City of Rochester
Community & Municipal GHG Inventory Updates

April 2023

City of Rochester, NY
Malik D. Evans, Mayor
Rochester City Council

City of Rochester, NY

Goal

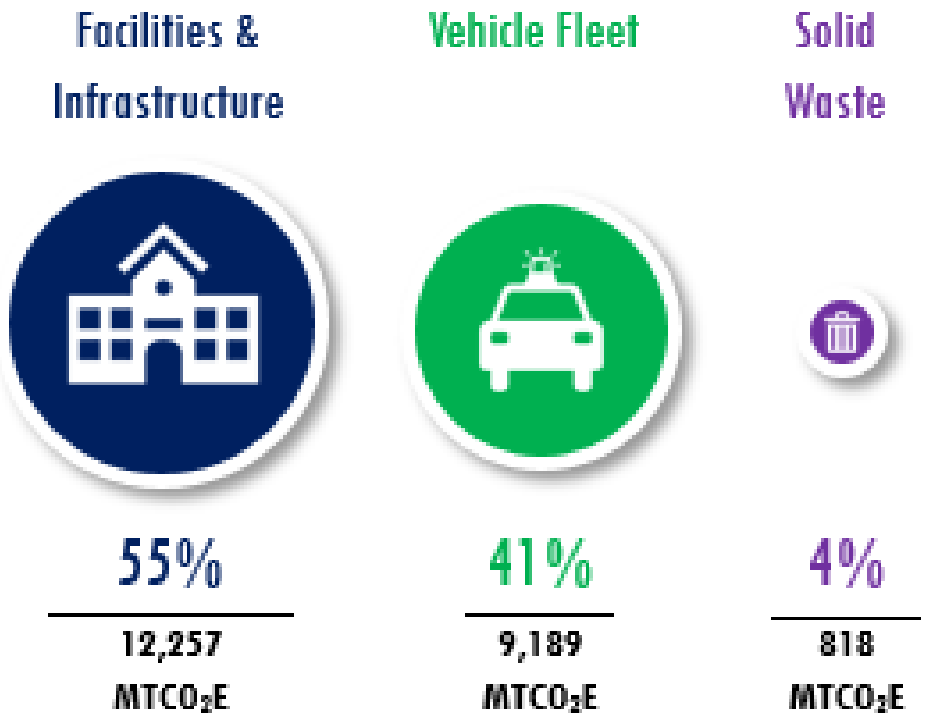
- Conduct updated municipal and community-wide greenhouse gas (GHG) emissions inventories for 2019
- Compare the updated GHG emissions inventories to emissions reduction goals set in initial inventories
  - Municipal Operations inventory completed in 2011 (2008 baseline year)
  - Community-wide inventory completed in 2017 (2010 baseline year)
- Identify key sources of GHG emissions
- Develop high-impact climate change mitigation strategies for the future

