



Committee Members

Mary Knittle, Chair
Evelyn Herwitz, Vice Chair
Patricia Austin
Ted Conna
Nathan Fournier
Mary Leovich
Deirdra Murphy

Contacting the Committee

Department of Sustainability and Resilience
Address: 455 Main Street, Room 108,
Worcester, MA 01608 (by appointment)
Email: GreenWorcester@worcesterma.gov
Website: www.WorcesterMA.gov/DSR

Department of Sustainability and Resilience

Our Mission:

To implement the ambitious and urgent goals of the Green Worcester Sustainability and Resilience Strategic Plan (GWP), a roadmap for making Worcester the greenest mid-size city in the country.

Our Staff:

John Odell, *Chief*
Jessica Davis, *Project Manager*
Robert DeFosse, *Energy Services Manager*
Gabi Hajos, *Energy Advocate*
Miranda Hotham, *Zero Waste Coordinator*
Katie Liming, *Lakes & Ponds Coordinator*
Killian Madden, *Energy Advocate*
Amy Magiera, *Administrative Assistant*
Sarah Mount, *Energy Analyst*
Nick Pagan, *Senior Environmental Analyst*
Luba Zhaurova, *Director of Projects*

Accessibility

The GWAC is committed to ensuring that its public meetings are accessible to all. Should you require interpretation, auxiliary aids, services, translations, written materials in other formats, or reasonable modifications in policies and procedures, please contact the DSR a minimum of 48 hours in advance of the scheduled meeting.

Translations

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Avisanos por
greenworcester@worcesterma.gov

CITY OF WORCESTER

Meeting Agenda

Green Worcester Advisory Committee

Monday, November 27, 2023, at 5:30 p.m.
Location: Esther Howland, City Hall, 455 Main St.

*This meeting will be held in-person
with an option to also join remotely (see the bottom of the agenda for details).*

Call To Order

Chair Knittle called the meeting to order at 5:38pm.

Present

Mary Knittle, Chair
Evelyn Herwitz, Vice Chair
Patricia Austin
Ted Conna
Nathan Fournier
Mary Leovich (virtual)
Deirdre Murphy (virtual)

Staff

John Odell
Luba Zhaurova
Sarah Mount

1. Welcome

i. Chair Knittle read out the rules of meeting conduct.

2. Approval of Minutes – October 16, 2023 (Attachment A)

a. Motion to approve October 16, 2023 Minutes made by Vice Chair Herwitz, seconded by Member Conna. Unanimously approved.

3. DSR Major Projects' Status Updates

a. Smart Energy Advice Program Update (CFP Grant)

- i. Outreach of about 30,000 letters mailed
- ii. Expect to have more information at the next meeting

b. Miyawaki Forests (MVP Grant)

i. The bid for the project closed and DSR received one bid from BSC Group. They were well qualified and have been selected for the project. DSR is currently going through the contracting stage. The department is moving quickly on this because the project must end by June 30, 2024.

c. Drainage and Stormwater Master Plan update and new FloodWatch map (MVP Grant; worcesterma.gov/floodwatch; Attachment B)

- i. The project will end by June 30, 2024. The modeling of the stormwater system is underway and will result in a projection to 2070. After the modeling is complete, the City will begin targeting improvements to the system. There will be a few public meetings to educate residents about flooding and what they can do to help mitigate issues. This project has been a collaboration between DSR and DPW.

d. Lakes and Ponds Program

- i. Staff: New Lakes & Ponds Coordinator, Katie Liming. (Started 11/27)
- ii. New Map - Lakes and Ponds Activities Guide - worcesterma.gov/bluespace (*Attachment C*). A new interactive Lakes & Ponds map is live at worcesterma.gov/bluespace displaying activities available for residents on Worcester's lakes. Member Leovich wondered if DSR has a hard copy that could be distributed to WPS. Unfortunately, due to the interactive nature the full map doesn't print well in handout size, but DSR can consider providing maps with information targeted to specific areas. DSR can also work with schools to print poster size maps to hang in schools. However, there is some functionality on the website that won't be possible in a printed version.

e. CDP Reporting Score & Follow-Up (Attachment D)

- i. Worcester received an A- from the Carbon Disclosure Project (CDP), up from a B last year. This is due to actual improvement as well as more accurate data entry than the prior year. CDP started as a carbon counting nonprofit but has pivoted to be holistic in evaluating green corporations and cities expanding to consider adaptation and mitigation plans in their rating.

4. Review and Discussion

a. Proposed Meeting Schedule 2024 (Attachment E)

- i. The commission considered the proposed meeting schedule for 2024. Member Conna made a motion to approve the meeting schedule, seconded by Vice Chair Herwitz. Unanimously approved.

b. Urban Forest Master Plan (2nd Draft) (November, 2023)

- i. Vice Chair Herwitz spoke about the Urban Forest Master Plan. A draft was presented publicly at the last Urban Forestry Tree Commission meeting and the final draft will be considered at their upcoming December 6 meeting. Vice Chair Herwitz noted that the initial draft and final draft under consideration are largely the same document. Most feedback provided in April was not included. In particular, the ratio of trees cut to trees planted was kept at 1 to 1 and not increased. The tree canopy goal definition was pushed back to 2026 following another canopy study. Vice Chair Herwitz introduced a memo that she would like the committee to consider which calls on the Urban Forestry Tree Commission to edit the final document to include a 3 to 1 tree planting minimum and to shift the canopy goal definition to January 2025 at the latest.
- ii. Members discussed their support of the statement and Member Conna noted his displeasure that the April input was not added into the plan. Member Leovich also felt that the City would not benefit from another canopy study but should consider zoning changes to increase tree planting on private property.
- iii. Vice Chair Herwitz put forward a motion to adopt the statement from GWAC about the Urban Forest Master Plan as presented (*Attachment G*) and to send it to the Urban Forestry Tree Commission and staff prior to their December 6 meeting. Member Fournier seconded the motion. Unanimously approved.

c. Green Worcester Plan's First Progress Report (Draft), July 2021 – December 2023 (Attachment F)

- i. Vice Chair Herwitz thought that the report could still be improved to better express progress. She noted that there are some areas that need better progress metrics, with one example being charging station percentages.
- ii. Member Conna appreciated the progress made so far and felt that the report does a good job of expressing that progress. However, he believed that the report fell short in pointing out where there are big hills to climb. He would like to focus on three benchmark goals: the 2030, 2035, and 2045 targets for renewable energy. The 2030 goal of net zero energy in municipal buildings is only 16% complete as noted in Chapter 3 section 4, but we only have 7 years left to reach the goal. Member Conna thought that we need to be more realistic about how we get there and that the City may need to authorize additional resources to complete this work.
- iii. Member Conna confirmed with DSR staff that by 2035 the City goal is to offer 100% renewable electricity city wide and asked about how many residents are on the aggregation Plan. Mr. Odell noted that about 40,000 accounts are on the Standard Green plan, and only about 100 accounts on the 100% Green Aggregation. About 8-12% of the customer base has opted out of both aggregation options. If customers were using standard National Grid electricity they were automatically signed up for Standard Green; if they were using competitive suppliers they did not get opted into the aggregation program.
- iv. Member Conna raised a concern about the goal on Page 10 of getting the entire City off fossil fuels for heating and transportation by 2045. On page 73, there's a benchmark of being 30% toward the goal by 2030. He didn't know how we could pull that off. Member Conna thought it would take more resources than what the city is currently giving to DSR. He felt that we need to be realistic and spell out what's needed to make this progress. Mr. Odell acknowledged the difficulties of reaching the goal. He stated that DSR can incorporate benchmark data for 2030 and 2035 but will also need Greenhouse Gas Emissions inventory data for more recent years (2020-2023), which it expects to get in the upcoming year.
- v. Member Leovich asked how the plan considers heating plants at older buildings. Are we working to make the older heating plants more efficient? Mr. Odell noted that there are programs in place to make buildings more efficient and work on converting them from gas to electricity. The City is working on the efficiency of the building itself as well as the heating systems.
- vi. Chair Knittle spoke about how things are changing and that she believes this plan was implemented at a time when support continues to grow. The options for fossil fuel use will continue to decrease and hopefully that will increase the rate of adoption among residents.
- vii. Member Conna agreed and noted that he's counting on market forces to help carry this plan along. He wants to see Worcester ahead of the curve as a leader in this work.
- viii. Member Conna asked where Carbon Mitigation Revolving Fund (CMRF) money comes from and suggested that information be included in the document. Mr. Odell responded that most of the fund is net metering credits from the landfill solar array that are sold at a discount to the school department. Funds are used for salary and other small programs.
- ix. Member Conna requested that the school curriculum on page 6 be fleshed out a bit more. He also requested a better description of the map of connected networks mentioned on Page 7 within the connectivity section. Mr. Odell said that the department can look at expanding that information, but it's currently a work in progress. The project involves mapping the City in a way to connect green and blue spaces while promoting safety, sustainability, equity, and connectivity.
- x. Member Conna had some additional comments, including that on page 9 there are three concurrent phases and on page 13 there's a typo regarding achieving net zero by 2030. In the Action Steps, Action 5 on page 17 only mentions the specialized stretch code, but Member Conna thought the City ought to look for more from contractors than just the specialized stretch code. On page 23, the information about tree standards for private projects mentions the Urban Forest Master Plan, but

Member Conna couldn't find that information in the plan. Mr. Odell will have DSR go through Urban Forest Master Plan again to confirm the information is accurate.

- xi. In Chapter 5 Action 1, the plan states "where feasible city will electrify buildings during renovation projects." Member Conna did not like the "where feasible" language.
- xii. Member Leovich noted that the report focuses on upgrading city building systems to electricity. She was not convinced that's the best approach because she doesn't think electrical systems are resilient due to the reliance on grid. Mr. Odell acknowledged her concern and noted that the City is trying to be thoughtful in the move from fossil fuels to electricity. Member Leovich asked if the City is considering microgrids for city owned buildings or campuses. Mr. Odell noted that the City has looked at that, but it's currently not cost efficient since most buildings are spread out. However, National Grid will be reevaluating and making updates to their system at a cost of \$2 billion. This should make the grid more resilient.
- xiii. Member Conna asked if the integrated water management plan noted in Chapter 7 Action 1 exists. Mr. Odell replied that it does exist, but the specifics are still on hold as the City determines what to do first. This is something that needs to be looked at holistically and DSR is still waiting on results from MVP stormwater grant.
- xiv. Member Conna asked what green infrastructure means as it's reference on page 33. Mr. Odell replied that this is in reference to the MVP drainage master plan. After the drainage master plan results are known, the City will need to determine what green and gray infrastructure is needed to reduce flooding. Green infrastructure would be things like rain gardens, trees, natural stormwater solution, while gray infrastructure involves pipes and other hard infrastructure.
- xv. Member Conna suggested creating a tax incentive to promote the elimination of herbicide, pesticide, etc. noted on page 34. He also had questions about purchasing policies mentioned in the plan and would like to know if there's an existing policy that would apply. Mr. Odell noted that there is a purchasing policy in place but it hasn't been updated in a while. It's helpful but price is a major driver in the policy. There's not a lot of wiggle room to make changes due to state regulations. DSR would like to change this slightly and will look at policies to see if there are opportunities for an update.
- xvi. Member Fournier liked the focus on food agriculture and landscape care. He's excited about the Urban Agriculture Master Plan but thinks that the City can do more to move the plan forward. He thought we should be able to promote high performance landscapes and create an engaging marketing campaign to move the plan forward. Could the City subsidize raised garden beds, pamphlets, and seeds? He thought the Green Worcester Plan has a great balance of preventative measures but would also like to see it focus on how to protect ourselves. Food and energy are very important. He encouraged DSR to think about Miyawaki food forests, a City sponsored initiative to restore chestnut tree; a pilot to get neighborhoods sustainability growing food; an incentive for organically managed landscapes; chickens! He also noted that shifting to mini-splits to electrify a three family was unaffordable for him as a landlord, with each unit costing \$6k even with MassSave incentives. This raises a concern about whether the goal of electrifying the City can be met.
- xvii. The Members discussed whether they would approve the report with amendments made offline or if they would like to see the final product before approving. Following the discussion, Chair Knittle decided that any additional comments will be submitted by individual Members to DSR staff by December 15. She requested that Members review the report ahead of the January 8 GWAC meeting and come prepared to vote on the report.

Motion to adjourn made by Vice Chair Herwitz and Seconded by Member Conna at 7:50pm.

Unanimously approved.

Attachments

Attachment A: October 16, 2023 Meeting Minutes

Attachment B: Potential Street Flooding Locations in Worcester Map

Attachment C: Lakes and Ponds Activities Map

Attachment D: CDP Score Report

Attachment E: Proposed Meeting Calendar 2024

Attachment F: Draft of Green Worcester Plan Progress Report

Attachment G: GWAC Urban Forestry Master Plan Statement



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CITY OF WORCESTER

Meeting Minutes

Green Worcester Advisory Committee

Monday, October 16, 2023, at 5:30 p.m.

Location: Esther Howland, City Hall, 455 Main St.

Chair Knittle called the meeting to order at 5:37pm.

