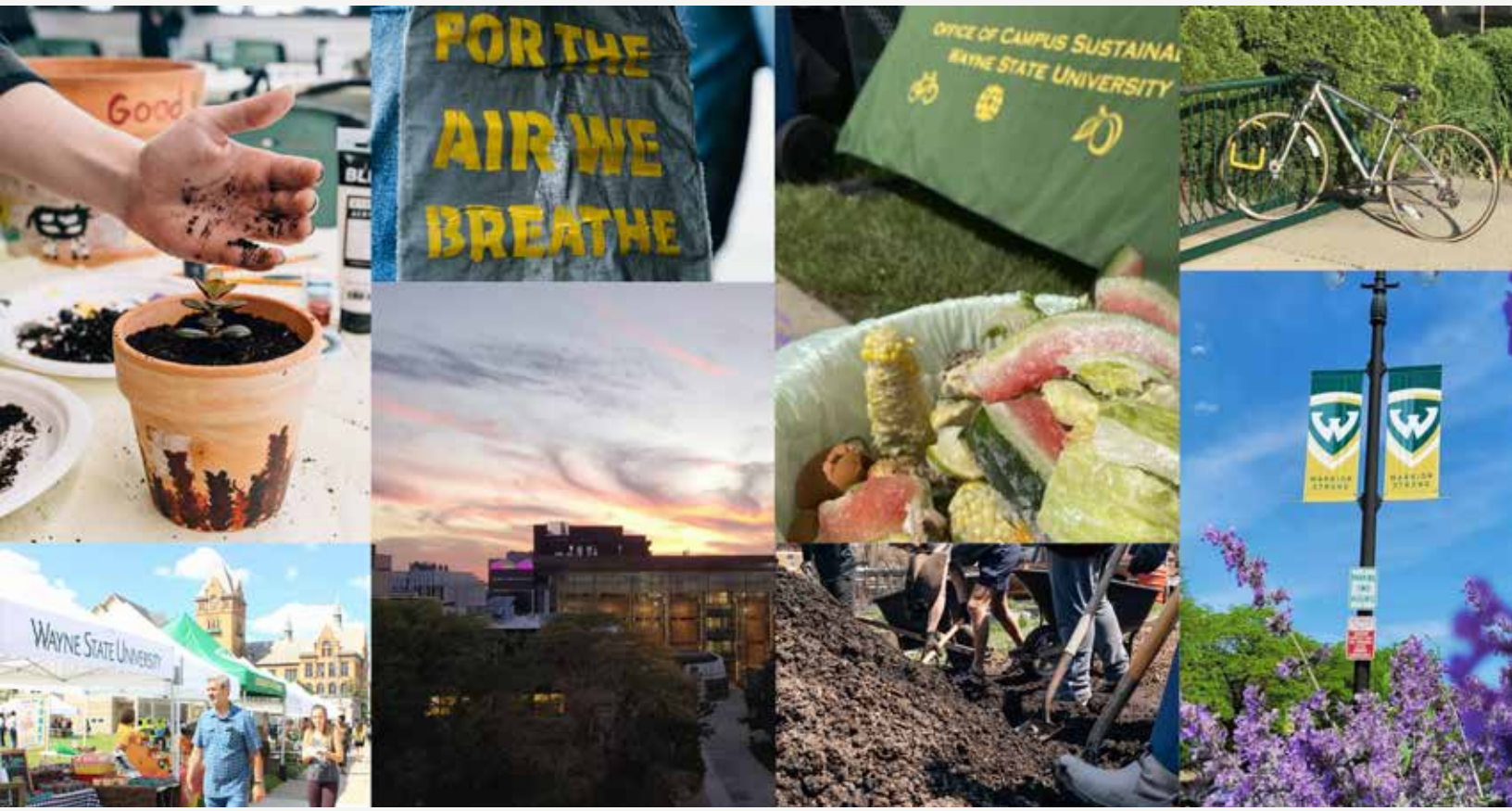
WAYNE STATE UNIVERSITY

SUSTAINABILITY STRATEGIC PLAN

FISCAL YEAR 2023 -2028



2023-2028 Sustainability Strategic Plan

Preamble

In developing this Sustainability Strategic Plan, nine task force groups were assembled to identify the goals and objectives contained within this document. In addition, as part of the planning effort, Wayne State University circulated a materiality survey to identify sustainability focus areas that are material to the institution. The participating stakeholders worked together over several months to develop the resulting plan through a triple bottom line lens that establishes a sustainability framework for the university.

Notably, through this Sustainability Strategic Plan, Wayne State University seeks to help address the impending environmental crisis with focused action to mitigate the existential consequences facing our global community. This plan provides an institutional pathway for reducing environmental impact, while achieving economic efficiencies through climate mitigation and adaptation techniques that will contribute to earth's continued, healthy function and positively impact the financial sustainability of the university.

Furthermore, through this Sustainability Strategic Plan, Wayne State University is making a commitment to carbon reduction that will reduce its emissions in alignment with global targets and institutional priorities as established in the university's strategic plan. Building upon the institution's carbon commitment, this plan calls for the university to support a shift to decarbonization and sustainability through it's investments.

Additionally, through this Sustainability Strategic Plan, Wayne State University aims to connect learning with the transformative power of business to drive a more sustainable planet and society, and will work to integrate sustainability into its curriculum and collaborate to lead the transformation in sustainable business across the Detroit region.

Importantly, through this Sustainability Strategic Plan, Wayne State University has focused on issues related to environmental justice within its community. A long-term strategy toward understanding environmental justice places the university at the forefront of understanding solutions. As challenges emerge as threats to environmental justice, Wayne State University will be positioned to materially contribute to solutions-based knowledge dissemination.

Finally, through this Sustainability Strategic Plan, Wayne State University has identified a variety of tools, techniques, and opportunities to advance sustainability in support of this plan's goals. The tactical objectives contained herein cascade across the institution bringing sustainability to the forefront of learning, research, operations, and the innumerable functions throughout the campus community.

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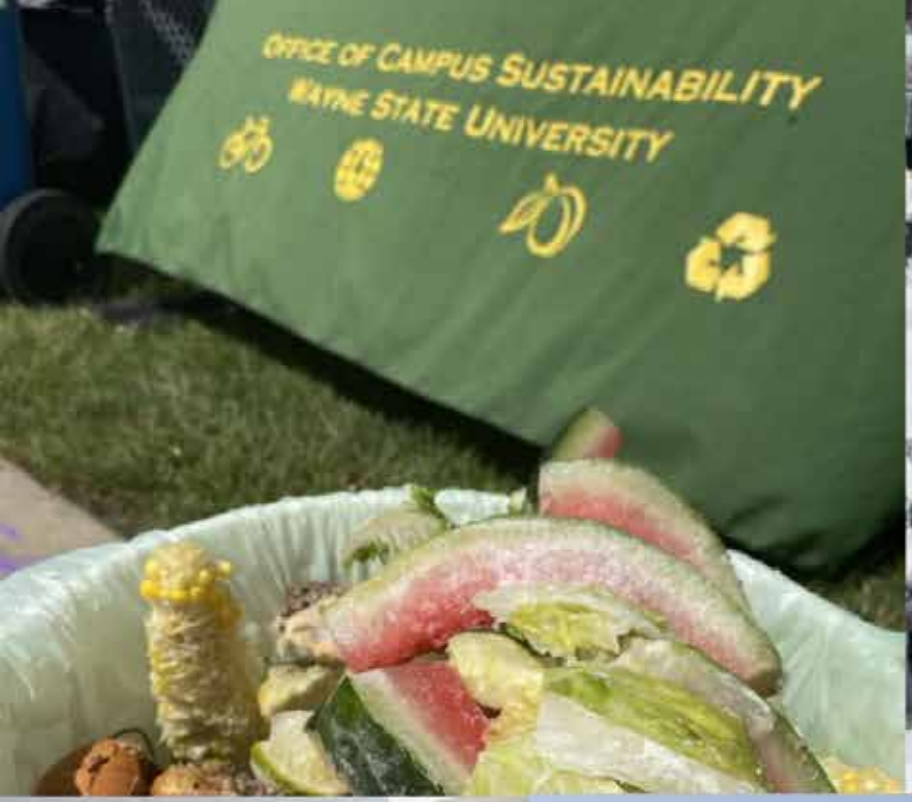
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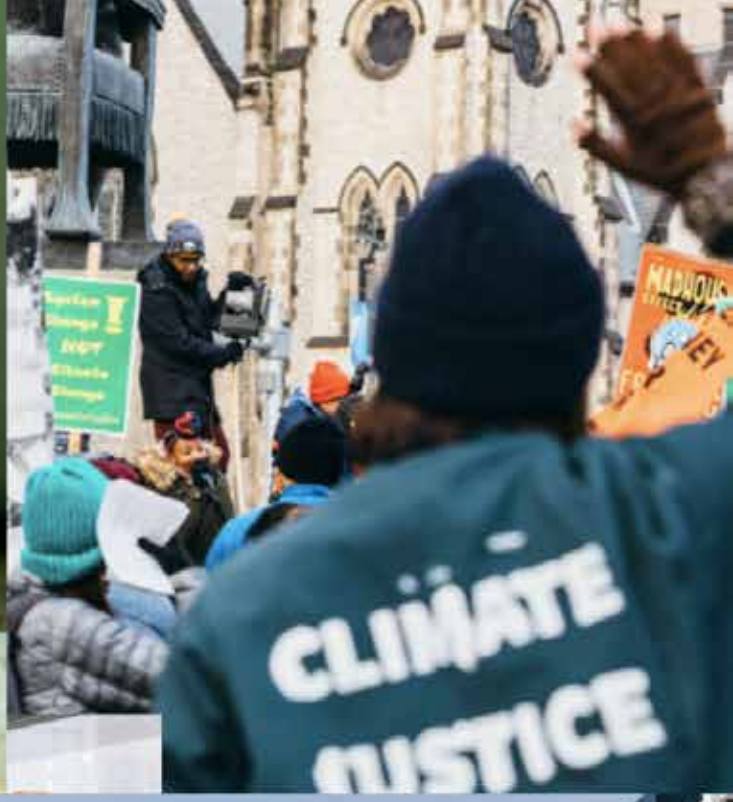
WAYNE STATE UNIVERSITY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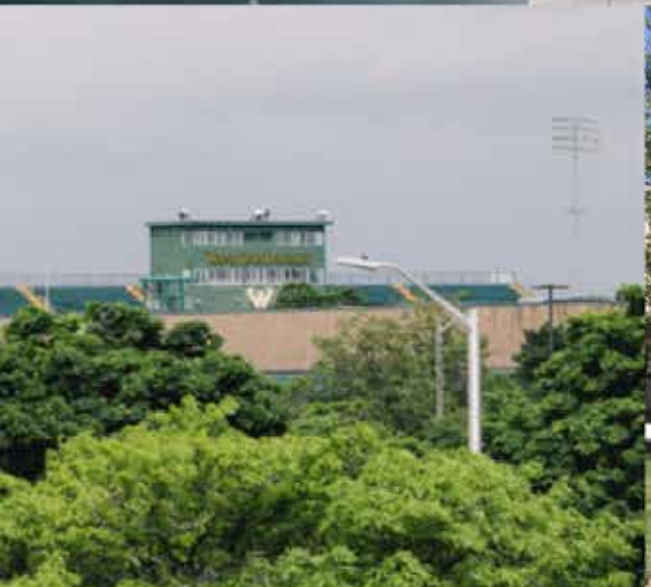
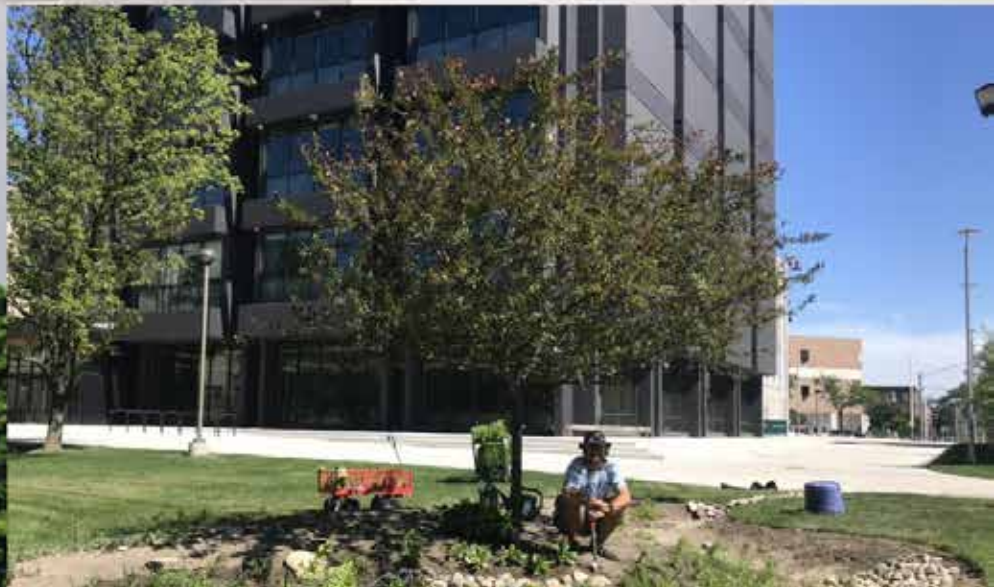




WSU's Commitment to Sustainability

2002
- First recycling program developed for Wayne State's main campus

2007
- First WSU Sustainability Plan published, outlining environmental action leading to a green campus
- President's Standing Committee on Environmental Initiatives assembled to have oversight on green projects and activities on campus

2008
- New campus-wide recycling began to capture paper, cardboard, plastics, and metal containers
- WSU Farmers Market opened to offer the community locally grown produce, fresh baked goods, and natural food products
- Campus gardens installed, allowing the community to grow fruits and vegetables

2009
- University payroll established paperless options
- Campus shuttle services take riders between Main Campus and Medical Campus
- Sustainability Certificate is offered by the College of Engineering

2010
- Solar array and wind turbine installation on the roof of Engineering Technology Building
- First electronic waste (E-waste) collection
- Electric service vehicles are used by Facilities Planning and Management in campus operations
- Urban Watershed Environmental Research Group established

2011
- Office of Campus Sustainability established
- Water@Wayne seminar series features discussions by researchers studying water issues
- Green cleaning policy sets guidelines for environmentally friendly cleaning products and equipment
- First green roof built on the A. Paul Schapp Chemistry Building

2012

- First LEED Silver-certified building (Marvin I. Danto Engineering Design Center) awarded
- Solar compactor placed around campus for waste and recycling
- Water conference with University Research Corridor hosted
- Healthy Urban Waters funded by the Erb Foundation

2013

- Hydration Stations installed around campus to facilitate widespread usage of refillable water bottles
- Summer boiler shutdown program saves the university costs related to less energy consumption
- Toner cartridge recycling allows departments to recycle used printer cartridges for re-manufacturing
- Cellphone recycling program started keeping mobile devices out of waste

2014

- Lighting Retrofit - LED lighting installation replaces older, less efficient fixtures around campus
- Second LEED Silver-certified building (Mazurek Education Commons) awarded

2015

- Warrior Exchange developed to give the campus a web-based classified section to facilitate reuse of campus property
- First Baroudeur cycling event to raise money for student scholarships
- Scrap metal recycling program captures ferrous and non-ferrous metals from the campus waste stream
- First LEED Gold-certified building (Advanced Technology Education Center) awarded
- Third LEED Silver-certified building (A. Paul Schapp Chemistry Building) awarded

2016

- Second LEED Gold-certified building (Integrated Biological Sciences Building) awarded
- Collaboration among seven student groups to promote waste reduction and recycling

2017

- T-RUST (Urban Sustainability Training Grant), NSF Graduate Training Grant; dual-title degrees (biology, anthropology, communications, urban planning)
- Hosted ASLE (Association for the Study of Literature and Environment), conference for 900+ delegates from around the world

2019

- First celebration of Green Street - an annual program in October to celebrate Sustainability in Higher Education Month

2020

- First Sustainability Learning Community in conjunction with BIO 3500 - Ecology and the Environment
- Launch of Compost Pilot with Towers Cafe, Student Center Starbucks, and Panda Express
- Creation of the Department of Environmental Sciences and Geology

