

# SUSTAINABILITY ACTION PLAN



December 2023



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# INTRODUCTORY LETTER

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Sustainability has long been a goal of the City of Moab. For decades we have worked to preserve our clean water and air, and increase our use of renewable energy. To ensure that future generations can enjoy the same vibrant city we know today, we must respond to climate change and other environmental issues immediately and intentionally. The people and businesses of Moab are already experiencing the threats of climate change firsthand via flooding and wildfires. Rising temperatures are expected to introduce even more disruption to our daily lives and landscapes. The City of Moab believes that we all have a responsibility to preserve the habitats of our local plant and animal species, our water supply, and the outdoor recreational activities that make our community unique.

The Moab Sustainability Action Plan presents coordinated strategies that holistically respond to these challenges. Although our community faces a momentous challenge, we also have the opportunity to facilitate clean, efficient, and effective solutions which can bolster our local economy and protect the health of our residents. The team from Brendle Group and City staff worked to build on our foundation of past actions in developing the Plan, with the purpose of providing the city with focal points and direction for the future. The steps laid out in this plan are informed by a growing body of climate science data, an inventory of our greenhouse gas emissions sources, as well as the ideas, requests, and sustainable practices currently implemented by local businesses and residents. The Council realizes that progress will require ongoing engagement and support from the City, and the Plan's successful implementation is contingent on collaboration with the community and our regional partnerships.

We look forward to helping the City meet the commitments of the Sustainability Action Plan as it reflects our determination and confidence in the continued endurance and sustainability of Moab.



Kalen Jones  
Moab City Council Member, 2016-2023

# MOAB SUSTAINABILITY ACTION PLAN

# EXECUTIVE SUMMARY



Moab is intrinsically connected to its dramatic natural landscapes. Residents and visitors are united by the beauty of their surroundings and the community has a long history of environmental stewardship and sustainability. This Sustainability Action Plan is grounded in robust community engagement and builds on past sustainability work to integrate and align community-wide priorities. The vision, goals, and strategies of the Sustainability Action Plan are intended to reinforce and connect to existing efforts while defining concrete near-term actions.

## Moab's Sustainability Vision

Moab strives to become a thriving, resilient, equitable, and inclusive community, fostering a high quality of life, a healthy environment, and a stable economy.

## Sustainability Action Plan Purpose

This Sustainability Action Plan serves as a roadmap for community collaboration on actionable steps toward our sustainability vision. The City of Moab is dedicated to implementing the plan in a transparent manner and welcomes ongoing community involvement in shaping our sustainable future.

## Focus Areas and Cross-Cutting Considerations

This action plan is organized around six core sustainability topics, which serve as the “chapters” to this document. Sustainability action is inherently cross-cutting and has the potential to create wide ranging benefits. The plan is organized around six core sustainability topics and five cross-cutting considerations are integrated throughout.



