

# Draft

# Saint Paul Climate Action and Resilience Plan

Transition to a Climate-Friendly,  
More Resilient City



# Overview

- **Why Create a Plan?**
- **Causes of Change**
- **Local Impacts**
- **Vulnerabilities**
- **Reducing Emissions**
  - Energy Use
  - Transportation
  - Waste and Water
- What **YOU** can do
- **Questions**

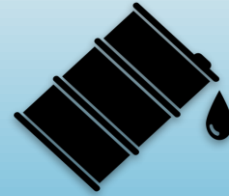


Source: <https://www.spps.org/commed>

# Climate Science

- We use fossil fuels for our travel, heating, electricity and manufacturing
- Extracting and burning fossil fuels releases greenhouse gases (GHGs)
- GHGs such as Carbon Dioxide (CO<sub>2</sub>) trap heat as it bounces off the Earth
- GHGs in our atmosphere has led to an increasing global average temperature

## We Use



OIL

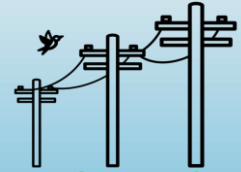


NATURAL GAS



COAL

## For Our



ELECTRICITY



HEATING



TRAVEL



MANUFACTURING





gettyimages®  
Joe Raedle



**DOG  
ORDINANCE**

- DOGS MUST BE ON LEASH OR UNDER CLOSE CONTROL
- DOGS MUST CLEAN UP AND REMOVE THEIR OWN WASTE

POLICE LINE DO NOT CROSS POLICE LINE DO NOT CROSS POLICE LINE DO NOT CROSS







# Saint Paul is getting warmer

**What has happened:**

Avg. Annual Temp.



3.2° F

from 1951 - 2010

Avg. Winter Temp.



6° F

from 1951 - 2010

**What we expect to happen:**

Avg. Annual Temp.  
expected to rise



4 to 5° F

by 2041 - 2070

# Saint Paul is getting wetter

The **frequency** and **intensity** of heavy rainfall are increasing

**What has happened:**

St. Paul's Avg.  
Annual Precipitation.

 **7 inches**

Since the 1950's

**What we expect to happen:**

Annual Precipitation  
expected to rise

 **3 to 6  
inches**

by mid-century

# Vulnerabilities

## PEOPLE

- Low income/wealth
- People of Color/Native People
- Health challenges
- Low access to transportation
- Barriers in communication
- The very old/the very young
- Social Isolation