Present

Mary Knittle, Chair
Evelyn Herwitz, Vice Chair
Patricia Austin (online)
Ted Conna
Mary Leovich (online)
Nathan Fournier (online)
Deirdra Murphy

Absent

Staff

John Odell
Jessica Davis
Miranda Hotham

1. **Welcome.** Chair Knittle facilitated the meeting and read the meeting rules.
2. **Approval of Minutes – September 18, 2023 (Attachment A)**
 - i. The committee unanimously approved the September 18, 2023 minutes with the change of ‘Worcester Tree Initiative’, not ‘Worcester Native Tree Initiative’.
3. **DSR Updates**
 - a. Specialized Stretch Code (Building Energy Code) Update – City Council vote (*Attachment B*)
 - b. Mr. Odell provided an update on the building energy code. It was passed by the City Council with a 10-1 vote, effective July 2024. This was a successful collaborative effort between Department of Sustainability and Resilience (DSR), Inspectional Services, Economic Development, and local community activists including GWAC members.
 - c. Member Conna stated that many community members and GWAC members played a big role in this effort

including Members Leovich and Conna testifying in front of City Council to endorse adoption of the code.

b. Grants:

i. MVP Grant: Miyawaki Forests Update

1. Mr. Odell reported that the MVP grant was awarded and DSR is now working on executing the contract between the City and the state. The next step is posting a Request for Proposals (RFP) to hire a consultant to design and implement the work which needs to be completed by June 2024. The RFP will be posted in the next couple of weeks and DSR will share it with GWAC to then share with other networks.
2. Vice Chair Herwitz asked once the RFP is posted, how long does it take to hire someone. Mr. Odell explained that the RFP will be online for three weeks, then there can be back and forth with bidders for a couple of weeks, and then contract execution may take a couple of weeks. Hopefully, by January 1 we will have someone hired.

ii. USDA Forestry Grant update

1. Mr. Odell said that DSR reached out to the USDA to ask for an explanation or information on why the City wasn't awarded a grant. DSR received a response from them, but it was a general form email and not specific feedback on the application. He followed up again and will report back to GWAC if an answer is received. He explained that DSR reached out to other communities who did receive the grant to gather information on their applications. Boston applied for \$11 million, and they were awarded the amount they applied for. Their application didn't focus so much on tree planting and focused more on tree maintenance and providing resources to hire people to manage the projects. Worcester applied for over \$23 million, and no one received more than \$17 million. Therefore, it seems that USDA wanted to spread the money out to a lot of applicants rather than with larger amounts. So, a possible lesson learned is apply for a smaller amount for future grants.
2. Member Conna said he has a possible theory for why Worcester was not selected. When Worcester's urban canopy is compared to other cities, you can see that Worcester's tree cover is already greater than other nearby cities. So, it's possible that others looked like they needed it more.
3. Vice Chair Herwitz asked if there was a way to break up the proposal as it is now to seek other funding sources for it. Mr. Odell replied that there isn't a plan yet but we are actively looking and feel prepared to apply when available.
4. Member Leovich commented that federal grants are often seed money for projects, so she wasn't surprised that Worcester wasn't awarded the grant.

c. Community Engagement:

i. New Green Worcester ElectriCITY Aggregation Program contract letters (*Attachment C*)

1. Mr. Odell reported that a new Green Worcester ElectriCITY Aggregation program was successfully negotiated, and a press release went out about it this week. This contract provides lower pricing than National Grid's until August 2024. There is no guarantee for savings after that because National Grid's prices change every six months. This is the City's fourth year having an aggregation program and we have saved over \$12 million for rate payers. Additionally, we have increased from 30% to 40% premium green electricity, meaning close to two thirds of our electricity comes from green New England sources starting with the December 2023 meter reads through December 2025.

2. Member Conna asked about the language on the letter that was sent out citywide. He said the fine print makes no sense and requested contact information for the person who created it. He understood that the City doesn't have control over the language as it is regulated by the state.
3. Mr. Odell replied that the language guidelines are from the Department of Public Utilities, and he will provide a contact for Member Conna to contact.

d. Staff:

- i. Energy Advocates – introductions and current project: Main Streets (*Attachment D*)
 1. Ms. Davis explained that DSR hired two new staff, the Energy Advocates, at the end of August. They were hired with funding from the Community First Partnership by Mass Save for the next year and half.
 2. Ms. Killian Madden introduced herself and said that she has eight years of experience in home energy efficiency upgrades including solar and battery systems. She shared that she is looking forward to working with renters and landlords to help them improve efficiency and upgrade building stock.
 3. Ms. Gabrielle Hajos introduced herself and said that she has a background in environmental community engagement and renewable energy.
 4. Ms. Madden explained that the Main Streets initiative is taking place this month. It is a one-month promotion for small businesses, non-profits and houses of worship to access additional incentives for energy efficiency work. The initiative is managed by lead vendors hired by the utilities, Eversource and National Grid. Over 3,900 postcards were sent to those customers over the last week and we are hoping that some will participate in the program and get energy assessments, weatherization upgrades and heat pumps installed.
 5. Ms. Davis explained that Main Streets was the first initiative as part of this program, and it will be complete in the next month and then the Energy Advocates will shift focus to outreach to renters and landlords. Property owners will receive letters over the next couple of months explaining the program and incentives through Mass Save.
- ii. Administrative Assistant (Started 10/02)
 1. Mr. Odell reported that Ms. Amy Magiera was hired and started on October 2.
- iii. Lakes & Ponds Coordinator (Interviewing)
 1. Mr. Odell reported that second interviews are taking place now and hopefully there will be an update for the next meeting.
- iv. Zero Waste Coordinator – introduction and current projects
 1. Mr. Odell reported that Ms. Miranda Hotham was hired a few weeks ago and that she is present to introduce herself and her projects.
 2. Ms. Hotham introduced herself and explained that she met many GWAC members in her previous role at the Worcester Green Corps at the Worcester Regional Chamber of Commerce. She met local stakeholders and attended conferences and is looking forward to bringing her experience to this new position in the City. She is working on developing the Request for Proposals for the Zero Waste Master Plan to hire a consultant to develop the plan. The consultant will conduct research on the Pay-As-You-Throw (PAYT) program, illegal dumping and accessibility to different types of recycling. The plan will have specific goals and timelines for achieving them. She is also working on a community engagement plan to get community involvement as soon as possible.

3. Member Conna welcomed Ms. Hotham and asked about PAYT program and if there are going to be changes to it. Ms. Hotham replied that no, the City is not looking into changing it, rather just researching it to learn more about its effectiveness. Member Conna said that PAYT is important, reduces waste, encourages recycling, and should be kept. However, he is fine with creating subsidies for lower income people to purchase bags.
 4. Mr. Odell explained that there are no changes to the program right now and that our goal is to minimize waste in a thoughtful and successful way. He explained that tipping costs (cost per ton to incinerate the trash) are increasingly expensive so there needs to be an analysis on the program.
 5. Member Leovich welcomed Ms. Hotham and said that she is looking forward to working together and interested in seeing how things progress.
 6. Chair Knittle welcomed Ms. Hotham and said she looked forward to working with Ms. Hotham as well.
 7. A member of the public, Feanna, welcomed Ms. Hotham and asked if there will be an analysis on food waste recycling. Ms. Hotham said she will be studying composting curbside, at schools and in municipal buildings to determine feasibility.
- e. Meeting schedule 2024
- i. Mr. Odell shared that DSR will be drafting the 2024 meeting calendar soon and asked that committee members email any preferences for meeting times or other conflicts. The two options are Monday and Wednesday nights.

4. Review and Discussion

- a. First Green Worcester Annual Progress Report Draft, July 2021 – December 2023 (*Attachment E*)
 - i. Mr. Odell explained the way the report is currently set up. DSR is looking for the committee's feedback on the layout and format of the report. The report covers July 2022- December 2023. Items have been listed and have a status with then a description. The next report will be annual. He explained what the items in the legend mean: not started, completed, ongoing, in process, and refocused. At the next meeting we will have every chapter, an executive summary, and our priority actions for the next calendar year.
 - ii. Vice Chair Herwitz said that it would good that it was easy to see the progress on each item and the refocused status is useful. She stated that part of GWAC's role is to help identify priorities. The report doesn't make it clear which items are related. She suggested organizing the actions into a hierarchy of what needs to come first, second and third to enable DSR to prioritize workflow. She doesn't think putting the actions in the order they are listed in the plan is the best format. Mr. Odell replied that DSR choose to organize the actions based on the order in the plan rather than create a new order. It makes it easier for readers to read the report since it will be in the same order. This may change in the future, but it seems the most intuitive way to organize it now. Vice Chair Herwitz suggested organizing the actions by status in this order: items are completed, refocused, in progress, ongoing, not started. The action numbers could still be included. This would be within each chapter, not for the whole plan.
 - iii. Member Leovich said that the sample is easy to follow so the structure makes sense. Including that this is a living document is crucial.
 - iv. Member Austin said that the format of the report is good.
 - v. Chair Knittle asked if there is a provision to explain the process for adding new items to the plan and how GWAC would go about doing that. Mr. Odell explained the process that a committee member can bring an action to staff to incorporate in the actions list for a future priority measure.

He said that DSR agrees that more items will come up over time that should be added to the plan. Adding action items will be a two-way street – DSR could bring items to GWAC for review also. After discussing offline, the action item would be brought to the GWAC for review.

- vi. Member Leovich said that she agreed with Vice Chair Herwitz in providing an explanatory text at the beginning of the report explanation that rationale of the structure would be enough to show continuity for the reader. Member Conna agreed.
- vii. Chair Knittle asked if GWAC will need to review the draft final report by the next meeting on November 27. Mr. Odell said that the draft final report will be available for GWAC's review. Mr. Odell asked that any comments be sent to DSR to be considered and incorporated in advance of the November meeting. It's possible that it could be approved at that meeting or it could be finalized at the January meeting. Chair Knittle requested advanced notice, so GWAC has sufficient time to review. Mr. Odell said the format is important as it will be the one used in the future, so feedback is appreciated.
- viii. Member Conna said that "In Progress" is too squishy and that it needs to be more concrete. The value of the report is to keep us on track. It's important to recognize all the actions we've completed and also important to show where we are behind and what needs to happen next. It needs to be quantified in some way when possible. For items listed as "Ongoing" we need to assess how effective the action is and decide how to evaluate that. He said that "Refocused" makes sense but he has some concerns about some of the items.
- ix. Member Conna suggested a fourth category/column on the chart called "what's needed" or something else. That column would be what is needed to be able to complete the action.
- x. Member Conna brought up that he takes issue with the status of Action 5 in Chapter 2 being listed as "refocused". He doesn't believe that the description is an adequate step to achieve the original goal. There are far more opportunities for sustainability performance measures than just the specialized stretch code. For example, he explained that at a past presentation at GWAC by the Worcester Native Plan Initiative, there was interest in developing requirements for developers to use native plants.
- xi. Chair Knittle said the items listed as "refocused" are not clear on whether they have completed or in progress. So, she suggested that "refocused" also include the status. Member Conna agreed and said that "refocused" implies that it has been completed but that doesn't seem accurate for some of the items listed as "refocused".
- xii. Member Conna said that he didn't fully understand Action 9 in Chapter 2 because he didn't know much about the Office of Urban Innovation. Mr. Odell replied that the way DSR originally interpreted this action as a need for data analysis and that office would be managing that. However, that office doesn't exist anymore, it has collapsed into the IT department. Now, DSR is managing data analysis within the department. Member Conna said that he understood the explanation now.
- xiii. Member Conna said that Action 10 in Chapter 2 needs to be broken down into milestones to measure progress.
- xiv. Member Conna said that Action 12 in Chapter 2 listed as "refocused" to another progress description doesn't line up with the initial goal – it seems like two separate actions. The city can work with the Chamber and still encourage it to develop its own sustainability committee.
- xv. Member Conna noted the absence of WPI from the list of educational institutions that DSR is collaborating with for Action 14 in Chapter 2, and suggested the city seek to partner with WPI and leverage the many sustainability resources it could offer.

- xvi. Member Conna commented that Action 1 in Chapter 3 is a large goal and that “in progress” listed as the status is not precise. He said that it’s important to know whether or not milestones or benchmarks are being met along the way to 2045. He also said he didn’t think the Specialized Stretch Code should be described as a “net zero” code in a written report (because it isn’t), but he thought using “net zero” as shorthand was acceptable in a political context.
- xvii. Member Conna commented that Action 4 in Chapter 3 is a big and important goal and the progress needs to be more precise than just listed as “In Progress”.
- xviii. Member Conna brought up Action 9 in Chapter 3 and said that this goal can and should be easily quantified, i.e., we have installed 18 new charging ports and x more need to be installed.
- xix. Member Conna asked what a “Level II Aggregator” is in Action 13 in Chapter 3. Mr. Odell replied that is it similar to the Cape Light Compact which purchases electricity for its customers and manages the money that goes to the Mass Save programs. Member Conna asked if the City should actually take that action. Mr. Odell replied that the City would probably need to create a new department and would implement the Mass Save programs in Worcester. However, that is not a priority now.
- xx. Member Conna said that he liked the idea that the report be for a calendar year and he suggested that this report should be until the end of 2023 and then be on an annual cycle.
- xxi. Member Conna said that the job that the Green Worcester Plan sets out is huge and DSR need more funding and resources to complete the work. The report can help make the case for more resources by showing the progress and then what is needed to accomplish the actions. In the city ordinance that defines the charge of the GWAC, it says that it is GWAC’s role to review the annual report.
- xxii. Vice Chair Herwitz commented that she didn’t think DSR staff have the time or resources to complete the report to the level of detail that Member Conna asked for. She suggested possibly having GWAC members help with chapters.
- xxiii. Mr. Odell replied that he appreciated the feedback and that DSR will need to see what is possible to include. DSR would appreciate GWAC’s feedback in email format because its too much to discuss in detail at the GWAC meetings. The goal is that it is easily readable and useful.
- xxiv. Member Conna agreed with Vice Chair Herwitz that GWAC members could help in some way but recognized that in order to do so it might require additional staff time. Also, he said that the sooner that DSR sends the draft to GWAC the more time they will have to fully review it.
- xxv. Member Leovich commented that committee members should be careful when saying what the plan priorities are to not speak for everyone. The priorities should probably be the way they were listed in the original plan. The proposed fourth column could be titled “gaps”. Member Conna said that “gaps” would be fine and there may be other options that don’t have any negative connotations.
- xxvi. Chair Knittle asked if the progress report will be submitted to City Council or City Manager. Mr. Odell replied that the report will be made public by sending it to the City Manager’s office and it will be up on the city website.

