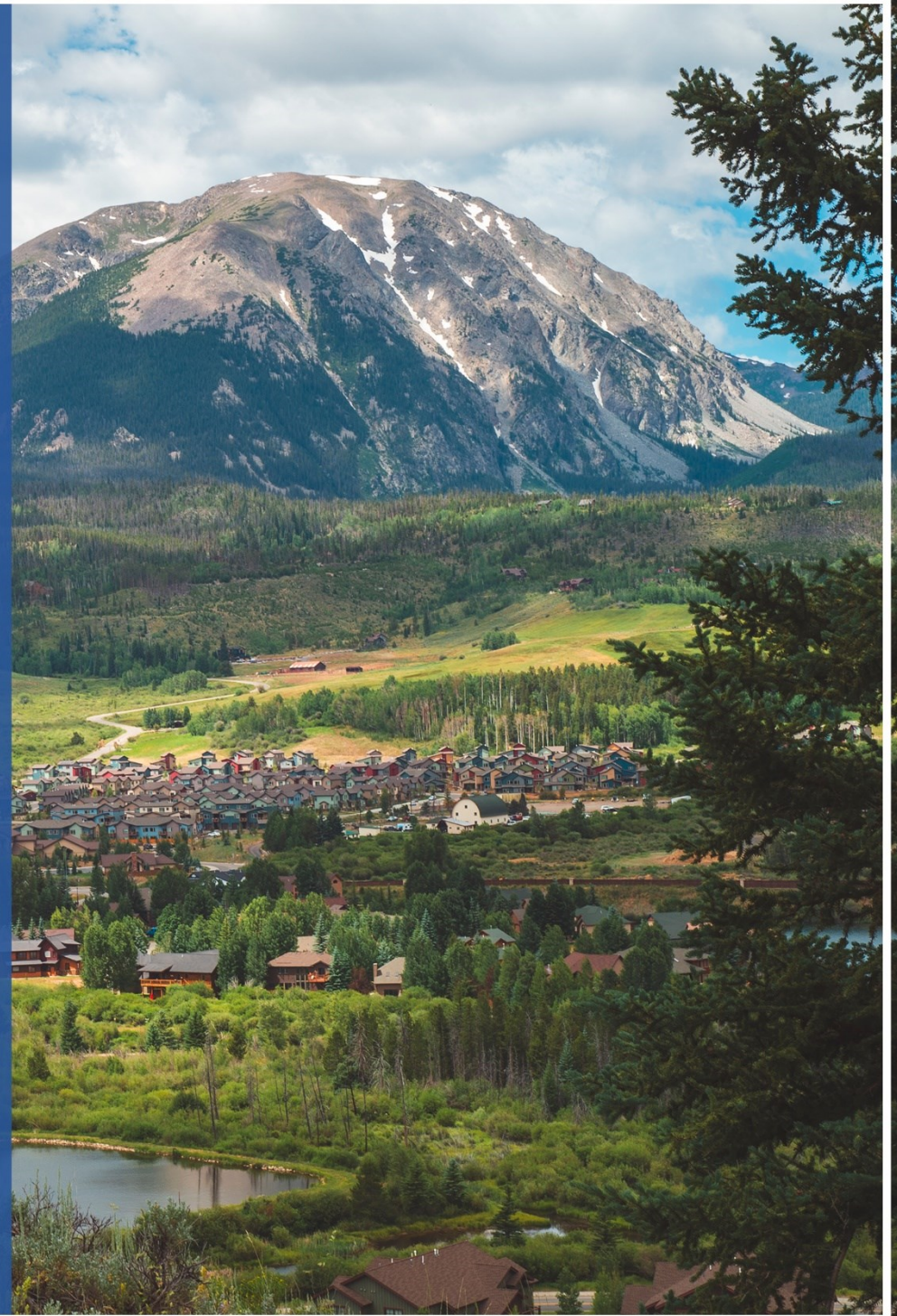


# Sustainability Strategic Plan

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Final

August 2024







# Cover Letter

The Town of Silverthorne is excited to embark on a new era of sustainability. While sustainability is not new to Silverthorne, the creation of the Town’s first Sustainability Strategic Plan (Plan) marks a new commitment to sustainability.

In the past, the Town of Silverthorne has practiced sustainability in a variety of ways, including subscribing to renewable electricity options through local energy providers, partnering to create a solar demonstration garden in Town, and offering rebates to residents and businesses for making energy efficiency upgrades, to name a few. Silverthorne has undergone significant changes to the built environment over the past decade, and sustainability is a main pillar of responsible growth management. Previously, the Town of Silverthorne has included sustainability policies in other long-range plans, such as the 2019 Summit Community Climate Action Plan (a county-wide plan), the 2022 Comprehensive Plan, and the 2021 Parks Open Space and Trails Master Plan. The creation of the Sustainability Strategic Plan is customized to the Silverthorne community and offers a focused approach to sustainability planning, allowing for more deliberate actions to be taken by the Town in relation to sustainability efforts.

To recognize and celebrate the Town’s diverse community, this Plan was created to distinctly represent Silverthorne. Community input was collected through varying techniques throughout the planning process, along with feedback from all Town departments. This Plan will serve as a useful tool for both Town government and community members to reference over the next five years.

As implementation unfolds, special emphasis will be placed on engaging all aspects of our community, including residents, businesses, the workforce, and visitors. The Town realizes the collective responsibility we all share in preserving the natural environment around us and hopes to lead by example while supporting community members as we all move towards a more sustainable future.

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Town Manager

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Manager

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# Acknowledgements

The development of Silverthorne’s first Sustainability Strategic Plan has been a collaborative effort, made possible by the Town of Silverthorne, local businesses, community members, and subject matter experts. We extend our gratitude to all contributors for their valuable input and support in shaping this Plan.

## Town of Silverthorne Council:

- Mayor Ann-Marie Sandquist
- Mayor Pro Tem Amy Manka
- Tim Applegate
- Kelly Baldwin
- Jonnah Glassman
- Tanecia Spagnolia
- Erin Young

## Town of Silverthorne Staff:

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- Nikki Johnson - Recreation Center

- Marcus Miller- Events
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## Local Organizations:

- Xcel Energy
- Summit County Resource Allocation Park
- Summit Stage
- High Country Conservation Center (HC3)
- Family & Intercultural Resource Center (FIRC)
- Silverthorne Elementary School
- Summit County Builders Association
- Summit Chamber of Commerce
- Eagles Nest Property Homeowners Association
- National Forest Service - District Office
- Arapahoe Basin Ski Area
- Copper Mountain Ski Resort

## Consulting Team:





## Acronyms and Abbreviations

CAP	Climate Action Plan
Collaborative	Summit Climate Action Collaborative
CY	Calendar Year
C&D	Construction and Demolition
EUI	energy use intensity
EV	Electric Vehicle
FIRC	Family & Intercultural Resource Center
gal/sf	gallons per square foot
GHG	greenhouse gas
HC3	High Country Conservation Center
HOA	homeowners association
IECC	International Energy Conservation Code
kBtu/sf	thousand British thermal units per square foot
kGal	kilo-gallons
kWh	kilowatt-hours
LEED	Leadership in Energy and Environmental Design
MMBtu	million British thermal units
MSW	municipal solid waste
mtCO <sub>2</sub> e	metric tons of carbon dioxide equivalent
Plan	Silverthorne's Sustainability Strategic Plan
SCRAP	Summit County Resource Allocation Park
sf	square feet
WUI	water use intensity



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## Overview

The Silverthorne community has been practicing environmental stewardship for years, but not under a strategic umbrella. This Sustainability Strategic Plan (Plan) is the Town’s first sustainability strategic plan and provides a framework for sustainability initiatives across the organization. The community now has a strong direction on where the Town of Silverthorne is headed and how to achieve the Plan’s goals.

Sustainability revolves around balance. Whether it is striking a harmonious relationship among the environment, economy, and society, or navigating the delicate connection between the present and the future, sustainability requires a thoughtful approach. It involves identifying and understanding trade-offs, discussing them intelligently and respectfully, and striving to turn potential win-lose scenarios into win-win outcomes.

This Plan uses “sustainability” to refer to a balancing process that considers the needs of the environment, the economy, and society while also balancing present circumstances with the needs of the future. It presents a way of making decisions across a variety of areas.

Where data is available, this Plan sets goals for the Town of Silverthorne to produce better outcomes in the future. Where data is not yet available, this Plan sets up a process to collect data and use it to track progress for related strategies. This Plan provides a reference document that Town departments as well as community members can refer to as they make decisions about the future.

The core of this Plan is goals and strategies for each of the five focus areas—Energy, Water, Materials, Mobility, and Greenhouse Gas (GHG) Emissions. Each focus area has specific goals for Town government operations and for the community, with a set of strategies designed to achieve the goal. There are core strategies that the Town will implement and stretch strategies that the Town may decide to implement based on its success with the core strategies. The Plan also includes next steps and how to track progress.

The Plan focuses on the next five years and takes a general approach to the next ten years. The Plan will be revisited and updated in five years.

This Plan takes a cautious approach. While sustainability is not new to the Town, planning for it – establishing baselines, setting goals, developing strategies, and implementing those strategies – is new.

Communities pursue sustainability because they love where they live and want to preserve what they love for those here now and for those who will be here many years from now. The Plan is an important tool to ensure that the community continues to thrive and sets the stage for how decisions can be balanced, to ensure a sustainable future.



# The Sustainability Planning Process

Major elements of the process for creating this Plan are illustrated in the figure below.

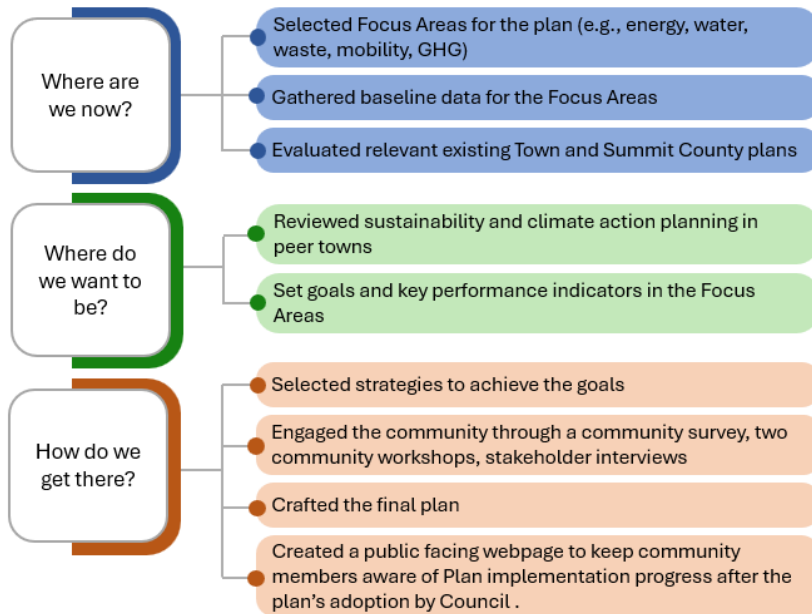


Figure 1. Major Elements of the Planning Process

The Town focused on five areas where it has the greatest influence and the greatest impact regarding sustainability to create the Plan. The process for selecting these focus areas is described in the next section.

Once focus areas were selected, baseline data was gathered to determine current conditions and recent trends. This process provided a sense of where the Town was starting out and allowed for the identification of data sources that could be used to track progress in the future. For areas where there were data gaps, this Plan includes strategies to develop the necessary baselines.

The Town’s sustainability consultants reviewed relevant Town and Summit County plans, to prevent duplicating efforts in areas where sophisticated planning had already occurred. Silverthorne's plans reviewed included the 2022 Comprehensive Plan, the 2020 Transportation Master Plan, the 2021 Parks Open Space and Trails Master Plan, and the Facilities Master Plan for Town government structures and buildings. Summit County’s recently adopted 5-year Construction and Demolition (C&D) Plan and the 2018 Summit Community Climate Action Plan (CAP) were reviewed.

The Town also wanted to get a sense of how similar towns were approaching sustainability and climate action plans, and reviewed examples from Gunnison and Eagle, Colorado; Truckee, California; Jackson, Wyoming; and Whitefish, Montana. This review provided the Town with a sense of where it stands among its peer communities and guidance on strategies that did – and did not – succeed elsewhere.

## What Silverthorne residents said

“I am impressed by what we have already and appreciate the desire to do more. Tolerance is one thing, getting change is another.”





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### Examples of mountain towns with sustainability and climate action plans:

- Breckenridge, CO: [Sustainable Breck Plan](#)
  - Eagle, CO: [Net Zero Action Plan](#)
  - Eagle County, CO: [Climate Action Plan 2020 Update](#)
  - Frisco, CO: [Energy Action Plan](#)
  - Gunnison, CO: [Gunny Cares 2020, Gunnison Sustainability Plan](#)
  - Truckee, CA: [Climate-Ready Truckee | Truckee 2040](#)
  - Whitefish, MT: [Climate Action Plan 2018](#)
- 

The heart of any sustainability strategic plan is its goals and strategies. The Town wanted goals set for its government facilities and operations and the community. This reflected a sentiment heard during community engagement that the public wanted the Town to “lead by example.” The community could then follow these examples through their own personal efforts, guided by support from the government in the form of advocacy, education, and incentives.

The development of goals and strategies was informed by a multi-faceted community engagement process. Community engagement occurred through a community survey that drew over 500 responses, two community workshops, and interviews with key stakeholders. During the planning process, the Town kept constituents informed of what was happening and how they could provide input through a variety of marketing and communication channels.



Figure 2. Youth mountain biking in Silverthorne





## Focus Areas

The selection of the Plan’s focus areas was based on where the Town has the greatest potential for impact and where that impact will be felt most directly.



Figure 3. Five Focus Areas

The Town owns its water and sewage treatment system, making it possible to influence sustainability issues related to water directly. In other instances, the Town has regulatory authority, such as control of streets and sidewalks and rules relating to buildings. The Town can also influence areas controlled by boards or authorities on which the Town has a seat, for example, the Summit Stage, and the Summit County Resource Allocation Park, (through its Zero Waste Task Force). The Town can influence GHG emissions as a participant in the Summit Community CAP.

The focus areas reflect the key factors influencing quality of life. Water is an absolute necessity. The community relies on energy constantly. The choices of what materials to buy and keep, and what to do when people are ready to dispose of materials, can enrich or impoverish lives, depending on what choices are made. Mobility – the method to get where people want when they want – affects lives every day.

The GHG Emissions focus area is different from the others, in that communities as small as Silverthorne cannot affect the course of human-induced climate change and its local impact on their own. It is nonetheless a focus area, because, as a participant in the Summit CAP, the Town is obliged to do its part to meet the CAP’s GHG emissions reduction goals.

The five focus areas:



**Energy** – Keep our local energy sources affordable, reliable, and clean. Strategies prioritize energy conservation and efficiency to reduce overall consumption and procure energy from renewable sources. This involves switching from coal, oil, and gas to wind, solar, and hydropower.



**Water** – Preserve access to clean water at an affordable cost, while reducing the amount of energy needed to treat water. Strategies emphasize the use of water-saving appliances and devices and the reduction of irrigation through changes in landscaping practices while maintaining green space throughout the community.



**Materials/Waste** – Minimize the amount of waste sent to a landfill through smart decisions about what is bought, how long it is used, and what is done when it is time to throw it away. Strategies emphasize extending the life of goods through repair and second-hand sales, creating effective infrastructure for diverting waste to recycling and composting, and providing incentives and education about how to recycle and compost effectively.



**Mobility** – Create alternatives to driving alone, as it is the most expensive and polluting form of transportation. Strategies include expanding the range, frequency, and flexibility of transit systems; encouraging carpooling; and improving streets and trails to make cycling a more convenient and safe option.



**GHG Emissions** – Meet the goals set in the Summit CAP. Strategies in the other four focus areas will also reduce GHG emissions. Additional strategies in this focus area emphasize efforts to move away from gasoline and natural gas and toward electricity in heating appliances, vehicles, and landscaping equipment. In our region, electricity produces fewer GHG emissions than gasoline and natural gas.



Figure 4. Biking and walking for recreation and daily commutes to work is a great way to reduce GHG emissions



## Where The Town Is Now

A major step of the planning process was to gather data about how Silverthorne is performing now in the five focus areas. Town staff and the consultants gathered data from Town government records and third parties, including Xcel Energy (energy data), the Summit County Resource Allocation Park (waste), Summit Stage (mobility), and from publicly available sources, such as the U.S. Census Bureau (population and demographics).

Data gaps occur in certain areas. In those areas where there is not yet good data, this Plan includes strategies to collect the data needed going forward. Data review has informed the goal setting and will allow the Town to track progress against identified goals.

Data trends over the past few years are shown in the Goals and Strategies section. In more general terms, the collected data for the most recent available year is discussed in the following sections.

## Energy

The Town has detailed records of how much energy has been consumed by the community and government, what the division is between electricity and gas, and how consumption has changed over time. The data shows that the Town uses more gas-powered energy for buildings and grounds than electricity. The data also shows how much of the Town’s energy comes from carbon-based sources (coal and gas), how much from clean energy sources (mostly solar and wind) and how much is contributed by direct on-site solar photovoltaics within the Town boundary. The Town subscribes to renewable energy programs for its own buildings and facilities that help fund the development of renewable power sources. In 2023, on average for the full year, 44.2% of the electricity from Xcel came from clean energy sources (wind and solar).

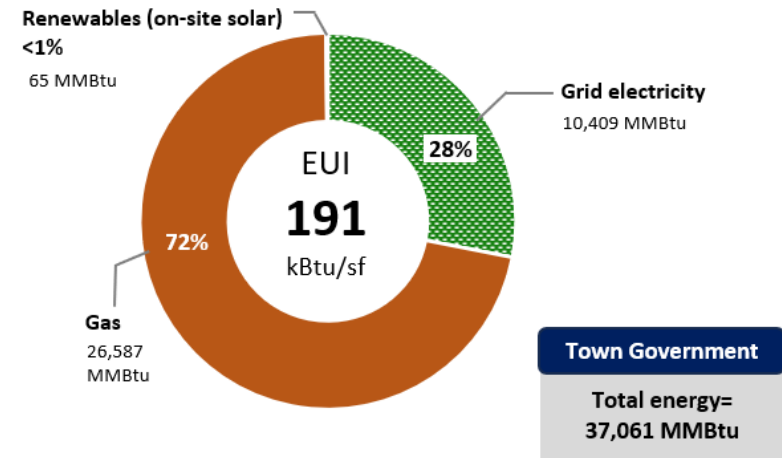


Figure 5: Town Government Energy Consumption in 2023 using EUI (energy use intensity per square foot of building)

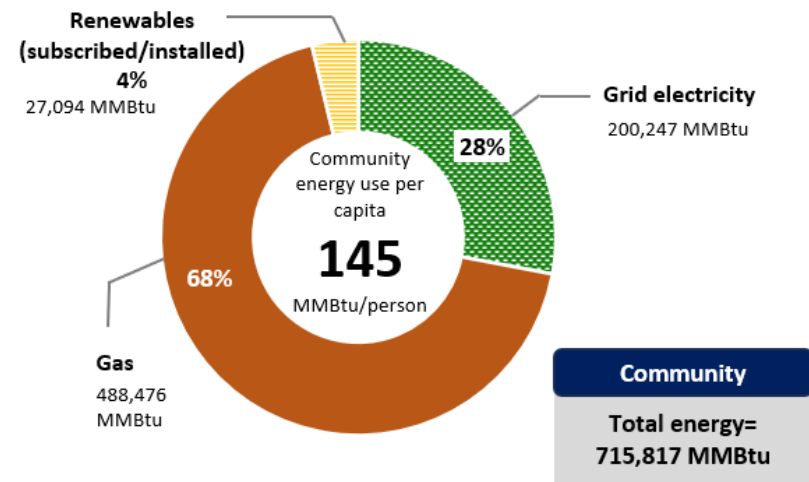


Figure 6: Silverthorne Community Energy Consumption in 2023





## Water

Nearly all potable water comes from the Town’s Water Department, so the Town has records of water consumption and trends. The Town has less data on what portion of the total water is used for irrigation. Some irrigation water runs through separate meters, but some does not.