Energy & Buildings



Nature & Ecosystems



Land Use & Planning



Transportation



Materials Management



Water



**Goals**

**Strategies**

 <p>Energy &amp; Buildings</p>	<ul style="list-style-type: none"> <li>• Reduce energy-related greenhouse gas emissions</li> <li>• Increase residential energy efficiency</li> <li>• Increase commercial and institutional energy efficiency</li> <li>• Improve equitable energy access</li> <li>• Improve the climate resilience of Moab's buildings and energy supply</li> </ul>	<ul style="list-style-type: none"> <li>• E-1: Programs to support energy efficiency, renewables, and indoor air quality</li> <li>• E-2: Encourage healthy, sustainable building practices</li> <li>• E-3: Achieve SolSmart Silver certification</li> <li>• E-4: Advocate for high performance buildings in state codes</li> <li>• E-5: Energy education campaign</li> <li>• E-6: Municipal facilities energy audit</li> <li>• E-7: Implement the WattSmart Communities Energy Plan</li> </ul>
 <p>Nature &amp; Ecosystems</p>	<ul style="list-style-type: none"> <li>• Preserve and enhance open space, habitat, and the urban - nature interface</li> <li>• Restore natural darkness while being consistent with safety considerations</li> <li>• Restore natural quiet while being consistent with safety considerations</li> </ul>	<ul style="list-style-type: none"> <li>• N-1: Expand the urban tree canopy</li> <li>• N-2: Protect and enhance habitat and open space</li> <li>• N-3: Reduce ambient noise</li> <li>• N-4: Become a Dark Sky Community</li> </ul>
 <p>Land Use &amp; Planning</p>	<ul style="list-style-type: none"> <li>• Integrate sustainability considerations throughout land use decision making processes</li> <li>• Reduce the impacts of regional industry on local health and quality of life</li> <li>• Remove barriers and threats to urban agriculture</li> </ul>	<ul style="list-style-type: none"> <li>• L-1: Urban agriculture programs</li> <li>• L-2: Sustainable development best practices and performance review</li> <li>• L-3: Reduce industrial air pollution impacts</li> </ul>
 <p>Transportation</p>	<ul style="list-style-type: none"> <li>• Reduce vehicle miles traveled</li> <li>• Reduce transportation emissions</li> </ul>	<ul style="list-style-type: none"> <li>• T-1: Develop a Transportation Electrification Plan</li> <li>• T-2: Develop a complete streets policy</li> <li>• T-3: Sustainable transportation education campaign</li> <li>• T-4: Off-road vehicle electrification</li> <li>• T-5: Anti-idling policy enforcement</li> <li>• T-6: Municipal fleet electrification</li> </ul>
 <p>Materials Management</p>	<ul style="list-style-type: none"> <li>• Reduce waste sent to landfill and waste stream contamination</li> <li>• Reduce construction and demolition waste</li> <li>• Increase local use of reused and recycled materials</li> <li>• Improve waste management and monitoring</li> </ul>	<ul style="list-style-type: none"> <li>• M-1: Organic waste diversion pilot</li> <li>• M-2: Construction and demolition waste reduction</li> <li>• M-3: Municipal environmental purchasing policy</li> <li>• M-4: Waste education campaign</li> <li>• M-5: Materials repair and reuse resources</li> <li>• M-6: Evaluate the plastic bag ban</li> <li>• M-7: Waste audits and monitoring</li> </ul>
 <p>Water</p>	<ul style="list-style-type: none"> <li>• Protect drinking water quality</li> <li>• Protect the quantity of groundwater</li> <li>• Safeguard water resources and reduce flood impacts</li> </ul>	<ul style="list-style-type: none"> <li>• W-1: Nature-based stormwater solutions</li> <li>• W-2: Water Conservation Plan implementation</li> <li>• W-3: Accessible data on water conditions</li> <li>• W-4: Graywater adoption</li> <li>• W-5: Municipal water audits</li> </ul>

# INTRODUCTION

Moab is intrinsically connected to its dramatic natural landscapes. Residents and visitors are united by the beauty of its surroundings and the community has a long history of environmental stewardship and sustainability. In 2009, Moab adopted the “2020 Vision: A Sustainable Moab Plan” which identified goals and action steps to “add to the quality of life of our current and future residents and lessen negative impacts on the environment” (City of Moab, 2009).

In 2023, while many of the 2020 Vision priorities and principles remain relevant and important to Moab residents, the community is also facing new opportunities and challenges. This Sustainability Action Plan is grounded in robust community engagement and builds on past sustainability work to integrate and align community-wide priorities. These are the components of an actionable work plan for Moab’s next chapter of sustainability leadership.

### “Moab 2020 Vision: A Sustainable Moab Plan” Goals

- Water Conservation: Ensure the long-term productivity of the City of Moab’s aquifers.
- Water Reuse: Allow Utah residents to reuse clean, safe “graywater” to expand outdoor landscaping and gardening while at the same time conserving Utah’s scarce culinary water sources.
- Energy Efficiency: Reduce community dependence upon nonrenewable fuels and increase community utilization of clean, renewable energy sources.
- Sustainable Construction: Increase energy efficiency and utilization of clean, renewable energy sources in new residential and commercial projects in Moab.
- Retrofitting for Sustainability: Increase the energy efficiency of Moab’s least efficient residential and commercial structures.
- Community Awareness: Increase the application of sustainable practices throughout the community, the state, and nation.

## Why a Sustainability Action Plan?

At its core, sustainability is about safeguarding Moab’s unique natural environment and enhancing quality of life for present and future generations. This Sustainability Action Plan is designed to:



Map out the next steps for the City to equitably pursue sustainability and climate action.



Build on Moab’s history of energy action and resource conservation.



Integrate and reinforce sustainability priorities across existing plans to create a unified path forward.



Develop goals and strategies to measure and achieve progress within sustainability topic areas.



Engage and empower community members on sustainability.



Create an actionable work plan to guide next steps.

## Connecting to Existing Efforts

The goals and strategies in this document are intended to reinforce and connect to existing efforts while defining concrete near-term actions. Existing efforts and opportunities for alignment are highlighted throughout. These connections are at the core of sustainability and at the same time avoid the duplication of efforts underway elsewhere, such as in the 2022 [Grand County and Moab Unified Transportation Master Plan](#) and the [City's 2021 Water Conservation Plan](#).

## A Community-Centered, Actionable Plan for Moab

The plan focuses on strategies that can be implemented by 2030 and includes detailed work plans for six priority strategies that can be initiated in the next 1-2 years.

