities, education disparities, and language barriers

Populations who are the most vulnerable to climate change: low-income communities, those with pre-existing conditions, women who are pregnant, the elderly, children, and outdoor workers

Figure 3. Social Vulnerabilities in Sterling Heights[7]

[7] Michigan Department Of Health And Human Services, "Michigan Extreme Heat."

[8] Michigan Department Of Health And Human Services, "Climate Effects On Health Extreme Heat And Heat-Related Illness.

CLIMATE ACTION IN STERLING HEIGHTS: DOING OUR PART

The United States has cumulatively emitted more GHG emissions since the industrial revolution than any other county.[9] Emissions per capita in the US were 14.3 tons in 2023, while the global average was estimated to be 4.7 tons per capita.[10] Additionally, 70% of GHG emissions take place in cities, and with the ability to shape local policies and infrastructure, cities in highly urban areas such as Sterling Heights are well positioned to take action to reduce GHG emissions.[11] Finally, as the fourth largest city in Michigan, the City of Sterling Heights is well-positioned to contribute to reducing GHG emissions on a state level and is a necessary participant in the State of Michigan's 2050 carbon neutral goals.

Baseline Greenhouse Gas Emissions Inventory Summary

A baseline GHG emissions inventory is a foundational tool for community climate action, enabling informed decision-making, goal setting, and strategic planning to effectively reduce GHG emissions. Prior to the development of this plan, the City of Sterling Heights worked with the International Council for Local Environment Initiatives (ICLEI) to conduct a Scope 1 and 2 baseline GHG emissions inventory for calendar year 2022. This inventory estimated GHG emissions for both the community as a whole and for the City as an organization, following internationally accepted standards for GHG emissions inventories. To learn more about the baseline GHG emissions inventory, please see the full report at Sterling Heights 2022 Community Wide Greenhouse Gas Emissions.

HOW MUCH IS A METRIC TON OF CARBON DIOXIDE EQUIVALENT?

Greenhouse gas emissions are commonly quantified in units of metric tons of carbon dioxide equivalent, which can be difficult to conceptualize, as greenhouse gas emissions are typically unseen by the physical eye. One metric ton is equal to 2,204.6 pounds. Physically, one metric ton of gaseous CO_2 at standard atmospheric temperature and pressure would occupy a 27ft x 27ft x 27ft cube, as visualized in Figure 4. For reference, a three-story building is approximately 27 ft tall. In 2022, Sterling Heights' total emissions were 1,999,505 metric tons of CO_2e. Per capita emissions in Sterling Heights were 15 metric tons per capita, or 1.25 metric tons per capita per month.

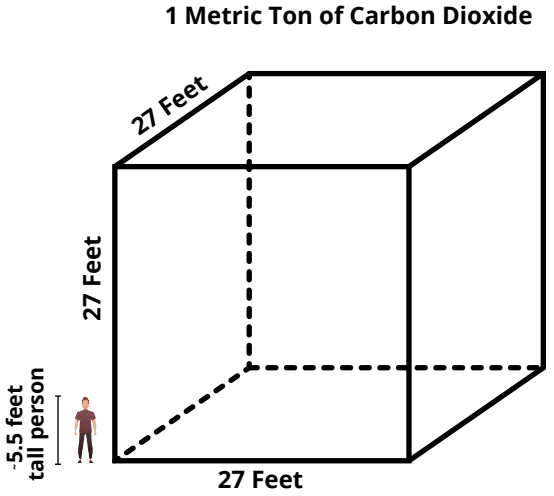


Figure 4. One Metric Ton of CO_2e Visualized

[9] "Analysis: Which Countries Are Historically Responsible for Climate Change?"

[10] "Per Capita CO_2 Emissions"; Statista, "Average per Capita Carbon Dioxide Emissions Worldwide from 1960 to 2023."

[11] World Bank, "Cutting Global Carbon Emissions: Where Do Cities Stand?"

2022 COMMUNITY-WIDE GHG EMISSIONS INVENTORY RESULTS

The total for 2022 community-wide GHG emissions was 2 million metric tons of carbon dioxide equivalent (CO_2e). The top contributing sectors were industrial energy (29%), followed by residential energy (25%), transportation (24%), and commercial energy (16%). The remaining 6% of community-wide emissions were comprised of solid waste, water and wastewater, and fugitive emissions from natural gas distribution.

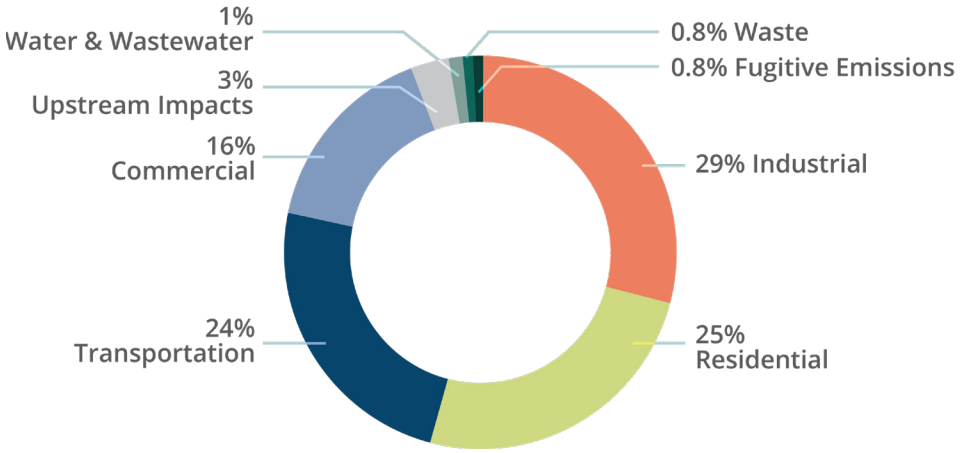


Figure 5. Sterling Heights 2022 Community-Wide GHG Emissions by Secor

2022 LOCAL GOVERNMENT OPERATIONS GHG EMISSIONS INVENTORY RESULTS

The total for 2022 local government operations GHG emissions was 13,312 metric tons of CO_2e. 37% of these GHG emissions resulted from energy used in buildings and facilities. The vehicle fleet was the second highest contributing sector at 20%, followed by streetlights and traffic signals at 15%, and transit fleet at 10%. The remaining portion of GHG emissions from municipal operations were comprised of fugitive emissions, employee commute, solid waste facilities, water and wastewater, and electric power production. All municipal operations combined account for 0.7% of community-wide GHG emissions.

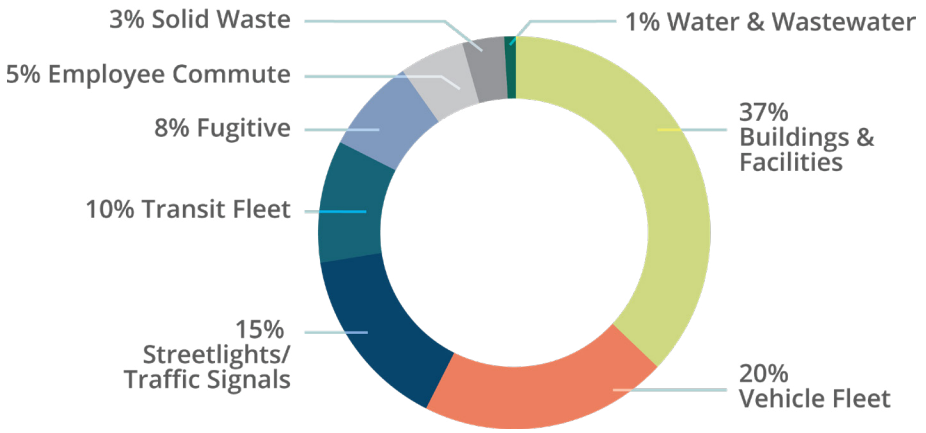


Figure 6. Sterling Heights 2022 Local Government Operations GHG Emissions by Sector

Plan Development Process and Engagement

This plan is the product of more than six months of close collaboration between City staff, sustainability professionals, the Sustainability Commission, and the Sterling Heights community. Throughout the planning process, the project team actively gathered and incorporated input from stakeholders throughout the community to ensure the plan reflects diverse perspectives and addresses community needs.

Figure 7. CAP Engagement Timeline

Reading the CAP

The next five sections of this CAP provide ambitious targets, strategies, and actions to guide the City of Sterling Heights to net zero GHG emissions by 2050 while improving the city's resilience to the impacts of climate change. The content of this CAP represents the robust engagement and involvement of City staff and residents in Sterling Heights to customize strategies and actions for the City.

Each of the five sectors in this plan has one chapter in this document. There is one sub-section per strategy, with 1) an explanation of the strategy, 2) alignment with the Visioning 2040 strategies, and 3) a table detailing actions that comprise each strategy. This table uses the icons to indicate attributes of each action.

M **Mitigation**

Mitigation refers to actions that reduce or prevent the emission of GHG into the atmosphere and therefore lessen the City of Sterling Heights' impact on climate change.

A **Adaptation**

Adaptation refers to actions that improve the City's resilience to the already occurring impacts of climate change.

E **Promotes Equity**

This icon highlights actions that promote equity in Sterling Heights by ensuring all residents are resilient to the impacts of climate change and have access to a high quality of life.

P **Priority Action**

Priority actions have been identified by staff as the most important and obtainable to achieve within the first five years of CAP implementation.

S **Short-term Action**

Short-term actions are intended to be implemented within the first five years of CAP adoption. For ongoing or long-term programs, this icon indicates that the program is intended to begin within five years.

03 BUILDINGS

Buildings Overview

The buildings sector includes commercial, industrial, and residential buildings in Sterling Heights, with municipal buildings accounting for 1.5% of commercial energy-related GHG emissions. Given that buildings contribute 70% of community-wide greenhouse gas emissions, targeted strategies in this sector present a substantial opportunity to reduce emissions within City limits. Buildings are also where people live, work, and learn, therefore improving efficiency, comfort, and air quality in buildings has significant potential for improving quality of life for Sterling Heights residents.

The buildings sector of the CAP has two main priorities. The first is to reduce the amount of energy required to operate the buildings that we live, work, and learn in. Improving energy efficiency has the potential to significantly reduce energy costs for residents, businesses owners, and public sector entities. According to the EPA, over 30% of commercial energy consumption is wasted due to inefficiencies, which means that both energy costs and greenhouse gas emissions are much higher than necessary.[12] With increases in extreme heat events, building energy efficiency helps to ensure access to the energy we all need to stay cool and safe. Energy efficiency improvements can take many forms, including upgrading appliances, improving building structures, and designing buildings to require less energy.

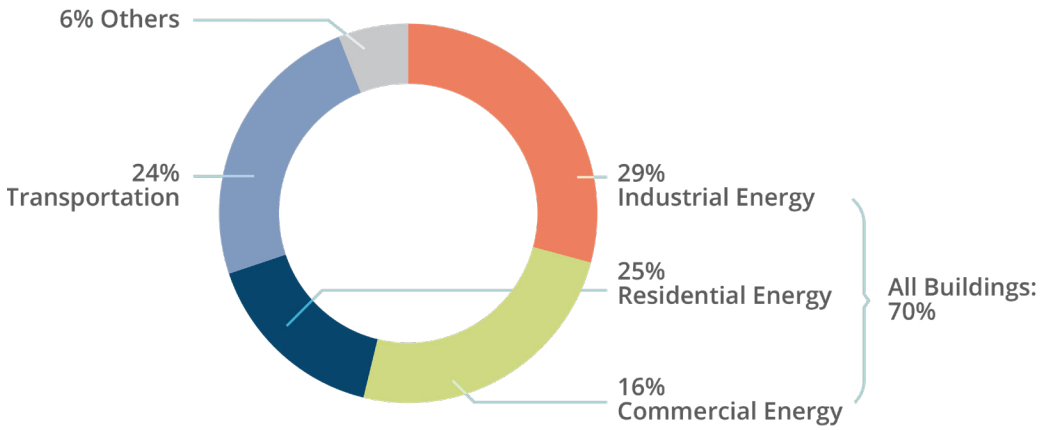


Figure 8. 2022 Community-Wide GHG Emissions

The second priority of the buildings sector is to source energy from renewable and sustainable sources. To reach net zero carbon emissions, over time, the City's energy needs to come from fully renewable sources. An important aspect of the energy transition is the electrification of equipment that currently combusts fossil fuels to operate. Electrification refers to a building's transition from use of fossil fuel-based energy sources (natural gas, propane, fuel oil) to electricity. Electrification includes replacing, or "fuel switching," various appliances and systems used for building heating and cooling, cooking, water heating, and transportation. An example of this is replacing a natural gas-combusting furnace with a heat pump. Electrification must be done in combination with transitioning to renewable energy to ultimately achieve net zero carbon emissions.