Figure 7. The Blue River, part of the Colorado River basin, flows through Silverthorne

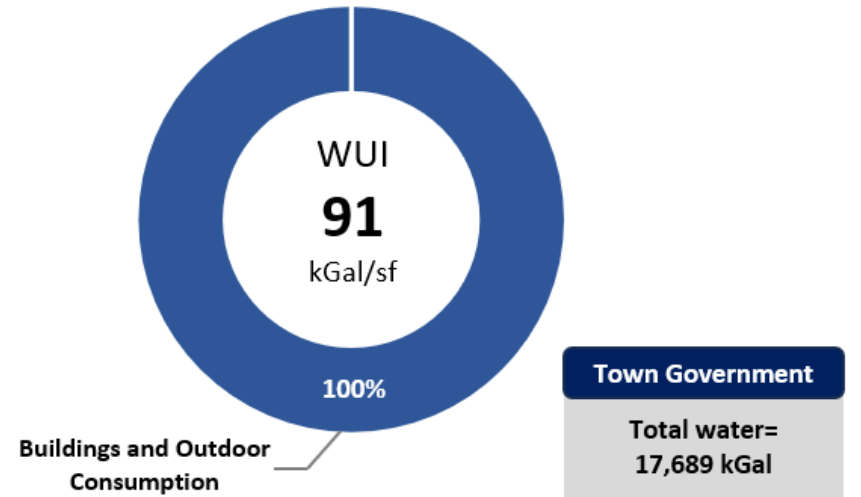


Figure 8: Town Government Water Consumption in 2023 using WUI (water use intensity per square foot of building)

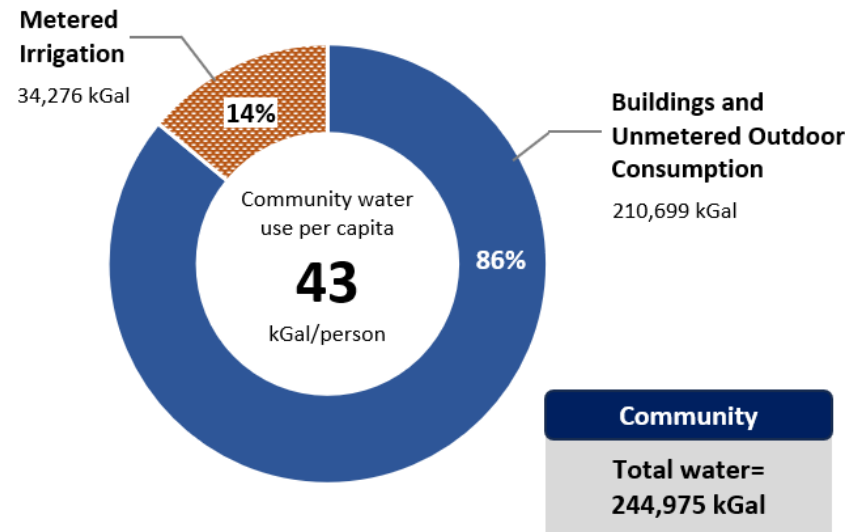


Figure 9: Silverthorne Community Water Consumption in 2023



## Materials (Waste and Recycling)

Trash, recycling, and compost collection are handled entirely by private haulers in Silverthorne. They do not keep track of the amount of waste they receive solely within the Town. The Town has also not historically tracked its own operational waste from facilities. Therefore, the amount of waste collected and diverted to recycling and composting in Silverthorne is not known. The Summit County Resource Allocation Park (SCRAP) conducted a county-wide study of waste volume and composition in 2019 and has been tracking annual diversion rates at the County level.

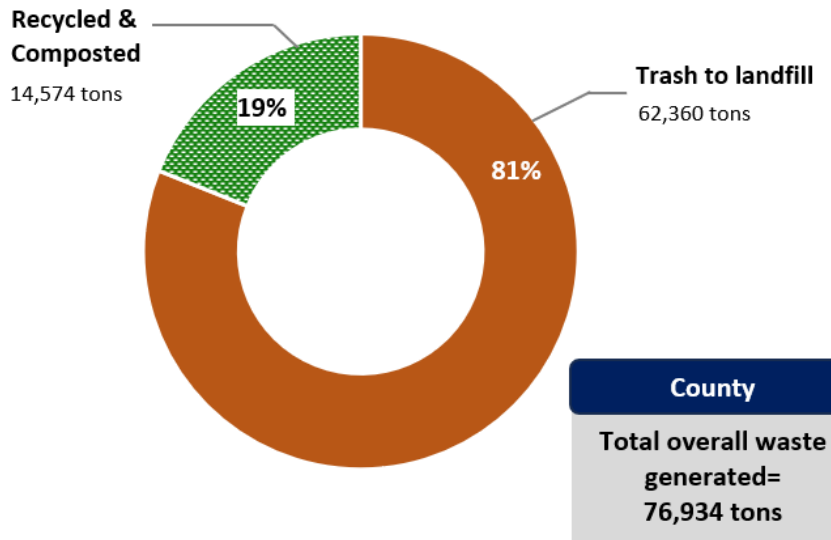


Figure 10. Summit County Waste Diversion in 2023



Figure 11. Baled cardboard awaiting pickup by recycler at SCRAP



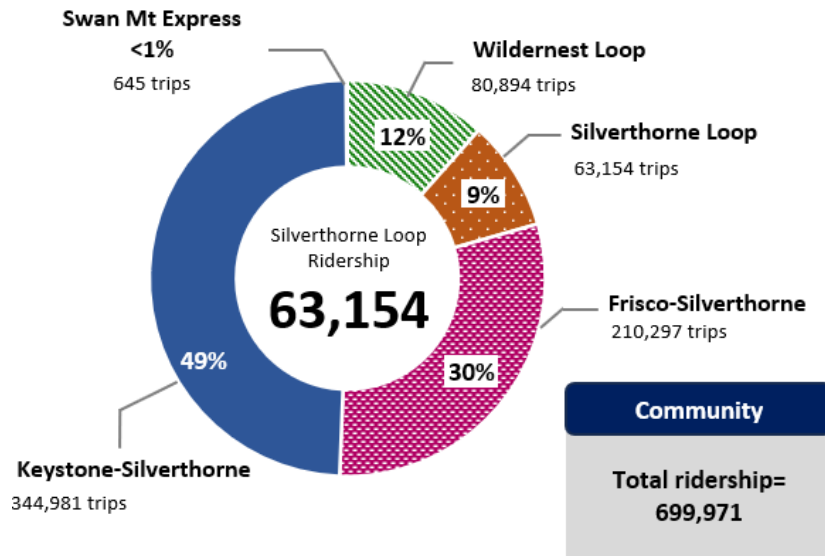
Figure 12. Garbage truck of the type that services Silverthorne





## Mobility

The data related to mobility was centered around what alternatives people in Silverthorne have for getting around. Summit Stage provided detailed data about how many routes serve the Town, where the stops are, how frequent the service is, and how many passengers use these routes. Much of this data comes from when Summit Stage reduced service from every 30 minutes to once an hour, due to staffing shortages. In April 2024, 30-minute service was restored to routes that had it before, but data for its effect on ridership is not yet available. There was no data available for the use of carpooling. Although the U.S. Census Bureau’s American Community Survey provides data about how people commute, it is only available at the county level, not the municipal level.



Note: Number of trips indicate people getting on the bus. Some routes include people getting on outside of Silverthorne.

Figure 13. Summit Stage Ridership Data for 2023



Figure 14. Silverthorne transit stop





## Greenhouse Gas Emissions

In connection with the creation and implementation of the Summit CAP, the High Country Conservation Center (HC3) conducted GHG emissions inventories for Summit County and its municipalities in 2017 and 2020. Town government-specific emissions were calculated for Calendar Year (CY) 2023 by the Town’s sustainability consultants.

These data sources inform the Town where it is starting out and where it can get data in the future to track progress in most areas.



Figure 15. Electric vehicle charging at the Volvo charging station located in the Target parking lot

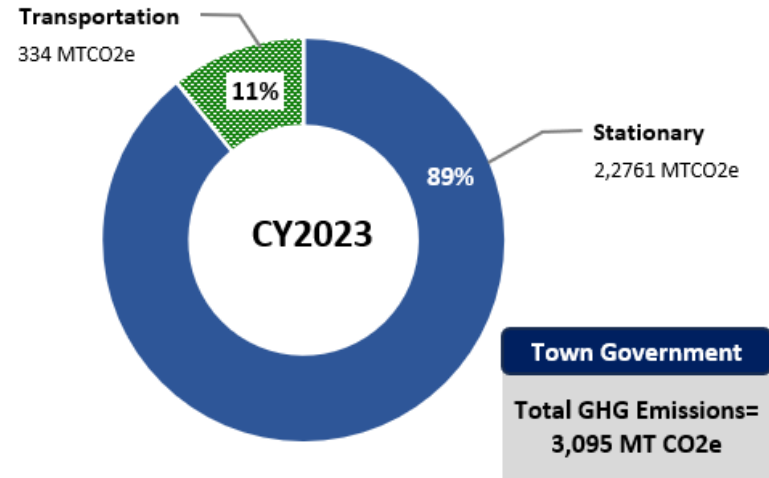


Figure 16. Town Government GHG Emissions based on Sector for 2023

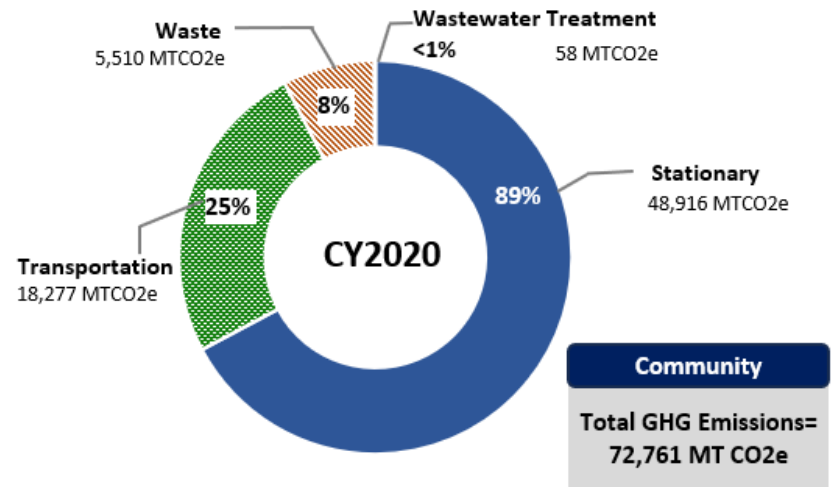


Figure 17. Silverthorne Community GHG Emissions based on Sector for 2020



## Public Engagement

Public engagement was a critical component of the Sustainability Strategic Plan development. Engagement occurred through multiple methods such as a bilingual survey, public workshops, and interviews. The Town circulated a community survey on major questions in the planning process, attracting more than 500 responses. It conducted two community workshops to enable the community to provide feedback regarding existing conditions, opportunities, goals, and strategies. Individual and group interviews with key stakeholders, both within the Town government and in entities outside of it, occurred throughout the planning process.

The Town kept the community involved through newsletters, social media posts, and more each month. The Town’s Sustainability Coordinator was also available to the community throughout the planning process to answer questions and provide information.

## Community Survey

The objective of the community survey was to get input on key issues from people who live, work, or own a business in Silverthorne. The survey was available in English and Spanish, and the Town used a variety of marketing channels to promote the survey in both English and Spanish. The Town also shared the survey with several community groups. As a result of these efforts, the Town received 506 completed survey responses. Of these, 495 were submitted online in English and six were submitted online in Spanish. An additional five handwritten responses were submitted in English from printed versions of the survey.

The results of the survey are shown in the attached Appendix 2.

### Quotes from the survey responses

“Actions need to be both tolerable and effective.”

“It is extremely important that this plan reflects the urgency of our climate crisis. This includes looking at those things that will have the biggest impact and focusing funds and policies on these.”

“Making recycling and composting easier for the community would be helpful!”

“Improve mobility with safe walking and biking options and better public transportation.”

*Source: Silverthorne Survey, Anonymous*



## Community Workshops

The Town conducted two community workshops. The first, conducted at the Silverthorne Pavilion on March 28, 2024, sought input on what areas the attendees wanted the Plan to address, how they felt the Town was doing in these areas, and what kinds of goals and strategies they would like to see in the Plan. The second workshop, conducted at the Recreation Center on June 24, 2024, was conducted after the draft goals and strategies were released to get feedback from the community on the Town’s priorities.

### First Workshop

42 people attended the first community workshop. Significant themes from the workshop breakout sessions included the following:

- Attendees had a variety of ideas about what constituted “sustainability.”
- There was a knowledge gap about what the Town was already doing in sustainability, what the community could do to help, and what support structures were in place to help the community do better.
- Attendees wanted the Sustainability Strategic Plan to offer greater guidance in the focus areas than has been available in the past. This included guidance to the Town government on how to conduct its operations and to residents, workers, and businesses on how to help the community be more sustainable.
- Attendees wanted the Town government to “walk the walk” and “lead by example” in sustainability. Attendees would like to see the Town have more electric vehicles and do more visibly to improve the energy efficiency of government buildings.

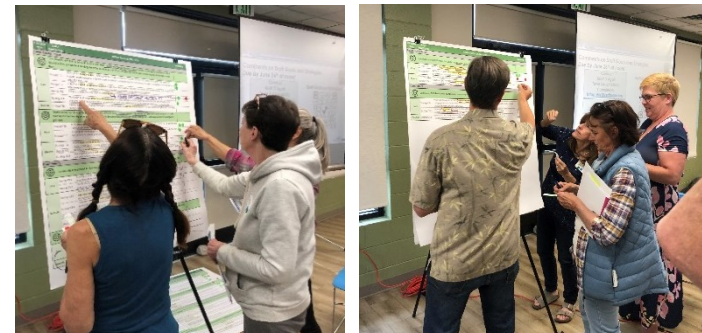


Figure 18. Silverthorne Community Workshops





- There was greater dissatisfaction with current conditions in mobility than in any other focus area. Public transit, while free, is not frequent enough and participants said it often did not meet the community's needs. Infrastructure for walking and cycling needs improvement.
- Visitors create challenges, particularly in materials and waste, but also in conserving water and energy. Attendees were concerned that their efforts in these areas might be offset by behavior from visitors.
- There were knowledge gaps as to the quality and cost of the Town's water. There was interest in using less turf grass and irrigation, and more native plants.
- Attendees would like to see more visible solar panels around town, including on government buildings. A few attendees expressed interest in "turning the lights off" or down more often at night, including in government buildings.
- Increased government efforts to educate residents and workers about sustainable living, including rebates and other financial incentives, would be appreciated.

## Second Workshop

16 people plus staff attended the second community workshop. Significant themes from the workshop breakout sessions included the following:

- There was general satisfaction with the sustainability planning process that the Town has been following.
- Nearly every strategy in the Plan received support or concurrence (in the form of a "green dot").
- Many strategies did not attract any concerns (or "red dots"). Concerns identified were discussed as a group.

- In a few instances people raised concerns about strategies, not because they opposed the strategies, but because they felt that the strategies did not go far enough or fast enough. This was sometimes expressed as a desire to change a stretch goal into a core goal.
- A recurring theme in the Energy breakout group discussions was that any energy strategies should produce "the biggest bang for the buck." This translated into some skepticism about energy audits and Leadership in Energy and Environmental Design (LEED) certification, because those carry transactional costs and do not appear to lead directly to energy outcomes.
- As at the first workshop, there was considerable support voiced for the Town enacting a "dark skies" ordinance that would save energy used for lighting while also benefiting migrating birds and other wildlife.
- Attendees expressed interest in all aspects of water conservation at Town facilities, but they expressed much greater interest in conservation in outdoor areas (e.g., irrigation) than inside Town buildings.
- The strategies relating to the expansion of second-hand stores and repair services in the community drew substantial support, as did strategies pushing the Town in the direction of a more "circular" economy.
- There was interest and support for the micro-transit service that Summit Stage is going to pilot, but also some concern about where the "virtual stops" would be located and whether this new service might result in more vehicles being on the road than before.
- Attendees were also in strong support of introducing E-bikes to Silverthorne and to offering incentives to encourage E-bikes.



## Stakeholder Interviews

The Sustainability Team interviewed the Town’s senior leadership and met monthly with the Town’s “Green Team.” These stakeholder conversations were to help the Town government lead by example in sustainability. Town officials shared the sustainability initiatives that were already happening and described their interest in new initiatives they would like to pursue. There were also frank discussions about the financial and personnel capacity of the Town government to take on new initiatives.



Figure 19. Green Team Meetings

The Sustainability Team also interviewed outside entities that had interest in how the Town would proceed with sustainability and had important information about what assets may be available to implement the Plan’s sustainability strategies. Interviews were conducted with representatives of the following entities:

- Xcel Energy
- Summit County Resource Allocation Park
- Summit Stage
- High Country Conservation Center (HC3)
- Family & Intercultural Resource Center (FIRC)
- Silverthorne Elementary School
- Summit County Builders Association
- Summit Chamber of Commerce
- Eagles Nest Property Homeowners Association
- National Forest Service (district office)
- Arapahoe Basin ski area
- Copper Mountain ski resort

The survey, community workshops, and interviews collectively provided a good sense of where the Town wanted to go with sustainability and what methods people would find the most helpful. The responses helped inform the development of the Plan.



## Goals and Strategies

This Plan contains goals and strategies for each focus area. Goals and strategies are established at the Town Government and community levels. Town goals and strategies are presented first because the community wants the Town to lead by example. There are strategies presented under each goal. The “core” strategies are the ones that the Town intends to pursue during the next five years. The “stretch strategies” are extra strategies that are more challenging, and that the Town may pursue depending on what kind of progress it is making on the core strategies, financial feasibility, and staffing resources.

Town goals and strategies are identified with a “T” to refer to those for the Town and Community goals are identified with a “C.”

The path to sustainability is not always straight. Unexpected setbacks can occur. Regardless of the direction the goals point to (i.e., increases in some areas, decreases in others), the intention is to maintain the overall trend (up or down) even when setbacks occur.

Sustainability planning may be new in Silverthorne, but sustainable choices and behaviors are not. This Goals and Strategies section features some of the community’s Sustainability Heroes, people who are already demonstrating that the actions set forth in the strategies work and make lives better.

**Goal:** A goal is a specific, measurable, and time-bound objective. It helps in directing efforts, guiding decisions, and resources to align with the desired outcomes. Goals may be short, medium, or long-term depending on the objectives.

**Strategy:** A strategy is a plan of action geared towards achieving a certain goal or objective. There may be multiple strategies addressing the same goal, and these may be standalone (independent of each other), enabling (building off one another) or stretch (going above and beyond the recommended set).

**Baseline:** A baseline is a beginning point of reference against which performance can be measured or compared. It is used in connection with later data to evaluate the relative performance, quality, or efficiency of a process, product, or service. Having a baseline enables a determination of the degree to which progress is made over time.

**KPI:** Key performance indicator or KPI is a quantifiable measure of performance over time for a specific objective. For example, energy use intensity or vehicle miles travelled.





## Energy Goals and Strategies

Nearly all the community’s electricity and natural gas are supplied by Xcel Energy. Xcel has planned to be completely off coal as an energy source, one of the dirtiest fuels for electricity generation, by the end of this decade. In recent years, 44.2% of Xcel’s electricity has been produced from renewable sources, mostly wind, with some solar. This percentage is expected to grow to about 80% by 2030. Xcel is headed towards being a “net zero carbon” provider by 2050.