Overview

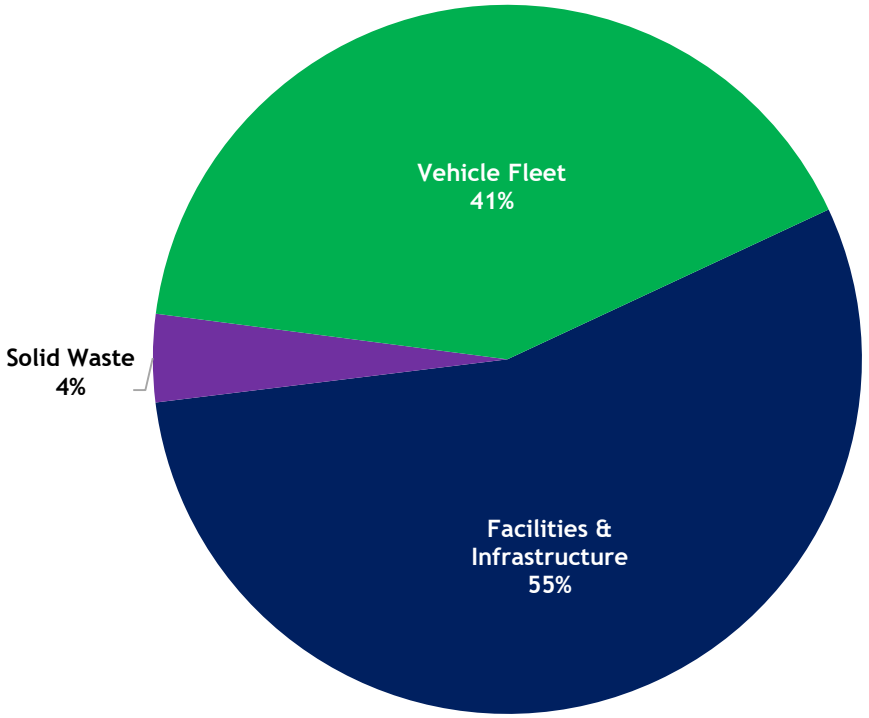
- Climate Action Plan Goals:
  - Community-wide Climate Action Plan (2017): reduce greenhouse gas emissions by 20% by 2020 and by 40% by 2030 from a 2010 baseline.
  - Municipal operations Climate Action Plan (2011): reduce greenhouse gas emissions by 20% by 2020 from a 2008 baseline.
- Greenhouse Gas Emissions Inventory Results (2019):
  - Community-wide emissions decreased by 10%, from 2,192,640 MTCO2e in 2010 to 1,975,264 MTCO2e in 2019
  - Municipal operations emissions decreased by 33%, from 33,039 MTCO2e in 2008 to 22,264 MTCO2e in 2019

