

# Executive Summary

The following document was created as a capstone project for Bachelor and Masters of Urban and Regional Planning at Michigan State University. The students worked closely with the City of Kalamazoo and community partner organizations to begin the process of developing a citywide Climate Action Plan (CAP). Through collaboration with the city, community partners, and university faculty, this plan will provide a framework and beginning steps for how to address the increasingly changing climate and the negative environmental effects that come with it. Recognizing the extent of a full CAP, the practicum team used this project to form a framework and base with which Kalamazoo could move forward in developing a comprehensive CAP.

Kalamazoo recently released its latest master plan, Imagine Kalamazoo 2025 as well as identified the city's priorities in the City of Kalamazoo 2017 Strategic Vision and Shared Prosperity Kalamazoo (SPK) plan. The master plan, strategic vision, and SPK together outline the priority goals and objectives for the city as a whole in the coming years. Most notably for the sake of this CAP Framework, Imagine Kalamazoo 2025 and the 2017 Strategic Vision put a strong emphasis on environmental sustainability and shared prosperity for the community. Two Strategic Vision goals, Environmental Responsibility and Shared Prosperity were listed among others as focus areas of the highest importance from resident response, with the development and adoption of a Climate Action Plan as an action step for realizing these goals. With this in mind, this CAP Framework is meant to work in cohesion with goals expressly outlined in the master plan and not disrupt steps already taken by the city in this field.

In 2017, Western Michigan University's (WMU) Master of International Development Administration program published a CAP for the City of Kalamazoo as a capstone project which included recommendations focused on six categories: Buildings, Transportation, Trees and Gardens, Local Food, Waste Management, and Engaged Community. That report provided Kalamazoo with a general understanding of where the city likely stands in terms of carbon emissions and laid out numerous detailed recommendations for reducing emissions. This current framework builds upon WMU's plan by developing a starting place and some of the background information necessary for the city in developing their formal CAP.

The key elements of this project were to 1) provide a summary of the best existing CAP practices and metrics and make recommendations for how Kalamazoo should approach climate planning and 2) analyze the existing conditions of the two focus areas (local food and buildings) and make additional recommendations for climate action for the city to pursue if they so choose.

This work involved background research on the current climate vulnerabilities of Kalamazoo, background on current climate action practices, extensive research on other communities' CAPs, and interviews with key community partners and city staff to better understand what can make a great CAP for Kalamazoo. Our framework includes climate models, city data, CAP best practices, and case studies of successful CAP projects from other municipalities that can be easily transferred and applied to Kalamazoo.

Additionally, the team looked closely at two aspects of the city that will need attention in their final CAP: Local Food and Buildings. These two categories were selected because of their impact on the daily lives of residents. Local Food was selected because of its large impact on green house gas (GHG) production and for its impact on social sustainability as a whole. Even as a city with a thriving gardening community and food education programs the city still struggles with food access among lower income residents. Because of this, the city has taken a vested interest in improving its local food system. As a city with an older housing stock and a higher low-income community, efforts toward retrofitting and modernizing existing structures can decrease utility costs and increase affordability for local residences. While not exclusive in their needs, these focus areas can give the city a sense of their starting place within these individual aspects of the city.

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Chapter One provides an overview of Kalamazoo, including its history, geography, and key socioeconomic characteristics. It provides an understanding of the residents of the city and context for climate action planning. Understanding the city's residents is important for ensuring the climate action plan first and foremost meets the needs of the city's residents.

Chapter Two highlights the city's current climate, current observed changes to its climate, and explores future climate projections. It discusses the implications of these changes on resident health and the wellbeing of the city.

Chapter Three explores climate action planning best practices. It outlines some key elements of climate action plan, explores how other cities have gone about climate action planning, and makes recommendations on how the city ought to move forward with their own CAP.

Chapter Four looks at the city's current local food system and building stock. The chapter compares city data and information gathered from stakeholder interviews with climate projections to analyze the current condition of the city and point to some areas that should be considered when the full CAP is created.

Chapter Five summarizes this report's findings and key recommendations. It outlines clearly the steps recommended within the report for future action. Key recommendations for Climate Action Planning include:

1. Complete a Greenhouse Gas Emissions Inventory through renewing Kalamazoo's membership to ICLEI and utilizing ClearPath (p. 35)
2. Complete a Vulnerability Assessment through the assistance of GLISA experts (p. 36)
3. Complete and adopt a Climate Action Plan using the GHG Inventory and Vulnerability Assessment as a basis for selecting actions and tracking success (p. 39)

Key recommendations for local food include:

1. Education campaigns for plant-based consumption (p.47)
2. Urban agriculture support and education (p.54)
3. County/City land bank/brown field parcel preservation and redevelopment (p.53)
4. Establishing "healthy food zoning requirements" (p.50-51)
5. Land reclamation (p.53-54)

Key recommendations for building include:

1. Incentivize owners of older buildings to invest in energy efficient upgrades such as new insulation and appliances (pg. 59)
2. Encourage multifamily structures as an alternative to old single family homes as rentals (pg. 60-62)
3. Implement green roofs and street trees to reduce the heat island effect (pg. 63)
4. Transition from natural gas to renewable energy fuel sources (pg. 64)
5. Continue to financially assist Kalamazoo's affordable housing and incentivize homeownership in single-family homes (pg. 65)
6. Ensure building safety (pg. 66-67)

The Climate Action Plan Framework ultimately is meant to be a guide to help the City of Kalamazoo move closer to achieving a lower carbon output and create a more sustainable and resilient city for its residents. By identifying best climate action planning practices throughout the country, understanding the risk Kalamazoo faces when it comes to climate change, analyzing the current situation of certain elements of the city, and making recommendations for moving forward, we hope that this Climate Action Plan Framework can act as a useful tool and guide for the city moving forward. While much work remains before a full Climate Action Plan is in place, Kalamazoo now has a strong starting place between the work here and that already started by Western Michigan University. It's our hope that in the years to come, the city uses our recommendations to achieve a reduced carbon footprint and a climate resilient city.