Natural gas comes from methane and is used for heating air, water, and surfaces in Silverthorne. Methane produces carbon dioxide, a greenhouse gas, when combusted. The methane supply chain contributes substantially to GHG formation. During the production and distribution of methane, some of it is released into the atmosphere from equipment and pipeline leaks. Once released, methane is a far more potent GHG than carbon dioxide. Methane also has health and safety risks when used in buildings.

Xcel is currently developing what it calls a “Non-Pipeline Alternative.” Xcel would like to avoid the need to construct a new pipeline for natural gas across the state, including Summit County. Xcel would also like to insulate customers from the volatility of natural gas rates. Xcel wants to cooperate with places like Silverthorne to move customers from gas to electricity for heating and cooking, but only on a voluntary, incentive-based basis. Xcel is not interested in new mandates or in

pushing any community in a direction that causes community concern.

The Colorado Public Utilities Commission governs energy rates. The amount of energy used, and hence the amount paid, is up to the consumer. The amount of energy used is based on where, when, and how the energy is being used. This is why it is important to use energy efficiently; if done correctly, pollution and costs related to energy can both be reduced.

In 2023, Town government facilities consumed 3 million kilowatt hours (kWh) of electricity and 265,874 therms of natural gas. 72% of

**Silverthorne Sustainability Hero:  
Energy**

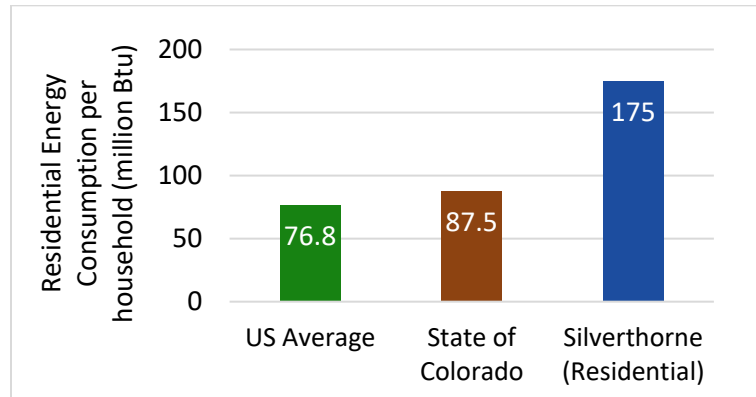
Keaton Morrison, his wife Katie, and his two children live in Smith Ranch. Keaton works at Alpine Bank in Dillon as an Assistant Vice President and Branch Manager and has served on many local non-profit boards including HC3 as Board Treasurer. Keaton utilized the rebates offered through HC3 and federal tax credits to install a solar photovoltaic array on his home. He was excited to do his part in a way that was affordable. Keaton has always been a big advocate for sustainability through simple, repeatable, and attainable practices that are accessible to everyone.

**Keaton Morrison**  
Assistant Vice President,  
Branch Manager,  
Alpine Bank, Dillon



the total energy consumption in Town government facilities was attributed to natural gas use. Energy consumption stayed relatively constant over the past five years. There has been a small amount of variability from year to year in the portion of energy that comes from renewable sources like wind and solar.

At the community scale, energy consumption has grown over the past five years, even as renewable energy has also grown. In 2023, the Silverthorne community consumed 58.7 million kWh of electricity and 4.9 million therms of natural gas. Only 29% of the community’s total energy consumption is attributed to electricity. The per capita energy consumption across the community (which includes residential, commercial, and governmental facilities) is 145 million British thermal units (MMBtu)/person. To compare Silverthorne to the wider region, the residential consumption was looked at more closely against established national benchmarks (175 MMBtu/household based on 2020 data, as shown in the bar graph in Figure 20).



Source: Silverthorne data from 2020 Summit County GHG Emissions Inventory; US and Colorado averages derived from U.S. Energy Information Administration’s 2020 Residential Energy Consumption Survey

Figure 20. Residential Energy Benchmarking

Renewable energy comes from multiple sources and 16% of energy (electricity and natural gas) in the community is from clean energy sources (per 2023 data).

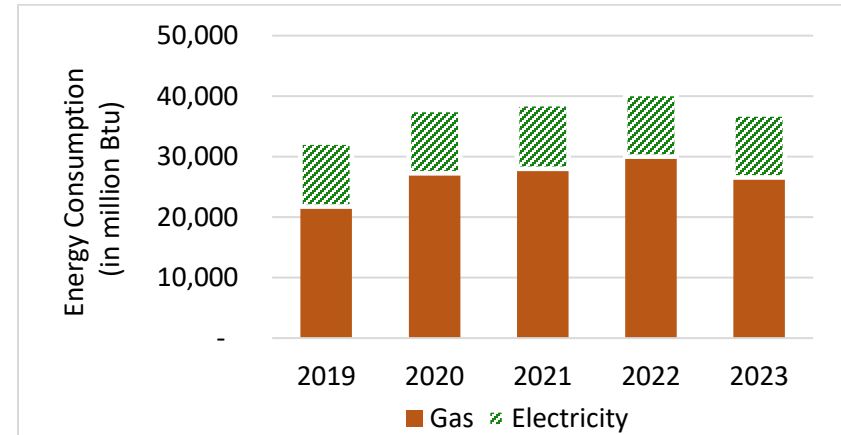


Figure 21. Town Government Energy Consumption Trends

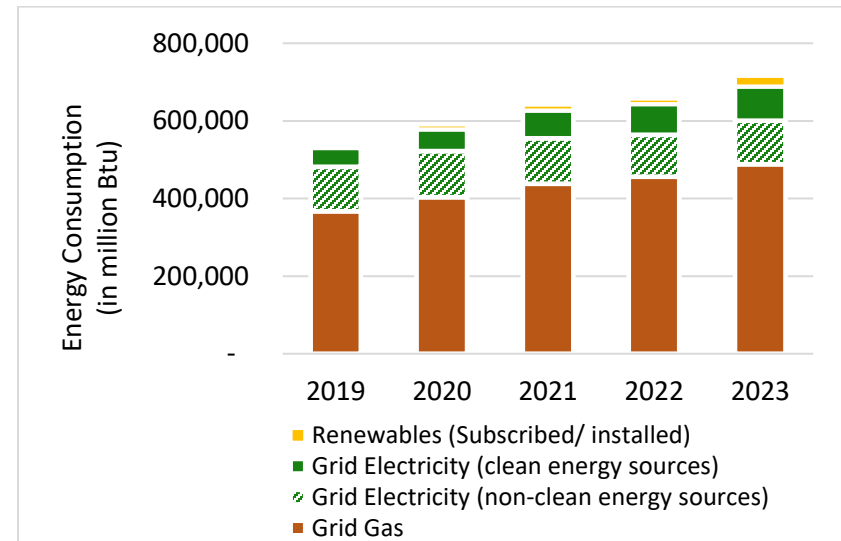


Figure 22. Silverthorne Community Energy Consumption Trends



The Town government wants to become more strategic in energy management. The last energy audit of its government buildings occurred in 2009. The Town does not have a policy that governs its energy choices, or an energy manager to enforce such a policy. The Town purchased capacity in a solar garden in Breckenridge and partnered with Sulas Industries to create the Sulas Solar Demonstration Garden at a town park, but it has not installed solar collectors on any government buildings in Silverthorne. The Town may wish to consider adding an energy manager position to its government staff. This position could also extend to the management of water consumption.

The Town’s main tactic for influencing energy choices in the community has been through periodic updates of its energy conservation building code. This code was last updated in 2019. It will be updated again in 2025 after the release of the 2024 version of the International Energy Conservation Code (IECC). Over the years, each revision of the IECC has increased its emphasis on energy efficiency, electrification, and renewable energy. The effect of the Code, however, is limited, as it only applies to new construction and major renovations.

The Town has provided advice occasionally to the community on how to reduce energy consumption and obtain electricity from renewable sources but has not done so in a comprehensive fashion. Energy management is relatively new to the Town and the Town has opportunities to play a larger role in energy reduction.

### How the Town Can Lead On Energy

Silverthorne is growing, and so are the Town government facilities. Expansions of Town buildings are in the works. More buildings require more energy, as does a growing government staff.

This projected growth makes it unrealistic to expect the Town’s government to reduce energy consumption in absolute terms during

the next five years. It is, however, reasonable to expect the Town to use energy more efficiently in its buildings and to acquire more energy from clean, renewable sources.

**Xcel Energy operates the “[Partners in Energy](#)” program to help local governments develop and implement an energy plan. In October 2024 Silverthorne will apply to the program, and if accepted, Silverthorne will receive valuable assistance from Xcel in implementing some of the strategies in its Energy Focus Area.**



### Town Government Energy Goal #1

**By the end of 2029, reduce energy use intensity (EUI) (the amount of energy used per square foot of space) in Town government buildings from the baseline year of 2023 (191 kBtu/sf), including all new and expanded buildings operational by then.**

- **Strategy TE1:** Conduct an energy audit in buildings owned or operated by the Town Government by December 31, 2025. The audits will include recommendations for actions to be taken in each building over the following four years to enable the Town to reach the target EUI reduction.
- **Strategy TE2:** Implement financially feasible audit recommendations, that can be achieved with energy savings and at least offset capital expenses of implementation over time, taking projected energy savings into account.





- **Strategy TE3:** Design, construct, and furnish any new building constructed between Plan adoption in 2024 and the end of 2029 to operate at or below the baseline year of 2023.
- **Strategy TE4:** Work with Xcel to install smart electricity meters in all government buildings within one year after they become available (starting 2025) and then educate Town staff on how to shift electricity demand from peak hours to save money.
- **Strategy TE5 (stretch):** Adopt a policy requiring new Town government buildings to seek LEED certification, under the U.S. Green Building Council’s latest LEED rating system for buildings.



### Town Government Energy Goal #2

**By the end of 2029, increase the amount of electricity generated from solar panels over the 2023 baseline, by adding solar panels to Town government buildings and grounds.**

- **Strategy TE6:** Add renewable energy sources to Town buildings where it is technically and economically feasible (e.g., solar cells on roofs, solar water heaters for recreation center pools).
- **Strategy TE7:** Investigate the availability of solar panels that the Town government can buy or lease in existing solar gardens and implement purchases or leases where it is economically advantageous to do so, based on the findings from the investigation.
- **Strategy TE8 (stretch):** Install electric heat pumps for heating space and water in all new Town buildings and when replacing space and water heaters at the end of their useful lives in existing buildings.
- **Strategy TE9 (stretch):** Investigate conduit hydropower for the water system and install one or more turbines if the investigation demonstrates that it will be economically advantageous to do so.

#### Quotes from the survey responses

“New homes should mandate solar. Rebates and incentives should be offered for existing homes to convert to solar. I would absolutely install solar on my home; however, the initial cost is way too much.”

“Need to help pay for homeowners to make energy upgrades. More climate action at local level. More energy efficient building for all the new condos.”

*Source: Anonymous, Silverthorne Survey*



### How the Community Can Be a Steward for Energy

Our energy consumption goal for the community is based on per capita consumption rather than total consumption, because of the population and economic growth referred to above.

Many current trends favor improvements in energy efficiency, electrification, and the use of renewable energy sources. Technologies are improving rapidly and there is an increase in monetary resources that come from the Federal Inflation Reduction Act, supplemented by new resources from the State of Colorado. The Town can help the community take advantage of these new resources to save energy and money while procuring energy from cleaner sources.



Figure 23. Solar Panels at Alpine Garden Center



### Community Energy Goal #1

**Reduce per capita consumption of energy (electricity and natural gas) by 2029, below baseline consumption in 2023.**

- **Strategy CE1:** Starting in 2025, conduct an annual inventory of incentives for energy audits and upgrades in private buildings and promote incentives to residents and businesses.
- **Strategy CE2:** Identify building owners in Silverthorne that have completed energy audits on their buildings and implemented upgrades and publicize their success stories to other owners to influence similar actions.
- **Strategy CE3:** Enact a “dark skies” policy to reduce nighttime outdoor lighting.
- **Strategy CE4 (stretch):** After Xcel installs smart electric meters on buildings in Silverthorne (scheduled to begin in 2025), work with Xcel to educate building owners on how to save money by shifting the electricity demand from peak hours (typically the afternoon daylight hours on weekdays).
- **Strategy CE5 (stretch):** Research emerging technologies that can reduce building energy consumption significantly and publicize those with the greatest potential of success to the community e.g., emerging cold climate heat pumps, and new technologies to drastically reduce the energy used by heat cables.



**Energy incentives available in June 2024:**

**Solarize Summit rebates for Silverthorne Residents**

The Town of Silverthorne partners with HC3 to offer local rebates to residents who install solar panels.

**Energy Smart CO rebates for Silverthorne Residents**

The Town of Silverthorne partners with HC3's Energy Smart Colorado program to offer local rebates to help eligible households perform energy audits and make energy improvements at home.

- **Strategy CE6 (stretch):** In connection with the adoption of the 2024 version of the International Energy Conservation Code in 2025, if needed, work with Summit County and other municipalities in the County to develop a voluntary “stretch code” that requires greater energy efficiency and use of renewable energy than the 2024 base code.



**Community Energy Goal #2**

Continue to increase the procurement of electricity from renewable sources for buildings in Silverthorne by 2029, from the baseline year of 2023.

- **Strategy CE7:** Starting in 2025, complete an annual inventory of incentives available to support direct or indirect purchase of

renewable electricity for private buildings in Silverthorne and promote applicable incentives to residents and businesses.

- **Strategy CE8:** Identify building owners in Silverthorne that have put solar panels on their buildings and publicize their success stories to other owners.
- **Strategy CE9 (stretch):** Starting in 2025, do an annual inventory of solar gardens that have panels available for sale or lease to Silverthorne residents and businesses, and promote the acquisition of such panels by Silverthorne electricity customers.

**Looking Ten Years Ahead**

Achieving most of the Energy Goals stated above would allow the Town to accelerate energy sustainability after 2029 in the following ways:

- Begin setting energy goals based on absolute reductions in energy consumption regardless of growth. This is sometimes known as “decoupling” energy consumption from growth in population and the economy.
- Require all new commercial and multifamily building construction (not just government buildings) to seek and achieve LEED certification.
- Adopt a stretch building energy code in 2031 that goes beyond the requirements of the 2030 version of the International Energy Conservation Code and that is mandatory rather than voluntary.
- Phase out natural gas as a fuel source in Silverthorne.





## Water Goals and Strategies

Silverthorne has its own water utility, providing drinking water to the Town. Pumping and distributing water involves a lot of energy. The higher the water demand, the more energy consumed, and the more energy consumed, the more energy-related pollution is created. Pumped water may end up as wastewater, based on how it is used (e.g., washing clothes and cleaning dishes), and pumping and treating wastewater also involves energy and can create pollution. Higher energy costs mean higher water rates. Keeping water bills low requires collaboration between the Town’s Water Department and its water consumers to reduce demand.

**Silverthorne Sustainability Hero: Water**

Sherie Sobke has been pointing the Silverthorne community to water-smart landscaping choices for nearly 40 years. Since founding her business, Alpine Earth Gardens, in 1986, she has helped myriad residents choose plants that are appropriate for the Town’s dry mountain climate. Sherie emphasizes soil health in her practice, counseling that healthy soils allow plants to thrive with less water. Sherie is a true local water sustainability hero.

**Sherie Sobke**  
 Founder, Alpine Earth Gardens

### Why is “Xeriscaping” Not Specified in the Water Strategies?

**Xeriscaping is a form of landscaping that requires little to no supplemental irrigation. It uses low-maintenance plants that are native or suited to Colorado’s climate. Xeriscaping allows for lovely colors, a variety of textures, and beautiful species in landscaping while using less water. Xeriscaping can reduce water waste, landscaping maintenance and costs, fertilizer usage and pollution associated with lawn care. The water strategies below, however, are not limited to xeriscaping. There are other ways to reduce water usage in landscaping, such as turf removal and choosing to allow grasses to go dormant during droughts. Xeriscaping is merely one option.**

### Xeriscaping is not:

- Xeriscape is not anti-lawn. Choosing grasses adapted for our climate can create beautiful and functional outdoor space.
- Xeriscape is not just rocks and gravel.
- Xeriscape is not just native plants or a monoculture. There are a variety of native plants and many low-water, non-native plants that are well-adapted to our climate – like iris and tulips.

### Resources on Xeriscaping:

[Colorado State University Extension](#); HC3’s [Water Smart Irrigation Assessments](#); [Colorado WaterWise](#)



Since the Town supplies its own water, it has detailed records of water consumption at both the community and Town government levels. Consumption trends indicate that overall water consumption in Town facilities has decreased over the past five years, with water use intensity (water used per square foot of buildings, or WUI) of 91 kilo-gallons (kGal) per square foot (sf) for the Town in 2023. Overall community water consumption per capita has remained relatively constant, at 43 kGal/person in 2023.

### Water rates

Silverthorne bills for water and stormwater management quarterly. The rate structure is designed to encourage water conservation. The rate for water is based on how much water the owner uses. Keep your use low and you keep your rate low. Use more and your rate will go up. If the amount used has you at the higher rate, this Plan's water strategies may help you bring your rate down.

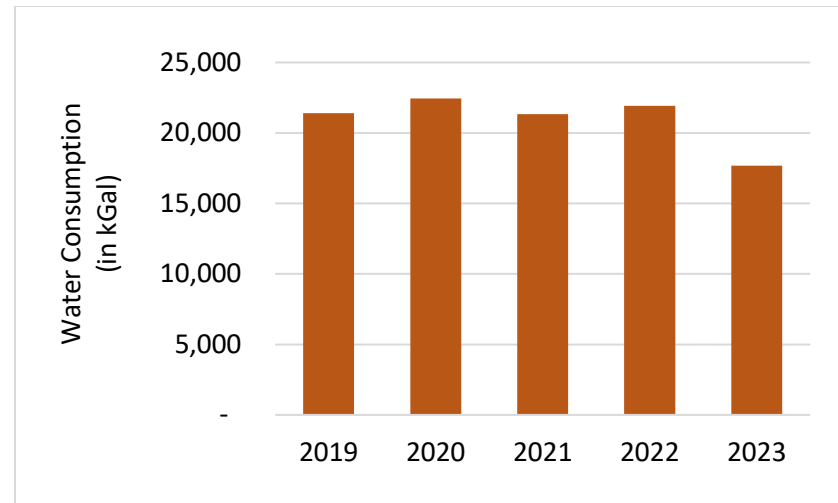
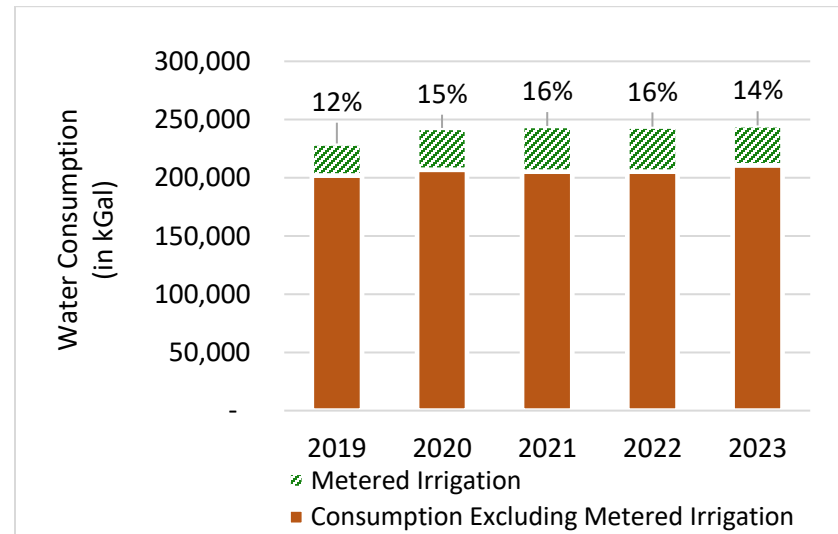


Figure 24. Town Government Water Consumption Trends



Percentage indicates the proportion of total consumption attributed to metered irrigation use.