[12] DOE, "About the Commercial Buildings Integration Program."

Another key component of sourcing from renewable energy is to increase generation and storage of renewable energy within Sterling Heights. This could include harnessing the energy of the sun with solar panels and use of geothermal energy. This will help increase the energy resilience and independence of Sterling Heights' residents and businesses, for example during power outages, while maximizing efficiency of energy production. Estimates show that the rooftop solar potential in Sterling Heights' city limits is 1.63 million megawatt hours per year, which is greater than 2022 City-wide electricity consumption.[13] Storage of renewable energy will also be required to use energy when the sun is not shining, especially in the industrial sector where electricity is often needed throughout the night.

Getting to Net Zero by 2050

Figure 9 depicts one potential pathway to net zero buildings in Sterling Heights. The baseline efficiency of buildings ultimately determines the potential reduction in GHG emissions from energy upgrades and electrification. Michigan Public Act 235 requires the utilization of at least 50% renewable energy by 2030 and 60% by 2035 by electric providers in Michigan, which is represented in Figure 9 as "Added Renewables in Grid Electricity". In 2023, renewable energy made up approximately 12% of electricity provided by DTE. Building weatherization, electrification, and efficiency are estimated to have the potential to reduce baseline GHG emissions from buildings by over 40%. The remainder of the GHG emissions reductions in this scenario come from renewable energy production in Sterling Heights.

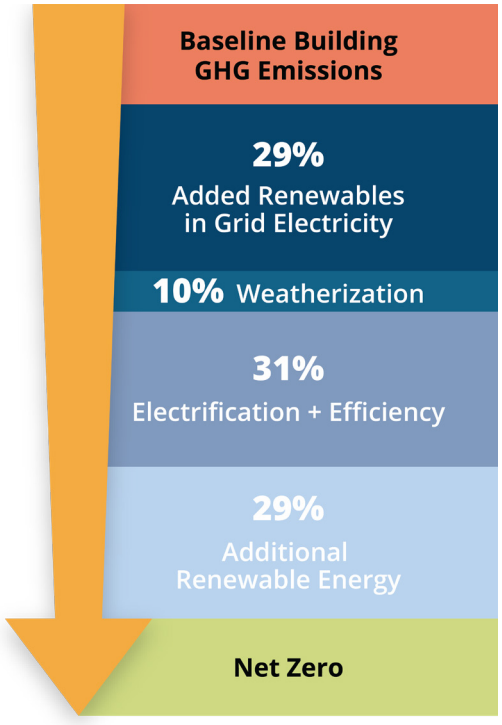


Figure 9. Potential Pathway to Net Zero Buildings

[13] DTE, "Fuel Mix."

Efforts Underway

The City of Sterling Heights has already recognized the importance of improving sustainability of buildings and the energy they use as detailed in the following table.

EFFORT NAME	SUMMARY	STATUS	OVERLAPPING SECTORS
Brownfield Redevelopment Authority	Allows private developers an opportunity to take advantage of tax incentives and grant programs to redevelop underutilized and/or obsolete properties. Redevelopment of brownfield sites aids in reducing ground contamination.	Ongoing	
Traditional Mixed Use Development Nodes	This allows for uses, development and redevelopment of property in a manner which is transformative and flexible. By encouraging mixed use development, the need for traveling via cars decreases.	Adopted	
North Van Dyke Avenue Master Plan	Adopted plan to improve Van Dyke Avenue corridor via smart growth principles, green infrastructure incentives encourage green buildings, green infrastructure, low impact design, and density.	Adopted	
Property Assessed Clean Energy (PACE)	PACE is a long-term financing tool available to commercial property owners to pay for renewable energy and energy and water efficiency upgrade.	Ongoing	
Municipal Lighting Efficiency Improvements	Replacement of streetlights, traffic signals, and parking lot lighting.	Completed	

Building CAP Targets

These GHG emissions reduction values assume that grid electricity will reach 50% renewable energy by 2030 and 60% renewables by 2035, in compliance with 2023 Michigan Public Act 235. The remainder of emissions reductions in these targets are assumed to come from the actions outlined in this plan.

METRIC	REDUCTION FROM 2022 BASELINE			
	2030	2035	2040	2050
Municipal Building GHG Emissions	50%	70%	100%	100%
Residential Building GHG Emissions	35%	60%	85%	100%
Commercial/Industrial GHG Emissions	45%	65%	85%	100%

ICON KEY

M Mitigation A Adaptation E Promotes Equity P Priority Action S Short-term Action

BUILDING SECTOR STRATEGIES AND ACTIONS

Strategy 1. Reduce residential energy consumption.

Visioning 2040 Guiding Principles Alignment:
Sustainability, Neighborhoods, Connected

Residential energy consumption is responsible for 25% of all community-wide GHG emissions. This strategy includes actions that provide education to the community on ways to improve efficiency of residential homes and to take advantage of free programs and incentives. Actions to improve residential energy efficiency can substantially reduce both residential greenhouse gas emissions and utility costs for residents in Sterling Heights. Actions under this strategy also aid in improving indoor air quality and improving resilience to extreme weather events.

ACTION	ACTION ID	ACTION ICONS	OVERLAPPING SECTORS
Evaluate opportunities to expand access to weatherization programs for low-income residents	B1.1	M A E P S	
Expand Go Green Grants Program	B1.2	M A E S	
Promote home energy analysis programs through Consumers Energy (free) and DTE (at cost)	B1.3	M A E P S	
Promote home energy efficiency improvement options, financing mechanisms, and utility savings potential	B1.4	M A E P S	
Encourage energy efficiency improvements in rental properties	B1.5	M A E S	
Inform Housing Commission of opportunities for and benefits of improving energy efficiency	B1.6	M A E S	

Strategy 2. Reduce commercial/industrial energy consumption.

Visioning 2040 Guiding Principles Alignment:
Sustainability, Business Innovation, Connected

Commercial and industrial buildings account for 45% of total greenhouse gas emissions in Sterling Heights. This strategy focuses on supporting Sterling Heights business owners in enhancing the energy efficiency of their buildings and maximizing their use of available resources and incentives. Implementation of this strategy has the potential to strengthen local businesses by reducing energy costs while reducing city-wide energy demand and GHG emissions.

ACTION	ACTION ID	ACTION ICONS	OVERLAPPING SECTORS
Develop an educational campaign to help business owners understand benefits of energy efficiency improvements, electrification, and use of green infrastructure strategies	B2.1	M A E P S	
Promote financial incentives and building energy audit programs (e.g. RESTART, utility programs, Michigan SAVES, PACE)	B2.2	M A P S	
Launch incentives for commercial/industrial energy and water benchmarking and efficiency improvements	B2.3	M A S	
Encourage the use of cool roofing materials with high solar reflectance for new constructions and roof replacements	B2.4	M A	

Strategy 3. Reduce public sector energy consumption.

Visioning 2040 Guiding Principles Alignment: Sustainability, Public Safety

The City of Sterling Heights as an organization intends to lead by example in reducing GHG emissions from its buildings. Actions in this strategy have the potential to reduce public dollars needed for building operation while improving the comfort of public buildings. By taking advantage of programs that help improve building energy performance, the City of Sterling Heights can set a strong precedent for other public sector entities in the City and demonstrate effective strategies for building efficiency improvements to local commercial building owners and residents.

ACTION	ACTION ID	ACTION ICONS	OVERLAPPING SECTORS
Complete free energy audits through RESTART Program in municipal buildings	B3.1	M A S E P	
Implement priority energy efficiency recommendations in municipal buildings	B3.2	M A S	
Individually meter municipal buildings for more granular consumption tracking	B3.3	M S	
Benchmark all municipal buildings annually	B3.4	M S	
Publish annual data on changes in municipal building energy costs, consumption, and greenhouse gas emissions	B3.5	M S	
Establish a process for reviewing new construction and renovation projects to ensure incorporation of measures to minimize long-term greenhouse gas emissions	B3.6	M S	
Inform public schools of opportunities and benefits of improving energy efficiency	B3.7	M A E S	

Strategy 4. Support electrification of all existing and new building stock.

Visioning 2040 Guiding Principles Alignment: Sustainability, Neighborhoods, Business Innovation

Building electrification seeks to replace fossil fuel-based equipment, such as furnaces, with electric alternatives, like heat pumps. In 2022, natural gas consumption in buildings accounted for a quarter of Sterling Heights' community-wide greenhouse gas emissions, making the transition from natural gas to electricity crucial for achieving the City's climate action goals. As electricity is powered by more renewable energy sources, the emissions reduction potential from building electrification grows significantly. Building electrification also has the benefits of improving indoor air quality and reducing exposure to gas leaks.

ACTION	ACTION ID	ACTION ICONS	OVERLAPPING SECTORS
Promote local, state and federal incentives for electrification	B4.1	M E S P	
Launch a heat pump education campaign (or partner with local providers)	B4.2	M S P	
Provide building electrification support services	B4.3	M S	

Images provided from the Department of Energy website.

Strategy 5. Increase use of renewable energy.

Visioning 2040 Guiding Principles Alignment: Sustainability, Business Innovation

There are many potential avenues for increasing renewable energy production in Sterling Heights. This strategy includes actions to expand access to and adopt solar in the community by homeowners, renters, and business owners. Renewable energy production has the potential to improve energy resilience by providing power during outages, improve air quality, and reduce energy costs long-term. The City of Sterling Heights intends to lead by example by showcasing solar on City facilities.

ACTION	ACTION ID	ACTION ICONS	OVERLAPPING SECTORS
Install and showcase solar on City facilities	B5.1	M A S P	
Streamline the City's solar permitting process	B5.2	M A S P	
Pursue opportunities to advance solar adoption throughout the community (e.g. community solar programs, power purchase agreements (PPAs), and Community Choice Aggregation)	B5.3	M A S P	
Explore collaboration with DTE and Consumers Energy to install renewables within City boundaries	B5.4	M A	
Promote existing programs/finance mechanisms to help citizens install renewables and back-up storage	B5.5	M A S P	
Encourage installation of geothermal energy and/or other renewable energy sources	B5.6	M S	

04
TRANSPORTATION

Transportation Overview

Due to its proximity to Detroit and other metropolitan areas, Sterling Heights experiences high levels of commuter traffic as many residents travel to nearby cities for work, while employees from surrounding areas commute into Sterling Heights. With limited walkability and public transportation options, the City relies heavily on vehicles, making the transportation sector a key focus in this Climate Action Plan. With transportation making up 26% of baseline GHG emissions, the strategies and actions in this sector will be essential to reaching net zero GHG emissions goals. This sector aims to balance emission reduction efforts with accessible and safe transportation options.

The combustion of fossil fuels in vehicles produces not only greenhouse gases but also pollutants such as nitrogen oxides, particulate matter, and volatile organic compounds. These pollutants, especially in the presence of sunlight, react to form ground-level ozone, a major component of smog that impacts air quality.[15] In addition to on-road vehicles, nonroad sources like aircraft, construction equipment, recreational vehicles, and lawn equipment also contribute to local GHG emissions and air pollution. This pollution reduces the quality of air in Sterling Heights, affecting the health of all residents.

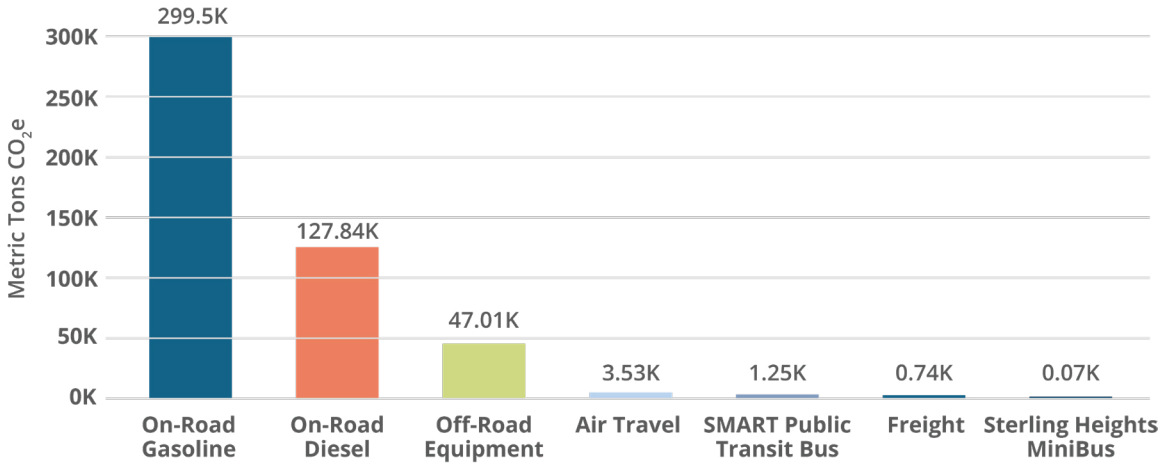


Figure 10. Sterling Heights 2022 Transportation GHG Emissions by

Vulnerable populations, including children, the elderly, and individuals with respiratory conditions, are particularly susceptible to the health impacts of air pollution. Studies show that residents, workers, and students near major roads experience higher rates and severity of respiratory issues due to prolonged exposure to vehicle emissions. According to the Climate & Economic Justice Screening Tool, three census tracts in Sterling Heights report asthma rates above the 90th percentile, highlighting the urgent need to address pollution in these areas.[16]

[15] US EPA, "Learn About How Mobile Source Pollution Affects Your Health."

