Energy efficiency, sustainability, and climate action in the City of Duluth

Energy Design Conference - February 22, 2022

Mindy Granley, Mike Lebeau, and Alex Jackson
mgranley@duluthmn.gov
218-730-5334

City of Duluth Climate Goals and Actions

- Demonstrate sustainable choices
- Measure and communicate progress
- Inspire: projects and partnerships

Minnesota GreenStep Cities

ICLEI Local Governments for Sustainability USA

USDN urban sustainability directors network

Energy & Sustainability Assistant

AmeriCorps

Green Infrastructure

Minnesota GreenCorps

Sustainable Purchasing Assistant

Healthy Babies Bright Futures

Energy Plan Commission

- Formed to advise the administration and city council on reducing the city's greenhouse gas emissions by 80 percent by 2050.
  - Develop and recommend policies to meet greenhouse gas reduction goals
  - Review and evaluate the city's Energy Plan progress
  - Promote the use of clean energy
  - Promote community best practices and strategies

Chair: Dr. Alison Hoxie

Robert Reichert

Nate LaCoursiere

Fosam Foncham

Brian Hinderliter

Cassie Thiessen

Gary Olson

City Council climate emergency declaration:
April 2021 (21-0256R)

1. Recognized impacts of climate change, need for action
2. Broaden carbon reduction goals (*80% by 2050*) to community
3. Climate Action Work Plan created
4. Annual updates on progress to City Council

CLIMATE MAYORS

AMERICA'S PLEDGE

Minnesota GreenStep Cities

StarTribune | local

Home > Local

Duluth eyes rebuilding for a wetter climate

Article by: BILL McAULIFFE , Star Tribune | Updated: June 25, 2012 - 5:59 AM

City may be one of the first to design for big downpours.

35 comments | resize text | print | buy reprints Recommend 54

One of the biggest tasks facing Duluth in the aftermath of last week's historic flash flooding will be repairing the city's 400-mile storm-water removal system.

The northern Minnesota city's network of sewers, culverts, ditches and basins, in some places more than 100 years old, suffered "extensive damage all over the city," said Eric Shaffer, Duluth's chief engineer of utilities.

But build
making
climate.
to accor

related content

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ENVIRONMENT

In the 'climate refuge' city of Duluth, a fight brews over the hometown utility

By Walker Orenstein | 04/24/2020 Email Facebook Twitter Print

MinnPost photo by Walker Orenstein

Duluth's Aerial Lift Bridge, a city landmark and passageway for ships between the city's port and Lake Superior.

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CLIMATE CHANGE COMES TO DULUTH – ONE OF AMERICA'S "CLIMATE REFUGE CITIES"

Perched on the western shore of the world's greatest lake, this freshwater port community offers lessons for resilience in uncertain times

Photo courtesy of Randen Pederson from Flickr, licensed under

OUR MINNESOTA CLIMATE

Mega-rains overwhelm rivers, roads, and budgets

Throughout the Midwest, heavy precipitation events have increased in frequency and intensity since 1901, and are projected to increase through this century, according to the latest National Climate Assessment.

MPRNEWS Sections Members More

ON AIR 0:00
1A with Jenn White

Climate Change

In Duluth, shoring up Superior's encroachment on Park Point

Dan Kraker Duluth, Minn. September 3, 2020 7:50 a.m.

Dredged material used to replenish a portion of the Park Point Beach that is being steadily eroded by higher water levels on Lake Superior and stronger storms takes a roundabout path to its final destination. Derek Montgomery for MPR News

In Duluth, shoring up Superior's encroachment on Park Point

rns has lived on Minnesota Point, the 7-r
s into Lake Superior from downtown Dul
se in the city's Park Point neighborhood
ach that lines the entire point.
e nearly 40 years he's lived there, he's se

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Ahead of Winter Storms Park Point Gears Up for More Flooding

High wind gusts could push Lake Superior's already high lake levels on to shore.

November 26, 2019 by Arman Rahman

DULUTH, Minn.- While snow is a big concern for most with the oncoming storms, lakeshore flooding is a whole other story, especially for homeowners on Park Point.

COLUMNS

Local View: Duluth must get serious about climate change or become irrelevant

Written By: Tone Lanzillo | Sep 16th 2020 - 11am.

Reading about the expanding California wildfires, the rising sea leve
the 50-degree temperature drop within 24 hours in Colorado, I foun
upon David Wallace-Wells' book, "The Uninhabitable Earth." Its ope
is worse, much worse, than you think. The slowness of climate chan
perhaps as pernicious as the one that says it isn't happening." In his
hange is coming faster than we r

Climate change comes to Duluth — one of America's 'climate refuge cities'

By **Stephanie Hemphill** June 1, 2020

Shutterstock

Reader's View: No issue more critical than climate change

Written By: Keith Steva, Cook | Sep 26th 2020 - 2pm.

Global warming, as they say, is getting to be a hot topic. Let's hope, in the U.S., finally.

An example of climate change impact, California has always been a state of high costs and other problems. Californians have for decades had to choose between living in a wonderful state and paying the costs or moving out. Not a new story. With the addition of climate change, increasingly intense wildfires make me wonder whether Californians will start thinking about moving. While the datelines

NEWS

Five years after 2012 flood, is Northland better prepared for next natural disaster?

Today marks the fifth anniversary of the beginning of the 2012 flood that dumped 7.5 to 10 inches of rain on top of the Northland's already-sodden landscape -- enough to force waterways out of their banks and cause widespread damage.

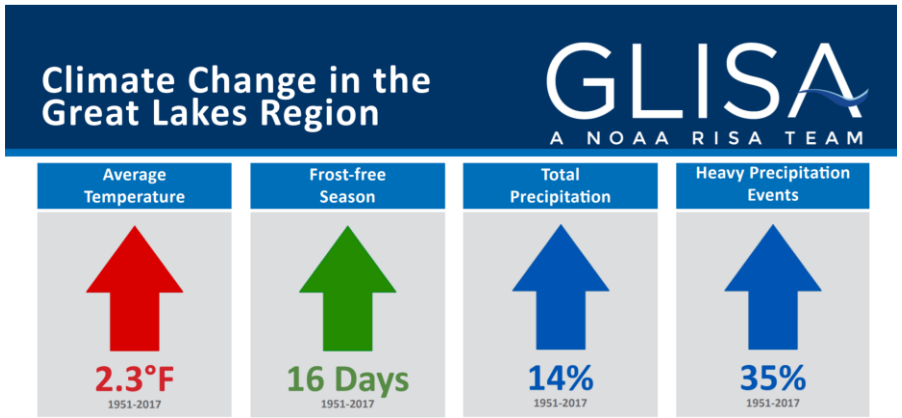
Written By: fccnn Administrator | Peter Passi | Jun 18th 2017 - 9pm.

Sightseers visit and take pictures of a section of Vermillion Road that was destroyed by floods in Duluth in June 2012. (Bob King / News Tribune)

Today marks the fifth anniversary of the beginning of the 2012 flood that dumped 7.5 to 10 inches of rain on top of the Northland's already-sodden landscape - enough to force waterways out of their banks and cause widespread damage.

Getting started

Funding for Climate Action Work Plan, along with a Regional Climate Resiliency Forum



MINNESOTA'S LAKE SUPERIOR COASTAL PROGRAM

GREAT PLAINS INSTITUTE

Common Spark Consulting

February 9, 2022: 116 City/County/Tribal government staff registered

Internal coordination:

City Sustainability Advisory Team (C-SAT)

- Charge: develop strategy and high-level goals for the City on sustainability

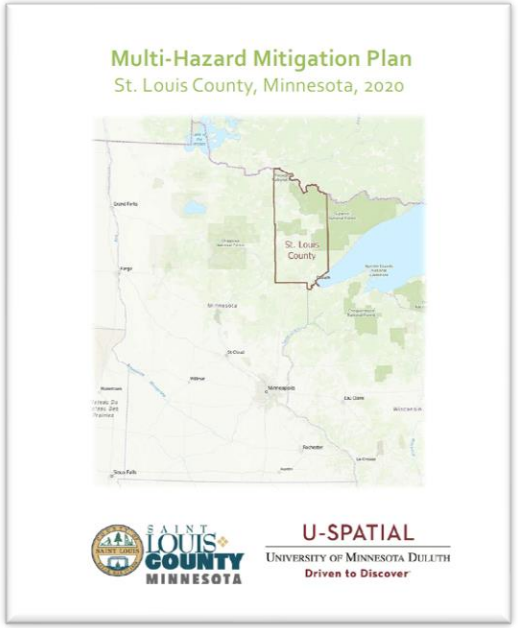
1) Climate Action Work Plan
2) Prioritize actions
3) Share technical knowledge and skills

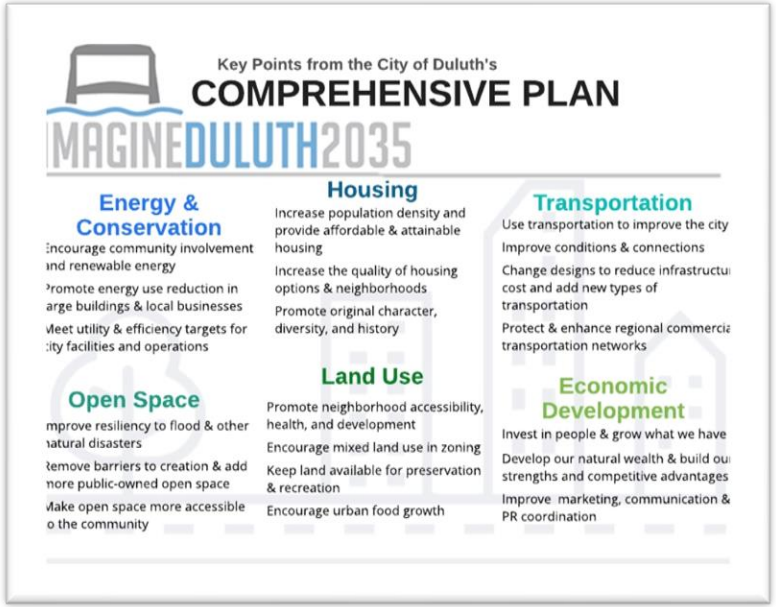
City Sustainability Advisory Team (C-SAT)

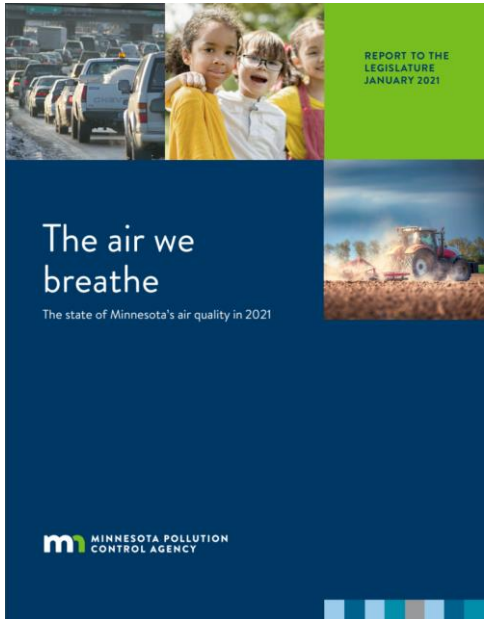
Administrative Services: Chelsea Helmer
City Attorney's Office: Steve Hanke
Communications: Phil Jents
Community Relations: Alicia Kozlowski
Finance: Jen Carlson
Fire Department/Life Safety/Emergency Management: Shawn Krizaj and Jonathon Otis
Parks, Property, and Libraries: Jim Filby Williams, Diane Desotelle, Erik Birkeland
Planning and Economic Development: Chris Fleege, Jenn Reed Moses
Public Works and Utilities: Jim Benning, Greg Guerrero
Workforce Development: Elena Foshay

Climate Action Work Plan

- A plan to drive climate action for the next 1 - 5 five years
  - Actions reflect the Mayor's climate goals, Council's climate emergency declaration goals, past and on-going community-led efforts, and existing planning documents and city programs







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City of Duluth

Climate Action Work Plan

2022 - 2027

First phase builds a foundation to prepare the city to accelerate climate action in the second.

Table of contents

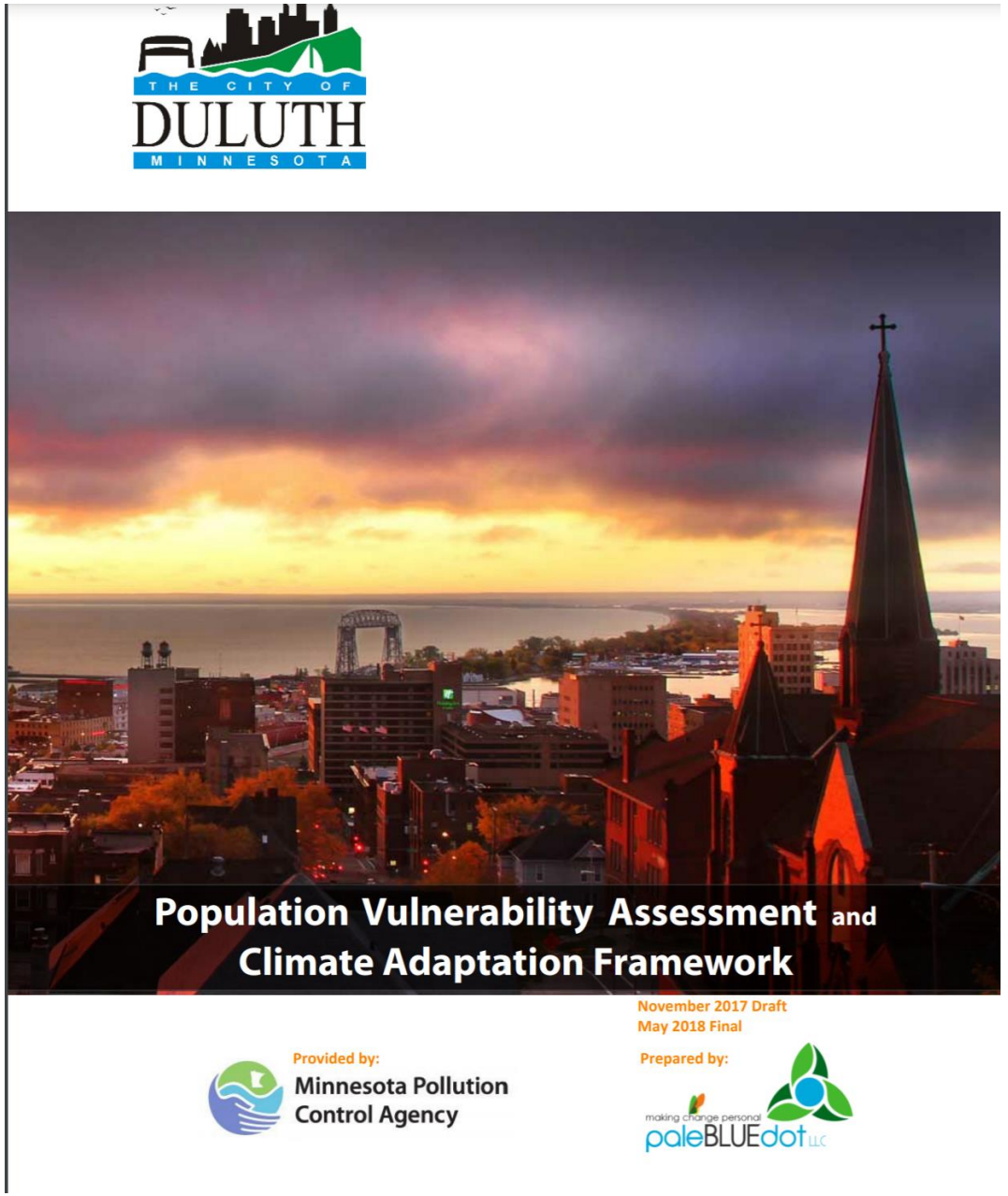
Contents

Climate Hazards and Vulnerability

- Extreme Weather / Temperature
- Flood Vulnerability
- Air Quality Impacts
- Vector-Borne Diseases
- Food Insecurity and Foodborne Diseases
- Water Quality/Quantity

Climate Vulnerability Report

- Vulnerable populations
  - Economic Stress
  - Limited Transportation (no vehicle)
  - Individuals with Disabilities
  - Older Adults
- Recommendations
  - Capacity building
  - Public health
  - Heat Stress/Extreme Weather
  - Air quality
  - Flood Vulnerability
  - Economic resilience