## PLACES

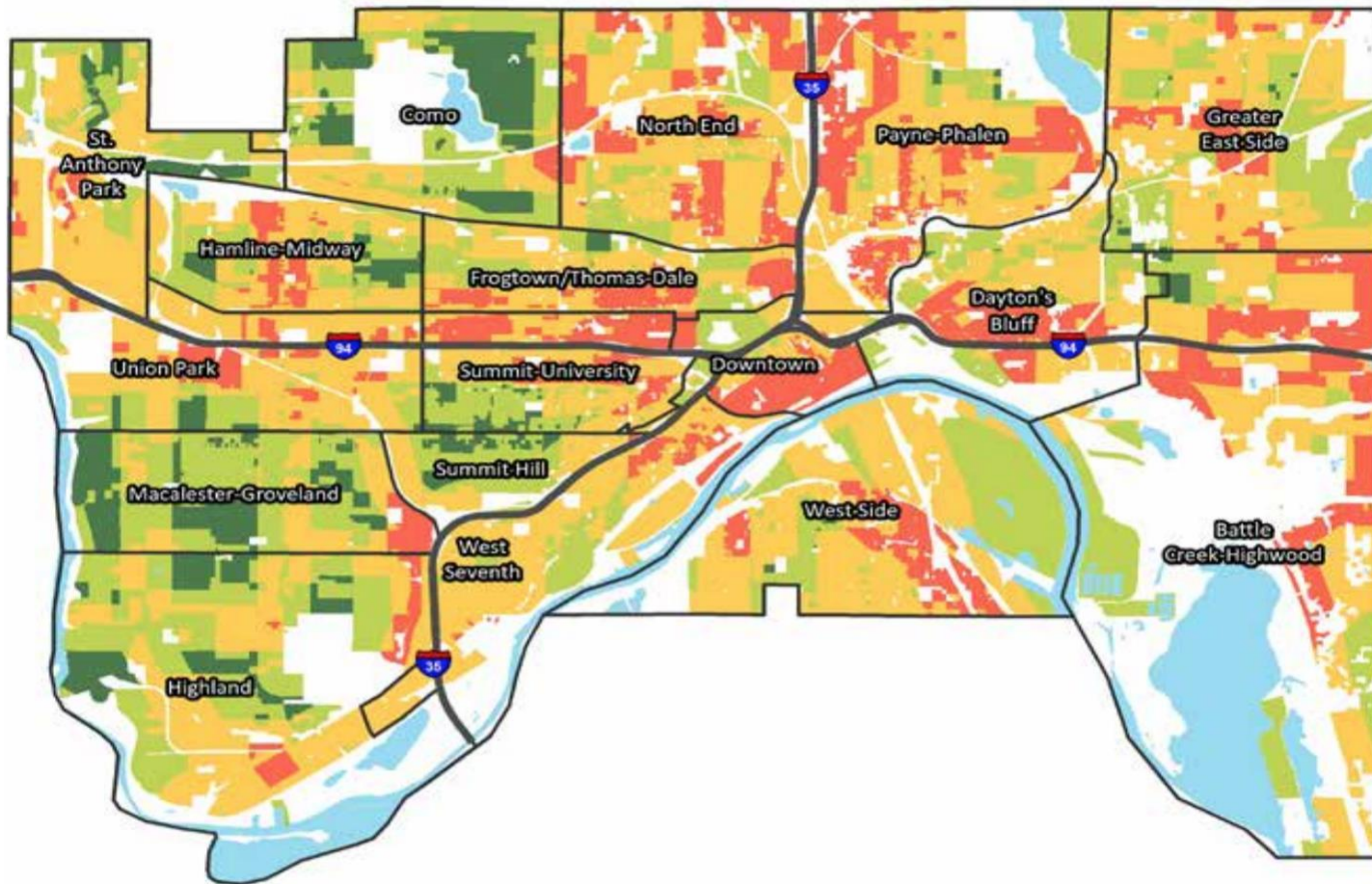
- Less tree canopy (hotter)
- More air pollution (freeway corridors)
- More flooding
- Low access to transportation
- Infrastructure

VERY LOW RISK

LOW RISK

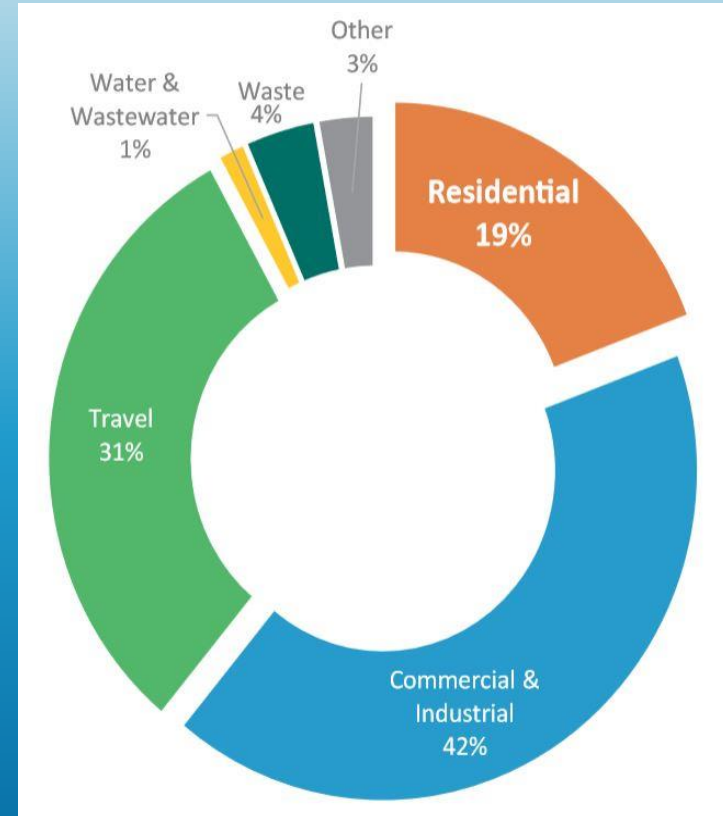
MEDIUM RISK

HIGH RISK



# Emissions from Energy and Travel

Commercial/Industrial	<b>42%</b>
Residential	<b>20%</b>
Travel	<b><u>31%</u></b>
<b>Total</b>	<b>93%</b>