[16] Council on Environmental Quality, "Climate and Economic Justice Screening Tool."

The transportation sector in this Climate Action Plan aims to reduce vehicle miles traveled, along with air pollution and greenhouse gas emissions from vehicles. Building a more sustainable transportation system includes expanding public transit options, creating safe, connected routes for walking and biking, promoting ridesharing, and transitioning from fossil-fuel-powered vehicles to those powered by renewable energy. In addition to reducing pollution, these strategies offer benefits to residents' quality of life by promoting outdoor exercise, improving community health, and fostering stronger social connections. Enhanced walkability and bikeability create a healthier, more interconnected community, aligning with the City's broader vision for a sustainable and resilient future.

Getting to Net Zero by 2050

Figure 11 represents one potential pathway to net zero transportation emissions in Sterling Heights. However, infrastructure changes and public interest in transportation modes such as public transportation, biking, and ridesharing, will shape the actual percentage reduction by action item.

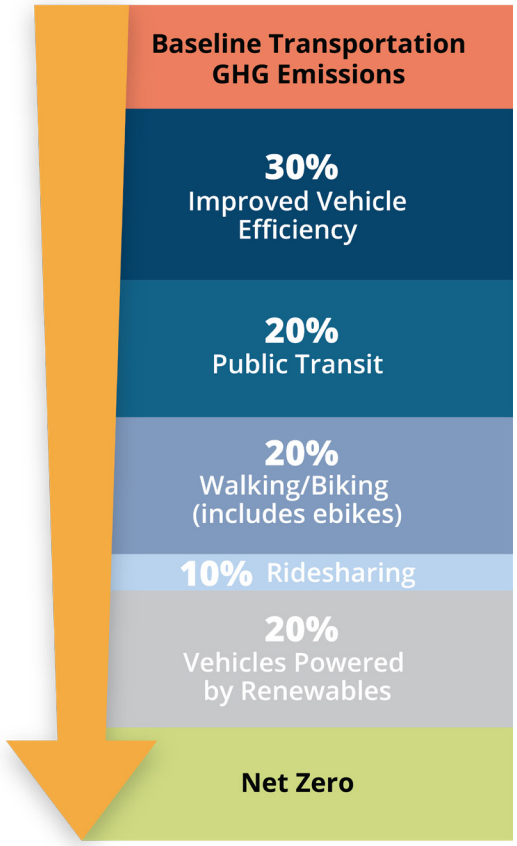


Figure 11. Potential Pathway to Net Zero Transportation

Efforts Underway: The City of Sterling Heights has already taken steps towards reducing GHG emissions from their municipal fleet, planning for electric vehicle charging stations, and providing walking paths for residents.

EFFORT NAME	SUMMARY	STATUS	OVERLAPPING SECTORS
Municipal Vehicle Fleet Improvements	The City has taken several steps to improve their municipal fleet efficiency, including developing a Fleet Steering Committee, utilizing fleet management software and emissions controls, and evaluating electric vehicles.	Continuous	
Pedestrian Infrastructure	The City implemented a shared use pathway along the ITC corridor, The City implemented a shared use pathway along the ITC corridor, connecting residents from the Clinton River Trail to the M-59 sidewalk. The City is installing connections to the Iron Belle Trail that runs from Belle Isle in Detroit to Northern Michigan. The City also installed a pedestrian island on 15 Mile Road. Sidewalk gap program utilized to fill in missing sidewalk.	Continuous	
Traffic Calming and Roadway Safety Pilot Program	The pilot program will focus on reducing speeding, improving pedestrian and bicyclist safety, and increasing overall traffic flow efficiency.	Continuous	
Comprehensive Transportation Safety Action Plan	City of Sterling Heights is developing a Safety Action Plan to serve as a framework for improving safety on the transportation network by eliminating the number of fatal and serious injuries with the ultimate goal of achieving Vision Zero.	Ongoing	
SMART Transit Services	SMART buses provide two routes within Sterling Heights, and partner with the senior center to provide free transportation services to seniors and disabled residents.	Operating Program	
City of Sterling Heights EV Charging Station Master Plan	This plan, published in 2022, provides recommendations for electrification policy updates, ordinance and zoning updates, and public education to expand EV charging.	Published	
EV Pilot	The City purchased 5 EV's that are being piloted by various city departments. The City also purchased an EV specifically for the Police Department to serve as a pursuit vehicle.	Ongoing	

Transportation CAP Targets

METRIC	REDUCTION FROM 2022 BASELINE			
	2030	2035	2040	2050
Vehicle Miles Traveled	2%	5%	10%	30%
Transportation GHG Emissions	10%	35%	50%	100%
Municipal Vehicle Fleet GHG Emissions	15%	30%	60%	100%

ICON KEY

M Mitigation A Adaptation E Promotes Equity P Priority Action S Short-term Action

TRANSPORTATION SECTOR STRATEGIES AND ACTIONS

Strategy 1. Reduce residential energy consumption.

Visioning 2040 Guiding Principles Alignment:
Sustainability, Public Safety, Mobility, Connected

This strategy prioritizes reducing vehicle miles traveled across the community, alongside developing infrastructure to support electric vehicles. With 73.8% of Sterling Heights residents commuting alone by car,[17] promoting ridesharing and alternative transportation options offers an effective way to decrease the number of vehicles on the road. These actions will provide more sustainable, accessible transportation options and reduce reliance on single-occupancy vehicles. The benefits include lower air pollution, reduced transportation costs, and decreased vehicle congestion within Sterling Heights.

ACTION	ACTION ID	ACTION ICONS	OVERLAPPING SECTORS
Develop infrastructure to support electric vehicles adoption and use	T1.1	M	
Promote ridesharing, carpooling, and alternative transportation options	T1.2	M E S P	
Explore pathways such as lobbying to designate M53 and M59 as EV corridors to enable funding eligibility	T1.3	M S	
Explore hybrid telework options for City employees	T1.4	M S	

[17] United States Census Bureau, "Commuting Characteristics by Sex."

Strategy 2. Build a strong public transit system.

Visioning 2040 Guiding Principles Alignment: Sustainability, Public Safety, Mobility, Connected

This strategy is strongly connected to Strategy 1. Public transit is an important part of sustainable and equitable transportation systems. This strategy seeks to both improve options for public transportation within Sterling Heights and from Sterling Heights to other nearby cities. This strategy also includes promoting ridership of current public transit options.

ACTION	ACTION ID	ACTION ICONS	OVERLAPPING SECTORS
Establish a City-owned transit system within Sterling Heights to provide reliable, thorough, and frequent transportation within Sterling Heights	T2.1	M E	
Develop a marketing campaign to promote transit ridership	T2.2	M E S	
Explore options to collaborate with SMART to expand service in Sterling Heights	T2.3	M E S P	
Install covered bus stop shelters with benches	T2.4	M E S	

Strategy 3. Improve walkability and bikeability of Sterling Heights.

Visioning 2040 Guiding Principles Alignment: Sustainability, Public Safety, Mobility, Distinctive Areas

City walkability and bikeability offer emissions-free transportation options that enhance public health and foster stronger community connections. This strategy promotes safe, accessible, and equitable transportation alternatives, while also encouraging pedestrian traffic to commercial areas, boosting the local economy. Additionally, improved walkability and bikeability can make Sterling Heights more attractive for tourism and an appealing destination for new residents.

ACTION	ACTION ID	ACTION ICONS	OVERLAPPING SECTORS
Expand pedestrian and bike paths and lanes to provide adequate connectivity between residential and commercial areas	T3.1	M P	
Install accessible pedestrian signals along routes for designated walking	T3.2	M E	
Reevaluate non-motorized transportation policy	T3.3	M	
Prioritize mixed use development	T3.4	M A S	

Strategy 4. Reduce GHG emissions from municipal vehicle fleet.

Visioning 2040 Guiding Principles Alignment: Sustainability, Public Safety

The City of Sterling Heights has already made progress in planning for a more efficient and low-emissions municipal vehicle fleet. This strategy aims to continue and expand the City's efforts to track emissions from fleet vehicles, adjust fleet size, and increase the number of electric vehicles in the fleet.

ACTION	ACTION ID	ACTION ICONS	OVERLAPPING SECTORS
Develop system to monitor and minimize idling in non-emergency vehicles	T4.1	M S	
Develop a municipal vehicle replacement policy to replace ICEV vehicles with electric, hybrid, or other renewable energy-using vehicles where replacements are available and effective	T4.2	M S P	
Continue to monitor and adjust fleet size for maximum efficiency	T4.3	M S	
Establish system to prioritize use of most efficient fleet vehicles	T4.4	M S	
Utilize fleet management software to monitor costs and savings of fleet improvements	T4.5	M S	
Include consideration of contractor sustainability efforts in bidding process for lawn maintenance	T4.6	M S	

05
WASTE

Waste Overview

Though waste in Sterling Heights makes up less than one percent of community-wide GHG emissions, reducing the amount of waste sent to the landfill is an important part of resource stewardship. Throughout the public engagement portion of the development of this Climate Action Plan, residents consistently voiced a desire for more waste diversion opportunities such as recycling and composting.

This sector outlines strategies and actions to increase participation in the City's universal curbside recycling program, develop options for diverting organic waste from landfills, and enhance waste collection and diversion at large City events. It also emphasizes reducing waste from municipal facilities, setting a strong example for effective waste management across Sterling Heights. While waste reduction has a limited impact on the City's Scope 1 and 2 GHG emissions, it can significantly reduce Scope 3 emissions associated with the production and transportation of goods. Improved resource stewardship, reuse and repair of goods, and higher recycling rates can further lessen Sterling Heights' overall climate impact.

Efforts Underway: The City of Sterling Heights has already recognized the importance of reducing waste and increasing recycling and reuse throughout the City.

EFFORT NAME	SUMMARY	STATUS	OVERLAPPING SECTORS
Universal Curbside Recycling	The City of Sterling Heights established a residential curbside recycling program in 2024 that will be available to all residents. Residents have been provided with appropriate recycling bins and educational materials.	Adopted	
Waste Management Guide and Policy Toolkit	A Fellow from the University of Michigan assessed Sterling Heights' food waste flows to assist in the development of 1) a food waste reduction policy toolkit and 2) a food waste management guide for local grocery stores.	Complete	
Waste Collection Events	Sterling Heights' department of Public Works holds annual events collecting household hazardous waste, paint, electronics, shredded materials, lumber, dirt, tires, and furniture to prevent these from ending up in landfills.	In effect annually	

Waste CAP Targets: Though a majority of waste can be diverted from landfills through recycling, composting, re-purposing, and other waste diversion strategies, it may not be feasible to reduce emissions from landfills by 100%, especially as the City of Sterling Heights does not own or control the landfill that community waste goes to. The annual carbon sequestration from trees in Sterling Heights is estimated to be higher than the GHG emissions from the remaining 20% of waste, enabling the City to still reach net zero emissions by 2050, even with some emissions from waste.

METRIC	REDUCTION FROM 2022 BASELINE			
	2030	2035	2040	2050
Community GHG Emissions from Landfills	10%	20%	40%	80%

ICON KEY

M Mitigation A Adaptation E Promotes Equity P Priority Action S Short-term Action

WASTE SECTOR STRATEGIES AND ACTIONS

Strategy 1. Provide community-wide waste diversion education

Visioning 2040 Guiding Principles Alignment:
Sustainability, Enriched Living

The City of Sterling Heights currently operates a universal residential curbside recycling program, and through promoting this program and providing community recycling education, recycling rates have the potential to increase while contamination rates may decrease.

ACTION	ACTION ID	ACTION ICONS	OVERLAPPING SECTORS
Provide waste diversion resources and progress on the City's website and to new residents and business entities	W1.1	M S P	
Utilize recycling data to target delivery of educational materials to most needed areas	W1.2	M E P	

Strategy 2. Reduce organic waste citywide.