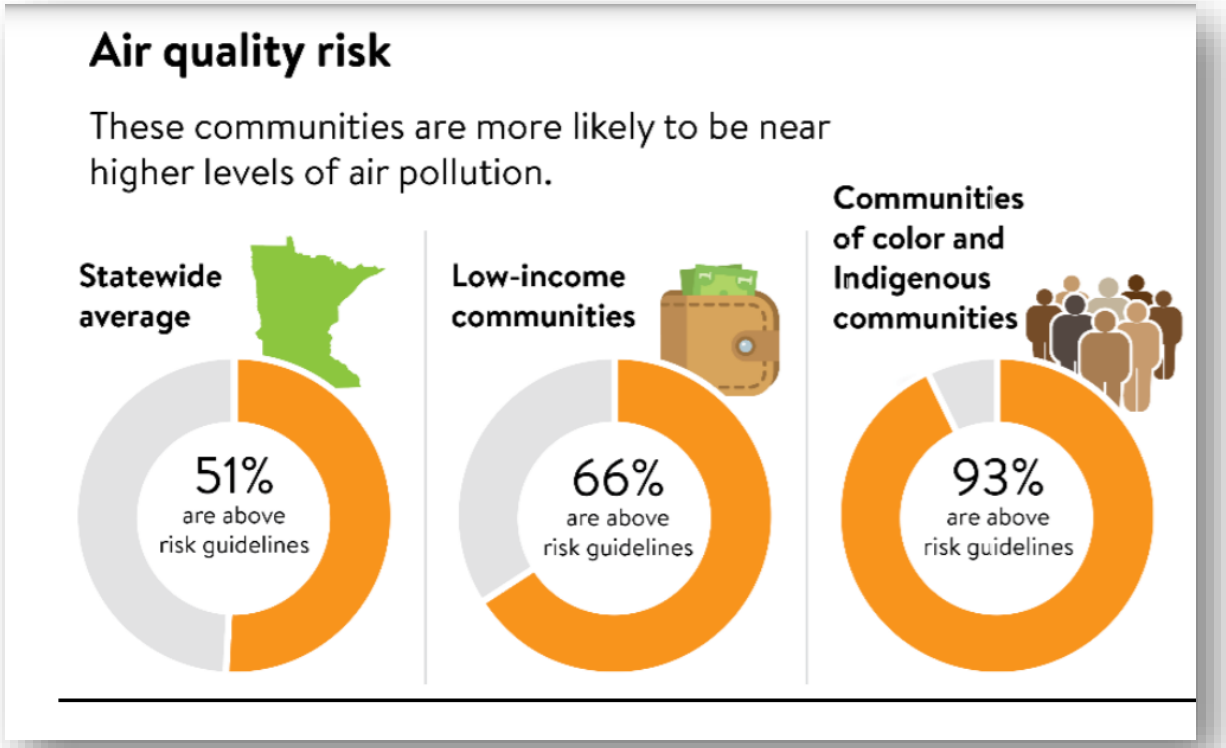


Recommended Adaptation and Resilience Goals

The following are recommended overall goals for increasing the climate resilience for the City of Duluth. These goals are based on the anticipated climate impacts for the City as well as the vulnerable populations present in the City. Some of the goals and strategies identified in this report will require new City policies or program development. Many others have some existing City, County, and State policies already underway which relate to them. A detailed review of all existing policies against the goals and the strategies recommended in this report should be conducted and policy modifications integrated.

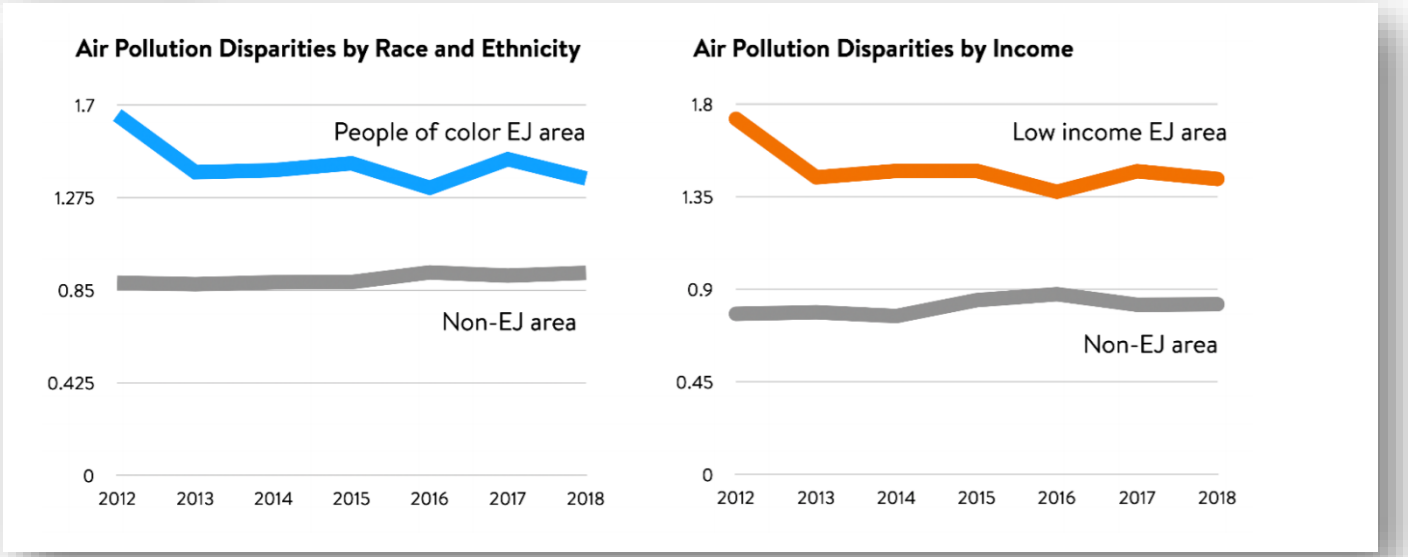
In prioritizing the implementation of the goals and strategies which follow, the City of Duluth should:

- Consider available resources and opportunities to leverage new resources.
- When budget, staff, or schedule restrictions limit strategy implementation capacity, apply strategies with a priority towards vulnerable populations and tracts/areas with higher vulnerable populations (see Section 10, page 10-3 for further information)
- Consider the associated carbon emission reduction opportunities and other co-benefits of strategies.
- Study the anticipated equity impacts of strategies.
- Consider the urgency and window of opportunity.
- Conduct appropriate outreach and engagement efforts with community residents and businesses for community feedback and buy-in.
- Identify departments / staff capable of taking the lead for strategy implementation. Integrate implementation plans into a routine working plan that is reviewed and revised regularly (every 2 to 5 years recommended).
- Whenever possible select strategies that provide everyday benefits in addition to climate risk reduction. These forms of strategies are known as "no regrets strategies" and they can be justified from economic, social, and environmental perspectives whether natural hazard events or climate change hazards take place or not.
- Explore possible use and effectiveness of existing City owned facilities and properties to meet emergency shelter and cooling center functions



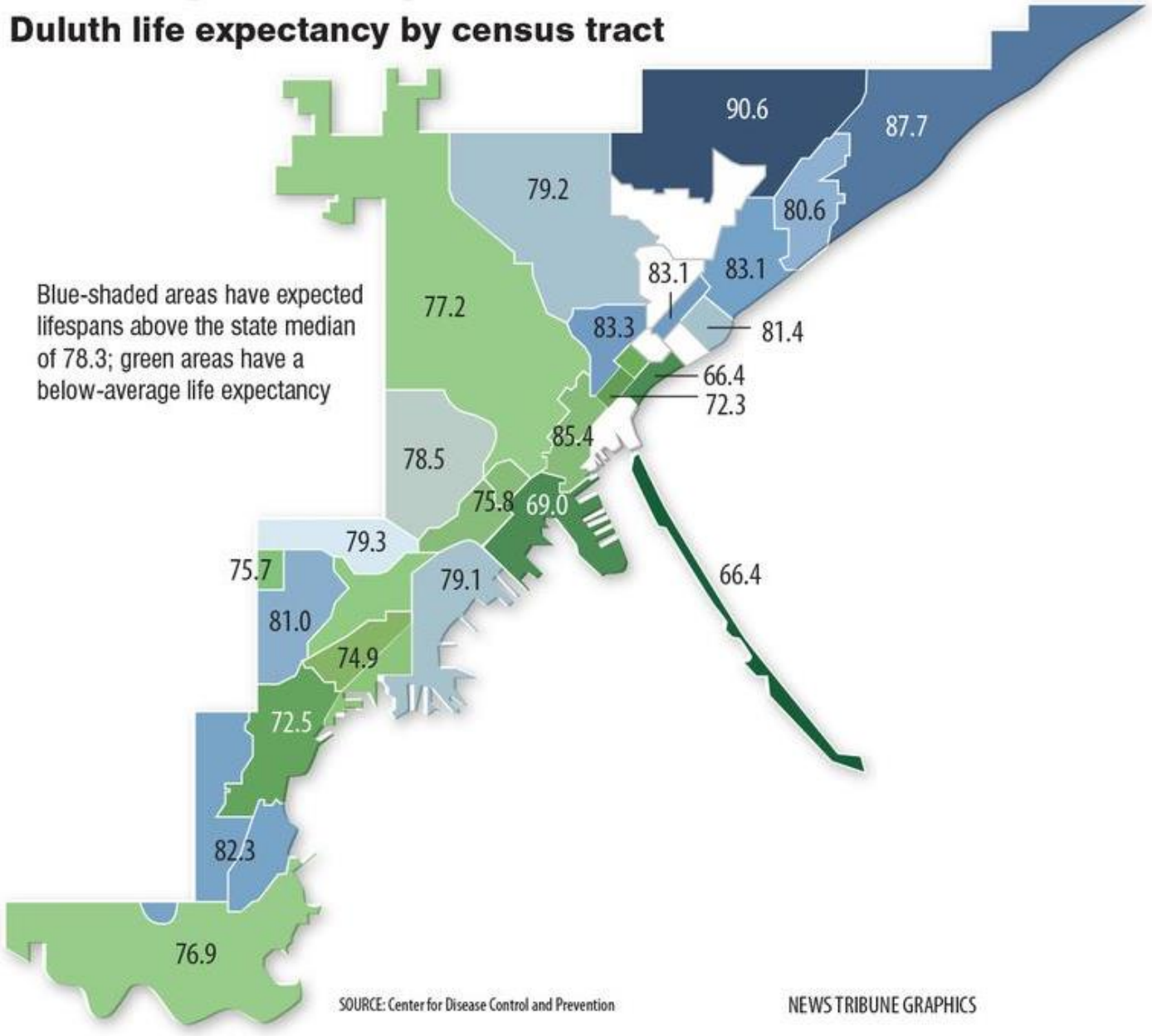
Source: ***The air we breathe: The state of Minnesota's air quality in 2021.*** *(January 2021)*

https://www.pca.state.mn.us/sites/default/files/lraq-2sy21.pdf



Life expectancy

Duluth life expectancy by census tract



Strategies, Objectives, Actions

Objectives

1. Drive down emissions from city operations
2. Strengthen community resilience
3. Eliminate institutional barriers to enable climate action
4. Create financial and workforce plans to support accelerated climate action
5. Identify shovel-ready projects
6. Plan implementation

Climate mitigation and adaptation strategies highlighted in the City's climate emergency declaration:

Strategy 1: Reduce energy consumption in buildings

Strategy 2: Increase efficiency and resilience in city utilities

Strategy 3: Support low carbon transportation options

Strategy 4: Support renewable energy

Strategy 5: Improve stormwater management

Strategy 6: Reduce solid waste

Strategy 7: Reduce disparities in public health

Strategy 8: Seek sustainability opportunities that support economic growth

Strategy 9: Identify carbon sequestration opportunities

Phase 1: Build a foundation

1. Drive down emissions from City Operations

	Actions		Action Leads	Resources Needed
Strategies	S1	**1.1 Achieve energy reduction targets for city buildings and facilities to meet 10% emissions reduction goal, per mayoral term (80% by 2050).** ❑ Complete and implement the City of Duluth Energy Plan and share progress with the Energy Plan Commission ❑ Institutionalize regular benchmarking for all city buildings and facilities ❑ Continue energy audits and assessments and prioritize improving the performance of buildings with the greatest savings opportunities ❑ Track and publicly share energy use and greenhouse gas emissions for City Operations, annually ❑ Communicate successes and benefits of climate action to further community support for more action	Property and Facilities Management, Sustainability, and Communications	Energy Analyst
	S2	**1.2 Continue to improve the fuel emissions factor and efficiency for Duluth Energy System** ❑ Identify clean energy resources to replace fossil fuel inputs; eliminate coal in the next 5 years ❑ Encourage a transition to more efficient hot-water loop for new and existing customers of Duluth Energy Systems **1.3 Improve the efficiency of the water plant and distribution system** ❑ Set targets and identify opportunities to improve the energy use intensity at the water plant and distribution system	Duluth Energy Systems, Public Works and Utilities	Infrastructure for transition away from coal
		1.4 Reduce emissions from city fleet vehicles and employee commute ❑ Complete an assessment of city fleet to identify	Fleet, Property and Facilities Management,	Resources for initial fleet planning are in place

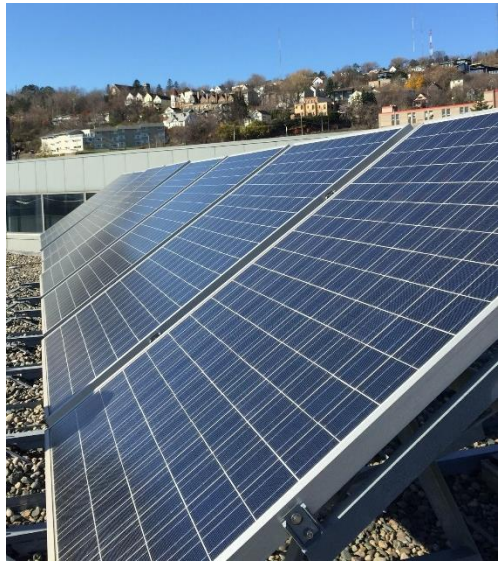






Solar

- Build upon success
  - City has three solar arrays, and a Community Solar Garden subscription
    - Lifetime production: 2.5 million kwh
    - Lifetime Savings: over $280,000
- Working to evaluate solar sites and options
  - Partnerships and pathways



ENERGY PRODUCED (kilowatt hours, kWh)

*Renewable Energy Credits retained by Minnesota Power	2015	2016	2017	2018	2019	2020	Total energy produced over lifetime (kWh)
Library Solar Array (3 kW)	na	na	na	na	na	na	-
Lester Ski Trail solar array (5 kW)	-	-	-	na	na	na	26,568
Canal Park Solar Array (45 kW)	-	-	31,197	49,582	55,367	64,998	201,144
***Community Solar Garden** (420 kW)	-	-	-	767,544	702,845	815,635	2,286,024
annual total				817,126	758,212	880,633	**2,513,736**

Energy Bundle

2.4 MW Solar

Solar @ Water
= significant savings

Pilot Net Zero
for replication

LED Lighting Upgrades
3 City Sites

33 EV Chargers

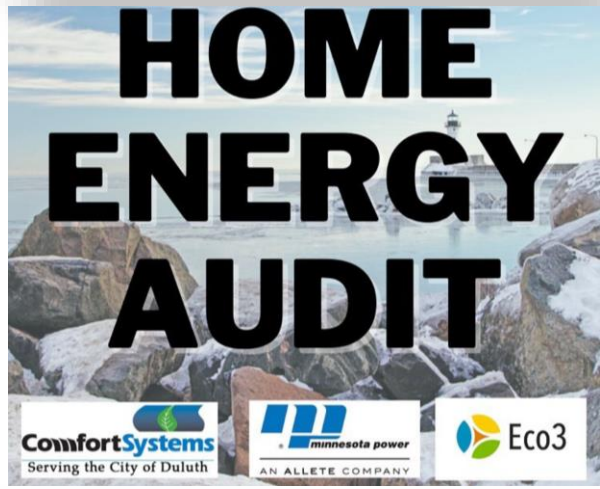
Solar	**$ 5,365,500**	2.4 MW of solar including applications* of: • ground mount • rooftop • carport • pole mount • community demonstration
EV Charging	**$ 1,350,100**	33 EV Charging Stations* including: • 26 – Dual, Level III (fast charging) • 7- Dual, Level II
Energy Efficiency	**$ 626,400**	LED lighting upgrades and lighting control upgrades at selected City facilities

Infographic credit: Preliminary Energy Evaluation for Funding Opportunities, June 2021, McKinstry report