# 0 (Zero) Net emissions by 2050!

- Electricity on good trajectory
- Transportation (harder)
- Building Heating (hardest)

# 50% Reduction by 2050

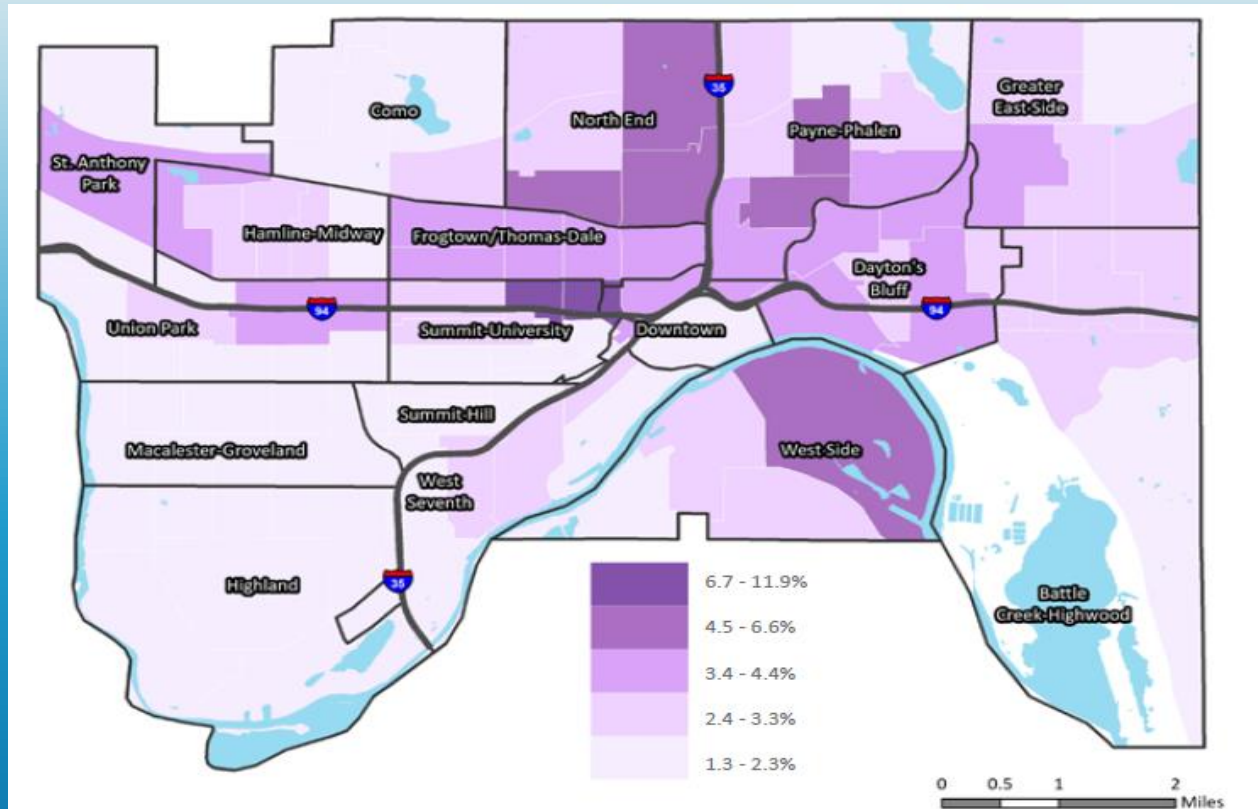
- 200 MW of new Solar within Saint Paul
- 19,000 homes made deeply efficient
- Much less travel in gasoline powered cars
- Increase tree canopy from 32.5% to 40%
- Xcel electricity 80% carbon free

# Energy Priorities

- Energy Efficiency
- Reduce Energy Burden
- Renewable Energy and Energy Storage
- Electrification



# Energy Burden



Map 9. Median energy burden by census tract. All energy consumption data are from 2015 and have not been weather normalized, per the Partners in Energy report.



