# City of Falcon Heights
## Environment Commission

City Hall
2077 Larpenteur Avenue West

AGENDA

Monday, September 11, 2023
6:30 p.m.

A. CALL TO ORDER: 6:30 p.m.

B. ROLL CALL:

Beth Mercer-Taylor (Chair) ____
John Pellegrini (Vice-Chair) ____
Emma Kostecki ____
Pedro De Filippo Vannucci ____
Jared Mehlhaff ____
Amy Christiansen ____
Stephanie Skarolid ____

Council Liaison Meyer ____
Staff Liaison Lynch ____

C. APPROVAL OF AGENDA

D. APPROVAL OF MINUTES
1. July 7, 2023
2. August 14, 2023

E. NEW BUSINESS
1. Presentation – RC Climate Change Action, Mary Jo McGuire – Ramsey County Commissioner
2. Discussion – City of Roseville Climate Action Planning, Noelle Bakken – City of Roseville Sustainability Specialist
3. Purple Air – Air Quality Monitors
4. Homegrown National Parks

F. INFORMATION AND ANNOUNCEMENTS
1. Staff Liaison Report
2. Council Liaison Report

G. ADJOURN

*If you have a disability and need accommodation in order to attend this meeting, please notify City Hall 48 hours in advance between the hours of 8:00 a.m. and 4:30 p.m. at 651-792-7600. We will be happy to help.*

*Next regular meeting date: October 9, 2023*

# City of Falcon Heights
## Environment Commission

City Hall
2077 Larpenteur Avenue West

Minutes

Monday, July 10, 2023
6:30 p.m.

A. CALL TO ORDER: 6:30 p.m.

B. ROLL CALL:

| | |
|---|---|
| Beth Mercer-Taylor (Chair) _A_ | |
| John Pellegrini (Vice-Chair) _X_ | Jared Mehlhaff _X_ |
| Emma Kostecki _A_ | Amy Christiansen _X_ |
| Pedro De Filippo Vannucci _X_ | Stephanie Skarolid _X_ |
| Council Liaison Meyer _A_ | |
| Staff Liaison Lynch _X_ | |

C. APPROVAL OF AGENDA

D. APPROVAL OF MINUTES

1. May 8, 2023

*Commissioner Mehlhaff made a motion to approve the minutes from May 8, 2023. Minutes were approved by consent.*

E. AGENDA

1. **Added Item –** Newsletter, Environment Commission Corner

*Vice-Chair Pellegrini added a discussion about the city's newsletter to the agenda. The Commission discussed having a weekly or bi-weekly section about the Environment Commission and different topics to write articles about. Several ideas for topics were presented, including articles adopt-a-drain, invasive plants, native landscaping, chickens, lawns to legumes, cost of gas vs. electric, and the Stop Food Waste Challenge.*

2. Stop Food Waste Challenge

*Staff Liaison Lynch presented information about the Stop Food Waste Challenge which is a challenge for the month of August which is looking for partners to promote it to citizens. The challenge is being presented by Hennepin County, Ramsey County, and Washington County, and offers a number of different action items for residents to take to make them more aware of food waste. A motion was made by Vice-Chair Pellegrini for Staff Liaison Lynch to*

*sign up the City of Falcon Heights Environment Commission as a partner. Motion was carried by consent.*

3. Ice Cream Social

*Staff Liaison Lynch reminded the Environment Commission of the upcoming Ice Cream Social on July 20, 2023 from 5-7 PM. The Commission discussed what to include at the table for the Resource Fair at the event. Previously it was discussed to have information on electric vehicles. After much discussion from the Commission, it was decided to have four categories for citizens to pick from to tell the Commission where their interests are. The categories will be home energy efficiency, transportation, water/air pollution, and food and waste management. The outcome of this will help focus efforts of the Commission moving forward.*

F. Information and Announcements
   1. Staff Liaison Report – *None.*
   2. Council Liaison Report – *None.*

G. Adjourn

*Meeting was adjourned at 7:43 p.m.*

*Next regular meeting date: August 14, 2022*

# City of Falcon Heights
## Environment Commission

City Hall
2077 Larpenteur Avenue West

Minutes

Monday, August 14, 2023
6:30 p.m.

A. CALL TO ORDER: 6:30 p.m.

B. ROLL CALL:

| | |
|---|---|
| Beth Mercer-Taylor (Chair) _A_ | |
| John Pellegrini (Vice-Chair) _X_ | Jared Mehlhaff _X_ |
| Emma Kostecki _A_ | Amy Christiansen _A_ |
| Pedro De Filippo Vannucci _A_ | Stephanie Skarolid _X_ |
| Council Liaison Meyer _X_ | |
| Staff Liaison Lynch _X_ | |

C. APPROVAL OF AGENDA

D. APPROVAL OF MINUTES
1. July 7, 2023
*No quorum. Approval of minutes tabled to September meeting.*

**E.** AGENDA
1. Discussion – Falcon Heights Church, Patti Holmes
*Patti Holmes was present to speak with the Environment Commission about different sustainability and environmental accomplishments and plans at Falcon Heights UCC. She spoke about an upcoming produce exchange and potentially a second annual car show. Staff Liaison Lynch invited the church to send in event notifications for sharing in the City newsletter. Ms. Holmes also spoke about potential workshops and ideas for tree planting education and rain gardens.*

**2. Added Item** – Katherine Allen, Air Quality Monitoring
*Katherine Allen approached the Environment Commission about an idea for increasing the accuracy of air monitoring in the area. A company called Purple Air works with Google to offer hyperlocal air quality monitors for sale. Ms. Allen stated the reasoning behind this being with the recent Canadian wildfires, it's been difficult to determine if the air quality has been decent or not, with a wide difference in air quality figures across the cities at any given time. The Environment Commission discussed this and Staff Liaison Lynch stated she would do*

*research into the company and look more into the budget for the Commission and present at the September meeting on this.*

3. Discussion – Waste Management

*Staff Liaison Lynch stated a citizen contacted her asking the Environment Commission to look into the issue around single-hauler trash management in the City. The Commission spoke about concerns and potential benefits of this. They determined to potentially look more into this at the October meeting. Staff Liaison Lynch will do research and present more information at that meeting.*

4. Eco Experience – State Fair

*Staff Liaison Lynch presented information about the Eco Experience at the upcoming State Fair that Chair Mercer-Taylor will be attending to share information about the Falcon Heights Green Steps movement.*

5. Midwest Climate Resilience Conference

*Staff Liaison Lynch presented information about the Midwest Climate Resilience Conference that will be taking place in October in Duluth, MN. Chair Mercer-Taylor will be attending. Staff Liaison Lynch included handouts on how to sign up for anyone interested in attending.*

F. Information and Announcements

1. Staff Liaison Report

*Staff Liaison Lynch reminded the Environment Commission of the next regular meeting on September 11, 2023 and the special meeting on September 18, 2023. The Setpember 18 meeting will be a kickoff to the Partners in Energy program and will be held at the Institute on the Environment.*

*She also shared a brief updated on the BizRecycling program and stated a mailer was sent to all businesses and multifamily residences in the City to introduce them to the program. WasteWise will be reaching out to businesses and multifamily residences individually to speak with them more, and WasteWise will provide an update on the campaign in the next couple of months.*

*Finally, Staff Liaison Lynch shared an update on the Stop Food Waste Challenge that is going on for the month of August. The City of Falcon Heights is number 10 out of 61 teams.*

2. Council Liaison Report

*Chair Liaison Meyer stated the Lawns to Legumes grant program has opened up applications for their Spring 2024 program. The deadline to apply for this is November 30.*

G. Adjourn

*Meeting was adjourned at 7:51 p.m.*

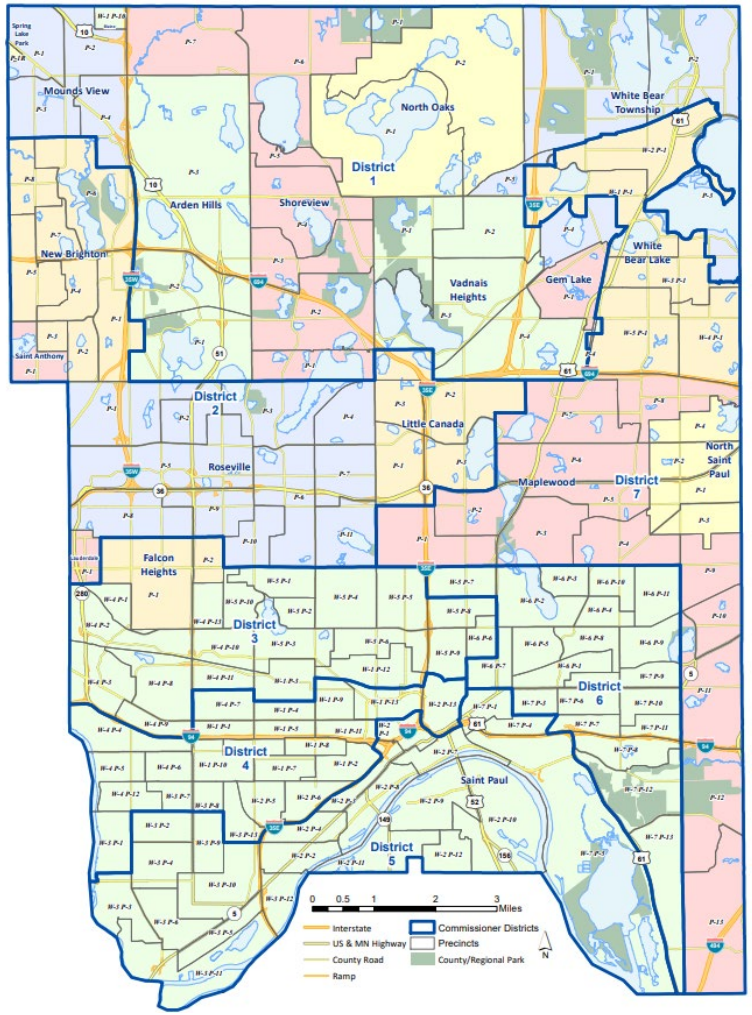
*Next regular meeting date: September 11, 2022*

RAMSEY COUNTY

# Ramsey County Climate Change Action
# City of Falcon Heights presentation – 9/11/2023

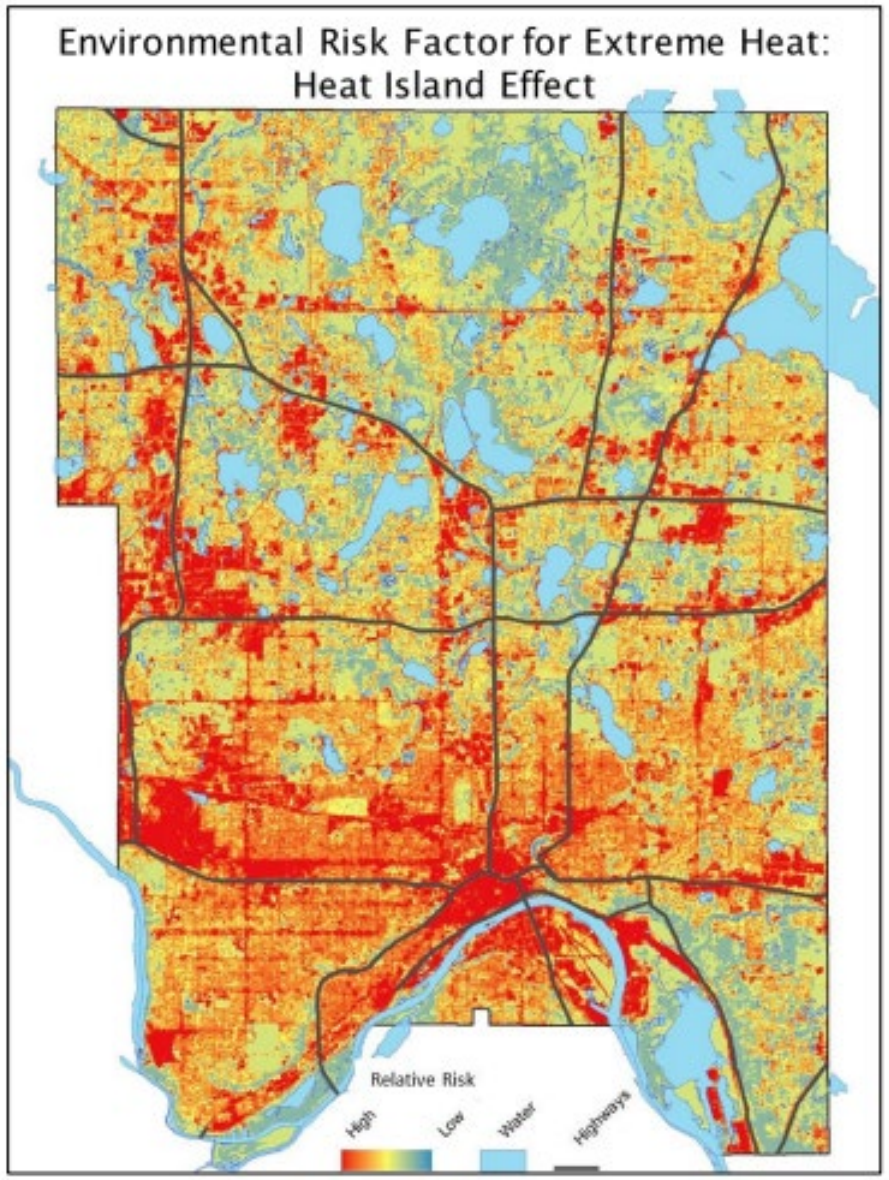
# Ramsey County is…

- A metro county which includes the City of St. Paul and 17 suburban cities
- 2nd most populated county in the state with 552,352 residents as of 2020.
- Smallest county geographically covering only 170 square miles.
- Most ethnically diverse county in the state.
- Over 23% of residents are under 18 years old.
- Median household income was $71,494 in 2021. 13% of residents were living in poverty.