Phase 1: Build a foundation

2. Strengthen community resilience

	Actions	Action Leads	Resources Needed
Strategies	**S2**	**2.1 Improve the resiliency of the water plant and distribution system** Seek opportunities to improve resiliency of the water plant, including transformer upgrades, burying lines, back-up power, and clean energy procurement options. **2.2 Complete a citywide assessment of vulnerable built (sidewalks, roads, pipes, etc.) and natural (trees, soil, water, etc.) infrastructure** ❑ Manage Emerald Ash Borer, implement strategic planting plan ❑ Develop a plan to minimize risk to infrastructure, prioritizing highest risk and infrastructure located in vulnerable communities **2.3 Expand current CIP offerings from Comfort Systems for residential and commercial customers**	Public Works and Utilities, Stormwater, Property Parks and Libraries, Sustainability	Funding request is pending for water plant Funds required for citywide assessment Staff resources are available for CIP expansion
	S5	**2.4 Develop a stormwater management plan that integrates resilience and identifies financing opportunities and includes these elements:** • Identification of priority parcels for preservation, vegetation quality mapping and repair, inventory natural resource and flood protection opportunities • Prioritization of improvements in high-risk neighborhoods with vulnerable populations • Reduced stormwater runoff flow and volume through green infrastructure and on-site stormwater management • Demonstration of green infrastructure on City property • Recommendations to incorporate green infrastructure into the unified development chapter • Continued collaboration with the Regional Stormwater	Public Works and Utilities, Engineering, Property Parks and Libraries, Parks Maintenance, Stormwater, Sustainability	Funds needed for stormwater planning and installation of stormwater practices



Phase 1: Build a foundation

3. Eliminate institutional barriers and better enable climate actions

	Actions	Action Leads	Resources Needed
Strategies S1	**3.1 Accelerate sustainable building design for new and substantially renovated buildings** ❑ Adopt sustainable building guidelines for all new or substantially renovated public buildings and private development that receives public funding or incentives. ❑ Require clean energy and energy efficiency improvements for housing projects that receive City funding assistance to reduce emissions and address high energy burden **3.2 Adopt a building benchmarking policy for public buildings with a voluntary phase-in for private-sector commercial buildings** **3.3 Support state policy and regulatory changes that enable the city to meet its climate and energy goals** **3.4 Incorporate climate mitigation, resilience, and justice considerations into city budget planning process** **3.5 Incorporate climate and energy actions into TIF district requirements**	Planning and Economic Development, Sustainability, Finance, Community Partners	Part-time Benchmarking or Energy Analyst position would be required Utility partners need to prepare tracking and reporting avenues
S2	**3.6 Integrate resilience in the capital improvement plan and internal policy for all city infrastructure projects**	Finance, Sustainability	
S3	**3.7 Reduce per-person, single-occupancy driving citywide** ❑ Review city code and policy to remove barriers and enable more opportunities for biking, walking, transit, and low-emissions vehicles ❑ Enhance and institutionalize complete streets policy to include user experience and green infrastructure, prioritize connectivity for vulnerable communities ❑ Gather early input on street projects to increase bike, walk, and wheelchair access along highly-used routes ❑ Collaborate with DTA to expand first-mile and last-mile	Planning and Economic Development, Community Partners	Code review requires additional resources

Phase 1: Build a foundation

4. Create financial and workforce plans to support accelerated climate action

Strategies	Actions	Action Leads
S1	**4.1 Find a sustainable mechanism to support internal energy funds for continued implementation of the City of Duluth Energy Plan**	Property and Facilities Management, Finance, Sustainability
S2	**4.2 Explore funding/financing mechanisms to reduce emissions from Duluth Energy Systems**	Public Works and Utilities, Duluth Energy Systems, Sustainability
S3	**4.3 Increase funding for non-motorized transportation and improved connectivity (Duluth-Superior Metropolitan Bikeways Plan)**	Planning and Economic Development, Community Partners
S4	**4.4 Seek resources and partnerships to catalyze renewable energy development and energy efficiency, especially in vulnerable communities**	Sustainability, Property and Facilities Management, Community Partners, Human Rights, Community Relations
S5	**4.5 Identify funding and financing opportunities to implement stormwater strategies**	Engineering, Public Works and Utilities, Property Parks and Libraries, Sustainability
S7	**4.6 Seek funding to engage vulnerable communities in city resilience planning initiatives and implementation**	Sustainability, Public Works and Utilities
	4.7 Collaborate with local partners to identify green job opportunities ❑ Increase the number of sustainability-related jobs in the community through workforce and economic development partnerships ❑ Work with local partners to identify and invest in business opportunities that will support sustainability and create new jobs, including those that can recycle waste streams to create new resource materials ❑ Support development and expansion of green-focused product and service lines among local businesses	Workforce Development, Sustainability, Human Rights, Community Relations, Community Partners

CareerForce™

Minnesota's Career Resource

5. Shovel-ready projects

Projects ready for funding opportunities

- Stormwater resiliency planning ($100k)
- Strategic Facilities Plan to prioritize Capital Improvements ($150k)
- Eliminate coal as a fuel source at Duluth Energy System ($1.5M)
- Resiliency improvements to the city's Water Plant ($7 - 30M)
- Energy bundle: 33 electric vehicle charging stations, 2.4 megawatts of solar installations, and city lighting efficiency upgrades ($7M)
- Consolidated public works and maintenance facility for the City ($50M)

To be successful:

- Climate action needs:
  - Coordinated effort
  - Leadership from staff and elected officials
  - Collaboration and engagement with community

- Funding and financing mechanisms: Appendix
  - There is a funding gap in many areas. This gap needs to be met first, in order to meet basic capital investments and move the needle on climate.
    - Capital Improvement Plan
    - Capital Equipment Plan
    - Infrastructure
    - Natural Resources Management

Common Spark Consulting

Phase II: Accelerate climate action

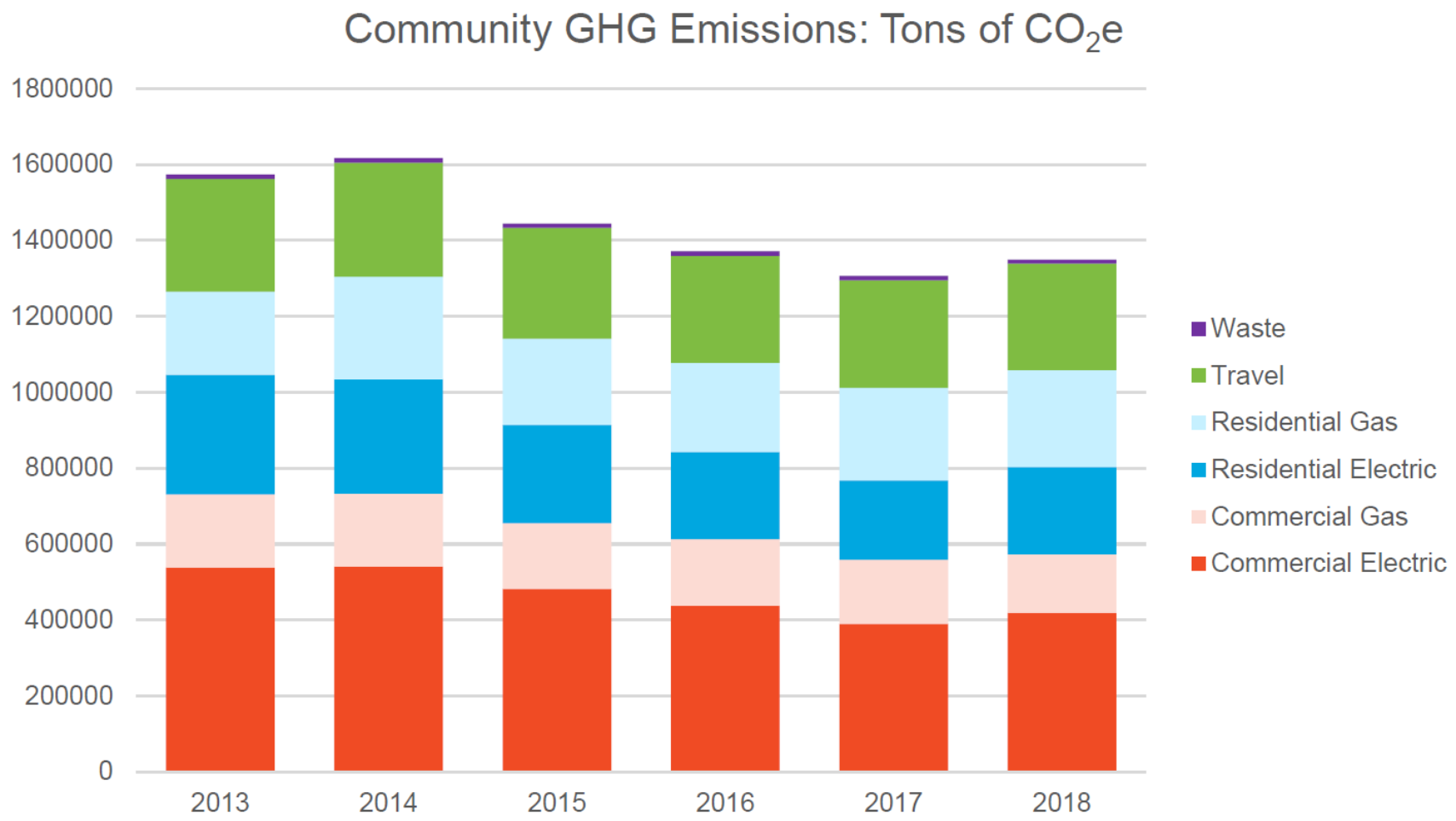


Figure 2 Community GHG emissions in tons of CO_2 equivalent. Source: Regional Indicators Initiative 2013-2018

City of Duluth Progress on Climate Mitigation and Adaptation

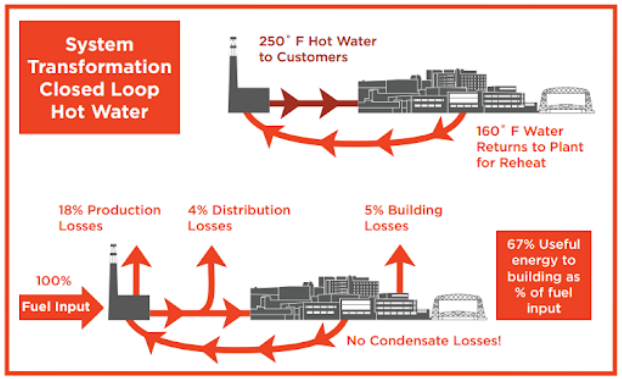
- Climate mitigation: progress on reducing greenhouse gas emission reduction and future challenges. To include areas of
  - energy efficiency
  - buildings
  - renewable investments,
  - fleet,
  - infrastructure.
- Adaptation actions: work to adapt to climate change and reduce vulnerabilities, including:
  - coastal shoreline issues and restorations
  - infrastructure improvements,
  - renewable energy
  - and other future needs

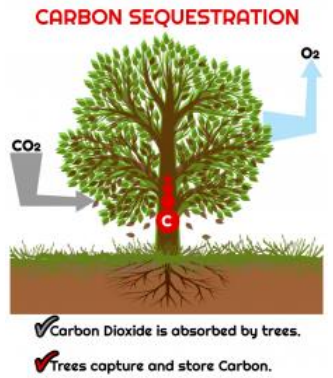
Four ways cities can create change

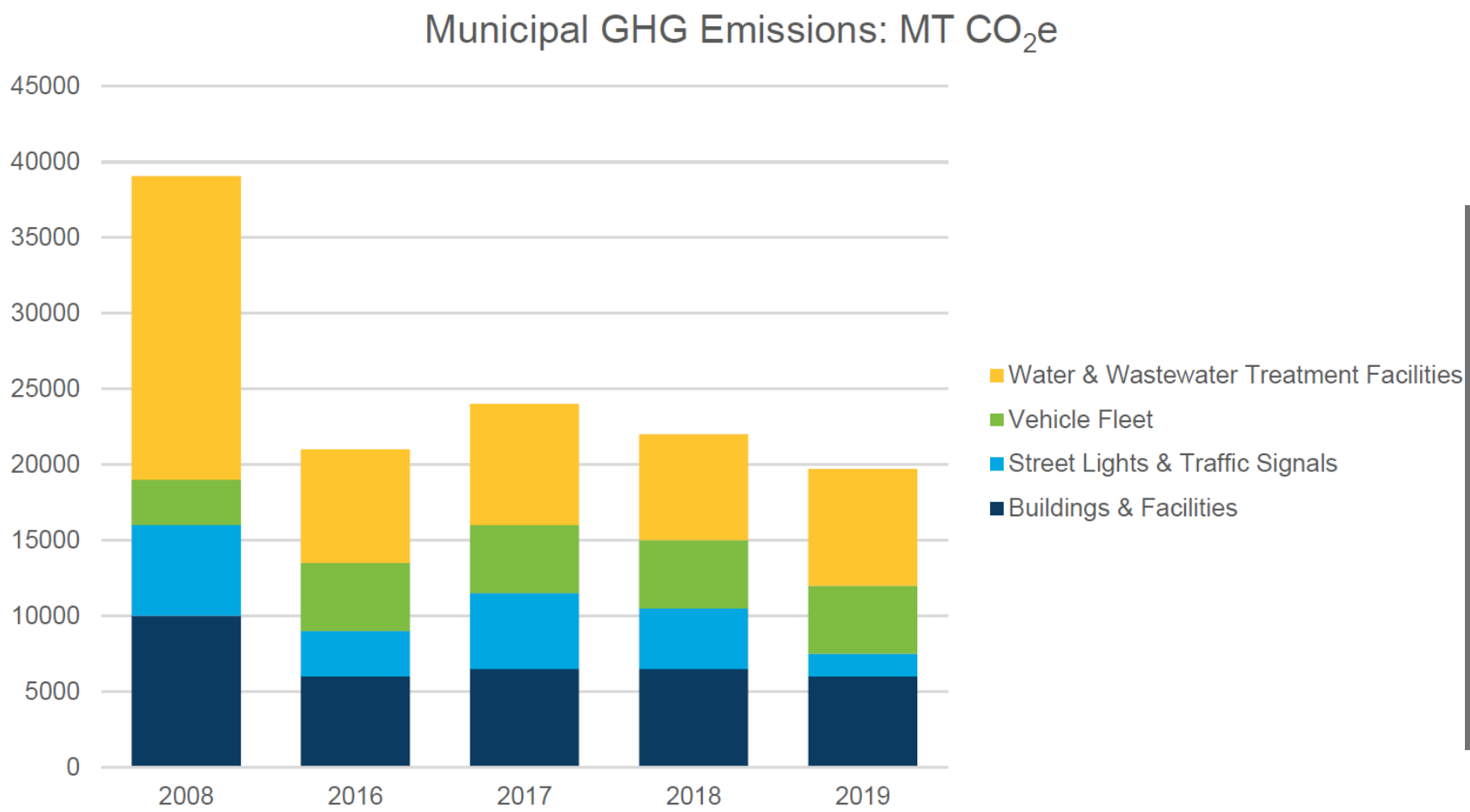
- We can ***lead*** by showing sustainability in city operations.
- We can ***incentivize*** climate action through funding and grants.
- We can regulate and ***enact policy***.
- We can ***engage and encourage*** all sectors across the community.

Mitigation: reduce emissions of greenhouse gases

- Energy Efficiency
  - Buildings: controls, insulation, efficiency
  - Lighting: buildings and street lights
  - Infrastructure
- Renewable energy
  - Add solar, buy solar
- Carbon sequestration
  - Healthy forests, tree canopy, soil health
- Electrification
  - Burn less fossil fuel: electric vehicles, electric heat sources, etc.







19,363

metric tons of CO2

49.5%

reduction over 2008 baseline

Figure 1 Municipal GHG emissions in metric tons of CO_2 equivalent. Source: City of Duluth.

https://www.duluthnewstribune.com/news/water-main-breaks-cause-wintertime-woes

Infrastructure:
Saving water saves energy

From 2008 - 2018, City staff made upgrades in the water distribution system, including replacement of key water mains. This work resulted in a 30% electricity savings at the Water Plant.

This savings reduced greenhouse gas emissions from water operations by over over 12,000 metric tons of carbon emissions each year!

Energy:
Buildings & Street Lighting

From 2015 - 2020, the City implemented energy saving projects that save six million kilowatt hours and over $400,000 annually in energy costs.

This work earned the City over $319,000 in energy rebates from Minnesota Power, which are re-used in our Energy and Street Lighting Funds!