Figure 25. Silverthorne Community Water Consumption Trends



Figure 26. The Blue River Treatment Plant meets the Town’s obligation to treat wastewater to protect downstream users

Quote from the survey responses

“Can we educate on landscaping, not just to save water but for biodiversity?”

Source: Anonymous, Silverthorne Survey

### How the Town Government Can Lead on Water

Water is the focus area over which the Town government has the most control because it operates the water system. Unlike other communities, Silverthorne does not have immediate or approaching water shortage issues and can build a long-term culture of water conservation, starting with Town government facilities and operations.

Due to the projected growth of Town government facilities, initial goals for water consumption in Town buildings will be tied to WUI rather than total consumption.

Water used for large-area irrigation, such as parks, is not tied to building space or population growth and is not captured by WUI. The Town government water goal for irrigated areas will use total consumption, not WUI, as a measure.

Some communities will reduce the cost of treating water by using “reclaimed” water for some functions such as irrigation that do not require water to be treated to the same standards as drinking water. Silverthorne does not yet have a reclaimed water system, and they are expensive to build, so reclaimed water is not included among initial strategies.





### Town Government Water Goal #1

**Reduce the water use intensity (WUI) of water used in Town government buildings below the baseline year 2023 (91 gal/sq ft).**

- **Strategy TW1:** Identify where the greatest opportunities for cost-effective water conservation are and install the recommended infrastructure.
  - TW1.1 Conduct a water audit of Town government buildings by 2026 and provide recommendations for changes in water infrastructure and staff behaviors that can achieve Goal #1.
  - TW1.2 Conduct staff training on the installed infrastructure updates and recommended behavior changes and monitor subsequent behavior to ensure that staff are following the recommendations.
- **Strategy TW2:** Before construction of new Town facilities and major expansions, identify water conservation infrastructure and staff behaviors in those buildings that will provide WUI at or below Goal #1 in a cost-effective manner.
  - TW2.1 Install the recommended infrastructure before construction is completed.
  - TW 2.2 Train staff who will work in the new facilities on operation of the installed infrastructure and on the required water conservation behaviors and monitor subsequent behavior to ensure that staff are following the recommendations.

- **Strategy TW3 (stretch):** By the end of 2026, upgrade water metering in Town buildings (and install metering in new facilities) that allows the Town to determine water consumption by specific departments.
- **Strategy TW4 (stretch):** Starting in 2027, set water consumption reduction goals on a departmental level within Town buildings, to identify the highest water users and encourage conservation with recognition going to departments that meet the WUI target in Goal #1.



### Town Government Water Goal #2

**Reduce the amount of water below 2023 used by the Town government outside of its buildings by 2029.**

- **Strategy TW5:** By the end of 2025, identify all areas irrigated by the Town government and the meters through which water to those areas runs including areas where meters currently do not exist. Calculate the annual and seasonal amount of water running through each meter while estimating water used outside of these meters for irrigation.
- **Strategy TW6:** During 2025, determine which of these areas could be removed from irrigation in whole or in part through turf removal and changes in use and vegetation, including a willingness to allow grass to go dormant during periods of reduced precipitation, and create and implement a schedule for removal.
- **Strategy TW7 (stretch):** Adopt a landscaping and forestry policy for Town government property that includes irrigation reduction, implementing the policy thereafter.



### How the Community Can Be a Steward of Water

The Town is setting water conservation goals on a per capita basis because of anticipated community growth.



#### Community Water Goal #1

**Reduce per capita service area water consumption below the baseline year 2023 by 2029.**

- **Strategy CW1:** Create and implement an incentive program to motivate installation of water conservation infrastructure (e.g., low-flow fixtures, water-efficient appliances) in buildings throughout the Town water service area.
- **Strategy CW2:** Create and implement a program to educate building owners and renters on the advantages of turf removal and vegetative and landscaping changes that reduce the need for irrigation in landscaping.
- **Strategy CW3:** Starting in 2026, provide information in water bills on how the customer’s consumption compares to comparable neighbors and the Town’s water conservation goals.
- **Strategy CW4:** By the end of 2026, complete a review of the water pricing structure, including a comparison to nearby communities, to determine whether changes should be made to create greater motivation for water conservation.

- **Strategy CW5 (stretch):** Create a program to work with local HOAs to set up owner committees to develop and implement HOA policies to foster water conservation.
- **Strategy CW6 (stretch):** Create and implement a program of financial incentives for building owners who replace turf grass with landscaping that does not require irrigation.

### Looking Ten Years Ahead

Achieving most of the water goals stated above would allow the Town to limit water consumption even further after 2029 by:

- Setting water conservation goals based on absolute reductions in water used, regardless of growth.
- Making water conservation a universal program in all HOA communities.
- Making less water intensive landscaping a priority in Silverthorne.



## Materials (Waste and Recycling) Goals and Strategies

Most of Silverthorne’s waste goes to the Summit County Resource Allocation Park, located in unincorporated Summit County. The SCRAP manages the county landfill and collects waste for recycling and composting. The SCRAP has projected that its landfill can continue operating until 2078. It will be difficult to find another location for a new landfill, so the more the community can reduce waste and divert material to recycling and composting now, the longer the landfill can remain operational.

Recycling and composting are not new to Silverthorne, but the Town has never measured them before. Silverthorne does not own or operate a landfill, a recycling plant, or a composting facility, and it does not license or operate any company to haul waste. Town residents, workers, and businesses are free to choose their own waste disposal services, with minimal Town guidance and regulation.

Quotes from the survey responses

“Needs to include measurable goals and report on success and failures of various measures. Recycling needs to include plans for visitors to Silverthorne.”

*Source: Anonymous, Silverthorne Survey*

**Silverthorne Sustainability Hero: Waste**

Jenny Hammock is the founder and CEO of Minimal Impact, LLC, a Silverthorne business that helps minimize waste at public events like music festivals. The Alabama native relocated to Silverthorne as an adult and previously served as a community program coordinator for the High Country Conservation Center. In addition to her event advisory services, Jenny sells consumer products for sustainable living through her retail outlet adjoining Alpine Gardens at 998 Blue River Parkway. By demonstrating that communities can have minimal waste events and people can enjoy a wonderful life with a minimal impact on the environment, Jenny is a local sustainability hero.

**Virginia “Jenny” Hammock**  
 Founder and CEO,  
 Minimal Impact, LLC



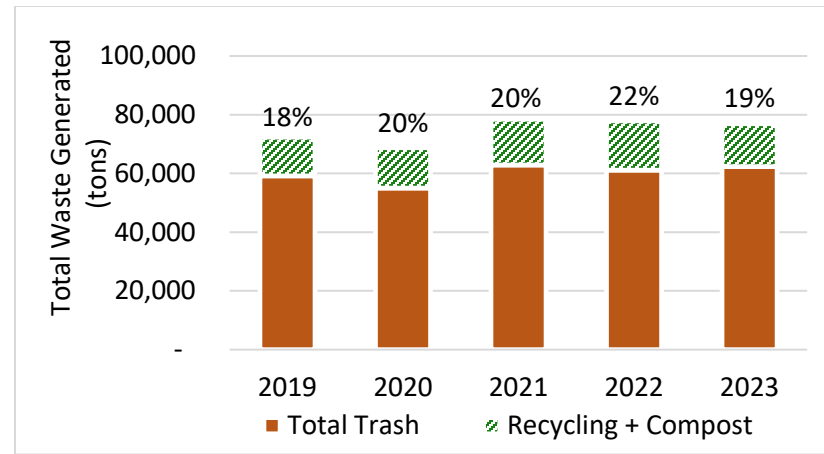


The Town does not know how much waste is generated within its boundaries or what portion is sent to a landfill, as opposed to being sent to recycling or composting. The Town has also not tracked waste from its own government operations. While Town-level data does not exist, the SCRAP estimates total waste and what portion goes to the landfill, recycling, and composting at a community level, based on the community’s portion of countywide Scope 1 and 2 GHG emissions. The overall diversion rate (percentage of all trash that goes to recycling or composting) across Summit County is 19% based on 2023 data.

Municipal solid waste (MSW), which is a subset of total waste, is tracked per Colorado Department of Public Health and Environment protocols. It includes wood chips and food waste but does not include biosolids, other wood, and manure. The MSW diversion rates during the past five years in Summit County have fluctuated between 22% and 27%, with 25% of the total MSW generated being diverted from landfills through recycling and composting in 2023.

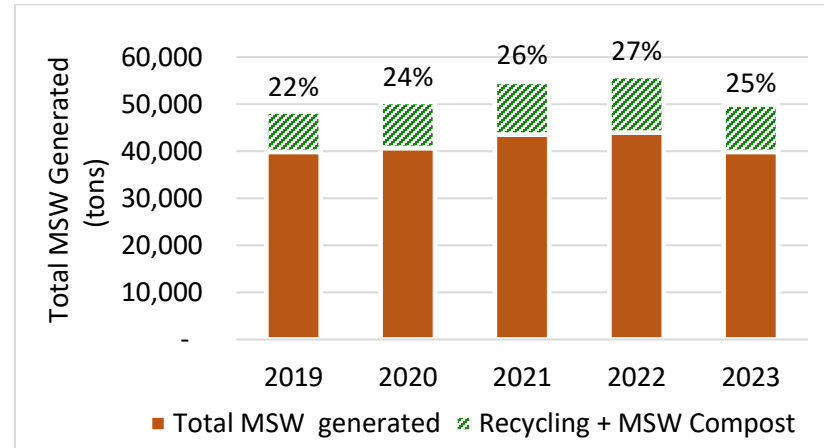
In the absence of Town-level data, the County’s diversion rate statistics are a reasonable indicator of what is going on in Silverthorne. The County diversion rate for all waste (19%) is above the Colorado state rate of 16% and below the national rate of 32%.

Recycling and composting can be confusing. Requirements change depending on location and can even differ within a community. This puts a premium on educational efforts for recycling and composting regardless of where one lives.



Percentage indicates waste diversion from landfills through recycling and composting.

Figure 27. Silverthorne Community Overall Waste Generation and Diversion Trends



Percentage indicates waste diversion from landfills through recycling and composting.

Figure 28. Silverthorne Community MSW Generation and Diversion Trends



Two aspects of waste handling in Silverthorne stand out:

- Visitors often come from places with different recycling/composting/waste practices and different values about material management. Many come here for leisure and are not focused on recycling.
- There is a lot of construction happening in Silverthorne, a situation that is likely to continue for many years. Construction and demolition debris can be particularly problematic because there are often no locations nearby where it is economically feasible to send the waste for reuse or recycling due to size and weight. Construction and demolition debris currently make up about 30% of the total county waste stream. In 2023, the Summit County government adopted a plan to reduce construction waste that goes to the landfill. The plan seeks to send at least 25% of construction and demolition waste to recycling by 2028 and 50% by 2035.

Recycling and composting draw a lot of attention, but they are just the final part of the familiar “reduce, reuse, recycle” mantra. Waste generation can be reduced by reducing how much goods are purchased and lengthening the life of each item. This can be achieved in part by reusing items through actions like repair and resale, resulting in less waste going to the landfill before recycling needs to be considered.

The Town has not inventoried repair services available to residents and businesses and has not focused on the state of the second-hand sales industry in and around Silverthorne. Repair services and second-hand sale stores are available, but the Town has not studied how they can be expanded and made more accessible for the community.



Figure 29. The Restore store is a prime source of second-hand goods in Silverthorne

#### Second-hand Stores in and near Silverthorne:

- **Habitat for Humanity – ReStore**
- **ReSaddled Thrift**
- **Keep it Local**
- **Frisco Thrift & Treasure**
- **Recycle Sports**



### How the Town Government Can Lead on Materials and Waste

Until data on waste coming out of the Town and its government facilities has been determined, it will be difficult to measure the effectiveness of strategies for reducing waste and diverting more of it away from the landfill and towards recycling and composting. At both the Town government and community levels, the first strategies need to involve establishing a baseline through waste audits and data collection. If such baseline data can be gathered and tracked over time, progress can be measured.

#### Quotes from the survey responses

“I think there needs to be a clear concise message about recycling for everyone.

“Reduce single use plastics, water bottles, bags across our commercial sector.”

“Estaría muy bien si las compañías de basura incluyeran el costo de reciclaje y fuera gratis. Que no sea costo extra. (It would be great if garbage companies included the cost of recycling, and it was free. Don't let it be an extra cost.)”

*Source: Anonymous, Silverthorne Survey*



### Town Government Materials Goal #1

**Reduce the amount of waste generated by Town government operations below baseline year 2026 while increasing the portion of waste diverted from the landfill, by 2029.**

- **Strategy TWM1:** Conduct a waste composition study of Town government operations by 2026 that will provide an estimate of the amount of waste generated from government operations and the portion of it that is diverted to recycling and composting.
- **Strategy TWM2:** Starting in 2025, ensure that infrastructure for recycling and composting is readily available to Town government staff and contractors regardless of where they work, and educate staff and contractors about the proper use of such infrastructure.
- **Strategy TWM3:** By the end of 2026, update the Town government’s sustainable procurement policy to be certain that all staff are aware of it and that it encourages:
  - Reduction of materials purchased where possible, including associated packaging materials,
  - Increase in the purchase of materials made with recycled content,
  - Increase in the purchase of materials and equipment that can be easily recycled or composted at the time of disposal, and
  - Repair of materials and equipment rather than replacement when feasible.
- **Strategy TWM4 (stretch):** Set waste reduction and diversion goals on a departmental level within Town government, with recognition going to departments that exceed their goals.





### Town Government Materials Goal #2

Increase the diversion rate of construction and demolition debris from construction and demolition projects conducted or funded by the Town.

- **Strategy TWM5:** As part of the waste composition study described in Strategy TM1, develop an estimate of the amount of waste from construction and demolition projects conducted or funded by the Town government and the portion that is being diverted to recycling.
- **Strategy TWM6:** Work with the SCRAP and other municipalities in Summit County to pursue affordable access for contractors to facilities that can accept construction and demolition debris for recycling.
- **Strategy TWM7 (stretch):** Starting in 2025, incentivize implementation of the Phase 1, 2, and 3 requirements set forth under Goal 4 of the County C&D Plan for projects conducted or funded by the Town. The Town would need to:
  - Phase 1 – Incentivize contractors on Town projects (new construction, remodels, and demolition) to submit Materials Management Plans,
  - Phase 2 – Incentivize such contractors to divert highly recoverable materials from all C&D projects from the landfill, and
  - Phase 3 – Incentivize such contractors to divert a percentage of all C&D project materials from the landfill.

Recycling and composting are hard. The rules for what can go to recycling or composting change from place to place, sometimes from building to building. How to prepare an item for recycling – for example, “can the pizza box be recycled if it has grease stains?” – is often not clear.

If you make a mistake, you risk contaminating the recycling stream, but if you throw something in the trash bin to avoid the possibility of a mistake, you may be sending something to the landfill that need not go there. This is why the Town will be increasing its educational programs for recycling and composting.

The more you know, the smarter you will throw.



Figure 30. Recycling infrastructure at Bluebird Market



### How the Community Can Be a Steward regarding Materials/Waste

By combining education, practical initiatives, and supportive policies, the Silverthorne community can significantly reduce waste generation at the source and increase diversion through effective recycling and composting programs.



#### Community Materials Goal #1

**Reduce the amount of waste generation per capita below the baseline year 2026 while increasing the portion of waste diverted from the landfill, by 2029.**

- **Strategy CWM1:** Conduct a community waste composition study in 2025/2026 to estimate the per capita amount of waste generated from the community and the portion of it that is diverted to recycling and composting.
- **Strategy CWM2:** Encourage residents, businesses, and workers to reduce waste by identifying and publicizing sources of second-hand materials and equipment in and near Silverthorne.
- **Strategy CWM3:** Encourage residents, businesses, and workers to reuse materials and equipment by identifying and publicizing readily available repair services in and near Silverthorne, including community resources like the Art Spot and “repair fairs” that are operating in the area, where people can bring in items for repair.
- **Strategy CWM4:** Encourage residents, businesses, employees, and visitors to divert more waste to recycling and composting through a variety of educational materials and training courses on what waste can go into recycling and composting, how to get the waste there, and why diversion is important.

- **Strategy CWM5 (stretch):** By the end of 2026, reconsider whether to adopt a “Pay As You Throw” ordinance that will require all trash haulers operating in Silverthorne to (a) provide curbside recycling (and possibly composting) pickup services and (b) require customers to pay higher charges if they produce larger volumes of waste to be taken to the landfill, provided that such an ordinance is adopted uniformly across Summit County, including within all municipalities in the county.
- **Strategy CWM6 (stretch):** Create a program of incentives to attract more vendors of second-hand materials and equipment to the area.
- **Strategy CWM7 (stretch):** Create a program of incentives to attract more repair services (including services not previously available nearby) to the area.

#### Pay As You Throw

Under Stretch Strategy CWM5 the Town may consider adopting a policy known as “Pay As You Throw” (PAYT). When everyone pays the same rate for trash pickup, there is no incentive to recycle. Under PAYT the property owner’s rate for trash services would be based on the size of the trash bin. The larger the bin, the higher the rate. Curbside recycling pickup is included with the cost of your trash bin.

Towns that institute PAYT see dramatic decreases in trash going to the landfill, but it can be controversial. Some owners may have to pay more for trash pickup. PAYT can also be challenging for HOAs with shared trash bins and short-term rental properties.



## Community Materials Goal #2

**Increase the diversion rate of construction and demolition debris for construction and demolition projects in Silverthorne as described in the 2023 Summit County five-year Construction and Demolition Debris Plan (County C&D Plan).**

- **Strategy CWM8:** As part of the waste composition study described in Strategy CM1, develop an estimate of the amount of waste from construction and demolition projects conducted in the Town and the portion that is being diverted to recycling.
- **Strategy CWM9:** Work with the SCRAP and other municipalities in Summit County to pursue affordable access for contractors to facilities that can accept construction and demolition debris for recycling. [Same as Strategy TWM6]
- **Strategy CWM10:** Starting in 2026, create and begin providing incentives to contractors that voluntarily implement one or more of the Phase 1, 2, and 3 requirements set forth under Goal 4 of the Summit County C&D Plan in non-government projects in the Town. The Town would need to:
  - Phase 1 – Incentivize the contractors to submit Materials Management Plans for their projects (new construction, remodels, and demolition);
  - Phase 2 – Incentivize the contractors to divert highly recoverable materials from all C&D projects from the landfill; and
  - Phase 3 – Incentivize contractors to divert a percentage of all C&D project materials from the landfill.

- **Strategy CWM11 (stretch):** Consider adopting and implementing policy that requires contractors to take the actions described in Strategy CWM10 without incentives, if the SCRAP has the infrastructure in place to feasibly achieve this.

### Looking Ten Years Ahead

Achieving most of the Materials/Waste Goals would set the stage for the Town to move towards a more circular economy after 2029 in these ways:

- Begin setting waste quantity goals based on absolute reductions in waste generated, regardless of growth.
- Begin exceeding the national waste diversion rate.
- Meet or exceed the 2035 Goal in the County C&D Plan to reach a 50% diversion rate for construction and demolition waste.
- Adopt an economic development plan that grounds development in a circular economy approach, which considers the entire flow of materials through a local economy, rather than focusing only on what is ready to be thrown out.





## Mobility Goals and Strategies

Silverthorne is relatively, but not entirely, car-dependent. [The Walk Score website](#) gives it a walk score of 60 out of a possible 100 (“somewhat walkable”) and a bike score of 62 (“bikeable”).

In 2022, Silverthorne updated its Comprehensive Plan. The update supplements the Town’s 2020 Transportation Plan and 2021 Parks, Open Space and Trails Master Plan, giving additional attention to aspects of the Town’s streets, sidewalks, and trails bearing on the convenience and safety of walking and biking in town.