2021

- Approval of first Living Learning Community in sustainability at Chatsworth housing

2022

- Office of Campus Sustainability awarded APPA (Association of Physical Plant Administrators) award for Sustainability Innovation for Compost Program
- First celebration of Earth Month, an annual month-long event to highlight Earth Day as something to be celebrated every day through educational opportunities and volunteering

2023

- WSU receives Tree Campus USA designation from the Arbor Day Foundation

SWOT Analysis

Developing the Sustainability Strategic Plan involved substantial work on the part of many individuals participating on the nine task force groups. Several guiding documents were utilized to inform the planning process. An important aspect of this process involved establishing an understanding of the contexts in which the plan would be implemented. A SWOT (strengths, weaknesses, opportunities, and threats) analysis provides an overview of this context. The analysis includes the following:

Strengths:

- A culture of collaboration and engagement between students, faculty, staff, and stakeholders
- Sustainability initiatives have been established with multi-disciplinary engagement across academics
- Annual greenhouse gas inventory monitors progress toward reducing carbon emissions
- LEED-certified buildings help advance sustainability and energy efficiency on campus
- Wayne State University, located in Midtown Detroit, helps facilitate enhanced engagement and provides access to the surrounding community

Weaknesses:

- Shortage of focused initiatives by the institution to address climate change
- Limited resources to support sustainability initiatives by faculty, staff, and students across campus
- Need for consistent reporting from stakeholders to offer a comprehensive image of WSU's sustainability initiatives and activities
- An investment in campus recycling is needed to improve supporting infrastructure
- Need to address institutional investments to reduce emissions by advancing a sustainable investment portfolio and focused initiatives to address climate change

Opportunities:

- Mechanical, electrical, plumbing, and building envelope updates will help reduce greenhouse gas emissions
- Use of new, innovative technologies will help reduce negative impacts on the environment and realize energy efficiencies on campus
- Integrate use of analytical software to improve greenhouse gas emissions tracking and reporting
- Establish annual environmental, social, and governance reporting to share the institution's progress in these areas
- Initiating sustainability trends into engagement activities will help campus community make more sustainable decisions
- Increased community engagement in sustainability to reach beyond immediate stakeholders

Threats:

- WSU is a commuter-heavy campus, which produces significant emissions
- Low environmental literacy affecting the prioritization of climate change negatively impacts achievement of environmental goals
- Limited funding for sustainability initiatives poses a danger toward effective implementation
- University is unprepared to meet future regulatory requirements related to environmental compliance, sustainability, and climate change

Strategic Focus Areas

Wayne State University has identified the following Strategic Focus Areas to lead the institution's collective efforts to reduce its negative impact on the world's climate. Broadly, these areas include emissions reduction, integration of carbon sinks, and ways to mitigate negative impacts on the environment and community by the way the institution operates and conducts its business. Through a materiality assessment, annual greenhouse gas inventories, stakeholder engagement, and feedback from the campus community, these 10 Strategic Focus Areas were identified as important pathways for WSU to become more sustainable in its journey to reduce its impact on the global climate.

Environmental Justice (Section A) – Align environmental and restorative justice efforts of the university that will lead to the prioritization of environmental justice through increased research opportunities and funding, as well as additional education opportunities.

Carbon Reduction (Section B) – Reduce, balance, and offset the amount of carbon dioxide (CO2) emissions associated with all direct and indirect institutional activities affecting emissions.

Built Environment (Section C) – Integrate and emphasize a sustainable focus on the built urban area, more strictly referring to the places where the campus community lives and works.

Water Quality and Quantity (Section D) - Address the institution's stormwater run-off while also managing ecological consequences, contaminants, and disease found in stormwater and wastewater in an effort to maintain the health of water and its increase in availability.

Energy (Section E) – Focus, plan, and implement energy conservation measures that will reduce consumption, achieve operational efficiencies, and explore opportunities for renewable energy solutions.

Transportation and Mobility (Section F) – Explore and initiate mobility solutions and advance the use of alternative transportation with supporting infrastructure that will lead to a reduction of transportation-related emissions generated from all activities associated with the campus community.

Urban Biodiversity (Section G) - Preserve the vitality, variety, and variability among living organisms found around the university, and the resilience of the ecological systems in which they occur.

Sustainable Food Practices (Section H) – Explore and initiate sustainable practices within the WSU food system to advance local sourcing, healthy food options, a reduction in food waste, and fair labor practices in the supply chain.

Waste Reduction, Recycling, and Composting (Section I) - Initiate a systematic approach toward waste reduction and recycling that prioritizes a reduction of potential waste introduced to the campus community and identify opportunities to initiate the reuse of items more productively over their entire life cycles.

Academia (Section H) - Initiate collaborations and bolster existing efforts across the institution to support the growth of sustainable education within the curriculum while helping support and create an atmosphere that encourages research across the sustainability spectrum.

Acknowledgments

Wayne State University rests on Waawiyaataanong, also referred to as Detroit, the ancestral and contemporary homeland of the Three Fires Confederacy. These sovereign lands were granted by the Ojibwe, Odawa, Potawatomi, and Wyandot nations in 1807 through the Treaty of Detroit. Wayne State University affirms Indigenous sovereignty and honors all tribes with a connection to Detroit. With our Native neighbors, WSU can advance educational equity and promote a better future for the earth and all people.

Without the help from the following individuals the making of this plan would not have been possible.

Office of Campus Sustainability staff: Daryl Pierson, Camille Bedford, Julia Beltowski, Leah Komos, Grace Maves, Gwendolyn Schmidt, Jenna Steele

Presidents Standing Committee on Environmental Initiatives members: Julia Beltowski, Paul Bernard, Ashley Flintoff, Jon Frederick, Steve Gilsdorf, Barry Johnson, Donna Kashian, Barry Lyons, Elena Past, Donna Reinke, Gwendolyn Schmidt, Michelle Serreyn, Jenna Steele, Emily Thompson, Damon Wade

Task Force Group members: Nashmia Akhtar, Alyssa Beavers, Camille Bedford, Michael Belzer, Paul Bernard, John Borso, Annmarie Borucki, Scott Burdick, Marquita Chamblee, Diane Cheklich, Kamali Clora, Patrick Cooper-McCann, Diane Cress, Robin East, Ashley Flintoff, Steve Gilsdorf, Allen Goodman, Nisha Grant, Andrew Guinn, Noah Hall, Mayisha Haque, Alex Hill, Jeff Horner, Yaoxian Huang, Jacob Jackson, Natalie Jakub, Jamila Jefferson-Jones, Barry Johnson, Dimitri Kakaris, Ekta Kamalia, Donna Kashian, Leah Komos, Monica Lewis-Patrick, Barry Lyons, Alex MacKenzie, Grace Maves, Nate McCaughtry, Rahul Mitra, Joseph Monsur, Shirley Papuga, Elena Past, Steven Pecic, Daryl Pierson, Kami Pothukuchi, Michelle Serreyn, William Shuster, Jenna Steele, Jamie Steis Thorsby, Andrea Tangari, Emily Thompson, Kimberly Toby-Tomaszewski, Damon Wade, Yongli Wager, Renee V. Wallace, Rainesha Williams-Fox

Photographs by: Sara Faraj

Environmental Justice

Institutional Goal:

Environmental justice at Wayne State University assures that everyone can hold with confidence that their environment is safe and productive, and it **requires that the university values and safeguards both human diversity and biodiversity.** Environmental justice is realized at Wayne State University when all people can achieve their highest potential, without interruption by environmental racism or inequity.

Environmental justice (EJ) refers to those cultural norms and values, rules, regulations, behaviors, policies, and decisions that support a sustainable livelihood for all people.

Examples of environmental justice are: equal opportunity to decent-paying and secure jobs, quality education for present and future generations, decent and affordable housing options and adequate health justice, healthy food systems and ecosystems, democratic decision-making, personal empowerment, and finally, actively working towards restorative justice in the community.

Brief timeline: These next years are crucial in expanding environmental justice across campus, which is why this plan includes EJ as a larger part of the university's curriculum, launching a collective day of stakeholder EJ action, and the creation of a focal area around environmental justice and urban sustainability within the United Nations Regional Centre for Expertise on Education for Sustainable Development.

In this portion of the Sustainability Strategic Plan, you will find carefully constructed recommendations for Sustainable Purchasing (A.1), Establish a Focal Area in the United Nations Regional Centre for Expertise for Environmental Justice and Urban Sustainability (A.2), Research and Grant Opportunities (A.3), and a Collective Day of Action (A.4).

Objective A.1: Sustainable Purchasing

Evaluate WSU's purchasing relationships to ensure sourcing from local vendors who also value fair working conditions and that opportunities are prioritized whenever possible to purchase from and collaborate with minority and women-owned businesses. Integrate sustainable purchasing into ESG reporting.

Action Items:

- Create a committee and identify a chair from Procurement to explore a WSU sustainable purchasing policy that emphasizes the importance of sourcing from and supporting local vendors and food suppliers.
- Work in partnership with Procurement and Strategic Sourcing to advance opportunities for local sourcing options with black, indigenous, people of color (BIPOC), and women-owned businesses.
- Explore opportunities to integrate "local/-minority owned/-sustainable/etc." tabs on WayneBuy to streamline the process of making sustainable purchasing decisions.
- Collaborate with Aramark (food service provider) to advance healthy food options offered through campus dining and catering with prioritization toward local farmers and sustainable farming methods (refer to Objective H.2 for overlap).
- Partner with campus stakeholders to solicit feedback from cultural and religious groups to ensure the inclusion of food-related requests and dietary requirements (refer to Objective H.2 for overlap).

Proposed Timeline:

Year One	Year Three	Year Five
• Collaborate with Procurement and Strategic Sourcing on the creation of partnership contacts, their products, and capacity to distribute goods on a commercial basis with the university. • Explore the feasibility of a local food purchasing network for university vendors to refer to for specific food needs. • Categorize product sourcing to assess potential local vendor options.	• Explore feasibility of sustainable WayneBuy tab on the website to be used by departments, offices, colleges, and other groups across the university. • Establish a written procedure for purchasing from companies that support food workers' rights and uphold that same standard for on-campus food workers. • Establish a working group of members to begin drafting a WSU sustainable purchasing policy.	• Complete the sustainable purchase policy and enact across campus. • Establish monitoring that ensures adherence to new purchasing policy.

Objective A.2: Focal Area on Environmental Justice and Urban Sustainability

Establish a planning group to explore the creation of a focal area within the United Nations Regional Centre for Expertise (UN RCE) on Education for Sustainable Development for environmental justice and urban sustainability that will support research and inquiry about environmental justice within an urban sustainability context.

Action Items:

- Consult with the Provost to identify a champion, in collaboration with stakeholders, to lead the development of a framework for the EJ focal area.
- Develop a working research group that establishes sustainable relationships and collaborations with community organizations.
- Define the urban sustainability context that will inform the focal area's work.
- Identify the pressing issues related to environmental and restorative justice.
- Create a guest/visiting faculty rotation that brings in diverse voices from across the field to conduct research and facilitate student practicums.

Proposed Timeline:

Year One	Year Three	Year Five
• Support programming and collaborate with the Office of Diversity, Equity, and Inclusion to delegate different tasks between the two offices, emphasizing community relations and ESG initiatives. • Collaborate with the Detroit Center for Black Studies from the Mellon Foundation. • Collaborate with any new sustainability-related initiatives. • Identify working group participants and create a five-year plan for the development of the WSU focal area for environmental justice within the UN RCE.	• Seek both internal and external grant funding for research and teaching initiatives. • Continue to collaborate with Center for Black Studies and support initiatives from this group.	• Seek and hire staff to support this focal area. • Publish and begin to implement objectives from the five-year plan of the WSU focal area for environmental justice and urban sustainability.

Objective A.3: Research and Grant Opportunities

Explore grant opportunities around environmental justice as well as justice, equity, diversity, and inclusion (JEDI) documenting the focus of submitted grants to develop an inventory of sustainability, environmental justice, and restorative justice grants to emphasize the importance and significance of this research.

Action Items:

- Establish collaborative relationships with the Corporate and Foundation Relations team to work actively in searching with grantees for funding EJ-specific projects.
- Identify and categorize potential funders, funding and grant opportunities, foundations, corporate foundations, organizations, and agencies that support this work.
- Create and develop a web presence that will serve as a resource for EJ/JEDI project inventory, resource information, and funding opportunities.
- Document grants incorporating JEDI on the Cayuse/e-prop certification process by looking at the "Community Benefits" section of grant submissions to see where EJ/DEI fits into each application.

Proposed Timeline:

Year One	Year Three	Year Five
• Contact Corporate and Foundation Relations, OVPR, the Graduate School, and the Undergraduate Research Opportunities Program to investigate available grants for EJ research. • Work with these same groups to identify holes in the grant process where EJ can be more deeply embedded. • Discuss collaboration on future grants earmarked for EJ research .	• Work with Corporate and Foundation Relations, OVPR, the Graduate School, and the Undergraduate Research Opportunities Program to further prioritize EJ opportunities in the research field by finding grant opportunities that lend themselves to many disciplines. • Begin documentation of EJ undertones submitted in the "Community Benefits" section of Cayuse/e-prop certifications to better understand gaps associated with the grant application process.	• Showcase EJ grant and research projects across campus, sharing success stories and making research public information. • Report recommendations and outcomes for the focal area for environmental justice and urban sustainability.

Objective A.4: Collective Day of Action

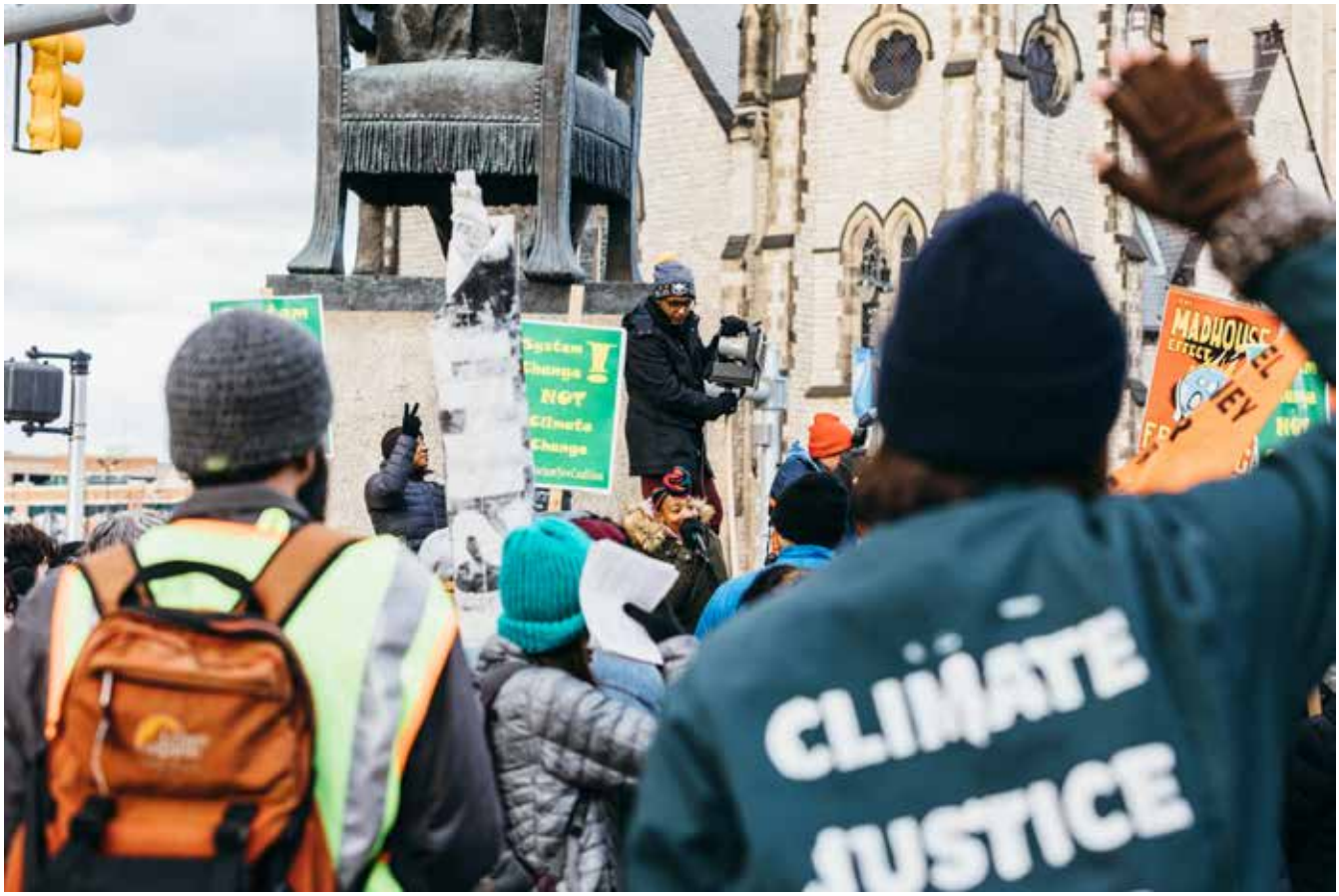
Create a university-wide collective day of environmental justice action, service, and education targeted toward and available to WSU and surrounding communities.