5. Standing Items

- a. Community Outreach – none.
- b. Community Feedback
 - i. A resident online, Joe Johnson, asked if the City Manager of Worcester has appointed a local Superintendent of Shade Trees and Pest Control as specified in MGL Chapter 132 - Forestry, Sections

11 and 13. He believes that Boston has a Superintendent of Shade Trees. Mr. Odell replied that he didn't know but would get back to him with an answer.

- c. Media – none.
- d. Upcoming Events (not DSR organized)
 - i. Mr. Odell shared the UMASS Chan EV Ride and Drive event, October 18, 2023, at the UMass Chan campus. People can test drive EVs and there are still open slots to sign up.
 - ii. Member Conna shared the rescheduled SolarFest event, Rutland, VT, Saturday, October 28.
 - iii. Member Conna shared there are two lectures upcoming on Climate Change at Clark.
 - iv. Chair Knittle shared that the City will be hosting a landlords summit this winter and she will share more details when available.

The committee unanimously voted to adjourn at 7:20pm.

Attachments

Attachment A: September 18, 2023 Meeting Minutes

Attachment B: Specialized Stretch Code Telegram & Gazette Article, 9/27/2023

Attachment C: Aggregation contract announcement letters

Attachment D: Main Streets program

Attachment E: DRAFT section of Green Worcester Progress Report

2023 Upcoming Meetings

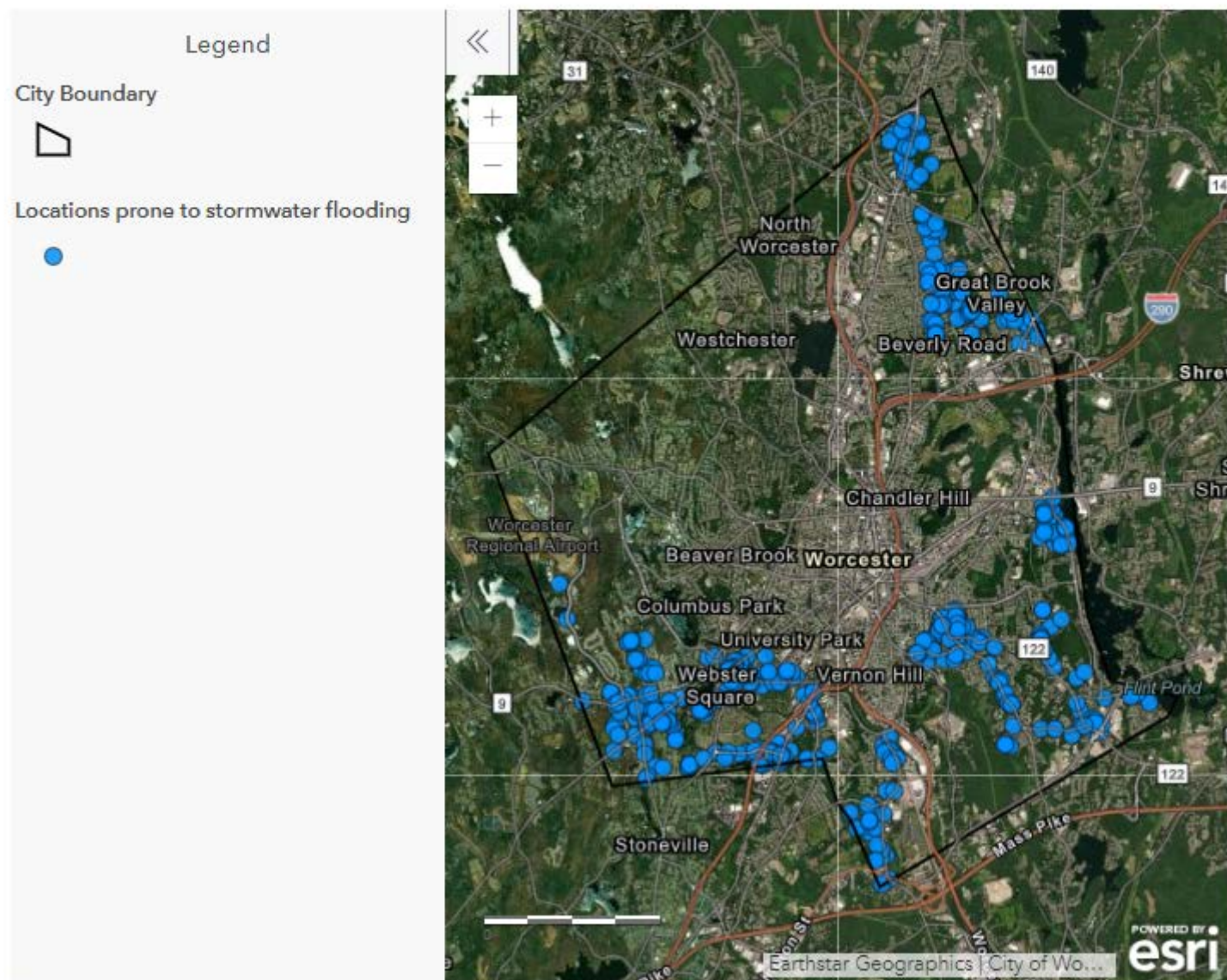
Green Worcester Advisory Committee meetings begin on Mondays at 5:30pm:

November 27

Esther Howland

WORCESTER FLOOD WATCH: COMMUNITY SCIENCE PROJECT FOR CLIMATE RESILIENCY

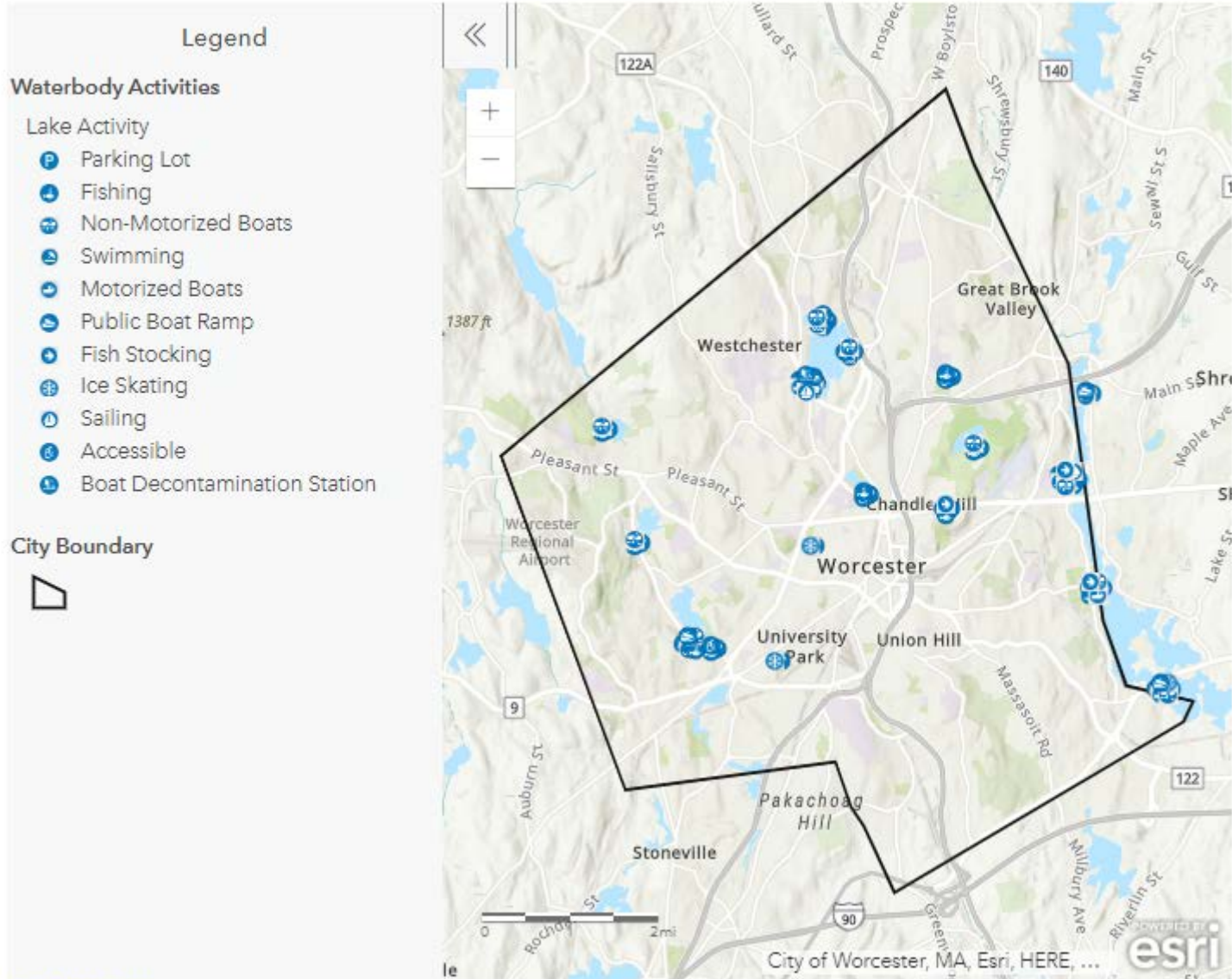
STREET FLOODING AND RESILIENCE PLANNING



[View Larger Map](#)

WORCESTER LAKES AND PONDS GUIDE

Check out the map below to learn about what activities you can do at each of Worcester's public waterbodies!



[View larger map](#)

This report provides information on your jurisdiction’s score on the [2023 Questionnaire](#), how it compares with others and insights on how to improve climate action and transparency.

Request a score feedback call

Email: citiesna@cdp.net

Your jurisdiction’s reported data has been scored against the [CDP Scoring Methodology](#). Scores are private to jurisdictions, though highest scoring jurisdictions are publicly recognized in our annual ‘A List’.

YOUR SCORE

City of Worcester, MA

Region United States of America

Country/area United States of America



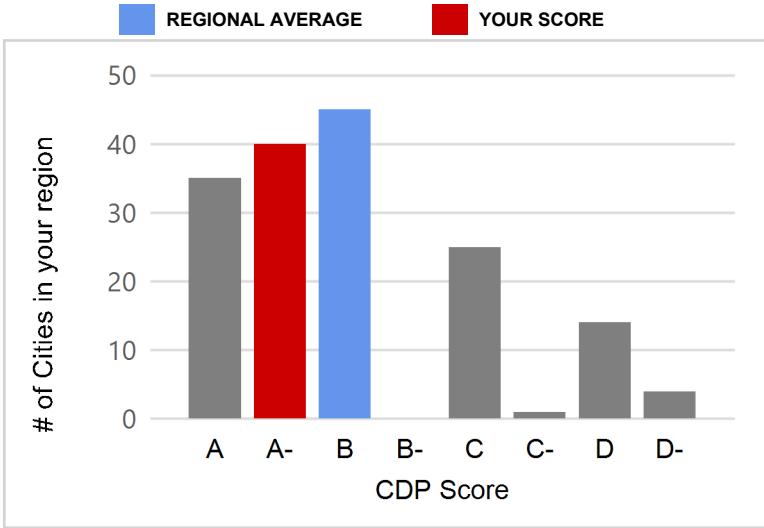
Leadership Level

Your jurisdiction has demonstrated best practice standards across adaptation and mitigation, has set ambitious goals and has made progress towards achieving those goals.

COMPARE YOUR SCORE

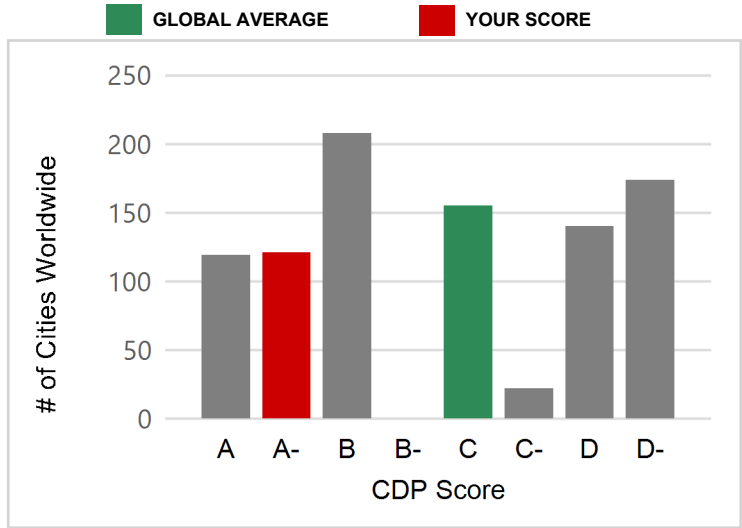
REGIONAL DISTRIBUTION

Average : **B**



GLOBAL DISTRIBUTION

Average : **C**



THEMATIC SCORES

ADAPTATION SCORE



Regional Average
B

Global Average
B

Your jurisdiction has a clear understanding of the impacts and risks climate change poses to your jurisdiction, you have implemented an adaptation plan and are tracking progress towards your adaptation goals.

MITIGATION SCORE



Regional Average
B

Global Average
C







Your jurisdiction has a clear understanding of your emissions breakdown, you have implemented a mitigation plan, and are demonstrating progress towards science-based climate targets.

ESSENTIAL CRITERIA

Awareness, Management and Leadership bands have essential criteria which must be met to receive a score within those bands.