# ENERGYGUIDE

Clothes Washer  
Capacity Class: Standard

XYZ Corporation  
Models G39, X88, Z33  
Capacity (tub volume): 2.5 cubic feet



Compare **ONLY** to other labels with yellow numbers.  
Labels with yellow numbers are based on the same test procedures.

Estimated Yearly Energy Cost  
(when used with an electric water heater)

**\$43**



Cost range not available

**358** kWh

Estimated Yearly Electricity Use

**\$16**

Estimated Yearly Energy Cost  
(when used with a natural gas water heater)

- Your cost will depend on your utility rates and use.
- Cost range based only on standard capacity models.
- Estimated operating cost based on six wash loads a week and a national average electricity cost of 12 cents per kWh and natural gas cost of \$1.09 per therm.

# Transportation Goals

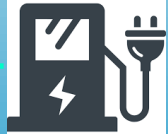
Goals	2019-2025 Targets	2025-2030 Targets	2030-2040 Targets
Reduce Single Occupant Car Trips	10%↓	20%↓	40%↓
Increase Transit Ridership	6%↑	25%↑	40%↑
Increase Biking and Walking	24 miles of new bikeway	85 miles of new bikeway	195 miles of new bikeway
Electric Vehicles	10% of all on-road vehicles	33%	80%



One public-facing Level 3 DC fast charger

Four Level 2 chargers

2 battery electric vehicles (BEVs)



## EV Community Mobility Hubs

70 total hubs

Some with Level 3 chargers

Close proximity (<1/4 mile) to bus and rail



# Solid Waste Reduction Goals

- Increase waste diversion to 80% by 2030
- Reduce waste
- Increase recycling and composting



# Emissions Scenario

## PROJECTED EMISSIONS REDUCTIONS BY 2050 (METRIC TONS CO<sub>2</sub>e)

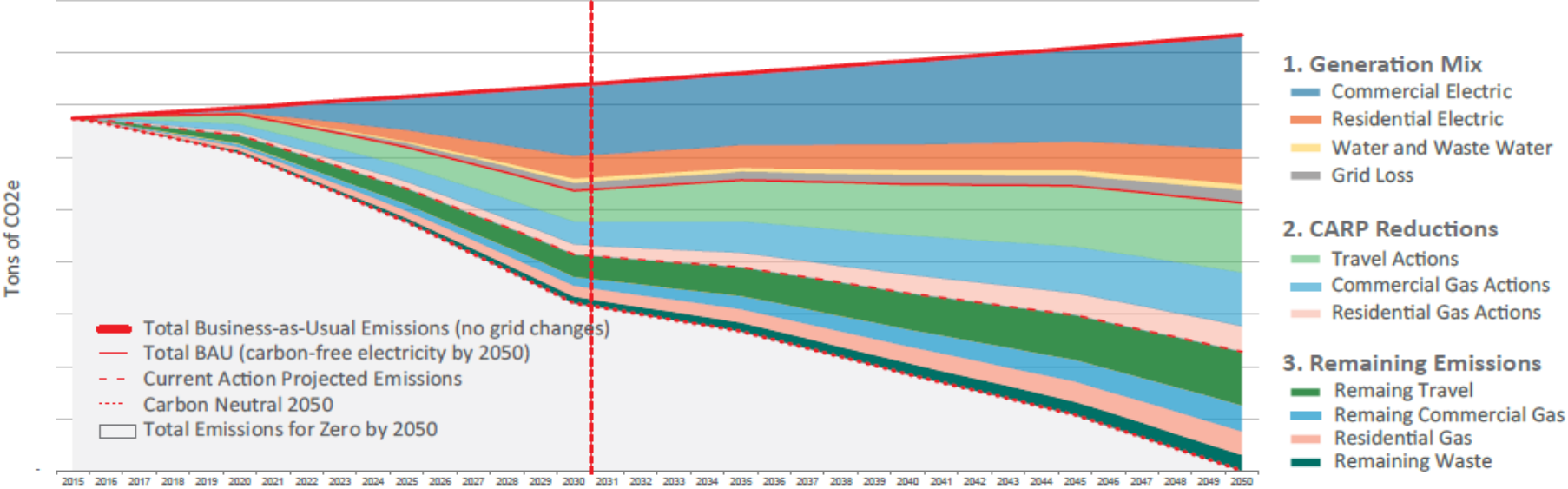


Figure 8: Projected and planned emissions reductions from Business-as-usual scenario. Data sources: Xcel Energy natural gas and electricity use (2015), Minnesota Department of Transportation vehicle miles traveled (2015)