Action Items:

- Collaborate with campus and community organizations working toward environmental justice solutions across Detroit.
- Identify and create volunteer opportunities available for the day of action.
- Support and arrange provisions for university-funded transportation or shuttles to and from volunteer opportunities.
- Collaborate with the Dean of Students Office (DOSO) on a resource fair allowing Detroit-based organizations to table for more resources on their group and opportunities for students, faculty, staff, and community to serve.
- Create donation opportunities on Wayne State University websites and email distribution lists to further fund environmental justice efforts throughout campus.

Proposed Timeline:

Year One	Year Three	Year Five
• Set a recurring date each year prioritized by the university to be the WSU Collective Day of Action for Environmental Justice. • Coordinate with community groups as identified in Objective A.3 to find volunteer work and educational materials. • Coordinate having EJ representatives on campus to interact with university stakeholders.	• Launch a pilot day in coordination with these groups, documenting both the issues and successes of the program. • Reevaluate these to launch the more refined version of the program for year four.	• Continue to ensure the WSU Collective Day of Action for Environmental Justice will be an annual university event.



Carbon Reduction

Institutional Goal:

Wayne State University has made a carbon commitment to reduce its greenhouse gas emission (GHG) to 50% below its 2015-16 baseline by the target year of 2030. To meet this objective, the institution has identified various energy conservation measures (ECMs) across campus. **These ECMs include upgrades to targeted building envelopes as well as mechanical, electrical, and plumbing upgrades.** In addition, this plan seeks to engage the campus community in education, research, and actions that advance carbon reduction. These efforts would improve the university's long-term financial position by creating a cycle of savings achieved through carbon reduction, providing the opportunity to finance further sustainability initiatives yielding additional savings.

Greenhouse gas emissions are categorized into three scopes, decreasing in control over the emissions in each scope as the number increases. Scope 1 emissions are direct emissions from university operations, such as vehicle fleets, refrigerants, natural gas, and fertilizers. Scope 2 emissions are from upstream sources, such as purchased electricity. Scope 3 emissions encompass all other indirect upstream and downstream emissions from university operations, including commuting, direct financed travel, study abroad travel, solid waste, wastewater, and paper purchasing. Scope 3 emissions can also be considered to include emissions associated with university investments.

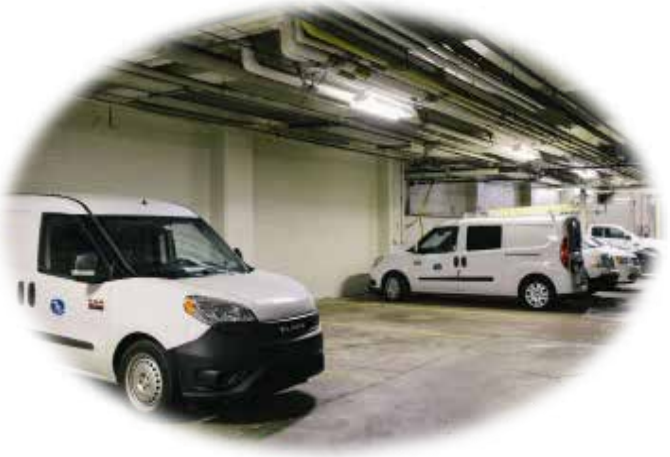
Brief timeline: Within the next five years, we will: have targeted methods for reducing GHG emissions, establish a baseline for GHG emissions yearly, update and evolve the GHG inventory, and use WSU's broad community connections to reduce carbon emissions past main campus.

In this portion of the Sustainability Strategic Plan, you will find recommendations for Scope 1 Emissions (B.1), Scope 2 Emissions (B.2), Scope 3 Emissions (B.3), Greenhouse Gas Inventory (B.4), Transportation (B.5), University Investments (B.6), and Leverage WSU's Broader Communities to Support Carbon Reduction Beyond Campus (B.7).

Objective B.1: Scope 1 Emissions

Explore opportunities to reduce Scope 1 emissions resulting from direct, on-campus sources by 2023 , with a view toward implementing steps to meet the 2030 objective of a 50% emissions reduction.

Action Items:



- Implement known and newly identified opportunities that will address mechanical, electrical, and plumbing projects as well as improve building envelopes of targeted buildings across campus. Also, identify opportunities to increase electricity use through electrification of heat, cooling, and transportation.
- Explore and pursue funding opportunities to electrify Wayne State's vehicle fleet and to achieve other transportation-related efficiencies.
- Reduce the use of inorganic chemical fertilizers (N, P, K) to potentially replace them with organic fertilizers (refer to Objective D.3 for additional information).
- Explore opportunities to achieve efficiencies within the research lab environment.

Proposed Timeline:

Year One	Year Three	Year Five
• Identify opportunities for mechanical, electrical, and plumbing projects as well as improving building envelopes. • Collaborate with Parking and Transportation to explore electrification and efficiencies through grant opportunities. • Install at least 50 electric vehicle charging stations on campus. • Establish working group to explore organic fertilizer options for WSU Grounds. • Explore technologies that are more effective in carbon capture and storage than current technologies used.	• Apply for grants and other funding opportunities to support an electric vehicle service fleet. • Convert at least 25% of all fertilizers used on campus to organic fertilizers. • Explore and identify options to collect emission reports coming from research labs. • Initiate plan to increase number of electric vehicle charging stations to at least 100 for the campus by Year Five. • Assess demand and plan for additional electric vehicle charging stations. • Identify more efficient carbon capture technologies and create plan to implement them.	• Increase WSU's electric fleet vehicles by 35%. • Convert at least 45% of all fertilizers used on campus to organic fertilizers. • Implement Year Three plan recommendations for electric vehicle charging stations.

Objective B.2: Scope 2 Emissions

Create a plan by 2025 to achieve reductions in Scope 2 emissions, consistent with the overall goal of 50% reductions by 2030.

Action Items:

- Seek to utilize cleaner energy across all university buildings.
- Collaborate with the Energy Team consisting of internal and external stakeholders to explore green power high-efficiency technology options and implement where possible, with a view to achieving synergies between emission reductions on campus and broader regional decarbonization.
- Explore the feasibility of installing solar on buildings with utility decreasing the cost per kWh (kilowatt hour) purchased.
- Increase the percentage of purchased electricity generated from renewable energy.

Proposed Timeline:

Year One	Year Three	Year Five
• Explore green power options. • Initiate reporting on energy use across all campus buildings. • Develop a targeted plan to reduce energy usage in campus buildings.	• Implement a plan to reduce energy usage in campus buildings. • Initiate conversations across Southeast Michigan on plans for decarbonization of the region. • Focus on energy efficiency, renewable energy, water consumption, and wastewater through green building standards for new and renovated buildings.	• Implement targeted energy reduction plans around campus.

Objective B.3: Scope 3 Emissions

Implement aggressive emission reduction actions within Scope 3 categories involving indirect sources such as commuting, food procurement, and university-sponsored travel- so as to achieve a 50% emissions reduction by 2030.

Action Items:

- Build upon the current framework that incentives travelers to choose a more sustainable method of travel i.e., DART, carpooling, or/and public transportation. (refer to Objective B.5 for additional transportation-related action)
- Identify stakeholders to advance and collaborate on Scope 3 emission reduction goals.
- Collaborate with Purchasing to identify suppliers and vendors that have sustainable business practices. Explore a framework that attracts businesses with sustainable business practices.
- Prioritize locally sourced and sustainably produced food in university-related purchasing.

Proposed Timeline:

Year One	Year Three	Year Five
• Collaborate among stakeholders to continue free transportation passes for students, faculty, and staff past the pilot stage. • Plan how to continue the program with the inclusion of additional incentives for car share, carpool, and other modes of public transportation. • Collaborate with Dining Services to see where fresh produce is currently sourced. Develop a plan to primarily use locally sourced produce on campus. • Identify and connect farms in Detroit with WSU Dining Services to provide the institution with fresh produce.	• Seek funding to expand the annual transportation pass with the campus community. • Initiate a plan to have at least 50% of produce to be sourced from local, sustainable, urban farms that is used within Dining Services. • Collaborate with Purchasing to prioritize sustainable business practices among suppliers and vendors in purchasing decisions.	• Assess actions taken between Year One and Year Three to determine progress and make necessary adjustments to reach the 50% reduction goal by 2030.

Objective B.4: Greenhouse Gas Inventory

Develop annual GHG emissions inventory to actively track progress toward the 2030 objective.

Action Items:

- Actively support and seek in-house and third-party funding for expanding data collection and analytics and developing an annual report.
- Establish a plan around the most effective way of collecting information and conducting analysis. Explore new technologies that are efficient in carbon capture and storage.

Proposed Timeline:

Year One	Year Three	Year Five
• Develop a team to explore data collection and analytics related to greenhouse gas emissions. • Improve current reporting of emissions through either in-house collection or third-party collection metrics.	• Identify and implement GHG data collection system. • Collaborate with Purchasing to gather information on supplier and vendor carbon footprint associated with WSU purchases. • Identify and collaborate with stakeholders to gather emissions data related to institutional and employee retirement investments.	• Develop a comprehensive plan of collecting monthly and formulating a report for yearly emissions through the advancement of GHG inventory collection methods. • Assess actions taken between Year One and Year Three to determine progress and make necessary adjustments to the data collection for the Greenhouse Gas Inventory.

Objective B.5: Transportation

Improve the data collection on university-related air and ground travel to support and assess the work to reduce emissions as noted in Section F.

Action Items:

- Identify options to record commuting frequencies, distances, and travel mechanisms.
- Increase the frequency of transportation survey to improve data collection.

Proposed Timeline:

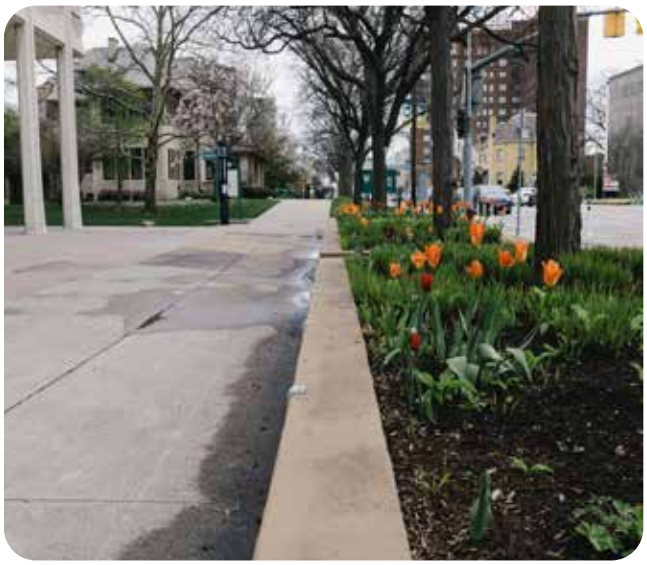
Year One	Year Three	Year Five
• Review previous transportation surveys to assess ways to improve the survey.	• Create yearly transportation surveys.	• Assess trends and patterns from yearly transportation surveys to create targeted actions for reducing emissions.

Objective B.6: University Investments

Establish an exploratory committee to develop recommendations for how Wayne State University can assess and reduce the contribution that investments held by the university and university-supported retirement plans make to carbon emissions and other unsustainable practices, assess and reduce financial risks associated with fossil fuel production and climate change, support a shift toward environmental sustainability through its investments, and position itself as a national leader in this area.

The charge of the exploratory committee will include consideration of the following strategies:

- Divestment (institutional investments): Divest from companies directly involved in or indirectly supporting fossil fuel production, deforestation, and other major contributors to climate change.
- Strategic investments in sustainability (institutional investments): Identify opportunities for financially favorable investments that support sustainability, including both investments in outside assets and investments in the university's own decarbonization efforts that can produce favorable rates of return in the form of cost savings.
- Responsible shareholder engagement (institutional investments): Develop and support shareholder resolutions for disclosure of climate change risks, for stopping new fossil fuel development projects and shifting to clean energy, and for shifting lobbying efforts and political campaign contributions from opposition to support for pro-climate policies.
- Divestment and/or shareholder engagement (retirement plans): Work with university retirement plans for divestment and/or responsible shareholder engagement.
- Coordination with other institutions: Research and select an organizational umbrella to join with other colleges and universities and other institutional investors to magnify the impact of the above strategies.



Action Items:

- Establish committee or task force to explore and advance this institutional direction. This body will be tasked with issuing and implementing recommendations.

Proposed Timeline:

Year One	Year Three	Year Five
• Establish committee or task force. • Begin studying issue, in consultation with various university stakeholders and external constituencies.	• Issue recommendations and work to gain support and approval.	• Implement recommendations.

Objective B.7: Leverage WSU's broader communities to support carbon reduction beyond campus

Develop strategies to leverage communities outside of Wayne State University, including City of Detroit, other institutions, faculty, staff, students, alumni, and their families.

Action Items:

- Sponsor and organize group purchase of renewable electricity and gas. Consider adding group to E&RE rate (Refer to B.2 for more information).
- Explore feasibility for group purchase of electric vehicles (Refer to E.4 for more information)
- Explore feasibility of developing a WSU-branded consumer credit card that offsets all or a portion of the cardholder's carbon footprint, either through carbon offsets purchased from third party or through direct investment in campus decarbonization.
- Coordinate with others in the community on group projects whose economics improve with scale such as: municipal solid waste (MSW) to fuel/power, plastics to fuel, anaerobic digesters, electric vehicle sharing, etc.
- Explore the possibility of developing a community solar project in coordination with the Detroit community and nonprofit organizations.
- Collaborate with community partners to support and initiate group tree plantings.
- Establish program to develop group purchases of intelligent thermostats.
- Explore sponsorship and promotion of carbon tracking through dashboards, games, and competitions.

Proposed Timeline:

Year One	Year Three	Year Five
• Establish a subcommittee to implement action items.	• Assess progress of projects that have been implemented by the subcommittee. • Assess progress toward initiating remaining action items, determine feasibility and recommend further steps when appropriate.	• Assess actions taken between Year One and Year Three to determine progress and make necessary adjustments to the projects implemented and consider additional strategies for leveraging WSU positioning in the community.

Built Environment

Institutional Goal

A sustainable built environment at Wayne State University is achieved at the intersection of the goals of the university's existing Strategic Plan, Campus Master Plan, and Sustainability Strategic Plan. The built environment space on our campus is a place where Warriors live, learn, and work, and it is the duty of the university to **reduce the campus' environmental impact while maintaining an interactive and responsive social environment.**

Built environment is the common shared interest in human configurations of the environment and the interactions among the constructed, social, and natural environments.

A sustainable built environment is created with the intent to be flexible with the needs of future generations while meeting the demands of the present; it integrates both the wants and needs of university stakeholders in a conscious and deliberate way to foster social interactions.

Brief timeline: Within the next few years, we aim to begin a deep review process of the WSU Design and Construction Standards document, create focus groups of stakeholders to review their wants and needs of the built environment, and implement sustainable and environmentally supportive infrastructure across campuses.