Visioning 2040 Guiding Principles Alignment:
Sustainability, Enriched Living

This strategy aims to reduce food waste in Sterling Heights and increase composting instead of landfill disposal. With 78.8% of housing in Sterling Heights being single-family homes,[18] backyard composting offers an effective way to divert organic waste without transportation emissions, reduce contamination, and provide residents with compost for their gardens. Additionally, drop-off sites and local compost processing can support apartment-dwelling residents interested in composting, further minimizing landfill waste.

ACTION	ACTION ID	ACTION ICONS	OVERLAPPING SECTORS
Conduct a community-wide food waste assessment	W2.1	M S	
Develop community education campaign targeting food waste reduction	W2.2	M	
Seek opportunities to partner with and support food charity and food rescue organizations to utilize unused food	W2.3	M E S	
Provide backyard composting education and equipment to residents who live in single-family homes	W2.4	M S	
Build capacity to process collected compost in Sterling Heights	W2.5	M	
Establish compost drop-off locations	W2.6	M	

[18] "Explore Census Data," Census.gov, United States Census Bureau, 2024, https://data.census.gov/table/ACSST1Y2023.S1101?q=housing%20sterling%20heights.

Strategy 3. Reduce waste from municipal facilities.

Visioning 2040 Guiding Principles Alignment:
Sustainability, Public Safety

This strategy aims to reduce waste from municipal facilities by minimizing landfill contributions and decreasing the need for new equipment purchases or disposal. These actions can lower departmental costs, improve the accuracy of facility GHG emissions data, and demonstrate effective waste reduction practices to the community.

ACTION	ACTION ID	ACTION ICONS	OVERLAPPING SECTORS
Introduce an interdepartmental equipment sharing program	W3.1	M S	
Develop a City staff education campaign to encourage recycling and resource conservation	W3.2	M S P	
Conduct a waste audit for all municipal facilities	W3.3	M S P	
Pilot composting through municipal facilities	W3.4	M S	
Explore options for purchasing gently used equipment before purchasing new	W3.5	M S	
Resell or donate unwanted equipment	W3.6	M S	

Strategy 4. Reduce waste at City-run community events.

Visioning 2040 Guiding Principles Alignment:
Sustainability, Enriched Living

The City of Sterling Heights hosts many community events that provide residents with opportunities to gather and support local businesses. Although some landfill diversion measures are in place, large events still generate waste that can be diverted. This strategy includes actions to enhance recycling collection, introduce composting, and promote reusable bags and containers to reduce reliance on single-use items. These efforts aim to minimize pollution from improperly disposed items like bags, cups, and containers. Additionally, providing water bottle refill stations and encouraging attendees to bring their own bottles can reduce plastic bottle waste while also helping reduce the risk of heat-related illnesses.

ACTION	ACTION ID	ACTION ICONS	OVERLAPPING SECTORS
Provide ample recycling bins throughout event spaces	W4.1	M	
Build capacity to collect and manage compost at events	W4.2	M	
Develop standards and incentives for recycling and waste minimization at Farmers Market	W4.3	M	
Work with event vendors to minimize unnecessary consumption and waste	W4.4	M S P	
Promote reusable container usage and discourage non-compostable single-use containers for food and beverage consumption	W4.5	M P	
Incentivize attendees bringing their own bags, water bottles, etc.	W4.6	M S	
Provide water fill stations at all large events	W4.7	M E	
Pilot a “zero-waste” event	W4.8	M	

06

NATURAL RESOURCES

Natural Resources Overview

Natural resources in Sterling Heights play a key role in supporting a sustainable, healthy, and vibrant community. The City offers dozens of parks, trails, and recreational areas for residents and visitors to enjoy, including over nine miles of canoeing and kayaking along the newly revitalized Clinton River. These natural areas contribute to residents' well-being by offering spaces for outdoor activities, relaxation, and community gathering. Additionally, these natural resources enhance the local ecosystem while making Sterling Heights an attractive place to visit and live.

Throughout the public engagement portion of this plan's development, residents expressed significant interest in further protecting, enhancing, and increasing the quantity of local parks and natural spaces in Sterling Heights. This sector includes strategies and actions to boost the quantity and quality of natural systems in Sterling Heights to improve resiliency to the impacts of climate change while sequestering carbon from the atmosphere, improving natural spaces for residents to enjoy, and providing more habitats to support a variety of plants and animals.

Initiatives throughout this sector also aim to reduce the intensity of the urban heat island (UHI) effect in Sterling Heights. The UHI effect is when the temperature of an urban area is consistently warmer than surrounding suburban and rural areas. This happens because cities have more heat-absorbing surfaces than suburban and rural areas and less vegetation/trees. The lack of vegetation and high density of buildings trap heat in place, creating a heat island around the City even after the sun has set. The UHI effect poses a significant public health risk, especially for vulnerable populations. This can be lessened through increasing City tree canopy coverage and other vegetation, as well as through intentional City planning.

Finally, this sector of the CAP aims to address severe flooding, a climate risk that Sterling Heights is already experiencing. Many actions that the City and its residents can take to enhance resilience to flooding, such as integrating green infrastructure, not only mitigate flood impacts but also support local ecosystems, sequester carbon, and help reduce the UHI effect.

Efforts Underway: The City of Sterling Heights has already recognized the importance of improving natural resource management and enhancing the local ecosystem through the following efforts.

EFFORT NAME	SUMMARY	STATUS	OVERLAPPING SECTORS
SHURI – Sterling Heights Urban Reforestation Initiative	This initiative aims to increase the City's tree canopy coverage.	Ongoing	
Inspiring Green	This initiative awards residents, organizations, and businesses for efforts in enhancing community resilience and preserving/improving green spaces.	Ongoing	Energy
City Tree Preservation Ordinance	This is a regulation that preserves trees and promotes canopy health in or upon public highways and public places.	In effect	
Rain Barrel Project - part of Think Sterling Green	Sterling Heights provided 400 free 58-gallon rain barrels to residents.	Completed	
Stormwater Management Plan	The City of Sterling Heights Stormwater Management Standard provides guidance on stormwater run-off management, landscaping, and maintenance best practices.	Adopted	
Clinton River Corridor Habitat Restoration Project - native species preservation	The Clinton River Corridor Habitat Restoration Project was initiated to improve habitat diversity, accommodate a wide range of river flows, and resolve bank erosion issues impairing the habitat.	Completed	
Pathway to Play and Preservation – Properties for Conservation	Residents approved a millage proposal to purchase properties for the propose of conservation.	Ongoing	
Community Garden	A community garden is being constructed a Nelson Park where residents will have the opportunity to grow produce.	Ongoing	

Natural Resources CAP Targets:

METRIC	2022 Baseline	2030	2035	2040	2050
Percent Tree Canopy Coverage	19%	21%	25%	30%	40%

ICON KEY

M Mitigation A Adaptation E Promotes Equity P Priority Action S Short-term Action

NATURAL RESOURCES SECTOR STRATEGIES AND ACTIONS

Strategy 1. Increase carbon sequestration potential of public and private lands.

Visioning 2040 Guiding Principles Alignment:
Sustainability, Distinctive Areas, Neighborhoods

As flooding events in Sterling Heights become more frequent and severe, improving stormwater infrastructure and management practices is increasingly important. This strategy promotes the integration of green infrastructure into City planning and explores the feasibility of a stormwater utility and a waterway/wetland buffer preservation ordinance. Together, these actions aim to enhance the City's resilience to flooding, reduce stream erosion management costs, and improve the overall health of local ecosystems.

ACTION	ACTION ID	ACTION ICONS	OVERLAPPING SECTORS
Increase tree canopy coverage in Sterling Heights	NR1.1	M A S P	
Purchase land for conservation and green space development	NR1.2	M A	
Promote biodiverse carbon sequestration projects	NR1.3	M	
Draft legislation to allow for flexible planting of native vegetation in residential areas (front yard planting, flexibility in plant height, etc.)	NR1.4	M A S	

Strategy 2. Promote and incentivize the use of native plants to enhance local biodiversity.

Visioning 2040 Guiding Principles Alignment:
Sustainability, Distinctive Areas, Neighborhoods

This strategy aims to expand the use and diversity of native plants in Sterling Heights by incorporating them into municipal parks, facilities, residential areas, and roadsides. Native plants help sequester carbon, support local pollinators, improve native habitats, and enhance the beauty and ecological health of natural spaces.

ACTION	ACTION ID	ACTION ICONS	OVERLAPPING SECTORS
Expand the integration of native plants and shrubs in landscaping of municipally owned parks and gardens	NR2.1	M A S P	
Ensure the incorporation of native plant species in development plan review process	NR2.2	A S	
Collaborate with county and state to integrate a broader range of native vegetation into roadsides, medians and utility easements to linearly connect fragmented habitats	NR2.3	A	
Highlight native plants in Annual Beautification Awards	NR2.4	M A S P	

Strategy 3. Improve citywide stormwater infrastructure.

Visioning 2040 Guiding Principles Alignment:
Sustainability, Enriched Living, Connected

As flooding events in Sterling Heights become more frequent and severe, improving stormwater infrastructure and management practices is increasingly important. This strategy promotes the integration of green infrastructure into City planning and explores the feasibility of a stormwater utility and a waterway/wetland buffer preservation ordinance. Together, these actions aim to enhance the City's resilience to flooding, reduce stream erosion management costs, and improve the overall health of local ecosystems.

ACTION	ACTION ID	ACTION ICONS	OVERLAPPING SECTORS
Explore feasibility of adding a City stormwater utility	NR3.1	A S	
Develop a residential education campaign to promote sustainable landscaping and stormwater management strategies	NR3.2	M A S P	
Provide incentives for businesses and residents to utilize practices that positively contribute to stormwater management	NR3.3	A S	
Develop upstream inter-city/county collaboration to improve resiliency from erosion and stream sedimentation	NR3.4	M A	
Prioritize innovative integration of green infrastructure in City planning (ex: wetland restoration and innovative nature-based solution strategies in floodplain management)	NR3.5	A E	
Explore the adoption of waterway/wetland natural buffer preservation ordinance	NR3.6	A	

Strategy 4. Improve natural systems resiliency to current and projected climate conditions.

Visioning 2040 Guiding Principles Alignment:
Sustainability, Public Safety, Distinctive Areas

By strategically managing natural resources for biodiversity and resilience, Sterling Heights not only protects its natural assets but also strengthens its resilience through healthier, more reliable ecosystems. This strategy includes actions to diversify tree planting, remove invasive species, and regularly monitor the health and presence of local species.

ACTION	ACTION ID	ACTION ICONS	OVERLAPPING SECTORS
Develop an ecologically focused, succession-based native tree planting plan that prioritizes species diversity for long-term ecosystem health	NR4.1	M A S P	
Expand upon tree inventory to develop a full plant species inventory within public land to document and identify endemic, native species to protect and help develop an invasive species management plan	NR4.2	M A S	
Create invasive species educational campaigns for residents and recreational space users	NR4.3	M A S P	
Host volunteer-run invasive plant removal	NR4.4	M S P	
Explore options for developing a system to evaluate public land alterations and quantify ecological benefits of green spaces	NR4.5	M	

Strategy 5. Improve native landscape connectivity in urban spaces.

Visioning 2040 Guiding Principles Alignment:
Sustainability, Distinctive Areas, Neighborhoods, Connected

By linking patches of native plants and green spaces, the City can provide continuous habitats for wildlife, facilitate pollinator movement, and help manage stormwater. These connected landscapes also reduce the urban heat island effect, improve air and water quality, and sequester carbon. This strategy also has the potential to enhance residents' access to natural areas and improve the aesthetic of urban areas within Sterling Heights.

ACTION	ACTION ID	ACTION ICONS	OVERLAPPING SECTORS
Utilize small City-owned parcels for conservation development	NR5.1	M A	
Collaborate with public schools to provide opportunities for local ecosystem education	NR5.2	M A E	
Establish conservation easements through collaboration with landowners to connect valuable natural areas	NR5.3	M	
Integrate native habitat connectivity into zoning regulations	NR5.4	M A	
Prioritize suitable endemic/native species within landscaping restoration programs to enhance ecosystem resiliency	NR5.5	A S P	

07
PUBLIC HEALTH

Public Health Overview

Climate change and public health are intrinsically connected to one another. Each sector throughout this Climate Action Plan includes strategies and actions that positively affect public health through outcomes such as reducing air pollution and improving parks and trails for residents to enjoy. This sector of the plan includes a strong focus on building the community's resilience to the already increasing occurrences and severity of natural disasters and extreme weather. Additionally, this sector provides strategies and actions to improve food resiliency, strengthen community relationships and neighborhoods in Sterling Heights, and to reduce the use of harmful chemicals.

Efforts Underway

The City of Sterling Heights has already recognized the importance of improving and protecting the health of residents as related to climate change through the following activities.