The Comprehensive Plan expressed the following vision for what the desired mobility system in the Town would look like:



“The transportation system is highly connected and accessible and serves the needs of residents and visitors by connecting key destinations with a safe and efficient network of multi-modal infrastructure and programming.” (p. 19, Comprehensive Plan)

The updated plan contained numerous policies for making streets, sidewalks, and trails more connected and accommodating for pedestrians and cyclists. During public

engagement events in the sustainability planning process, participants continued to express support for such policies. This Sustainability Strategic Plan will support the full implementation of such policies.

The Comprehensive Plan update also addressed the Town’s place in Summit County and regional transportation networks. Upgrades to the regional and county transportation networks are needed to reduce long commute times, periodic congestion, and car-centric commuting patterns that are part of living and working in Silverthorne.

### Silverthorne Sustainability Hero: Mobility

Scott Winn is a self-powered enthusiast with a strong dislike for busy parking lots. To this end, Scott will walk or bike to work nearly every day of the year and has been the bike tech for the Silverthorne stop at Bike-to-Work-Day for over five years. If the weather cooperates, he’ll ride his touring bike from Silverthorne to Dillon City Market for grocery shopping or walk to Target on the Silverthorne Rec Path. As an enthusiast of Silverthorne’s proximity to wild areas, he’ll make sure that his friends and family take the Summit Stage from the Silverthorne Transfer Station to whichever trailhead they may be using that day.

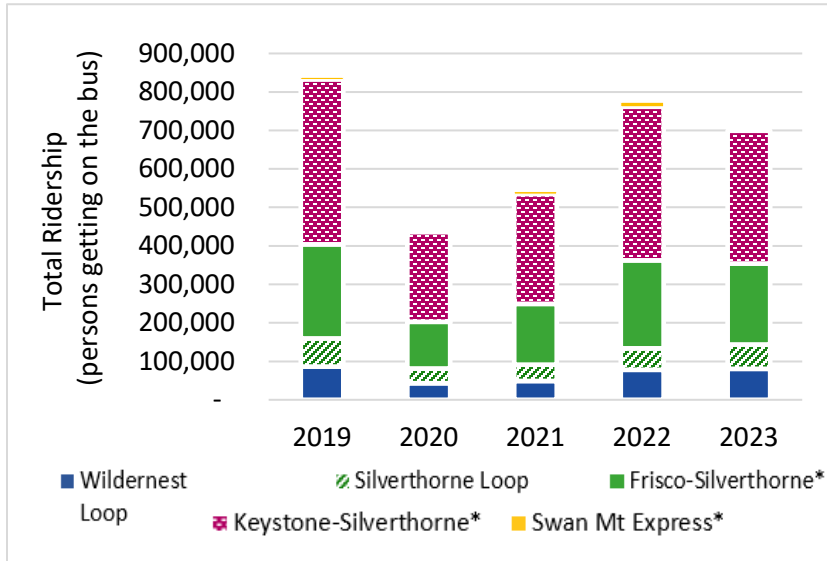


**Scott Winn**

Silverthorne Resident



Silverthorne is served by the Summit Stage, a free transit provider run by Summit County. There are currently five bus routes that pass through Silverthorne and 14 bus stops in Town. The Silverthorne loop has seen a steady increase in ridership over the last four years.



\*These routes include people getting on outside of Silverthorne.

Figure 31. Summit Stage Ridership Trends

Summit Stage had to reduce the frequency of service from 30 minutes to hourly due to staffing shortages. In April 2024, 30-minute service was restored to all stops that had it previously. Summit Stage also released [a feasibility study](#) for a new “micro-transit” system that would provide unscheduled on-demand transit service in vans. Micro-transit would provide additional “virtual stops,” at pick-up and drop-off locations beyond those on the established routes. Summit Stage is looking for a vendor to provide this service and expects to begin a pilot that would include Silverthorne and begin as soon as 2025.

Summit County does not have a commercial airport or intercity train service. There are private shuttle services between Denver’s airport and Silverthorne that operate on a reservation basis. There is bus service between Summit County and other places in Colorado available through the state-operated Bustang and Pegasus services. These services do not, however, offer a stop in Silverthorne. Passengers must arrive or depart from the transit center in Frisco. Bustang and Pegasus have no plans to add a stop in Silverthorne.

Quotes from the survey responses

“I think it would be beneficial to keep Silverthorne connected with surrounding communities through viable recreational activity pathways. Currently, some of those accesses are difficult to access or closed in winter. There are locals who enjoy fat tire biking to work in winter.”

“Incentives to use electric bikes transportation and keeping rec path clean year-round.”

“The buses are not convenient for many people. The neighborhoods should all have a bus stop at them with convenient schedules. Also, we shouldn’t have to change buses to go to the grocery store from Silverthorne, as well as ride to the ski areas or the recreation center. We need more bus stops with great schedules and distances that won’t take all day to run an errand.”

Source: Anonymous, Silverthorne Survey



### How the Town Government Can Lead on Mobility

Many Town government employees have long commutes to get to and from work, just as other community members do. Driving alone is typically much faster than taking transit, but it is also much more expensive. The Town has not had programming designed to encourage employees to drive less. Programs to do so could be adapted to encourage non-government residents and workers to drive less as well.



#### Town Government Mobility Goal #1

**Increase options for employees to travel to work without having to drive alone.**

- **Strategy TM1:** By the end of 2025, create an estimate of the number of miles Town employees commute by driving alone per year and identify the barriers that most often discourage them from commuting by other means (e.g., transit, car-pooling, cycling, walking, and working remotely).
- **Strategy TM2:** Identify alternatives to driving alone to work that are available to Town employees and use education and incentives to encourage participation.
- **Strategy TM3:** Work with Summit Stage to create “virtual stops” for the new micro-transit system that are within a five-minute walk of all Town offices and facilities where personnel work, without requiring them to walk across Blue River Parkway or I-70.



**Did you know that Colorado has created a smartphone app that people can use to join or organize a carpool? Launched in 2021, the TreadShare app is available for both Apple and Android devices. It helps people to connect with others who are traveling the same route at the same time, and also provides information on what the appropriate cost share for the ride should be. Silverthorne and Arapahoe Basin Ski Area promote the TreadShare app. More information is available at [treadshare.com](https://treadshare.com).**



#### Town Government Mobility Goal #2

**Reduce driving required by residents, workers, and businesses for procedures needed to obtain Town licenses and permits to minimize vehicle miles traveled for such procedures.**

- **Strategy TM4:** Create an inventory of applications, renewals, and other procedures that residents, workers, and businesses need to submit in person at a town facility.
- **Strategy TM5:** Create methods to submit applications, renewals, and other procedures online where this is not yet possible and educate the community about these new and existing methods.





### How the Community Can Be a Steward of Mobility

Silverthorne community members have expressed interest repeatedly in having more transportation options. The recent restoration of 30-minute service by Summit Stage and its pursuit of on-demand micro-mobility service indicate that the mobility situation in Town is improving. Recent experience with traffic congestion, particularly during periods of peak visitation, indicates that more improvement is needed.

The 2022 Comprehensive Plan identifies policies for improving mobility. These policies now need to be turned into implementable programs managed by Town departments with benchmarks to track progress and be successful.



#### Community Mobility Goal #1

##### Increase options for residents, workers, and visitors to travel around Town without having to drive alone.

- **Strategy CM1 (bikes and pedestrians):** Create and follow a schedule for implementing the following Policies from the Town’s 2022 Comprehensive Plan:
  - Policy T 1.10: As the Town of Silverthorne adds to or improves its transportation network, apply complete street strategies such as narrowing the lane widths, limiting roadway access, promoting pedestrian and bicycle travel, and providing appropriate landscaping.
  - Policy T 2.3: Incorporate design elements and maintenance policies that allow for year-round usage of bicycle and pedestrian ways, per the Parks, Open Space, and Trails Master Plan.

- Policy T 2.7: Encourage development to provide safe bicycle parking facilities and improve bicycle parking at bus stops and areas of public activity.
- **Strategy CM2 (transit):** Create and follow a schedule for implementing the following Policies from the Town’s 2022 Comprehensive Plan:
  - Policy T 3.3: Work with the Summit Stage on the improvement of their transit network to ensure that the routes and stops within Silverthorne are convenient and efficient. Consider the relocation and/or addition of new bus stops as development occurs and new routes become more optimal.
  - Policy T 3.5: Support the Summit Stage in efforts to increase routes, make direct connections, increase reliability of service, and shorten travel times.
  - Policy T 3.6: Work cooperatively with regional operators e.g., Bustang, Summit Express to expand the regional network of bus service, to improve the transit system between Denver and Silverthorne, and to develop centrally located stops in Silverthorne.
- **Strategy CM3 (micro-mobility):** Work with Summit Stage to create “virtual stops” in its new micro-mobility system – pick-up and drop-off spots that are not regular bus stops - at points of origin and destinations of greatest need for such service, both inside of Silverthorne and in other locations outside of Silverthorne that are most likely to be used by the Silverthorne community.



- **Strategy CM4 (connections with town employee programs):** Inform residents and workers of alternatives to driving alone identified under Strategy TM2 and use education to motivate them to use these alternatives instead of driving alone.
- **Strategy CM5 (stretch):** Go beyond education and create tangible incentives for residents and workers to use carpooling and other alternatives to driving alone.

### Looking Ten Years Ahead

Achieving most of the Mobility Goals would set the stage for the Town to provide even more meaningful options than driving alone after 2029 in these ways:

- Provide a Bustang and/or Pegasus stop in Silverthorne.
- Create a carpooling program for Town employees with incentives that could also be used by other community members.
- Study how an in-town transit service operated by the Town government could be created in Silverthorne.



Figure 32. Silverthorne transit stop



Figure 33. Summit Stage bus leaving Silverthorne Transit Center



## Greenhouse Gas Emissions Goals and Strategies

In 2019 the Summit Climate Action Collaborative (the Collaborative) released the [CAP](#). The Collaborative consisted of representatives from Summit County, its incorporated municipalities (including Silverthorne), local businesses, and non-governmental organizations.

The CAP is based on a fundamental shared value:

*Our way of life relies on the very environment in which we are located—the beautiful Rocky Mountains – and we recognize our responsibility to take a leading role in mitigating climate change.*

**Silverthorne Sustainability Hero:  
GHG Emissions**

Mark and Kendra Hane are leaders in reducing GHG emissions. After an energy audit of their home in Willowbrook, they realized that their furnace needed to be replaced. Thanks to a federal tax credit and local incentives, they replaced their higher-carbon gas furnace with a dual-fuel heat pump that uses lower-carbon electricity for all but the coldest days of the year. They have reduced their carbon footprint while giving themselves a more comfortable home. They are leading the way as local GHG reduction heroes.

**Mark and  
Kendra Hane**  
Silverthorne Residents

### Quotes from the survey responses

“Sustainable building, units over a certain square footage (2,500 sq ft) must be carbon neutral.”

“It is extremely important that this plan reflects the urgency of our climate crisis. This includes looking at those things that will have the biggest impact and focusing funds and policies on these.”

“More EV charging stations. Benefits for EV owners. EVs are the inevitable future, and have a significant impact, let's get right at the forefront of this new era.”

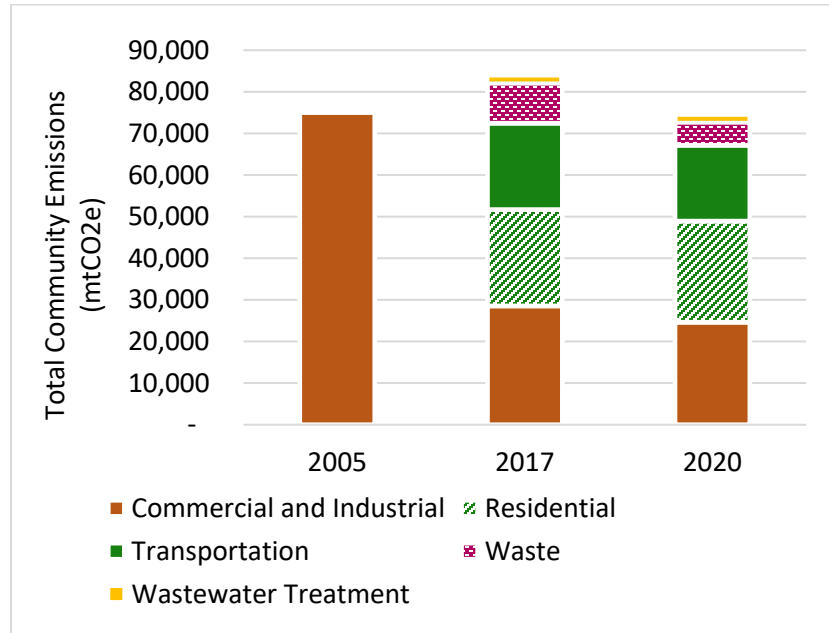
*Source: Anonymous, Silverthorne Survey*





The CAP set a goal to reduce GHG emissions in the County by 50% by 2030 and by 80% by 2050 from a 2005 baseline that was developed from a backward projection of a GHG emissions inventory done for 2017. The baseline inventory showed that 9% of the County’s GHG emissions were attributable to Silverthorne – approximately 75,831 metric tons of carbon dioxide equivalent (mtCO<sub>2</sub>e) per year as of 2005.

A 2020 inventory showed that GHG emissions in Silverthorne were down slightly to 72,761 mtCO<sub>2</sub>e. The decline was due almost entirely to the increasing percentage of Xcel electricity that came from wind and solar.



Note: 2005 detailed data was not available

Figure 34. Silverthorne Community GHG Emissions Trend

72,761 mtCO<sub>2</sub>e GHG emissions

Equivalent to CO<sub>2</sub> emissions from:

<b>11,929</b> homes' energy use for one year	<b>21,772 *</b> gasoline-powered passenger vehicles driven for one year <small>* accounting for all GHG emissions</small>
---	---

Equivalent to GHG emissions avoided by:

<b>3.97 million</b> Trash bags of waste recycled instead of landfilled	<b>24.1</b> wind turbines running for a year
---	---

Equivalent to carbon sequestered by:

<b>106,802</b> acres of U.S. forests in one year	<b>1.5 million</b> tree seedlings grown for 10 years
---	---

Above equivalencies calculated using EPA Greenhouse Gas Equivalencies Calculator

Figure 35. GHG Emissions Equivalencies

Xcel’s emissions from electricity will continue to fall as it increases its renewable energy sources. Other changes outside of Silverthorne and Summit County will also promote emission reductions, such as improvement in motor vehicle fuel economy and improvement in energy efficient appliances. These changes, however, will not happen fast enough to close the gap with the CAP’s 2030 and 2050 goals. Silverthorne wants to do its part in moving towards the achievement of those goals.



Many of the strategies in the other parts of this Plan will help reduce GHG emissions. Emissions can be reduced by:

- Using less energy and water
- Getting more energy from renewable sources
- Reducing waste going to the landfill
- Driving less, particularly in vehicles powered by gasoline

In this section, we focus only on strategies that supplement those in the other focus areas to provide additional GHG emissions reduction beyond those provided elsewhere.

### How the Town Government Can Lead on GHG Emissions

The CAP Collaborative did not break down its calculation of Silverthorne’s GHG emissions to the level of Town government facilities and operations. As part of this Plan development, an initial calculation for 2023 was completed. The same methodology was used to calculate emissions from the government as was used by the Collaborative for the entire community. Emissions from Town government facilities and operations in 2023 were 3,025 mtCO<sub>2</sub>e. 11% of the total emissions were attributed to transportation which includes on-road and off-road vehicles and equipment.



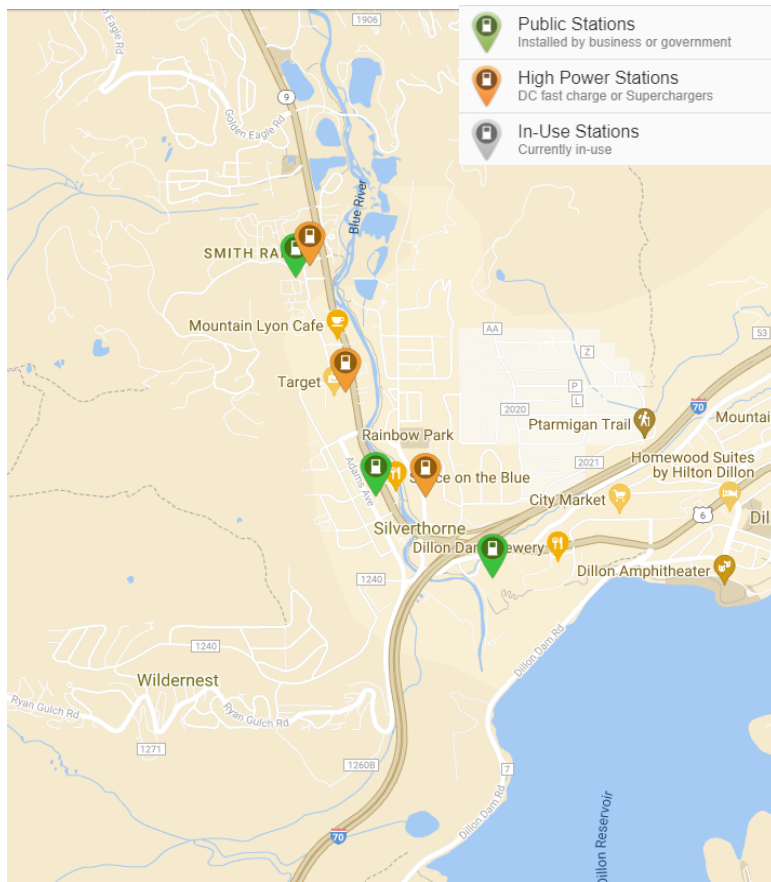
### Town Government GHG Emissions Goal #1

**Reduce GHG emissions below 2023 baseline (3,025 mtCO<sub>2</sub>e) from Town government facilities and operations by 2029.**

- **Strategy TG1:** By 2026, electric vehicle charging stations will open to the public in key publicly accessible town government parking lots.
- **Strategy TG2:** By the end of 2026, phase out all gas-powered landscaping equipment used on land owned or controlled by the town government, other than ride-on equipment, with electric equipment.
- **Strategy TG3 (stretch):** Accelerate the replacement of the Town’s light-duty vehicles with internal combustion engines with electric vehicles.
- **Strategy G4 (stretch):** Cover any gap between the emissions reduction target for 2030 in CAP and the reductions that the strategies in this Plan produce, through the purchase of carbon offset credits.

### Data sources

- Energy and Emissions: Xcel and Tiger Natural Gas
- Water: Town’s Water Department
- Waste: Summit County Resource Allocation Park (SCRAP)
- Mobility: Summit Stage



Source: Plugshare

Figure 36. Electric Vehicle (EV) charging stations in and around Silverthorne

Following is a list of websites and apps to help locate EV chargers in and around Silverthorne:

- [Plugshare](#)
- [ChargeHub](#)
- [ChargeFinder](#)
- [Way](#)
- [EValueateCO](#)

**Electric vehicles (EVs) run on batteries which involve higher initial GHG emissions due to mining and manufacturing, but over the lifespan of the vehicle, the emissions savings from operational efficiency will outweigh the higher production emissions.**

**EVs produce no tailpipe emissions and convert a higher percentage of electrical energy from the grid to power at the wheels, compared to internal combustion engine vehicles.**

**EVs reduce local air pollution, improving public health and reducing healthcare costs associated with pollution-related illnesses.**

**EV batteries can be repurposed for energy storage after their automotive life, contributing to a circular economy and further reducing their environmental footprint.**

### How the Community Can Be a Climate Steward

Actions being taken at the national, state, and private sector levels, and the implementation of many of the strategies in the other focus areas in this plan, will reduce GHG emissions in Silverthorne. The strategies below are intended to supplement that reduction by ensuring that the Town helps meet the CAP 2030 goal.



### Community GHG Emissions Goal #1

Reduce community GHG emissions below latest inventory by 2029.