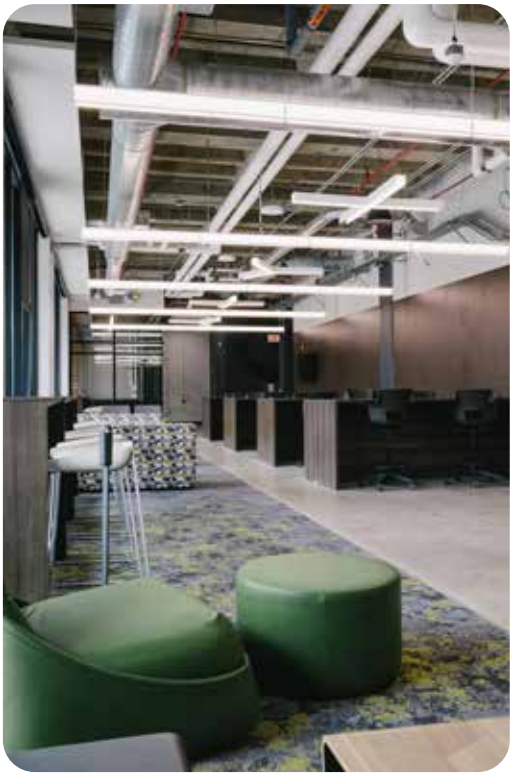
In this portion of the Sustainability Strategic Plan, you will find carefully constructed recommendations for Campus Infrastructure (C.1), Transportation (C.2), Green Building Standards (C.3), and Landscape and Site Development (C.4).

Objective C.1: Campus Infrastructure

Improve the sustainability of Wayne State's physical infrastructure to refine safety and accessibility, encourage the health of local ecology, and better support the needs of stakeholders. The partnerships we have made with the local government for public infrastructure and the contractors of buildings for private infrastructure will be essential working parts in this process.

Action Items:

- Partner with the Cultural Center and other Midtown institutions to submit proposals for better pedestrian roadways and bike lanes.
- Work with the Wayne State University Police Department to enforce Detroit anti-idling laws on campus.
- Implement bike lanes across all roadways on and around WSU campuses, connecting them all to make a safe and reliable bike transit system across the university.
- Continue to collaborate with the local government on private sustainable additions to public infrastructure.
- Update building infrastructure with the most sustainable and energy-efficient technologies as recommended in this document.
- Install dark-sky compliant lighting fixtures outdoors and motion-activated light timers indoors (refer to Objective G.3 for additional information).
- Address issues with water pooling on sidewalks by prioritizing the installation of pervious surfaces and angling impervious surfaces toward bioswales and rain gardens across campuses (refer to Objective G.1 for additional information).
- Host surveys and open conversations with university stakeholders to explore what they want to see from our university.



Proposed Timeline:

Year One	Year Three	Year Five
• Begin outreach to the Detroit Cultural Center, Midtown institutions, the WSU Police Department, and City of Detroit on roadway recommendations. • Read through the WSU Construction and Design Standards document and note potential areas of improvement. • Read through and note areas where the Campus Master Plan and Sustainability Strategic Plan's objectives coincide. Make note and include action items across this document. • Host multiple hour-long discussions with different stakeholder groups on what they want to see from the university's built environment.	• Solidify details of Midtown roadway improvement project and submit finalized proposal to the City of Detroit for review. • Collaborate with WSU Police Department on a pilot restart program of anti-idling enforcement to be reimplemented. • Create and submit proposal for sustainable changes to the WSU Construction and Design Standards document. • Collaborate with the WSU Facilities Planning and Management department on implementation of sustainable aspects of the Campus Master Plan. • Survey non-permeable surfaces on campus and make plan to reduce or change it to permeable surfaces. • Begin discussion with campus stakeholders on changes to the university's built environment.	• Begin final review and implementation of changes to Midtown roadways. • Restart and communicate enforcement of anti-idling laws on campus. • Begin enforcement of the updated Construction and Design Standards document. • Begin construction to reduce non-permeable surfaces on campus and installation of permeable surfaces. • Establish a team to address stakeholder recommendations for the built environment.

Objective C.2: Transportation

Improve the efficiency and structures that WSU stakeholders use to move across Detroit and increase reachability and access to all modes of transportation to provide more timely and reliable options (refer to Transportation and Mobility section for more information).

Action Items:

- Establish a strong partnership with the WSU Parking and Transportation Services department and the Office of Economic Development to advocate for better communication on sustainable opportunities to the university's stakeholders.
- Advocate for and establish stronger regional transit systems by forming a relationship with the New Center Intermodal Facility (NCIF) to increase access to transit lines across Wayne State University.
- Improve the transit connectivity of campus by making last-mile connections.
- Collaborate with the City of Detroit's Municipal Parking Department on installing electric vehicle charging stations at street parking locations around WSU campuses.
- Introduce indoor and outdoor covered bike storage locations with electric bike charging capabilities
- Add pedestrian-bike safety signage at crosswalks to assure pedestrians check for bike lane users before crossing the street.

Proposed Timeline:

Year One	Year Three	Year Five
• Establish a relationship between WSU Parking and Transportation department and Office of Economic Development with the NCIF. • Curate discussion with Parking and Transportation department on ways the university can incentivize public transit use through a potential "last mile" program. • Connect with the City of Detroit's Municipal Parking Department to open discussion of requirements for electric vehicle charging stations at street parking locations. • Include language about covered bike storage and electric charging capabilities in update to Construction and Design Standards document.	• Begin discussions between WSU Parking and Transportation department, Office of Economic Development, and the NCIF to work on potential university stakeholder discounts and incentives to use the system. • Launch a "last mile" pilot program with WSU Parking and Transportation department to identify what strategies incentivize public transit programs. • Begin scoping out potential street parking locations along campus that meet requirements for electric vehicle charging stations.	• Implement the most effective "last mile" strategy. • Begin construction of electric vehicle street parking locations found across campus.

Objective C.3: Green Building Standards

Update the Wayne State University Construction and Design Standards document to reflect sustainable new construction and renovation initiatives that specifically support green building standards and ensure that all buildings on campus reach an environmental standard of excellence.

Action Items:

- Reiterate a need for all new construction and renovation of buildings to be designed to meet a standard of LEED (Leadership in Energy and Environmental Design) Gold.
- Heavily recommend bird-safe glass or bird-safe window film additions to windows that experience frequent bird strikes (refer to Objective G.3 for additional information).
- Reintroduce the importance of ASHRAE air quality industry standards and data metering for both indoor and outdoor emissions.
- With growing electrical needs in buildings, electrical outlet access must be increased and updated for energy efficiency (refer to Objective E.3 for additional information).
- Add language requesting that building infrastructure be updated with the most sustainable and energy-efficient technologies.
- Heavily recommend limiting light pollution by installing dark sky-compliant lighting fixtures outdoors and installing motion-activated light timers indoors.

Proposed Timeline:

Year One	Year Three	Year Five
• Develop a relationship with all groups under Facilities Planning and Management to create a representative group made up of members from each office. • Initiate a process for annual check-ins on Construction and Design Standards document to update building codes or trends and new construction requirements.	• Delegate planning of an annual WSU Construction and Design Standards review to a planning group. • Launch pilot review meeting to identify ways to ratify reviewed document.	• Assure continuation of the annual review process for the Construction and Design Standards document.

Objective C.4: Landscape and Site Development

University landscapes and sites encourage social interaction and foster the local ecology of the area through managing the intersection of what stakeholders want to see in outdoor spaces while reaching the objectives of the urban biodiversity's statement. As an urban research institution, WSU is poised to be a global leader in sustainable planning, research, and implementation.

Action Items:

- Increase funding opportunities to further urban biodiversity construction and research opportunities across Wayne State campuses (refer to Objectives G.1 & G.2 for additional information).
- Increase greenstorm water management techniques across campus, including rain gardens and bioswales, to naturally address issues caused by extreme events related to climate change.
- Encourage use of the campus by WSU-affiliated organizations (T-RUST, Detroit Biodiversity Network, etc.) as a living lab to encourage research opportunities and sustainability projects (refer to Objective G.2 for additional information).
- Enhance and install more civic amenities, such as benches, outdoor classrooms, bike repair stations, tables, and trash receptacles across campuses to encourage outdoor social experiences.
- Advance Wi-Fi access to outdoor spaces to allow the campus community to be productive while outside.
- Regarding Objective G.1, increase the number of total campus trees by 500 and double the university's biodiversity in five years.
- Collaborate with the WSU Grounds department to use less-harmful fertilizers and pesticides, and machinery that reduces noise pollution (refer to Objectives D.3 and G.1 for additional information).

Proposed Timeline:

Year One	Year Three	Year Five
• Connect with WSU Grounds department on establishing an efficient and manageable timeline for this "greening" initiative. • Explore alternative landscaping methods to reduce harmful chemical contamination of biodiversity. • Assemble assessment team to document baseline data of trees, benches, tables, and WiFi dead zones across outdoor campus areas.	• Conduct a review of any changes in groundskeeping methods and the effects they may have on the biodiversity of campus. • Continue to document all tree and other biodiversity planting operations to meet base benchmark. • Document usage of different types of civic amenities by stakeholders, noting which ones are most often used, where they are placed, and how often they are busy.	• Review how biodiversity has changed on campus and conduct assessment of what must change in the next sustainability plan.

Water Quality and Quantity

Institutional Goal:

Water is one of the most valuable and essential parts of human life; therefore, it is essential that we conserve it and protect its quality. **It is essential that, as a university, we regulate and reduce wastewater volume, all while maintaining human and local ecosystem health as a priority.**

Water quality defines water volume that is capable of supporting and sustaining human health with an overall healthy campus ecosystem. This includes consideration of campus buildings and plumbing infrastructure, the entirety of the campus environment, and the surrounding community.

Water quantity is the amount of water that the university environment consumes and works to conserve through responsible and conscientious monitoring and regulation of its use.

Brief timeline: Over the next five years, we will establish a cohesive water tracking system, convert at least 1,000 square feet of impervious surface to pervious surfaces every year, and establish responsibility for our wastewater and its connection to the city of Detroit.

In this portion of the Sustainability Strategic Plan, you will find recommendations for Water Tracking (D.1), Impervious to Pervious Surface Conversion (D.2), and Responsible Waste Water (D.3).

Objective D.1: Water Tracking

Create a Standard Operating Procedure (SOP) for tracking building water usage.

Action Items:

- Conduct a water usage assessment, with monthly and yearly reports, by collecting information from water meters on campus.
- Improve the awareness and availability of data on how water flows across the campus and through its infrastructure.
- Track campus drainage charges for analysis to better understand the economic impact of water on campus and take these reports into account when making decisions about water infrastructure.
- Establish oversight by the Water Safety Advisory Committee on water quality testing and continually follow the guidelines they have in place.

Proposed Timeline:

Year One	Year Three	Year Five
• Start conversations with the Water Safety Advisory Committee to create a comprehensive SOP on water quality and quantity within campus buildings, continually updating. Share this document with all building managers. • Start conversations with the City of Detroit to understand how water runoff into sewers is tracked and how to better log the water quantity. • Create a Water Infrastructure team on campus consisting of students, staff, and faculty working with FP&M to begin to log all pervious, impervious, and sewer drains on campus (main, medical, and satellite campuses). • Work with FP&M and the Water Infrastructure team to look over previous water usage assessments to gauge a baseline for each year to find reduction opportunities.	• Collaborate with building managers to continually update and improve water quantity data collection for each building on campus. • Use the map created by the Water Infrastructure team and FP&M to identify areas of possible impervious to pervious conversion and greenspace opportunities. • Begin to log monthly water usage assessments for the entire campus and individual buildings, creating yearly reports to be shared, including baseline report and reduction opportunities.	• Create a permanent Water Safety Advisory office on campus with jobs specifically pertaining to water quality testing and water quantity monitoring. • Collaborate with the City of Detroit to improve the sewer system on and surrounding Wayne State's campus, as well as advocate for the entire city. • Use monthly and yearly reports created by the Water Infrastructure team to make a plan to reduce water consumption on campus. • Establish targeted plans to reduce water waste and consumption toward high-traffic areas, such as the Student Center, Mort Harris Recreation and Fitness Center, and residential buildings.

Objective D.2: Impervious to Pervious Surface Conversion

Achieve annually the conversion of at least 1,000 square feet of impervious surface to pervious surfaces.

Action Items:

- Actively seek funding for projects that convert hardscape to softscape such as bioswales, pervious surfaces, rain gardens, etc.. (refer to Objective G.1 for additional information)
- Coordinate with FP&M to determine synergies among projects that will reduce a real extent of hardscape surfaces, if even conversion to well-drained turf cover.
- Create community partnerships with local organizations and ongoing campus projects and research surrounding water quality.

Proposed Timeline:

Year One	Year Three	Year Five
• Create a team of students to actively look for funding related to water infrastructure for the conversion of hardscapes to softscapes such as bioswales, pervious surfaces, and rain gardens. As opportunities are found, prepare a presentation to give to groups that could possibly take on the project and actively apply to opportunities. • Actively participate in conversations with FP&M to log current projects related to hardscape conversions on main and satellite campuses and understand future plans. • Curate a team to actively research community projects related to water quality and quantity, reaching out and starting conversations with these groups to engage student volunteers.	• Have at least two projects on campus that are funded through grants that relate to water quality or quantity, cataloging progress monthly. • Continue to have conversations with FP&M about plans for the future and progress on current plans related to water quality or quantity. • Engage with at least two community projects a year with student volunteers and possibly professors when applicable, actively helping to search for funding or project expansion opportunities.	• Have at least 5,000 square feet of impervious surface conversion through research related projects, community projects, or funded construction projects on WSU main campus. • Continue to catalog progress of ongoing projects and future plans related to water quality or quantity through FP&M.

Objective D.3: Responsible Waste Water

Initiate facility and grounds improvements and water conservation techniques to reduce wastewater from the campus.

Action Items:

- Establish a plan to better track deicing salt usage on campus and develop more environmentally friendly options.
- Reduce the use of inorganic chemical fertilizers (N, P, K) by replacing with organic fertilizers (refer to Objective G.1 for additional information).
- Form a relationship with the Detroit Zoo to use their stable, composted organic fertilizer products.
- Installation of low-flow shower heads in residence hall rooms.
- Installation of dual-flush toilets in campus buildings.

Proposed Timeline:

Year One	Year Three	Year Five
• Implement conversations with FP&M about yearly salt and fertilizer use and any current plans about reductions of either. • Start to create a comprehensive plan of how to reduce inorganic fertilizers and salt usage on campus. Start to create a plan of tracking salt usage on all campus sites. • Start conversations with Housing and Residential Life about any construction plans in student housing related to water quantity control. Begin the early stages of planning on how to fund and implement this project. • Begin conversations with Housing and Residential Life on the installation of dual-flush toilets on campus.	• Finalize a comprehensive plan of salt and inorganic fertilizer reduction on campus and begin to implement the plan. • Finalize plan and funding options for low-flow shower heads in residential halls and begin to implement early stages of plans. • Establish planning and funding of installation of dual flush toilets on campus buildings. • Implement the salt tracking system on all campus sites.	• Have at least half of all shower heads in residential hall rooms be low-flow. • Have at least 25% of all toilets in campus buildings be dual-flush. • Have at least a 25% replacement of inorganic fertilizers for more organic options. • Have at least a 25% replacement of salt for more natural methods, such as sand or beet juice.

Energy

Institutional Goal:

Sustainable efficiency of energy services at the university is achieved when both the infrastructure and behavior surrounding energy use are changed to reflect efficient and cost-saving measures. Our goal as a university is to **achieve energy efficiency through reducing our carbon footprint 50% by 2030 using our 2015-16 energy data as baseline.**

Energy waste reduction: Using energy-saving technology like occupancy detection and estimation, building automation systems, and changing behaviors around the use and waste of energy.

Energy efficiency is achieved when buildings are ensured to perform efficiently by optimizing existing technology, reviewing equipment operating beyond design life, and increasing awareness of energy waste reduction methods.