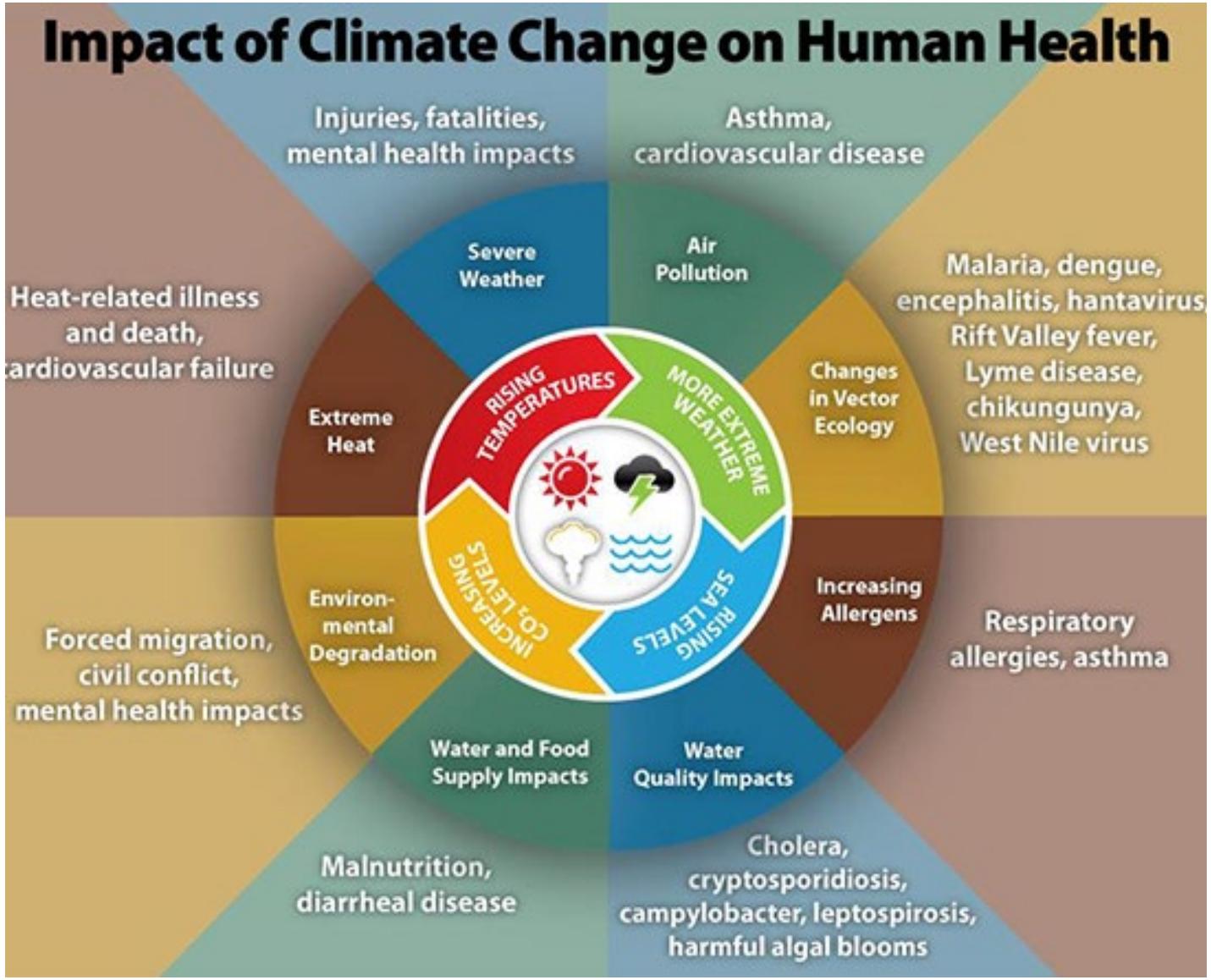
# Terms

- Climate Change – long term shifts in temperatures and weather patterns
- Adaptation – the adjustments we need to make to thrive in our new climate
- Mitigation – actions taken to reduce or prevent GHG emissions which contribute to climate change
- Environmental Justice – the right to equal environmental protections and to live, work and play in safe and healthy environments
- Climate Justice – a subset of environmental justice which highlights disparities between those contributing to climate change and those burdened by the effects of climate change




# What is a Resilient Community?

- The capacity of the community to prevent, withstand, respond to, and recover from disruptive events and continue to perform despite persistent stresses imposed by climate change.
- **Both mitigation and adaptation are necessary for long-term resilience.**
- The Ramsey County Board has added Equitable Climate Resiliency as a strategic priority that guides the work across county departments.




# Likely Impacts in MN

- **Extreme Heat** – heat stress, stroke, and death
- **Severe Weather** – injury, anxiety and fatality
- **Air Pollution** – cardiovascular disease
- **New Allergens** – asthma
- **Vector Ecology** – disease carrying mosquitoes/ticks
- **Water Quality** – waterborne illness, green-blue algae
- **Food Supply Stress** – malnutrition
- **Environmental Degradation** – anticipate migration to Ramsey County

Image Credit: https://www.cdc.gov/climateandhealth/effects/default.htm

# Higher Risk Populations

- Climate change affects us all, the effects of climate change affects some disproportionately.
- Consider additional vulnerable populations, such as people who do not have stable shelter or have limited mobility.
- Ramsey County is committed to centering environmental justice in our action on the climate emergency.

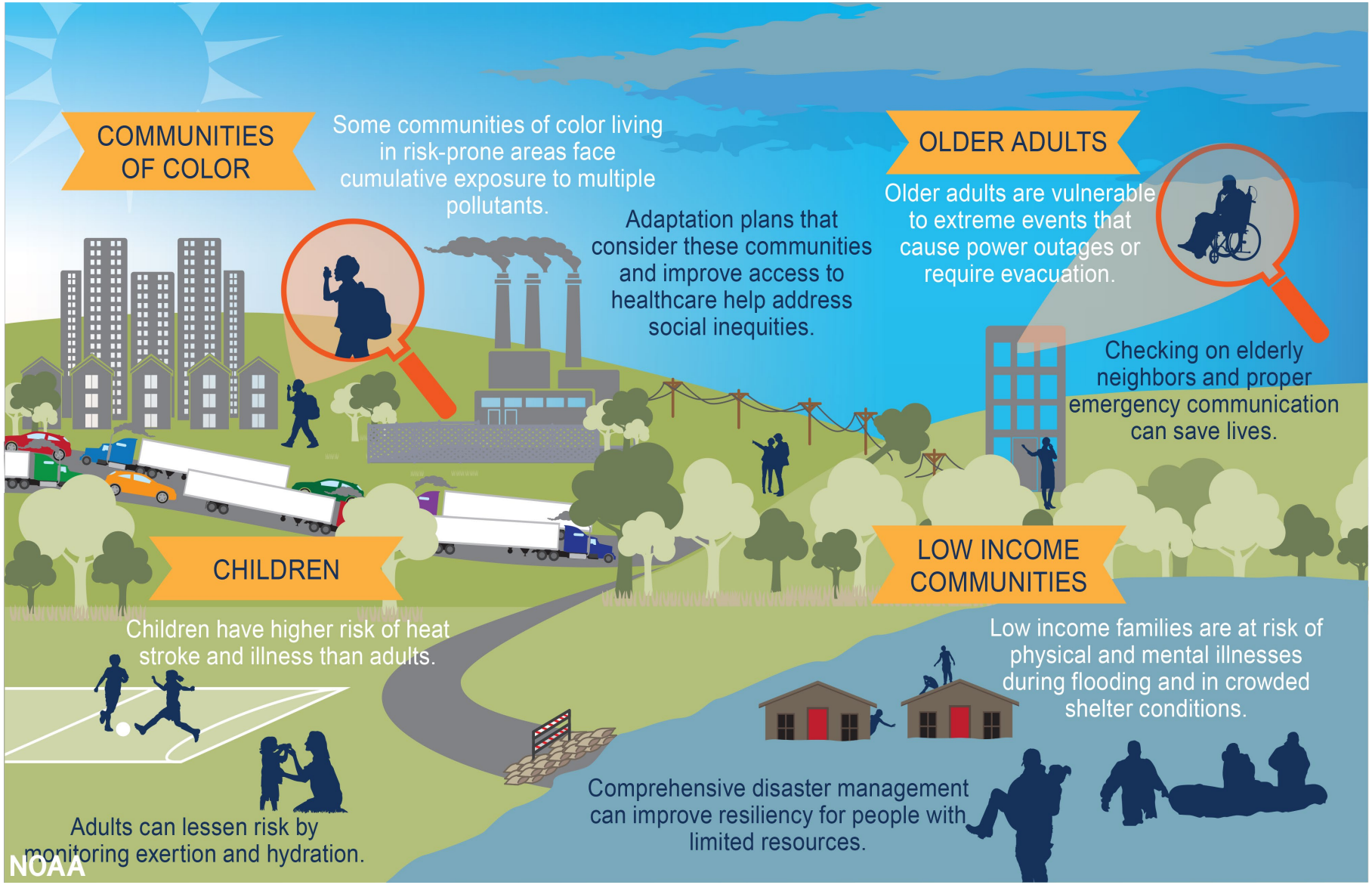



Image credit: https://www.noaa.gov/education/resource-collections/climate/climate-change-impacts

- A little less than half of Ramsey County is eligible for Justice40
- 40 percent of the overall benefits of Federal climate, clean energy, affordable and sustainable housing, clean water, and other investments to disadvantaged communities that are marginalized, underserved, and overburdened by pollution.

# Responding to climate change and increasing community resilience

**Climate change continues to impact the health and well-being of Ramsey County residents, with severity in racially and ethnically diverse and socioeconomically disadvantaged communities. Ramsey County is committed to leading in the mitigation of and adaptation to climate change, elevating environmental justice and fighting against the disparate impacts, particularly in Black/African American, American Indian and other underrepresented communities across the county.**

## 2022 Key Accomplishments

1

### Community Engagement Plan

**Series of engagement session to guide the development of county programs and services that help vulnerable community adapt to the impacts of climate change.**

2

### Performance Measures

**Outcome-based performance measures focused on reduction of total energy consumption in all county-owned buildings and fuel usage of fleet vehicles**

3

### Community Resilience Assessment Framework Tool

**Building off climate change vulnerability assessment, we will conduct a study of equitable climate resilience and develop assessment indicators for a Community Resilience Framework and Tools (CRAFT) resource**

RAMSEY COUNTY

# Responding to climate change and increasing community resilience

**Climate change continues to impact the health and well-being of Ramsey County residents, with severity in racially and ethnically diverse and socioeconomically disadvantaged communities. Ramsey County is committed to leading in the mitigation of and adaptation to climate change, elevating environmental justice and fighting against the disparate impacts, particularly in Black/African American, American Indian and other underrepresented communities across the county.**

## Building off past work and into 2023

**4** **Adopt Climate Action Framework and Plan**

**Climate Action Framework outlines actional priorities that we must invest in and do to support a carbon-neutral, resilient, and equitable community for future generations**

**5** **Commuting Policy**

**Develop policies and options for employee incentives to contribute to slowing the effects of climate change**

**6** Pursue Federal and State funding, policy and legislation

**Advocate for legislation to create new laws, programs, and grants to advance climate change in strategic partnership with the State and in collaboration with community, stakeholders, and partners beyond government**

# Environmental Justice

- Designing a Climate Resistance Action Framework Tool for Equitable Climate Resilience.
- Ramsey County will be working with national and local nonprofits to assure we center environment justice in our climate action plan
- Use Justice40 to be aggressive in seeking Federal grants to aid in our action plan


# Minnesota Climate Action Framework

1. **Clean transportation**: Connect and serve all people through a safe, equitable, and sustainable transportation system.

2. **Climate-smart natural and working lands**: Enhance climate benefits by absorbing and storing carbon, reducing emissions, and sustaining resilient landscapes.

3. **Resilient communities**: Provide each Minnesota community with tools to plan for and become resilient to its unique climate impacts.

# Minnesota Climate Action Framework (cont.)

4. **Clean energy and efficient buildings**: Expand the use of carbon-free energy and create healthy, comfortable buildings that are cheaper to operate and pollute less.