- **Strategy CG1:** Work with the private sector to incentivize greater use of electric vehicles through a combination of education, expansion of charging stations that are easily accessible to residents and workers, and preferred parking spaces for electric vehicles (including motor vehicles and eBikes).
- **Strategy CG2:** Leverage incentives offered by the State of Colorado with education and other incentives to persuade local landowners to replace gas-powered landscaping equipment, other than ride-on equipment, with electric equipment.
- **Strategy CG3 (stretch):** Inform and encourage community members to purchase credible carbon offset credits to cover any gap between the emissions reduction target for 2030 in the CAP and the reductions that the strategies in this Plan produce.

#### Looking Ten Years Ahead

Achieving most of the GHG Emissions Goals would allow the Town to meet the GHG emissions goals in the CAP and provide additional GHG emission reductions in these ways:

- Develop a decarbonization roadmap to phase out the use of natural gas and procure 100% of electricity from clean energy sources without offsetting any of the consumption through carbon offsets or renewable energy certificates.
- Engage in one or more activities that can be packaged into carbon offsets that can be sold to others – be a “net exporter” of carbon offset credits.
- Develop a solar garden within the Town that residents and businesses can subscribe to.



Figure 37. Electric vehicle charging station in the Target parking lot



Figure 38. All-electric front-end loader at SCRAP





## What's Next

To make a great trip, one needs a great map. Just having the map, however, is no assurance that the trip will happen. A successful trip requires following the map with determination and creativity when setbacks are encountered.

With the adoption of this Plan, Silverthorne now has a great map for the journey towards sustainability. In the coming months, the Town will begin implementing the new Plan. It will assign responsibility for specific strategies to departmental teams and leaders, working to ensure that they have the authority, resources, and, if necessary, the additional training that they need. It will strengthen existing partnerships and create new ones to do more.

There will be a new area of the Town's website devoted to keeping the community up to date on what the Town is doing to take action. Progress reporting will begin in 2025 on what the Town is producing (outcomes).

A variety of engagement techniques were used to gather input from all corners of the community. Although the Town received beneficial feedback from many community members, several voices were not captured despite these efforts. To make sure this Plan remains authentically Silverthorne, the Town needs to reach all populations in the community. Throughout implementation, the Town will continue to engage the community, with additional emphasis placed on voices not well represented in the engagement efforts to date.

### Plan updates

The Town intends to “lead by example” in sustainability. The Plan will be revisited and updated in five years.

Even the best map needs to be updated from time to time. This is particularly true in sustainability, where circumstances can change, and new technologies and approaches are developed. Therefore, in five years, the Town will review the Plan and produce an update.

The Town intends to “lead by example” in sustainability. It has described specifics of how it plans to do so above. However, leadership works only if there are followers. The residents, workers and businesses in Silverthorne have already shown a willingness to take steps like saving energy and water, throwing less away and recycling more, and exploring new ways of getting around. The Town is confident that if it leads, the community will follow, and the Plan will show the community how.



The journey ahead towards greater sustainability will be exciting. Silverthorne will be a better place because of it.

# Appendices







## Appendix 1. List of Goals and Strategies



Focus Area	Strategy Type	Goal/Strategy ID	Goals And Strategies	
Energy	Town Government			
		<b>Town Government Energy Goal #1: By the end of 2029, reduce energy use intensity (EUI) (the amount of energy used per square foot of space) in Town government buildings from the baseline year of 2023 (191 kBtu/sf), including all new and expanded buildings operational by then.</b>		
	Core	Strategy TE1	Conduct an energy audit in buildings owned or operated by the Town Government by December 31, 2025. The audits will include recommendations for actions to be taken in each building over the following four years to enable the Town to reach the target EUI reduction.	
		Strategy TE2	Implement financially feasible audit recommendations, that can be achieved with energy savings and at least offset capital expenses of implementation over time, taking projected energy savings into account.	
		Strategy TE3	Design, construct, and furnish any new building constructed between Plan adoption in 2024 and the end of 2029 to operate at or below the baseline year of 2023.	
		Strategy TE4	Work with Xcel to install smart electricity meters in all government buildings within one year after they become available (starting 2025) and then educate Town staff on how to shift electricity demand from peak hours to save money.	
	Stretch	Strategy TE5	Adopt a policy requiring new Town government buildings to seek LEED certification, under the U.S. Green Building Council's latest LEED rating system for buildings.	
		<b>Town Government Energy Goal #2: By the end of 2029, increase the amount of electricity generated from solar panels over the 2023 baseline, by adding solar panels to Town government buildings and grounds.</b>		
	Core	Strategy TE6	Add renewable energy sources to Town buildings where it is technically and economically feasible (e.g., solar cells on roofs, solar water heaters for recreation center pools).	
		Strategy TE7	Investigate the availability of solar panels that the Town government can buy or lease in existing solar gardens and implement purchases or leases where it is economically advantageous to do so, based on the findings from the investigation.	
Stretch	Strategy TE8	Install electric heat pumps for heating space and water in all new Town buildings and when replacing space and water heaters at the end of their useful lives in existing buildings.		
	Strategy TE9	Investigate conduit hydropower for the water system and install one or more turbines if the investigation demonstrates that it will be economically advantageous to do so.		




Focus Area	Strategy Type	Goal/Strategy ID	Goals And Strategies
<b>Community</b>			
 <b>Community Energy Goal #1: Reduce per capita consumption of energy (electricity and natural gas) by 2029, below baseline consumption in 2023.</b>			
<b>Core</b>	Strategy CE1		Starting in 2025, conduct an annual inventory of incentives for energy audits and upgrades in private buildings and promote incentives to residents and businesses.
	Strategy CE2		Identify building owners in Silverthorne that have completed energy audits on their buildings and implemented upgrades and publicize their success stories to other owners to influence similar actions.
	Strategy CE3		Enact a “dark skies” policy to reduce nighttime outdoor lighting.
<b>Stretch</b>	Strategy CE4		After Xcel installs smart electric meters on buildings in Silverthorne (scheduled to begin in 2025), work with Xcel to educate building owners on how to save money by shifting the electricity demand from peak hours (typically the afternoon daylight hours on weekdays).
	Strategy CE5		Research emerging technologies that can reduce building energy consumption significantly and publicize those with the greatest potential of success to the community, e.g., emerging cold climate heat pumps, and new technologies to drastically reduce the energy used by heat cables.
	Strategy CE6		In connection with the adoption of the 2024 version of the International Energy Conservation Code in 2025, if needed, work with Summit County and other municipalities in the County to develop a voluntary “stretch code” that requires greater energy efficiency and use of renewable energy than the 2024 base code.
 <b>Community Energy Goal #2: Continue to increase the procurement of electricity from renewable sources for buildings in Silverthorne by 2029, from the baseline year of 2023.</b>			
<b>Core</b>	Strategy CE7		Starting in 2025, complete an annual inventory of incentives available to support direct or indirect purchase of renewable electricity for private buildings in Silverthorne and promote applicable incentives to residents and businesses.
	Strategy CE8		Identify building owners in Silverthorne that have put solar panels on their buildings and publicize their success stories to other owners.
<b>Stretch</b>	Strategy CE9		Starting in 2025, do an annual inventory of solar gardens that have panels available for sale or lease to Silverthorne residents and businesses, and promote the acquisition of such panels by Silverthorne electricity customers.







Focus Area	Strategy Type	Goal/Strategy ID	Goals And Strategies
Water	<b>Town Government</b>		
	 <b>Town Government Water Goal #1: Reduce the water use intensity (WUI) of water used in Town government buildings below the baseline year 2023 (91 gal/sq ft)</b>		
	Core	Strategy TW1	Identify where the greatest opportunities for cost-effective water conservation are and install the recommended infrastructure.
			<ul style="list-style-type: none"> <li>➤ TW1.1 Conduct a water audit of Town government buildings by 2026 and provide recommendations for changes in water infrastructure and staff behaviors that can achieve Goal #1.</li> <li>➤ TW1.2 Conduct staff training on the installed infrastructure updates and recommended behavior changes and monitor subsequent behavior to ensure that staff are following the recommendations.</li> </ul>
		Strategy TW2	Before construction of new Town facilities and major expansions, identify water conservation infrastructure and staff behaviors in those buildings that will provide WUI at or below Goal #1 in a cost-effective manner.
			<ul style="list-style-type: none"> <li>➤ TW2.1 Install the recommended infrastructure before construction is completed.</li> <li>➤ TW 2.2 Train staff who will work in the new facilities on operation of the installed infrastructure and on the required water conservation behaviors and monitor subsequent behavior to ensure that staff are following the recommendations.</li> </ul>
	Stretch	Strategy TW3	By the end of 2026, upgrade water metering in Town buildings (and install metering in new facilities) that allows the Town to determine water consumption by specific departments.
		Strategy TW4	Starting in 2027, set water consumption reduction goals on a departmental level within Town buildings, to identify highest water users and encourage conservation with recognition going to departments that meet the WUI target in Goal #1.
	 <b>Town Government Water Goal #2: Reduce the amount of water below 2023 used by the Town government outside of its buildings by 2029.</b>		
	Core	Strategy TW5	By the end of 2025, identify all areas irrigated by the Town government and the meters through which water to those areas runs including areas where meters currently do not exist. Calculate the annual and seasonal amount of water running through each meter while estimating water used outside these meters for irrigation.




Focus Area	Strategy Type	Goal/Strategy ID	Goals And Strategies	
Water		Strategy TW6	During 2025, determine which of these areas could be removed from irrigation in whole or in part through turf removal and changes in use and vegetation, including a willingness to allow grass to go dormant during periods of reduced precipitation, and create and implement a schedule for removal.	
	Stretch	Strategy TW7	Adopt a landscaping and forestry policy for Town government property that includes irrigation reduction, implementing the policy thereafter.	
	<b>Community</b>			
	 <b>Community Water Goal #1: Reduce per capita service area water consumption below the baseline year 2023 by 2029.</b>			
	Core		Strategy CW1	Create and implement an incentive program to motivate installation of water conservation infrastructure (e.g., low-flow fixtures, water-efficient appliances) in buildings throughout the Town water service area.
			Strategy CW2	Create and implement a program to educate building owners and renters on the advantages of turf removal and vegetative and landscaping changes that reduce the need for irrigation in landscaping.
			Strategy CW3	Starting in 2026, provide information in water bills on how the customer’s consumption compares to comparable neighbors and the Town’s water conservation goals.
			Strategy CW4	By the end of 2026, complete a review of the water pricing structure, including a comparison to nearby communities, to determine whether changes should be made to create greater motivation for water conservation.
	Stretch		Strategy CW5	Create a program to work with local HOAs to set up owner committees to develop and implement HOA policies to foster water conservation.
			Strategy CW6	Create and implement a program of financial incentives for building owners who replace turf grass with landscaping that does not require irrigation.



Focus Area	Strategy Type	Goal/Strategy ID	Goals And Strategies
Materials	<b>Town Government</b>		
	 <b>Town Government Materials Goal #1: Reduce the amount of waste generated by Town government operations below baseline year 2026 while increasing the portion of waste diverted from the landfill, by 2029.</b>		
	Core	Strategy TWM1	Conduct a waste composition study of Town government operations by 2026 that will provide an estimate of the amount of waste generated from government operations and the portion of it that is diverted to recycling and composting.
		Strategy TWM2	Starting in 2025, ensure that infrastructure for recycling and composting is readily available to Town government staff and contractors regardless of where they work, and educate staff and contractors about the proper use of such infrastructure.
		Strategy TWM3	By the end of 2026, update the Town government’s sustainable procurement policy to be certain that all staff are aware of it and that it encourages: <ul style="list-style-type: none"> <li>➤ Reduction of materials purchased where possible, including associated packaging materials,</li> <li>➤ Increase in the purchase of materials made with recycled content,</li> <li>➤ Increase in the purchase of materials and equipment that can be easily recycled or composted at the time of disposal, and</li> <li>➤ Repair of materials and equipment rather than replacement when feasible.</li> </ul>
	Stretch	Strategy TWM4	Set waste reduction and diversion goals on a departmental level within the Town government, with recognition going to departments that exceed their goals.
	 <b>Town Government Materials Goal #2: Increase the diversion rate of construction and demolition debris from construction and demolition projects conducted or funded by the Town.</b>		
	Core	Strategy TWM5	As part of the waste composition study described in Strategy TM1, develop an estimate of the amount of waste from construction and demolition projects conducted or funded by the Town government and the portion that is being diverted to recycling.
		Strategy TWM6	Work with the SCRAP and other municipalities in Summit County to pursue affordable access for contractors, to facilities that can accept construction and demolition debris for recycling.





Focus Area	Strategy Type	Goal/Strategy ID	Goals And Strategies
Community	Stretch	Strategy TWM7	<p>Starting in 2025, incentivize implementation of the Phase 1, 2, and 3 requirements set forth under Goal 4 of the County C&amp;D Plan for projects conducted or funded by the Town. The Town would need to:</p> <ul style="list-style-type: none"> <li>➤ Phase 1 – Incentivize contractors on Town projects (i.e., new construction, remodels, demolition) to submit Materials Management Plans,</li> <li>➤ Phase 2 – Incentivize such contractors to divert highly recoverable materials from all C&amp;D projects from the landfill, and</li> <li>➤ Phase 3 – Incentivize such contractors to divert a percentage of all C&amp;D project materials from the landfill.</li> </ul>
	<b>Community</b>		
	 <b>Community Materials Goal #1: Reduce the amount of waste generation per capita below the baseline year 2026 while increasing the portion of waste diverted from the landfill, by 2029.</b>		
	Core	Strategy CWM1	Conduct a community waste composition study in 2025/2026 to estimate the per capita amount of waste generated from the community and the portion of it that is diverted to recycling and composting.
		Strategy CWM2	Encourage residents, businesses, and workers to reduce waste by identifying and publicizing sources of secondhand materials and equipment in and near Silverthorne.
		Strategy CWM3	Encourage residents, businesses, and workers to reuse materials and equipment by identifying and publicizing readily available repair services in and near Silverthorne, including community resources like the Art Spot and “repair fairs” that are operating in the area, where people can bring in items for repair.
		Strategy CWM4	Encourage residents, businesses, employees, and visitors to divert more waste to recycling and composting through a variety of educational materials and training courses on what waste can go into recycling and composting, how to get the waste there, and why diversion is important.
	Stretch	Strategy CWM5	By the end of 2026, reconsider whether to adopt a “Pay As You Throw” ordinance that will require all trash haulers operating in Silverthorne to (a) provide curbside recycling (and possibly composting) pickup services and (b) require customers to pay higher charges if they produce larger volumes of waste to be taken to the landfill, provided that such an ordinance is adopted uniformly across Summit County, including within all municipalities in the county.
		Strategy CWM6	Create a program of incentives to attract more vendors of second-hand materials and equipment to the area.
		Strategy CWM7	Create a program of incentives to attract more repair services (including services not previously available nearby) to the area.







Focus Area	Strategy Type	Goal/Strategy ID	Goals And Strategies	
		<b>Community Materials Goal #2: Increase the diversion rate of construction and demolition debris for construction and demolition projects in Silverthorne as described in the 2023 Summit County Five Year Construction and Demolition Debris Plan (County C&amp;D Plan).</b>		
			Strategy CWM8	As part of the waste composition study described in Strategy CM1, develop an estimate of the amount of waste from construction and demolition projects conducted in the Town and the portion that is being diverted to recycling.
		Core	Strategy CWM9	Work with the SCRAP and other municipalities in Summit County to pursue affordable access for contractors to facilities that can accept construction and demolition debris for recycling. [Same as Strategy TWM6]
			Strategy CWM10	Starting in 2026, create and begin providing incentives to contractors that voluntarily implement one or more of the Phase 1, 2, and 3 requirements set forth under Goal 4 of the Summit County C&D Plan in non-government projects in the Town. The Town would need to: <ul style="list-style-type: none"> <li>➤ Phase 1 – Incentivize the contractors to submit Materials Management Plans for their projects (new construction, remodels, and demolition);</li> <li>➤ Phase 2 – Incentivize the contractors to divert highly recoverable materials from all C&amp;D projects from the landfill; and</li> <li>➤ Phase 3 – Incentivize contractors to divert a percentage of all C&amp;D project materials from the landfill.</li> </ul>
			Stretch	Strategy CWM11
Mobility	Town Government			
		<b>Town Government Mobility Goal #1: Increase options for employees to travel to work without having to drive alone.</b>		
		Core	Strategy TM1	By the end of 2025, create an estimate of the number of miles Town employees commute by driving alone per year and identify the barriers that most often discourage them from commuting by other means (e.g., transit, car-pooling, cycling, walking, and working remotely).
			Strategy TM2	Identify alternatives to driving alone to work that are available to Town employees and use education and incentives to encourage participation.
			Strategy TM3	Work with Summit Stage to create “virtual stops” for the new micro-transit system that are within a five-minute walk of all Town offices and facilities where personnel work, without requiring them to walk across Blue River Parkway or I-70.
Stretch		-	None	



Focus Area	Strategy Type	Goal/Strategy ID	Goals And Strategies	
Mobility			<b>Town Government Mobility Goal #2: Reduce driving required by residents, workers, and businesses for procedures needed to obtain Town licenses and permits to minimize vehicle miles traveled for such procedures.</b>	
	Core	Strategy TM4	Create an inventory of applications, renewals, and other procedures that residents, workers, and businesses need to submit in person at a town facility.	
		Strategy TM5	Create methods to submit applications, renewals, and other procedures online where this is not yet possible and educate the community about these new and existing methods.	
	<b>Community</b>			
			<b>Community Mobility Goal #1: Increase options for residents, workers, and visitors to travel around Town without having to drive alone.</b>	
	Core	Strategy CM1	<b>(Bikes and pedestrians):</b> Create and follow a schedule for implementing the following Policies from the Town’s 2022 Comprehensive Plan: <ul style="list-style-type: none"> <li>➤ Policy T 1.10: As the Town of Silverthorne adds to or improves its transportation network, apply complete street strategies such as narrowing the lane widths, limiting roadway access, promoting pedestrian and bicycle travel, and providing appropriate landscaping</li> <li>➤ Policy T 2.3: Incorporate design elements and maintenance policies that allow for year-round usage of bicycle and pedestrian ways, per the Parks, Open Space, and Trails Master Plan.</li> <li>➤ Policy T 2.7: Encourage development to provide safe bicycle parking facilities and improve bicycle parking at bus stops and areas of public activity.</li> </ul>	
Strategy CM2		<b>(Transit):</b> Create and follow a schedule for implementing the following Policies from the Town’s 2022 Comprehensive Plan: <ul style="list-style-type: none"> <li>➤ Policy T 3.3: Work with the Summit Stage on the improvement of their transit network to ensure that the routes and stops within Silverthorne are convenient and efficient. Consider the relocation and/or addition of new bus stops as development occurs and new routes become more optimal.</li> <li>➤ Policy T 3.5: Support the Summit Stage in efforts to increase routes, make direct connections, increase reliability of service, and shorten travel times.</li> <li>➤ Policy T 3.6: Work cooperatively with regional operators e.g., Bustang, Summit Express) to expand the regional network of bus service, to improve the transit system between Denver and Silverthorne, and to develop centrally located stops in Silverthorne.</li> </ul>		



Focus Area	Strategy Type	Goal/Strategy ID	Goals And Strategies
		Strategy CM3	<b>(Micro-mobility):</b> Work with Summit Stage to create “virtual stops” in its new micro-mobility system – pick-up and drop-off spots that are not regular bus stops - at points of origin and destinations of greatest need for such service, both inside of Silverthorne and in other locations outside of Silverthorne that are most likely to be used by the Silverthorne community.
		Strategy CM4	<b>(Connections with town employee programs):</b> Inform residents and workers of alternatives to driving alone identified under Strategy TM2 and use education to motivate them to use these alternatives instead of driving alone.
	<b>Stretch</b>	Strategy CM5	Go beyond education and create tangible incentives for residents and workers to use carpooling and other alternatives to driving alone.
<b>GHG Emissions</b>	<b>Town Government</b>		
	 <b>Town Government GHG Emissions Reduction Goal #1: Reduce GHG emissions below 2023 baseline (3,025 mtCO<sub>2</sub>e) from Town government facilities and operations by 2029.</b>		
	<b>Core</b>	Strategy TG1	By 2026, electric vehicle charging stations will open to the public in key publicly accessible town government parking lots.
		Strategy TG2	By the end of 2026, phase out all gas-powered landscaping equipment used on land owned or controlled by the town government, other than ride-on equipment, with electric equipment.
	<b>Stretch</b>	Strategy TG3	Accelerate the replacement of the Town’s light-duty vehicles with internal combustion engines with electric vehicles.
		Strategy TG4	Cover any gap between the emissions reduction target for 2030 in CAP and the reductions that the strategies in this Plan produce, through the purchase of carbon offset credits.
	<b>Community</b>		
	 <b>Community GHG Emissions Reduction Goal #1: Reduce community GHG emissions below latest inventory by 2029.</b>		
	<b>Core</b>	Strategy CG1	Work with the private sector to incentivize greater use of electric vehicles through a combination of education, expansion of charging stations that are easily accessible to residents and workers, and preferred parking spaces for electric vehicles (including motor vehicles and eBikes).
		Strategy CG2	Leverage incentives offered by the State of Colorado with education and other incentives to persuade local landowners to replace gas-powered landscaping equipment, other than ride-on equipment, with electric equipment.
<b>Stretch</b>	Strategy CG3	Inform and encourage community members to purchase credible carbon offset credits to cover any gap between the emissions reduction target for 2030 in the CAP and the reductions that the strategies in this Plan produce.	