### PLAN DEVELOPMENT PROCESS

This Plan was developed over the course of eight months in 2023 through a community-centered process that included input through:

#### 1. Core Project Team

A core project team formed of City staff and project consultants led the planning process from its initiation in May 2023 through to adoption. The team provided subject matter and local expertise to ensure that the final plan reflects City and community values while remaining relevant and feasible.

#### 2. Project Management Team

A project management team formed of City staff with broad areas of expertise and influence who provided input on scoping of the Sustainability Action Plan at the beginning of plan development. The team also provided input on strategy prioritization, particularly related to the cost, staff time requirements, and political feasibility of plan strategies.

#### 3. Technical Advisory Committee (TAC)

A committee formed of local technical experts and key implementation partners who met three times to provide input and feedback at strategic points throughout plan development. This team not only provided their unique perspectives and expertise but also provided connections between the plan and the wider community. Many TAC members will continue to play a critical role throughout plan implementation.

#### 4. Community Engagement

Public participation, which was central to ensuring that this plan accurately reflects community priorities and can serve as a catalyst for collaborative action. A community survey was designed to allow broad participation and gather input that informed the development of draft goals and strategies. An in-person community open house event on November 1<sup>st</sup> provided an opportunity for residents to learn more about the plan, provide ideas for implementation, and contribute to the prioritization of strategies for near-term implementation.

#### Community Engagement Summary



29 Technical Advisory Committee members representing each of the plan focus areas in one virtual and two in-person work sessions



208 community survey respondents



30 community open house attendees

# SUSTAINABILITY ACTION PLAN FRAMEWORK

## Sustainability Vision and Purpose

The Sustainability Vision Statement serves as the overarching guide for the Sustainability Action Plan. The statement was developed and refined with input from City staff, City Council, local technical experts, and the Moab community.

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### Moab's Sustainability Vision

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## Topic Areas

This action plan is organized around six core sustainability topics, which serve as the “chapters” to this document.



Energy &  
Buildings



Nature &  
Ecosystems



Land Use &  
Planning



Transportation



Materials  
Management



Water



## Cross-Cutting Considerations

Sustainability action is inherently cross-cutting and has the potential to create wide ranging benefits. In the development of this plan, five themes emerged as critical community priorities. These themes helped to shape and evaluate the goals and strategies included in this plan and are reflected throughout as cross-cutting considerations that will be elevated and emphasized as the plan is implemented.





## CLIMATE IMPACT

Protecting Moab’s unique natural environment is a core priority for many of our community’s residents. Beyond protecting our immediate surroundings, the City has also committed to play a role in mitigating global climate change through reducing greenhouse gas (GHG) emissions.

### Community Greenhouse Gas Emissions Goal

In 2017, Moab City Council adopted a goal to reduce community greenhouse gas emissions by 80% by 2040, including a reduction of at least 50% by 2032, compared to a 2018 baseline. The anticipated contribution of strategies to emissions reduction goals was factored into strategy prioritization.

Figure 1 shows the results of a 2021 emissions inventory for Grand County. This inventory was an update to the previous inventory for 2019 and is recommended that the City and the County update the emissions inventory every 2 – 5 years in order to track change and monitor progress towards adopted goals. The sources of GHG emissions in 2021 in Grand County were:

- Commercial Energy (23%): electricity and natural gas used for in commercial buildings and facilities (e.g., schools, hospitals, government buildings, shops).
- Transportation & Mobile Sources (21%): transportation emissions, including on- and off-road vehicles, aviation, and rail emissions but excluding the interstate and US-191. US-191 has been excluded since the majority of emissions are associated with through-traffic, over which Moab has little control.
- Residential Energy (19%): electricity, natural gas, LPG and wood burning for residential uses.
- Industrial Energy (12%): electricity and natural gas used for industrial purposes.
- Solid Waste (13%): emissions associated with the disposal of waste at the Moab and Klondike landfills. Note that the inventory only accounts for materials disposal and not the upstream or embodied emissions.
- Agriculture, Forestry & Other Land Use (9%): fertilizer emissions, livestock emissions and electricity used for irrigation purposes.
- Upstream Impacts of Activities (2%): electricity system distribution and transmission losses.
- Process & Fugitive Emissions (<1%): natural gas leakage emissions.