5. **Healthy lives and communities**: Protect the health and wellbeing of all Minnesotans in the face of climate change.

6. **Clean economy**: Build a thriving carbon neutral economy that produces goods and services with environmental benefit and equitably provides family-sustaining job opportunities.

# Climate-Smart Natural and Working Lands


- Focus on greening our green space by “bee”ing intentional.
- Island Building in Pigs Eye Lake to increase habitat
- Identifying Opportunities in Our Parks and Open Spaces to Build Resiliency
- Designing storm water infrastructure for more extreme weather events

# Clean Transportation


- Invest in the infrastructure to decarbonize transportation
- All Abilities Transportation Network
- Bus Rapid Transit
- Regional Trails
- More Sidewalk Coverage
- Expand Equitable Access to EV Charging Stations

# Clean energy and efficient buildings

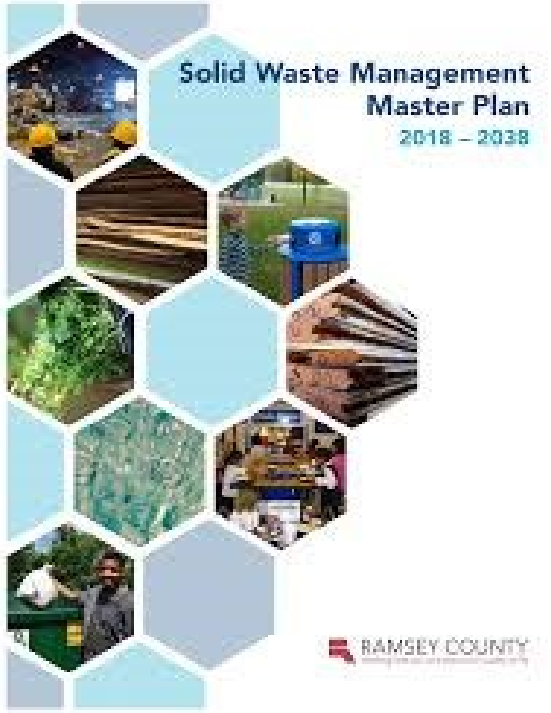
- Ramsey County has a strategic plan as an energy consumer.
- Focus on increasing building efficiency and increasing use of renewable energy sources.
- Expanded solar thermal in partnership with District Energy (RCADC)
- Solar PV in Parks and building where possible.
- Set 2008 as benchmark

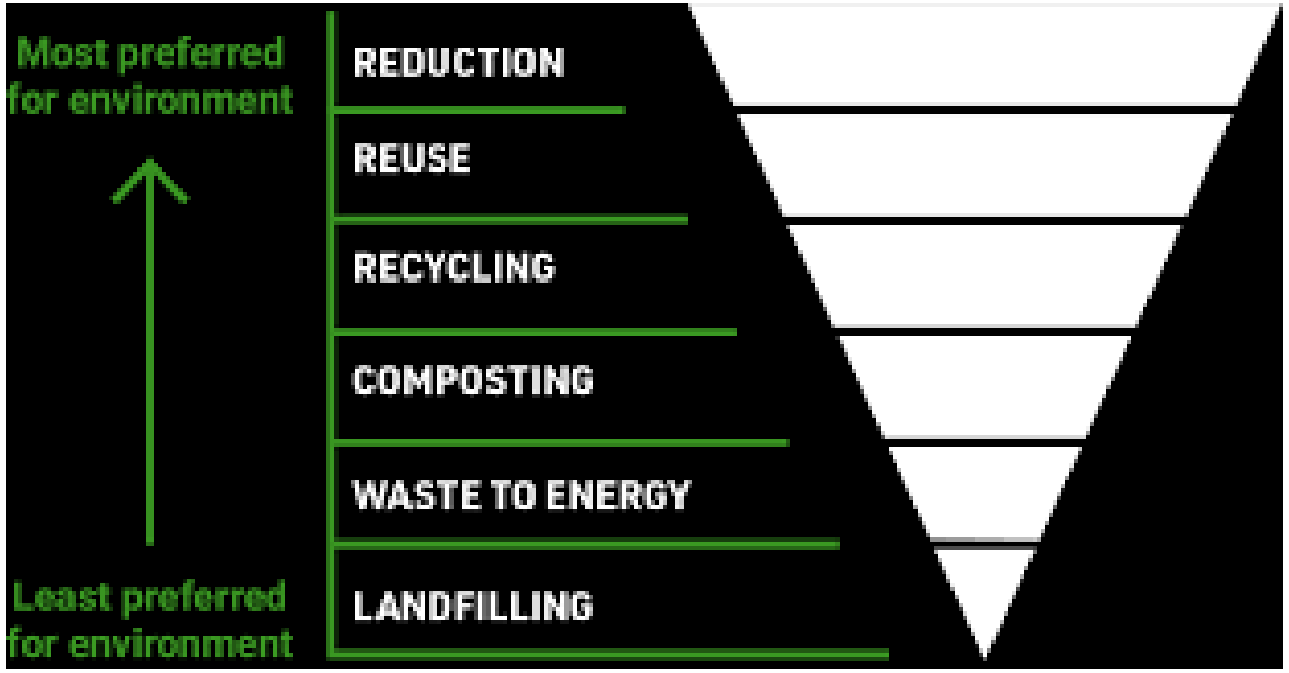
# Building the Circular Economy

RAMSEY/WASHINGTON
RECYCLING & ENERGY
CONNECTING VALUE TO WASTE

**See the value in what was once called “waste”**

# Waste Management Hierarchy




**Moving up the hierarchy to decrease GHG(Green House Gas) production.**

# The Recycling and Energy Center

- Received all residential waste in Ramsey and Washington County
- Processed 393,165 tons last year
- Recovered an additional 12,869 tons
- Produced enough fuel to power 13,000 homes
- Reduced GHG emissions by over 95,000 tons – the equivalent of taking 20,000 cars of the road last year.

# Food Scraps Energy

- In 2023 Ramsey and Washington will begin sorting food scraps out of the waste stream at the Recycling and Energy Center
- We are currently deciding on a vendor to build an anaerobic digestor to convert that waste into biogas and nutrient rich soil
- Reducing air, soil and water pollution.

# Recycling and Energy Programs

- Biz Recycling to provide technical assistance and grants to businesses to move operations up the waste hierarchy.
- Business Pollution Prevention focuses on reducing hazardous waste production in our community
- Compost and Recycling Market Development to close the loop on the circular economy
- Food Scrap Recovery
- Building Deconstruction Grants
- Rice and Larpenteur Community Resource Hub

# Next Steps

- Continue to work across department lines to build equitable climate resistance.
- Finalize Ramsey County Climate Action Plan with measurable outcomes to track and report on the open data portal for everyone to see.
- Focus on building equitable climate resistance
- Continue to decarbonize our transportation and waste systems
- Always set goals and track progress


# Follow Our Progress on the Open Data Portal

RAMSEY COUNTY
Minnesota

- Ramsey County is committed to making our data available and easily accessible for everyone.
- Please make use of our data for your own analysis
- https://opendata.ramseycounty.us/

# Thank you!

Ramsey County Board Chair Trista MatasCastillo, District 3
Trista.matascastillo@co.ramsey.mn.us

RAMSEY COUNTY

# Thank you!

# Roseville Sustainability

Public Works/Engineering Department

Falcon Heights Environment Commission

11 September 2023

# Roseville Sustainability

- Overview of our sustainability work to date
- Current emissions reductions goals
- 2023-24 Projects & Initiatives
- Partners in Energy
- Next steps for Roseville's Climate Action Planning

# About Roseville

**36,119**
Population

**40.6**
Median age

**about 10 percent higher** than the figure in the Minneapolis-St. Paul-Bloomington, MN-WI Metro Area: 37.4

## Income

**$47,977**
Per capita income

**a little higher** than the amount in the Minneapolis-St. Paul-Bloomington, MN-WI Metro Area: $45,301

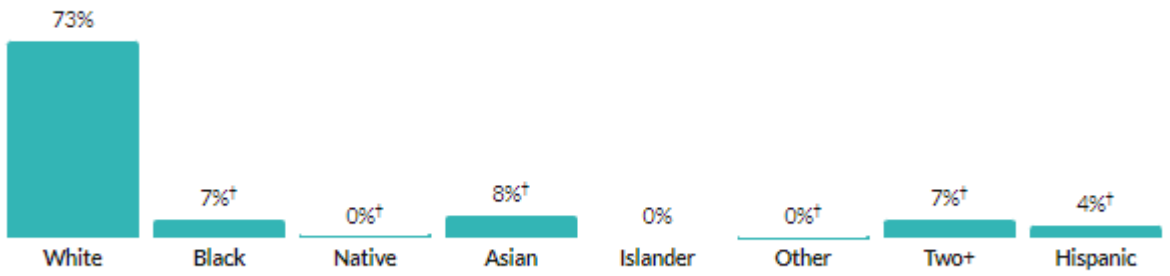
**about 20 percent higher** than the amount in Minnesota: $41,204

**$82,040**
Median household income

**a little less** than the amount in the Minneapolis-St. Paul-Bloomington, MN-WI Metro Area: $87,397

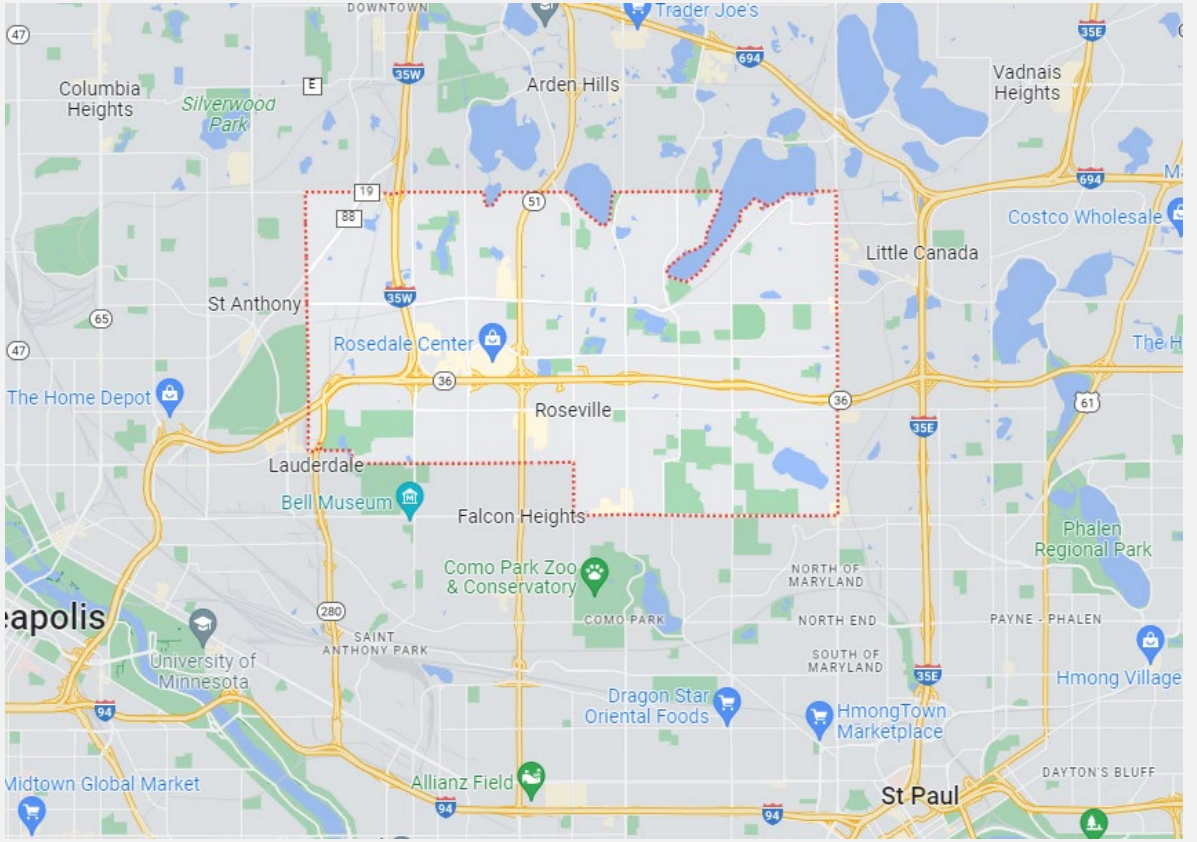
**a little higher** than the amount in Minnesota: $77,706

## Race & Ethnicity




* Hispanic includes respondents of any race. Other categories are non-Hispanic.

