



# Sustainability Assessment

2021



## Sustainability Action Plan Overview

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The Town of Superior is developing its first sustainability action plan that will serve as a guide for Town leadership, residents, businesses and staff to advance sustainability in the community. The strategies of the sustainability action plan, once implemented, will improve social equity, promote good stewardship of the environment, and create a stronger economy.



### Why a Sustainability Action Plan?

Sustainability projects and programs have been successfully implemented in Superior for decades. Many of these initiatives have been resident-led by the Advisory Committee for Environmental Sustainability (ACES), while others have been undertaken by staff per the direction of the Town Board, or in conjunction with community partners.

The Town Board established the Sustainability Analyst position in 2021 to focus staff resources on creating a plan to implement sustainability programs and projects throughout the community. The Sustainability Action Plan will help prioritize efforts, plan for budget impacts and identify available funding and resources to support sustainability strategies.

### Developing the Sustainability Action Plan

There are several milestones to successfully develop and implement the Town of Superior's sustainability action plan. This document is the deliverable for the first milestone, which is to conduct a sustainability assessment. The overall Sustainability Action Plan includes five plan milestones:

- Milestone 1: Conduct a Sustainability Assessment (May 2021-July 2021)
  - Assess the current state of sustainability in Superior by establishing baseline conditions and identifying completed and existing sustainability initiatives
- Milestone 2: Establish Sustainability Goals (May 2021-September 2021)
  - Identify goal areas to focus the plan on and create municipal versus Town-wide goals
- Milestone 3: Develop a Strategic, Adaptable Sustainability Plan (August 2021-Early 2022)
  - Create strategies to advance goals and include each one's cost, level of impact, staff effort and a list of potential partners for strategy; identify implementation coordinators for strategies; create an annual monitoring and reporting mechanism

- Milestone 4: Implement Strategies (—Ongoing starting in 2022)  
Hold regular meetings with implementation coordinators; adjust strategies and timelines as needed
- Milestone 5: Monitor, Measure and Adjust (—Ongoing starting in 2022)
  - Provide annual progress reports to Town Board, ACES and the public; update the plan in 2025

### Sustainability Assessment Overview

As the initial Action Plan milestone task, this sustainability assessment establishes baseline conditions for the Town related to greenhouse gas (GHG) emissions, energy, water, waste and air quality. Additionally, the assessment includes an audit of sustainability programs and initiatives that have been completed, are in progress, or that staff has identified as potential future programs.

The sustainability assessment is structured based on the sustainability goals created by ACES and accepted by the Town Board in February 2021. The goal areas are:



Climate Change



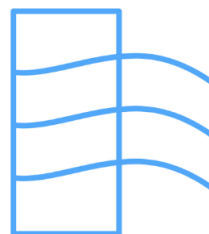
Energy



Water



Zero Waste



Air Quality

As technology evolves and new information becomes available, additional work and planning efforts may result in further recommendations for the Board to change or refine these sustainability goals.

Each topic area includes qualitative information and quantitative data to effectively demonstrate the existing conditions related to this area in the Town based on available information. Each topic area is organized as follows:

- Baseline Metrics
- Initiatives and Programs
- Future Opportunities, Best Practices and Potential Partnerships

The Advisory Committee for Environmental Sustainability (ACES), the Sustainability Analyst, Town staff and regional experts will use this report throughout the action plan development process to refine or recommend revisions to the existing goals, create new goals, set measurable targets, develop strategies and prioritize the actions.

### Cross-cutting Considerations

Three cross-cutting concepts have been considered during this assessment of the goal areas. These concepts support all three pillars of sustainability - environment, economy and society - and demonstrate how all three pillars are interdependent. These important cross-cutting concepts will be explored through the planning process.



Community Health & Resilience



Economic Development



Equity and Inclusivity

## Report Definitions

There are several terms used in the Sustainability Assessment Report that requiring defining in the context of this assessment:

**Benchmark:** A comparison to demonstrate how the Town compares to regional neighbors, or the State of Colorado as a whole for certain metrics. Benchmarking is not done for all metrics, but only for those that can be reported as a per capita metric, a per household metric or a percentage. Benchmarking is a tedious, data-based research process and it may take several months to have this complete for all metrics.

**Commercial:** The sector predominately related to economic interests or commerce, or a transaction for a particular product or service or a group of products or services for profit.

**Municipal:** The sector related to Town-owned facilities, parks and open space and the operations that occur at these locations.

**Residential:** The sector made up of lots and parcels on which residential use occurs. This includes single-family and multi-family residential development.

## Sustainability Program Audit Findings

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Town Staff conducted a thorough review of completed, ongoing and upcoming sustainability-related programs and projects that have taken place in Superior. The findings of the audit indicate that the Town is already engaged in a significant number of sustainability activities. The audit identified 43 existing sustainability initiatives led by ACES, staff, nonprofits and community individuals.





## Climate Change

**Town Goal:** Reduce greenhouse gas emissions at least 25% compared to a 2005 baseline by 2025.

Greenhouse gases (GHG) in the atmosphere absorb radiant energy from the sun causing the atmosphere to warm and making it suitable for life. Human activities, particularly the burning of fossil fuels, add more greenhouse gases, such as carbon dioxide (CO<sub>2</sub>) and methane to the atmosphere. This enhances the greenhouse effect, trapping more heat and causing global temperatures to rise. Consensus from the world's leading climate scientists estimate that temperatures will increase between 6.7- and 8.4-degrees F by the end of the century. GHG emissions increase and changes to the climate carry the risks of severe and potentially irreversible impacts to our natural and human systems.