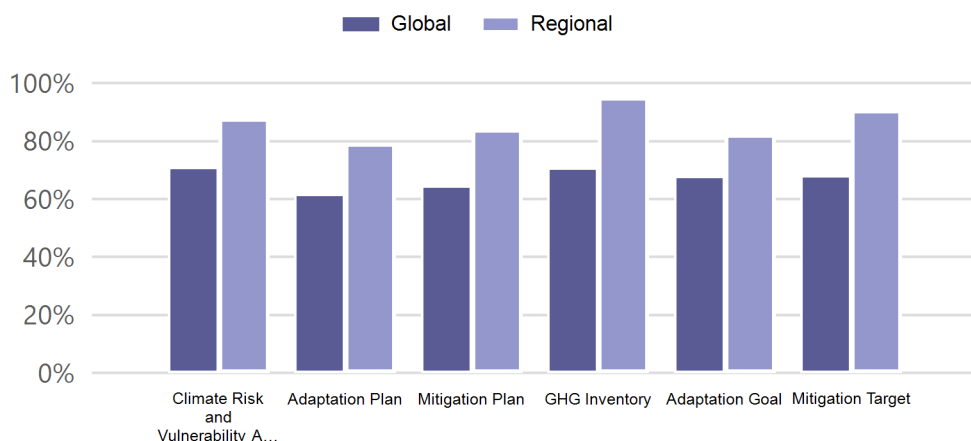
For example, regardless of whether all other criteria are met:

- To achieve an Awareness score, Awareness essential criteria must be met.
- To achieve a Management score, Awareness and Management essential criteria must be met.
- To achieve a Leadership score, Awareness, Management and Leadership essential criteria must be met.
- To achieve an A score, Awareness, Management, Leadership and the additional A List essential criteria must be met.

Climate Risk and Vulnerability Assessment		Your jurisdiction has undertaken a climate risk and vulnerability assessment. This is a key component of climate action, and therefore one of the essential criteria of CDP scoring. For best practice guidance to inform future updates and advance this assessment click here .
Adaptation Plan		Your jurisdiction has a plan that addresses climate adaptation. This is a key component of climate action, and therefore one of the essential criteria of CDP scoring. For best practice guidance to inform monitoring, evaluation, progress reporting and future updates to this plan click here .
Mitigation Plan		Your jurisdiction has reported that it has a plan that addresses climate mitigation adaptation. This is a key component of climate action, and therefore one of the essential criteria of CDP scoring. For best practice guidance to inform monitoring, evaluation, progress reporting and future updates to this plan click here .
GHG Inventory		Your jurisdiction has a community-wide emissions inventory. This is a key component of climate action, and therefore one of the essential criteria of CDP scoring. For best practice guidance to inform future updates to your emissions inventory click here .
Adaptation Goal		Your jurisdiction has an adaptation goal. This is a key component of climate action, and therefore one of the essential criteria of CDP scoring. For best practice guidance to track and progress your goal to drive climate resilience Click here .
Mitigation Target		Your jurisdiction has a fully reported mitigation target. This is a key component of climate action, and therefore one of the essential criteria of CDP scoring. For best practice guidance on how to track and monitor progress, including A list requirement click here . For 2023, your jurisdiction was also scored on the strength of its mitigation target. For more information regarding this, please click here .

Globally and regionally reported

% of Cities passed essential criteria



Explore CDP Data - [click here](#)

Step up your climate action [Click here](#) for the next steps document

[Click here](#) to share your 2023 CDP response or score with the world.

Understand the Scoring Methodology - [click here](#)



Green Worcester Advisory Committee

PROPOSED 2024 Meeting Calendar

January						
S	M	T	W	T	F	S
	1	2	3	4	5	6
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February						
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December						
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29	30	31				

DATE	LOCATION
January 8	Esther Howland
February 5	Levi Lincoln
March 11	Levi Lincoln
April 8	Esther Howland
May 13	Levi Lincoln
June 10	Esther Howland
July 15	Esther Howland
September 9	Esther Howland
October 21	Esther Howland
November 18	Esther Howland

Green Worcester Plan 1st Progress Report

City of Worcester

July 2021 – December 2023



*Produced by the Department of Sustainability and Resilience,
in collaboration with the Green Worcester Advisory Committee*

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Reading This Report

As part of the Green Worcester Plan, the City made a commitment to transparency and accountability. This first progress report of the Green Worcester Plan (accepted in April of 2021) consists of the following sections:

- An executive summary, which provides a summary list of completed and ongoing actions (excluding those not yet started), as well as the summary of progress made to date of top goals and early actions identified by the Green Worcester Plan (GWP),
- A list of priority actions for the upcoming 2024 that the Department of Sustainability and Resilience will be focusing their work on, and
- A status update for all the actions listed in the Green Worcester Plan, from July 2021 through December 2023. This last section is broken into ten sub-sections, covering chapter 2-12 of the plan. Each table includes the action item, the status, and a short description of our progress. We are using the following system to designate the status of each goal:

Status	Description
Not Started	This action has not been started
In Progress	The City or community have begun working on action implementation
Ongoing	An action that calls for a recurring action (with no definitive end)
Completed	The action is complete, and all milestones have been reached
Refocused	Action wasn't feasible, relevant, and/or necessary and therefore, it was refocused to a different action aligned with the intent of the initial action

Executive Summary

Summary of Completed Green Worcester Plan Actions

Action	Progress
New Department of Sustainability	The Department of Sustainability and Resilience (DSR) was founded in July 2021. The department now has 12 full and part-time staff members. (Chapter II, Action 1)
Green Worcester Advisory Committee	The Green Worcester Advisory Committee had their first meeting on March 7, 2022. The committee has seven members, with each district having at least one representative. (Chapter II, Action 3)
Green Worcester Fund	The City has a Carbon Mitigation Fund that provides modest funding to DSR, allowing them to partially fund their staff and pursue carbon mitigation projects. (Chapter II, Action 4)
Develop and implement a Sustainability and Resiliency Dashboard	DSR published a dashboard highlighting the City’s accomplishments and outlining how residents can help us meet our sustainability goals. It was launched on April 21, 2023, Earth Day, and is updated on a regular basis. (Chapter II, Action 6)
Urban Sustainability Network	DSR joined USDN in July 2022, and we have used the network for learning opportunities such as webinars, connecting with other municipal staff and posting our job openings. (Chapter II, Action 18)
State Energy Code	The City has adopted a highly efficient energy building code, the Specialized Stretch Code, which will go into effect on July 1, 2024. (Chapter IV, Action 13)
Sustainable Transportation and Mobility	The City created the Department of Transportation and Mobility (DTM) in July of 2022. DTM plans, coordinates, designs and implements transportation programs and projects that promote safe, equitable, connective, and sustainable mobility options. (Chapter VI, Action 1)

Summary of Ongoing Green Worcester Plan Actions

Action	Progress
Sustainability and resiliency codes and regulations	Through a City Council vote, the City has adopted a highly efficient energy building code called the Specialized Stretch Code. The new code will go into effect on July 1, 2024. The Department of Inspectional Services (DIS) will receive the needed training to enforce the new code. (Chapter II, Action 2)
Annual Progress Report	The City is committed to updating this report annually. In the future we will adapt the timescale of this report to capture developments over the previous calendar year. (Chapter II, Action 7)
Outreach Strategy	DSR is spearheading Green Worcester’s outreach strategy. DSR has monthly communication strategy meetings and is reaching out to people through monthly newsletters, surveys, the Green Worcester Dashboard, social media posts, and radio PSAs. (Chapter II, Action 8)
Data and Data-Driven Decisions	The Office of Urban Innovation merged with Technical Services Department to become the Department of Innovation and Technology. Due to this merge, we refocused this action to be managed by DSR instead. DSR has hired an internal Energy Analyst; created the Green Worcester Dashboard to better display our data; and has begun compiling data from other departments to keep better track of our energy and sustainability data. (Chapter II, Action 9)
School Curriculum	The City has begun making connections with Worcester Public School staff, and city staff has met with environmental groups at the high schools to discuss sustainability and resilience in Worcester. (Chapter II, Action 10)
Promotion to Private Stakeholders	DSR held 35+ public presentations for city stakeholders including the Worcester Garden Club, the Worcester Board of Health, and the Worcester Business Improvement District. (Chapter II, Action 11)
Business Committee	DSR has developed a working relationship, through the exchange of knowledge and information, with the Chamber of Commerce on sustainability, energy, and zero waste related projects. (Chapter II, Action 12)
Collaboration with Educational Institutions	The City has made several successful connections, through the exchange of knowledge and information, with local higher education institutions, including Clark, WSU, WPI, and Holy Cross, and is continuing to build our connections with educators in lower education in Worcester. (Chapter II, Action 14)
Identify opportunities for innovative energy pilot projects	The City, working closely with local neighborhood groups, requested that Eversource select Worcester to be part of the geothermal networked neighborhood pilot project but our efforts were not successful. We will continue to look for similar opportunities. (Chapter III, Action 6)
Open Space and Recreation Plan	The City updates their Open Space Recreation Plan every seven years. Our most recent update was in 2021. (Chapter IV, Action 1)
Urban Core and Green Spaces	The City was recently awarded a State Grant to plant Miyawaki Forests, small, fast-growing biologically diverse forests, in heat-island, environmental justice areas of the City. We have also invested in a Heat Map study to

	identify areas of the City that experience the Urban Heat Island Effect the most. The City is also actively creating a “Green Street” along Endicott and Bigelow Streets in the Green Island Neighborhood. (Chapter IV, Action 3)
Habitat Lands	The City’s Department of Public Works and Parks (DPW&P) continues to manage the City’s 10 drinking water reservoirs, delivering 8 billion gallons of safe drinking water annually. (Chapter IV, Action 8)
Lakes & Ponds Program	The City’s Lakes & Ponds Program added two new ponds to their treatment management program. The program now monitors and manages a total of six waterbodies. Additionally, the program leads a group of community scientists to monitor cyanobacteria at over 20 waterbodies in Worcester. They are continually looking for funding to expand their monitoring and management capabilities. (Chapter IV, Action 9)
High Performance Private Landscapes	The City has distributed 179 rain barrels since 2021. Additionally, we are developing a collaborative relationship with Worcester Native Plant Initiative, which is a local volunteer group dedicated to planting native plants in the City. (Chapter IV, Action 10)
Distributed Energy Systems	The City worked with local neighborhood groups to be part of the geothermal networked neighborhood pilot project managed by Eversource, but was not selected. We will continue to look for similar opportunities. (Chapter V, Action 7)
Code compliance	The updated Stretch Code and Specialized Stretch Code increase energy efficiency requirements. The City’s Inspectional Services Department (ISD) maintains current code metrics and has a good track record of compliance. ISD has noted only one compliance issue since 2010. (Chapter V, Action 11)
Land Use and Zoning	We are working collaboratively with other key Departments on the development of the City’s Now Next Plan, which will include zoning recommendations. (Chapter V, Action 14)
Connectivity	DTM is currently creating a Mobility Action Plan which will include a map of connected networks. (Chapter VI, Action 3)
Event Transportation	There is currently a shuttle from the City’s parking garages to Polar Park on game days. (Chapter VI, Action 4)
Electric Vehicle Use	The City installed 9 dual port Electric Vehicle Charging stations in 2023, increasing the number of publicly owned charging station ports to 30. The City is also actively increasing our stock of Electric Vehicles by purchasing an EV for City Manager use and applying for money to purchase 20 EV school buses. (Chapter VI, Action 6)
WRTA Service Optimum	Worcester Regional Transit Authority eliminated fares to promote ridership and increase route efficiency. Collecting fares slows service and creates inefficiency costs. The Mobility Action Plan will include plans for pedestrian improvements to support transit stops. (Chapter VI, Action 10)
Lakes & Ponds Program	The Lakes & Ponds Program installed an “Alum” dosing station at Indian Lake to maintain lake water quality, resulting in fewer beach closures. State ARPA funds were acquired to complete analysis and implementation of other water quality improvement projects. The program also hosted over 50 outreach events to teach residents about their waterbodies. (Chapter VII, Action 13)

New urban agriculture sites	The Regional Environmental Council added four community gardens since the Green Worcester Plan was adopted and continues to expand their community gardens network. (Chapter IX, Action 2)
Gardens in Schools	The Regional Environmental Council has supported 25 school gardens and engaged 2,677 students with hands-on gardening activities and classroom workshops. (Chapter IX, Action 5)
Brownfields	The City was awarded \$5.1 million by the EPA for brownfield remediation in X. The City used the money to fund 13 Brownfields remediation projects. In May of 2023, the City received an additional \$2.7 million from the EPA for brownfield remediation due to the success of the previous program. (Chapter X, Action 4)
Lead Abatement	The City’s Office of Economic Development (OED) manages a lead abatement program and a brownfield cleanup loan fund to mitigate two of these large historic issues. Since July 2021, 135 units were de-leaded funded by federal grants. (Chapter X, Action 5)
Resilience Working Group	DSR has set up regular interdepartmental working meetings with the Department of Public Works and Parks, the Department of Transportation and Mobility, and the Executive Office of Economic Development. These meeting provide the forum needed to collaborate on resiliency related programs and projects. (Chapter XI, Action 1)
Resilient Food System	The Regional Environmental Council, a community partner, offered access to fresh local vegetables through their standing and mobile farmer’s market programs; supported 25 school gardens; engaged 2,677 students with hands-on gardening activities and classroom workshops; added four community gardens to their network; and maintained their Healthy Incentives Program which allows residents to use SNAP and EBT benefits at Farmer’s markets. (Chapter XI, Action 3)
MVP¹ Priority Actions: Social Resilience	The City developed and launched the “Worcester 311” app for a quick and easy way for residents to submit non-emergency requests for assistance with issues around the City. (Chapter XI, Action 4b)

¹ Municipal Vulnerability Preparedness

Summary of progress made to date of top goals and early actions identified by the Green Worcester Plan (GWP)

Climate Change Mitigation

As greenhouse gas (GHG) emissions are the primary cause of climate change, moving city energy users to 100% clean and affordable energy by 2045 is a core tenant of the Green Worcester Plan. To do this, total net fossil-fuel related emissions will need to be reduced to zero by this date. This work will be done in three phases:

- By 2030: Use 100% renewable energy for municipal facilities
- By 2035: Provide 100% residential renewable electricity city-wide through the Community Choice Aggregation program
- By 2045: Use 100% renewable energy for residences and businesses, including for heating and transportation

Use 100% renewable energy for municipal facilities:

Municipal emissions have decreased by 16% since 2009. Buildings, specifically, saw an 18% reduction in emissions. The decline is a result of Worcester's dedication to making our buildings more efficient and installing solar arrays on municipal buildings and parking lots. Since 2011, the city has converted roughly 14,000 streetlights to LEDs and implemented a wide variety of energy conservation measures – such as installing advanced building management systems, insulation & air-sealing, and electric heat pumps – in 92 of our largest, occupied facilities. These measures work to improve our efficiency – lowering the City's reliance on fossil fuels and thereby reducing our carbon emissions.