Show data / Embed



# Roseville Sustainability Timeline

**2014**
Joined Minnesota GreenStep Cities

**2015**
Started B3 Benchmarking

**2017**
- Complete Streets Policy
- Vulnerable Population Assessment

**2019**
- Onsite Solar Installed
- SolSmart Gold
- GreenStep 3

# Roseville Sustainability Timeline

**2020**
- GreenStep 4
- Partners in Energy

**2021**
- GreenStep 5
- Best of B3

**2022**
- HES Intercity Challenge
- Graduated Partners in Energy

**2023**
- Sustainability Specialist
- LMC Sustainable City Award
- EV Ordinance

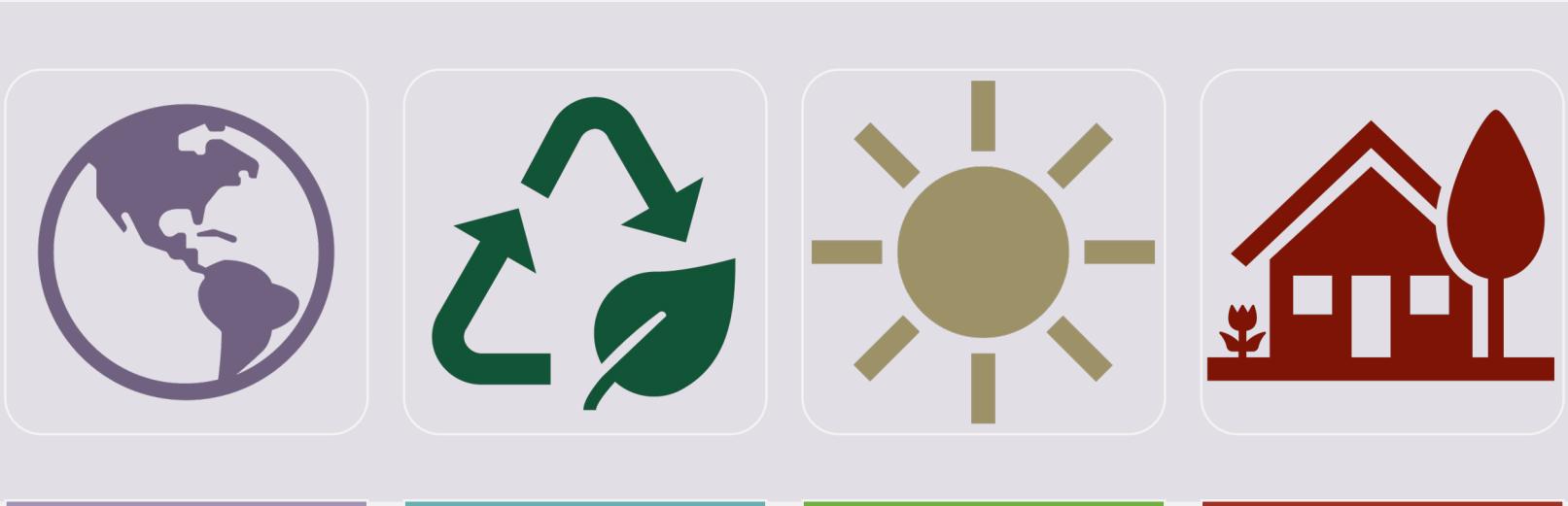
Xcel Energy®
PARTNERS IN ENERGY
An Xcel Energy Community Collaboration

MINNESOTA B3 2021
BEST OF
B3 BENCHMARKING
City of Roseville

HOME ENERGY SQUAD®

LMC

# Roseville Sustainability – Long Term Goals



**80% Reduction** in GHG Emissions by 2050

Approximate reduction to date: **33%**

**100% City Operations** electricity from renewable sources by 2040

Currently **68%** of electricity from solar subscriptions

**25% City Operations** electricity from on-site generation by 2040

Currently about ¼ of this goal completed

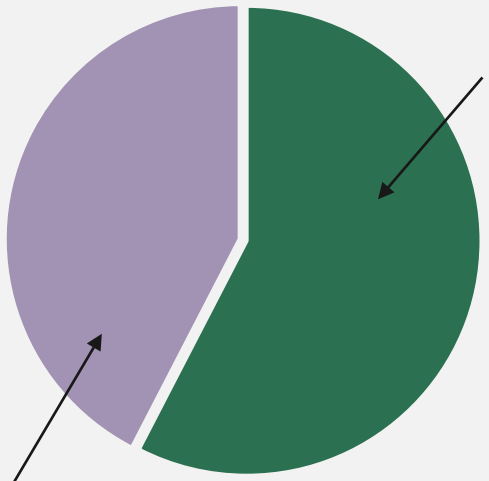
Produce enough in-bound solar electricity to meet **10% of citywide electricity** use by 2030

# Roseville Sustainability

## 2040 Comp Plan Goals

### How is Roseville doing in meeting the 2040 Comp Plan energy goals?

100% Renewable of City Operations
(3,873,000 kWh/yr)

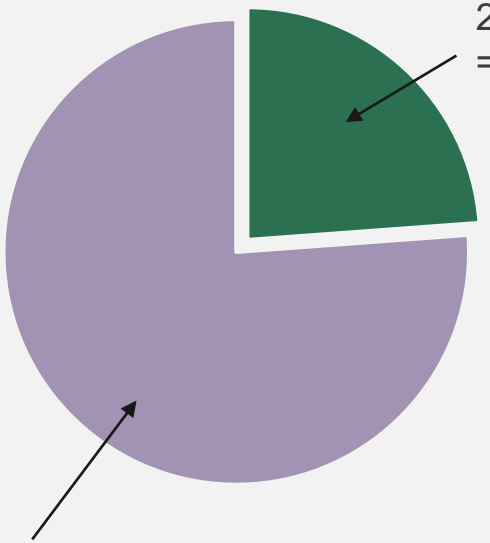


58% produced in 2021
= 2,230,000 kWh/yr

To meet our goal, we need to increase our use of Renewable Resources by 42% (1,642,000 kWh/yr)

Roseville has ~1,200,000 kWh in a Community Solar Garden in Washington County that should come online in 2023 (~11% or 442,000 kWh remaining to meet goal)

25% of City Operations produced onsite
(968,000 kWh/yr)



24% produced in 2021
= 231,000 kWh/yr

To meet our goal, we need to increase our onsite generation by 76% (738,000 kWh/yr)

# Roseville Sustainability – 2023-24 Projects

- New Sustainability Specialist staff member
- Climate Action Plan
  - Institute on Environment intern helped with research
- Expand EV charging in Roseville
  - Added ordinance requiring EV charging in new developments March 2023
  - Planning for community EV event in Spring 2024
- Energy Action Plan implementation
  - Focus on Faith Organizations, Energy Burden
- Sustainability website updates
- Expand GreenStep Cities best practices and participate in the Gold Leaf Pilot Program
- Curbside Food Scraps pickup program
- Take-out container ordinance planning
- Expansion of Parks Recycling, including Education and Outreach
- Environmentally Preferable Purchasing Policy (EPPP)

# Roseville Sustainability – 2023-24 Projects

- Less Mow May education & outreach
- Roseville Sustainable Steward Award Program
- Bi-monthly Sustainability newsletter
- Voluntary energy benchmarking program
- Community outreach & sustainability event planning
  - Earth Day
  - Rice/Larpenteur Alliance – Community in Bloom, Summer Block Party, Winter Warmup
  - Taste of Rosefest, Tapped & Uncorked
- Inflation Reduction Act education & outreach (residents & businesses)
- Bike infrastructure & pathway planning

# PARTNERS IN ENERGY

# Partners in Energy



- Opportunity to build on positive relationship with Xcel Energy
- Low financial barrier to entry – no cost to participate outside of staff time
- Creates Energy Action Plan to guide program development and future goal-setting
- Gain understanding of community's energy use
- Community engagement opportunities
- Webinars and learning opportunities

# Sustainable Roseville

## Partners in Energy Update

### Partners in Energy Scope

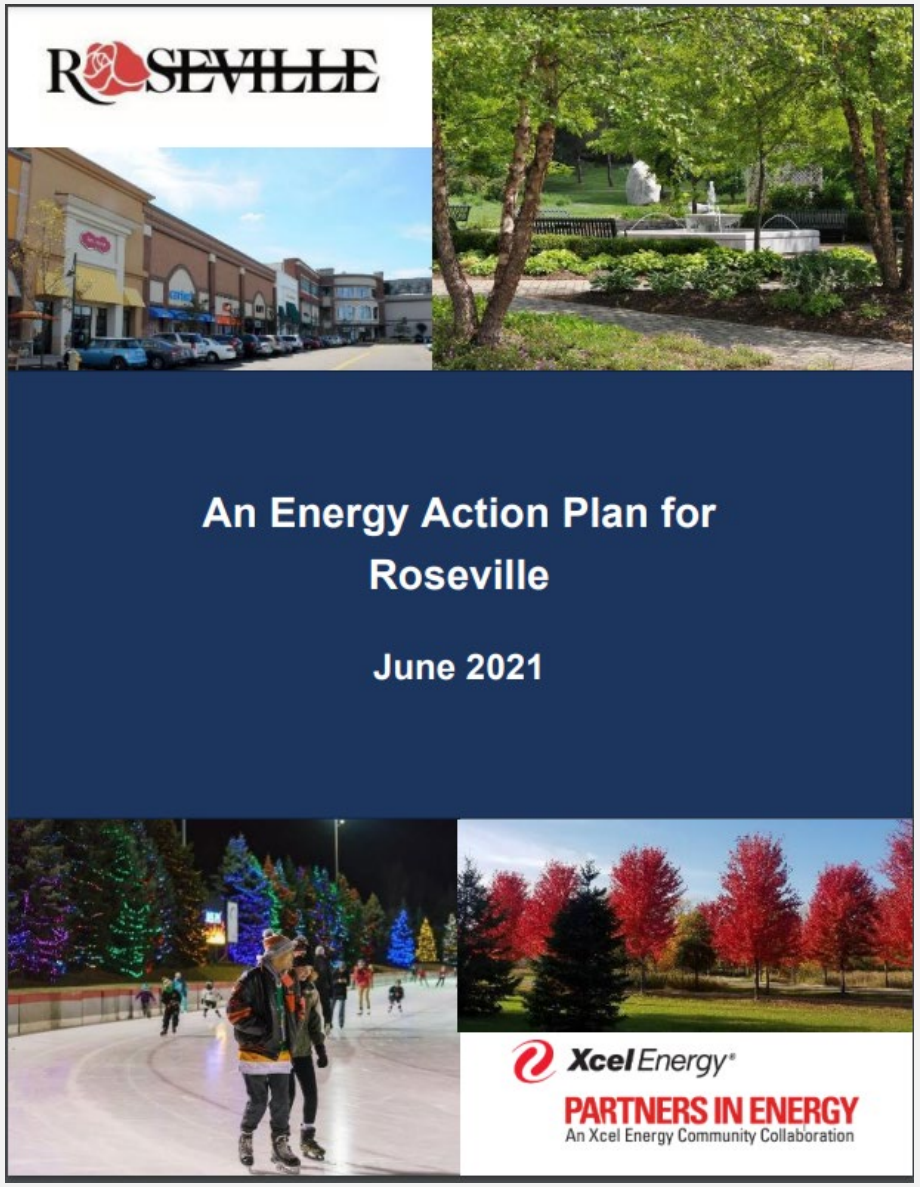
- Partners in Energy is a **two-year** collaboration with Xcel Energy to develop and implement your energy plan goals.
- Opportunity to engage stakeholders, create goals and strategies, and develop a work plan to be successful.