Recognizing that the climate in Superior will change over time, there are two types of strategies to address climate change:

- **Climate Mitigation** aims to reducing the flow of heat-trapping greenhouse gases into the atmosphere by either reducing the sources of the gases or enhancing the sinks that store these gases.
- **Climate Adaptation** focuses on adjusting to the changes in climate we know will take place and aims to reduce vulnerability to the harmful effects of climate change.

### Baseline Metrics

Metric	Source	Definition	Units	2016	Benchmark (Louisville)
<b>Annual greenhouse gas emissions</b>	Boulder County GHG Inventory	Total GHG emissions attributed to Town of Superior	Thousand tons CO <sub>2</sub>	109.8	Not applicable – See per capita emissions for benchmark
<b>Per capita annual GHG emissions</b>	Boulder County GHG Inventory	Total GHG emissions attributed to Town of Superior, per capita	Tons CO <sub>2</sub> per capita	8.3	12.5

## Existing Initiatives and Programs

- **GHG Emission Reduction Goal:** The Town has accepted the goal to reduce greenhouse gas emissions at least 25% compared to a 2005 baseline by 2025.
- **Colorado Communities for Climate Action:** Superior is a member of [Colorado Communities for Climate Action](#) (CC4CA), a coalition of counties and municipalities advocating for strong state and federal climate policy.
- **Local Governments for Sustainability (ICLEI):** Superior is a member of ICLEI, a nonprofit that provides local governments with climate resources, technical support, networking opportunities and a voice at the federal and global policy level.

## Opportunities, Best Practices and Potential Partnerships

- **Science-Based Target GHG Reduction Goals:** A new protocol for GHG emission reduction targets has been developed, known as a science-based target (SBT). This target is the level of emissions our Town must reduce by 2030 and 2050 to achieve our fair share of the Paris climate goals. Based on Superior's 2016 GHG inventory, the Town's SBT reduction per capita is 63.4%. Cities with similar GHG emissions per capita will have SBTs in the range of 60-75%.
- **ICLEI150 and the Race to Zero:** The [Cities Race to Zero](#) is an initiative of the COP26 Climate Champions, which seeks to secure 1,000 global-local governments who will: pledge to meet the climate emergency; plan to set an interim 2030 science-based target to reach climate neutrality by 2050; proceed with an action plan in 2021 to achieve that target; report actions by 2022. The Town has been invited by ICLEI to participate in this initiative.
- **GHG Inventory Update:** Best practice is to update the Town's inventory every three years to measure progress and identify priority areas for improvement. There will likely be an opportunity to partner with Boulder County on their next inventory and provide Superior- specific data for a regional approach to reporting.
- **Resiliency and Adaptation Planning:** The Colorado Resiliency Office supports local governments in building stronger, safer and more resilient systems in the face of natural disasters and other shocks and stressors, likely made worse by the impact of climate change. The Town could consider developing a Climate Adaptation and Resilience Strategy to better prepare for climate change impacts on infrastructure, vulnerable populations and the economy.







## Energy

**Town Goal:** Reduce combined electricity and natural gas use from Xcel Energy by 10% per capita by 2025.

Improving energy efficiency, investing in renewable energy and identifying opportunities to reduce energy-related dependency on fossil fuels are key to reducing greenhouse gas emissions and keeping millions of dollars in the local economy. To address Colorado’s two largest sources of GHG emissions, power and transportation, the Colorado Energy Office is working to transition to 100 percent clean electricity generation by 2040. Superior has the opportunity to become a leader in transitioning to clean, renewable energy for municipal, residential and commercial sectors. The strategies for achieving this will be identified during the development of the Sustainability Action Plan.

### Baseline Metrics

#### Total Energy Consumption

Metric	Source	Definition	Units	2019
<b>Total Electricity Consumption</b>	Xcel Community Energy Report	Total electricity consumption across all sectors	kWh	67,237,365
<b>Total Natural Gas Consumption</b>	Xcel Community Energy Report	Total natural gas consumption across all sectors	Therms	5,081,797



*Solar Panels at the Waste Water Treatment Plant*

### Municipal Energy

The Town owns several facilities across the community. The most effective way to measure and report municipal energy use is by looking at the total energy use intensity of all the Town’s facilities. It is also important to understand the Town’s renewable energy portfolio - both what is generated onsite and what energy use is offset through participation in Xcel programs.

Metric	Source	Definition	Units	2019
<b>Municipal Energy Use Intensity</b>	Calculation	Energy required to operate municipal buildings over a year, abbreviated EUI	kBtu/ft2/yr	201.32
<b>% Onsite Renewable Electricity</b>	Calculation	Percentage of electricity provided by onsite renewable electricity	Percentage	15.2%
<b>% electric needs from carbon-free sources</b>	Calculation	Percentage of electric needs met from on- and off-site renewable, carbon-free sources	Percentage	47.2%

### Residential Energy

Households in Superior use both electricity and natural gas for energy. Observing a per household consumption for each type of fuel helps identify where initial opportunities for consumption reduction exist. Energy efficiency and renewable energy programs are available to residents through Xcel Energy.