Municipal GHG Emissions

Figure 2: Rochester Municipal Emissions by Sector, 2019



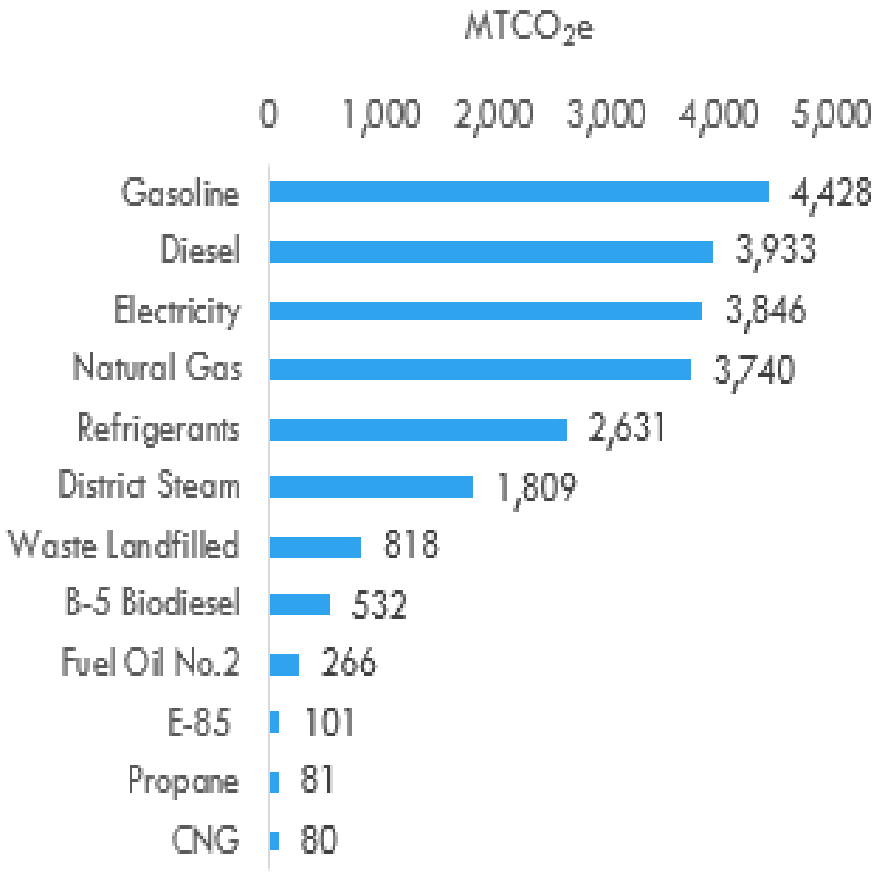
Municipal Emissions by Sector, 2019



City of Rochester, NY
Malik D. Evans, Mayor
Rochester City Council

Municipal GHG Emissions

Figure 6: Rochester Municipal Emissions by Source, 2019



Year	Total Emissions ($MTCO_2e$)
2008	33,039
2019	22,264

↓ 33%

City of Rochester, NY
Malik D. Evans, Mayor
Rochester City Council

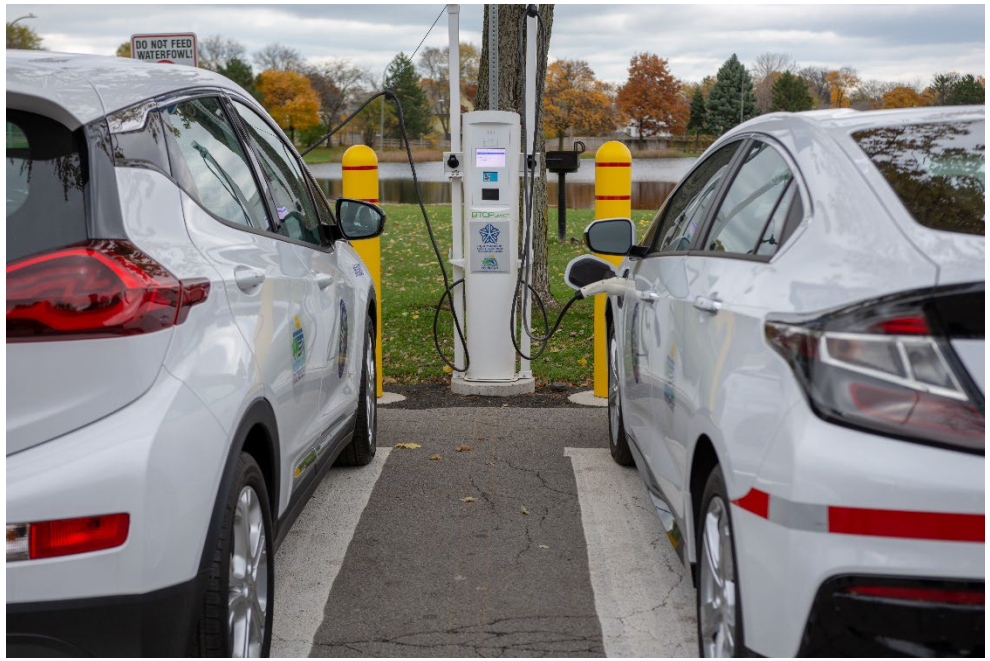
Municipal Facilities & Infrastructure

Table 1: Municipal Facilities & Infrastructure Emissions, 2008 & 2019

Sector	2008 $MTCO_2e$	2019 $MTCO_2e$	% Change
Municipal Buildings	13,161	8,165	↓38%
Streetlights & Traffic Signals	5,808	1,143	↓80%
Water Delivery Facilities	1,944	766	↓61%
Port Facilities	307	270	↓12%