Xcel Energy®
PARTNERS IN ENERGY
An Xcel Energy Community Collaboration

# Roseville Sustainability – Energy Action Plan

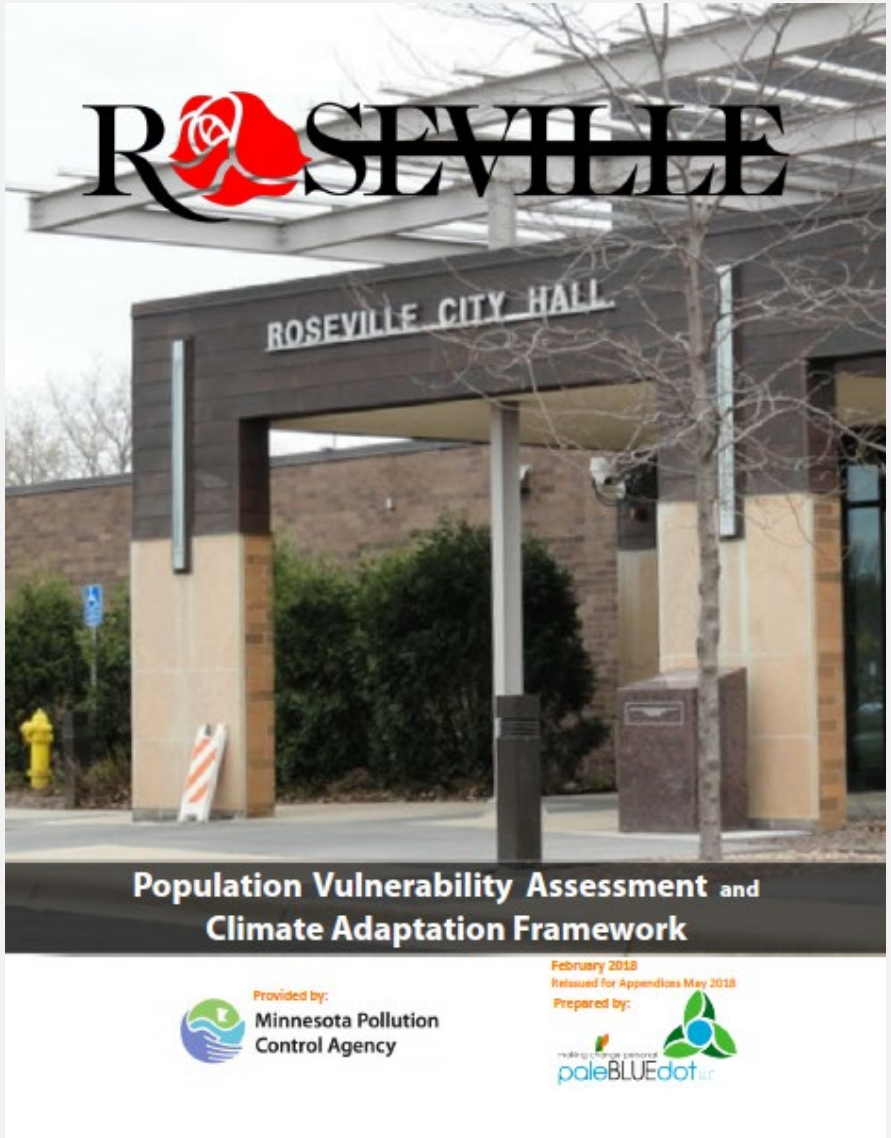
- Plan for pursing the  Community's Energy Vision
- Guides implementation
- Adopted by City Council June 2021

| | |
|---|---|
| Energy Burden | Engage 120 high and severely energy burdened households annually through utility programs to assist residents most impacted by the costs of energy |
| Residential Energy Efficiency | Engage 1,400 residents annually through utility programs to help them learn how to make their homes more energy efficient |
| Commercial & Industrial Energy Efficiency | Engage 100 small and medium-sized businesses annually through utility programs to save money on energy bills, allowing them to reinvest those dollars back into their business |
| Renewables | Engagement with 100 residents and five businesses annually to encourage them to subscribe to renewable energy |



# CLIMATE ACTION PLANNING

# Roseville Sustainability – 2017 Population Vulnerability Assessment




- Worked with the MPCA, PaleBlueDot, and other local experts to model the changes Roseville can expect with climate change
- Identified specific populations within Roseville most vulnerable to climate change
- Recommended goals and actions to mitigate and adapt to climate change
- **We plan to build and expand on this work for our Climate Action Plan**

# Roseville's Next Steps for Climate Action Planning

- Look to State Climate Action Framework and Ramsey County Climate plan to develop goals and actions that align
- Create a staff coalition of leaders from different departments
  - Review potential goals and categories
  - Look for areas other departments could provide expertise
- Coordinate with both PWETC and HRIEC to ensure equity is centered throughout the process and identify underrepresented community voices to include in the process
- Preliminary community engagement
  - Community survey
  - Open houses, small group chats

# Other Resources for Climate Planning


### Clean transportation

Connect all people through a safe, equitable, and sustainable transportation system.

### Climate-smart natural and working lands

Manage our lands to reduce GHG emissions and sustain resilient landscapes.

### Resilient communities

Prepare communities with resources to build a more resilient future for themselves.

### Clean energy and efficient buildings

Expand the use of carbon-free energy and create healthy, comfortable buildings that are cheaper to operate and pollute less.

### Healthy lives and communities

Protect the health and wellbeing of all Minnesotans in the face of climate change.

### Clean economy

Build an economy that addresses climate change and creates equitable opportunities.

# Other Resources for Climate Planning

## Other Cities' Plans

# Data Resources for Climate Planning

## Metropolitan Council Greenhouse Gas Tool

ROSEVILLE

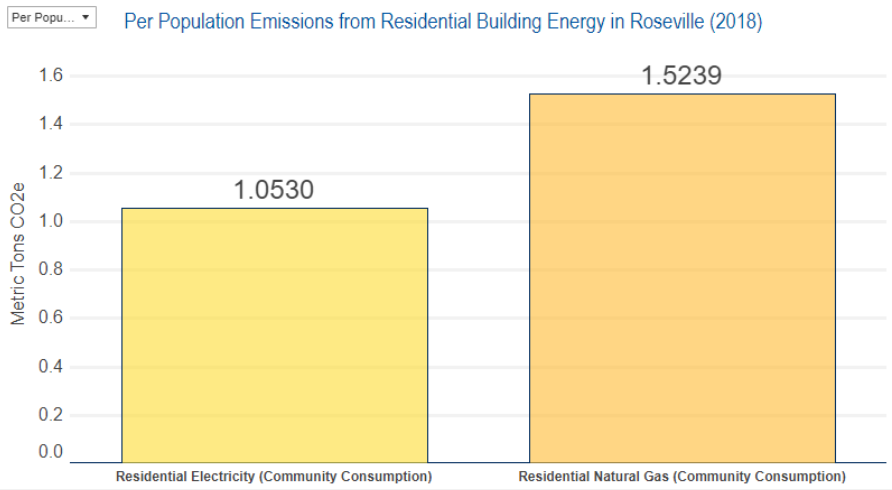
Sector-Based Community Greenhouse Gas Emissions

Overview | Transportation | Energy | Solid Waste | Wastewater | Agriculture | Land Use | Environmental Justice

**Summary**

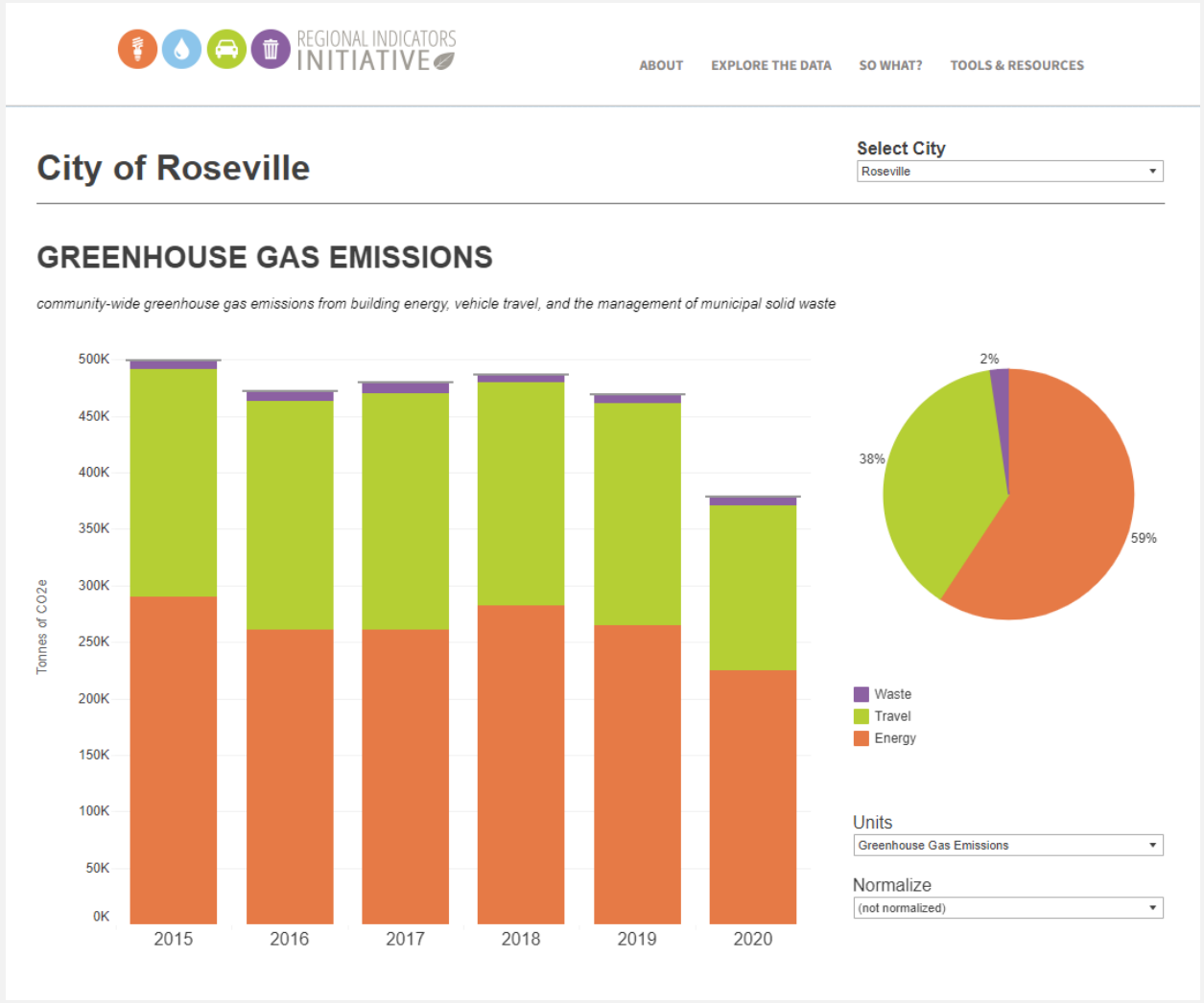
*Customer Classes*

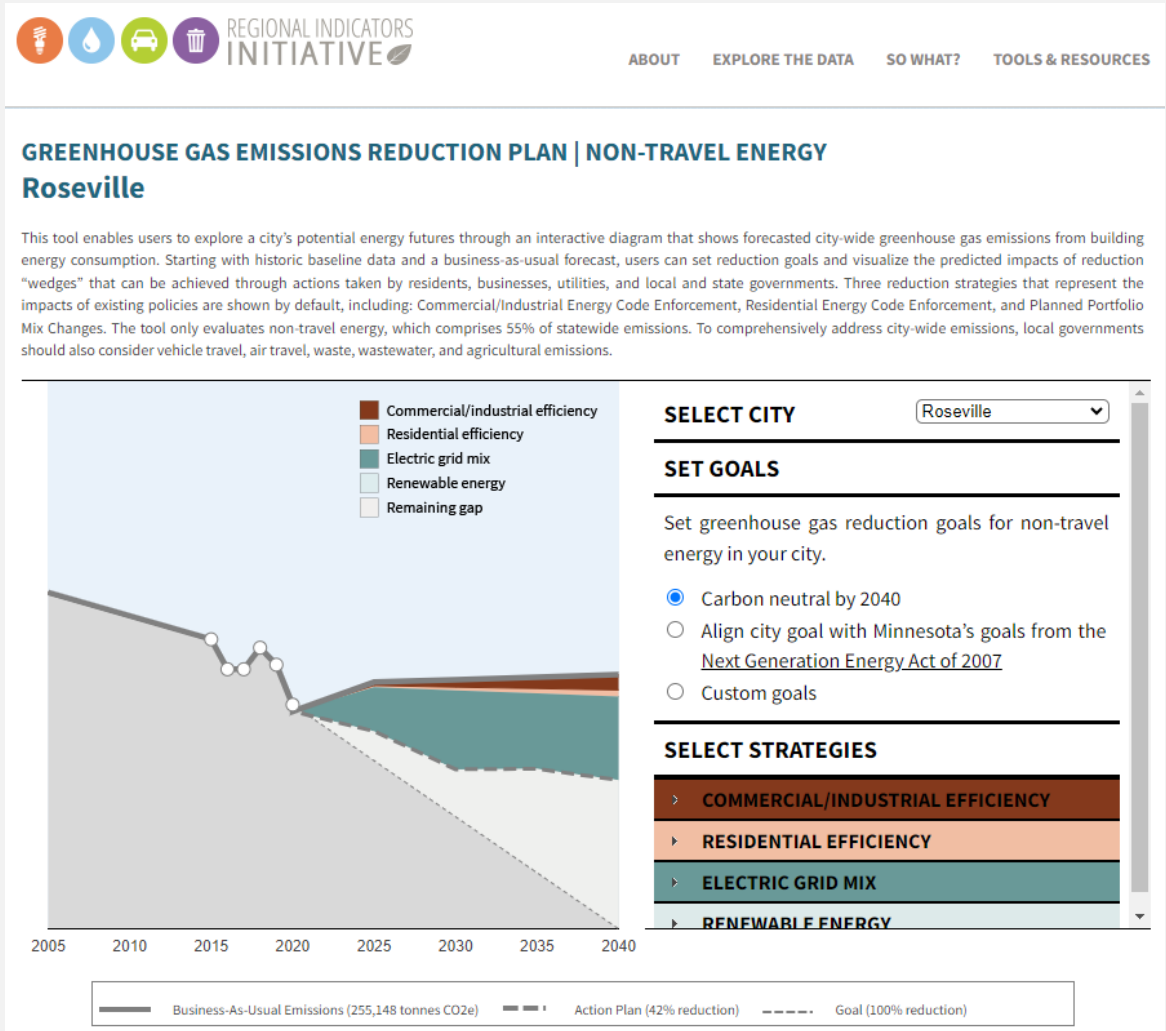
When utilities provide electricity and natural gas service to communities, they often categorize their customers into different "customer classes." Understanding the GHG emissions of each customer class can help communities decide which emissions-reducing actions to take first. Many utilities use Residential, Commercial, and Industrial customer classes, but others use categories like Farm or General Service. Therefore, for simplicity this tool will categorize your community's GHG emissions into Residential and Non-Residential energy use.