EFFORT NAME	SUMMARY	STATUS	OVERLAPPING SECTORS
Dodge Park Farmer's Market	The market is run by the City. It enhances local fresh food access, supports local businesses, and encourages community congregation.	In effect each summer	
Hazard Mitigation Plan	The plan outlines hazard frequency and damage of event types along with mitigation strategies for Macomb County.	Complete	
Recreating Recreation in Sterling Heights	This initiative aims to improve recreation and community gathering spaces and to provide community spaces that are attractive and usable.	Complete	
Pathway to Play & Preservation	This funds reforestation, sidewalks, park improvements, land acquisition for open space, and a pickleball facility.	In effect	
Citizen Emergency Response Team (CERT)	This program trains volunteers who can be called into action when the City's professional responders have been overwhelmed by a massive number of emergency calls due to a widespread disaster or other incident.	In effect	

ICON KEY

M Mitigation A Adaptation E Promotes Equity P Priority Action S Short-term Action

PUBLIC HEALTH SECTOR STRATEGIES AND ACTIONS

Strategy 1. Build community resilience to extreme heat and weather events

Visioning 2040 Guiding Principles Alignment:
Public Safety, Sustainability, Neighborhoods

This strategy focuses on developing effective and streamlined systems to keep Sterling Heights residents safe during extreme heat and weather events. The Community Center and Library currently serve as shelter spaces, and adding solar panels (which would allow for power in the event of an outage), enhanced transportation options, and accessibility features can further improve their effectiveness. This strategy also aims to improve City communication channels during extreme weather events to help keep residents informed and safe.

ACTION	ACTION ID	ACTION ICONS	OVERLAPPING SECTORS
Establish net zero emissions community-wide resilience center(s)	PH1.1	A	
Ensure access to water bottle fill stations in public parks	PH1.2	A E	
Develop a program that focuses on preparing mobility-limited residents for safety in extreme weather events	PH1.3	A E	
Expand upon citizen emergency response team to prepare for increased extreme weather events and an aging population	PH1.4	A E S	
Utilize social media and City communication channels to promptly provide residents with necessary information during extreme weather events	PH1.5	A S P	

Strategy 2. Support local food production and urban agriculture.

Visioning 2040 Guiding Principles Alignment:
Sustainability, Public Safety, Enriched Living

Providing residents with opportunities to grow their own food has the potential to improve local food resilience, boost the amount of nutritious food residents have access to, and improve opportunities for residents to engage with one another and enjoy time outdoors. Additionally, processing locally collected compost can provide nutrient rich soil for local gardeners.

ACTION	ACTION ID	ACTION ICONS	OVERLAPPING SECTORS
Expand community garden options to meet community participation interest	PH2.1	A	
Process collected compost locally to provide nutrient-rich soil for gardening	PH2.2	A	

Strategy 3. Strengthen neighborhoods and communities within Sterling Heights.

Visioning 2040 Guiding Principles Alignment:
Neighborhoods, Enriched Living

This strategy aims to boost communication channels between residents and the City through collaboration with community-based organizations. There are many educational initiatives within this plan that strive to help improve residents' health and wellbeing while providing opportunities for residents to participate in actions that help the City reduce its contribution to climate change. Strengthening collaboration with community-based

ACTION	ACTION ID	ACTION ICONS	OVERLAPPING SECTORS
Establish a community ambassador program to aid in building community resiliency through delivering information to residents and gathering input from residents to continue informing climate action priorities	PH3.1	A	
Collaborate with community-based organizations and HOAs in development and implementation of climate action initiatives	PH3.2	A S	

Strategy 4. Reduce use/occurrence of harmful chemicals in Sterling Heights

Visioning 2040 Guiding Principles Alignment: Public Safety, Sustainability

The City of Sterling Heights currently utilizes alternative pest management strategies that are proven to be effective for local pest management. This strategy includes community education regarding pesticide use and promotion of the strategies currently used by the City. Additionally, this strategy includes an action to further adopt integrated pest management (IPM) strategies. IPM includes the adoption of action thresholds to determine at what point intervention is necessary, accurate identification of pests that need to be managed, prevention measures that can avoid chemical use, and the evaluation of proper control methods.[19]

ACTION	ACTION ID	ACTION ICONS	OVERLAPPING SECTORS
Promote current alternative pest management strategies utilized by the City of Sterling Heights	PH4.1	A S	
Adopt cost effective integrated pest management (IPM) tools to effectively reduce pesticide use in City-owned property	PH4.2	A	
Provide education programs for residents on the harm of pesticide use on human health and environment	PH4.3	M A S	
Prohibit the use of harmful chemicals in community gardens	PH4.4	A S	

[19] United States Environmental Protection Agency, "Integrated Pest Management (IPM) Principles." https://www.epa.gov/safepestcontrol/integrated-pest-management-ipm-principles

08
APPENDICES

DEFINITIONS

Greenhouse gas (GHG) Emissions: Atmospheric gases that trap heat and contribute to the greenhouse effect, including carbon dioxide, methane, nitrous oxide, sulfur hexafluoride, perfluorocarbons, and hydrofluorocarbons.

Greenhouse Gas Emissions Inventory: A quantification of the GHG emissions produced by multiple sources throughout the municipality and the community during a set time period, which can be tracked by sector. The City of Sterling Heights has completed its first GHG emissions inventory, with the year 2023 as its baseline. Future inventories can be compared to the baseline level of emissions to measure reduction.

Community-wide emissions: GHG emissions produced through community activities. These include emissions associated with residential energy use, commercial energy use, industrial energy use, transportation, and waste.

Municipal emissions: GHG emissions resulting from activities and operations associated with the local government. These include energy use from buildings and facilities, fuel use by vehicles and equipment, and waste produced.

Scope 1 emissions: GHG emissions resulting from direct operations.

Scope 2 emissions: GHG emissions resulting from indirect consequences of operations.

Scope 3 emissions: GHG emissions resulting from indirect activities in the organization's value chain, not directly controlled by the organization

Decarbonization: Reducing the use of carbon-intensive practices to instead turn towards renewable and low-carbon sources of energy.

Carbon dioxide equivalent: A measurement comparing the amount of carbon dioxide associated with a certain activity to the impact on the warming climate of multiple greenhouse gases.

Mitigation Strategies: Actions that reduce or prevent the emission of GHG into the atmosphere and therefore lessen the City of Sterling Heights' impact on climate change.

Adaptation Strategies: Actions that improve the City's resilience to the already occurring impacts of climate change.

Sector: An area of focus within the climate action plan in which strategies and actions are designed to reduce greenhouse gas emissions and improve resilience to the impacts of climate change.

Strategy: A broad overarching pathway designed to achieve climate action objectives. Strategies are oriented towards long-term visions and goals and provide a degree of flexibility in how they will be achieved.

Action: Specific programs, projects, policies, and efforts that contribute to the overarching strategy. Actions are more targeted in scope than strategies and may evolve as new opportunities and technologies emerge.

Target: A tangible intermediate indicator, established to determine whether the current strategies and actions are facilitating the CAP goal being achieved.

Fugitive Emissions: Greenhouse gas emissions that result from unintentional leakage and distribution of natural gas.

Electrification: The replacement of carbon-intensive appliances and machinery with those that are powered by electricity, which reduces greenhouse gas emissions.

Carbon Dioxide Equivalent (CO_2e): A standard unit used to quantify the global warming potential of greenhouse gases. It expresses the impact of different gases in terms of the amount of CO_2 that would have the same global warming effect over 100 years using the IPCC Sixth Assessment Report global warming potential values.

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CLIMATE ACTION PLAN STRATEGIES & ACTIONS MATRIX

STRATEGY	ACTION	ACTION ID	ACTION DESCRIPTION	CONSIDERATIONS FOR EQUITABLE IMPLEMENTATION
Reduce residential energy consumption	Evaluate opportunities to expand access to weatherization programs for low-income residents	B1.1	The current weatherization assistance programs have high demand and there is a waitlist of residents wishing to participate. Expanding the capacity of weatherization programs, whether through securing additional funding through the current program or through developing an additional program to help with low-income weatherization, would reduce energy consumption and energy bills for participants.	This action promotes equity through program marketing to low-income households in needed, especially in identified EJ communities.
	Expand Go Green Grants Program	B1.2	This was a program that provided up to $7,500 in energy improvements. Funding is currently not available.	This action provides income-based incentives, and therefore promotes equity. This program should be marketed strategically to reach low-income residents.
	Promote free home energy analysis program through Consumers Energy	B1.3	Home efficiency audits can help residents make informed decisions on actions to improve efficiency of their homes. Promoting Consumers Energy's free home energy analysis program may include providing information and resident testimonials on the City's website, providing information at public events such as the Farmers' Markets, promoting on social media, and partnering with organizations who may be able to reach additional residents to share additional information.	Renters are eligible to participate to learn about behavior changes and easy ways to improve efficiency in rentals.
	Promote home energy efficiency improvement options, financing mechanisms, and utility savings potential	B1.4	Residents may be unaware of the various ways that they can improve energy efficiency of their homes while lowering their utility bills. One option for achieving this action is hosting a webpage within the City of Sterling Heights' website with up-to-date options for residents to make home efficiency improvements. Additionally, providing information at community events, such as at the Farmers Market, could help reach more residents.	This action promotes equity through encouraging reasonable home efficiency and therefore energy bills.

CLIMATE ACTION PLAN STRATEGIES & ACTIONS MATRIX (CONT.)

STRATEGY	ACTION	ACTION ID	ACTION DESCRIPTION	CONSIDERATIONS FOR EQUITABLE IMPLEMENTATION
	Encourage energy efficiency improvements in rental properties	B1.5	Landlords often lack incentives to improve energy efficiency of rental properties when residents are responsible for paying utility bills. The City could strategically encourage improvements through the following: 1) provide landlords with financial incentives/assistance for energy efficiency upgrades; 2) develop a system for promoting existing rebate and financing mechanisms to landlords; 3) develop a tax credit for rental energy efficiency programs; 4) launch a green certificate program to certify energy efficient properties as determined by home energy audits, and assist landlords in promoting properties that are certified.	This action promotes equity through encouraging reasonable home efficiency and therefore energy bills.
	Inform Housing Commission of opportunities for and benefits of improving energy efficiency	B1.6	This action would include periodically reaching out to the Housing Commission to provide information and updates on available programs, incentives, etc. for making energy efficiency upgrades.	The Housing Commission's property, Schoenherr Towers, is public housing for those 62 or older.
Reduce commercial/ industrial energy consumption	Develop an educational campaign to help business owners understand benefits of energy efficiency improvements, electrification, and use of green infrastructure strategies	B2.1	This action provides an incentive-based route to improving energy efficiency in commercial and industrial buildings. This could include webinars, workshops, audits, etc.	The campaign can be promoted to small business owners, business owners who are part of disadvantaged groups, and non-profits.
	Promote financial incentives and building energy audit programs (e.g. RESTART, utility programs, Michigan SAVES, PACE)	B2.2	This action may be implemented through the use City communication channels to encourage use of programs, partnering with organizations that reach commercial and industrial entities (such as the Chamber of Commerce) to promote programs, or through the use of creative incentives such as competitions or recognition programs to encourage participation.	These incentives can be promoted to small business owners, business owners who are part of disadvantaged groups, and non-profits.
	Launch incentives for commercial/industrial energy and water benchmarking and efficiency improvements	B2.3	Incentive programs and/or competitions, such as "Battle of the Buildings", provide businesses with motivation, education, and the ability to market energy efficiency achievements and improvements. Incentive programs can help businesses understand how to invest in electrification, efficiency, and renewables to save money.	These incentives can be promoted to small business owners, business owners who are part of disadvantaged groups, and non-profits.

CLIMATE ACTION PLAN STRATEGIES & ACTIONS MATRIX (CONT.)