Metric	Source	Definition	Units	2019	Benchmark (Colorado)
<b>Per household electricity consumption</b>	Calculation	Residential electricity consumption divided by number of residential customers	kWh/household/year	7,819	9,054
<b>Per household natural gas consumption</b>	Calculation	Residential natural gas consumption divided by number of residential customers	Therms / household / year	842	1,030
<b>% electric needs from carbon-free sources</b>	Calculation	% of total electricity from renewable energy across residential sector	Percentage	42.4%	Unavailable at this time

<b>Energy Efficiency Program Participation</b>	Xcel Community Energy Report	# of households participating in energy efficiency programs	Households	287	Unavailable at this time
<b>Electric energy savings from energy efficiency programs</b>	Xcel Community Energy Report	Combined savings from residential participation in Xcel Energy efficiency programs	kWh	129,880.00	Unavailable at this time

### Commercial Energy

Like the residential sector, businesses in Superior use both electricity and natural gas for energy. Energy efficiency and renewable energy programs are available to businesses through Xcel Energy.

Metric	Source	Definition	Units	2019
<b>Commercial electricity consumption</b>	Xcel Community Energy Report	Total electric energy consumed across commercial customers	kWh	26,641,621
<b>Commercial natural gas consumption</b>	Xcel Community Energy Report	Total natural gas consumed across commercial customers	therms	887,360
<b>Energy efficiency program participation</b>	Xcel Community Energy Report	# of businesses participating in energy efficiency programs	Participants	22
<b>Electric energy savings from energy efficiency programs</b>	Xcel Community Energy Report	Combined savings from commercial participation in Xcel Energy efficiency programs	kWh	887,893

### Existing Initiatives and Programs

- Energy Action Plan and Partners in Energy:** The Town participates as an Xcel Partners in Energy community to improve municipal and Town-wide energy efficiency. This effort is led by ACES with support from Town staff on municipal-focused strategies.

- **IECC Code Updates:** The Town most recently adopted the 2018 International Energy Conservation Code (IECC). In fall 2021, staff will pursue the adoption of this year's IECC code update which will result in buildings with higher energy efficiency in Superior.
- **Green Building Program:** The Green Building Program, approved in 2010, is designed to achieve energy efficient building standards for new residential construction. This program established green build standards through education, regulation, and incentives, which promotes and encourages high performing sustainable development and redevelopment within the Town.
- **Municipal Facility Energy Audits:** Since 2008 the Town has performed a variety of energy audits on its facilities to assess energy use and identify opportunities for efficiency improvements. The Town will conduct audits on its facilities again in August of 2021. The results will be used to inform future budget and policy decisions.
- **Municipal Onsite Solar:** The Town has installed solar panels at various Town facilities: Waste Water Treatment Plant, Water Treatment Plant, Town Hall, Fire Station, North Pool and South Pool. Realtime data on generation and usage is available on the Town website. Approximately 15% of the Town's electricity demand is met by the onsite solar annually.
- **Municipal Xcel Energy Wind Source Subscription:** The Town transitioned 100% of municipal electric needs to a Wind Source subscription in early 2021. This transition is an interim solution to offset 100% of the Town's electric needs with wind.
- **Municipal Energy Efficiency and Renewable Energy Roadmap:** In order to pursue more affordable, long-term solutions for reducing and/or offsetting municipal emissions from energy consumption, staff is developing a Municipal Energy Efficiency and Renewable Energy Development Strategic Roadmap. Staff is currently focused on developing the first phase of this roadmap, which focuses on energy efficiency. Creating the roadmap to 100 percent renewable energy requires regional collaboration and planning with Xcel Energy. This is anticipated to be complete in 2022.
- **Boulder County Energy Smart Audits:** The Energy Smart program works with homeowners to improve energy efficiency in their homes. An Energy Smart Advisor works with homeowners to identify opportunities for improved energy efficiency, such as cost-effective comparisons for home improvements and sources of financial incentives or rebates.
- **LED Traffic Signals, Neighborhood and Street Lighting:** All Town traffic signals have been converted from HPS bulbs to LED bulbs, saving electricity and reducing electricity and maintenance costs for the Town. All neighborhood lighting fixtures installed since 2017 are owned by the Town and use LED bulbs, and staff is working with Xcel to find an option to convert all pre-2017 fixtures. The Cobra Head streetlights on McCaslin Boulevard have all been converted to LED bulbs.