Municipal GHG Emissions – Leading by Example

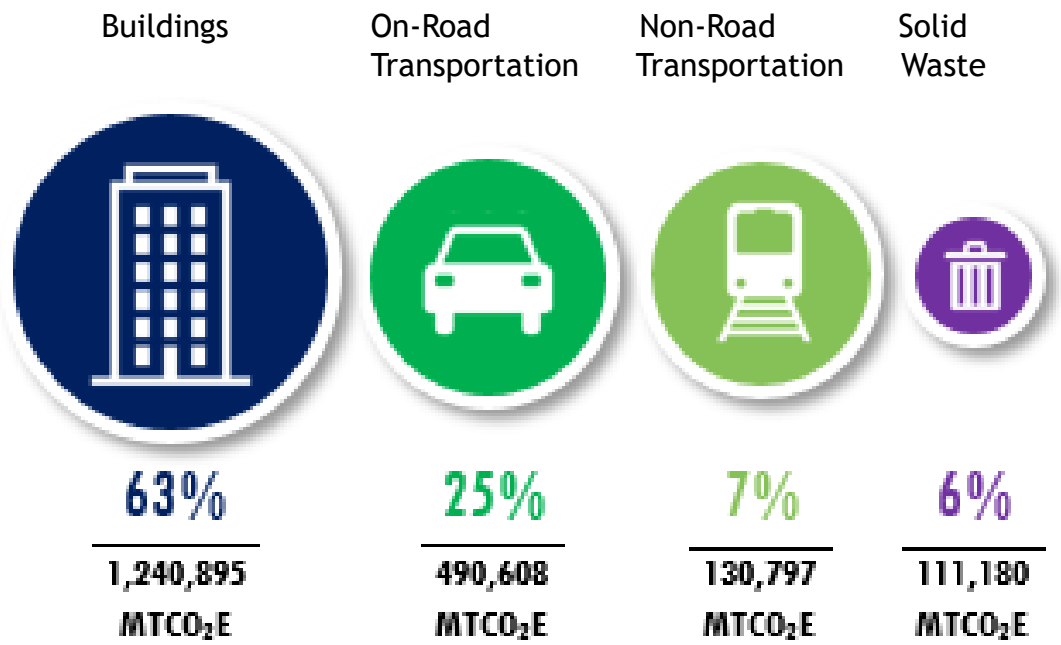
- Climate Smart Community and Clean Energy Community Designations
- Municipal Facility and Street Lights Energy Performance
- Electric Fleet Vehicles
- Solar Field on Former Emerson Street Landfill



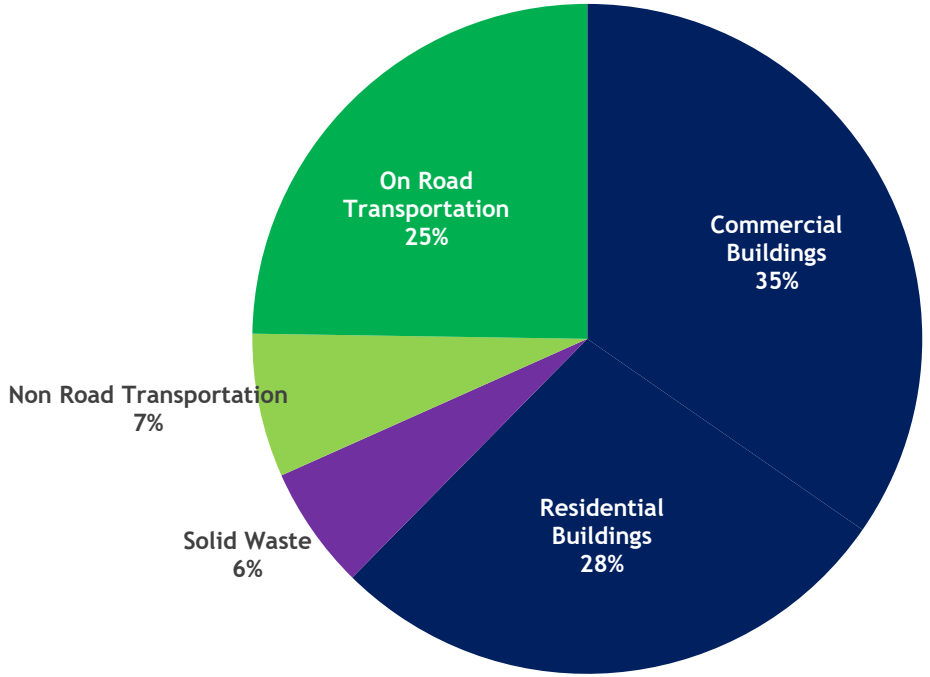
Community GHG Emissions

- The community GHG emissions data was generated from community activities that take place within the geographic boundary of Rochester.