STRATEGY	ACTION	ACTION ID	ACTION DESCRIPTION	CONSIDERATIONS FOR EQUITABLE IMPLEMENTATION
	Encourage the use of cool roofing materials with high solar reflectance for new constructions and roof replacements	B2.4	Cool roofs reflect sunlight, causing buildings to absorb less solar energy, and reducing roof temperatures by more than 50 degrees F (https://www.energy.gov/energysaver/cool-roofs), therefore reducing building cooling costs. A potential pathway for implementing this action could be using cool roofing materials on municipal buildings and showcasing the benefits. Cool roofs may also be incentivized through tax credits, rebates, and/or grants.	These materials can be promoted to small business owners, business owners who are part of disadvantaged groups, and non-profits.
Reduce public sector energy consumption	Complete free energy audits through RESTART Program in municipal buildings	B3.1	RESTART offers free on-site energy and sustainability audits to public sector entities. The City may serve as a model by completing audits of all necessary municipal facilities, and sharing the process and benefits with other public sector entities in Sterling Heights.	N/A
	Implement priority energy efficiency recommendations in municipal buildings	B3.2	This action involves utilizing the recommendations from energy audits and knowledge from City staff to implement actions that have low to medium cost and high payback.	N/A
	Individually meter municipal buildings for more granular consumption tracking	B3.3	This will provide building-level energy consumption, costs, and fluctuation, providing insight on each buildings' energy performance.	N/A
	Benchmark all municipal buildings annually	B3.4	Benchmarking can be done through Portfolio Manager by Energy Star, which is a free tool which compares building energy performance to other buildings with similar use types, fuel mixes, and sizes. Benchmarking data is most valuable when buildings are individually metered. As improvements are made, annual benchmarking enables easy tracking and communication to the public about energy savings and progress made.	N/A
	Publish annual data on changes in municipal building energy costs, consumption, and greenhouse gas emissions	B3.5	This would likely take place in digital form on a dedicated page on the City's website. This may include a full report and/or a dashboard containing data visualizations to convey changes in data.	Ensure accessibility of published data; provide screen-reader friendly versions of data published

CLIMATE ACTION PLAN STRATEGIES & ACTIONS MATRIX (CONT.)

STRATEGY	ACTION	ACTION ID	ACTION DESCRIPTION	CONSIDERATIONS FOR EQUITABLE IMPLEMENTATION
	Establish a process for reviewing new construction and renovation projects to ensure incorporation of measures to minimize long-term greenhouse gas emissions	B3.6	This action ensures that alignment with the CAP is considered throughout new projects. Staff or other stakeholders with knowledge of building sustainability should be included in the established review process.	N/A
	Inform public schools of opportunities and benefits of improving energy efficiency	B3.7	This may include an educational campaign targeting schools, facilitated workshops, or providing connections between complimentary assistance programs and schools.	Prioritize partnering with schools with the lowest baseline of efficiency.
Support electrification of all existing and new building stock	Promote local, state and federal incentives for electrification	B4.1	Utilize city channels to share and promote various levels of incentives (including grants, rebates, tax credits, etc.) that support building electrification.	Ensure education materials provide details on incentives for low income households.
	Launch a heat pump education campaign (or partner with local providers)	B4.2	Develop and implement educational campaign to help business owners, residents, and other decision makers understand benefits, costs, paybacks, mechanisms, incentives, etc. of heat pumps.	Ensure education materials provide details on heat pump incentives for low income households.
	Provide building electrification support services	B4.3	This could include providing trainings for building owners and other professions on electric technologies and available pathways and incentives for electrifying buildings; providing electrification guides and toolkits; and providing rebates, tax credits, or other financial assistance for electrification.	Prioritize incentives for low-income households/participants
Increase use of renewable energy	Install and showcase solar on city facilities	B5.1	This would include first assessing which buildings are suitable for solar panels, prioritizing sites for installation, installing panels and potentially backup batteries, and then promoting the benefits of solar panels (such as the reduction in GHG emissions or payback period to encourage residents and business owners to consider solar).	Install on sites that can be used for community resilience during power outages, extreme weather events.
	Streamline the city's solar permitting process	B5.2	Evaluate and implement opportunities to streamline the city's solar permitting and inspection process to help enable solar installations. This may include providing clear guidelines, simple applications forms, expedited reviews, and reduced permit fees.	Consider prioritizing applications in low-income neighborhoods.

CLIMATE ACTION PLAN STRATEGIES & ACTIONS MATRIX (CONT.)

STRATEGY	ACTION	ACTION ID	ACTION DESCRIPTION	CONSIDERATIONS FOR EQUITABLE IMPLEMENTATION
	Pursue opportunities to advance solar adoption throughout the community (e.g. community solar programs, power purchase agreements (PPAs), and Community Choice Aggregation)	B5.3	Evaluate and implement actions to expand access to and adoption of solar in the community by homeowners, renters, and business owners.	Ensure programs allow participation by renters.
	Explore collaboration with DTE and Consumers Energy to install renewables within City boundaries	B5.4	DTE and Consumers Energy have net zero goals and will be deploying renewables to help meet these targets. There may be an opportunity to come together and deploy renewables in a manner and scale that benefits both parties.	Consider installations in low income neighborhoods.
	Promote existing programs/ finance mechanisms to help citizens install renewables and back-up storage	B5.5	This would entail providing access to resources and education on existing programs and incentives to help homeowners and business install renewables.	Ensure information contains details on incentives available to low income residents and small businesses.
	Encourage installation of geothermal energy and/or other renewable energy sources	B5.6	This action is meant to encourage the adoption of other viable renewable technologies beyond solar, where feasible. In addition, the City could evaluate if there are any permitting issues that prevent adoption of geothermal within city boundaries and determine if there are opportunities to clear up and streamline the permitting and inspection process.	Explore options for encouraging landlords/apartment owners to install renewables to make additional renewables to renters.
Reduce GHG emissions from vehicles	Develop infrastructure to support electric vehicles adoption and use	T1.1	This may include the installation of public and private EV charging stations, fast-charging hubs, and incentivizing businesses to install chargers.	Public charging station location has the potential to bring customers to local businesses. Chargers can be placed strategically to help boost local businesses.
	Promote ridesharing, carpooling, and alternative transportation options	T1.2	This action may be implemented via promoting existing ridesharing programs/lots, encouraging and incentivizing carpooling of city staff, and encouraging the development of new ridesharing programs.	Look for opportunities to increase ridesharing options areas with the highest concentration of low-income residents and multifamily buildings.

CLIMATE ACTION PLAN STRATEGIES & ACTIONS MATRIX (CONT.)

STRATEGY	ACTION	ACTION ID	ACTION DESCRIPTION	CONSIDERATIONS FOR EQUITABLE IMPLEMENTATION
	Explore pathways such as lobbying to designate M53 and M59 as EV corridors to enable funding eligibility	T1.3	M53 and M59 are heavily traveled and connect popular destinations in Michigan, and therefore could be considered as corridors. Funding eligibility could help improve capacity for electric vehicles in Sterling Heights.	N/A
	Explore hybrid telework options for city employees	T1.4	Allowing for employees to work from home can greatly reduce GHG emissions from employee commuting while improving flexibility for employees and therefore promoting employee satisfaction.	Look for creative ways to increase work location flexibility for employees who may not be able to do as many working hours virtually.
Build a strong public transit system	Establish a city-owned transit system within Sterling Heights to provide reliable, thorough, and frequent transportation within Sterling Heights	T2.1	Increasing the reliability, comfort, and route options of public transit is essential to reducing dependence on vehicles and single-rider trips. A city-owned public transit system may be needed to accomplish these objectives long-term.	Prioritize routes in areas with the highest concentrations of low-income and less than proficient English-speaking residents.
	Develop a marketing campaign to promote transit ridership	T2.2	This marketing campaign may include interviewing Sterling Heights residents who frequently utilize SMART, sharing information on available routes, and promoting the ease of riding transit.	Take measures to ensure that messaging reaches residents who may benefit most from utilizing transit.
	Explore options to collaborate with SMART to expand service in Sterling Heights	T2.3	The expansion of SMART's services in Sterling Heights could improve transit options without the City launching their own transit system. This is an exploratory action that should be completed in the short term to understand necessary actions to make transit a viable method of transportation for Sterling Heights residents long-term.	Prioritize expansion of routes in areas with the highest concentrations of low-income, elderly, and less than proficient English-speaking residents.
	Install covered bus stop shelters with benches	T2.4	Shelters can help promote ridership by providing cover from extreme heat, rain, snow, or wind.	Prioritize installation of bus stop shelters in areas with the highest concentrations of low-income, elderly, and less than proficient English-speaking residents.

CLIMATE ACTION PLAN STRATEGIES & ACTIONS MATRIX (CONT.)

STRATEGY	ACTION	ACTION ID	ACTION DESCRIPTION	CONSIDERATIONS FOR EQUITABLE IMPLEMENTATION
Improve walkability and bikeability of Sterling Heights	Expand pedestrian and bike paths and lanes to provide adequate connectivity between residential and commercial areas	T3.1	This will require assessing connectivity gaps, prioritizing where paths and lanes are most desired by the community, and strategically planning the most appropriate infrastructure improvements. Multi-use paths that allow for both pedestrians and cyclists may be an effective route. A physical barrier between roads and walking and/or bike paths helps to ensure safety. Walkways should be created/updated to be an adequate width. A consistent effort to maintain paths/lanes is needed.	Prioritize development of lanes/ paths close to residents who may be the most reliant on non-motorized transportation, including low-income residents and the elderly.
	Install accessible pedestrian signals along routes for designated walking	T3.2	Pedestrian signals help protect pedestrians crossing roads. Pedestrian signals with lit signals, visible count downs, and audible walk and stop signaling.	Implement pedestrian signals with both audible and visible signals, which are more accessible for those with disabilities.
	Reevaluate non-motorized transportation policy	T3.3	Currently, class 2 e-bikes are not allowed on recreational trails. Reevaluation of this policy should advocate for e-bikes to be allowed on all trails and to be permitted for both recreation and transportation.	N/A
	Prioritize mixed use development	T3.4	Mixed use development allows for people to live close to where they work, shop, and learn. Mixed use development is known to reduce reliance on cars and increase non-motorized transportation. Mixed used development may be prioritized through city zoning.	Assess pathways for mixed-use development in defined EJ communities.
Reduce GHG emissions from municipal vehicle fleet	Develop system to monitor and minimize idling in non-emergency vehicles	T4.1	This may include installing telematic monitoring systems that can monitor vehicle idling in real time and provide data on when and where vehicles are idling. This can help reduce unnecessary consumption of fuel.	N/A
	Develop a municipal vehicle replacement policy to replace ICEV vehicles with electric, hybrid, or other renewable energy-using vehicles where replacements are available and effective	T4.2	This policy should be developed strategically to meet the needs of Sterling Heights' municipal vehicle fleet while maximizing efficiency, continuing the work of the EV Pilot Program.	N/A

CLIMATE ACTION PLAN STRATEGIES & ACTIONS MATRIX (CONT.)

STRATEGY	ACTION	ACTION ID	ACTION DESCRIPTION	CONSIDERATIONS FOR EQUITABLE IMPLEMENTATION
	Continue to monitor and adjust fleet size for maximum efficiency	T4.3	The City has already analyzed fleet size and taken action on fleet rightsizing. The fleet size will need to be monitored continuously as the City's needs changed, and EVs can be considered in fleet analysis.	N/A
	Establish a system to prioritize use of most efficient fleet vehicles	T4.4	This ensures highest use of the most efficient low-emission vehicles.	N/A
	Utilize fleet management software to monitor costs and savings of fleet improvements	T4.5	The City is currently using the software Fleetio to gain insights on the fleet spending and costs. As efficiency improvements are made within the City's fleet, Fleetio or another software can be used to quantify impact of fleet improvements.	N/A
	Include consideration of contractor sustainability efforts in bidding process for lawn maintenance	T4.6	This may be added as a section in City RFPs to allow contractors to share various sustainability measures they take. If successful, this consideration may be added to all bidding processes that may relate to sustainability or climate action.	Provide context, definitions, or a means of contacting staff to help all bidders understand the range of efforts they can speak to.
Provide community-wide waste diversion education	Provide waste diversion resources and progress on the City's website and to new residents and business entities	W1.1	This action is two-fold. The first part establishes a webpage on the City's website where residents can find information regarding waste diversion, such as how to recycle, how to compost (through future drop-off/pick-up options or in their backyards), recent data on community-wide and municipal recycling rates (where data is available), annual landfill tonnage, GHG emissions from waste in Sterling Heights, and goals for waste reduction. The second part of this action is to develop a system to ensure that new residents and business entities are informed of waste diversion options. This may include a systemized way to direct new residents and business entities to the aforementioned website, or providing information via mail.	Determine appropriate communication channels to residents who may not visit the City's website.
	Utilize recycling data to target delivery of educational materials to most needed areas	W1.2	This would likely require partnering with the recycling provider to obtain data on where recycling rates are the lowest. Outreach efforts may be targeted based on this data.	Assess needs for providing information for diverse groups, such as residents who do not speak English.

CLIMATE ACTION PLAN STRATEGIES & ACTIONS MATRIX (CONT.)