## Opportunities, Best Practices and Potential Partnerships

- **Stretch Code Adoption:** Stretch codes refer to added building construction code requirements that go above and beyond current base code standards. The Town has the opportunity to adopt stretch codes that will require new buildings to be EV, Solar and Zero Energy ready going forward. Templates for building codes are currently being developed that will lead to even further GHG emission reductions, and include the All-Electric New Construction and a Building Decarbonization Code. These enhanced code standards will be future considerations for the Town to adopt as they are finalized.
- **Superior Community Center Sustainability:** The Superior Community Center is a great asset to the community and has the potential to serve as a hub for sustainability education. Energy projects with high impact potential include onsite renewables and efficiency upgrades. Other opportunities include electric vehicle charging, community gardens and local food, zero waste education and more.
- **Energy Star Portfolio Manager for Town Facilities:** Energy Star Portfolio Manager promotes energy efficiency by securely tracking and assessing energy and water consumption across an organization's entire building portfolio. Using this platform would streamline analysis of the impact that specific projects have on the Town's energy consumption as well as assist in identifying areas for improvement. The Town Sustainability Analyst or a sustainability intern would be responsible for setup and ongoing management of the platform.
- **Federal and State Funding for Local Governments:** 2021 was a major year of success for climate legislation at the state level, and it is anticipated more climate-focused funds will be available federally. Additionally, COVID recovery funds will be available to local governments with an emphasis on local clean energy development, electric vehicle infrastructure, green infrastructure improvements and sustainable transportation. A summary of recover funding sources can be [found in this document](#) from the Department of Local Affairs.
- **Green Revolving Fund:** As the Town begins to invest in efficiency measures that will result in cost savings, a Green Revolving Fund could be established. A Green Revolving Fund (GRF) is an internal capital pool that is dedicated to funding energy efficiency, renewable energy, and/or sustainability projects that generate cost savings. A portion of those savings are then used to replenish the fund (i.e. revolved) allowing for reinvestment in future projects of similar value. This establishes an ongoing funding vehicle that helps drive energy efficiency and sustainability over time, while generating cost savings and ensuring capital is available for important projects. This could be a future policy consideration for the Town.
- **Energy Savings Performance Contracting:** Energy Savings Performance Contracting (ESPC) is a budget-neutral approach to make building improvements that reduce energy and water use and increase operational efficiency. By partnering with an energy service company (ESCO), a facility owner can use an ESPC to pay for today's facility upgrades



with tomorrow's energy savings—without tapping into capital budgets. State and local governments can implement ESPC projects in their own facilities, as well as promote and support ESPC projects through ESPC programs. The [Colorado Energy Office](#) assists local governments with ESPC through a project consulting service.



- **Multi-family Buildings Focus:** The Town could help raise awareness about energy efficiency options and resources in this hard-to-reach sector by partnering with the rental management office, Xcel Energy, HOAs, and property management companies. These efforts could help reduce the utility burden for all residents, especially low-income residents.
- **Bulk Purchase Opportunities:** Leveraging previous efforts by Boulder County, the Town could pursue bulk purchasing opportunities for rooftop solar for residents and businesses. One example of this would be a Solar Co-Op program with an organization like [Solar United Neighbors](#).
- **Financing Programs for Energy Efficiency Upgrades and Solar Installations:** Greater promotion of [Colorado Commercial Property Assessed Clean Energy](#) (C-PACE) for businesses or [RENU loans](#) for residential solar could increase investment in energy improvements or renewable energy installations.



## Waste

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**Town Goal:** Increase the community-wide waste diversion rate to 30% by 2025.

The Town collaborates with local businesses, organizations and other municipalities in the region to provide opportunities for residents to responsibly dispose of materials and keep them out of the landfill. Policies, programs and initiatives to improve waste diversion, with an emphasis on hard-to-recycle materials, have taken place in Superior for over 20 years with the support of regional partners.

### Baseline Metrics



Establishing comprehensive baseline metrics for both municipal-building waste diversion rates and Town-wide waste diversion rates have historically been met with challenges. These are outlined below, and staff has included in the assessment what data they were able to acquire.

- **Challenges to establishing a municipal-building waste diversion baseline:**
  - Separate haulers service the municipal buildings and leased offices across Town. Eco-Cycle was able to provide data on tons of recycle and compost hauled from these buildings. Waste Connections does not have the data available on our trash hauling volume. Since the amount is relatively small, a separate service to determine volume would need to be developed for an added cost by the hauler.
  - For the two Town staff offices located in leased multi-tenant commercial buildings, it is not possible to obtain specific waste information by user.
  - The Town parks waste, which is comprised of recycling, trash, and compost, where applicable, is hauled by the landscape contractor. At this time, there is no requirement for the contractor to measure or report hauling data from Town parks.
  
- **Challenges to establishing a Town-wide diversion rate:**
  - Separate haulers service different residential and commercial areas of Superior. Haulers are required to track and report their hauling data to the Town, however there is a lack of good and reliable data available from the haulers each year for comparing one year to the next.

The following data is what staff was able to obtain as a 2019 baseline for waste diversion in Superior:

Metric	Source	Definition	Units	2019
Yard Waste Site	Western Disposal	Yard waste material collected at the TOS operated yard waste site	tons	239
Municipal Recycling	Eco-Cycle	Amount of materials recycled after leaving Town facilities	tons	6,755
Municipal Composting	Eco-Cycle	Amount of materials composted after leaving Town facilities	Tons	2,320
Residential Diversion Rate	Various	Percentage of residential waste materials diverted from landfill	Percentage	24.4%