Brief timeline: These next few years are crucial in implementing sustainable energy technology, underlining the importance of launching renewable energy programs across campus, retrofitting all WSU buildings with energy-saving technology, and investing in the research and development of future sustainable energy technology.

In this portion of the Sustainability Strategic Plan, you will find carefully constructed recommendations for Carbon Reduction and Reporting (E.1), Renewable Energy (E.2), Energy Efficient Infrastructure (E.3), and Electric Vehicle Infrastructure (E.4).

Objective E.1: Carbon Reduction and Reporting

The university aims to achieve 10% reduction below 2015-16 energy levels in Scope 1 and Scope 2 greenhouse gas emissions by 2027.

Action Items:

- Support the energy management team in building energy efficiency efforts by exploring sustainability-related ECMs.
- Reporting progress: track yearly energy savings and make them publicly available online as part of the ESG project metrics.
- Continue to foster productive and transformative relations with DTE to continue the sustainable energy investment trend.
- Track energy use through Energy Star Portfolio Manager's automatic reporting system Energy Hub for university reference.
- Explore options to convert all buildings to DLC-certified LED and motion-activated lighting fixtures where possible.

Proposed Timeline:

Year One	Year Three	Year Five
• Work with energy management team to identify buildings that need most aid in energy efficiency. • Solidify use of Energy Star Portfolio Manager as university's main reporting program, assuring all energy information is captured. • Work with DTE to identify possible areas for renewable energy installation and use throughout the university.	• Assure DLC-certified LED lights and motion-activated fixtures are implemented as often as possible in buildings, classrooms, and offices. • Work with biology department and Detroit Audubon to see that on-campus outdoor lighting is selected or filtered to be compatible with local fauna with regard to light disturbing natural life cycles and light pollution. • Identify ways that energy use and savings information can be made publicly accessible to display measures the university has made to advance efficiency efforts. • Work to include all foreseeable renewable energy plans made with DTE into the WSU Design and Construction Standards document for university approval.	• Assure completion of energy retrofitting process throughout university. • Use data collected from energy saving and reporting to identify other possible ways to make buildings more energy efficient. • Assure any plans to implement renewable energy on campus are approved by the university to include in future construction and renovation projects.

Objective E.2: Renewable Energy

Renewable energy is currently the most reliable and sustainable investment in energy technology, making it essential to install forms on campus and to use 100% of generated energy at the university.

Action Items:

- Explore the feasibility of different kinds of innovative renewable energy sources, such as wind and solar power, for campus application.
- Add language to Design and Construction Standards document to see where renewable energy efforts might fit into renovation and new construction on campus.
- Explore and implement opportunities to install one megawatt (3,250 panels) of solar energy on campus with the help and maintenance of DTE.
- Look toward small-scale solar projects, such as solar-powered picnic tables with charging stations, outdoor phone-charging kiosks on campus, and e-bike charging stations.

Proposed Timeline:

Year One	Year Three	Year Five
• In tandem with earlier timeline goals, work with DTE to identify possible areas for renewable energy installation and use throughout the university. • Identify possible areas across campus that can house the panels for solar energy generation. • Identify areas where the university can invest and install small-scale solar projects.	• Work to include all foreseeable renewable energy plans made with DTE into the WSU Design and Construction Standards document for university approval. • Work with DTE to solidify plans for maintenance and upkeep of new solar programs and initiatives.	• Assure all plans to implement renewable energy on campus are approved by the university. • Include renewable energy efforts in future construction and renovation projects.

Objective E.3: Energy Efficient Infrastructure

Assure all new construction, renovation, and upkeep/maintenance reaches an energy-efficient technology standard to continuously support sustainable energy consumption across campus.

Action Items:

- Work with FP&M (Facilities Planning and Management) operations to assure DLC (design lights consortium standard)-certified LED light fixtures, occupancy sensors, and other energy-conserving measures are taken into account for installation with maintenance requests.
- Coordinate with the Design and Construction office to retrofit all lighting structures building by building.
- Look into the feasibility of creating a section in the Design and Construction Standards document dedicated to sustainable energy installation.
- Ensure all energy-related infrastructure advances efforts to achieve a building standard of LEED Gold.

Proposed Timeline:

Year One	Year Three	Year Five
• Identify groups within FP&M to make feasible goals toward energy-efficient infrastructure across campus. • In tandem with Objective C.3, work to include sustainable energy installation into the WSU Design and Construction Standards document.	• Begin making plans to retrofit campus energy infrastructure building-by-building according to the energy team through FP&M. • Assure any changes to the Design and Construction Standards document regarding energy are approved by WSU energy team.	• Assure all buildings have been retrofitted or plan to be in final year. • Assure all regulations to new construction and renovation procedures include energy-saving technologies.

Objective E.4: Electric Vehicle Infrastructure

Expand electric vehicle infrastructure on campus and support efforts to electrify state-owned vehicle fleets and support stakeholders' electric vehicle use.

Action Items:

- Collaborate with Parking and Transportation and university stakeholders to bring more accessible electric vehicle charging stations to campus.
- As per Objective C.2, work with the City of Detroit's Municipal Parking department to introduce electric vehicle charging stations to street parking locations around campus.
- Explore collaborations from the State of Michigan to transition WSU-sanctioned vehicles from gas powered to electric.
- Capture data related to vehicle charging station usage to support future efforts.
- Explore the possibility of sponsoring and negotiating group electric vehicle purchase rates for faculty, staff, students, alumni, others.

Proposed Timeline:

Year One	Year Three	Year Five
• Begin capturing data related to usage of electric vehicles on campus and where stakeholders most prefer to park electric cars around campus. • Establish strong relations with City of Detroit's parking authority to identify potential campus-connected roads for electric vehicle charging stations. • Identify grants and other ways to begin transition to electric state-owned vehicles. • Explore possibility of sponsoring and negotiating group EV purchase rates.	• Based on information captured from stakeholders, begin working with DTE toward implementing charging stations in high-traffic areas. • Identify how many electric vehicle charging stations are possible to add on roads near campus. • Begin transition to electric university vehicles • Implement group EV purchase plan, if feasible.	• Implement charging stations across campus. • Implement charging stations on university-surrounded roads. • Finish transition of university-owned vehicles to electric vehicles.

Transportation and Mobility

Institutional Goal:

Reduce greenhouse gas emissions from university-related travel while increasing accessibility and connectivity to sustainable transportation options.

Mobility refers to the ability to freely move or be moved and the level of ease of movement in transportation.

Application to campus:
2018 Campus Travel Survey quick facts

- Majority single occupancy: M-F, 64% of commuters drive alone to campus
- Traveling often: 60% of commuters travel to campus four to seven days a week
- "Primarily a commuter college, Wayne State University Transportation Survey indicates that between 63-68% of students, staff, and faculty drive alone to commute to campus."

Brief Timeline: Over the next five years, we will establish GHG reduction efforts around trips to, on, and around campus, expand the electric vehicle infrastructure and fleet vehicles, create a targeted transportation campaign, and establish tracking of off-campus transportation emissions.

In this portion of the Sustainability Strategic Plan, you will find recommendations for Trips to Campus (F.1), Trips on and Around Campus (F.2), Electric Vehicles (F.3), On Campus Transportation (F.4), University Transportation Campaign (F.5), and Off-Campus Transportation Emissions (F.6).

Objective F.1: Trips to Campus

Facilitate opportunities that increase use of public transportation .

Action Items:

- Increase ridership and awareness among students, faculty, and staff.
    - Students: Work to inform all incoming freshmen at orientation on how to use the free public transportation options on campus. These could be in-person or virtual how-to resentations with the Office of Economic Development.
        - DOSO shuttles, Campus Activities Team
        - Learning communities, sustainability transportation ambassador
    - Faculty: Work with campus faculty and the Office of Teaching and Learning to incorporate transportation resources into the class curriculum by providing learning tools and resources like presentations. “How to take advantage of your urban setting.”
    - Staff: Staff-focused public transportation incentives
- Map where each group (student, staff, faculty) lives and create a public transportation map that highlights these areas with a campus living survey
    - Identify clusters of people to create targeted outreach campaigns.
- Advocate for improved public transit in SE Michigan.
- Reduce single-occupancy vehicle trips through the promotion of walking, biking, or carpooling.

Proposed Timeline:

Year One	Year Three	Year Five
• Engage in communication with DOSO, CAT, OED, and orientation leaders about presenting on public transportation in the city. • Create a presentation on public transportation in the city to give to incoming freshmen, creating pamphlets, fliers, and activities. • Open conversations with the Office of Teaching and Learning to create opportunities to integrate transportation resources into syllabi. • Form a group (students, staff, or faculty) dedicated to finding resources related to sustainable transportation and boosting opportunities to the campus community.	• Continue to give presentations on public transportation at freshman orientation and other student activity events (Festifall, WinterFest). • Create and implement a requirement for transportation resources into syllabi with the Office of Teaching and Learning. • Continue to evolve campus community group for sustainable transportation efforts in Detroit through concentrated student involvement efforts.	• Continue to implement transportation resources into syllabi for WSU courses. • Continue to evolve campus community group for sustainable transportation efforts in Detroit through concentrated student involvement efforts.

Objective F.2: Trips on and Around Campus

Increase carpooling and reduce the number of trips made to campus.

Action Items:

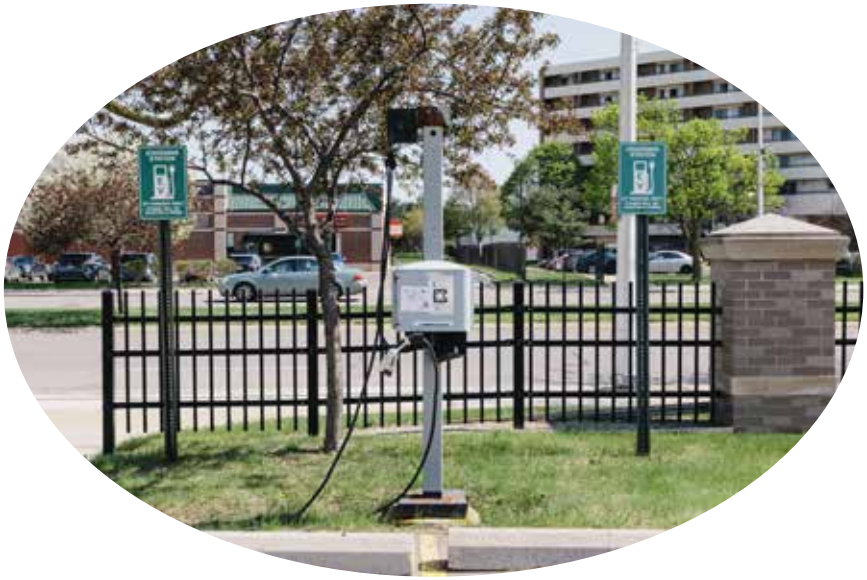
- Create a SEMCOG (Southeast Michigan Council of Governments) Commuter Connect portal for the university.
- Increase and promote SEMCOG offerings.
- Reduce unnecessary trips to campus.
    - Flexible working arrangements for faculty and staff.
    - Develop monitored remote testing mechanisms to ensure quality of remote education.
- Reduce emissions associated with trips to campus.
    - Encourage transit-oriented living, improve transit options to campus along transit corridors, and promote living options that are transit accessible.

Proposed Timeline:

Year One	Year Three	Year Five
• Create a SEMCOG Commuter Connect portal for the campus community. • Engage leadership in conversations regarding flexible work arrangements to reduce the amount of travel to and from campus. • Form a group (students, staff, faculty) dedicated to finding resources related to sustainable transportation and boosting opportunities to the campus community.	• Continue to update SEMCOG Commuter Connect portal yearly. • Continue to encourage transit-oriented living by improving conversation with Detroit's Transportation Department to improve public transportation options. • Create a comprehensive plan to implement a flexible work schedule, with detailed plans on remote work.	• Share and implement, where possible, the plan for a flexible work schedule.

Objective F.3: Electric Vehicles

Increase electric vehicle infrastructure and expand the electric vehicle fleet on campus.



Action Items:

- 25-30% of campus fleet vehicles to be electric vehicles by 2027.
- 100-200 electric vehicle chargers on campus by 2027.

Proposed Timeline:

Year One	Year Three	Year Five
• Continue conversation with DTE about electric vehicle charging infrastructures for university fleet. • Actively look and apply for grants to expand university fleet vehicles to be electric vehicles. • Actively apply to state and national infrastructure grants for Electric Vehicle chargers on campus.	• Record progress on projects to ensure completion of Year Five goals.	• 25%-30% of campus fleet vehicles to be electric vehicles. • Expand electric vehicle charger numbers by 100 chargers.

Objective F.4: On Campus Transportation

Increase biking, mobility, accessibility, and connectivity on campus.

Action Items:

- Expand infrastructure for secure, and accessible bike parking and storage options throughout campus. Connect bike parking options to public transportation stops to increase connectivity.
- Apply for Bike-Friendly University designation.
- Digitalize the current Office of Campus Sustainability bike map. Update routes, parking locations, fix-it stations, bike shops, and shower accessibility.
- Expose students, faculty, and staff to bike parking and storage, route-planning assistance, repair and maintenance clinics, and access to shower facilities.
- Promote the use of low-emissions on-campus travel.
    - Promote the use of free DART passes for DDOT, SMART, and QLine
    - Promote the use of MoGo
    - Advocate for improved service from DDOT, SMART, QLine, and MoGo

Proposed Timeline:

Year One	Year Three	Year Five
• Create relationships and conversations around bike infrastructure with Planning and Space Management. • Form a group dedicated to non-public transit transportation (i.e., biking, walking). • Update where bike racks are and any issues related to bike infrastructure yearly. • Apply for Bike-Friendly University designation yearly,	• Identify areas where bike infrastructure can be expanded (i.e., bike lanes, bike racks, bike repair stations), • Explore funding options related to expanding bike infrastructure through group related to non-public transportation group. • Create physical and digital advertisements of bike routes in downtown Detroit and walkable events, restaurants, and green spaces.	• Complete the suggestions made by Transportation group formed in Year One, focusing on heavily used spaces on campus.

Objective F.5: University Transportation Campaign

Promote transportation-related university services and resources through developing a communications campaign specifically for promoting alternative transportation options.

Action Items:

- Increase the amount of physical signage for public transportation on campus.
- Improve the quality of bus stops and signage.

Proposed Timeline:

Year One	Year Three	Year Five
• Work with WSU CEE (Civil and Environmental Engineering) department to establish a campus-level sustainable transportation group consisting of students and staff to converse with MDOT and DDOT around signage for public transit. • Begin to develop physical signage supporting public transportation on and around campus.	• Update physical signage on campus for transportation. • Create content options to update transportation signage in Detroit.	• Implement suggestions made by sustainable transportation group. • Continually update and revise physical signage as needed.

Objective F.6: Off-campus Emissions

Reduce emissions related to off-campus travel. Structure reimbursements for sustainable travel.

Action Items:

- Encourage lower GHG travel for conferences and study abroad.
- Encourage the use of electric vehicles for off-campus travel.
- Offset emissions that cannot be reduced.
- Explore ways to reduce emissions associated with conferences and meetings.
- Develop a best practices document and associated policies for research travel and conference hosting, allowing for virtual participation when possible and factoring in the carbon footprint of travel.

Proposed Timeline:

Year One	Year Three	Year Five
• Engage in conversations with the Office of International Programs to explore the different transportation options when studying abroad. • Increase conversations with Parking and Transportation around rentable electric vehicles for campus staff for off-campus university-related travel. • Create and engage with a sustainable transportation group consisting of students and staff focused on the modes, uses, and duration of campus-related travel. • Work to create a best practices document related to university related research travel, conference hosting, and any university travel outside personal travel.	• Explore options to track travel within the study abroad program, working closely with the Office of International Programs and participating students. • Publish a best practices document for university-related travel.	• Effectively track travel within the study abroad program. • Create a permanent group around sustainable transportation to continuously update travel surveys and advocate for sustainable transportation modes in Southeast Michigan.

Urban Biodiversity

Institutional Goal

Fostering biodiversity in an urban setting is essential to promoting the sustainability of vital ecosystem services on Wayne State's campus and in the surrounding community. Partnering with Wayne State students, faculty, staff, and members of organizations from the surrounding community to **increase biodiversity on and around campus** will showcase our university as a role model for the community through biodiversity education and research.