# Data Resources for Climate Planning

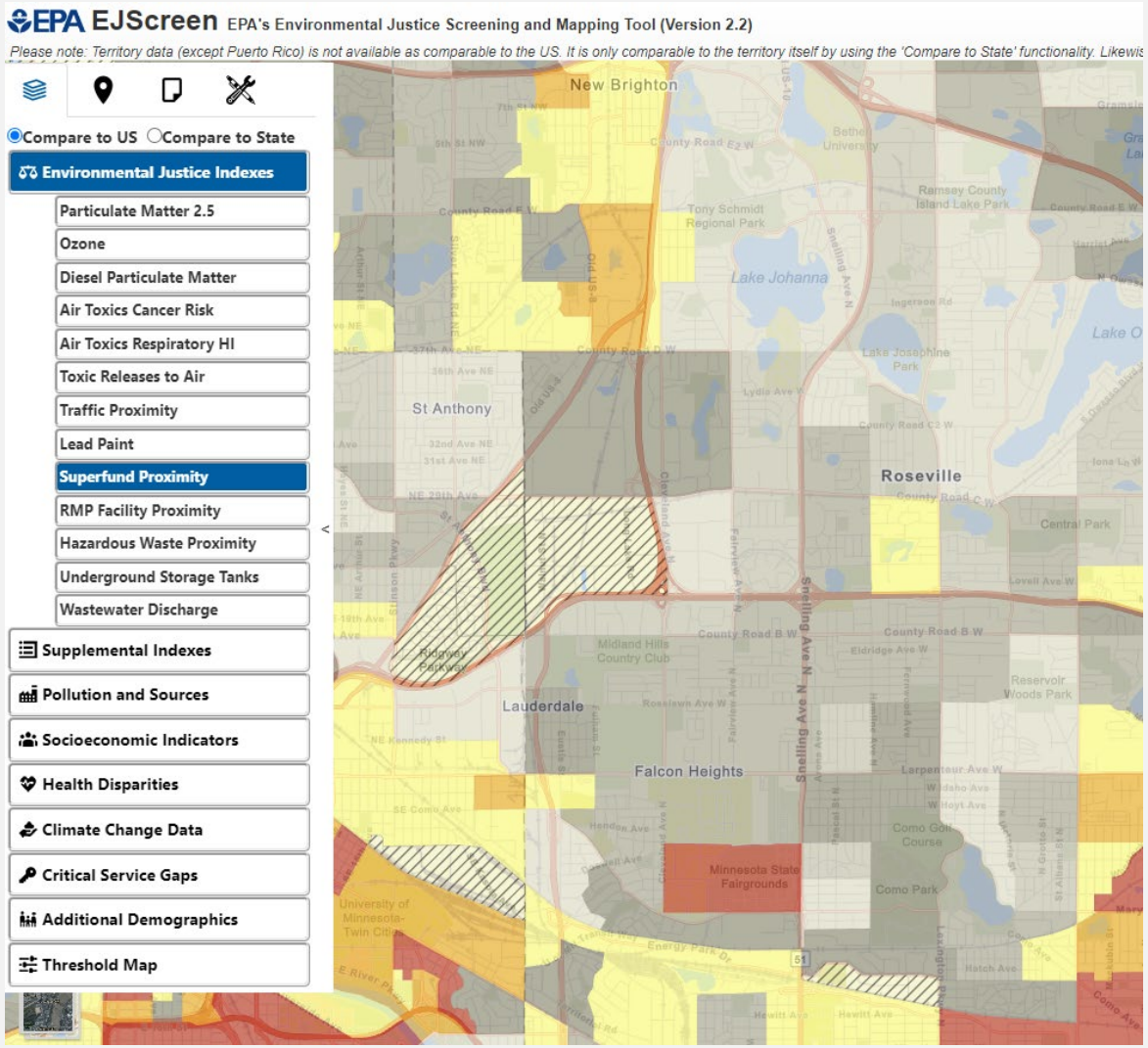
## Regional Indicators Initiative

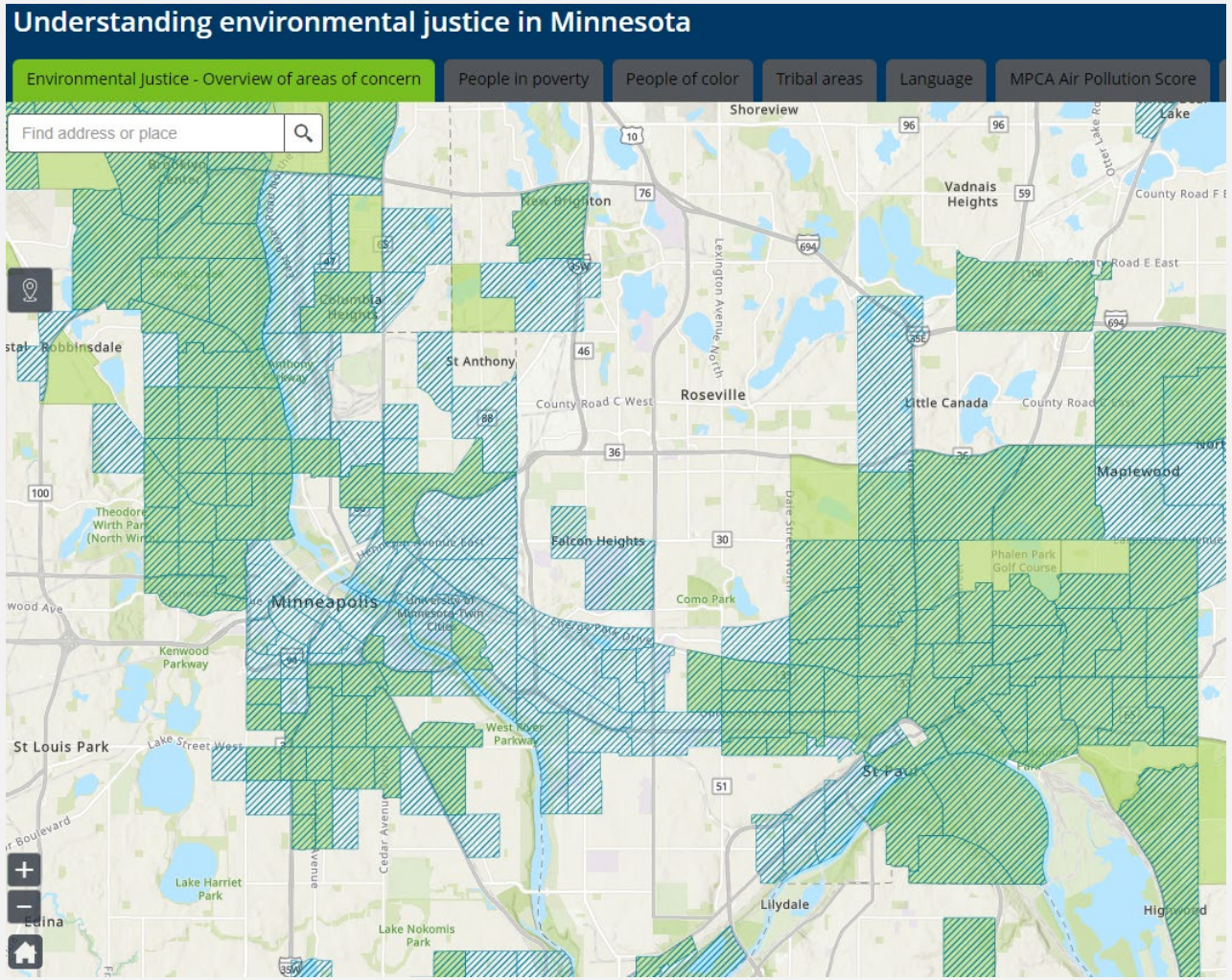


# Data Resources for Climate Planning

## Equity Tools – EJ Screen, MPCA Environmental Justice Map



# Q & A

Questions?

# THANK YOU

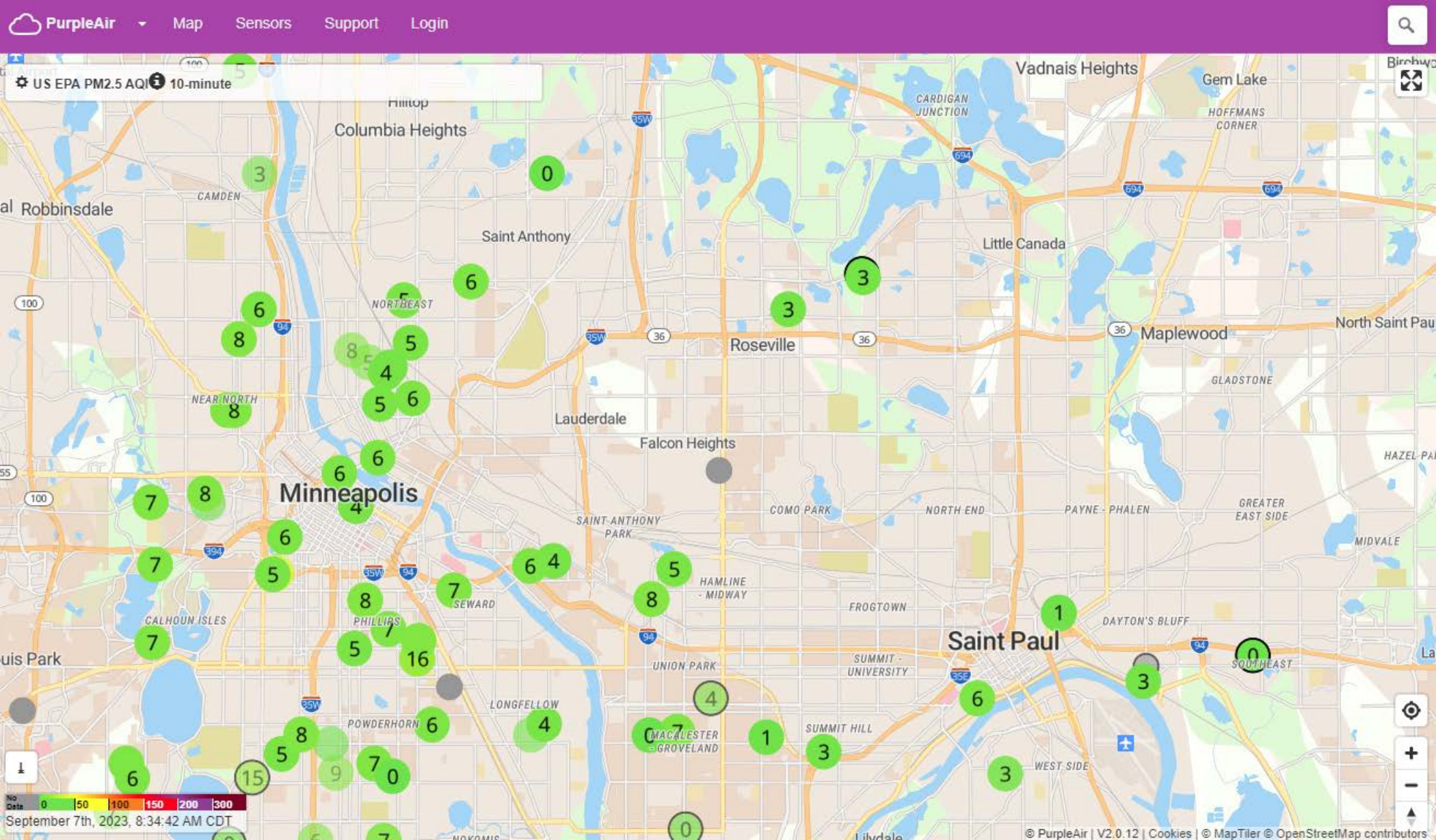
**Public Works Department**

# ITEM FOR DISCUSSION

| | |
|---|---|
| **Meeting Date** | September 11, 2023 |
| **Agenda Item** | E-3 New Business |
| **Attachment** | See below. |
| **Submitted By** | Hannah Lynch, Community Development Coordinator |

| | |
|---|---|
| **Item** | PurpleAir Quality Monitors |
| **Description** | Research submitted by Katherine Allen, Falcon Heights Resident –<br><br>PurpleAir allows citizens to monitor the air quality nearby and share that data with others. This data can be used in many ways, but is particularly useful for ensuring that people have almost real-time understandings of their local air quality. Given the recent uptick in wildfire smoke in the MSP area, it has become increasingly important for local residents to be aware of the air quality as they make choices about their activities for the day. Children, elders, and people with certain medical conditions are often particularly affected by air quality, however poor air quality can have health effects on everyone.<br><br>There are a number of AQI monitors sharing their data in the local area, however, none are currently directly within Falcon Heights. Sometimes the data from the monitors within the city versus in the external suburbs can differ significantly due to wind directions, building density, weather, and other factors. That can make it difficult to poor air quality days to make informed choices about activities for the day. Google provides an easy view of current AQI monitors.<br><br>PurpleAir publicly available data is being used by Google and others to offer easy ways for people to check their local air quality. This includes automatically showing air quality on phones when someone is near an air sensor, showing on maps, and also Android and IOS applications for phones and watches (independent developers have been finding many ways to integrate the data for public consumption). This data is typically combined with data from the EPA who keeps their own network of air quality monitors, but provides a much more specific map of air quality than what the EPA can come up with. There are about 50 EPA sensors from the Minnesota Pollution Control Agency across Minnesota. PurpleAir sensors provide much more specific community-driven Air Quality data helping keep everyone more aware of their local conditions. |

| | |
|---|---|
| | A purple air monitor (basic) costs about $230 with the power supply costing an additional $40. Including shipping, the total cost of a PurpleAir monitor should be approximately $300.<br><br>Monitor setup requires an outdoor location, preferably not close to a busy road, power, and wifi. The monitor can be attached to a building, tree, utility post, or something similar. The monitor is then hooked up to local power and connected to local wifi via either a computer or phone. Finally, the device is registered with PurpleAir and consent is given for data sharing with the public. |
| **Budget Impact** | Approx. $300 per unit. |
| **Attachment(s)** | - Maps from Google showing PurpleAir Quality Monitors in area<br>- Purple Air Case Study – City of Minneapolis<br>- Air Quality – City of Minneapolis |
| **Action(s) Requested** | Staff requests Environment Commission discuss the possibility of purchasing PurpleAir Quality Monitors and locations to place them for hyper-local air quality index monitoring. |