The City owns one of the largest municipally owned solar farms in New England (8.1 MW-DC of electric capacity – see [green.worcesterma.gov](https://www.green.worcesterma.gov) for a solar energy dashboard). The city currently owns and operates 19 other, smaller solar arrays, including recent installations at 3 schools, and the Worcester Senior Center. The four new solar arrays have a combined capacity of 1.25 MW increasing our total solar production capacity by 12%. Adding solar panels to new and older buildings is a cost-effective way to move towards net-zero.

Provide 100% Renewable Electricity City-Wide:

A primary goal of the Green Worcester Plan is providing 100% renewable electricity citywide. To help achieve this by 2035, the City began the Green Worcester ElectriCITY Aggregation Program in 2019. The program offers premium green electricity to residents at a fair and reliable rate. As of December 2023, 64% of the energy provided by the aggregation program is from green renewable plants in New England – National Grid is only required by the state to provide 26% renewable energy in their supply. Since the program began in 2019, the program has saved over 160,000,000 pounds of carbon dioxide from being emitted into the atmosphere, the equivalent of taking over 15,000 gasoline-powered passenger vehicles off the road for one year.

Use 100% renewable energy for residences and businesses:

Based on our most recent GHG emissions inventory, buildings produce 65% of the City's GHG emissions. As the electrical grid continues to become greener, using electric heat pumps combined with using less energy will be key to lowering the city's GHG emissions. To help this transition the city has completed the following:

- The City adopted the new Massachusetts Opt-in Specialized Stretch Code in September 2023. This Specialized Stretch Code will require all new buildings to be essentially net zero ready – by promoting electrification and extensive weatherization that will reduce the cost and energy needed to heat and cool buildings. The code will go into effect in July of 2024.
- In 2023, the City launched the Smart Energy Advice program by hiring two Energy Advocates, funded in part by a Mass Save grant, to promote energy efficiency improvements in homes and small businesses. The advocates focus on reaching populations that have historically been underserved by Mass Save including landlords, small businesses, non-profits, income eligible households and English isolated households to help them access the program, apply for rebates, and receive energy assessments.

Building Climate Change Resilience

The Department of Sustainability and Resilience (DSR), in partnership with a variety of other entities, is striving to make the City and its population more resilient to climate change impacts such as more frequent extreme storms, severe flooding, heat island effects, and more.

Increasing Our Tree Canopy

The Department of Public Works and Parks (DPW &P) is developing the City's first Urban Forestry Master Plan which will set forth the City's goals and plan for increasing our tree canopy. The final plan should be completed by the end of 2023.

In 2022, DSR completed a city-wide extreme heat study that will help us target resilience solutions where they are needed most. To achieve the level of cooling needed, the key recommendation was to increase the total tree canopy in Worcester by 30,000 - 35,000 trees by 2050, prioritizing plantings in areas with little tree cover. Consistent annual tree funding will be needed to attain this goal.

The City was awarded a Municipal Vulnerability Preparedness Action Grant by the state to plant two Miyawaki forests on municipal land. These small pocket forests, known for their co-benefits of reducing heat and flooding, will be the first of their kind in the City and they will be planted by July 2024.

Improving Water Quality and Reducing Flooding

To better understand the city's storm water system, the city is mapping and modeling the existing drainage system via a state Municipal Vulnerability Plan action grant. The map and models will help the city prioritize citywide grey and green infrastructure improvements. The plan is expected to be completed by June 2024.

After over 3 years of planning, construction of an alum dosing station was completed in Spring 2023 with the support of many collaborators including land donations from Bancroft School and The Unitarian Universalist Church. The station, installed at the mouth of Ararat Brook, automatically applies an environmentally friendly chemical, polyaluminum chloride, to the water as it flows into Indian Lake. The "alum" immobilizes phosphorus before it enters the lake, reducing the available food for harmful cyanobacteria blooms.

The Lakes and Ponds program oversees the Worcester Cyanobacteria Monitoring Collaborative (WCMC), a community science group in which interested residents collect samples at 26 local lakes and ponds. The samples help the Lakes and Ponds program staff understand the risk of cyanobacteria blooms. L&P staff trained over 48 community scientists volunteers in 2022 and over 59 in 2023 on how to collect and analyze lake water samples.

Advancing Mobility Transformation

Our most recent Greenhouse Gas Emissions Inventory, completed in 2022, found that transportation caused 27% of the community's GHG emissions and 16% of municipal emissions. With such high associated emissions, transforming how we move continues to be crucial to meet the city's goal of becoming a green and net zero city.

In July 2022, the city formed the Department of Transportation and Mobility (DTM) to work collaboratively with other departments and agencies to plan, coordinate, design and implement transportation programs and projects that promote safe, equitable, and sustainable mobility options. DTM is also spearheading the development of a Mobility Action Plan (MAP), which will help the department identify goals and priorities for their work.

In 2022-2023, DSR installed nine, dual-port electric vehicle charging stations (EVCSs) in three municipal garages and added one electric vehicle (EV) to our municipal fleet. Due to supply chain delays progress to meet municipal fleet electrification goals has been limited.

Striving Towards Zero Waste

One of the top ten Green Worcester Plan early action recommendations is to develop a Zero Waste Master Plan for the City. DSR hired a Zero Waste Coordinator in August 2023 to coordinate that planning process. In addition, the Department of Public Works and Parks formed an interdepartmental working group to create and implement a recycling campaign to tackle the issue of high contamination in residential curbside

recycling. The committee's work was successful, resulting in a reduction of contamination over 4 months from about 20% to less than 10%. Additionally, the DPW&P launched the City's first textile recycling curbside pickup program.

Improving the Health and Safety of Our Residents

Like many older, previously industrial cities, many facilities in Worcester are contaminated with legacy pollution. The City's Office of Economic Development (OED) manages a lead abatement program and a brownfield cleanup loan fund to mitigate two of these large historic issues. Since July 2021, 135 residential units were de-lead and 13 brownfields abated, funded by federal grants.

Worcester partners with the community groups such as the Regional Environmental Council (REC), Worcester Food Policy Council, and the Worcester Regional Food Hub. Each organization is furthering our sustainable food systems. The REC supports a network of over 70 community gardens, brings local produce to those most in need of it through their mobile markets, and provides economic opportunity and professional development to Worcester youth through urban agriculture.

The Racial and Ethnic Approaches to Community Health (REACH) program is a national program administered by the Centers for Disease Control and Prevention (CDC) to reduce racial and ethnic health disparities. Through the REACH program, the city has installed refrigerators at four food pantries across Worcester to increase access to fresh produce – much of which is donated by local community gardens many of which are owned by the REC.

Public Engagement and Outreach

Outreach and Public Engagement are key functions for DSR. Examples of efforts made to date include the following:

- DSR published a dashboard highlighting the City's accomplishments and outlining how residents can help us meet our sustainability goals. It was launched on Earth Day 2023 and is updated on a regular basis.
- The City has also made several successful connections, through the exchange of knowledge and information, with local higher education institutions, including Clark, WSU, WPI, and Holy Cross, and is continuing to build our connections with educators in lower education in Worcester.
- DSR plays the lead role in Green Worcester's outreach strategy with monthly communication strategy meetings and is reaching out to people through monthly newsletters, surveys, the Green Worcester Dashboard, social media posts, and radio PSAs.
- DSR held 35+ public presentations for city stakeholders including the Worcester Garden Club, the Worcester Board of Health, and the Worcester Business Improvement District.

Planning for Success and Integration of Sustainability and Resilience Policies Citywide

Over the past two years, DSR, DTM, the Office of Economic Development, the Department of Planning and Regulatory Services, and DPW&P have collaborated in interdepartmental working groups to integrate sustainability into zoning policies, street redesigns, and park upgrades.

In Spring 2022, the City kicked off the development of a comprehensive plan called Worcester Now | Next, which has engaged the community in exploring issues such as land use, housing, transportation and mobility, economic opportunity, arts and culture, recreation, open space and environment, and more. The draft plan includes goals such as ensuring the City is resilient to the effects of climate change, achieving net zero by 2030, managing and expanding our urban forest and more. Many of the critical Green Worcester Plan goals will be integrated into this plan.

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Looking Forward - DSR's Priority Actions in 2024

A lot has been accomplished since the launch of the Green Worcester Plan (GWP). The initial focus has been on establishing the internal infrastructure to enable the plan's implementation. The city created a Department of Sustainability and Resilience (DSR), a Green Worcester Advisory Committee, and advanced planning activities related to mobility planning, urban forest planning, and comprehensive master planning. The recently formed Departments of Public Facilities and Transportation & Mobility also have significant sustainability and resilience emphasis.

While the GWP report provides a status update on all of its designated priority actions, i.e., those assigned to the city government, businesses, residents, and institutions, this section focuses specifically on the GWP-aligned priorities of the Department of Sustainability and Resilience for the upcoming year.

DSR was formed in July of 2022 (now with 9 permanent and 3 part-time positions), with a mission to promote the GWP's vision of Worcester becoming the most sustainable and climate-resilient mid-sized city in America by 2050. DSR's mission is *"to implement the ambitious and urgent goals of the Green Worcester Sustainability and Resilience Strategic Plan (GWP). To be a strong and reliable advisory and collaborative partner which supports integration of sustainability and resilience and leveraging projects' co-benefits into all functions of the City via policies, projects, and initiatives. To use the lenses of health, equity and prosperity to guide projects."*

While many of the Early Action Items in the GWP were accomplished, now is the time to look ahead to 2024. Below is a list of DSR's priorities for the upcoming year, which will align with DSR's work planning, funding requests, and choices around resource allocation.

ENERGY

- Launch the next generation *energy efficiency project for municipal facilities* using an energy savings performance contract; manage a contract for timely maintenance and repair of all *municipally owned* solar PV facilities.
- Seek and pursue opportunities for the city's *5000 triple-deckers* related to improving energy efficiency, as well as increasing renewable energy and electrification projects.
- Continue to implement and innovate the *Smart Energy Advice* program.
- Continue to *advance vehicle electrification* – through installing electric vehicle charging stations and promoting purchases of the electric vehicles for the city's municipal fleet.

MOBILITY

- Following the Transportation and Mobility Action Plan completion, and in collaboration with internal and external partners, pursue funding to begin the *Green-Blue Mobility Network* design and then target a date and funding for implementation.

ZERO WASTE

- Develop *Zero Waste Master Plan* which will set out the goals and priorities for implementation.

RESILIENCE and ENVIRONMENT

- Complete the *Drainage and Green Infrastructure Master Plan* with identified priorities for green and grey infrastructure improvements and pursue opportunities to start implementing those priorities.
- Complete the installation of two Miyawaki Forests and conceptual designs for two Community Resilient Spaces.
- Invest in expanding the city's urban forest (in line with the Urban Forest Master Plan goals) as a means of achieving numerous co-benefits, including such potential actions as additional Miyawaki forests plantings, establishing a tree nursery, partnering to establish a Worcester Tree Academy, and increasing the number of new street tree plantings.
- Develop *Watershed Management Plans* and implement associated water quality improvement projects for the Lakes and Ponds Program.

POLICY / PLANNING / WORKFORCE

- Support implementation of the Worcester Zoning Ordinance revision – a central recommendation in the Now/Next Master Plan - with the emphasis on sustainability, mobility, livability, health and equity in the built environment.
- Explore and pursue opportunities for Worcester Public Schools' Curriculum, as well as Workforce and Youth Workforce Development for maintenance of green infrastructure and biodiversity/pollinator friendly landscapes, with the help of community partners such as the vocational school, Regional Environmental Council, the Green Jobs Academy and local Higher Education Institutions such as Holy Cross.

URBAN AGRICULTURE and SUSTAINABILITY

- Develop an Urban Agriculture Plan which will set out the goals and priorities for encouraging and incentivizing homeowners to grow food and native plants.



city department leading collaborations with non-governmental groups and residents. There are many non-governmental groups active in a variety of environmental and climate change organizations in Worcester. This is that all men



Status and Progress

Chapter II – Stewardship, Transparency, and Accountability

Action	Status	Progress
1. New Department of Sustainability: Create a Department of Sustainability and Resilience within City government separate from a new Public Facilities Department (and retire the Energy and Asset Management Division)	Completed	The Department of Sustainability and Resilience (DSR) was founded in July 2021. The department now has 9 permanent and 3 temporary staff members.
2. Sustainability and resiliency codes and regulations: Ensure that the City provides sufficient enforcement, training, and knowledgeable staff to develop and implement sustainability and resiliency codes and regulations.	Ongoing	Through a City Council vote, the City has adopted a highly efficient energy building code called the Specialized Stretch Code. The new code will go into effect on July 1, 2024. The Department of Inspectional Services (DIS) will receive the needed training to enforce the new code.
3. Green Worcester Advisory Committee: Create a Green Worcester Advisory Committee made up of non-	Completed	The Green Worcester Advisory Committee had their first meeting on March 7, 2022. The committee has seven

governmental stakeholders to serve as the forum for information exchange and to advise on the City's sustainability and resilience activities.		members, with each district having at least one representative and meets about every month.
4. Green Worcester Fund: Create a Green Worcester Fund for the City's sustainability and resilience programs.	Completed	The City has a Carbon Mitigation Revolving Fund that provides modest funding to DSR, allowing them to partially fund their staff and pursue carbon mitigation projects.
5. Sustainability Performance Outcomes for New Development	Refocused and In Progress	The City is pivoting from developing our own performance metrics to implementing the State developed Specialized Stretch Code.
6. Develop and implement a Sustainability and Resiliency Dashboard.	Completed	DSR published a dashboard (green.worcesterma.gov) highlighting the City's accomplishments and outlining how residents can help us meet our sustainability goals. It was launched for Earth Day 2023 and is updated on a regular basis.
7. Annual Progress Report: Prepare an annual public progress	Ongoing	The City is committed to updating this report annually. In the future we will adapt the timescale of this report to capture developments over the previous calendar year.
8. Outreach Strategy: Implement a transparent Green Worcester outreach strategy to include traditional and new media and activities.	Ongoing	DSR is spearheading Green Worcester's outreach strategy. DSR has monthly communication strategy meetings and is reaching out to people through monthly newsletters, surveys, the Green Worcester Dashboard, social media posts, and radio PSAs.
9. Data and Data-Driven Decisions: Work with the Office of Urban Innovation to develop relevant datasets to measure progress and make data-driven decisions about sustainability and resilience.	Refocused and Ongoing	The Office of Urban Innovation merged with Technical Services Department to become the Department of Innovation and Technology. Due to this merge, we refocused this action to be managed by DSR instead. DSR has hired an internal Energy Analyst; created the Green Worcester Dashboard to better display our data; and has begun compiling data from other departments to keep better track of our energy and sustainability data.
10. School Curriculum: Integrate sustainability and resilience into the curriculum at all levels in the Worcester Public Schools	Ongoing (2024 Priority Action)	The City has begun making connections with Worcester Public School staff, and city staff has met with environmental groups at the high schools to discuss sustainability and resilience in Worcester.