### Existing Initiatives and Programs

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**Yard Waste Facility:** The Town provides a free yard waste drop off site near the Waste Water Treatment Plant for residents to bring yard waste, such as grass clippings and leaves. The yard waste is collected by Western Disposal for composting, instead of landfill disposal. Additionally, the Town provides free compost seasonally for residents at the Yard Waste collection site.
- 
**Hazardous Materials Management Facility IGA:** The Town participates in an IGA with Boulder County to provide Household Materials Management service for Superior residents, which includes a Hazardous Materials Management Facility (HMMF). Residents are able to dispose of household chemicals, batteries, paints, and other toxic wastes at the facility in Boulder for no charge. The facility also works to educate citizens on the proper use, storage and disposal of these types of materials. The Town pays an assessment based on resident participation.
- 
**Household Hazardous Waste Collection Event:** In addition to year-round availability for HHW drop-off at the HMMF, the Town also annually hosts a collection day locally in May. Residents are able to bring the same types of items for proper disposal.
- 
**Hard-to-Recycle Event:** In conjunction with the HHW Collection Event, residents can bring hard to recycle items for collection in Eco-Cycle’s CHaRM program. These are items such as computers, televisions, cell phones and other electronics. There is a fee associated with each item collected, of which the resident and Town each pay 50%.
- Town Facilities Recycling and Composting:** The Town leads by example by providing waste diversion infrastructure at Town facilities. This includes recycling and compost for



staff, as well as at public-facing facilities such as the Community Center. Services are provided by Eco-Cycle.

- **Town Purchasing Policy:** In 2008, staff updated the Town purchasing policy to give preference to products that minimize environmental impacts over the lifetime of the product.
- **School Recycling Education:** The Town contracts with Eco-Cycle to hold Waste Tours at Superior Elementary and Eldorado K8. This program educates local students on how to be “Wise with Waste”, holds “Waste Free Lunch” contests, and provides a year end “Locker Leftovers” recycling event for students. This service teaches children environmental awareness at a young age in a daily setting, in turn encouraging the practice of recycling into their everyday world.
- **Dog Waste Compost Program:** This program operates at Superior’s Dog Park facility in Autrey Park. The Town hires a vendor who collects and transports the dog waste from a receptacle placed at the Dog Park facility. The vendor delivers the material to a firm that processes it and then sells it locally as high-quality potting soil that is safe to handle. This upcycling through an industrial composting process diverts landfill material that cannot be safely handled in a backyard compost bin.
- **Zero Waste Community Events:** Staff strives to make all Town events zero waste or close by providing trash, recycle and compost bins and leveraging volunteers to staff each station and help with education.
- **Christmas Tree Recycling:** Each year after the holidays, the Town coordinates a tree recycling event where trees are collected, chipped, and mulch is provided to residents for free.
- **Town Waste Contract:** The Town manages the Town-wide waste contract with input and recommendations from ACES on appropriate services. Currently, the contract provides for weekly trash and recycling pickup. Residents can opt into composting service April through October for an additional fee of \$9.50 per month. Waste services are only for areas outside of the Rock Creek HOA and Bell Flatirons. The Rock Creek HOA has its own contract.
- **Water Treatment Clariflocculation Barrels:** These barrels, which store necessary chemicals for water treatment, are removed and cleaned off-site and re-used for the same purpose instead of being thrown away.
- **Asphalt Millings:** Millings from asphalt projects get re-used for parking lots.
- **Recycled Asphalt Pavement:** Up to 25 percent recycled asphalt pavement is allowed in the base and intermediate course of Superior’s roads, reducing the need for raw materials.

### Opportunities, Best Practices and Potential Partnerships

- **Require Haulers to Report Annual Hauling Data in ReTRAC:** ReTRAC is an online reporting software for waste and diversion tracking that Boulder County purchased in

collaboration with the City of Boulder to streamline waste and diversion reporting in the county. ReTRAC is also the EPA's recommended software for this type of reporting. Boulder County would like to get all municipalities to require waste haulers to report their waste and diversion data by adopting ReTRAC reporting as a requirement for haulers servicing within their municipal boundaries. Having all municipalities on board will give a better, and fuller, picture of the county's wasteshed, leading to improved regional strategies and resources for diverting waste. The Town would have free access to ReTRAC as a part of this initiative.

- **Audit and Outreach Campaign on Recycling at Superior Parks:** Recycling, along with compost service at shelter areas, is offered at many Superior parks, but it is unknown if the bin systems are being used properly by residents. An audit of the parks' recycling system would help inform an outreach campaign to better educate residents on what to throw where at our parks.
- **Zero Waste Event Toolkit:** Events serve as an educational opportunity for vendors and attendees while enhancing Superior's brand as a sustainable community. A toolkit will help guide staff and vendors to ensure effective zero waste protocol is followed.
- **Education Campaign on Curbside Composting to Improve Participation in Existing Service:** The Town and ACES could collaborate on an education campaign to get more households participating in the existing curbside compost program. Increasing participation in the existing program will show the demand for increasing these services to year-round.
- **Multi-family Buildings Focus:** A substantial portion of the Superior population lives in multi-family complexes that do not offer recycling or composting. Through the ACES work plan, there is an opportunity to educate multi-family housing management on the Town's sustainability goals and how they can participate in helping the Town achieve them.
- **Partners for a Clean Environment (PACE) Rebates and Incentives for Businesses:** [PACE](#) can help businesses assess and identify waste reduction opportunities, provide employee training and identify incentives and rebates for waste reduction products.