City Solar assets

ENERGY PRODUCED (kilowatt hours, kWh)

**Renewable Energy Credits retained by Minnesota Power*	2015	2016	2017	2018	2019	2020	Total energy produced over lifetime (kWh)
Library Solar Array (3 kW)	na	na	na	na	na	na	-
Lester Ski Trail solar array (5 kW)	-	-	-	na	na	na	26,568
Canal Park Solar Array (45 kW)	-	-	31,197	49,582	55,367	64,998	201,144
***Community Solar Garden** (420 kW)	-	-	-	767,544	702,845	815,635	2,286,024
annual total				817,126	758,212	880,633	**2,513,736**

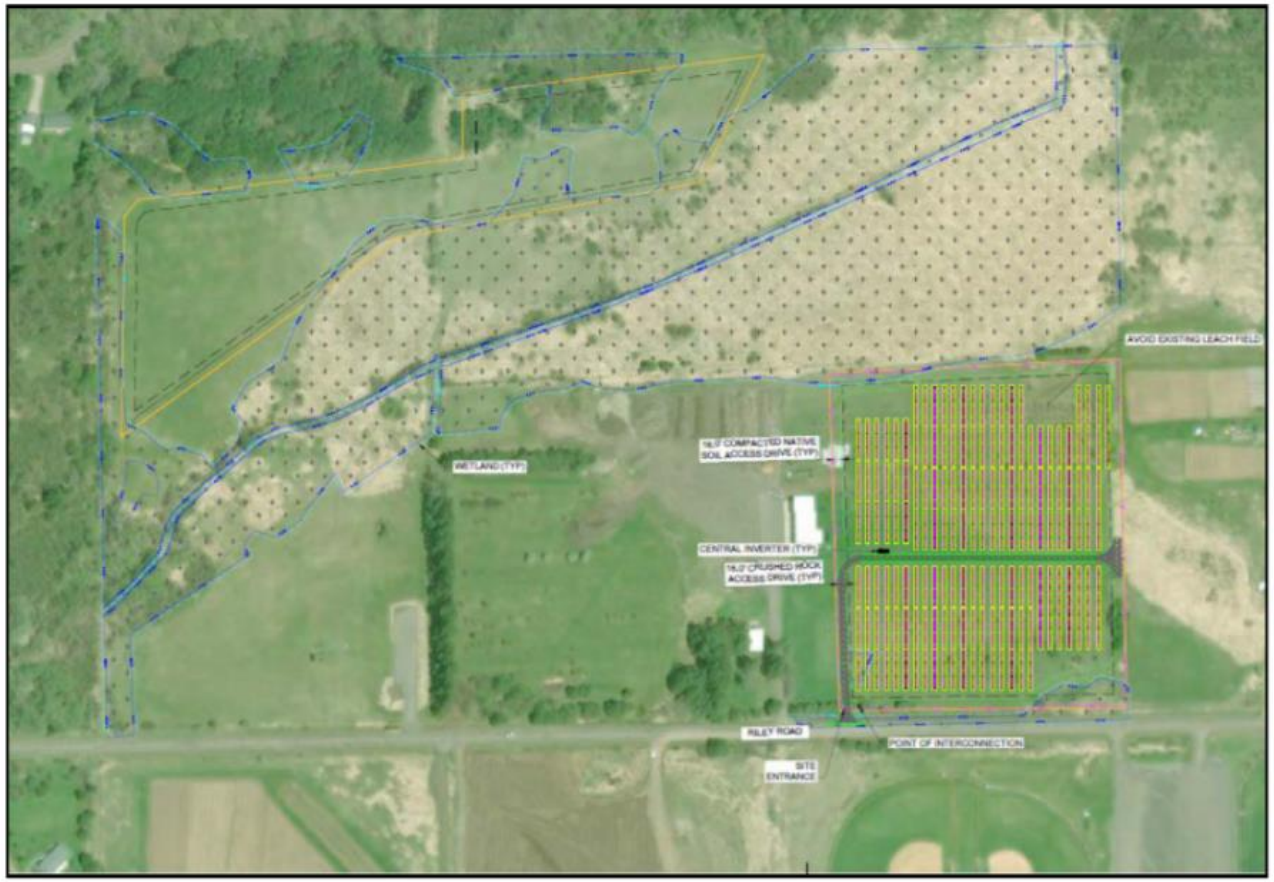
AVOIDED COSTS ($)

	2016	2016	2017	2018	2019	2020	Total cost savings over lifetime
Library Solar Array	na	na	na	na	na	na	-
Lester Ski Trail solar array	-	-	-	na	na	na	$ 3,454
Canal Park Solar Array	-	-	$ 2,496	$ 4,462	$ 4,983	$ 6,175	$ 11,158
Community Solar Garden	-	-	-	$ 91,875	$ 83,639	$ 97,061	$ 272,574
annual total				$ 91,875	$ 88,622	$ 103,235	**$ 287,186**

Projects

Large-scale solar coming to Duluth!

Figure 4: Duluth Solar Project



Approvals

- Minnesota Public Utilities Commission: 1 of 3 accelerated solar projects
- Lease agreement (City Council)
- Special Use: solar in P-1 zone (Planning Commission)

- **Benefits**
  - Locally-produced, renewable energy generation
    - 2,600 MWH per year - enough to supply ~300 homes
  - Lease payments to City
    - 9.5 acres * $500 per acre
    - Escalates 1% each year
  - Production Tax Credits
    - $1.20/MWH – split 80% County/20% City

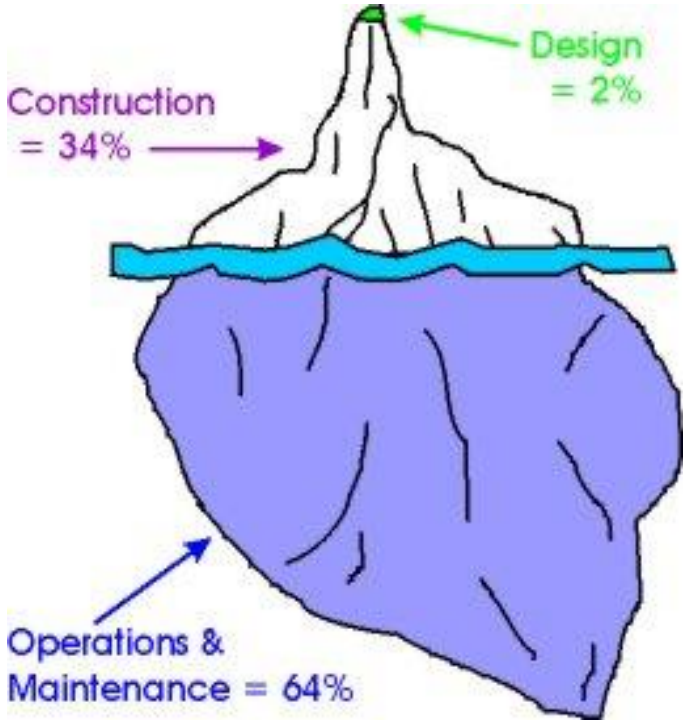
Transportation:
City Fleet Vehicle Replacement Standard?
1) Efficiency
2) Right-sizing of fleet
3) Integrate Hybrid/Electric Vehicles

Tree canopy work:
Address forest health/invasive species
Air quality in key neighborhoods

Owner Performance Requirements

- Energy and sustainability standards to ***guide design*** of any City-owned building:
  - Insulation
  - Windows
  - Lighting
  - Building controls
  - Equipment
  - Electric Vehicle charging
  - Accessibility and inclusion

Life-cycle cost of buildings



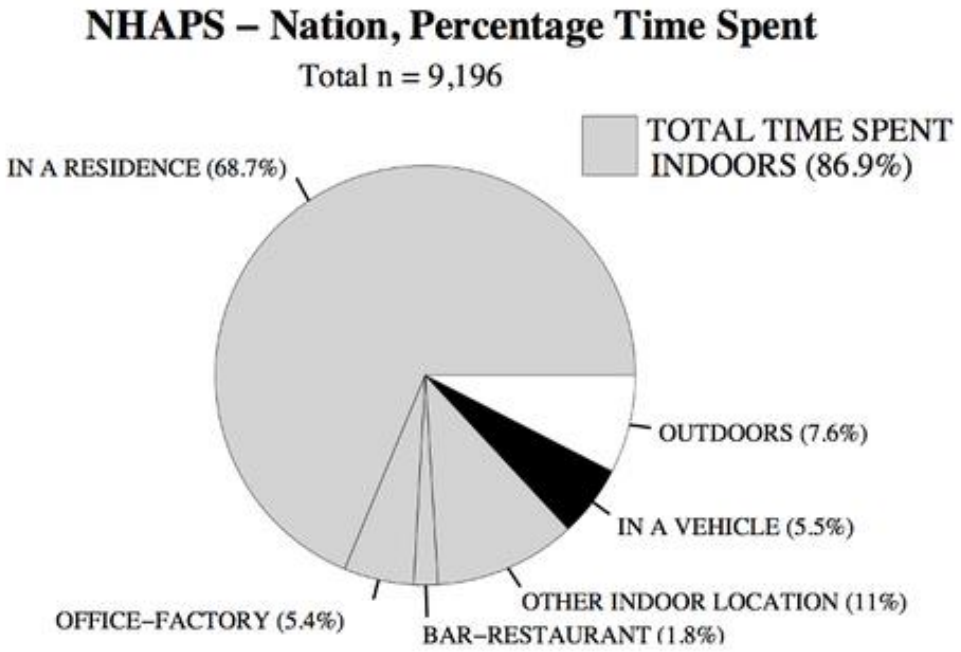
WHY ARE BUILDINGS IMPORTANT?

We are basically an **indoor species**.

- Americans spend 87% of their time indoors

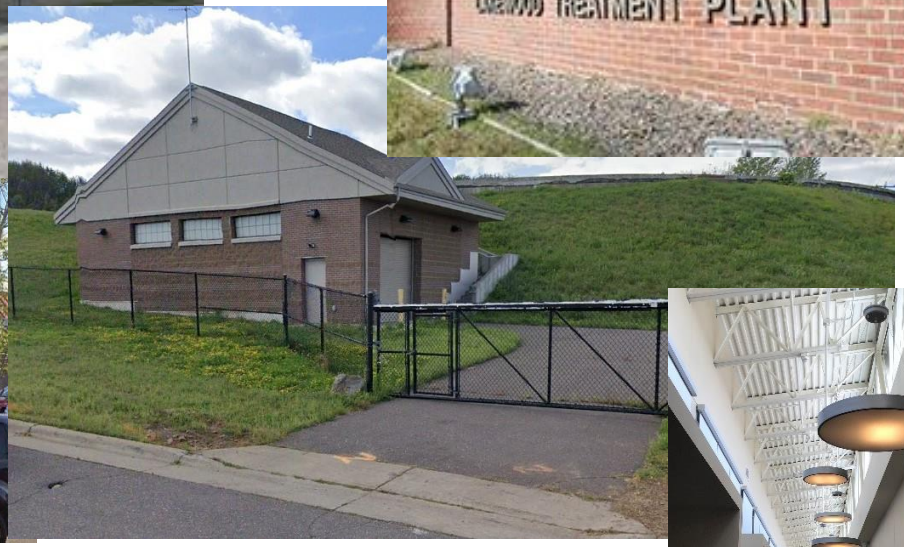
Buildings are **key to sustainability**

- Energy costs **money.**
- Energy = 90% of **GHG emissions.**



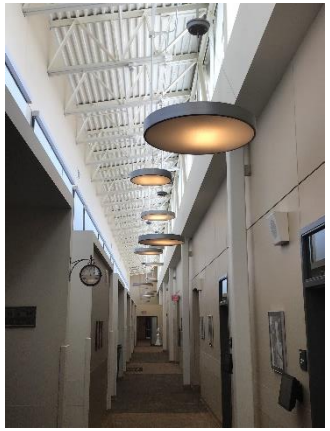
The National Human Activity Pattern Survey (NHAPS): A Resource for Assessing Exposure to Environmental Pollutants, by Neil E. Klepeis and others, Lawrence Berkeley National Laboratory., 2001


CITY OF DULUTH
WATER TREATMENT PLANT




PUBLIC
SAFETY BUILDING

City Hall
*135,000 square feet
*~$180k/yr all utilities



Public Safety Building
*62,000 square feet
*$72k/yr all utilities

*2,300 square feet
*$8,818/yr all utilities

Building Owner Performance Requirements

Policy & Procedure

Approved:

Effective Date: November 5, 2021
Supersedes: N/A
Updated Date: N/A

OVERVIEW	
Objective	To reduce energy and operational costs long-term and ensure progress towards reducing our greenhouse house gas emissions across all City-owned buildings
Policy Statement	Consistent with the State of Minnesota Next Generation Energy Act, the City of Duluth set a greenhouse gas emission reduction goal of 80% by 2050. To make progress towards this goal, the City must reduce energy use in buildings, a significant source of greenhouse gas emissions. The purpose of the City of Duluth Building Owner Performance Requirements is to reduce the energy footprint of City-owned buildings in a cost effective manner to support climate mitigation and adaptation, along with saving operational costs long-term. The Building Owner Performance Requirements have elements rooted in the Sustainable Buildings 2030 standard (https://www.b3mn.org/2030energystandard/), which is designed to provide energy efficient buildings with a 15 year or less payback period for the State of Minnesota. Buildings should not only focus on energy efficiency, but also include accessibility, inclusivity, renewable energy, and protection of the surrounding environment.
Scope	The City of Duluth owns over 100 buildings, and each building within our portfolio is unique, and many require modifications that reflect changing community needs. This policy is intended to guide building project and renovation design guidelines by outlining stipulations for new buildings, major renovations, and mechanical upgrades. Any building alterations outside of the scope of this policy should be evaluated and approved by the Chief Administrative Officer, who may consult with the Property & Facilities Manager (Public Administration).
Definitions	**City-owned buildings:** includes all buildings within the City of Duluth building portfolio. Specifically: ● Buildings that are directly owned by the City of Duluth, regardless of building construction or operation (e.g. Civic Center parking ramp) ● Enterprise-funded Buildings ● Conditioned buildings and semi-heated buildings regularly utilized by the City of Duluth ● See attachment for full list.

American Rescue Plan funds

$58.1 million in direct federal aid to:

- Support public health expenditures
- Address negative economic impacts caused by the public health emergency
- Replace lost public sector revenue,
- Provide premium pay for essential workers
- Invest in water, sewer, and broadband infrastructure

GOVERNMENT AND POLITICS

Duluth City Council tweaks mayor's plan to spend $58.1 million in COVID-19 relief funds

The council still will need to approve individual expenditures.

Written By: Peter Passi | 9:53 pm, Jul. 19, 2021

A pedestrian walks in front of Duluth City Hall on Tuesday, June 29, 2021. Mayor Emily Larson proposes to spend $12 million — or just north of 20% of the federal pandemic relief funds the city is slated to receive through the American Rescue Plan — to update air-handling and heating, ventilating, and air conditioning systems at City Hall. The building currently lacks cooling. (Steve Kuchera / skuchera@duluthnews.com)

After delaying action on a resolution in support of Mayor Emily Larson's plan for how to divvy up millions of dollars of federal pandemic aid two weeks ago, the Duluth City Council unanimously voted in favor of a slightly revised version of her proposal Monday evening.

Sustainability in American Rescue Plan funds

- **$24.9M ARP funding focused on sustainability goals**

- **$50.4M ARP funding that includes some action on sustainability goals**

	ENERGY SAVINGS	WATER SAVINGS	WATER QUALITY	HEALTH	EQUITY	COST SAVINGS	Details
Affordable Housing	x				x		Building energy use accounts for 63 percent of the City of Duluth's community greenhouse gas emissions. The work to reduce energy consumption in buildings to meet our long-term climate goals includes renewal and construction of new more efficient housing choices. Through supporting a variety of housing projects and needs, this work will help improve energy efficiency, encourage electrification and innovation in new construction. In addition, new housing stock will help lower the energy burden on low to middle income residents.
Public Works Infrastructure	x	x	x	x	x	x	*(See detail on each ceategory below)*
Replacing City Water Meters	x	x				x	The new automated meters will help reduce water waste by identifying problems more quickly. The new meters will have better ability to identify huge jumps in water use over smaller periods of time, which can more quickly indicate leaking pipes, fixtures, toilets, etc.
Lead Remediation			x	x	x		Reducing lead protects health through improving water quality. Focusing initial investments in low-income neighborhoods will accelerate this remediation in low to middle income neighborhoods.
Water Line Replacement	x	x				x	By repairing water mains that are leaking, less water needs to be pumped from the Lake, treated, and pumped around the City. Water pumping is energy intensive: it accounts for over 50% of the total electricity use for the City of Duluth.
Street sweepers			x	x		x	Street sweeping is a required action by our stormwater permit through the State of MN. New equipment will allow better coverage of streets, save staff time, and expand sweeping coverage. This helps protect water quality. New sweeper fleet will save on operational costs, as older equipment has a lot of offline time.
City Hall Ventilation/COVID Mitigation & Prevention	x	x		x	x	x	Energy will be saved through HVAC upgrades. A switch from steam radiators to hydronic heating will improve controllability, while saving 30% of thermal energy load. Also, accessibility can be improved if restroom facilities are included (to meet accessibility standards) Indoor Air Quality will be improved to protect health of staff, visitors, and elected officials.
Investments improving Outdoor Spaces in QCTs and Park Maintenance:	x		x	x	x		Investment made parks in QCTs will improve access to open space, and will also have some limited improvements in energy efficiency (new lighting) and water quality (landscaping improvements).
Adult Workforce Services					x		Services would help job-seekers and encourage inclusivity in workforce.
Broadband					x	x	Broadband work could expand access and affordability.
Public Safety Social Worker Pilot Program				x	x		Social Worker pilot program will better serve vulnerable people.
Crisis/Violence Intervention Training for Public Safety				x			Training will help officers better de-escalate and respond to violence incidents, improving health.