PurpleAir
Map
Sensors
Support
Login
US EPA PM2.5 AQI
10-minute
Vadnais Heights
Gem Lake
CARDIGAN JUNCTION
HOFFMANS CORNER
Columbia Heights
CAMDEN
Robbinsdale
Saint Anthony
Little Canada
NORTHEAST
Roseville
Maplewood
North Saint Paul
GLADSTONE
NEAR NORTH
Lauderdale
Falcon Heights
Minneapolis
SAINT ANTHONY PARK
COMO PARK
NORTH END
PAYNE - PHALEN
GREATER EAST SIDE
MIDVALE
HAMLINE - MIDWAY
SEWARD
FROGTOWN
CALHOUN ISLES
PHILLIPS
DAYTON'S BLUFF
Saint Paul
UNION PARK
SUMMIT - UNIVERSITY
SOUTHEAST
LONGFELLOW
POWDERHORN
MACALESTER - GROVELAND
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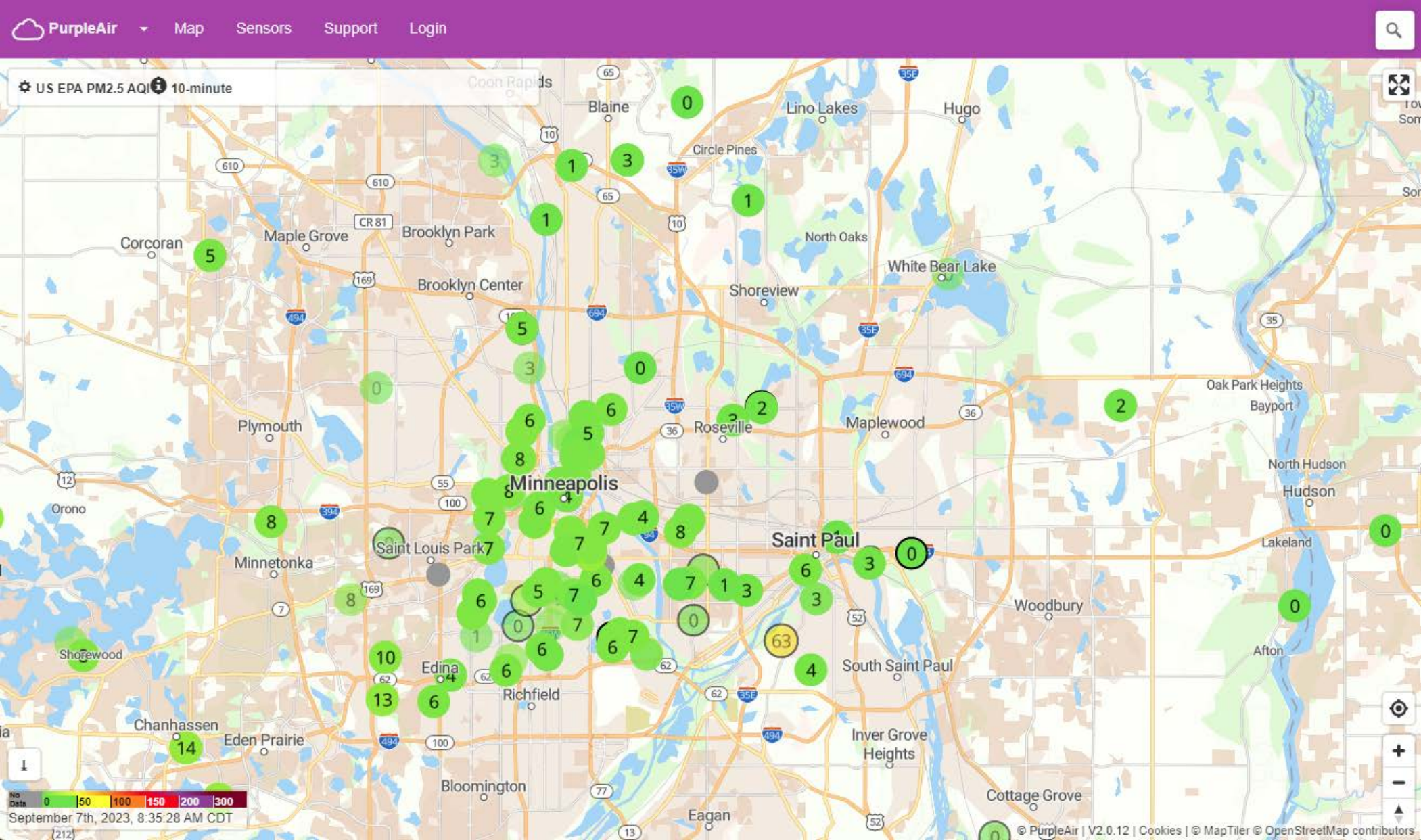
PurpleAir
Map
Sensors
Support
Login
US EPA PM2.5 AQI
10-minute
Minneapolis
Saint Paul
Blaine
Lino Lakes
Hugo
Circle Pines
Corcoran
Maple Grove
Brooklyn Park
Brooklyn Center
North Oaks
White Bear Lake
Shoreview
Plymouth
Roseville
Maplewood
Oak Park Heights
Bayport
North Hudson
Hudson
Lakeland
Orono
Minnetonka
Saint Louis Park
Woodbury
Afton
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Edina
Richfield
South Saint Paul
Chanhassen
Eden Prairie
Inver Grove Heights
Bloomington
Cottage Grove
Eagan
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# Case Study: How Minneapolis is Ensuring Healthy Clean Air for Each Resident

by Adrian Dybwad May 17, 2023



## MINNESOTA BUILDS LOCALIZED AIR QUALITY NETWORK THROUGH GRANT FUNDS & PURPLEAIR AIR QUALITY MONITORS

- Topic: How Grants Are Helping Cities Expand their AQ Network
- Industry: Air Quality Technology, Government
- Author: Adrian Dybwad
- Website: PurpleAir.com

## OVERVIEW

Everyone has the right to breathe clean air. But ensuring that everyone has equal access to clean air isn't as simple as one might think. That's because air quality is so complex

that it can vary even within neighborhoods.

Currently, this is the problem that the State of Minnesota is tackling as they're working to improve their air quality.

Although Minnesota has passed the air quality standards set by the Environmental Protection Agency (EPA), a deeper look into its air quality data shows that this isn't true for all its neighborhoods. There are at least 20 locations that experience toxic levels of air pollution above EPA's standards. This includes the City of Minneapolis, which is home to over 60% of the state's population.

To better understand local air quality, the City of Minneapolis applied for the EPA grant "Enhanced Air Quality Monitoring for Communities" in 2021. Thanks to this air quality grant, Minnesota is developing a more robust air quality network as it distributes low-cost air quality monitors to homes and businesses. This way, the local government can gain more insight into neighborhood-level air quality data. At the same time, they're involving communities as they push for better air quality.

In this air quality case study, we'll tackle why local air quality data is vital in providing air quality for all communities and what Minnesota is doing about it.



## THE AIR QUALITY SITUATION IN MINNESOTA

The poor air quality in Minnesota has been a cause of concern for decades. So much so that it contributes to up to 6,400 deaths and 1,300 hospital visits a year.

This can be attributed to Minnesota's history as a hotspot for agricultural, manufacturing, and mining industries, which emit high levels of air pollution. This includes fine particle matter (PM2.5), which is so dangerous to our health that it can cause cancers, respiratory diseases, cardiovascular disorders, and brain dysfunction. It's even linked to premature death.

However, after the Clean Air Act was established, the State of Minnesota put air quality regulations and policies, programs, and initiatives in place to reduce air pollution in the area. Today, air pollution has decreased by 50% compared to levels in 1997.

Plus, Minnesota's source of air pollution no longer comes from heavy industry and manufacturing. Rather, 80% of its air pollution comes from the following smaller sources:

- Small businesses
- Gas stations
- Construction
- Agriculture

- Homes
- Transportation

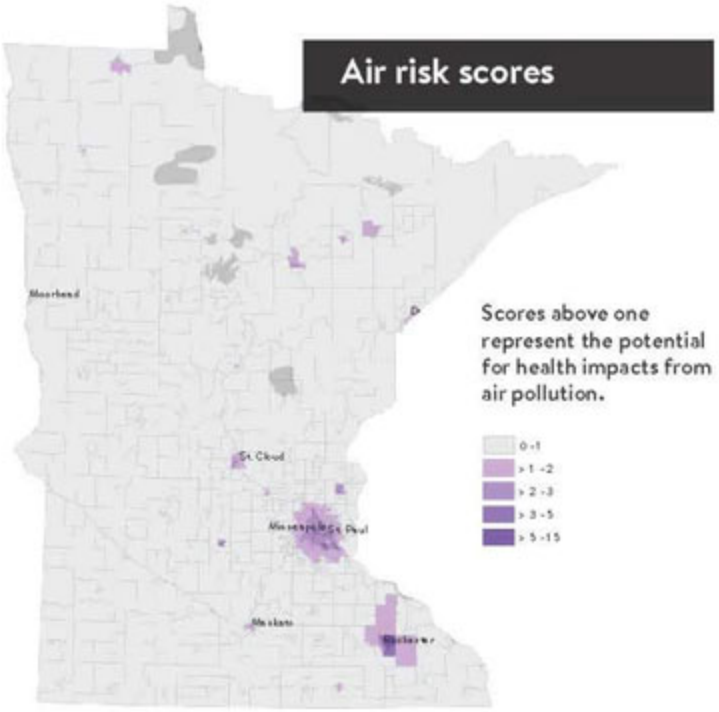
Other factors that impact Minnesota's air quality are the wildfire smoke from nearby areas and temperature inversions. In fact, Minnesota's 2023 Air We Breath Report observed that the increase in PM2.5 levels was mainly due to wildfires. While Minnesota has come a long way, more work needs to be done. This especially holds true in light of recent findings.

## WHY MINNESOTA'S AIR QUALITY IS STILL A PROBLEM

According to the latest Minnesota Air Quality Monitoring report, there are a total of 56 air quality monitoring stations across the state. However, it also points out that the majority are located in Twin Towers. This is because the placement of air monitors is determined by population density rather than need. As such, there are significant data gaps in places without air quality monitors.

Another concern is that EPA Minnesota air quality data only reports the average air quality levels to determine if it meets national air quality standards. Because of this, the air quality of Minnesota might look good at a distance. But a closer look at their air quality data reveals that multiple locations are actually suffering from poor air quality.

This has been the case when Minnesota investigated residents' concerns about emissions coming from nearby factories.




Air risk scores for cancer and non-cancer impacts from air toxics. A score over 1 means air pollution may contribute to health risks in the area.

*Source: The Air We Breathe: The State of Minnesota's Air Quality*

In 2021, the State of Minnesota discovered 20 locations are experiencing hazardous levels of air pollution, Worse, they're also exposed to toxic chemicals like chromium, cobalt, and nickel. That's because many of these locations are nearby or home to the industrial activities of 8,250 companies.

To better understand the state of air quality on a more localized level, the State of Minnesota applied for and received one of EPA's grants for air quality.

## HOW MINNESOTA IS SCALING THEIR AIR QUALITY NETWORK

"Enhanced Air Quality Monitoring for Communities" is an EPA grant that seeks to aid at-risk and underserved communities by helping them enhance their air quality monitoring capabilities.

By doing so, these communities are more empowered to solve environmental and health-related air quality problems. Additionally, EPA hopes to encourage air quality monitoring partnerships amongst community and tribal, state, and local

governments. Through the EPA's air quality grant, the City of Minneapolis received $411,000. The city has invested a part of these funds towards purchasing 100 PurpleAir air quality monitors.