<p>11. Promotion to Private Stakeholders: Publicize and promote the Green Worcester Plan to important city stakeholders and civic groups such as the large and small business community, realtors and developers, neighborhood associations, educational and medical institutions, faith communities, immigrant associations, and social services groups.</p>	<p>Ongoing</p>	<p>DSR held 35+ public presentations for diverse city stakeholders, such as the Worcester Garden Club, the Worcester Board of Health, Chamber of Commerce, higher educational institutions, the Worcester Business Improvement District, and many more.</p>
<p>12. Business Committee: Encourage the Greater Worcester Chamber of Commerce to create a sustainability and resilience committee.</p>	<p>Refocused and Ongoing</p>	<p>DSR has developed a working relationship, through the exchange of knowledge and information, with the Chamber of Commerce on sustainability, energy, and zero waste related projects.</p>
<p>13. Worcester Civic Group on Sustainability and Resilience: Promote and help create a citywide sustainability/resilience umbrella group or coordinating network to link existing organizations, provide public information and access to ongoing activities, and work with the City and other partners to achieve Green Worcester goals.</p>	<p>Not Started</p>	
<p>14. Collaboration with Educational Institutions: Promote continued collaboration with the City's educational institutions to achieve Green Worcester goals.</p>	<p>Ongoing</p>	<p>The City has made several successful connections with local higher education institutions, including Clark University, WPI, WSU, and Holy Cross, and is continuing to seek out connections with educators in Worcester's public schools.</p>
<p>15. Pilot "Sustainability District": Designate one or more pilot "Sustainability Districts" as areas to test, refine, and promote new sustainability and resilience efforts.</p>	<p>In Progress</p>	<p>The City worked with local neighborhood groups to apply to be a part of the geothermal networked neighborhood pilot project managed by Eversource, but was not selected as a pilot site at this time. We will continue to explore similar opportunities.</p>
<p>16. LEED Certification: Consider seeking LEED certification as a sustainable community.</p>	<p>Not Started</p>	<p>The City investigated the LEED certification and decided not to pursue due to cost.</p>
<p>17. Mayors' Covenant: Join the Global Covenant of Mayors for Climate and Energy.</p>	<p>Not Started</p>	



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Chapter III - 100% Clean and Affordable Energy

Action	Status	Progress
<p>1. Zero Emissions: Eliminate 100% of greenhouse gas emissions citywide.</p>	<p>In Progress 3% of Goal</p>	<p>The City has adopted a highly efficient energy building code, the Specialized Stretch Code, which will go into effect on July 1, 2024, making us the first Gateway city in the state to do so. This new code is essentially a “net-zero” code and requires mixed-fuel new construction to be pre-wired for electrification and install solar PV on a formula basis.</p> <p>Green Worcester ElectriCITY Aggregation provides energy that consists of 40% premium renewable electricity in addition to the state required 22% (resulting in 62% renewable energy) to residents and commercial customers via the new aggregation contract, which began in December 2023 and ends in December 2025. Since the program began in 2019, the program has avoided over 160 million pounds of carbon dioxide from being emitted into the atmosphere.</p> <p>A Greenhouse Gas Emission Inventory was completed in 2022, comparing the progress from 2009-2019. The inventory found there was a 3% decrease in citywide GHG emissions since 2009 (find more at</p>

		<p>www.worcesterma.gov/greenworcester). We are going out to bid to hire a consultant to conduct another inventory for 2020-2023 and plan to conduct inventories bi-annually after that.</p> <p>See Action 4 below for details on our municipal operations.</p>
2. Community Choice Program: Achieve 100% renewable electricity sources by 2035 via aggregation.	In Progress 62% of Goal	See Chapter III, Action 1, above
3. Carbon Neutral Cities Alliance: Seek nomination for membership	Not Started	
4. Net Zero City Operations: Aim to make city facilities and operations net zero by 2030, including the city vehicle fleet.	In Progress (2024 Priority Action)	<p>The City hired a company, Honeywell, to conduct an assessment of our facilities to increase energy efficiency providing cost savings for our municipal operations. We just completed our most recent contract with Honeywell and are launching the next phase soon. In the past 10 years, the City has decreased our emissions by 16%. The City installed 3 new solar PV systems on municipal buildings (South High School, West Tatnuck Elementary School, and Nelson Place).</p> <p>See Chapter VI, Action 6 for details on city fleet.</p>
5. Flexible Commutes for City Employees: Develop commuting and/or work at home programs for City employees to cut emissions.	Not Started	
6. Identify opportunities for innovative energy pilot projects.	Ongoing	<p>The City worked with local neighborhood groups to apply to be a part of the geothermal networked neighborhood pilot project managed by Eversource, but was not selected as a pilot site at this time. We will continue to explore similar opportunities.</p> <p>One of the priorities for the DSR in 2024 is to seek and pursue opportunities for the city's 5000 triple-deckers related to improving energy efficiency, as well as increasing renewable energy and electrification projects.</p>
7. Building Disclosure Policy: Adopt a building performance disclosure policy for non-residential buildings.	Not started	

8. PACE Program: Opt into the proposed Massachusetts PACE (Property Assessed Clean Energy) program.	Not started	
9. Public EV Charging: Establish EV charging stations in all City-owned parking areas with 20 or more parking spaces.	In progress 33% of Goal (2024 Priority Action)	The City installed six charging ports each in three municipally owned public garages (Pearl Elm, Worcester Common, and Federal Plaza) for a total of eighteen new ports in 2023. There are twelve municipally owned parking areas with 20+ parking spots. Four have EV Charging Stations. For more details, visit: Vehicle Electrification City of Worcester, MA (worcesterma.gov) and see Chapter VI.
10. Multifamily EV charging: Require EV stations and EV-ready parking at all new 5-unit plus multifamily buildings with on-site parking	In progress	Effective July 2024, 20% of residential and business parking spaces associated with new construction will be required to be wired for electric vehicle charging due to updated building code (Specialized Stretch Code).
11. Solar Zoning Ordinance: Develop and adopt a solar zoning ordinance with clear standards for siting solar farms and solar installations (residential and commercial).	Not started	
12. Solar Map Tool: Work with educational institutions to create a solar map tool with information on solar opportunities in Worcester, including information on utility poles, roof material, and so on.	Not started	
13. Regional Electricity Aggregation: Work towards becoming a Level II Aggregator	Not started	
14. Energy Ownership Models: Support efforts to diversify energy ownership models.	Not started	

WORCESTER'S 60 PARKS



emphasizes strategies for sustainable change to be consistent with the Open Space Plan, which is due in 2020. The OS Plan provides more detailed strategies, and promoting the climate resilience of the city's natural system. Worcester



Chapter IV - Blue Spaces with Healthy Natural Systems

Action	Status	Progress
1. Open Space and Recreation Plan: Continue to update and implement the City's Open Space and Recreation Plan as required to ensure City eligibility for state funding	Ongoing	The City updates their Open Space Recreation Plan every seven years. Our most recent update was in 2021.
2. Join the City Parks Alliance	Not Started	
3. Urban Core and Green Spaces: Make new green spaces, street trees, sidewalk planters, and street landscaping in the urban core of the city a high priority (in the Open Space and Recreation Plan and other municipal plans) in order to reduce the urban heat island effect and help manage stormwater	Ongoing (2024 Priority Action)	The City completed a Heat Map study to identify areas of the City that experience the Urban Heat Island Effect the most. The City is developing a plan to redevelop Endicott and Bigelow Streets in the Green Island Neighborhood as a "Green Street". The City was recently awarded a State Municipal Vulnerability Preparedness (MVP) Grant to plant Miyawaki Forests - small, fast-growing biologically diverse forests - in hot, environmental justice areas of the City.
4. GreenStreets Routes: Designate "GreenStreets" routes for neighborhood access to parks to implement improvements	In Progress	See Chapter VI, Action 13

that enhance safe and comfortable walking and biking and prioritize these routes for shade by planting trees		
5. Cluster Subdivision: Revise the Cluster Subdivision zoning provision to allow by-right development using zoning consistent with the principles of the State’s Model Open Space Design/ Natural Resources Protection Zoning	Not Started	
6. Urban Forestry: Develop and implement an Urban Forestry Plan	In Progress (2024 Priority Action)	The City’s Parks Division and Urban Forestry Tree Commission are finalizing the Urban Forest Master Plan.
7. Tree Standards: Establish development standards for tree retention, replacement and planting for private projects that meet size thresholds	In Progress	These standards will be outlined in the Urban Forest Master Plan, which is being finalized.
8. Habitat Lands: Continue management of Worcester’s water supply open space lands (located outside the city limits) as high-quality environmental systems.	Ongoing	The City’s Department of Public Works and Parks (DPW&P) continues to manage the City’s 10 drinking water reservoirs, delivering 8 billion gallons of safe drinking water annually.
9. Lakes & Ponds Program: Continue the program to improve water quality and expand it to additional surface water features.	Ongoing (2024 Priority Action)	The City’s Lakes & Ponds Program added two new ponds to their treatment and management program. The program now monitors and manages a total of six waterbodies. Additionally, the program has been leading a growing group of community scientists to monitor cyanobacteria at over 20 waterbodies in Worcester. Worcester State University faculty and staff have participated in cyanobacteria monitoring and have conducted additional monitoring at two ponds using the protocol developed by the Lakes and Ponds Program to increase the number of waterbodies with comprehensive monitoring to eight. There are continuing efforts to seek additional funding to expand water quality monitoring and management of more water bodies.

<p>10. High Performance Private Landscapes: Raise public awareness about beneficial stormwater best management practices for drainage areas of lakes and ponds, such as permeable pavement, rain gardens, rain barrels, and lawn buffers at stream and pond shores.</p>	<p>Ongoing</p>	<p>The City has distributed 179 rain barrels since 2021. Additionally, we are developing a collaborative relationship with Worcester Native Plant Initiative which is a local volunteer group dedicated to planting native plants in the City.</p>
<p>11. Upgrade Regulations: Complete and enforce any needed upgrades to regulations related to land disturbance and development that result in nonpoint pollution to streams, lakes and ponds.</p>	<p>Not Started</p>	

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Chapter V - Net-Zero and Climate-Resilient Buildings

Action	Status	Progress
<p>1. Sustainability of All City Building Systems: Continue to transition City-owned buildings away from dependence on fossil fuels and towards full electrification and renewable energy through establishing sustainability requirements and thresholds for all City buildings. (See Chapter III 100% Clean and Affordable Energy.)</p>	<p>Refocused and In Progress</p>	<p>New municipal buildings will need to be constructed to the standards set forth in the Specialized Stretch Code set to go into effect in July 2024.</p> <p>Where feasible, the City will electrify its existing buildings during renovation projects.</p>
<p>2. Municipal Strategic Building Energy Management Plan.</p>	<p>In Progress</p>	<p>The Department of Public Facilities (DPF) was created in 2022 to oversee and manage most City facilities. DPF uses a real time energy monitoring system to track the City facilities' energy usage. Over 2/3 of our buildings are part of the management system and more continue to be added.</p>
<p>3. Fossil Fuels to Renewable Fuels: Develop a program to move all Worcester buildings from dependence on fossil fuels, including natural gas, to renewable energy sources.</p>	<p>In Progress (2024 Priority Action)</p>	<p>The City has adopted a highly efficient energy building code, the Specialized Stretch Code, which will go into effect on July 1, 2024. New buildings constructed after this date will have no or limited fossil fuel use as a result.</p>

		In January 2023, the City received a grant from the sponsors of Mass Save to fund two temporary city staff, Energy Advocates, to promote the Mass Save incentives and rebate programs and assist residents and businesses in making their buildings more energy efficient. In Fall 2023, the City launched the Smart Energy Advice program by onboarding the two Energy Advocates.
4. Mandatory Energy Efficiency in City-Funded programs.	Not started	
5. Annual Energy Performance Data on Large Buildings: Require buildings that meet size thresholds to submit annual energy performance data by adopting a building performance disclosure policy	Not started	
6. Cool Roof Incentives: Establish an incentive program for “cool roofs” and “green roofs” to reduce air conditioning costs, the urban heat island effect, and, in the case of green roofs, help in stormwater management.	Not started	
7. Distributed Energy Systems: Promote solar installations, geothermal networks, and other distributed energy systems, working with the state, National Grid, and other stakeholders.	Ongoing	The City worked with local neighborhood groups to apply to be a part of the geothermal networked neighborhood pilot project managed by Eversource, but was not selected as a pilot site at this time. We will continue to explore similar opportunities.
8. Sustainability Incentives for Private Buildings: Provide at least two incentives for private sector buildings that meet the standards of LEED or an equivalent green building rating system	Not started	
9. Green Vocational Training: Establish training programs at the Worcester Technical High School for sustainable building systems and renewable energy.	Not started	
10. Awards: Promote establishment of an annual award for green development projects, including retrofits.	Not started	