**Town Goal:** Reduce per-capita domestic water consumption by 10% by 2025.

For many, daily water use might include tending gardens, washing dishes, bathing and cooking; however, our water footprint stretches far beyond these activities to manufacturing, fuel use, electricity production and more. And while water is limited by annual cycles, water demands in the region continue to grow. Improving water efficiency and practicing water conservation are key to ensuring we all have enough water to sustain our community and not strain our natural areas.

## Baseline Metrics

### Precipitation Data

In order to assess trends in water use, it is important to have a baseline understanding of precipitation trends associated with the timeframe being used as the baseline.

Metric	Definition	Units	Source	2015	2016	2017	2018	2019	Median over 5 years
<b>Precipitation</b>	Annual precipitation data	Inches	NOAA	26.92	17.25	21.99	19.25	21.04	21.04

### Municipal Water Consumption

Municipal water consumption is separated by potable water use and irrigated water use. The Town receives the majority of its irrigated water from the reuse system, where treated water is pumped from the waste water treatment plant to a storage tank on the south side of Town. This reuse system provides approximately 1,000,000-gallons of water a day to both municipal and commercial irrigated properties. Irrigation demand not met by the reuse system is supplied from Terminal Reservoir.

Metric	Definition	Units	Source	Median over 5 years
<b>Potable Water Consumption</b>	Total gallons of potable water consumed by municipality	Gallons per year	Amelia Johnson, Utility Billing	3,533,000

<b>Irrigated Water Consumption</b>	Total water consumed for irrigation of Town owned property	Gallons per year	Amelia Johnson, Utility Billing	123,072,000
<b>Irrigated Water Consumption</b>	Total water consumed for irrigation of Town owned property	Acre-feet per year	Calculation	377.69
<b>Total water consumption</b>	Total gallons of municipal water consumed	Gallons per year	Calculation	127,930,000

### Residential Water Consumption

Single-family and multi-family households often have a very different water consumption profile due to varying factors. The data includes per household consumption, broken out into the two household types. Additionally, staff was able to calculate the per capita residential water use. All water baselines are calculated using a median over five years to normalize for variation in weather.

<b>Metric</b>	<b>Definition</b>	<b>Units</b>	<b>Source</b>	<b>Median over 5 years (2015-2019)</b>	<b>Benchmark (US)</b>
<b>Single-family consumption per household</b>	SF residential water consumption divided by # of households	Thousand gallons per SF household per year	Calculation	<b>102.4</b>	Unavailable at this time
<b>Multi-family consumption per household</b>	MF residential water consumption divided by # of households	Thousand gallons per MF household per year	Calculation	<b>39.7</b>	Unavailable at this time
<b>Per capita residential water use</b>	Total residential water consumption divided by population	Thousand gallons per capita per year	Calculation	<b>28.9</b>	<b>29.93</b>

### Commercial Water Consumption

Metric	Definition	Units	Source	Median over five years
<b>Potable water consumption</b>	Total gallons of potable water consumed by commercial customers	Gallons per year	Town staff (water utility data)	27,400,000
<b>Irrigated water consumption</b>	Total gallons of irrigated water consumed by commercial customers	Gallons per year	Town staff (water utility data)	90,340,000
<b>Total commercial water consumption</b>	Total gallons of water consumed by commercial customers	Gallons per year	Calculation	116,784,001

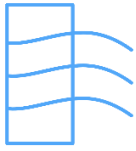
### Existing Initiatives and Programs

- **Garden in a Box:** The Town partners with the Resource Central Garden in a Box program to provide discounted gardens to residents during the spring sale. These gardens are less water-intensive than lawns and reduce outdoor water use for participants who reduce their irrigation system settings or replace pop-up sprinklers for drip systems.
- **Slow the Flow:** The Town partners with Resource Central and their Slow the Flow program to provide free indoor and outdoor audits as part of our Water Conservation Program. Residents can schedule an appointment with a trained technician for a water-saving inspection of your sprinkler system and/or an indoor water inspection.
- **Water-Wise Seminars:** The Town has partnered with Resource Central to offer topic specific Water-Wise seminars to residents. In 2020, these seminars went virtual and residents were able to attend the Superior-sponsored seminar, as well as dozens of others offered by Resource Central.
- **Water Efficiency Rebate Program:** This program offers homeowners rebates on certain water-conserving products for their home in Superior. Products include shower heads, dishwashers, toilets, clothes washers, high efficiency sprinklers and WaterSense certified smart sprinkler controllers. Staff is proposing the addition of rain barrels and drip conversion kits in the 2022 Budget.
- **Irrigation Reuse System:** The Town has a reuse or reclaimed water system that is separate from the potable water system. Reuse water is treated, effluent water from the wastewater treatment plant; this is former sewage that has been chemically treated to remove solids and impurities for commercial landscape irrigation. Reuse water is pumped from the wastewater treatment plant through the distribution system and up to a 1.4-million-gallon tank on a hilltop in the southeast part of Town; from there, it flows by gravity to deliver irrigation water to commercial customers and Town park properties.