PurpleAir air quality monitors are low-cost air quality monitors that provide real-time, accurate air quality data. With it, the government increases its air quality network and has a more comprehensive picture of a community's air quality. Not only that, residents and businesses are also benefiting from the air quality monitors.

Because PurpleAir air quality monitors report air quality updates every 2 minutes, residents can make more informed decisions to protect their health and environment in real time. Businesses can also use air quality data to better understand how their activities impact air quality around them.

More importantly, communities are now more involved in air quality issues than before, as they now have easy access to air quality data. As such, they have more power to change their community and improve the air quality in their neighborhood.

This is just the start of Minneapolis' work to address poor air quality on a more localized level. And already, we're seeing positive results as residents are taking more data-driven actions. This also goes to show that improving air quality isn't just the work of the government. Instead, it must also involve communities to create powerful changes.



## ABOUT PURPLEAIR

Since being founded in 2018, PurpleAir has dedicated itself to providing highly precise air quality monitors that track hyper-local air quality levels in real time. In doing this, PurpleAir is empowering community scientists and helping to facilitate social change through accessible air quality data for all. By working together, everyone is more informed and able to make changes in their local communities to improve air quality.

← BACK TO PURPLEAIR COLLABORATIONS

# Air quality

You can help us monitor our air through our community air monitoring project.


## Outdoor air quality affects our health

We test our city's air quality and report results to the community.

In 2021, we launched a community air monitoring project. We asked Green Zone members and residents to help us identify:

- Areas of concern with air pollution
- Residents, schools and businesses that should host air sensors

In 2022, we started installing PurpleAir sensors throughout the city, with a focus on our city's environmental justice communities. Environmental justice communities include neighborhoods with a high percentage of:

- People of color
- People living below the poverty line
- Environmental hazards, like low air quality

## Related links

### City support

**Green Cost Share funding (/government/programs-initiatives/environmental-programs/green-cost-share/pollution-reduction/)**

### City reports and plans

**Air Quality Study Executive Summary (https://www2.minneapolismn.gov/media/content-assets/www2-documents/government/Air-Quality-Study-Executive-Summary.pdf)**

**Green Zones initiative**
**(https://www2.minneapolismn.gov/government/departments/health/sus homes-environment/sustainability/green-zones/map/)**

**Climate Action Plan**
**(https://www2.minneapolismn.gov/government/programs-initiatives/climate-equity/minneapolis-climate-action-plan/)**

**Minneapolis 2040 Plan**
**(https://minneapolis2040.com/policies/environmental-justice-and-green-zones/)**

## Stay informed

Sign up to receive Minneapolis Air Quality updates.

**Sign up for updates** **(https://public.govdelivery.com/accounts/MPLS/subscriber/new?topic_id=MPLS_701)**

## Contact us

Minneapolis Health Department

**Email Health Department** **(mailto:health@minneapolismn.gov)**

### Phone

**612-673-2301** **(tel:+16126732301)**

### Address

Public Service Building
505 Fourth Ave. S., Room 520
Minneapolis, MN 55415

Last updated on January 9, 2023

# Host a PurpleAir sensor

You can sign up to host an air sensor.

## What to know

Anyone can sign up to host an air sensor.

### No guarantees

Signing up does not guarantee that you'll receive an air sensor.

### How it works

We'll let you know in about a week where you are on the list.

We give priority to people who live in:

- Environmental justice areas
- Areas where there is not another air sensor nearby

We distribute air sensors until we run out. More air sensors become available if:

- A host leaves the program
- We get funding to buy more

You will remain on the list until you:

- Receive an air sensor, or
- Request to be removed from the list

**Read the Environmental Protection Agency's (EPA) definition of environmental justice communities (https://www.epa.gov/environmentaljustice/ej-2020-glossary)**

**See the PurpleAir map (https://map.purpleair.com/1/mAQI/a10/p604800/cC0#11/44.8328/-93.4396)**

#### Request accessible format

If you need help with this information, please **email 311 (mailto:minneapolis311@minneapolismn.gov)**, or call 311 or **612-673-3000 (tel:+16126733000)**.

Please tell us what format you need. It will help us if you say what assistive technology you use.

# Application

**View full screen (https://app.smartsheet.com/b/form/7f6cabab75274a13a4c7e323226c6b18)**

# PurpleAir Sensor Host Interest

**Name (first and last)** *

**Street address (ex. 1234 Main St E)** *

**Zip Code (ex. 55415)** *

**Email** *

**Phone Number** *

**Date** *

Send me a copy of my responses

Submit

# ITEM FOR DISCUSSION

| | |
|---|---|
| **Meeting Date** | September 11, 2023 |
| **Agenda Item** | E-4 New Business |
| **Attachment** | See below. |
| **Submitted By** | Hannah Lynch, Community Development Coordinator |

| | |
|---|---|
| **Item** | Homegrown National Park |
| **Description** | Homegrown National Park is a grassroots call-to0action to regenerate biodiversity and ecosystem function by planting native plants and creating new ecological networks. |
| **Budget Impact** | None. |
| **Attachment(s)** | - Nature Newsflash Article from Les Rogers – For September 18, 2023 newsletter |
| **Action(s) Requested** | Staff requests discussion around Homegrown National Park and the possibility of promoting this movement as part of the native planting ordinance in City Code. |

# Nature Newsflash

**What is biodiversity?**
Biodiversity or biological diversity is the variety and variability of life on Earth. Biodiversity is a measure of variation at the genetic, species, and ecosystem level. (Wikipedia)

**Why is biodiversity important for us humans?**
Biodiversity losses are a clear sign that our own life-support systems are failing. The ecosystems that determine the earth's ability to support us are run by the plants and animals around us.

- It is plants that generate oxygen and clean water, that create topsoil out of rock, and that buffer extreme weather events like droughts and floods.
- It is insect decomposers that drive the nutrient cycles on earth, allowing each new generation of plants and animals to exist.
- It is pollinators that are essential to the continued existence of 80 % of all plants and 90% of all flowering plants, and it is birds and mammals that disperse the seeds of those plants and provide them with pest control services. (https://homegrownnationalpark.org/not-in-our-yard-doug-tallamy/)

**Want to learn more? Need inspiration?**
Let me introduce you to Doug Tallamy. Biodiversity "guru", Doug Tallamy is a professor in the Department of Entomology and Wildlife Ecology at the University of Delaware and is cofounder of **Homegrown National Park.**
Doug makes our human relationship to biodiversity come alive! His website proposes solutions on how we can all help restore the loss of biodiversity.

**Homegrown National Park:**
" . . .a bottom-up call-to-action to restore habitat where we live and work, and to a lesser extent where we farm and graze, extending national parks to our yards and communities."
Our initial goal is 20 million acres of native plantings in the U.S. This represents approximately ½ of the green lawns of privately-owned properties..

An interesting feature of the Homegrown National Park website is the map.
THE MAP is an interactive community-based visual that will show each person's contribution to planting native by State, County and Zip Code.

**Check out the Homegrown National Park website:**
https://homegrownnationalpark.org/about-us/
https://homegrownnationalpark.org/not-in-our-yard-doug-tallamy/
https://homegrownnationalpark.org/videos/

## CALL TO ACTION

Our National Parks – no matter how grand in scale – are too small and separated from one another to adequately preserve the native trees, plants, insects and animals that our ecosystems depend upon to survive and thrive.

***Thus, the concept for the Homegrown National Park®: a national challenge to homeowners, property owners, land managers, farmers and anyone with some soil to plant in – to extend our national parks into our yards, communities, and surrounding lands by planting native and removing invasive species.***

## THE GOAL

Initially, 20 million acres of native plantings in the U.S. This represents approximately ½ of the green lawns of privately-owned properties.

## TIME IS OF THE ESSENCE

We are at a critical point where we are losing so many native plant and animal species that the ecosystem services we rely upon (oxy-gen, clean water, flood control, pollination, pest control, etc.) will become seriously compromised. However, if many people make small changes, we can restore healthy ecological networks and weather the challenges ahead.

## HOMEGROWN NATIONAL PARK® MAP


SCAN ME

The MAP enables anyone who plants natives and/or removes invasives to report their accomplishments by State, County and Zip Code. A gauge shows progress towards the goal of 20 million acres of native plantings in the U.S.

Scan the code or visit: https://homegrownnationalpark.org

## START DIGGING!

[Delete this text and insert your logo here]



Front cover: Radim Schreiber/FireflyExperience.org

Get on the **MAP!**

HOMEGROWN NATIONAL PARK®

# LET'S GET EVERYONE ON THE MAP!

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# WHAT EACH OF US CAN DO

## 1. SHRINK THE LAWN AND LEAVE THE LEAVES!

Think, muse, strategize about how you might reduce the area that is now lawn. Maybe start by planting a very small area (perhaps a mini meadow), leaving enough green grass for your paths and recreational use. It doesn't matter how small or how large your plantings are; what's most important is that you get started, and you get on the MAP! Leave the leaves wherever you can! Park your leaf blower and give yourself a break from the rake! The leaves that stay on your property are going to return the nutrients that were taken up by the trees' roots in the spring back to the soil so the tree gets to use them again the following year. Leaves are also the perfect mulch. Start by raking up areas of the lawn you know you will keep as lawn. Use those leaves to smother the grass in beds around each of your trees, effectively reducing part of the area that is now grass. Come spring you can plant in your new beds.

## 2. REMOVE INVASIVE SPECIES

Invasive plants are ecological tumors that spread unchecked into our local ecosystems, seriously degrading the ability of these ecosystems to function. If every property owner removed the most egregious invasives, the goal of ridding the U.S. of these troublemakers, or at least reducing their seed dispersal to manageable levels, would be largely realized. Start removing the ornamentals you now have that are known to be invasive species. Learn more about invasive species here: **invasivespeciesinfo.gov**

## 3. GENEROUSLY PLANT THE PLANTS THAT DO THE MOST GOOD

A first step in reducing your lawn can be adding keystone plants in an area that is now lawn. You might choose to plant an oak tree and build a bed with leaf litter around it. BOOM! New powerhouse tree and less lawn! If you have a bigger property, a field, a farm or a large landhold ing, consider planting more native trees and creating a meadow or two or three!!

To realize the ecological potential of our landscapes, most of us have to increase the abundance and diversity of our plantings. If you have one tree in your yard, consider adding two more. The idea is to plant groves of trees at the same density at which they occur naturally in a forest. Research indicates that a few types of native plants ("keystone genera") form the backbone of local ecosystems, particularly in terms of producing the food that fuels insects. Landscapes that do not contain one or more species from keystone genera will have failed food webs, even if the diversity of other plants is very high. To find keystone plants that host the most caterpillars and native bees, scan the code or visit: https://www.nwf.org/Garden-for-Wildlife/About/Native-Plants/keystone-plants-by-ecoregion

SCAN ME

## 4. REDUCE YOUR NIGHTTIME LIGHT POLLUTION

Research is showing that our porch and security lights are major causes of insect decline. Consider turning off your lights at night. Or **use motion sensor security lights** that light up only when an intruder enters your yard. If nothing else, replace the white bulb in your lights with yellow or amber tinted LED bulbs. These color wavelengths are the least attractive to nocturnal insects.

## 5. NETWORK WITH NEIGHBORS & GET ON THE HOMEGROWN NATIONAL PARK® MAP

Be a role model for your neighbors. As you transform your property by planting natives in tasteful ways, it is likely your neighbors will follow suit. For a Homegrown National Park Yard Sign, scan the code or visit: https://homegrownnationalpark.org/yard-sign

SCAN ME

## 6. BUILD A CONSERVATION HARDSCAPE

- Each year millions of toads, frogs, and other small creatures become trapped in our window wells where they slowly starve to death. Installing inexpensive **window well covers** can reduce these needless deaths to zero.
- Set your **mower height no lower than 3 inches.** This will give you healthier, greener grass that requires less watering but also mows safely over a box turtle or toad! Try not to mow in the evening when many nocturnal species leave their hiding places.
- Install a bubbler. Small water features with gentle gurgling sounds are irresistible to migrating and resident birds.

## 7. CREATE CATERPILLAR PUPATION SITES UNDER YOUR TREES

More than 90% of the caterpillars that develop on trees drop to the ground and pupate within the organic matter on the ground or within chambers they form underground. It is best to replace lawn under trees with well-planted beds with groundcovers appropriate for your area. It's easy, you can leave leaf litter under your trees, rocks, and old tree stumps, as well as plant wild ginger, foam flowers, wood poppies, ferns, mayapples, etc.


## 8. DO NOT SPRAY OR FERTILIZE

Insecticides and herbicides are antithetical to the goals of HOMEGROWN NATIONAL PARK®. Less evident is that fertilizers are also unnecessary. Creating soils rich in organic matter is entirely sufficient for healthy plants. If herbicides must be used, apply them judiciously and in small quantities. See What Is the Best Way to Get Rid of Invasive Plants? - YouTube

SCAN ME

Background image: Radim Schreiber/FireflyExperience.org