Hillcrest Village

Northfield's Affordable & Sustainable House Community

Sustainable Northfield

About the Development

For more information visit the Communi Action Center website

Hillcrest Village will provide **seventeen emergency affordable housing** units in Northfield MN. The city of Northfield aims to have **100% carbon free electricity** by **2030** and be a **100% carbon free community** by **2040**. Thereupon, this project aims to tackle **environmental** and **social justice** by achieving affordable **net-zero energy** housing. The project's vision is to have **high quality**, **long-lasting** affordable housing at the forefront of modern sustainable practices.

SOCIALLY AWARE

- The Hillcrest Village is designed with the needs of the planned residents in mind.
- While providing housing for those in transition, a primary goal is to make its residents feel at home.
- Rental costs in the past decade have increased, but the average income hasn't at the same pace making affordable housing so vital.

ENVIRONMENTALLY-DRIVEN

- Hybrid construction system that achieves a 52% energy reduction.
- High quality, airtight building envelope reduces energy used by mechanical systems and energy recovery ventilation provides more fresh air for less energy
- Catalyzes Northfield's engagement in alternative energy designs.

KEY TAKEAWAYS

01. A **sustainable, affordable** development site mus take into account both **social** and **environmenta** aspects of design. Hillcrest Village was able to design a structure that **maximized the benefits** both.

02. Hillcrest Village was unique in having **enthusiastic participation** from all involved. This meant that the project was conceived and designed efficiently to streamline the process.

03. **Hillcrest Village will stand as an example** to other sustainable developers hoping to further Northfield's goal of a **carbon free future**.

NORTHFIELD, MN

Hillcrest Village: community involvement and fundraised for energy modeling

ST. PAUL, MN

West Side Flats: one building built to Passive House

Look-alike apartment buildings in northeast Minneapolis showcase new ideas in energy efficiency

Apartment project in Mpls. features two buildings: One built with an emphasis on going green, another more traditional

By **Jim Buchta** Star Tribune | NOVEMBER 27, 2017 — 9:57PM

Twin Cities developer, George Sherman, plans to build the next phase of his West Side Flats apartment building in St. Paul to the Passive House standards.

At first glance a pair of side-by-side apartment buildings slated to be built on an industrial site in northeast Minneapolis look nearly identical. They are not.

One building will be built to conventional construction specifications. The other will be extra energy-efficient and equipped with a sophisticated ventilation system.

The 118-unit Hook & Ladder plan was conceived as a first-of-its-kind demonstration project that will showcase Passive House construction techniques in multifamily construction and target one of the most underserved segments of the market: renters who earn less than 60 percent of the area median income.

BUSINESS

Minneapolis apartment project makes airtight case for sustainability

A northeast Minneapolis apartment building appears to be meeting expectations for extremely low energy use.

By **Jim Buchta** Star Tribune | OCTOBER 13, 2019 — 8:32AM

JIM BUCHTA • STAR TRIBUNE

The project team walked through a courtyard that separates the Green Communities building, left, from the more energy-efficient Passive House building. They are lead architect Kim Bretheim; Elizabeth Turner with Precipitate; Claire

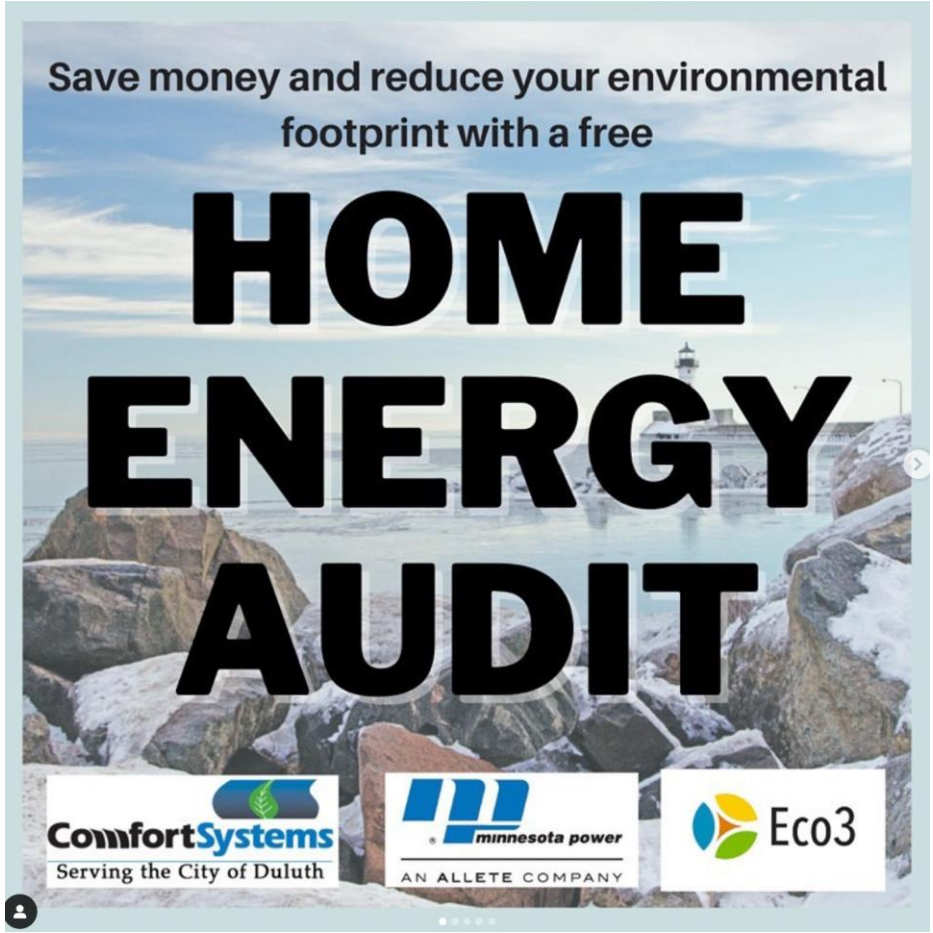
Just a few weeks before residents start moving into the new Hook & Ladder apartments in northeast Minneapolis, a team of building experts from Chicago is testing one of two buildings for air leaks through doors, windows

MINNEAPOLIS, MN

Hook and Ladder: 1 Passive House and 1 Green Communities building, compared cost

Mitigation: thermal energy

- **Utilities!**
  - Thermal district
  - Municipal Gas Utility



Thermal energy district transformation

2021 Environmental INITIATIVE AWARDS

May 26, 2021

2021 Winners | Event Details | Sponsors | Past Winners | Nominations | About

2021 Project Winner

ENERGY & CLIMATE

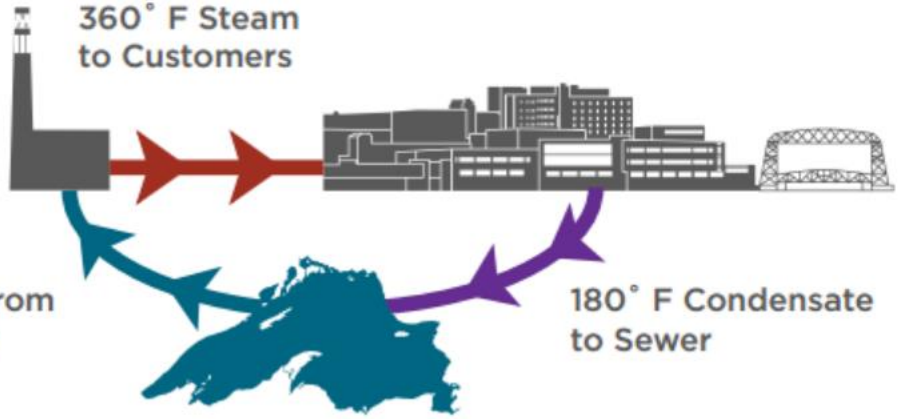
Decarbonizing Duluth: Duluth Energy Systems' Transformation

Presented by Stoel Rives

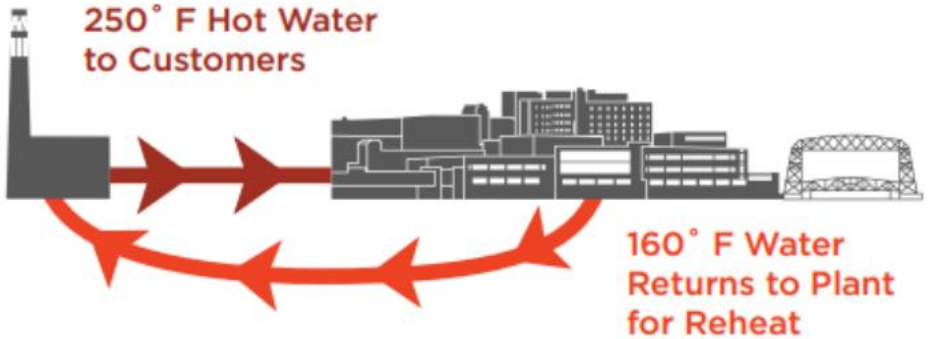
Still working: elimination of coal?

- 20% reduction of greenhouse gas emissions
- 80% less coal
- 20 million gallons of water saved annually
- Positioned for renewable/waste heat energy integration

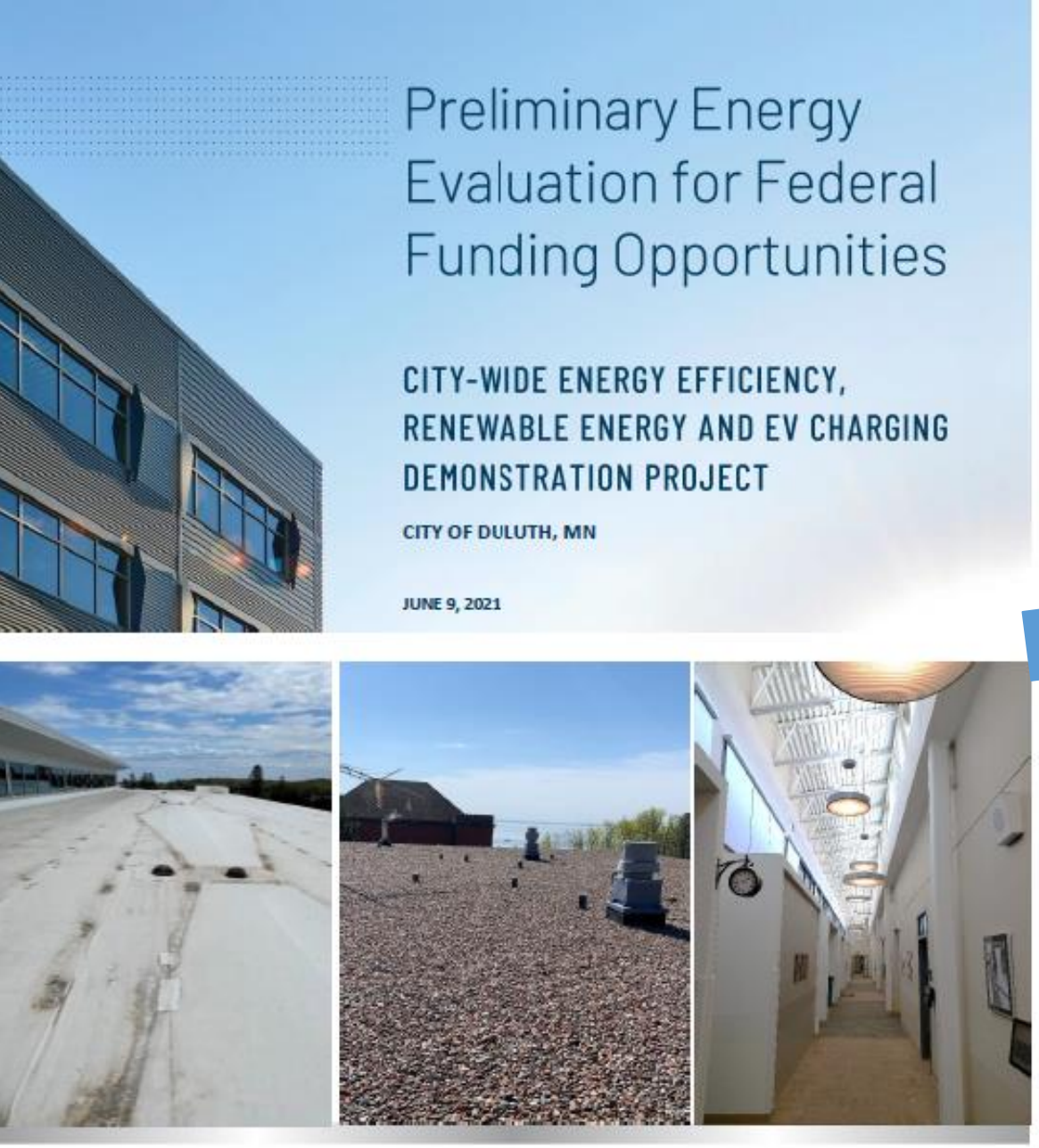
Current System Once-Through Steam



System Transformation Closed Loop Hot Water



67% Useful energy to building as % of fuel input



Duluth City-Wide Energy Efficiency, Renewable Energy and EV Charging Demonstration Project

Congressionally-directed spending request - $5.8M

Goals:

- Demonstrate clean energy tech
- Increase economic resili[illegible]ng costs
- Add EV charging infrastructure to accelerate EV adoption
- Create community workforce benefits in clean energy technology

Not selected for funding in 2021

74 LOCAL JOBS

$200,000 / YR
In utility savings

6.6 Million lbs of Carbon
Reduced per year

2.4 MW Solar

Solar @ Water
= significant savings

Pilot Net Zero
for replication

LED Lighting Upgrades
3 City Sites

33 EV Chargers

Solar	**$ 5,365,500**	2.4 MW of solar including applications* of: • ground mount • rooftop • carport • pole mount …tion
EV Charging	**$ 1,350,100**	33 EV Charging Stations* including: • 26 – Dual, Level III (fast charging) • 7- Dual, Level II
Energy Efficiency	**$ 626,400**	LED lighting upgrades and lighting control upgrades at selected City facilities

Not selected for funding in 2021

Infographic credit:
Preliminary Energy Evaluation for Funding Opportunities, June 2021, McKinstry report

Other

- Support for policies:
  - Clean Car Rulemaking support
  - State-wide code update (www.betterbuildingsmn.org/)
  - Accelerated Large Solar Projects (letter of support to PUC)

- Stakeholder engagement:
  - Minnesota Power Integrated Resources Plan (letter of response)

- Collaborative efforts:
  - Climate Mayor's Electric Vehicle Collaborative Purchasing
  - Minnesota GreenStep Cities – Duluth is 1 of only 24 cities at Step 4

CLIMATE MAYORS

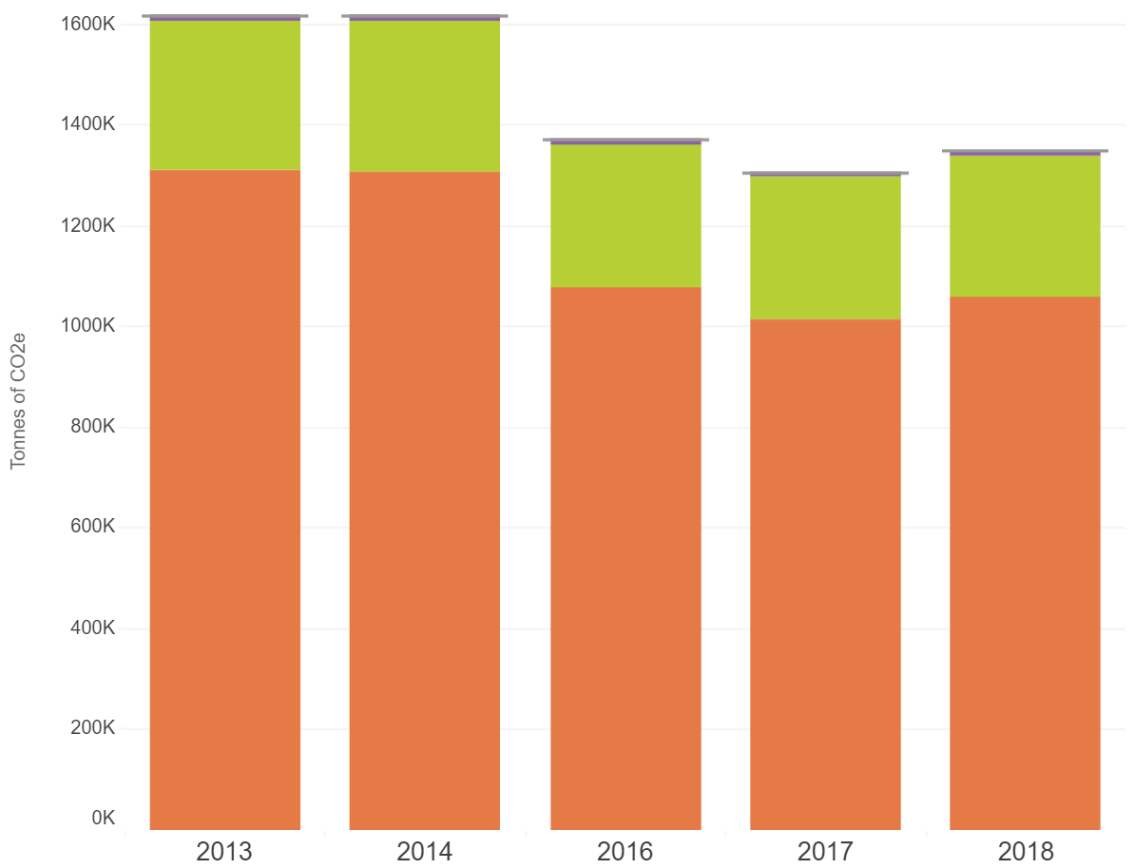
Minnesota
GreenStep Cities

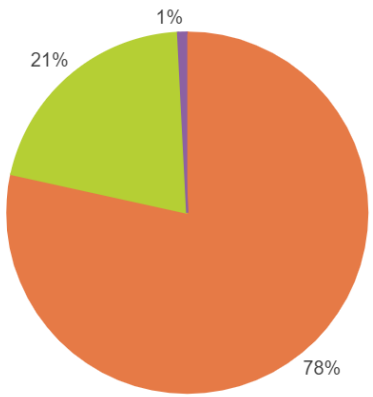
City of Duluth

Select City: Duluth

GREENHOUSE GAS EMISSIONS

community-wide greenhouse gas emissions from building energy, vehicle travel, and the management of municipal solid waste