- **[Keep it Clean Partnership](#)**: Superior participates in this annual stormwater protection education campaign led by Boulder County.
- **Median Enhancement Project**: The PROS department is advancing opportunities beginning with this year’s pilot project to reduce turf in the Town’s medians and replace it with low-water plants using drip irrigation and hardscape materials that require less maintenance.

### Opportunities, Best Practices and Potential Partnerships

- **Energy Star Portfolio Manager for Town Facilities**: Energy Star Portfolio Manager promotes water efficiency by securely tracking and assessing water consumption across an organization’s entire building portfolio. Using this platform would streamline analysis of the impact specific projects have on the Town’s water consumption as well as assist in identifying areas for improvement. The Town Sustainability Analyst or a sustainability intern would be responsible for setup and ongoing management of the platform.
- **Facility Water Audits**: As they become more readily available, the Town could consider participating in an Indoor Commercial Audit offered by [Northern Water](#) in partnership with Brendle Group.
- **Municipal Irrigation Repairs and Upgrades**: Town staff continues to repair, upgrade, and adjust all irrigation systems with the most efficient available technologies.
- **Residential Water Use Education Campaign**: The [Live Like You Love It campaign](#) is a statewide campaign designed to deliver a unified, consistent message about the value of Colorado water and the need to conserve, care for and commit to becoming more informed about this critical resource.
- **Turf-Reduction**: Many jurisdictions have created and implemented plans to reduce the amount of irrigated turf managed in municipal parks and open space areas.
- **Regional Collaboration**: Staff continues to identify and participate in regional planning efforts to ensure that planning for new development within Boulder County and the Denver metro region adequately addresses water supply constraints and vulnerabilities.



## Air quality

**Town Goal:** Reduce ozone pollution below the EPA’s National Ambient Air Quality Standard (NAAQS) level by 2025.

The quality of the air impacts the way many people live their lives. Poor outdoor air quality can negatively impact health and decrease visibility in the community. The **air quality standard for ozone is 70**, and the Denver Metro region consistently exceeds this standard. The Town is committed to improving air quality by collaborating with local and regional partners and educating the community on simple steps that can make a positive impact.

### Baseline Metrics

The EPA metric for Ozone is defined as the annual fourth highest daily maximum 8-hour concentration, averaged over three years. For the Town’s baseline metric, ozone concentration data was collected from the Colorado Department of Public Health and Environment’s Rocky Flats air quality sensor.

Year	2015	2016	2017	2018	2019
Ozone Annual AQI Value	80.7	78.7	77.7	78.7	76.0

Source: Colorado Department of Public Health and Environment

### Existing Initiatives and Programs



- **Air Quality Monitoring:** The Town installed three air quality monitors throughout Town that residents can check anytime online. Those interested can view the [PurpleAir sensor map](#) and navigate to Superior to view current and historical air quality.
- **Transportation Goals:** The Town of Superior Comprehensive Plan includes a goal to develop a multi-modal transportation system to efficiently meet the local and regional transportation needs of residents and businesses in a safe, convenient, and efficient manner while minimizing negative environmental and community impacts.
- **Mow Down Pollution:** The Town has communicated to residents about this opportunity to reduce emissions associated with gasoline-powered lawn mowers by trading them in for an electric mower.
- **Downtown Superior Modes:** Commuting Solutions has partnered with Downtown Superior’s district management and Town staff to help visitors plan their trip or regular commute using sustainable transportation options. Alternate transportation options include transit, bicycling, carpool, or ride share. The intent of this project is to help



residents and visitors save time, money and reduce the environmental impacts of driving single-occupancy vehicles.

- **Public Electric Vehicle Charging Infrastructure:** The Town owns and operates three electric vehicle (EV) charging stations, each with two charging ports, at Town Hall, Founders Park and Community Park. Additionally, the Town will continue to pursue the installation of EV chargers across Town-owned facilities through the annual budget process.
- **Town Fleet Electric Vehicle Transition:** Electrification of Town vehicle fleet is scheduled to happen in upcoming years beginning with four replacement administrative vehicles proposed for purchase next year. Challenges associated with fleet electrification include availability of light and heavy-duty trucks as well as vehicles that serve unique purposes.
- **Electric Landscape Equipment:** The Town continues to look at transitioning all equipment used in municipal landscaping operations to electric. This will be a phased approach with the first set of EV equipment being used in 2021.
- **Regional Electric Vehicle Planning Cohort:** This cohort is organized by Boulder County, with the main goals being to develop a Regional EV Action Plan that includes prioritized strategies for Boulder County and its communities; support individual community-scale EV Action Plans or Strategy Guides that layer in regional integration efforts but also address community-specific needs and goals in a sub-set of Cohort stakeholder communities; provide a structure for shared learnings between communities; provide a structure for collaboration and cooperation among agencies, service providers, and stakeholders including Xcel Energy, CEO, CDOT, and other key partners for technical support and execution of strategies.
- **Bike to Work Day:** The Town has partnered with local businesses and Commuting Solutions to provide a bike to work day breakfast station and encourage residents to hop out of the car and onto their bikes for the day.
- **Employee E-Bikes:** Town employees have access to E-Bikes purchased by the Town. With staff located across several locations, this is a great way to reduce pollutants associated with traveling to meetings with colleagues.