# What YOU can do: Climate Resilience



Prepare Emergency Disaster Preparedness Kit



Prepare for power outages



Stay informed on weather warnings and events - don't get caught off guard



Create a buddy system to check on neighbors



Plant rain gardens and increase permeable surfaces on your property



Cool down from extreme heat



Seek natural cooling techniques

Make sure your drains are clear in case of downpour



Make sure you have a reliable form of transportation



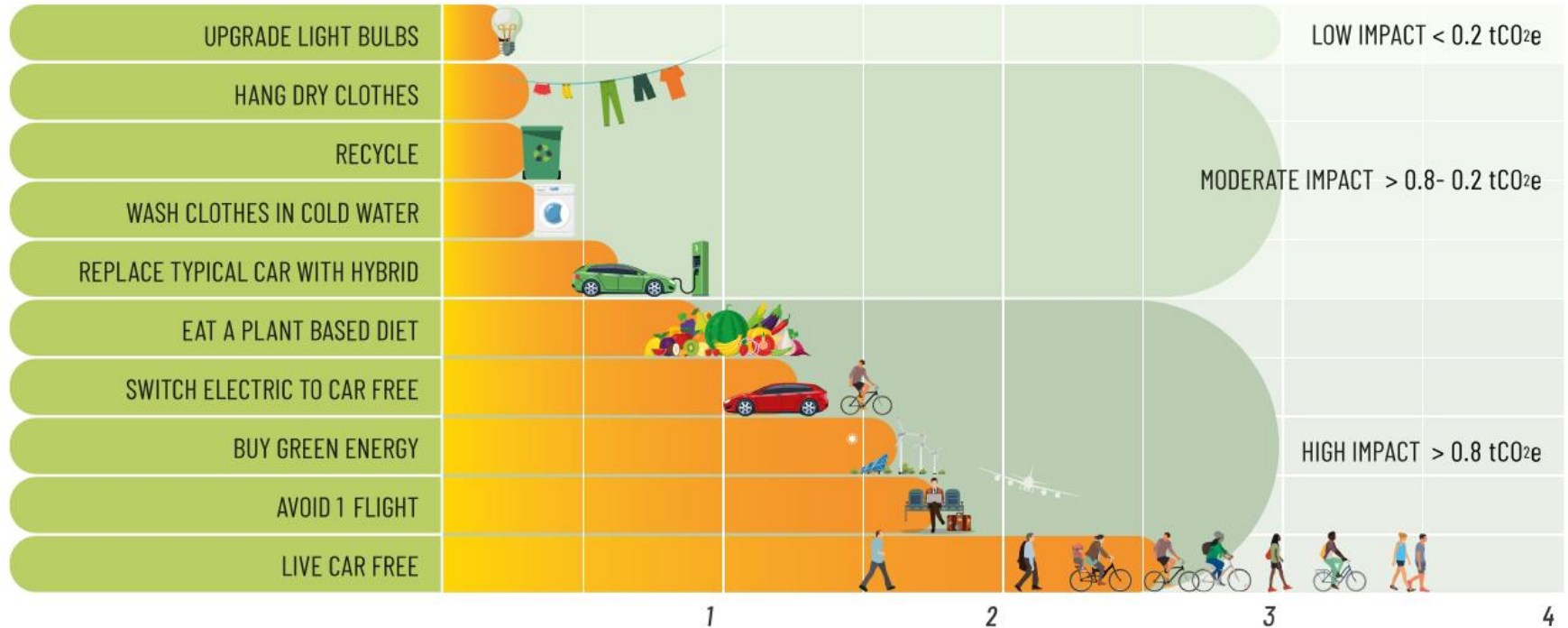
Support your community food markets



# What YOU can do: Climate Mitigation

## PERSONAL CHOICES TO REDUCE YOUR CONTRIBUTION TO CLIMATE CHANGE

Average values for developed countries based on current emissions.



Questions?

Russ Stark, Chief Resilience Officer

[russ.stark@ci.stpaul.mn.us](mailto:russ.stark@ci.stpaul.mn.us)

(651) 266-8511