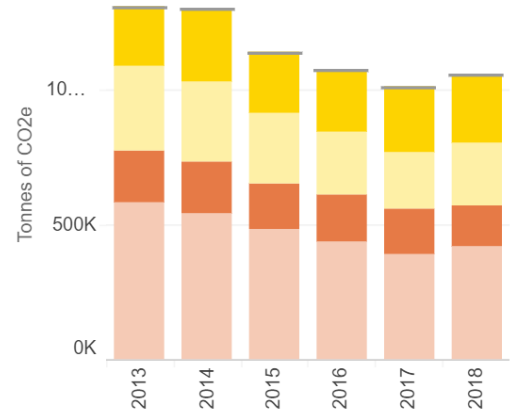
Waste
Travel
Energy

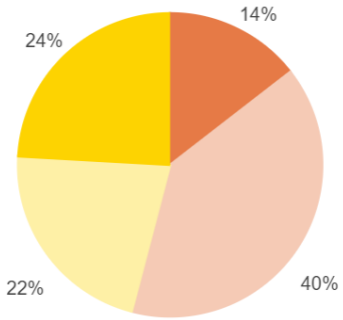
Units: Greenhouse Gas Emissions

Normalize: (not normalized)

ENERGY

energy use in the built environment





Residential Natural Gas
Commercial Natural Gas
Residential Electricity
Commercial Electricity

www.regionalindicatorsmn.com/city-summary

Adaptation: prepare & reduce vulnerability

- Infrastructure
  - Back-up power for critical services
  - Buildings: resiliency to cold and heat
- Stormwater management
  - Planning for resiliency, impaired streams, flooding, coastal erosion
- Natural resources and recreation
- Vulnerable people
  - Warming center
  - Blight
  - Air quality
- Economy and workforce development








Climate Impacts on Utility Infrastructure

- Warmer and wetter seasons in our region are already providing challenges for City staff.
- Lake Superior water level fluctuations have been more extreme in recent decades than in previously recorded fluctuations.
- Higher water level impacts
  - More erosion during storms
  - Coastal Flooding
  - Flooding in St. Louis River Estuary
  - Impacts to underground utilities

April 14, 2020

Q: Why are Great Lakes water levels so high?

It's natural for the Great Lakes to rise and fall over time, but the **lakes are currently experiencing a period of record high water levels**. The Midwest has experienced extreme rain and wet conditions over the past few years. And the pattern has continued, with **water levels expected to stay high in the coming months**.

According to **data from the Army Corps of Engineers** and reported by *The Detroit News:*

- The **Great Lakes basin saw its wettest 60-month period in 120 years of record-keeping (ending Aug. 31, 2019).**
- The Corps' monthly water levels bulletin showed that the average levels for Lakes Superior, Michigan, Huron, Erie, St. Clair and Ontario in October all were about a foot higher than the same month in 2018.

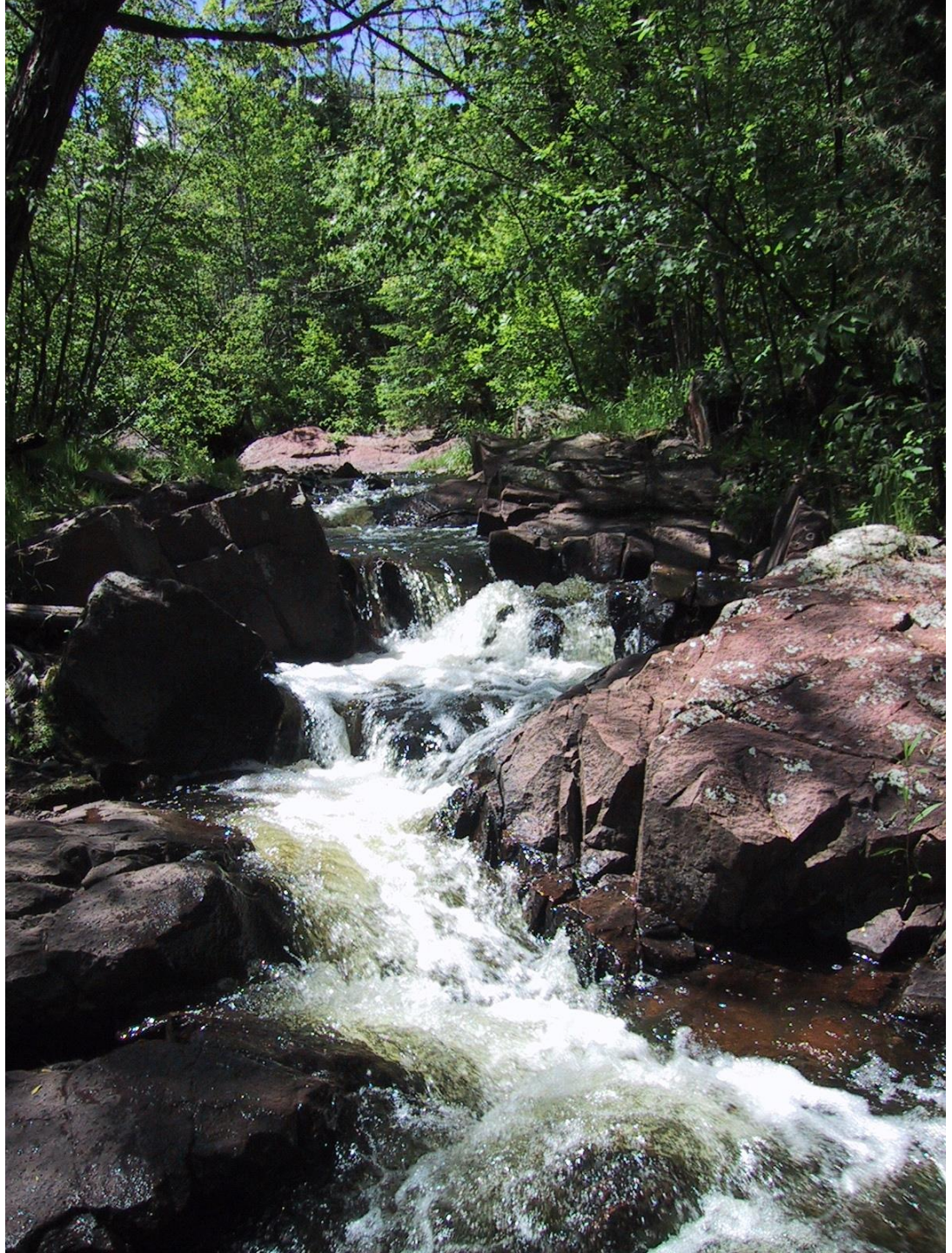
From Alliance for The Great Lakes
Greatlakes.org

City Utilities

- Water
  - Network of pressure water main and service lines to deliver potable water
- Natural Gas
  - Gas mains and service lines distribute gas for cooking and heating fuel to homes
- Sanitary Sewer
  - Underground drain lines convey wastewater from homes to WLSSD for treatment
- Storm Sewer
  - Catch basins and storm sewer drain lines convey runoff and precip to nearby receiving waters

Streams in Duluth

- Duluthians also hold high value in their green space and natural areas
- Many parks in Duluth are focused around streams and stream gorges
- Many of our streams are cold-water fisheries and are highly susceptible to environmental stressors
- Storm Sewers in Duluth flow to streams and human influence plays a large role in environmental impact



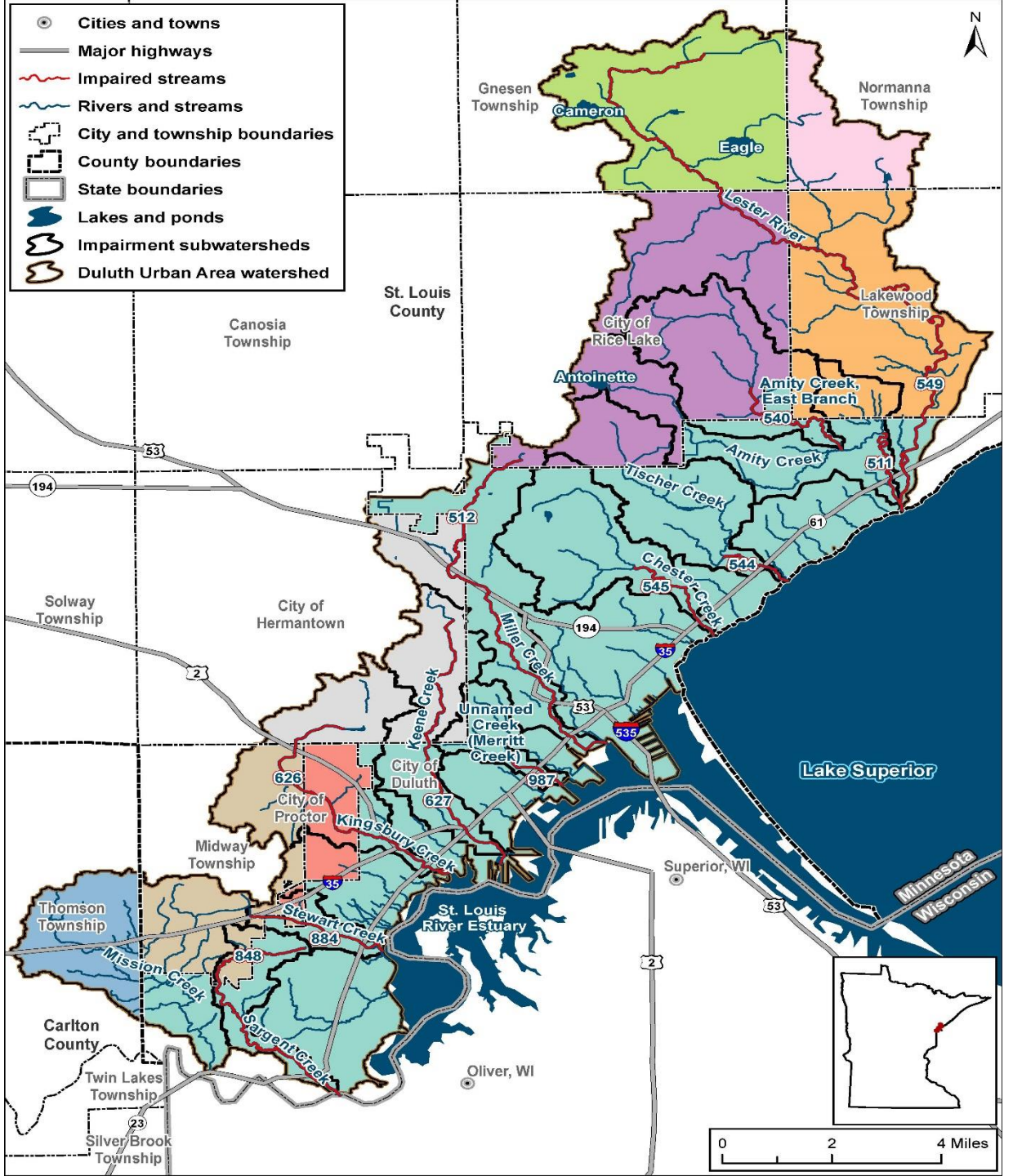
Pollutants Accumulate

- Storm outfall into Chester Creek, trout stream
- Road sand accumulating and degrading habitat
- Pollutants can be a number of things
  - Chloride
  - Sand
  - Bacteria (pet waste, bird waste, leaking pipes)
  - Litter
  - Water Temperature
  - Yard Waste

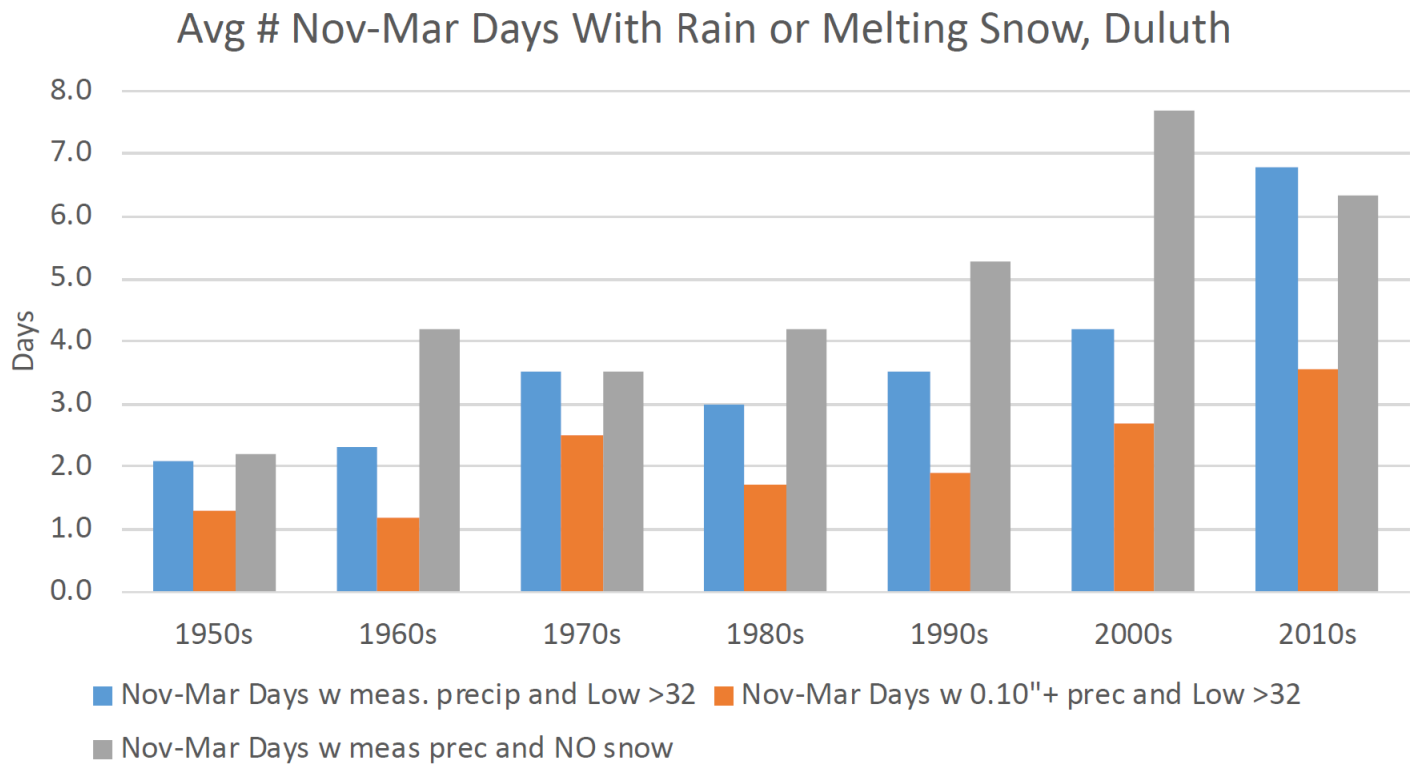
Many Area Streams are Impaired

- These area streams are impaired for a number of stressors
- City and other local agencies are liable to make improvements to water quality
- Some stressors are mitigated by structural improvements
  - Green infrastructure
  - Rate detention
  - Water quality structures
  - Stream restoration

- Many improvements can be made with behavior changes
  - Less salt use
  - Pet waste
  - Yard waste
    - Habitat degradation



Liquid Precip Increasing During Winter



Water Plant Resiliency

- Drinking water for over 100,000 residents
  - Duluth, Hermantown, Proctor, and Rice Lake Township
- Local industry, millions of annual visitors, and northern Minnesota's regional medical district.
- Water pumping and distribution is 54% of the City of Duluth's municipal energy load.
  - *Mitigation – distribution system!*

Water Plant Resiliency

- **Completed**: Shoreline stabilization
- **Grant submitted**: second transformer and backup power
- **Future**: solar power integration, energy storage, optimize pumping

Minnesota Point:

- Army Corps of Engineers Study
- Chronic, long-term erosion
  - Beach nourishment
  - Future?