Urban biodiversity can be defined as the populations and varieties of indigenous and introduced organisms that are adapted to or are adapting to (direct and indirect, intentional and inadvertent) interactions with and manipulations by a typically dense population of people, the built environment and its microclimates, and other abiotic factors that result from these activities and structures and form novel ecosystems that provide their attendant ecosystem services in whatever capacity they are able.

Urban biodiversity can be enhanced and sustained through using native plants in new and existing greenspaces, reducing pesticide and other landscaping chemical use, and promoting these practices across campus and the community through example and education.

Brief timeline: Over the five-year period of this initiative, we will review current landscaping practices, determine more ways to integrate native plants and increase greenspace, and develop educational programming for the campus and community to highlight the benefits of supporting biodiversity in an urban environment.

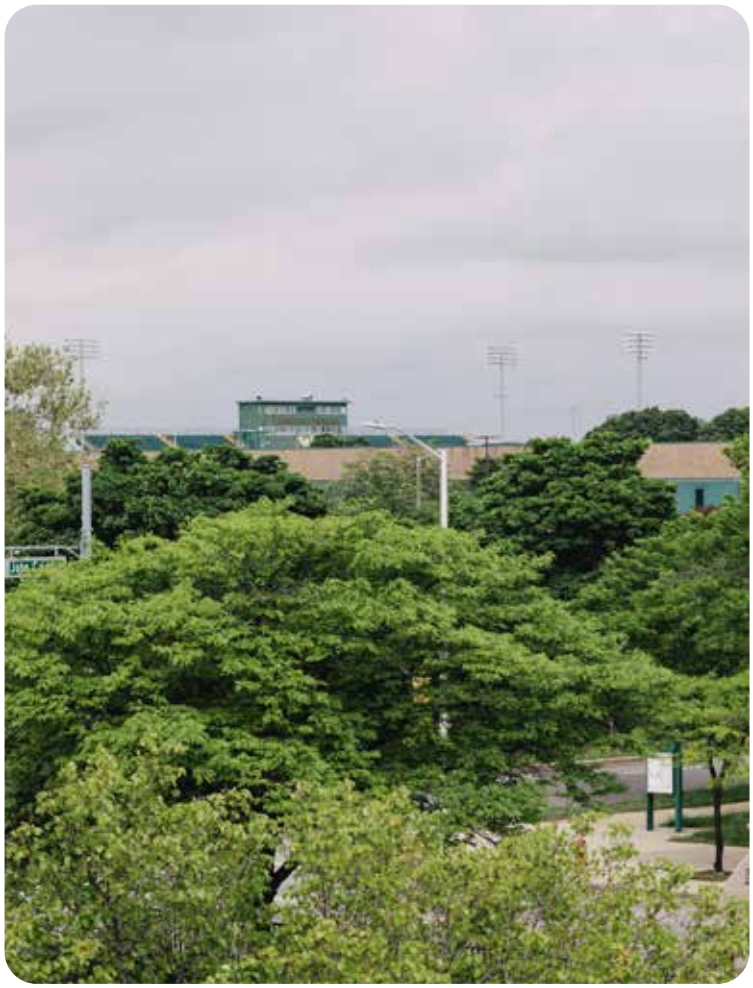
In this portion of the Sustainability Strategic Plan, you will find recommendations for Landscaping Practices and Site Development (G.1) and Protection of Migratory Birds (G.2).

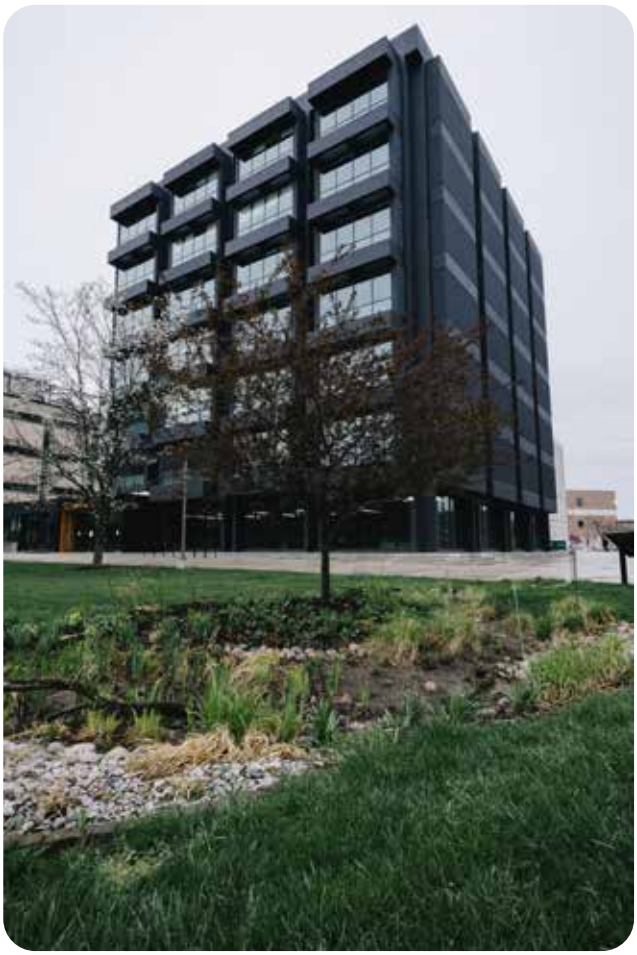
Objective G.1: Landscaping Practices and Site Development

Promote and sustain biodiversity by reducing or eliminating harmful chemical use, planning for more greenspace, and incorporating more native plants in the campus landscape.

Action Items:

- Review current groundskeeping and landscaping practices in cooperation with Facilities Planning and Management and determine ways to mitigate, reduce and/or eliminate, or find alternatives for pesticides, fertilizers, irrigation, deicing salt, mulch, disposal for organic matter, and other landscaping products (refer to Objectives C.4 & D.3 for additional information).
- Implement and assess practices, such as using gas-powered equipment, and their impact on the environment, grounds, and budget and make changes as needed to further reduce impact (refer to Objective C.4 for additional information).
- Increase tree number by 500 across campus and double the diversity with an emphasis on native trees (refer to Carbon Reduction section for additional information)
- Reduce turf cover by 10% (from baseline over five years), improve existing greenspaces, and consider replacement options such as community gardens, native plant gardens, green stormwater infrastructure, habitat, and other gardens and plantings (refer to Objectives C.1, C.4 & D.2 for additional information).
- Design and promote greenspaces for the health and well-being of campus attendees, including students, faculty, staff, and visitors, and the welfare of urban wildlife.





Proposed Timeline:

Year One	Year Three	Year Five
• Complete review of current landscaping practices, campus greenspace and biodiversity and tree inventory. • Identify key areas for landscape management and maintenance changes to more sustainable and environmentally friendly products and practices. • Develop a tree list of suitable native species for future replacement and collaborate with local organizations for tree sourcing. • Identify campus locations suitable for florally diverse/ native plantings and initiate planning and planting. • Plan for and retrofit (e.g., add appropriate filtering to existing light sources) outdoor lighting so as to decrease light pollution and interrupt life cycles of insects and other fauna in the WSU area.	• Complete implementation of at least three changes to current landscaping practices. • Increase tree number by 250, tree diversity by 25% and canopy cover by 10%. • Reduce turf coverage by 5% and replace with native species. • Collect data on all activities. • Create signage and other informational products (websites, social media, etc.) to explain and highlight changes and remain transparent in the process.	• Complete implementation of at least three additional changes to landscaping practices. • Increase tree number by an additional 250, tree diversity by an additional 25% and canopy cover by an additional 25%. • Reduce turf coverage by an additional 5% and replace with native species. • Gather and analyze data in preparation for goal setting for next five years. • Become an Arbor Day Tree Campus - Higher Education • Host a BioBlitz with campus and community members.

Objective G.2: Protection of Migratory Birds through Bird Window Strike Mitigation and Indoor/Outdoor Lighting Adjustments

Reduce migratory bird window strikes by 90% at five major campus building strike zone sites over five years and implement lighting strategies to reduce migration interference.

Action Items:

- Implement mitigation strategies at a minimum of one existing building per year after reviewing baseline data and determining target buildings and most feasible mitigation strategies in terms of cost, appearance, and extent of mitigation necessary (refer to Objectives C.1 & C.3 for additional information).
- Reduce indoor and outdoor lighting and implement new outdoor lighting installations to meet light pollution reduction standards (refer to Objective C.1 for additional information).
- Require all new buildings and window replacements to have bird window strike mitigation strategies (refer to Objective C.3 for additional information).
- Collect data and evaluate impact of mitigation strategies while making all data available to the public.

Proposed Timeline:

Year One	Year Three	Year Five
• Review baseline data and determine sites for implementation of bird window strike mitigation. • Review bird-safe options suitable to those sites. • Seek funding and approval for implementation. • Implement bird-safe option for at least one site. • Continue data collection. • Review options for reducing indoor and outdoor lighting on campus.	• Implement bird-safe measures at two additional sites. • Continue data collection. • Analyze data for any changes since implementation. • Determine additional sites for implementation. • Seek funding for additional implementation projects. • Implement light reduction strategies on main campus. • Review new lighting options to reduce light pollution.	• Implement bird-safe measures at two to three additional sites. • Continue data collection. • Analyze data for any changes since implementation. • Publish and share results with campus and greater community. • Plan for subsequent years. • Implement light reduction strategies on medical school and business school campuses. • Encode light pollution. reduction into new indoor and outdoor lighting installation specs.

Sustainable Food Practices

Institutional Goal:

Continue to shift Wayne State University toward adopting more sustainable food practices with a focus on **equitable and environmental food sourcing, distribution, preparation, waste reduction, and education** by way of collaboration across campus and beyond.

Sustainable food practices are applied actions based in food systems thinking that prioritize a healthy environment, a circular economy, and overall social wellbeing.

Local, as defined for the purposes of this document, is within Michigan's lower peninsula or within a 250-mile radius of Wayne State University's Midtown campus.

Brief timeline: In the next five years, we will develop standard sustainable food criteria and definitions; integrate sustainable food purchasing into common practice; improve access to nutritious, plant-based, and local food options on campus and in Detroit; and accomplish cohesive food waste reduction.

In this portion of the Sustainability Strategic Plan, you will find carefully constructed recommendations for Baseline Data (H.1), Purchasing (H.2), Access (H.3), Plant-based Foods (H.4), Local Sourcing from BIPOC Farmers (H.5), Selling & Growing Food on Campus (H.6), and Food Waste Diversion (H.7).

Objective H.1 Baseline Data

Collect baseline data assessing the university's past and current sustainable food practices and develop guidelines for sustainable food.

Action items:

- Create a working group to effectively set guidelines that set a standard.
- Gather information on the types and approximate quantities of produce used in targeted campus cafeterias and restaurants to help inform seasonal crop planning for Detroit based farmers
- Document existing education efforts that support cultural food activities, plant-based foods, local urban agriculture, and food waste reduction.
- Record feedback from campus cultural and religious organizations to understand potential gaps in appropriate on-campus food options (refer to Objective A.1 for additional information).
- Identify and record data for all existing pathways of food donation, composting, and bio-based material recycling (refer to Objective I.5 for additional information).
- Obtain baseline data on how much food is sourced locally out of all food brought to campus by campus food suppliers and external food suppliers.
- Gather information on the campus cafeterias and restaurants that offer plant-based food options.

Proposed Timeline:

Year One	Year Three	Year Five
• Document existing education efforts. • Communicate with campus cultural and religious organizations to understand gaps in appropriate on-campus food options. • Identify and record data for all existing pathways of food donation, composting, and bio-based material recycling. • Identify and review Real Food Challenge for college and university campuses: Real Food Standards, Real Food Calculator, and Real Food Guide.	• Obtain baseline data on how much food is sourced locally and how much is animal-based out of all food brought to campus by campus food suppliers and external food suppliers. • Commit to implementation and product shifts throughout the campus.	• Implement evidence-based recording practices to track and monitor baseline data goals. • Have measuring tools for goal progress in existence and in adoption by campus. • Evaluate progress against stated objectives. • Utilize the Real Food Calculator tool to make a campus commitment to sourcing at minimum 20% of WSU's food from local, fair, ecologically sound, and humane sources.

Objective H.2 Purchasing

Develop and initiate the Sustainable Food Chapter of the Environmentally Preferred Purchasing Policy.

Action Items:

- Convene dialogs with students, faculty, staff, community, and appropriate stakeholders.
- Solicit feedback from cultural and religious groups to ensure inclusion of food-related requests and demands.
- Develop a local food purchasing network for university vendors to refer to for specific food needs.
- Invest in culturally appropriate foods and ensure these foods are available to source for campus events and programs.
- Ensure there is a written procedure for only purchasing from companies that support food workers' rights and uphold that same standard for on campus food workers.
- Increase the amount of campus food purchased from local and Detroit based farms and businesses with a specific focus on supporting BIPoC and women-owned businesses (refer to Objective A.1 for additional information).

Proposed Timeline:

Year One	Year Three	Year Five
• Convene dialogs with students, faculty, staff, community, and appropriate stakeholders. • Solicit feedback from cultural and religious groups to ensure inclusion of food-related requests and demands. • Develop a local food purchasing network for university vendors to refer to for specific food needs.	• Invest in culturally appropriate foods. • Ensure there is a written procedure for only purchasing from companies that support food workers' rights and uphold that same standard for on campus food workers. • Prioritize purchasing food from local and Detroit-based farms and businesses.	• The policy will be finished and public. • Hold food vendors accountable for following the purchasing policy.

Objective H.3: Access

Improve access to nutritious, fresh, and locally sourced food through collaboration with the W Food Pantry and Thrift Shop.

Action items:

- Supply a W Food Pantry and Thrift Shop donation box at the WSU Farmers Market for market patrons and vendors to donate to.
- Build the pantry's network of regular local food donors.
- Create a clear pathway for the W Food Pantry and Thrift Shop to purchase food from WSU Farmers Market vendors and small farms and businesses within Detroit.
- Host monthly fresh food box events at the W Food Pantry and Thrift Shop.
- Seek mutual and monetary benefit for farmers who donate food to the W Food Pantry and Thrift Shop.
- Require that all syllabi inform students about the W Food Pantry and Thrift Shop.
- Explore the feasibility of a program that gives W Food Pantry and Thrift Shop patrons tokens that can be used for purchase at the WSU Farmers Market.

Proposed Timeline:

Year One	Year Three	Year Five
• Supply a W Food Pantry and Thrift Shop donation box at the WSU Farmers Market for any market patrons or vendors to donate to. • Build the pantry's network of regular local food donors. • Create a clear pathway for the W Food Pantry to purchase food from WSU Farmers Market vendors and small farms and businesses within Detroit.	• Host monthly fresh food box events at the W Food Pantry and Thrift Shop. • Seek mutual and monetary benefit for farmers who donate food to the W Food Pantry and Thrift Shop. • Require that all syllabi inform students about the W Food Pantry and Thrift Shop.	• Develop a program that gives W Food Pantry and Thrift Shop patrons tokens that can be used for purchase at the WSU Farmers Market.