STRATEGY	ACTION	ACTION ID	ACTION DESCRIPTION	CONSIDERATIONS FOR EQUITABLE IMPLEMENTATION
Reduce organic waste city-wide	Conduct a community-wide food waste assessment	W2.1	This action would involve analyzing the amount, types, and sources of food waste generated across households, businesses, and institutions. This action would aim to identify reduction opportunities, support waste diversion programs like composting, and reduce methane emissions from landfills, contributing to the city's overall climate goals.	Assess diverse areas throughout the community. Share assessment results in accessible formats.
	Develop community education campaign targeting food waste reduction	W2.2	This may include educational engagements such as workshops or one-on-one coaching with businesses, organizations, schools, and residents.	Ensure educational materials reach all areas of the community. Provide accessible educational materials.
	Seek opportunities to partner with and support food charity and food rescue organizations to utilize still edible food	W2.3	This action would develop collaborations with local food banks, community kitchens, grocery stores, and restaurants to efficiently collect, store, and distribute surplus food. These partnerships would aim to streamline the process (coordinating pick-up schedules, facilitating donation networks, educational programs) of diverting excess food before it becomes waste, ensuring it reaches vulnerable populations in the community.	Prioritize underserved communities. Identify paths for equitable food redistribution. Collaborate with local grassroots organizations to ensure that barriers to access, such as transportation, are addressed.
	Provide back-yard composting education and equipment to residents who live in single-family homes	W2.4	This action would aim to empower residents to reduce organic waste going to landfills, decrease methane emissions, and improve soil health through composting practices. Partnerships with local gardening clubs, environmental organizations, and community centers could facilitate these educational programs, while also engaging residents in hands-on composting demonstrations.	Prioritize access to composting education and equipment in low-income neighborhoods and communities with historically lower participation in environmental programs.
	Build capacity to process collected compost in Sterling Heights	W2.5	This action may be accomplished through developing a compost processing location within the City of Sterling Heights, or through partnering with an organization that can facilitate the pick-up and processing of the compost.	Explore options for processing compost generated by residents who live in apartments.
	Establish compost drop-off locations	W2.6	Once a system to process collected compost has been established, a system for residents to be able to drop their compost off will be necessary. The drop-off locations may be near community gardens, multi-family homes, or other areas that residents can easily get to.	Prioritize locations in close proximity to multi-family housing.

CLIMATE ACTION PLAN STRATEGIES & ACTIONS MATRIX (CONT.)

STRATEGY	ACTION	ACTION ID	ACTION DESCRIPTION	CONSIDERATIONS FOR EQUITABLE IMPLEMENTATION
Reduce waste from municipal facilities	Introduce an interdepartmental equipment sharing program	W3.1	This action would require identifying equipment that multiple departments use somewhat infrequently (such as tents, folding tables, landscaping equipment, etc.).	N/A
	Develop a city staff education campaign to encourage recycling and resource conservation	W3.2	This may include specific recycling guidance for new staff, consistent signage where there are trash and recycling bins to remind staff to recycle, contamination information, and identification of areas with low recycling rates along with strategies developed by city staff to address these areas.	N/A
	Conduct a waste audit for all municipal facilities	W3.3	Many guides are available for conducting waste audits. The implementation of this action will include assessing how much waste facilities are producing, and how much of the waste being sent to the landfill can be diverted.	N/A
	Pilot composting through municipal facilities	W3.4	This action would likely precede community-wide composting. Thorough staff education would be required when launching this pilot, and for best results, information on the use of the end product composted soil and avoided GHG emissions should be shared with staff and the community. Compost could potentially be donated to community gardens.	N/A
	Explore options for purchasing gently used equipment before purchasing new	W3.5	The City may implement this action by developing a protocol for purchasing equipment that is commonly available used (such as desks, bookshelves). Incentivizing or recognizing purchasing of used equipment may further encourage this action.	N/A
	Resell or donate unwanted equipment	W3.6	When equipment is no longer wanted/needed by the city, a protocol will need to be set up for selling or donating. As a first step, the City may start with advertising unwanted equipment to all staff to promote inter-organizational reuse.	N/A

CLIMATE ACTION PLAN STRATEGIES & ACTIONS MATRIX (CONT.)

STRATEGY	ACTION	ACTION ID	ACTION DESCRIPTION	CONSIDERATIONS FOR EQUITABLE IMPLEMENTATION
Reduce waste at city-run community events	Provide ample recycling bins throughout event spaces	W4.1	This may entail developing a standard for required number of bins per community event. Bins should have signage informing residents of recycling protocols. Consider providing more recycling bins than trash bins, or recycling bins that are larger than trash bins to increase attention to recycling.	N/A
	Build capacity to collect and manage compost at events	W4.2	Once a system to process collected compost has been established, incorporate composting into waste diversion options at events. Educational signage should be used for compost collection.	Eventually explore options for collecting compost at a variety of event types, including those hosted by non-profits and schools
	Develop standards and incentives for recycling and waste minimization at Farmers Market	W4.3	Implementing this action may include inviting ideas from Farmers Market vendors and attendees. Potential standards may include requiring all packaging be compostable, recyclable, or reusable; or prohibiting certain types of single use materials. Incentives may include providing reusable bags and containers, providing recognition for vendors who implement waste-reduction strategies, and hosting raffles for prizes for customers who bring their own bags, cups, or containers.	N/A
	Work with event vendors to minimize unnecessary consumption and waste	W4.4	This would be best implemented through having conversations with vendors to understand their perceived barriers to waste reduction, and collectively formulating strategies to remove barriers.	Explore options for providing assistance to vendors who may not have the capacity to implement waste-reduction strategies
	Promote reusable container usage and discourage non-compostable single-use containers for food and beverage consumption	W4.5	Reusable containers may be provided at events and/or a system for encouraging attendees to bring reusable containers may be developed. Providing vendors with reusable or compostable containers can take the burden off of vendors.	N/A
	Incentivize attendees bringing their own bags, water bottles, etc.	W4.6	Incentives may include a prize or discount on an item at the market, stickers for water bottles, or recognition/participation in a social media promotion	Provide a bag or bottle at atleast one event to residents who may not have them. This could potentially include handing out upcycled bags/bottles.

CLIMATE ACTION PLAN STRATEGIES & ACTIONS MATRIX (CONT.)

STRATEGY	ACTION	ACTION ID	ACTION DESCRIPTION	CONSIDERATIONS FOR EQUITABLE IMPLEMENTATION
	Provide water fill stations at all large events	W4.7	This would require providing adequate numbers of water bottle fill stations proportional to event attendance to ensure attendees could refill bottles to stay hydrated throughout events.	Explore options for a deposit reusable cup that would allow for attendees to use a reusable cup during an event and get a deposit back when they return the cup.
	Pilot a "zero-waste" event	W4.8	This would be a pilot of a zero-waste event run by the City or in partnership with another organization to showcase strategies for zero-waste events. If food is served, a composting system would need to be established for this event to be successful. The event could be modeled after other zero-waste events.	Ensure the event is accessible and promoted to diverse groups in the community.
Increase carbon sequestration potential of public and private lands	Increase tree canopy coverage in Sterling Heights	NR1.1	This is a current program that aims to improve Sterling Heights tree canopy to 40% from its current 19%.	Prioritize planting of trees in identified vulnerable communities using the Tree Equity Score National Explorer Tool: https://www.treeequityscore.org/mapNumber3.26/37.22/-98.75.
	Purchase land for conservation and green space development	NR1.2	This program contributes towards green space development and the tree canopy cover targets set out by the city.	Identify and prioritize underserved communities with low access to green spaces.
	Promote biodiverse carbon sequestration projects	NR1.3	This action would be implemented by encouraging the planting of a variety of native tree and plant species. This may be done through the development of a case study or guide providing details on how to grow and care for native gardens/microforests in Sterling Heights. This information could further be promoted through community workshops and/or the display of a biodiverse sequestration project developed by the City in a public space.	Support small and minority-owned business. Develop anti-displacement measures. Prioritize community ownership models. Work with organization to provide technical support to participating parties. Target areas of health disparities linked to environmental issues.
	Draft legislation to allow for flexible planting of native vegetation in residential areas (front yard planting, flexibility in plant height, etc.)	NR1.4	This would allow residents the opportunity to implement native gardens and develop more sustainable and climate change resilient residential landscapes.	Support education of legislation and reasonable access to native vegetation for all communities. Communicate with local gardening services.

CLIMATE ACTION PLAN STRATEGIES & ACTIONS MATRIX (CONT.)

STRATEGY	ACTION	ACTION ID	ACTION DESCRIPTION	CONSIDERATIONS FOR EQUITABLE IMPLEMENTATION
Promote and incentivize the use of native plants to enhance local biodiversity	Expand the integration of native plants and shrubs in landscaping of municipally owned parks and gardens	NR2.1	Expand on native plant landscaping framework to provide structured and implementable standards for municipal staff to implement native landscaping and show leadership in biodiversity initiatives in its area of operation.	Initially prioritize projects in communities with historically low access to green space, or those facing higher environmental burdens.
	Ensure the incorporation of native plant species in development plan review process	NR2.2	A formal native plants review process would provide the City with the ability to guide positive improvements in native plant landscaping in private developments, placing responsibility of improving biodiversity in urban spaces onto developers and enhancing climate resiliency of new properties. Setting appropriate biodiversity goals in line with Mi Healthy Climate is important for the success of this policy.	Enforce policy in historically underserved communities. Areas of high degradation must be prioritized. Provide subsidies or support programs (maintenance support) to prioritized underserved community developments. Promote housing affordability safeguards and community land trusts. Promote collaboration with community-based organizations that have strong ties to the community to ensure program implementation.
	Collaborate with county and state to integrate a broader range of native vegetation into roadsides, medians and utility easements to linearly connect fragmented habitats	NR2.3	This action entails broadening and utilizing a greater variety of native plants in stabilization practices. This enhances habitats in easements which effectively act as habitat corridors and help to reduce habitat fragmentation.	Prioritize disturbed medians or those in industrial zones and high traffic areas under high pressure from human activity. Allow for shared benefits.
	Highlight native plants in Annual Beautification Awards	NR2.4	Highlighting native gardens helps to broaden what characterizes a beautiful garden and contributes to the ideas of landscape beauty.	Improve ease of access to native plant species. Target renters and low-income areas with native plant program.

CLIMATE ACTION PLAN STRATEGIES & ACTIONS MATRIX (CONT.)

STRATEGY	ACTION	ACTION ID	ACTION DESCRIPTION	CONSIDERATIONS FOR EQUITABLE IMPLEMENTATION
Improve city-wide stormwater infrastructure	Explore feasibility of adding a city stormwater utility	NR3.1	This action would require assessing whether creating a dedicated utility for managing stormwater systems is viable, with funds contributing to and improving stormwater infrastructure. The utility would be based off of residential properties impervious surface area contributing to surface water runoff.	Ensure diverse community representation and participation of historically underserved communities, Implement affordability structuring measures (tiered rates) and clear educational outreach in multiple languages.
	Develop a residential education campaign to promote sustainable landscaping and stormwater management strategies	NR3.2	This educational campaign would focus on residential stormwater management strategy development and education around importance of reducing impervious surfaces and integrating sustainable landscaping practices like raingardens, rain barrels etc.	Prioritize disadvantaged or areas of low educational engagement for all communities to access the knowledge and tools to implement scaled projects. Utilize a mixed-media approach to education program outreach, which multi-language options.
	Provide incentives for to residents to utilize practices that positively contribute to stormwater management	NR3.3	Incentive programs ensure equitable implementation of residential stormwater infrastructure, allowing vulnerable communities to adopt these strategies and improve the application of stormwater management initiatives, such as a stormwater utility structure. For example, the city could offer financial rebates for homeowners who install rain gardens or permeable pavement.	Target outreach and additional support incentives for disadvantaged communities. Provide free teaching assistance and equitable funding distribution.
	Develop upstream inter-city/ county collaboration to improve resiliency from erosion and stream sedimentation	NR3.4	Improve intercity/county collaboration through water stewardship program development that would enhance upstream or shared resource protection. Pollutants or poor stormwater management upstream will impact all downstream users within the watershed.	Promote inclusive planning for historically marginalized communities, and resource allocation to prioritized communities.

CLIMATE ACTION PLAN STRATEGIES & ACTIONS MATRIX (CONT.)