MPRnews Sections Members More

ON AIR 0:00
1A with Jenn White

Climate Change

In Duluth, shoring up Superior's encroachment on Park Point

Dan Kraker Duluth, Minn. September 3, 2020 7:50 a.m.

Dredged material used to replenish a portion of the Park Point Beach that is being steadily eroded by higher water levels on Lake Superior and stronger storms takes a roundabout path to its final destination. Derek Montgomery for MPR News

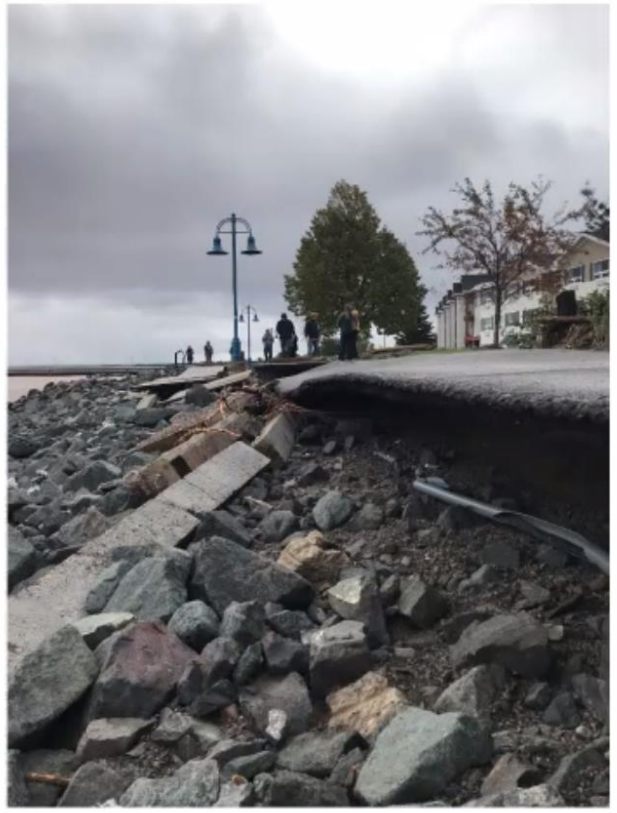
Listen *In Duluth, shoring up Superior's encroachment on Park Point*

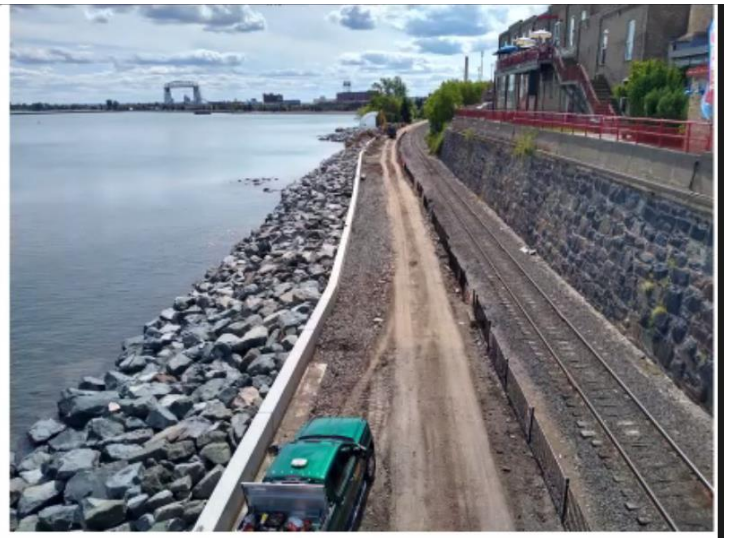
Share

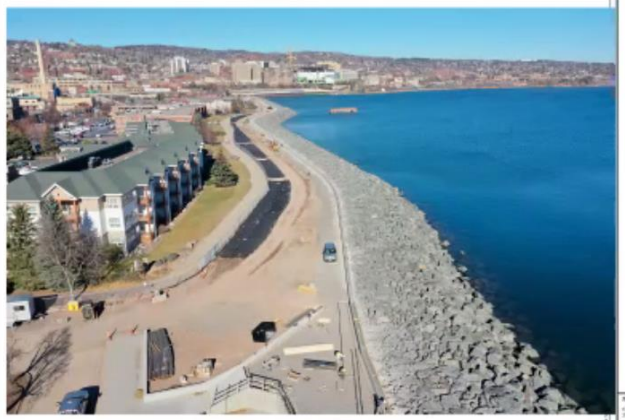
Gale Kerns has lived on Minnesota Point, the 7-mile spit of sand that juts into Lake Superior from downtown Duluth, since 1983. His house in the city's Park Point neighborhood backs up to the long beach that lines the entire point.

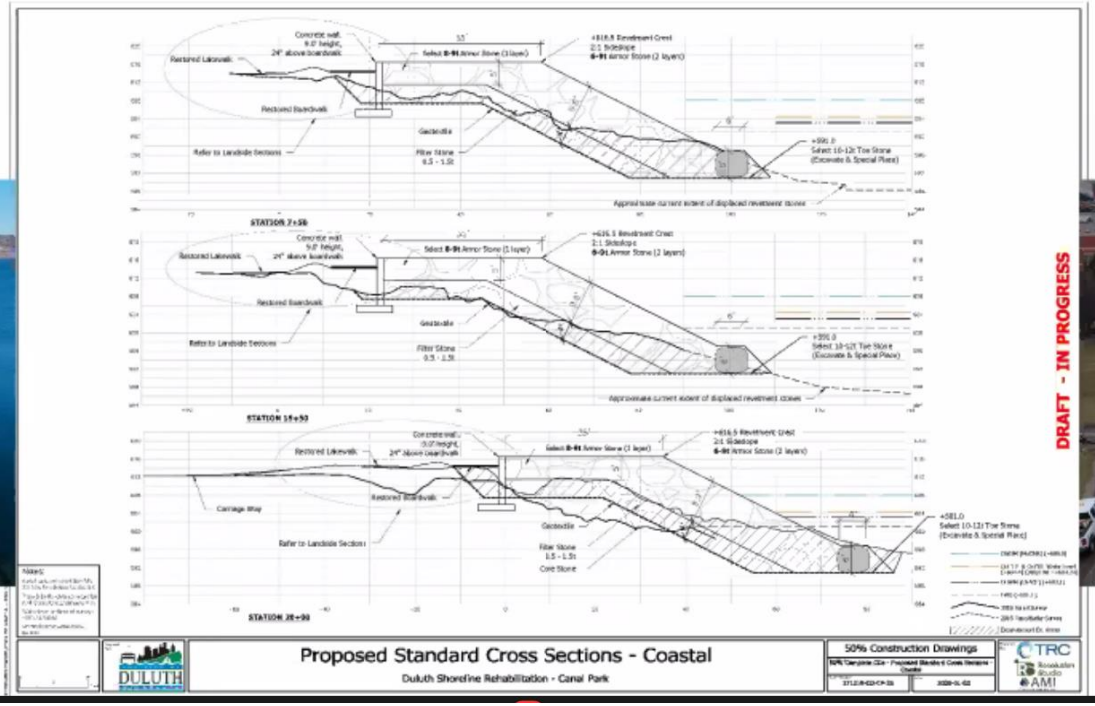
Over the nearly 40 years he's lived there, he's seen a *lot* of

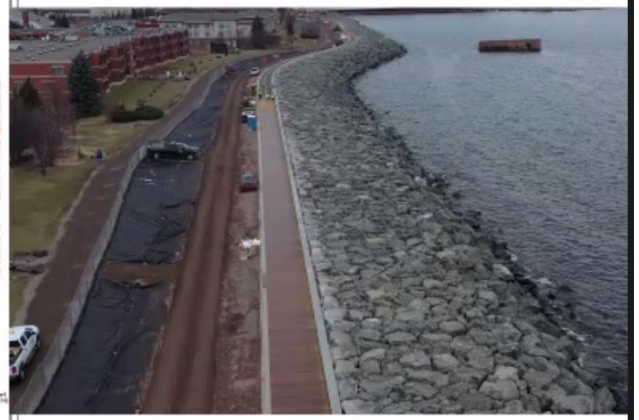
Erosion and flooding: Lakewalk redesign and restoration











DRAFT - IN PROGRESS


Fitgers

Adapting Living Shorelines to the Great Lakes

Demonstration of the use of nature-based shoreline protection on Minnesota's Lake Superior coast.

Project Goals

1. **Design and install four pilot living shorelines** on our Lake Superior shoreline.
2. Monitor the **effectiveness of living shorelines on Lake Superior**
3. **Demonstrate the benefits of living shorelines** to the public. Share educational materials with property owners and communities.

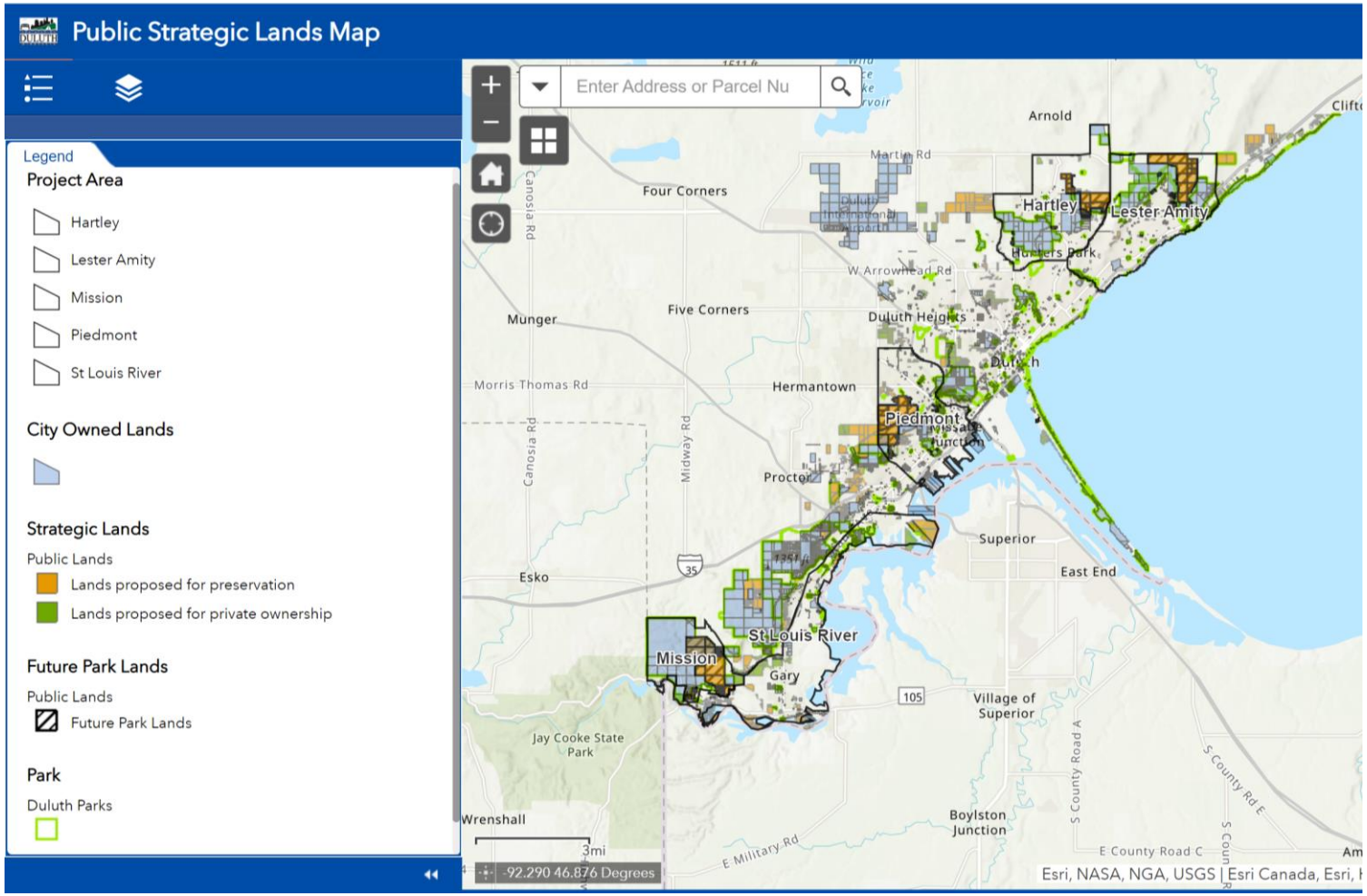
What is a living shoreline?

Living shorelines are a nature-based alternative to traditional shoreline armoring. Living shorelines combine vegetation and other natural materials. Research has shown numerous

Open space and natural resources protection

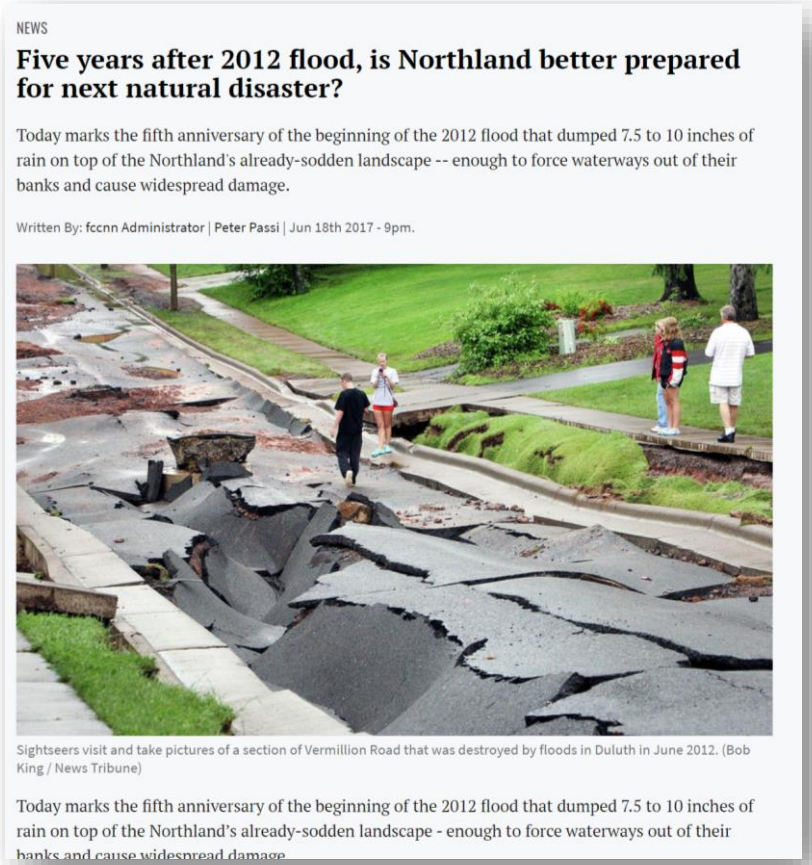
- Strategic Lands Realignment Project
  - Of the 15,000 acres of open public space, 1/3 are not protected from sale or development
  - In progress: acquisition of approx. 2,500 acres for permanent protection

- Natural Resources Management Program Plan
  - Protect high quality areas
  - Restoration and resources needed



Minnesota Formula for Comprehensive Community Resiliency in MID-URN

	Existing/Vulnerability	+	Potential Solution	=	Outcome	+	Co-benefit	Ripple
Housing	• Housing shortage • Old housing stock • Flood damaged homes • Blighted Properties • Low-density high-infrastructure costs		• Rehabilitation • Blight removal/ buyouts • Affordable housing construction • Efficiency showcase		• Affordable rental and ownership • Healthy homes • Energy security • Historic home preservation		• Local jobs • Increased density • Neighborhood revitalization • Increased social capital • Blight reduction	• Local • Multistate metropolitan area • Replication communities
Resources	• Largest Great Lakes Area of Concern • Legacy contamination • Degradation from flood • Critical slopes		• Green infrastructure • Remediation & reuse of brownfields • Infrastructure repairs • Trails, recreation		• Water protection • Reuse of Super Fund/brownfields • Increased tourism / access to nature		• Lower vulnerability to flooding • Local jobs • Protection of remediated sites	• Local • Regional • Multistate • National
Economy	• High poverty • Minority disparity • Blighted neighborhood business districts • Dependence on tourism & port		• Employment & small business programs • Revitalization of districts and brownfields • Ecodistrict		• More stable & diverse economy • Increase income & economic equity • Reduced poverty • Adaptive reuse		• Local jobs • Reduction of economic vulnerability • Increased health and wellness • Improved environment	• Local • Regional • Multistate • Replication Communities
Energy	• Energy poverty • Cold climate • Inefficient district system and bldg. stock • Economic leakage • High carbon footprint		• District heat transition • Resilient solar • Bldg. efficiency • Regional biomass/ • CHP		• Energy security • Mercury reduction • Reduced water treatment • Develop regional renewable		• Regional job creation in forestry • Local construction jobs • Reduced dependence on fossil fuels • Lower carbon footprint	• Local • Regional • Multistate • National • Global
Food	• USDA food desert • Longevity 10 yrs less than adjacent higher income zipcodes • Food price fluctuation from extreme weather (local and global)		• Urban agriculture • Food hub • Food processing • Small business food incubator • Training program		• Food security • Better health • Infrastructure support for regional food shed • Greater educational success		• Local jobs • Increased social capital • Reduction of blighted properties • Environmental benefits	• Local • Western Lake Superior Food Shed • Replication communities



NEWS

Five years after 2012 flood, is Northland better prepared for next natural disaster?