## Appendix 2. Survey Report

Silverthorne conducted a survey during its sustainability strategic planning process to get input on key issues from the Silverthorne community.

The Town released the survey at the sustainability community workshop on March 28, 2024 and it was open for response until May 3, 2024.

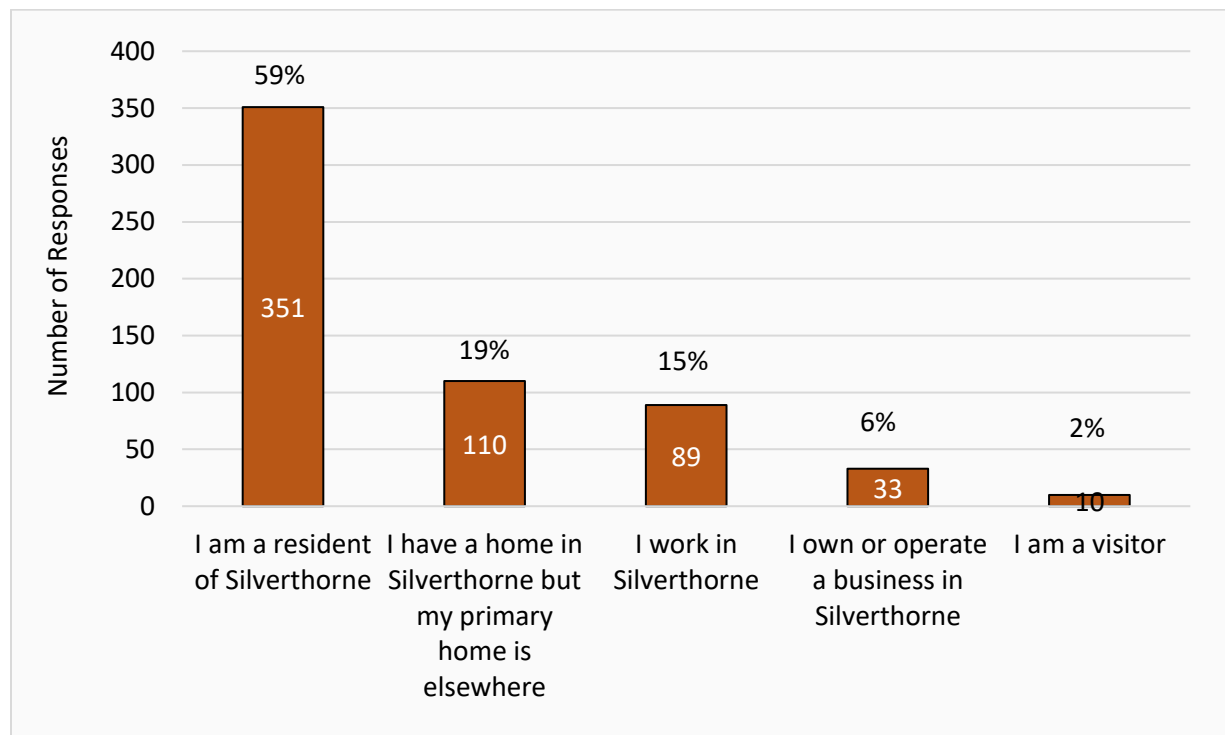
Silverthorne distributed the survey and shared it with several community groups, including the Family Intercultural Resource Center and Silverthorne Elementary School. The survey was available in English and Spanish and in digital and paper format. The Town received 506 completed survey responses. Of these, 500 were in English and six were in Spanish.

This was a survey and not a scientific poll. Anyone who wanted to submit a response was allowed to do so.

### Demographic Responses

#### Question 8

*What is your relationship with Silverthorne? Select all that apply.*



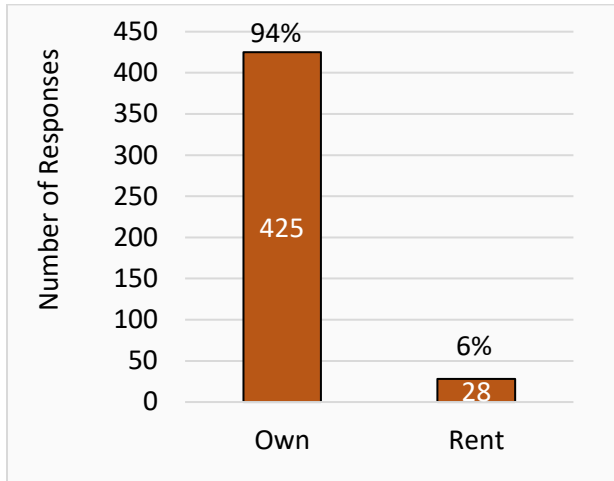
These responses show that most of the respondents are residents. A much smaller number reported that they work in Silverthorne, and an even smaller number own a business in town.





**Question 9**

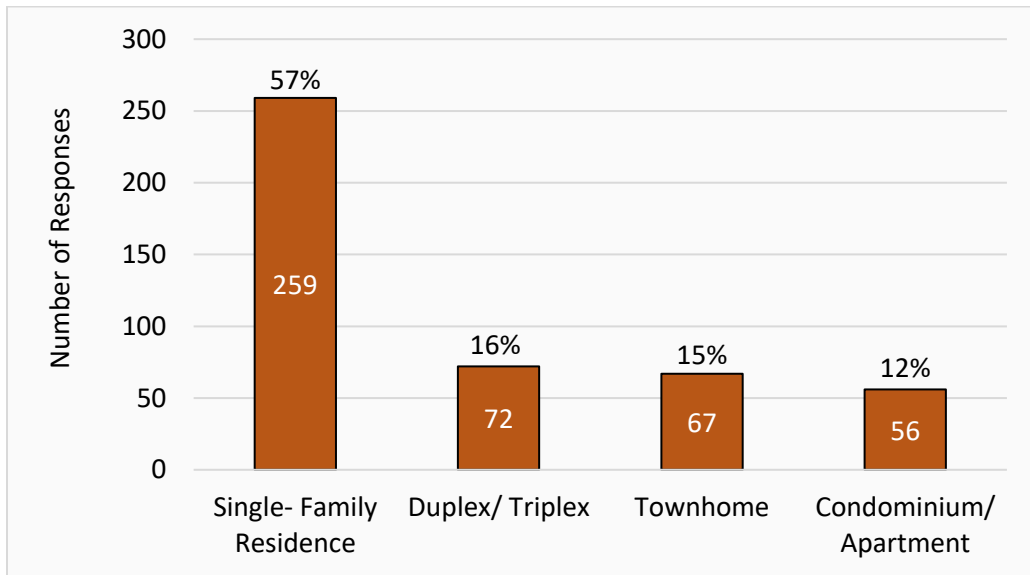
*Do you rent or own your home?*



Respondents were overwhelmingly owners.

**Question 10**

*What type of home do you live in?*

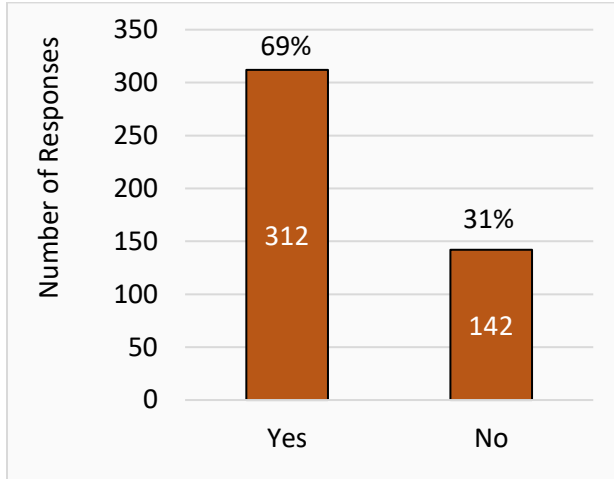


Respondents occupied a variety of housing types, but over half lived in single-family homes. The rest live in town homes, duplexes/triplexes, condos and apartments.



**Question 11**

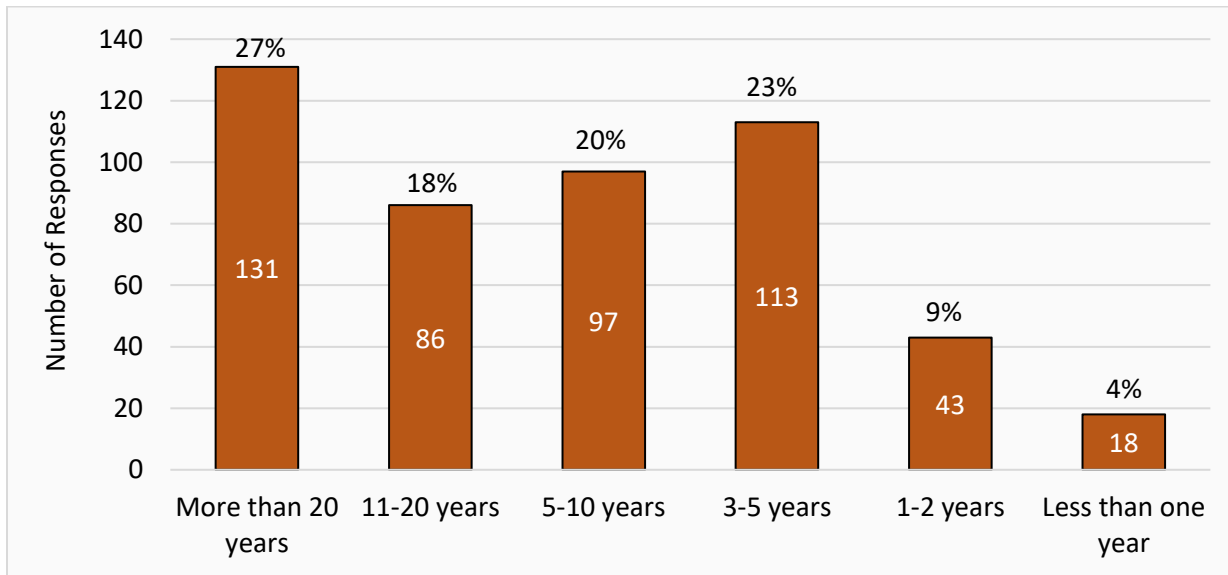
*Do you have a yard that you are responsible for maintaining?*



About two-thirds of the respondents who answered this question maintain a lawn.

**Question 12**

*How long have you lived or worked in Silverthorne?*

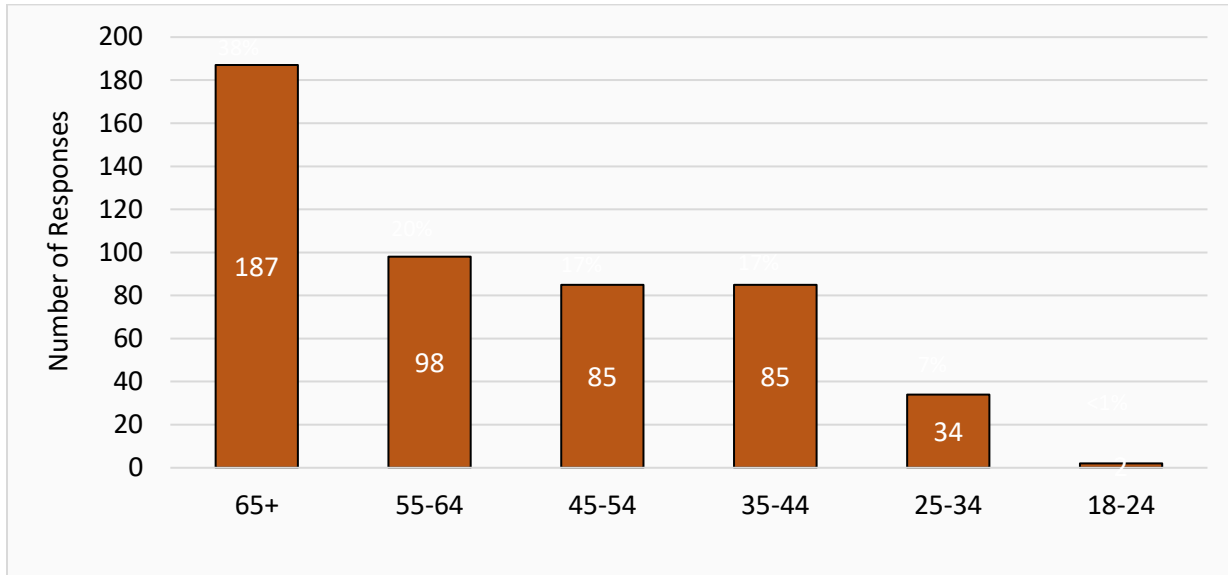


Nearly two-thirds of respondents had been here for over five years.



**Question 13**

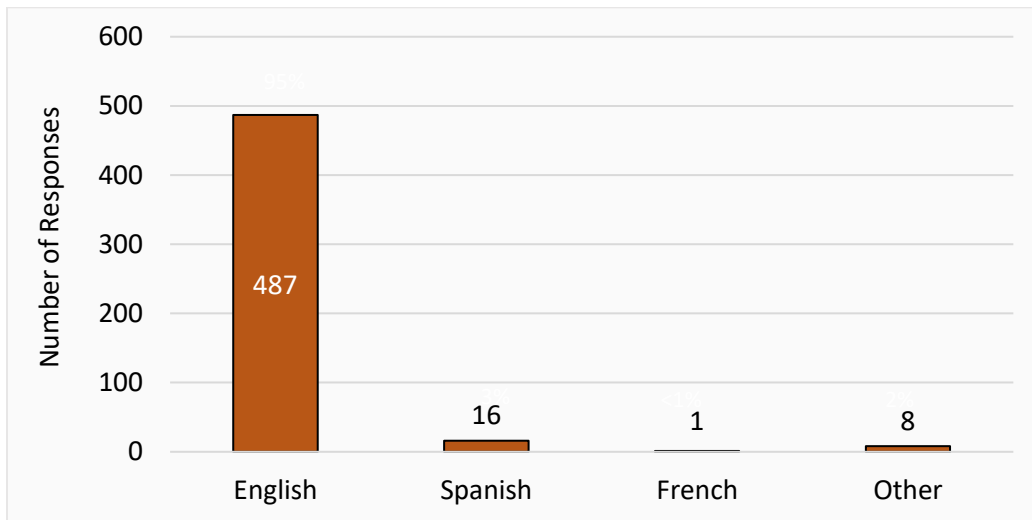
*What is your age?*



Over half of respondents were 55 years old or older.

**Question 14**

*What language do you primarily speak at home? Select all that apply.*



Most respondents spoke English at home and very few of the respondents spoke Spanish at home.

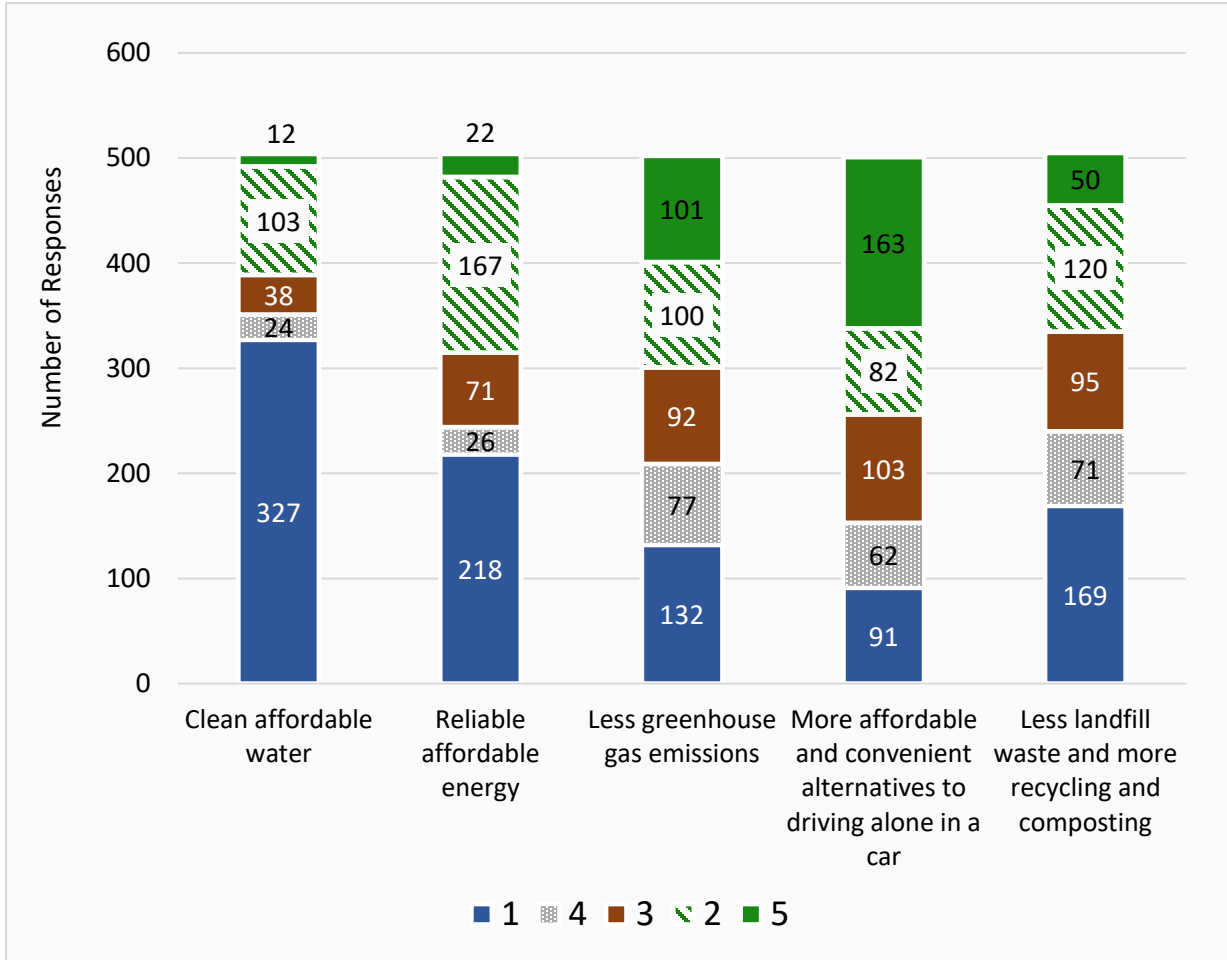
Most respondents were English-speaking residents over the age of 55 that have been living in a single-family home in Silverthorne for at least five years.