Rochester Community Emissions by Sector, 2019



Community Emissions by Sector, 2019



City of Rochester, NY
Malik D. Evans, Mayor
Rochester City Council

Community Buildings

Figure 15: Building Emissions (%) by sector

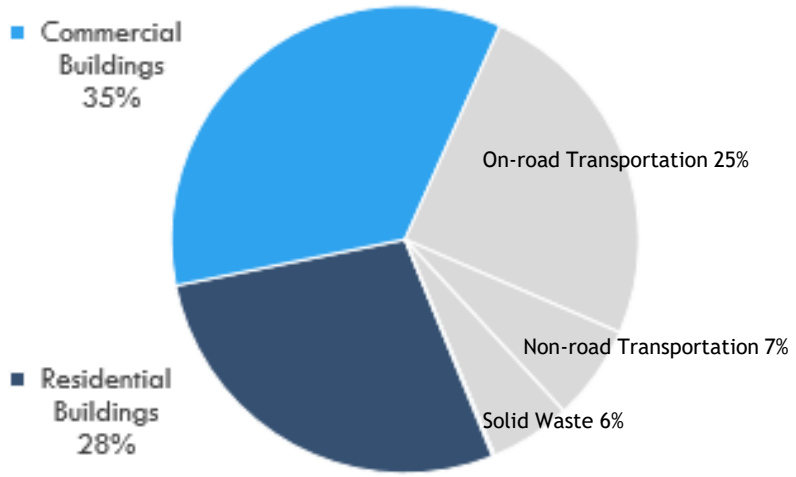
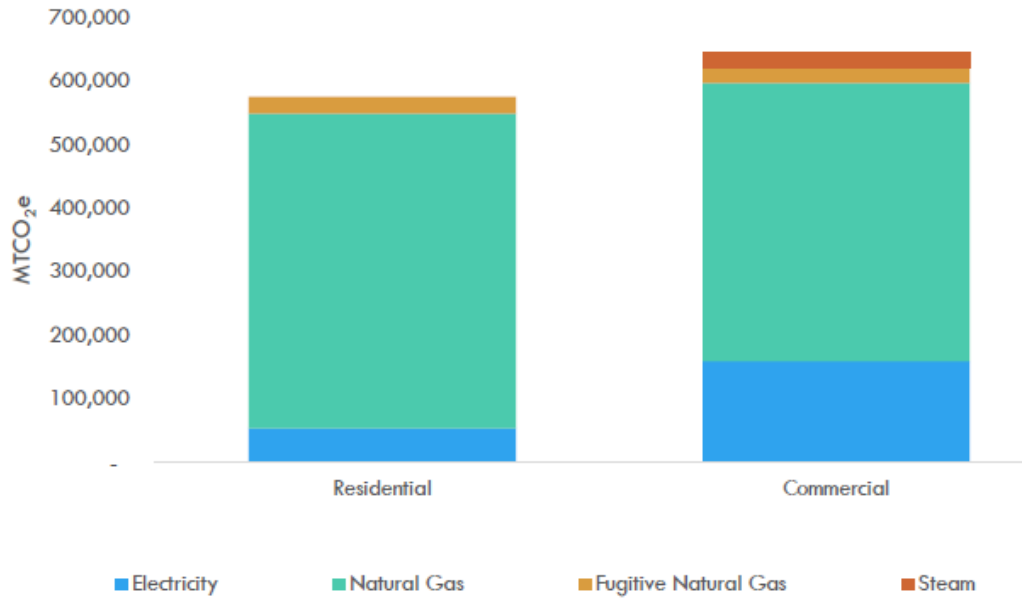


Table 2: Building Emissions, 2010-2019 (MTCO2e)

Year	Residential ($MTCO_2e$)	
2010	520,103	↑
2019	552,311	6%
Year	**Commercial ($MTCO_2e$)**	
2010	924,002	↓
2019	688,584	25%
Year	**Total Buildings ($MTCO_2e$)**	
2010	1,444,105	↓
2019	1,240,895	14%