Objective H.4: Plant-based Foods

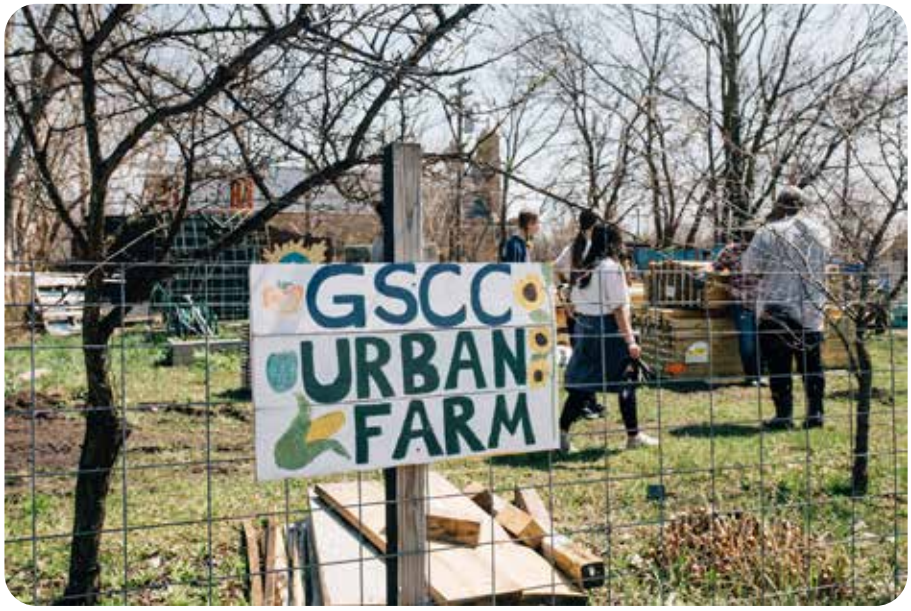
Continue to shift toward nutritious, plant-based food options on campus to support healthy eating and avoid meals with high greenhouse gas emissions.

Action Items:

- Work with food vendors to implement regular "Meatless Mondays" and promote locations that adopt the event.
- Solicit student feedback on ways to reduce the university's carbon footprint through food-related actions and integrate this feedback into programming.
- Develop and incorporate plant-based food sampling events in partnership with Tower's Cafe and the WSU Farmers Market.
- Launch an education and outreach campaign in partnership with student organizations, such as the School of Medicine's Plant-based Nutrition student organization, to provide campus vendors with plant-based food resources.
- Explore the idea of tracking and making visible the carbon footprint of cafeteria meals to encourage individuals to make sustainable food decisions.
- Integrate or increase plant-based food options at every campus food merchant.

Proposed Timeline:

Year One	Year Three	Year Five
• Work with food vendors to implement regular "Meatless Mondays" and promote locations that adopt the event. • Solicit and integrate student feedback on ways to reduce the university's carbon footprint through food related actions. • Develop and incorporate partnered plant-based food sampling events.	• Explore the idea of tracking and making visible the carbon footprint of cafeteria meals to encourage individuals to make sustainable food decisions. • Launch an education campaign to provide campus vendors with plant-based food resources.	• Integrate or increase plant-based food options at every campus food merchant.



Objective H.5: Local Sourcing

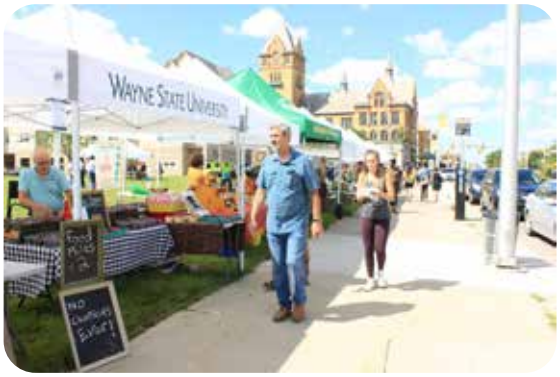
Increase locally sourced food procurement campus-wide, with a focus on supporting BIPoC farmers within metro Detroit.

Action Items:

- Prioritize purchasing of campus food from local and Detroit-based farms and businesses with a specific focus on supporting BIPoC and women-owned businesses.
- Collaborate with the Eastern Market, the Detroit People's Food Co-op or DBCFSN, The Detroit Food Policy Council, Detroit Black Farmer Land Fund, Aramark, and other applicable partners to provide farmers with the necessary resources and tools to become approved food suppliers.
- Develop supportive relationships between the university and BIPoC farmers and business owners.
- Ensure Good Food Charter and Food Security Council recommendations and others are considered in campus food-related activities, events, and programs.

Proposed Timeline:

Year One	Year Three	Year Five
• Develop supportive relationships between the university and BIPoC farmers and business owners. • Collaborate with applicable partners to provide farmers with the necessary resources and tools to become approved food suppliers. • Develop action plan with BIPoC farmers to increase efforts to become more equitable in on-campus sourcing of food outlets and retailers, including direct university produce and value-added products sourced.	• Develop a university sourcing guide with BIPoC farmers from Detroit. • Ensure social determinants of health are evaluated and addressed amongst food partners, university staff and students, and the surrounding community.	• Create student projects around supportive efforts to help local farmers become more sustainable, i.e. farming technologies that would make local farmer more manageable generation to generation.



Objective H.6: Selling and Growing Food on Campus

Increase the amount of fresh food sold, grown, and consumed on campus through the WSU Farmers Market and community gardening initiatives.

Action Items:

- Increase the presence of pollinators near food-growing garden beds in collaboration with WSU's Office of Campus Sustainability, Detroit Biodiversity Network, Detroit Hives, and Bee Plus Detroit (refer to Objectives G.1 & G.2 for additional information).
- Work with Black Farmer Land Fund, Latino/a, Native and Hmong, Bangladeshi, and other farmers of color to increase BIPoC farmers' presence for more culturally appropriate foods at the WSU Farmers Market.
- Continue to develop sustained funding pathways for the WSU Farmers Market including university support and outside funding partnerships.
- Establish a "Grown at Wayne State" farm stand at the WSU Farmers Market that allows community gardeners to sell their harvests if interested.

Proposed Timeline:

Year One	Year Three	Year Five
• Increase the presence of pollinators near food-growing garden beds.	• Work with community partners to increase BIPoC farmers' presence for more culturally appropriate foods at the WSU Farmers Market. • Continue to develop sustained funding pathways for the WSU Farmers Market including university support and outside funding partnerships.	• Establish a "Grown at Wayne State" farm stand at the WSU Farmers Market that allows community gardeners to sell their harvests if interested.

Objective H.7: Food Waste Diversion

Reduce food waste through source reduction, donation, and composting.

Action Items:

- Provide ongoing educational experiences on the environmental harm of food waste.
- Expand partnerships with community organizations to address food waste reduction on campus and beyond.
- Map and create efficiencies in the flow of campus food to reduce food waste at its source and ensure loops are closed (refer to Objective I.5 for additional information).
- Continue to expand the university's Compost Program. (refer to Objective I.5 for additional information)

Proposed Timeline:

Year One	Year Three	Year Five
• Provide ongoing educational experiences on the environmental harm of food waste. • Expand partnerships with community organizations.	• Map and create efficiencies in the flow of campus food. • Continue to expand the university's Compost Program.	• Create a document highlighting the past five years of the Compost Program and areas needing improvement.

Waste Reduction, Recycling and Composting

Institutional Goal:

Obtain a greater understanding of all campus waste streams, **reduce the volume of materials sent to the landfill and increase waste diversion rates**. This will be accomplished by minimizing materials used; addressing a more sustainable end life; and improving access to waste reduction, recycling, and composting opportunities.

Waste Reduction is the prevention of waste through minimized waste generation and strategic reuse efforts.
Recycling is the effective collection and conversion of recyclable waste into a new material or products.
Composting is the controlled decomposition process of compostable materials, such as food scraps and yard waste, into a nutrient-rich soil amendment that can enrich soil and plants.

Brief timeline: In the next five years, we will first improve our understanding of Wayne State's waste landscape, then focus on reducing waste through conscious purchasing choices, create efficiencies in recycling processes, launch a Green Office Program, and improve waste diversion at athletic facilities.

In this section of the Sustainability Strategic Plan, you will find carefully constructed recommendations for Baseline Data & Waste Streams (I.1), Purchasing (I.2), Efficient Materials Recovery (I.3), Compost Program (I.4), Green Offices (I.5), and Athletic Events (I.6).

Objective I.1: Baseline Data and Waste Streams

Obtain baseline data and identify all university waste streams to ensure strategic reduce, reuse, and recycle actions can take place wherever possible.

Action Items:

- Research best practices for effective campus-wide waste stream data tracking.
- Establish a designated waste-tracking software that is compatible with all waste streams and takes into account greenhouse gas emissions.
- Assemble a detailed list of all university waste streams.
- Survey campus activities that produce high volumes of waste and identify potential pathways for recycling.
- Convene conversations with the university's disposal and diversion contractors to accurately measure waste diversion rates, hauling, and tipping fees based on weight.
- Establish an active and regular data collection and reporting process for sharing up-to-date findings with facility stakeholders and the general public.

Proposed Timeline:

Year One	Year Three	Year Five
• Research best practices for waste stream data tracking. • Establish an effective waste tracking software. • Assemble a detailed list of all waste streams. • Survey campus activities that produce high volumes of waste. • Convene conversations with the disposal contractor to accurately measure waste diversion rates and tipping charges based on weight.	• Collect all historical data for all waste streams. • Establish an active and regular data collection and reporting process. • Establish a numerical waste diversion goal. • Identify potential pathways for recycling materials produced through campus activities that produce high volumes of waste.	• Evaluate waste reduction, recycling, and composting Key Performance Indicators.

Objective I.2: Purchasing

Improve the circular economics of the university's purchasing practices and develop the Waste Reduction Chapter of the Environmentally Preferable Purchasing Policy (EPPP).

Action Items:

- Convene meetings with Wayne State Procurement representatives.
- Prioritize compost purchases from local businesses, specifically with community-based businesses with which the university has established relationships and include this language in the purchasing guide.
- Promote selection of sustainable purchasing options for departments and offices through implementation of the Green Office Program.
- Establish a framework for assessing sustainable purchasing standards.
- Work with the university's main vendors, such as Pepsi-Cola Company and Aramark, to utilize sustainable packaging options and negotiate vendor contracts to replace single-use plastics with BPI-certified compostable or reusable alternatives.
- Solidify purchasing partnerships that support local businesses and community members.
- Ensure the policy addresses a plan for long-term elimination of non-essential, non-compostable, single-use disposable plastics.

Proposed Timeline:

Year One	Year Three	Year Five
• Convene meetings with Wayne State Procurement representatives. • Promote selection of sustainable purchasing options through implementation of the Green Office Program. • Prioritize local compost purchases and include this language in the purchasing guide. • Establish a framework for assessing sustainable purchasing standards. • Collaborate with Student Center stakeholders to replace all single-use plastic packaging with a viable alternative in Michigan.	• Work with the university's main vendors to utilize sustainable packaging options and negotiate vendor contracts to replace single-use plastics with BPI-certified compostable or reusable alternatives. • Solidify purchasing partnerships that support local businesses and community members.	• Ensure the policy addresses a plan for long-term elimination of non-essential, non-compostable, single-use disposable plastics.

Objective I.3: Efficient Materials Recovery

Maximize recycling rates by exploring efficient and cost-effective materials recovery options.

Action Items:

- Collaborate with institutional partners on research opportunities in materials manufacturing.
- Explore opportunities for a collaborative/partnered Materials Recovery Facility (MRF) on campus or near campus and consider student involvement as a part of it.
- Conduct a feasibility study for a WSU operated on campus or near-campus MRF (Recycling, post-consumer compost, reuse facility, Warrior Wardrobe, renewable energy center, student drop-off center, etc.).
- Develop and analyze a business model for a WSU operated MRF.

Proposed Timeline:

Year One	Year Three	Year Five
• Collaborate with institutional partners on research opportunities in materials manufacturing. • Explore opportunities for a collaborative/partnered MRF on campus or near campus and encourage student involvement.	• Conduct a feasibility study for a WSU-operated on campus or near-campus MRF.	• Develop and analyze a business model for a WSU-operated MRF.

Objective I.4: Compost Program

Expand the university's Compost Program to contribute to greater reductions in greenhouse gas emissions, increase soil health for water management, and increase engagement with composting activities on campus, and beyond.

Action Items:

- Increase the number of on-campus food vendors that collect organic materials for composting at our designated community compost contractor site.
- Capture 100% of the leaves and plant debris (excluding grass cuttings) from campus grounds for composting.
- Pilot the closed loop system through application of finished compost in several campus landscapes, garden beds, and greenhouses as a strategy to decrease use of pesticides and fertilizers and contribute to a circular economy.
- Work with on-campus food vendors to switch from plastic and styrofoam foodware to BPI-certified compostable foodware.
- Expand the types of pre-consumer compostable materials collected by our partnered food vendors to increase diversion rates.
- Strategically place public food waste bins in campus buildings to optimize the amount of materials captured and expand access.
- Continue to provide professional development opportunities to students and the community in connection with the Compost Program.
- Seek funding for and develop an outdoor classroom for faculty and student use.
- Develop a plan for and integrate a site that serves as a compost staging site and an outdoor classroom storage space.
- Strengthen community connections to support composting and Compost Program.
- Continue to pursue grant funding to support capital needs, tools, and materials that support expansion, efficiency, and successful education efforts.
- Map and create efficiencies in the flow of campus food to reduce food waste at its source and ensure loops are closed (refer to Objective H.7 for additional information).
- Create a case study for other universities to refer to as they work to implement a Compost Program on their own campuses.

Proposed Timeline:

Year One	Year Three	Year Five
• Increase the number of on-campus food vendors that collect organic materials for composting at our community compost site. • Work with Grounds Services to apply finished compost to campus landscape beds, planters, gardens, and greenhouses. • Work with on-campus food vendors to switch from plastic and styrofoam foodware to compostable foodware. • Continue to pursue grant funding. • Strategically place public food waste bins in campus buildings. • Continue to provide professional development opportunities to students and the community in connection with the Compost Program. • Develop a plan for a compost staging site and an outdoor classroom storage space. • Strengthen community connections. • Map the flow of campus food to reduce food waste at its source and ensure loops are closed.	• Expand the types of pre-consumer materials collected by our partnered food vendors. • Capture 100% of the leaves and plant debris from campus grounds for composting. • Establish an annual reporting process for sharing findings on replacement of fertilizer. • Create efficiencies in the flow of campus food to reduce food waste at its source and ensure loops are closed.	• Integrate a compost staging site and outdoor classroom storage space. • Create a case study for other universities to refer to as they work to implement a Compost Program on their own campuses.

Objective I.5: Green Offices

Reduce waste in office settings through engagement with the Green Office Program.

Action Items:

- Understand office occupancy to ensure easy access to waste stations, prevent overfilling, and inform placement.
- Launch the Green Office Program with select pilot offices.
- Develop a plan to remove deskside waste containers and continue to shift to a centralized approach to waste disposal, including access to waste stations.
- Monitor pilot offices to identify needs and initiate improvements.
- Provide a sustainability product focus on WayneBuy for office purchasers to choose eco-friendly products for paper, printing, and office supplies.
- Replace existing lightbulbs with energy efficient lightbulbs.
- Remove personal heaters, printers, and refrigerators wherever possible.
- Communicate and remind offices to turn on energy saver mode for electric appliances such as computers, projectors, and printers.
- Provide resources and organize events to encourage employees to use sustainable transportation such as biking, public transit, or electric vehicles to get to and from campus to work.

Proposed Timeline:

Year One	Year Three	Year Five
• Collect information on office occupancy for the first phase of Green Office Program participants. • Launch the Green Office Program with select pilot offices. • Start communication to begin removing deskside waste containers and continue to shift to centralized approach to waste disposal. • Monitor pilot offices to identify needs and initiate improvements. • Provide a “Sustainable Purchasing” tab on WayneBuy.	• Replace existing lightbulbs with energy efficient lightbulbs.	• Remove personal heaters, printers, and refrigerators wherever possible (ongoing). • Communicate and remind offices to turn on energy saver mode for electric appliances such as computers, projectors, and printers (ongoing). • Provide resources and organize events to encourage employees to use sustainable transportation (ongoing).

Objective I.6: Athletic Events

Increase waste reduction opportunities and increase the amount of waste recycled and composted at all Wayne State athletic events.

Action Items:

- Locate a water bottle refill station at the Office of Campus Sustainability's Waste Recovery Station to reduce plastic waste.
- Establish a volunteer team of "Waste Goalies" dedicated to helping service waste reduction, recycling, and composting needs at large athletic events.
- Obtain and place waste stations in publicly acceptable locations within the athletic arenas.
- Work with vendors to make the switch to compostable packaging and create an Athletics Vendor Packaging Policy within the Environmentally Preferred Purchasing Policy that requires vendors to use compostable packaging.