Today marks the fifth anniversary of the beginning of the 2012 flood that dumped 7.5 to 10 inches of rain on top of the Northland's already-sodden landscape -- enough to force waterways out of their banks and cause widespread damage.

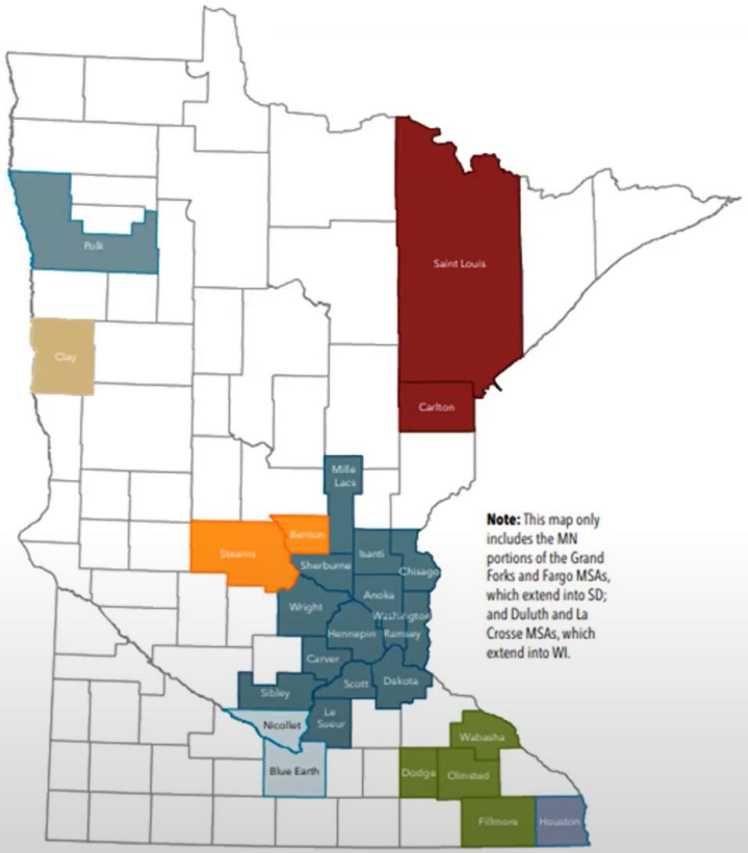
Written By: fccnn Administrator | Peter Passi | Jun 18th 2017 - 9pm.

Sightseers visit and take pictures of a section of Vermillion Road that was destroyed by floods in Duluth in June 2012. (Bob King / News Tribune)

Today marks the fifth anniversary of the beginning of the 2012 flood that dumped 7.5 to 10 inches of rain on top of the Northland's already-sodden landscape - enough to force waterways out of their banks and cause widespread damage

https://www.hudexchange.info/news/hud-publishes-ndrc-most-impacted-and-distressed-unmet-recovery-need-mid-urn-checklist-form/

MOST METRO AREAS UNAFFORDABLE TO AVERAGE INCOME RENTERS AND MINIMUM WAGE WORKERS



Note: This map only includes the MN portions of the Grand Forks and Fargo MSAs, which extend into SD; and Duluth and La Crosse MSAs, which extend into WI.

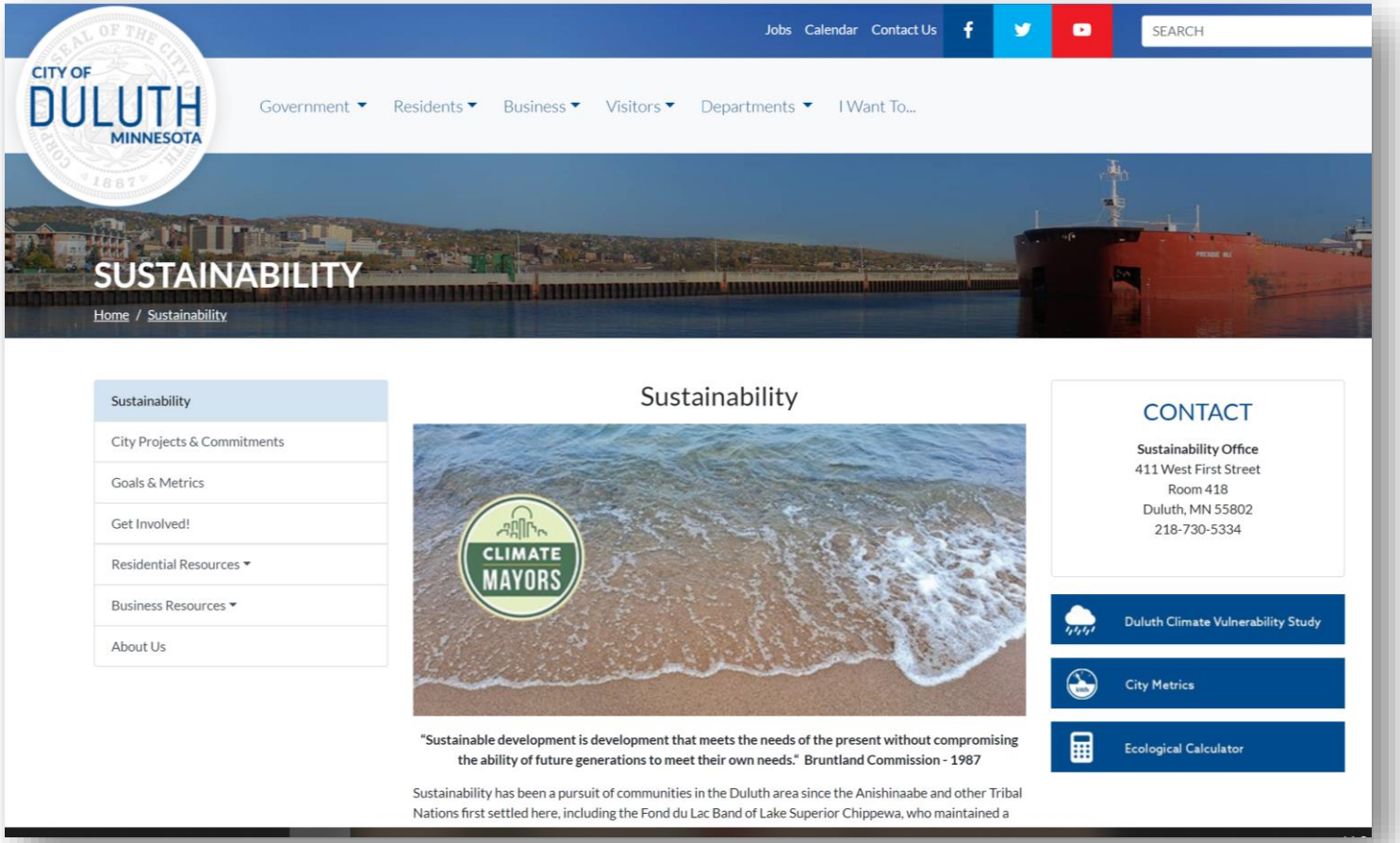
In many metro areas, the gap between wages and rent is particularly pronounced.

Since just last year, the housing wage in **Rochester** has increased by 12 percent, marking the highest rate of change of all the metro areas. **Fargo** has the starkest gap between what the average renter earns and income needed to afford a one-bedroom, at an annual deficiency of $10,865. **Minneapolis-Saint Paul** contains the highest housing wage in the state, with a full-time worker needing to earn at least $17.60/hour for a modest one-bedroom, and $22.13/hour for a two-bedroom.

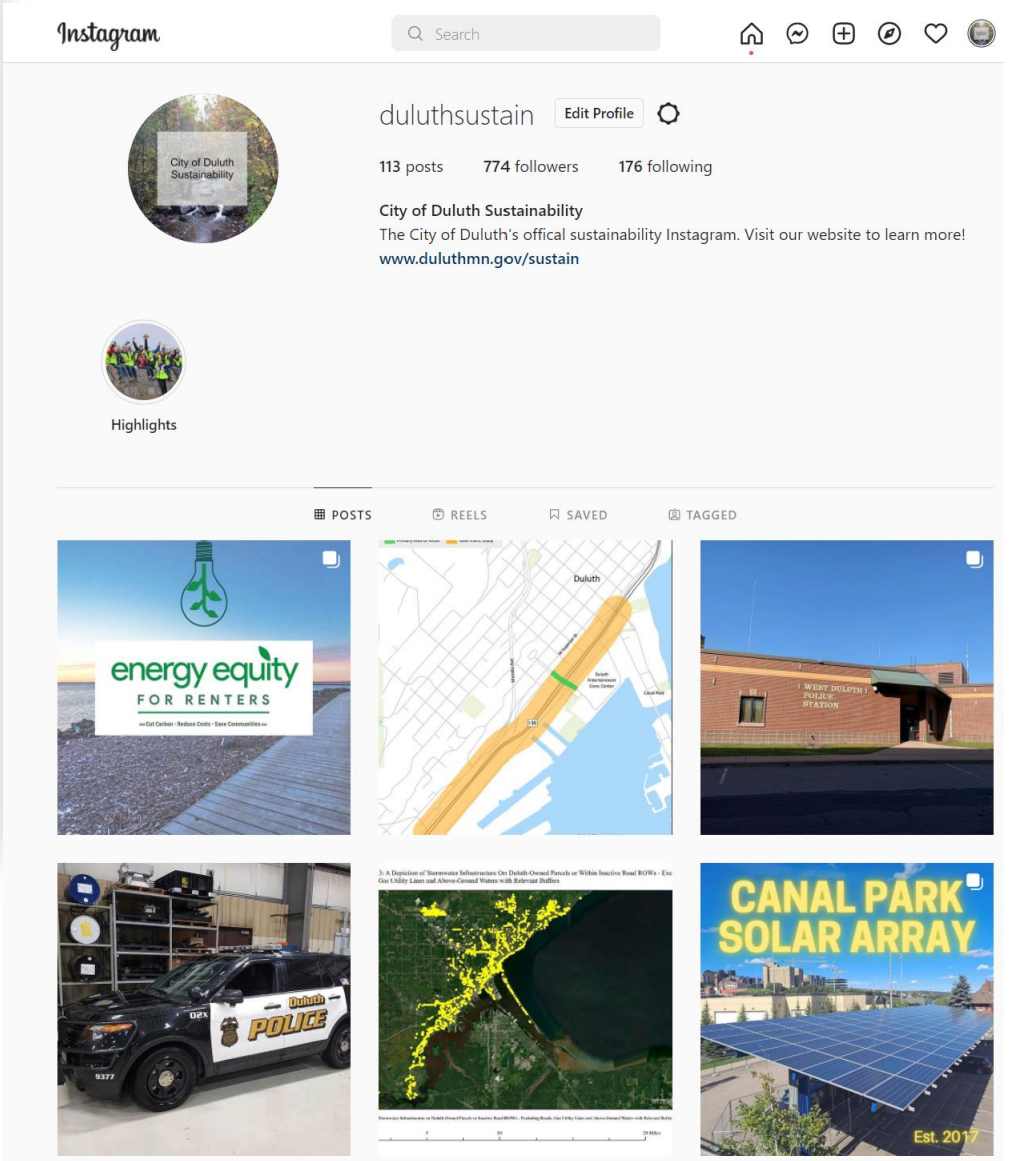
METRO AREA	1-bedroom rent	2-bedroom rent	Min wage can afford
Duluth	$670	$871	$513
Fargo	$691	$859	$513
Grand Forks	$671	$870	$513
La Crosse-Onalaska	$624	$826	$513
Mankato	$715	$924	$513
Minneapolis-St Paul	$915	$1,151	$513
Rochester	$734	$959	$513
St. Cloud	$698	$855	$513

$$\text{energy burden} = \frac{\text{total money spent on energy related utility bills}}{\text{total gross income}}$$

- An **affordable energy burden** is considered 6%
- In St. Louis County some of our lowest income households pay upwards of 37%
- LIHEAP covers only 1/3 eligible households
- Nationally, African American (36%) and elderly (34%) face high energy burden compared to nation as a whole (24%)



duluthmn.gov/sustain



instagram.com/duluthsustain

City Building Owner Performance Requirements (OPR): "What gets designed, gets built!"

Outline of the City of Duluth Building Owners Performance Requirements (OPR) –
Mike Lebeau, Construction Projects Supervisor

City of Duluth has created 2 OPR's recently

- Building Controls OPR
  - To standardize procurement of building automation systems (BAS)
  - Open source, non-proprietary, flexible platforms

- City Owned Buildings OPR
  - To translate Mayor's Energy Policy into implementable best practices
    - 80% CO2 emission reductions by 2050
    - Divided into solid goals of approximately 10% per mayoral term

Duluth City Building OPR
A tool to set policy for future efforts

- To institutionalize administration policy into the future
- To set policy that can carry on through staff turnover
- As a means of setting mandatory minimum performance standards across multiple City Departments for new construction and renovation of existing City owned facilities.
- Intended to be a living document to be revised as technology and code minimums evolve over time.

Duluth Building OPR
From development to adoption

- Endorsed by the Duluth Energy Plan Commission
- Approved and Accepted by Mayor and Chief Administrative Officer
- Being introduced for implementation across City Departments

Duluth Building OPR
Major Elements

- insulation and building envelope
- windows
- HVAC equipment and controls
- Commissioning
- water heating
- building controls
- plumbing fixtures
- flexible fuel systems
- lighting and controls
- Premium efficiency electrical components and appliances

Duluth Building OPR
Future Evolution

- To be reviewed, and updated, periodically by staff, Energy Plan Commission and Administration
- Policies are intended to stay ahead of code minimums and common practice
- New technologies and methods will be evaluated for proven performance, cost effectiveness and reliability before inclusion

Duluth Building OPR
Some potential future additions to process

- Selection criteria for projects on City owned building projects
  - Stiffer requirements for training and certifications
    - Architects, engineers, contractors, consultants
  - High emphasis on relevant experience and certifications in scoring proposals and bids

- Standing contract with Building Performance Consultant as Owners Representative from concept, through design and construction

Refer to the handout

- Let's walk through this together!

Building Owner Performance Requirements

Policy & Procedure

Approved:

Effective Date: November 5, 2021
Supersedes: N/A
Updated Date: N/A

OVERVIEW	
Objective	To reduce energy and operational costs long-term and ensure progress towards reducing our greenhouse house gas emissions across all City-owned buildings
Policy Statement	Consistent with the State of Minnesota Next Generation Energy Act, the City of Duluth set a greenhouse gas emission reduction goal of 80% by 2050. To make progress towards this goal, the City must reduce energy use in buildings, a significant source of greenhouse gas emissions. The purpose of the City of Duluth Building Owner Performance Requirements is to reduce the energy footprint of City-owned buildings in a cost effective manner to support climate mitigation and adaptation, along with saving operational costs long-term. The Building Owner Performance Requirements have elements rooted in the Sustainable Buildings 2030 standard (https://www.b3mn.org/2030energystandard/), which is designed to provide energy efficient buildings with a 15 year or less payback period for the State of Minnesota. Buildings should not only focus on energy efficiency, but also include accessibility, inclusivity, renewable energy, and protection of the surrounding environment.
Scope	The City of Duluth owns over 100 buildings, and each building within our portfolio is unique, and many require modifications that reflect changing community needs. This policy is intended to guide building project and renovation design guidelines by outlining stipulations for new buildings, major renovations, and mechanical upgrades. Any building alterations outside of the scope of this policy should be evaluated and approved by the Chief Administrative Officer, who may consult with the Property & Facilities Manager (Public Administration).
Definitions	**City-owned buildings:** includes all buildings within the City of Duluth building portfolio. Specifically: • Buildings that are directly owned by the City of Duluth, regardless of building construction or operation (e.g. Civic Center parking ramp) • Enterprise-funded Buildings • Conditioned buildings and semi-heated buildings regularly utilized by the City of Duluth • See attachment for full list.