11. Code compliance: Enforce consistent compliance with current energy codes.	Ongoing	The updated Stretch Code and upcoming Specialized Stretch Code increase energy efficiency requirements. The City's Inspectional Services Department (ISD) will receive training on the updated codes, as it is responsible for enforcing those codes.
12. Home MPG ² Rating: Advocate for passage of state legislative proposals to require an energy assessment label (at time of sale) for single family, 1-4 family, and condominium homes.	Not started	
13. State Energy Code: Continue to support and advocate for advanced state energy code regulations, such as a net zero energy code.	Completed	The City has adopted a highly efficient energy building code, the Specialized Stretch Code, which will go into effect on July 1, 2024.
14. Land Use and Zoning: Use the comprehensive plan and zoning ordinance to support initiatives and regulations that promote reduced GHG emissions in housing and non-residential buildings.	Ongoing (2024 Priority Action)	DSR is a collaborative partner in the Planning Division's work on the City's Now Next Plan. Once the Plan is approved, DSR will continue to work together to implement the plan's high priority actions, especially related to updating zoning ordinance to promote the goals of the GWP.
15. Sustainable Reuse of Underutilized Properties.	In Progress	See Chapter XII, Action 3

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Chapter VI - Sustainable Transportation Choices

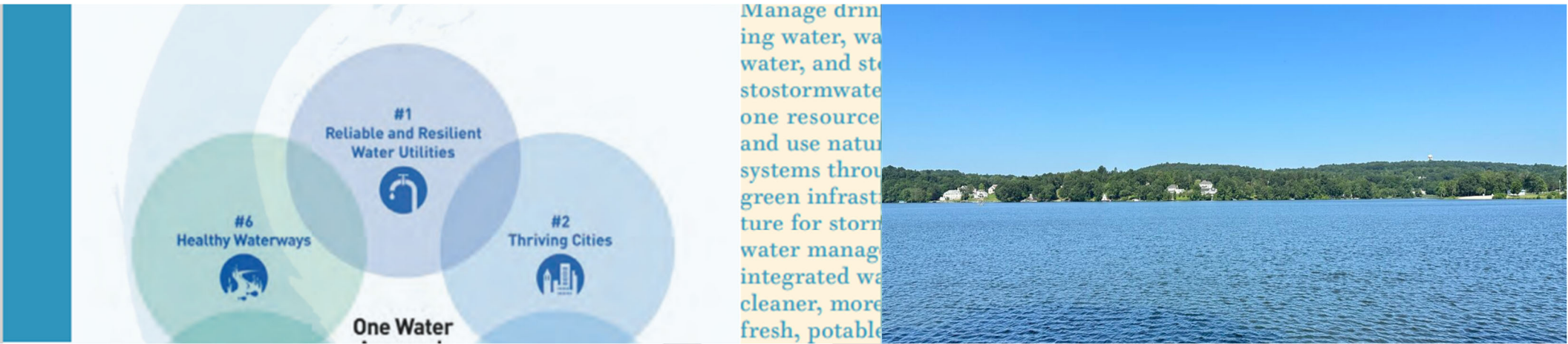
Action	Status	Progress
1. Sustainable Transportation and Mobility: Establish a sustainable transportation and mobility policy and planning section within the Department of Sustainability	Refocused and Completed	The City established the Department of Transportation and Mobility (DTM) in July of 2022. DTM plans, coordinates, designs, and implements transportation programs and projects that promote safe, equitable, connective, and sustainable mobility options.
2. Transportation Emissions Reductions: Make the reduction of greenhouse gas emissions an explicit goal of City of Worcester transportation planning	In Progress	DTM, in collaboration with DSR, is currently developing a Transportation and Mobility Action Plan, which will include numerous schematic level plans for improving our city’s mobility infrastructure while reducing transportation related emissions.
3. Connectivity: Make connected networks an explicit goal of City of Worcester transportation planning. Maximize connectivity to move people – not just vehicles – between destinations	Ongoing (2024 Priority Action)	DTM is currently creating a Transportation and Mobility Action Plan which will include a map of connected networks.
4. Event Transportation: Promote sustainable transportation choices at high profile locations and events, such as Polar Park and DCU events	Ongoing	There is currently a shuttle from the City’s parking garages to Polar Park on game days.

5. Idling Reduction: Enforce the Massachusetts Anti-Idling Law (Chapter 90, Sec. 16A)	Not Started	
6. Electric Vehicle Use: Promote the use of electric vehicles in Worcester	Ongoing (2024 Priority Action)	The City installed 18 Electric Vehicle Charging stations, increasing the number of publicly owned charging stations to 30. The City is also actively working to increase our stock of Electric Vehicles by purchasing an EV for the City Manager use and collaborating on the application for a grant to purchase 20 EV school buses. The City is also working with MassCEC on the Accelerating Clean Transportation School Bus Advisory Services Program, which will help with planning and implementing school bus electrification.
7. WRTA Fleet: Transition the WRTA bus fleet to 100% electric buses by 2035	Not Started	
8. Transit Demand: Work with large employers to identify transit demand and priority routes for their employees, and seek funding for solutions to reduce single occupancy vehicle use	Not Started	
9. Consultation with the WRTA: Include the WRTA in the Transportation Advisory Group and consult the WRTA from the beginning in City transportation, street redesign and resurfacing projects	Not Started	
10. WRTA Service Optimum: Review WRTA service and make changes as needed to promote higher ridership while balancing coverage and social service responsibilities	Ongoing	Worcester Regional Transit Authority temporarily eliminated fares to promote ridership and increase route efficiency. Collecting fares slows service and creates inefficiency costs. The Transportation and Mobility Action Plan will include plans for pedestrian improvements to support transit stops.
11. Transit to Serve Higher Education: Work with higher education employers, institutions and student populations to identify transit demand and priority routes, and seek funding	Not started	

12. Complete Streets Policy: Implement the policy by developing a priority plan for designing roadway space for all users	Refocused and In Progress	The City's Transportation and Mobility Action Plan will include a complete streets prioritization plan.
13. Micromobility Plan: Develop and Implement a Pedestrian, Bicycle, and Micromobility Plan	In Progress	Pedestrian, Bicycle, and Micromobility will be large focuses in the City's forthcoming Transportation and Mobility Action Plan.
14. Bike and Micromobility Share: Find a reliable partner to create a new city micromobility share program for bicycles, scooters, and similar light-weight transportation.	Not Started	
15. Open Streets Program: Create an "Open Streets" program to close a set of downtown or other suitable streets on Sunday mornings, monthly or weekly, or as one-off events, for biking and walking.	Not Started	
16. Energy-efficient Truck Routes: Study and revise, as needed, the truck routes for city-owned or city-contracted trucks, to enhance energy efficiency and reduce GHG emissions.	Not Started	
17. Mitigate Truck Route Impacts: Develop, implement and enforce a truck route plan that avoids negative impacts on residential and commercial areas.	Not Started	
18. Truck Idling: Work with the Port of Worcester and CSX to reduce or eliminate idling at their yards.	Not Started	
19. Last Mile Freight Delivery: Work with businesses for opportunities to establish innovative "last mile" freight delivery options that reduce GHG emissions.	Not Started	
20. Coordinated Land Use Decisions: Use the comprehensive plan and zoning ordinance to support multi-modal transportation, especially walking, bicycling, and transit.	Not Started (2024 Priority Action)	

21. Zero-Emission Urban Villages: Use the comprehensive plan and zoning ordinance to support existing and future mixed-use, higher-density neighborhood “urban village” centers that support zero-emissions pedestrian, bicycle, and other micromobility transportation.	Not Started	
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Chapter VII - One Water – Integrated Water Management

Action	Status	Progress
1. Sustainability and Resilience Benefits: Prioritize sustainability and resilience benefits when implementing the Integrated Water Management Plan.	Not Started	
2. System-wide Stormwater Model: Create a comprehensive system-wide stormwater hydraulic/hydrologic model to help the city to better understand the drainage infrastructure and inform capital improvement priorities (to address flood resiliency).	In progress (2024 Priority Action)	The City is developing a Drainage and Green Infrastructure Master Plan funded in part by a \$1.2 million state grant. The project kicked off in Fall 2022 with an anticipated completion in June 2024.
3. Watershed Model for Water Supply: Create a comprehensive system-wide watershed model of the water supply reservoir network (to address drought resiliency).	Not started	

4. Urban Forestry and Stormwater: Include stormwater management improvements and benefits when developing an Urban Forestry Master Plan.	In Progress	See Chapter IV, Action 6
5. Low Impact Development Standards: Establish regulations and guidelines to require standards on Low Impact Development, stormwater runoff reduction, and green infrastructure in new development and in significant additions and renovations.	Not started	
6. Stormwater Utility: Explore creating a stormwater utility to incentivize use of best management practices on private property	Not started	
7. Landscape Practices: Use Integrated Pest Management and organic landscape practices in managing city-owned property to reduce stormwater impacts of fertilizer, herbicides, and pesticides on surface waters.	Not started	
8. City Green Infrastructure: Identify and implement opportunities for green infrastructure in City facilities and landscapes.	Not started (2024 Priority Action)	DSR's priority for 2024 is to complete the <i>Drainage and Green Infrastructure Master Plan</i> with identified priorities for green and grey infrastructure improvements and pursue opportunities to start implementing those priorities.
9. Private Green Infrastructure: Promote green infrastructure practices to manage stormwater in private development.	Not started	
10. Prepare Streams for Climate Change Impacts: Map currently culverted streams and study the potential for daylighting and green infrastructure.	Not started	
11. Workforce Development for Green Infrastructure: Develop youth workforce	Not started	

development programs, like the park ranger program, for maintenance of green infrastructure projects	(2024 Priority Action)	
12. Landscape Practices: Promote sustainable landscape practices for private property that eliminate or minimize excess fertilizer, herbicide, and pesticide use to private property owners and landscaping contractors.	Not started	
13. Lakes & Ponds Program: Continue and expand the Lakes & Ponds program and coordinate with initiatives to reduce nonpoint source pollution to lakes, ponds, and streams	Ongoing	The Lakes & Ponds Program installed an “Alum” dosing station at Indian Lake to maintain water quality resulting in fewer beach closures. State ARPA funds were acquired to complete analysis and implementation of water quality improvement projects. The program hosted over 50 outreach events to teach residents about their waterbodies. Staff regularly attend meetings of the city’s three watershed associations to provide input and coordinate on additional outreach and education activities.



Chapter VIII - Towards Zero Waste

Action	Status	Progress
1. Waste Management Master Plan: Develop and Implement a Zero Waste Master Plan.	In Progress (2024 Priority Action)	In August 2023, the City hired a Zero Waste Coordinator to advance the Zero Waste goals. We are currently in the process of hiring a consultant to help us develop the Zero Waste Master Plan.
2. Trash and Recycling Receptacles: Increase the number of and place trash and recycling receptacles strategically in public places.	Not Started	
3. Purchasing Policies: Establish environmentally conscious purchasing policies aimed at reducing waste and toxic materials and promoting use of recyclable materials.	Not Started	
4. Composting: Expand and initiate programs to divert waste to compost.	Not Started	
5. Food Waste Elimination: Promote food waste elimination initiatives by WPS, institutions, and businesses and reduce use of disposable food service ware.	In Progress	The City is working to build connections with Worcester Public Schools, and hopes to outline the school's food

		waste elimination plan in the future Zero Waste Master Plan.
6. Reuse Initiatives: Work with community organizations and City departments to organize Swap Shops, Fix It clinics, and similar initiatives.	Not Started	

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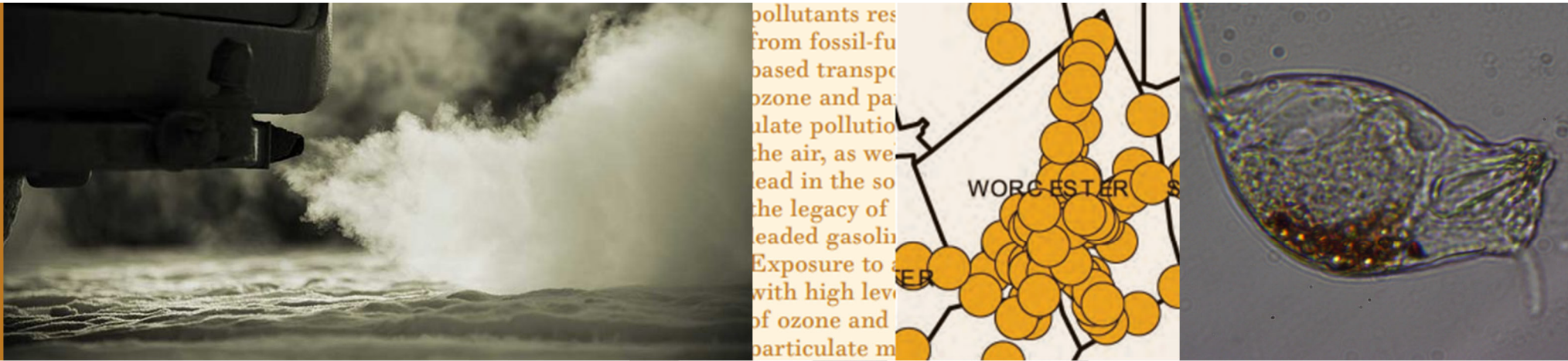


Chapter IX - Sustainable Food Systems

Action	Status	Progress
1. Existing sites: Protect access to land of existing community gardens and urban farms.	Not Started	
2. New urban agriculture sites: Identify additional locations for community gardens and larger-scale production.	Ongoing	The Regional Environmental Council added four community gardens since the Green Worcester Plan was adopted and continues to expand their community gardens network.
3. Community orchards: Identify potential locations for community orchards in selected public spaces or edges of community gardens.	Not Started	
4. Farm to School: Continue and expand the Farm to School program for WPS, working with the Worcester Food Hub.	Not Started	
5. Gardens in Schools: Integrate school gardens and garden curricula in the Worcester Public Schools.	Ongoing	The Regional Environmental Council has supported 25 school gardens and engaged 2,677 students with hands-on gardening activities and classroom workshops.
6. Local food sourcing: Promote local food sourcing by all institutions.	Not Started	
7. Preferential Procurement: Adopt preferential procurement policies to source locally produced foods.	Not Started	

8. Resilient Regional System: Develop a plan to enhance the resilience of the regional food supply system.	Not Started	
9. Indoor Farming: Develop a pilot project with students to develop a sustainable return on investment analysis of indoor farming.	Not Started	

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Chapter X - Pollution Prevention

Action	Status	Progress
1. Procurement Policies: Update the City's Environmentally Preferable Purchasing Policy.	Not Started	
2. Land Use and Transportation: Implement transportation and land use policies and actions to reduce greenhouse gas emissions and particulate matter.	Not Started	
3. Toxic Materials Reduction: Encourage local businesses to adopt policies to avoid toxic materials in their operations and products.	Not Started	
4. Brownfields: Continue brownfields remediation programs and policies.	Ongoing	The City was awarded \$5.1 million by the EPA for brownfield remediation. The City used the money to fund 13 Brownfields remediation projects. In May of 2023, the City received an additional \$2.7 million from the EPA for brownfield remediation due to the success of the previous program. There are 137 brownfields identified by the Massachusetts Department of Environmental Protection in Worcester.