## Opportunities, Best Practices and Potential Partnerships




- **Voluntary Programs:** The Town will continue to explore regional opportunities to participate in voluntary programs to educate, empower, and mobilize action to reduce ozone-forming and greenhouse gas (GHG) emissions.
- **Regional Air Quality Council:** The Regional Air Quality Council has several programs, many of which the Town has participated in previously, that aim to reduce air pollution in the region. The Town will continue to leverage these programs and funding opportunities and utilize their educational campaigns, such as Simple Steps, Better Air, to educate residents.
- **MyWaytoGo:** This online platform allows jurisdictions and companies to setup commuter challenges among residents and employees to foster participation.



## Other Existing Programs and Projects

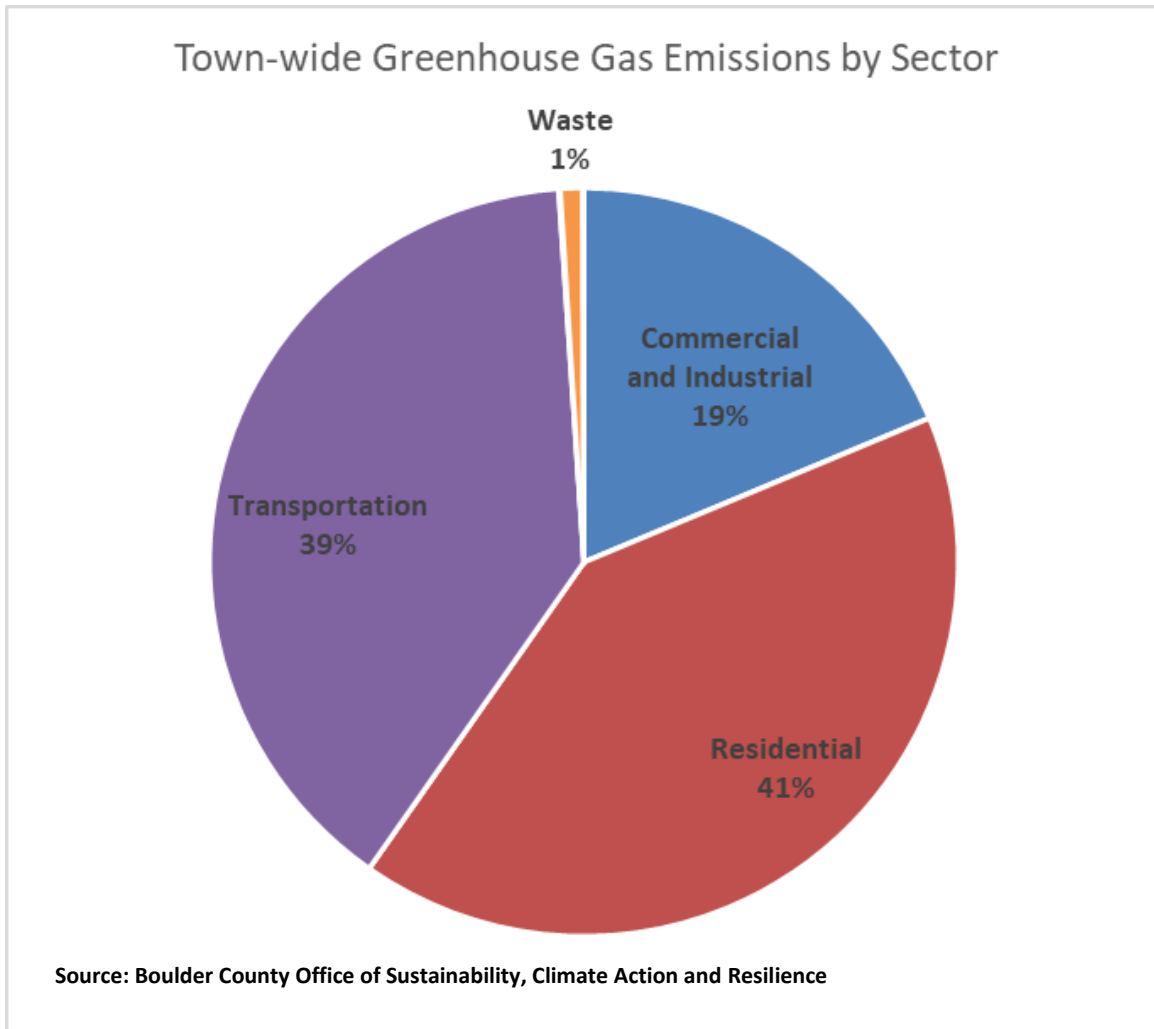
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The Sustainability Audit identified a number of programs and projects implemented in the Town that do not fall under one of the existing goal areas. These are summarized below.

-  • **Natural Weed Mitigation:** A small herd of goats has grazed on Town property managed by the Parks Recreation and Open Space Department. The herd targeted noxious weeds and other species of concern as identified by staff.
-  • **National Trails Day:** This event is hosted by the Open Space Advisory Committee (OSAC) with education and entertainment highlighting the importance of trail maintenance and proper trail use.
-  • **Arbor Day:** Each year the Town celebrates Arbor Day by planting a tree and educating residents about the importance of tree canopy for our community. Additionally, there are other aspects of sustainability education at this annual event.

## Appendix A – Relevant Charts

### Climate Change



Energy