Proposed Timeline:

Year One	Year Three	Year Five
• Locate a water bottle refill station at the Office of Campus Sustainability's Waste Recovery Station to reduce plastic waste. • Establish a volunteer team of "Waste Goalies" dedicated to helping service waste reduction, recycling and composting needs at large athletic events.	• Obtain and place waste stations (three separate bins with compost, recycling, and landfill options) in publicly acceptable locations within the athletic arenas.	• Work with vendors to make the switch to compostable packaging and create an Athletics Vendor Packaging Policy within the Environmentally Preferred Purchasing Policy that requires vendors to use compostable packaging.

Statement on Sustainability in Academia

Institutional Goal:

Academia at Wayne State University covers all students, faculty, staff, community members, and stakeholders. Academia refers to **"the environment or community concerned with the pursuit of research, education, and scholarship"** (Oxford Languages).

In this portion of the Sustainability Strategic Plan, you will find carefully constructed recommendations for Sustainable Business Education (J.1), Environmental Justice Curriculum (J.2), Carbon Reduction Education (J.3), Energy Research and Development (J.4), Urban Biodiversity Education Initiatives and Community Partnerships (J.5), Sustainable Food Practices Academics, Education, and Engagement (J.6), and Waste Reduction Access and Education (J.7)

Objective J.1: Sustainable Business Education

Increase student exposure to sustainable curriculum across the university and in particular in business. Collaborate with the community to foster sustainable businesses across the Detroit region.

Action Items:

- Assign a senior staff officer in the Office of the Provost to have a focus on building sustainability curriculum at the university.
- Provide support for the development and administration of sustainable/sustainable business curriculum at the undergraduate and graduate levels.
- Create business connections to create projects for a business sustainability practicum courses to enhance experiential learning and to enhance ties with the community.
- Do a feasibility study and development of a plan to establish a Center for Sustainable Urban Business Development that will work to prepare students to address sustainable development needs and on fostering community and university relations surrounding sustainable urban business.
- Provide support to pursue philanthropic and grant funding for the development of sustainable curriculum, hiring of faculty, support for a center, and funding for a sustainable business chair.
- Host sustainable business innovation competitions.
- Work with faculty to integrate sustainable business concepts into current course offerings.
- Explore viability of a sustainable business certificate by looking at feasibility of current offerings, potential new offerings, and collaboration with other university units.

Proposed Timeline:

Year One	Year Three	Year Five
• Convene a sustainable business advisory board. • Office of the Provost to assign a senior staff officer to have a focus on building sustainability curriculum. • Assign a development officer to get funding to support program/course development and faculty. • Conduct a feasibility study and develop plan to establish a Center for Sustainable Urban Business Development. • Assess current offerings in the Mike Ilitch School of Business and across the university that might fit into a sustainable business curriculum and sustainable business certificates.	• Hire faculty. • Refine plan for programs/ courses. • Obtain approval for new courses/programs. • Approve Center for Sustainable Urban Business development plan. • Search for a sustainable business chair. • Launch sustainable business certificate.	• Launch sustainable business curriculum updates. • Launch module trainings and seminars throughout each area. • Begin sustainable business courses with hired faculty. • Center for Sustainable Urban Business Development fully operating.

Objective J.2: Environmental Justice Curriculum

Create an undergraduate minor and graduate certificate/concentration in environmental justice and include education of EJ into the general curriculum across the university.

Action Items:

- Provide support in any capacity needed for the Office of Diversity, Equity, and Inclusion to create training modules on EJ topics strongly suggested for students, faculty, and staff to take through Canvas:
    - Training for students: Encourage each department to add these modules to one or more of its classes or offer a seminar given by the office in environmental justice topics as they relate to that course or field.
    - Training for faculty and staff: Require faculty and staff members to attend EJ and JEDI training programs.
- Conduct an inventory of environmental, sustainability, and environmental justice-based courses available at the university. Tag these courses in the class catalog for environmental justice so that students may search by keyword and professors can mark their class as including subject matter, research opportunities, or community partnerships related to environmental justice.
- Integrate education of environmental justice topics into curriculum across the university to enhance the knowledge of where EJ values intersect with the wide variety of programs offered at Wayne State University.
- Offer comprehensive educational tools for better understanding issues of environmental justice in the city of Detroit, as well as the importance of identifying and addressing unconscious bias, racism, sexism, classism, ageism, and cultural exclusion in the workplace and academic settings.
- Promote the Wayne State Pathway to Faculty program to hire faculty members with backgrounds in EJ to teach interdisciplinary courses relevant in multiple departments.
- Provide budget support for a collaborative, compensated faculty workshop in EJ to develop innovative new course offerings in environmental justice across the university.
- Emphasize the importance of including community-based partnerships in curriculum by providing an accessible and updated list of contacts to Detroit-based community organizations for professors.
- Actively participate in the Michigan ESG Leadership Council, furthering sustainability efforts in the entire state of Michigan through collaboration with stakeholders.

Proposed Timeline:

Year One	Year Three	Year Five
• Create relationship with Office of the Registrar in contacting departments about courses with EJ. • Begin discussion with Office of Diversity, Equity, and Inclusion on module training and seminar topics. • Connect with the Wayne State Pathway to Faculty program to identify any areas of overlap in promoting the program to departments. • Prioritize discussions with existing WSU-partnered community organizations on opening greater opportunity to work with more groups. • Launch summer curriculum development grant for faculty. • Identify college and department host for EJ minor and graduate certificate.	• Finalize and launch catalog of EJ courses to be included in Office of the Registrar's course catalog. • Launch pilot module trainings and seminars to receive feedback. • Hire EJ faculty members. • Identify courses and class topics that could partner with local community organizations for research and/or aid. • Finalize plans for EJ minor and graduate certificate in collaboration with the host department.	• Launch EJ minor and graduate certificate. • Launch module trainings and seminars throughout each department. • Begin EJ courses with hired faculty professors.

Objective J.3: Carbon Reduction Education

Create opportunities to expand community and university knowledge and involvement in carbon reduction efforts.

Action Items:

- Create a comprehensive plan to leverage WSU's research and development capabilities to promote carbon reduction and involve classes and students in carbon reduction initiatives.
- Outreach and active engagement with middle and high schools on reduction efforts on campus.
- In the Michigan ESG Leadership Council, continually update on greenhouse gas emissions reduction efforts and transitions to a low carbon economy through engagement in meetings.

Proposed Timeline:

Year One	Year Three	Year Five
• Start conversations with Detroit Public Schools Community District to begin student engagement opportunities on WSU's campus. • Start to develop a comprehensive plan to use WSU's research capabilities for carbon reduction, including student reduction efforts.	• Develop a plan related to greenhouse gas emissions research with university staff and DPS. • Work to increase the capacity and amount of research related to greenhouse gasses with students.	• Implement a structured plan of research related to greenhouse gas emissions with university staff and DPS.

Objective J.4: Energy Research and Development

Invest in sustainable energy research and development at the university, using campus as a living and learning laboratory for the exploration and understanding of sustainable energy technology.

Action Items:

- Build on well-recognized sustainable energy research programs by aggressively seeking expertise and sources of funding for WSU-based research.
- Systematically invest a portion of energy costs and cost savings in sustainable energy demonstration projects on campus.
- Streamline facilities, policies and systems to enhance cross-disciplinary, cross-functional collaboration among academic units, faculty, staff, and students.
- Identify more funding opportunities for grants and other programs to advance sustainable energy technologies.

Proposed Timeline:

Year One	Year Three	Year Five
• Contact WSU's Corporate and Foundation Relations, the OVPR, the Graduate School, and the Undergraduate Research Opportunities Program to investigate available grants for sustainable energy research and implementation • Identify holes in the grant process where energy efficient research opportunities can be explored	• Document energy efficient technology grants applied for and received by university stakeholders to use more specifically to target potential student and faculty groups interested in these kinds of programs • Document and showcase research on energy efficient technology done at the university	• Showcase energy efficient grants and research projects across campus, sharing success stories and making research information public.

Objective J.5: Urban Biodiversity Education Initiatives and Community Partnerships
Integrate biodiversity into the university curriculum in appropriate and creative ways and create opportunities for community engagement through communication, education, research, partnerships, and volunteerism.

Action Items:

- Develop and implement biodiversity education programming, signage, and electronic media to integrate into the university curriculum and provide enrichment and outreach opportunities for the campus and greater community (refer to Objective C.4 for additional information).
- Develop partnerships with campus and local community agencies and organizations that have common goals relating to urban biodiversity and implement joint education, research, and community project/volunteer programs with at least five other entities over the five-year window of this initiative.
- Host a conference on sustainability, open to the university community and the general public, at the end of the five-year window to highlight past projects and future goals and opportunities demonstrating sustainability, with a focus on improving and enhancing biodiversity in an urban setting.

Proposed Timeline:

Year One	Year Three	Year Five
• Identify courses/faculty interested in incorporating biodiversity into the class schedule. • Develop student and faculty projects to research urban biodiversity and the impact of local efforts. • Determine potential partnerships with campus and community entities.	• Develop curriculum for three courses (other than those current) where biodiversity is a curriculum item. • Continue to develop student and faculty projects to research urban biodiversity and the impact of local efforts. • Work with at least two campus/community partners on education, research, and/or community projects related to biodiversity and sustainability.	• Assess implementation of incorporation of biodiversity into the curriculum. • Work with at least three additional campus/community partners on education, research, and/or community projects related to biodiversity and sustainability. • Host a sustainability/urban biodiversity conference.

Objective J.6: Sustainable Food Practices Academics, Education, and Engagement
Improve support for sustainable food systems in teaching, learning, and community engagement.

Action items:

- Encourage active and ongoing participation of Detroit community food system leaders in Wayne State's sustainable food practices.
- Provide a list of the available sustainable food-related classes and update each semester
- Expand access to internship opportunities that connect students with Detroit's sustainable food environment.
- Engage campus and Detroit community members in classes and events to enhance knowledge around sustainable urban farming and gardening.
- Provide immersive outdoor education experiences that encourage participants to improve connections to their food, wellness, and natural environment.
- Partner with local students in the city to support the growth and investment in crop planning for the improvement of nutrient-dense foods for students and the community.

Proposed Timeline:

Year One	Year Three	Year Five
• Encourage active and ongoing participation of Detroit community food system leaders in Wayne State's sustainable food practices. • Provide a list of the available sustainable food-related classes and update each semester.	• Expand access to internship opportunities. • Engage campus and Detroit community members in classes and events to enhance knowledge around sustainable urban farming and gardening. • Provide immersive outdoor education experiences that encourage participants to improve connections to their food, wellness, and natural environment.	• Partner with local students in the city to support the growth and investment in crop planning for the improvement of nutrient-dense foods for students and the community.

Objective J.7: Waste Reduction Access and Education

Improve recycling access and knowledge throughout the university and Detroit community by providing an understandable, user-friendly approach.

Action Items:

- Develop a plan for waste recovery-specific strategic education as a way to reach students, faculty, and staff more efficiently and effectively.
- Streamline communications and outreach in collaboration with the Marketing and Communications department and Recycling and Compost Program partners.
- Strategically place publicly accessible waste stations in campus buildings.
- Develop a process for monitoring public recycling and compost bins to target education efforts.
- Create an ongoing grant acquisition plan that focuses on education programming and funding projects that fill gaps in present activities and infrastructure needs.
- Host Waste Recovery Stations on a monthly basis and expand access to Detroit's curbside recycling through the Recycling Ambassador Program in partnership with Green Living Science and the City of Detroit.
- Implement an annual "zero waste event" in the Student Center.
- Establish a cohort of Waste Goalies, a group of student volunteers who are dedicated to helping reduce the amount of materials sent to the landfill campus wide.
- Develop and implement programming at the WSU Farmers Market to connect farmers and community members with compost and recycling opportunities.
- Conduct regular custodial trainings to enhance dedication to recycling on campus.
- Expand the recycling program to include all active buildings that are owned by Wayne State University.

Proposed Timeline:

Year One	Year Three	Year Five
• Develop a plan for waste recovery specific education as a way to reach students, faculty, and staff more efficiently and effectively. • Streamline communications and outreach. • Strategically place publicly accessible waste stations in campus buildings. • Develop a process for monitoring public recycling and compost bins to target education efforts. • Create an ongoing grant acquisition plan. • Identify locations for monthly Waste Recovery Stations with and plan for regular Recycling Ambassador trainings for new Green Warriors and Compost Warriors. • Establish a Waste Recovery Task Force. • Conduct annual custodial trainings.	• Host Waste Recovery Station pop-ups on a monthly basis. • Develop and implement programming at the WSU Farmers Market. • Implement an annual “zero waste event” in the Student Center.	• Expand the recycling program to include all active buildings that are owned by Wayne State University.

Definitions and Abbreviations

- **ASHRAE**: American Society of Heating, Refrigerating, and Air-Conditioning Engineers
- **Bike Infrastructure**: all infrastructure permissible for use by cyclists, including bike paths, bike lanes, cycle tracks, rail tracks, and sidewalks
- **BioBlitz**: event that focuses on finding and identifying as many species as possible in a specific area over a short period of time
- **Bioswales**: channels designed to concentrate and convey stormwater runoff while removing debris and pollution
- **BIPoC**: Black, Indigenous, and People of Color
- **Carbon Footprint:** a measure of the amount of carbon dioxide and other carbon compounds emitted due to the consumption of fossil fuels by a particular person or group
- **Centralized Approach**: waste disposal strategy that provides waste disposal units in centralized locations near office and classroom settings
- **Circular Economy**: an economic system designed to be restorative and regenerative; focus on high value materials products and systems; and eliminate waste by means of maximizing resource use efficiencies
- **Dark-Sky Compliant**: light structures that minimize glare while reducing light pollution and skyglow
- **DLC-certified LED**: Design Lights Consortium standards
- **Ecosystem Services**: services provided by the environment and healthy ecosystems that support life and well-being
- **Electric Vehicle Infrastructure**: structure, machinery, and equipment necessary and integral to support an electric vehicle, including the charging stations
- **EMCs**: Energy Conservation Measures
- **ESG Project**: Environmental, Social and Governance Project overseen by WSU President
- **GHG**: Emissions from any gas that has the property of absorbing infrared radiation emitted from Earth's surface and re-radiating it back to Earth's surface, contributing to the Greenhouse effect
- **Green Building Standards**: standards set for sustainable building construction and operation
- **Green Power**: Any electricity that is generated using low-impact, alternative energy sources; fully renewable energy sources that result in the lowest burden on the environment
- **Impervious Surface**: mainly artificial structures, such as pavements, that are covered by water-resistant materials
- **Infrastructure**: the basic physical and organizational structures and facilities (roads, piping, energy network, etc.)
- **JEDI**: Justice, Equity, Diversity, and Inclusion
- **Last-Mile Connections**: supplying public transit users with another mode of transportation to fill the gap between public transit drop-off locations and destination
- **Materials Recovery Facility**: a facility where recyclable materials are separated into their respective categories (paper, plastic, cardboard, glass, etc.) and prepared to be sent to their end-buyers where they are recycled into new products
- **Novel Ecosystems**: ecosystems that are created or modified by people and that do not have a historical analog
- **Plant-based Food**: diet that consists of minimally processed fruits, vegetables, grains, and herbs and excludes all animal products
- **Public Transportation**: buses, trains, subways, and other forms of transportation that charge set fares, run on fixed routes, and are available to the public
- **Rain Garden**: methods to reuse and optimize any rain that falls, reducing or avoiding the need for additional irrigation

- **SEMCOG**: Southeast Michigan Council of Governments
- **Staging Site**: a location that serves as a temporary storage site for materials before they are transported to their designated end destination
- **Synergies**: concept that the value and performance of two companies' combined will be greater than the sum of the individual parts
- **Tipping Fees**: a fee associated with the cost of waste disposal, most commonly based on the weight of waste per ton
- **Waste Diversion Rates**: the percentage of materials diverted away from landfilling or incineration to a sustainable alternative such as recycling or composting
- **Waste Recovery Stations**: student operated stations that pop-up in various locations on campus and provide students, faculty, staff, and community members a place to drop-off recyclable and compostable materials and learn about how to avoid contamination in these streams
- **Waste Station**: triple bin unit that includes compost, mixed recycling, and landfill disposal options

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