STRATEGY	ACTION	ACTION ID	ACTION DESCRIPTION	CONSIDERATIONS FOR EQUITABLE IMPLEMENTATION
	Prioritize innovative integration of green infrastructure in city planning (ex: permeable pavement, wetland restoration and innovative nature-based solution strategies in floodplain management)	NR3.5	Innovative strategies that expand on the current stormwater management program can improve community buy-in, add beautification as an end goal whilst still supporting the mitigation of flooding, improve water quality, enhance biodiversity, and increase community resiliency. Integrating natural solutions as viable strategies rather than overlays onto existing systems is important in making long lasting resiliency strategies.	Ensure equitable siting of projects that support low-income communities most affected by environmental impacts and local workforce development. Initiate volunteer programs with accessible design.
	Explore the adoption of waterway/wetland natural buffer preservation ordinance	NR3.6	This action may include exploring additional zoning ordinances during projected ordinance rewrite phases that would require more green space development and preservation of waterways and wetlands to aid in flood mitigation. Revision of outdated zoning ordinances should protect local infrastructure (such as removal of parking or communication towers in updated floodplains).	N/A
	Explore feasibility of conducting a city-wide flood risk study		This action includes researching cost, timeline, staff capacity, and potential benefits that may arise from conducting a city-wide flood risk study.	Include potential benefits to those most impacted by stormwater in the exploration.
Improve natural systems resiliency to current and projected climate conditions	Develop an ecologically focused succession-based native tree planting plan that prioritizes species diversity for long-term ecosystem health	NR4.1	This action would expand the Tree Preservation Ordinance to factor in diversity of tree species, to space the timing of tree planting, and to strategically support diversity of undergrowth species.	Tree planting should be prioritized in areas with little green spaces or most affected by heat island and environmentally related health issues.
	Expand upon tree inventory to develop a full plant species inventory within public land to document and identify endemic, native species to protect and help develop an invasive species management plan	NR4.2	By expanding on the current inventory, the City can identify areas that require ecological restoration, develop targeted invasive species management strategies, and enhance biodiversity. The inventory will also support the integration of native plants into City planning, landscaping, and environmental initiatives, contributing to long-term ecosystem health and resilience.	Allow data to be publicly accessible, and prioritize vulnerable species.

CLIMATE ACTION PLAN STRATEGIES & ACTIONS MATRIX (CONT.)

STRATEGY	ACTION	ACTION ID	ACTION DESCRIPTION	CONSIDERATIONS FOR EQUITABLE IMPLEMENTATION
	Create invasive species educational campaigns for residents and recreational space users	NR4.3	Developing an education program on invasive species management to help residents understand their responsibilities in managing invasive species in their waterways and forests. The program may focus on in field species identification, ecological impact analysis, debate on management practices and creative solutions and strategies, the intersection of environmental justice and invasives species (how different communities are impacted by invasives and access to resources for management) and the importance of ecological restoration and health in controlling invasives species.	Utilize multilingual outreach, digital and non-digital educational formats, and targeted outreach in vulnerable communities. Ensure accessible in-person events and workshops. Consider transportation costs as part of campaign budget and intergrade transport options from low-income areas and no-cost participation. Engage with schools and youth groups.
	Host volunteer-run invasive plant removal	NR4.4	Hosting volunteer events for invasive species removals promotes community buy-in to invasive species management and helps increase community support for municipal programs.	Utilize multilingual outreach, digital and non-digital educational formats, and targeted outreach in vulnerable communities. Ensure accessible in-person events and workshops. Consider transportation costs as part of campaign budget and integrate transport options from low-income areas and no-cost participation. Engage with schools and youth groups.
	Explore options for developing a system to evaluate public land alterations and quantify ecological benefits of green spaces	NR4.5	This would explore methods to evaluate green space alterations of public lands and would provide additional frameworks to support the protection of ecosystem services. This process or framework would support programs that would reduce the ecological impact of alterations on green spaces, or help to mitigate alterations through alternative strategy development. If deemed successful, this framework could eventually be used for evaluating changes to private lands.	Prioritize educational programs at small-business owners to assist with compliance and monitoring .

CLIMATE ACTION PLAN STRATEGIES & ACTIONS MATRIX (CONT.)

STRATEGY	ACTION	ACTION ID	ACTION DESCRIPTION	CONSIDERATIONS FOR EQUITABLE IMPLEMENTATION
Improve native landscape connectivity in urban spaces	Utilize small city-owned parcels for conservation development	NR5.1	Identifying and utilizing strategic parcels of underutilized land to repurpose for conservation efforts such as urban green spaces, pollinator gardens, restored native habitats and promoting indirect ecosystem services such as carbon sequestration potential. This will contribute to tree canopy expansion and promote additional ecosystems restoration such as oak-savanna, wetlands and deciduous swamp systems.	Prioritize parcels in underserved residential and school zones through equity mapping and EJ screening. Develop anti-displacement strategies. Consider long term maintenance plans.
	Collaborate with public schools to provide opportunities for local ecosystem education	NR5.2	This could include partnering with the public schools to host field trips, learning events, and family-oriented community events in which education is provided on local ecosystems.	Incorporate relevant case studies by including teachers and community members from diverse backgrounds in the design process. Focus on schools that lack easy access to green spaces. Collaborate with local environmental NGOs to provide educational resources or opportunities. Address language barriers.
	Establish conservation easements through collaboration with landowners to connect valuable natural areas	NR5.3	This program would allow for the restriction of certain types of development and land use on landowner properties in strategic locations to connect valuable natural areas to enhance ecological integrity. Effort should be made to provide education on the benefits, partnership development and collaborative easement design.	Identify and prioritize private landowners of high influence and willingness to participate. Prioritize areas of low green space coverage or isolated green spaces. Provide fair and incentives. Provide access to legal or technical resources. Implement anti-displacement and protect affordable housing policies. Preserve historical land-use.

CLIMATE ACTION PLAN STRATEGIES & ACTIONS MATRIX (CONT.)

STRATEGY	ACTION	ACTION ID	ACTION DESCRIPTION	CONSIDERATIONS FOR EQUITABLE IMPLEMENTATION
	Integrate native habitat connectivity into zoning regulations	NR5.4	This action entails mending zoning codes/regulations to prioritize the preservation and enhancement of natural habitats within urban development plans, ensuring new developments maintain and improve ecological connectivity and a healthier environment. Examples include maintaining wildlife corridors and native plant buffers along riparian areas or incentivizing the preservation of mature trees and use of native plant landscaping.	Mitigate displacement risk due to increasing property value. Prioritize corridor development for at-risk or vulnerable sites. Develop long-term maintenance plans.
	Prioritize suitable endemic/ native species within landscaping restoration programs to enhance ecosystem resiliency	NR5.5	This involves prioritizing species that are sourced from local suppliers, that are sustainability grown and naturally adapted to the local environment taking into consideration predicted climate change and shifting climatic zones.	Provide technical assistance or economic support to communities participating in native species landscaping. Select climate adapted and future climate ready species. Provide robust information for use in restoration initiatives. Provide accessible means of information.
Build community resilience to extreme heat and weather events	Establish net zero emissions community-wide resilience center(s)	PH1.1	Net zero community resilience centers (CRCs) are locations within the city that serve as shelters for residents to go to during extreme climate and other emergency events. These centers are sometimes co-located within other community centers (e.g. schools, libraries, etc.) and can also serve as hubs for community engagement and empowerment. On-site renewable energy is essential for resilience centers to be effective during power outages.	Prioritize placement of CRCs close to the most vulnerable populations. Utilize community programs that serve disadvantaged populations to make residents aware of designated CRCs.
	Ensure access to water bottle fill stations in public parks	PH1.2	Providing water bottle fill stations in public places can help reduce heat-induced illnesses. This action also supports strategy W4 for events that are held in public parks.	Prioritize the installation of water fill stations in parks without shade and those located closest to vulnerable communities.

CLIMATE ACTION PLAN STRATEGIES & ACTIONS MATRIX (CONT.)

STRATEGY	ACTION	ACTION ID	ACTION DESCRIPTION	CONSIDERATIONS FOR EQUITABLE IMPLEMENTATION
	Develop a program that focuses on preparing mobility-limited residents for safety in extreme weather events	PH1.3	As the population of residents 65+ is expected to grow, special measures will need to be taken to ensure safety of residents who are mobility-limited in extreme weather events. This program may include some of the following elements: 1) ensuring paratransit routes between community resilience centers and senior housing centers; 2) ensuring accessibility of communication around extreme weather events (e.g. an option to receive voice message alerts); 3) ensure accessibility of community resilience centers (e.g. ramps, wide bathroom doors) ; 4) design outreach efforts to specifically reach mobility-limited residents to inform them of services provided by the city.	Develop programs to consider needs for various mobility limitations.
	Expand upon citizen emergency response team to prepare for increased extreme weather events and an aging population	PH1.4	The City of Sterling Heights' Citizen Emergency Response Team (CERT) is a successful program. With increased instances of extreme weather events, this program may need more support. CERT members will specifically need to be prepared for extreme heat events in addition to the weather events that are already trained on.	Prioritize needs for vulnerable populations during emergency events in trainings.
	Utilize social media and city communication channels to promptly provide residents with necessary information during extreme weather events	PH1.5	This may be through social media, text messages, voice messages, or other communication channels. Preparing messaging for various types of potential events can speed up communication during events. This action may also include using signage in public places to remind residents of safety precautions, for example, how to stay safe during extreme heat.	Prepare multiple types of messages to accommodate various ways residents can receive information.

CLIMATE ACTION PLAN STRATEGIES & ACTIONS MATRIX (CONT.)

STRATEGY	ACTION	ACTION ID	ACTION DESCRIPTION	CONSIDERATIONS FOR EQUITABLE IMPLEMENTATION
Support local food production and urban agriculture	Expand community garden options to meet community participation interest	PH2.1	This action requires continuous monitoring of community garden interest to potentially expand numbers of plots. The City may also encourage multi-family resident complexes to offer community gardening options to help meet demand.	Prioritize additions for community garden plots closest to vulnerable populations.
	Process collected compost locally to provide nutrient-rich soil for gardening	PH2.2	Composting drop-offs may be located at community gardens, city facilities, or other locations in the city to easily facilitate the transfer of fully processed compost to garden beds.	Potential to increase access to compost for gardening.
Strengthen neighborhoods and communities within Sterling Heights	Establish community ambassador program to aid in building community resiliency through delivering information to residents and gathering input from residents to continue informing climate action priorities	PH3.1	This could be done through either a volunteer program or paid part-time positions with the City. Ambassadors would work with City staff to deliver educational materials to residents through various types of engagements. Additionally, ambassadors would relay information about residents' needs and challenges as they relate to the CAP back to City staff.	If positions are paid, value lived experiences in hiring process. Ensure ambassadors reach the most vulnerable populations.
	Collaborate with community-based organizations and HOAs in development and implementation of climate action initiatives	PH3.2	This action will help expand reach of educational materials to residents, and provide communication pathways to develop cross-communications between the City and residents. Key contacts in the community will need to be identified to implement this action.	Promote equal resource access and support for climate change initiatives, and equitable language and communication for all residents. Improve education and capacity building for those that have not engaged with these materials in the past.
Reduce use/occurrence of harmful chemicals in Sterling Heights	Promote current alternative pest management strategies utilized by the City of Sterling Heights	PH4.1	This action would publicize the measures utilized by City staff to manage pests in Sterling Heights. This could be done through communication methods like offering workshops for community members, publishing information online, and/or developing flyers to be given out at community events.	Ensure information is accessible to all members of the community.

CLIMATE ACTION PLAN STRATEGIES & ACTIONS MATRIX (CONT.)

STRATEGY	ACTION	ACTION ID	ACTION DESCRIPTION	CONSIDERATIONS FOR EQUITABLE IMPLEMENTATION
	Adopt cost effective integrated pest management (IPM) tools to effectively reduce pesticide use in city-owned property	PH4.2	The implementation of this action would entail prioritization of pests under most impactful management practices, research into associated integrated pest management strategies and tools (such as pest pheromone traps, nematode, insect, bacterial, fungal or viral application, light management, low-toxicity to organic pesticides, timing strategies etc.) and the development of a road map to effectively integrate the IPM strategies into current pest management practices.	Prioritize properties in areas of EJ vulnerability. Consider access to information on all IPM strategies.
	Provide education programs for residents on the harm of pesticide use on human health and environment	PH4.3	This action may include community workshops, online webinars, and informational campaigns aimed at schools and local community centers focusing on ecotoxicology topics like non-target impacts, human health risks, pesticide resistance and bioaccumulation in ecosystems. The program can focus on safer alternative methods (such as organic pesticides, IPM, behavioral changes etc.) that reduce the reliance on pesticides, community wide. Programs can work with local environmental NGO's or Universities.	Pair educational programs with incentives or subsidies especially focusing on low-income households. Offer free low-cost pest management solutions. Outreach in vulnerable populations. Offer accessible locations as hosting venues for workshops and multiple times and weekends. Ensure online content is mobile friendly or print/radio present information.
	Prohibit the use of harmful chemicals in community gardens	PH4.4	This action would ensure that all community garden participants have access to gardens that are free of harmful chemicals. This action is well paired with PH4.1 and PH4.3 as education materials can be dispersed to community garden participants to understand alternative pest management methods.	Ensure diverse/accessible communication of standards, support participants as needed in understanding alternative pest management methods


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