Substantive Responses

Question 1

Silverthorne’s Sustainability Strategic Plan will focus on the following five areas. Please rate these areas from most important to least important, with most important being 1 and least important being 5.



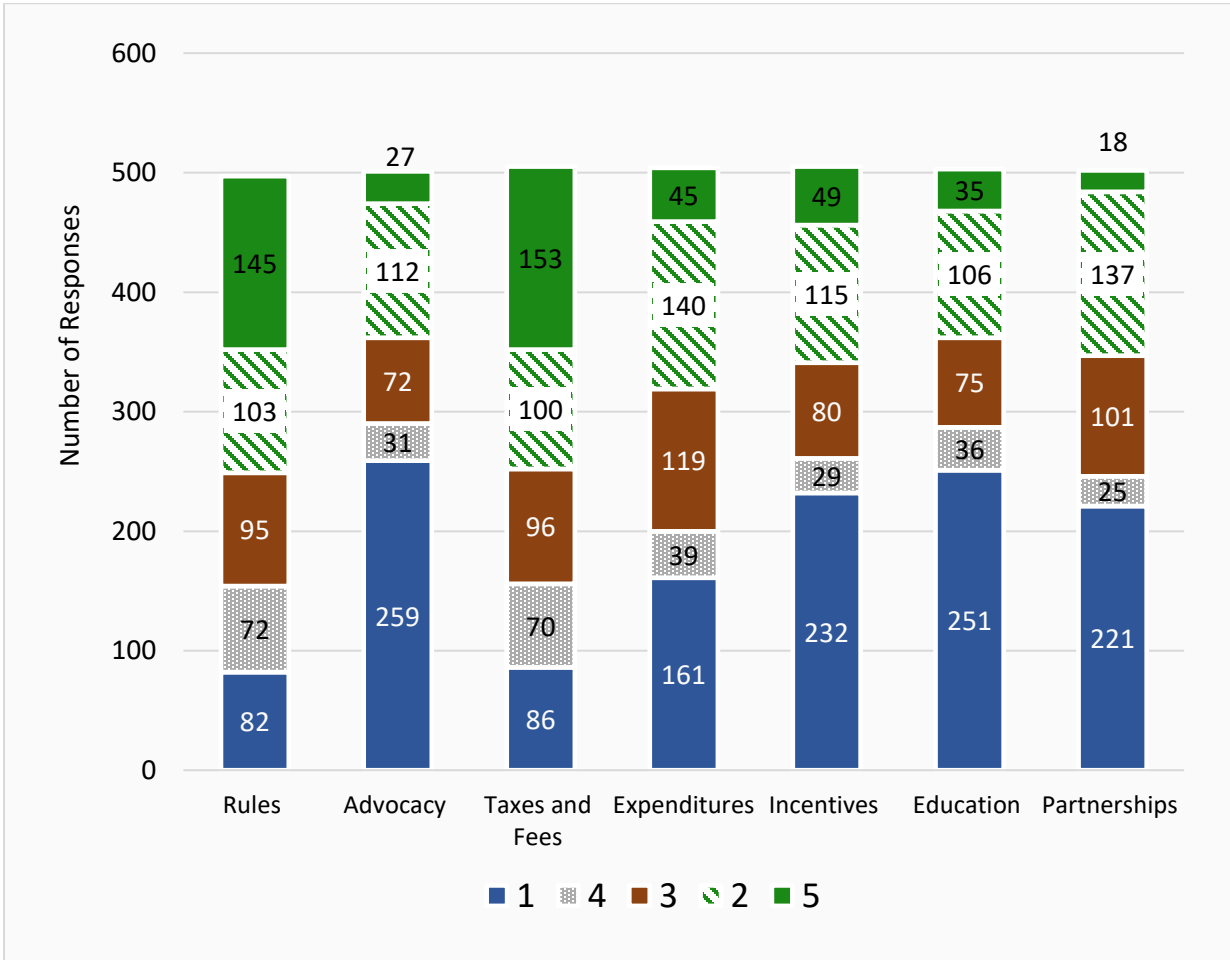
Water and Energy were the areas of greatest interest for more than half of the respondents. Materials/Waste and Green House Gas reduction were in the middle, and mobility was considered the least interesting.





**Question 2**

*How should the Town implement sustainability initiatives? Please rate your level of tolerance for each technique below, with most tolerable being 1 and least tolerable being 5.*

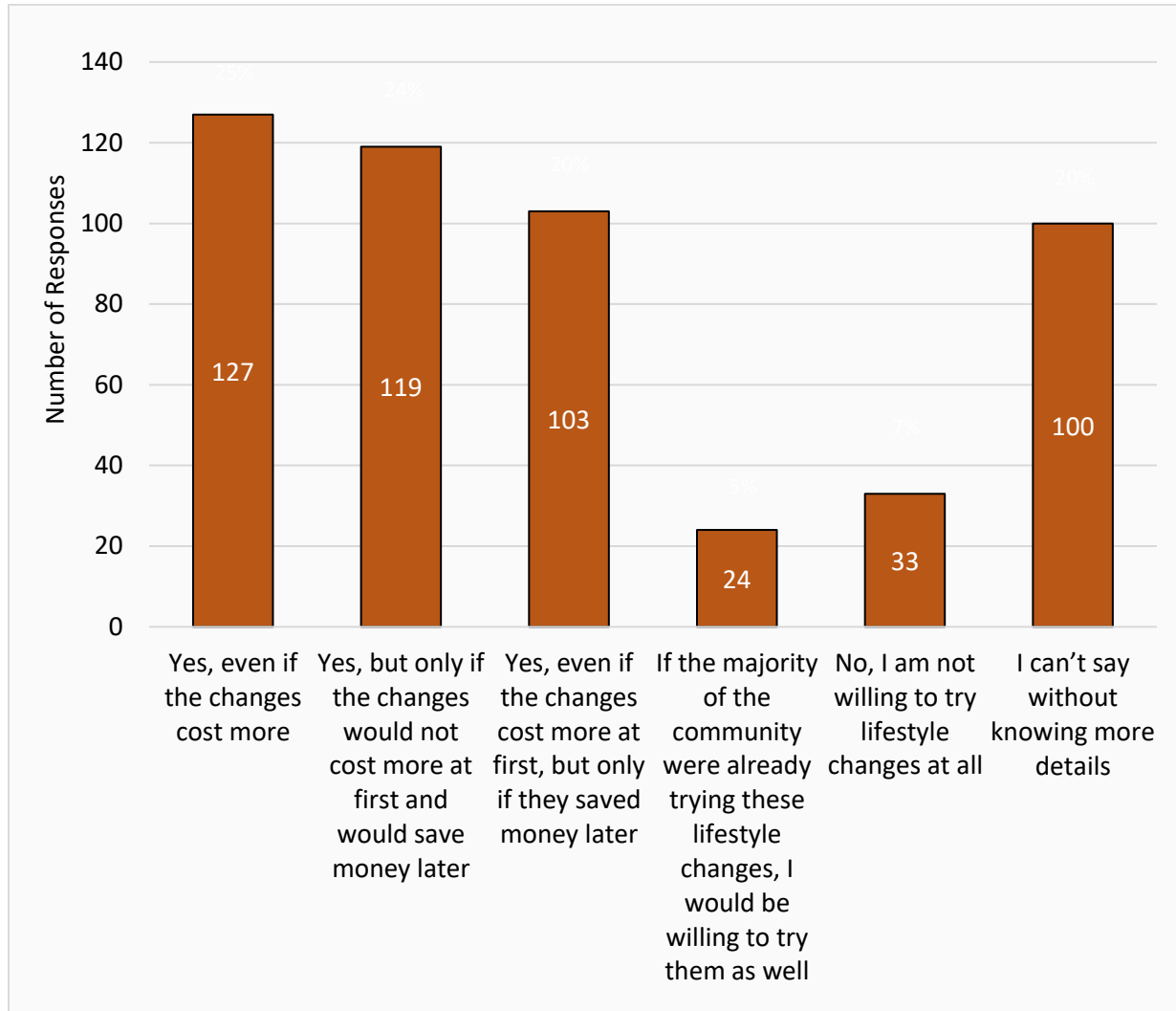


Support for less intrusive programs was much greater than support for mandates, prohibitions, taxes and fees.



### Question 3

Some daily activities such as driving, powering buildings, handling waste, using water, and shopping choices can impact sustainability. Would you be willing to try changes in your daily activities if you were confident that doing so would make the community more sustainable?

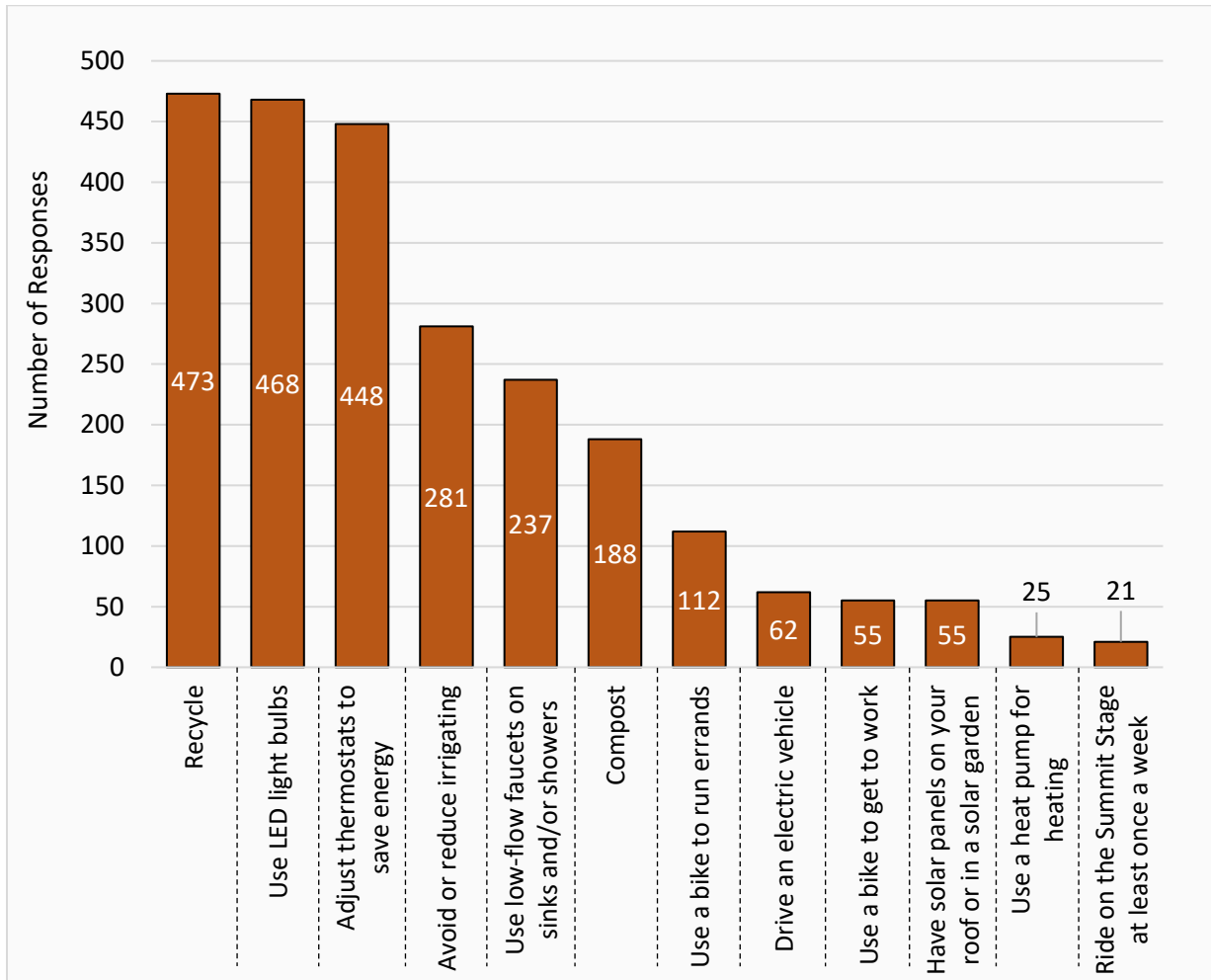


Nearly half of respondents said they would be willing to make some changes in their lives to support sustainability, even if it required them to put up some of their own money. Only 33 respondents were completely closed to making changes. One out of every five respondents said they were at least willing to consider making changes, but only if they first got some additional information.



### Question 4

Which of these actions do you already take? Select all that apply.

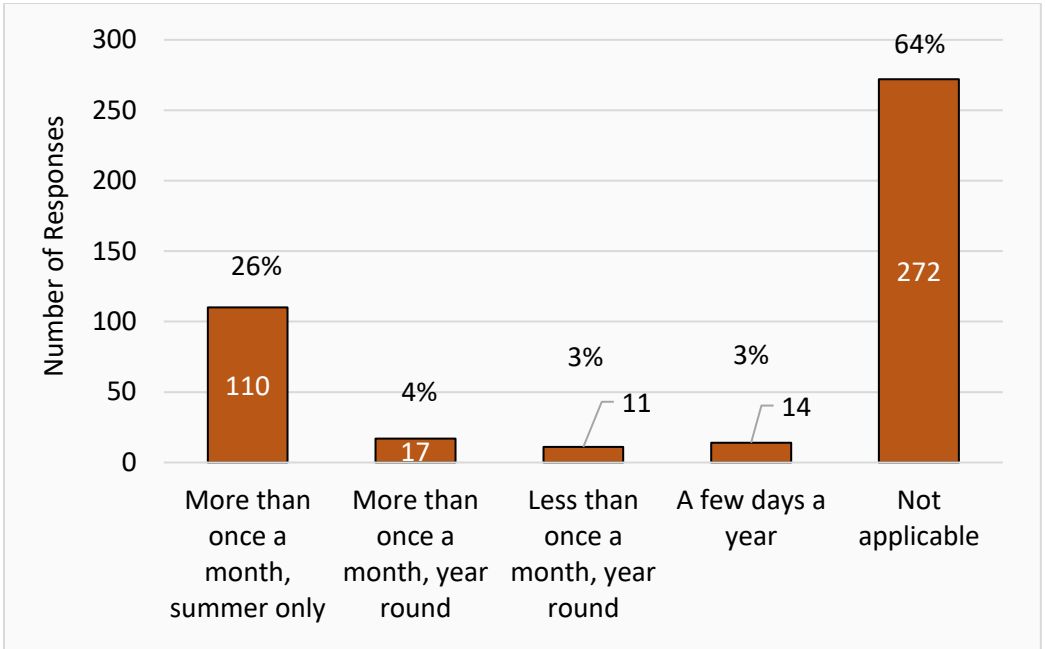


Many respondents (around 90%) have done some recycling and made some minor energy adjustments in the home (e.g., LED bulbs, thermostat settings). Many have done all three. Expensive energy actions (e.g., heat pumps, solar panels) have had only a small level of adoption, and few respondents have explored alternatives to driving alone to get around.



**Question 5**

*If you selected riding a bike to work or to run errands, how many days of the year do you already do this activity?*



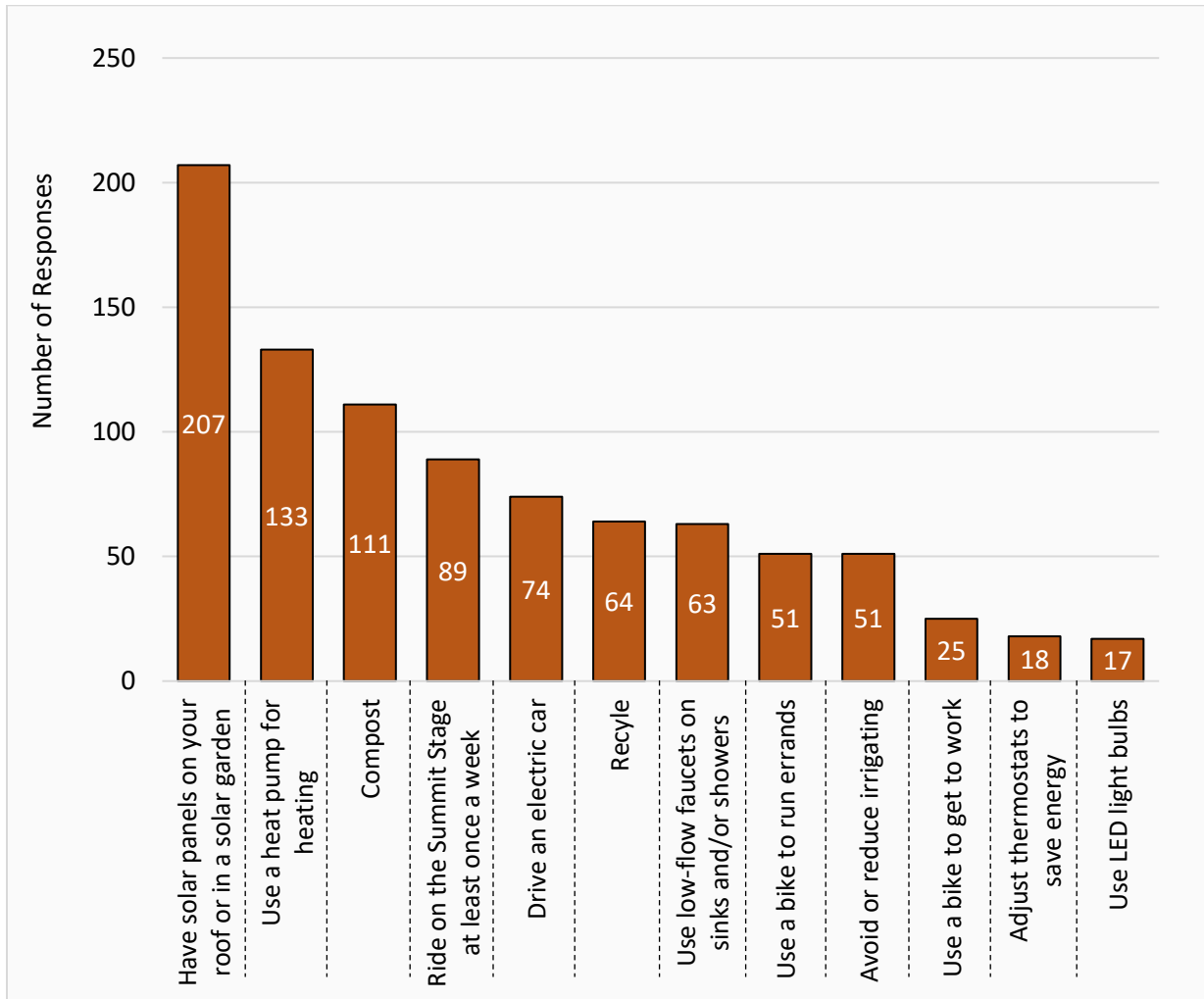
Most respondents indicated that they were regular, but not frequent, cyclists. Frequent commuting and shopping by bike was rare.





**Question 6**

*Of the things you don't do, what are you interested in learning more about? Select all that apply.*



Although relatively few respondents indicated that they have put solar on their roof or heat pumps in their house, there was a relatively high level of curiosity about how to do these things. In contrast, while many respondents said that they have used LED bulbs and thermostat adjustments to save energy, very few expressed an interest in learning more about these actions. Recycling was also reported as a common practice, but a lot more people expressed an interest in learning more about how to do it properly than expressed an interest in learning more about LED bulbs and thermostats.

**Question 7** was a simple open-ended question requesting a narrative response: “Please add anything else you would like to include regarding the development of Silverthorne’s Sustainability Strategic Plan.” Over 40% of respondents submitted an answer. Answers are available by request to the Town’s Community Development Department, at [Planning@silverthorne.org](mailto:Planning@silverthorne.org).