5. Lead Abatement: Continue lead abatement programs, including regular public outreach to increase awareness of the programs.	Ongoing	The City's Office of Economic Development manages a lead abatement program and a brownfield cleanup loan fund to mitigate two of these large historic issues. Since July 2021, 135 units were de-leaded, funded by the federal grants.
6. Water Quality and Toxins: Continue and expand water quality programs and partnerships.	Ongoing	See Chapter VII, Action 13

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City and its population resilient to climate change impacts, including increasing and severe storms, flooding, and higher heat. To mitigate urban heat island in resilience and adaptation in emergency pl

Chapter XI - Climate Change Resilience

Action	Status	Progress
1. Resilience Working Group: Create a climate change resilience working group of municipal staff to coordinate tasks and timelines for priority resilience actions from the MVP ³ , HMP, and other relevant planning groups, such as the Planning and Public Health Departments.	Refocused and Ongoing	DSR has set up regular interdepartmental working meetings with the Department of Public Works and Parks, the Department of Transportation and Mobility, and the Executive Office of Economic Development. These meeting provide the forum needed to collaborate on resiliency related programs and projects.
2. Resilience Building Standards: Establish standards for climate resilience in new and rehabilitated buildings	In Progress	The City has adopted the Specialized Stretch Code which will result in more efficient and well-built buildings that are by default more resilient. However, there is an opportunity to create more resiliency standards for buildings that are undergoing rehabilitation.
3. Resilient Food System: Promote a robust and resilient regional food system.	Ongoing	The Regional Environmental Council, a community partner, has offered access to fresh local food through their standing and mobile farmer’s market programs; supported 25 school gardens; engaged 2,677 students with hands-on gardening activities and classroom workshops; added four community

³ Municipal Vulnerability Preparedness

		gardens to their network; and maintained their Healthy Incentives Program which allows residents to use SNAP and EBT benefits at Farmer’s markets.
4a. MVP Priority Actions: Infrastructure Resilience	Ongoing	See Chapter VII
4b. MVP Priority Actions: Social Resilience	Ongoing	The City developed and launched the “Worcester 311” app for a quick and easy way for residents to submit non-emergency requests for assistance with issues around the City.
4c. MVP Priority Actions: Environmental Resilience	Ongoing	See Chapter IV, X, VII, VIII,
5a. HMP Priority Actions: Transportation: Integrate disaster mitigation into transportation projects	Not Started	
5b. HMP Priority Actions: Drought and Water Supply: Implement water supply emergency/drought projects.	Ongoing	See Chapter VI
5c. HMP Priority Actions: Public Information and Awareness: Improve information available and educate property owners	Ongoing	See Chapter IV, VII, X
5d. Update the Zoning and Wetlands Protection Ordinances: Incorporate Low-Impact-Development and limit impervious surfaces	Ongoing	See Chapter XII
5e. Best Management Standards: Create BMPs for land clearing and grading	Not Started	



Chapter XII - Sustainability, Resilience, and Green Education in All Policies

Action	Status	Progress
1. Integrate Green Worcester goals and strategies into day-to-day planning.	Refocused and In Progress	In collaboration with the Office of Economic Development, the Department of Sustainability and Resilience (DSR) created a sustainability checklist for the Affordable Housing Trust Fund Board of Trustees to utilize when assessing housing applications. This effort proved to be ineffective, so DSR is instead planning to work on development of a comprehensive guide for development projects related to energy efficiency incentives.
2. Comprehensive Plan: Ensure that the City’s new comprehensive plan is informed by the Green Worcester Plan and other relevant plans, as well as a robust community participation program.	In Progress	The city is incorporating sustainability into their new Now Next Plan as well as the Transportation and Mobility Action Plan. Both plans are expected to be finalized and City Council approved in 2024.
3. Zoning and Development Standards: Ensure that changes to zoning and development standards resulting from the comprehensive plan advance achievement of Worcester’s sustainability and resilience goals	In Progress (2024 Priority Action)	The Now Next plan will create the starting point for developing updated zoning and development standards.

4. Policy Development: Use the guidance of the Green Worcester Plan and other frameworks to develop transportation planning, design, and construction policies.	Not Started	
5. Envision Rating System: Consider using the Envision™ infrastructure rating system to evaluate proposed infrastructure projects for high performance sustainability.	Not Started	
6. LEED Community: Consider seeking LEED certification as a sustainable community.	Not Started	The City investigated the LEED certification and decided not to pursue due to cost.
7. Pilot Sustainability District: Designate a pilot “Sustainability District” as an area to test, refine, and promote new sustainability and resilience efforts.	In Progress	See Chapter II, Action 15
8. Sustainability Performance Outcomes: Establish sustainability performance outcomes to be met by all new construction or redevelopment projects seeking tax incentives from the City.	Refocused and In Progress	See Chapter II, Action 5
9. Place-Based Neighborhood Planning: Create and implement a program for place-based neighborhood or district planning with community participation	In Progress	Place-based neighborhood planning will be a key facet in the City’s Now Next plan which is currently under development.
10. School Curriculum: Integrate sustainability and resilience into the curriculum at all levels in the Worcester Public Schools.	Ongoing	See Chapter II, Action 10
11. Workforce Development Partners: Convene a working group to develop a framework for a coordinated green jobs framework in Worcester	Not started (2024 Priority Action)	
12. Workforce Development for Green Infrastructure: Develop youth workforce development programs, like the park ranger program, for maintenance of green infrastructure projects.	Not Started (2024 Priority Action)	
13. Outreach Strategy: Implement a transparent Green Worcester outreach strategy to include traditional and new media and activities	Ongoing	See Chapter II, Action 8

Acknowledgements

The Department of Sustainability and Resilience would like to thank the following people, elected and appointed officials, partners, and organizations for their contributions to the implementation of the Green Worcester Plan. We are grateful for your support and participation that have made all this work possible.

City Staff

Eric D. Batista, City Manager

Department of Transportation and Mobility

Executive Office of Economic Development

Department of Public Works and Parks

Department of Inspectional Services

Worcester Public Schools

Green Worcester Advisory Committee

Mary Knittle, Chair

Evelyn Herwitz, Vice Chair

Patricia Austin

Ted Conna

Nathan Fournier

Mary Leovich

Deirdra Murphy

Mayor and City Council

Joseph M. Petty - Mayor & Councilor-at-Large

Morris A. Bergman - Councilor-At-Large

Donna M. Colorio - Councilor-At-Large

Khrystian E. King - Councilor-At-Large

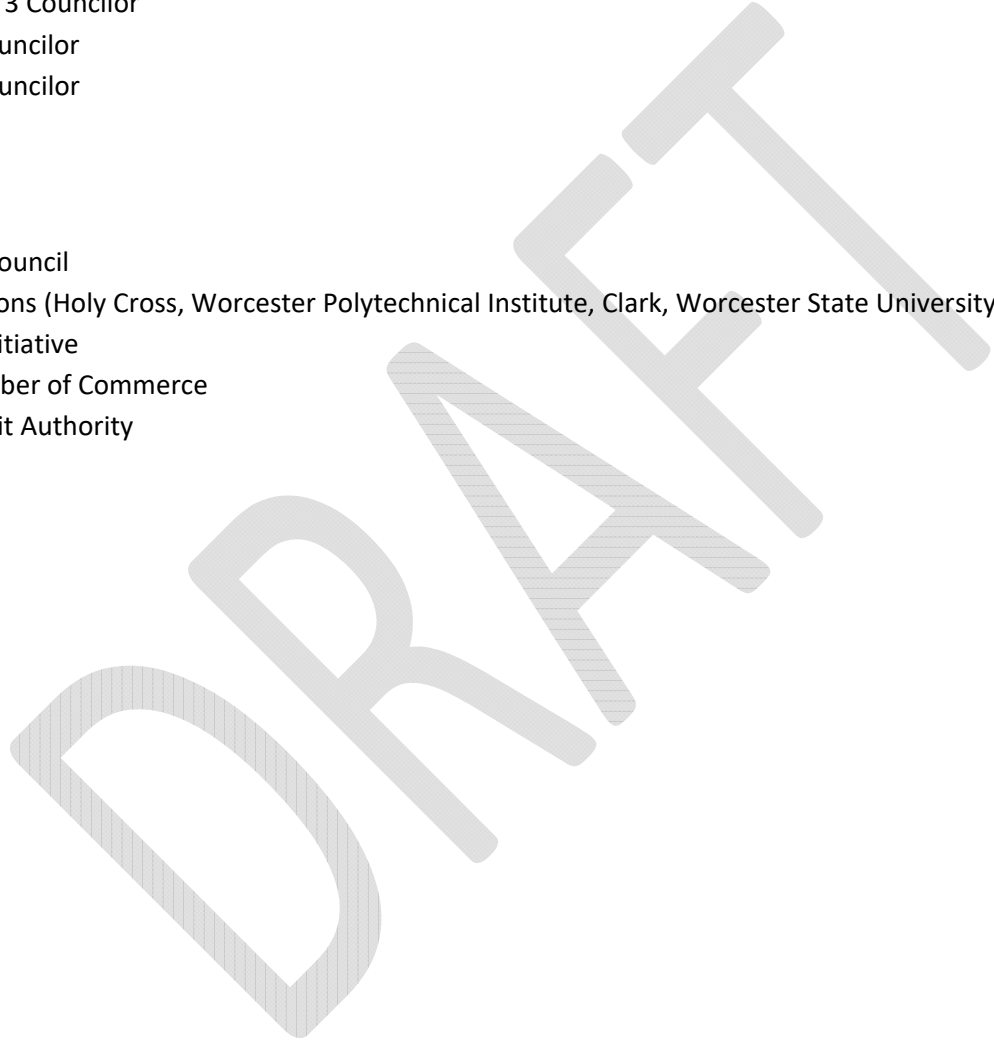
Thu Nguyen - Councilor-At-Large

Kathleen M. Toomey - Councilor-At-Large

Sean M. Rose - District 1 Councilor
Candy F. Mero-Carlson - District 2 Councilor
George J. Russell - District 3 Councilor
Sarai Rivera - District 4 Councilor
Etel Haxhiaj - District 5 Councilor

External Partners

Regional Environmental Council
Higher Education Institutions (Holy Cross, Worcester Polytechnical Institute, Clark, Worcester State University)
Worcester Native Plant Initiative
Worcester Regional Chamber of Commerce
Worcester Regional Transit Authority
WalkBike Worcester



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Green Worcester Advisory Committee Statement on Urban Forest Master Plan Final Draft

November 27, 2023

The Green Worcester Advisory Committee (GWAC) commends DPW and Davey Resource Group on the thoughtful and detailed Urban Forest Master Plan (UFMP) final draft, an important action step toward realizing the Green Worcester Plan's goal of achieving climate resilience. Developing and implementing an UFMP is a key strategy (Action Step 6) in the GWP's Goal IV: "Maintain, improve, connect, and expand quality natural systems in a linked network of parks, open spaces, and waterways, including street trees and public spaces."

In keeping with the UFMP's stated intent of shifting to a proactive approach for growing and stewarding Worcester's urban forest, and recognizing the intensifying impact of the climate crisis on Worcester residents, the GWAC urges that the following two amendments be made to the UFMP final draft:

- 1) **Increase the tree replacement ratio to a *minimum* of 3:1 (three trees planted for each tree removed) using all available spaces, both public and private.** The draft 1:1 ratio just maintains the status quo for the tree canopy and potentially reduces it, given the decades it will take for a sapling to mature and replace benefits of older trees that have reached the end of their lifecycles and are the most likely trees to be removed.
- 2) **By January 2025, at the latest, define a tree canopy goal for the City, placing a priority on remediating heat islands, using readily available research.** This includes, but is not limited to, the 2022 Heat Island Study, the 2023 Tree Canopy Cover Assessment and Tree Benefits Report, research by Clark University and WPI, the Davey Resource Street Tree Inventory in the UFMP, and iTree data. There is an abundance of data and expertise in the community to enable the City to define a goal that will guide planting priorities now, which can be refined as additional information becomes available. We cannot wait another two years, as recommended in the final draft UFMP, to complete yet another study, when the need to enhance our tree canopy is urgent. Since our present knowledge, existing studies, and the Green Worcester Plan all point toward the need to significantly increase Worcester's tree canopy, there should be no delay in getting started with more aggressive planting to achieve that goal, even before we know what the optimal canopy goal will be.