Figure 16: 2019 Building Emissions by Building Type (Sector) and Source



City of Rochester, NY
Malik D. Evans, Mayor
Rochester City Council

Community Transportation

Figure 19: Transportation Emissions, 2019

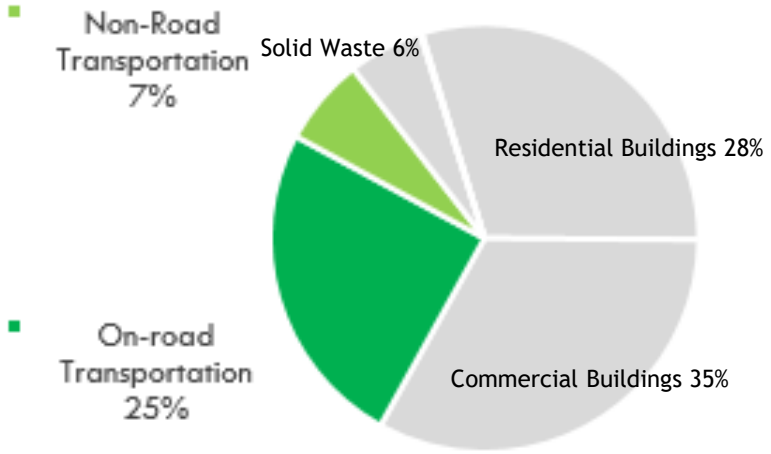
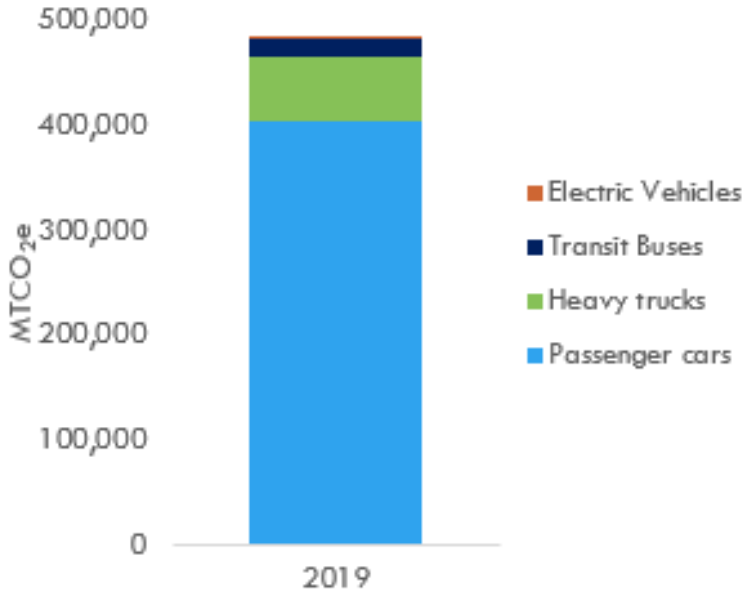


Table 5: Transportation Emissions, 2010-2019

Year	On-Road ($MTCO_2e$)	
2010	465,051	↑
2019	490,608	5%
Year	**Vehicle Miles Traveled**	
2010	1,066 Million	↑
2019	1,079 Million	1%

Figure 20: On-Road Transportation Emissions by Mode, 2019



City of Rochester, NY
Malik D. Evans, Mayor
Rochester City Council

Next Steps

- This inventory shows that the City has exceeded our municipal emissions reduction goal by 13%. This can be attributed to the City's commitment and efforts to promote energy efficiency, including but not limited to City facility energy efficiency upgrades, LED street lights, adoption of more efficient fleet vehicles and solar energy generation.
- Although community emissions have not reduced as quickly, Rochester did see reductions from its commercial buildings.
- Other recent mitigation actions have been implemented since the completion of the Community-wide Climate Action Plan in 2017 but the inventory year of 2019 doesn't account for all of them. Community Choice Aggregation was launched in 2021 and has not been represented in the 2019 emissions inventory update. More time is needed to see the impacts of other community-wide climate change mitigation actions.
- A substantial challenge lies ahead in Rochester and many communities to transform the way we heat and cool our buildings and fuel our vehicles. We need to work together to transition to carbon-free electricity to fuel our buildings and transportation sectors.
- Both at the state level through the New York Climate Leadership and Community Protection Act and from the federal Inflation Reduction Act of 2022, Rochester is well positioned to accelerate progress and maintain a leadership position in the transition to a climate-friendly and resilient community.