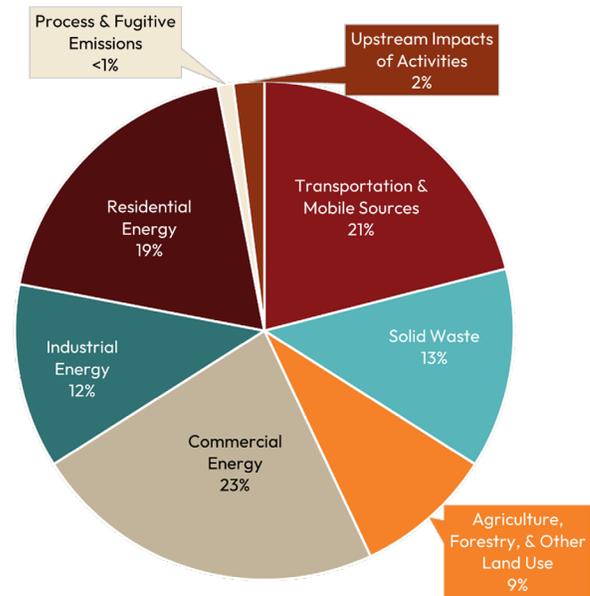


Figure 1: Grand County Greenhouse Gas Emissions 2021 (excluding interstate & US-191) in metric tons of carbon dioxide equivalent (MT CO<sub>2</sub>e).

### Climate Change Resilience

The impacts of climate change are already being felt around the U.S. and the world, and Moab is no exception. According to historical climate data, and as shown in Figure 2, Moab has seen an increase in the number of days over 100°F from an average of 15 per year in the period from 1900 to 1940 to an average of 37 per year

from 1980 – 2023. Extreme high temperatures have direct impacts on human health, and on average, the U.S. sees 702 heat-related deaths each year along with 67,512 emergency room visits and 9,235 hospitalizations due to heat (CDC, 2018). In addition to extreme high temperatures, days with high minimum temperatures place additional strain on human health and natural ecosystems that cannot cool down at night. The number of days with a minimum temperature over 70°F has increased from 5 per year to 16 per year from the period 1900 – 1940 to 1980 – 2023 (NOAA, 2023). Moab is already exceeding some projections for the number of days over 100°F by mid-century and could expect to see up to 54 days over 100°F each year by 2070–2099 under a higher emissions scenario (U.S. Global Change Research Program, 2023).

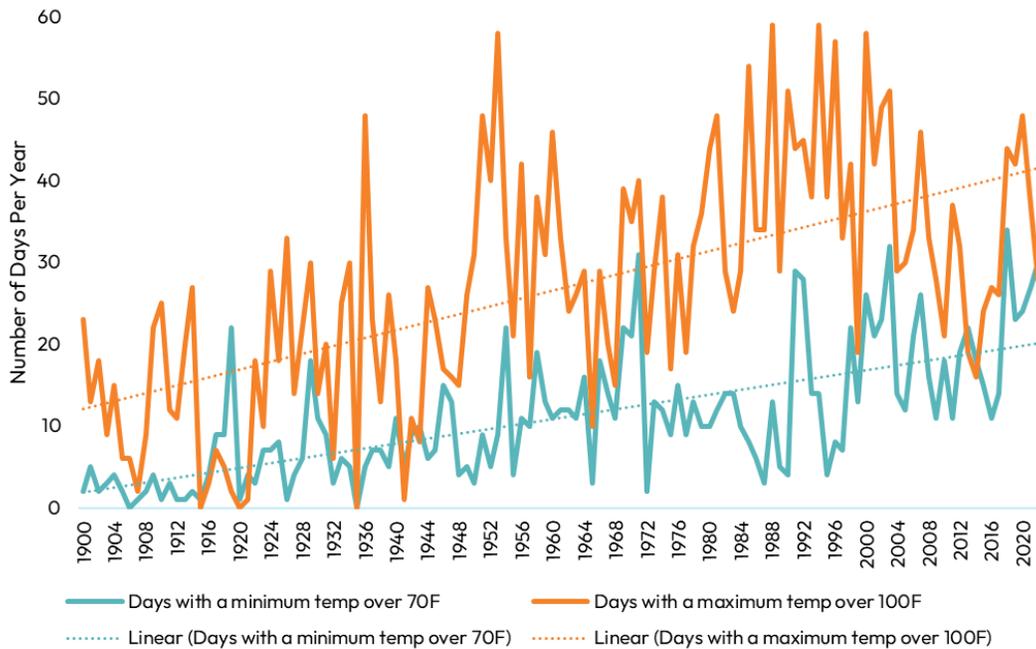


Figure 2: Number of days with a minimum temperature over 70°F and number of days with a maximum temperature 100°F in Moab from 1900 to 2023 (NOAA, 2023).

While there is no clear trend in overall precipitation falling in Moab, the region may see an increase in the frequency and severity of extreme precipitation events, along with an associated increase in flooding. Extreme precipitation events associated with monsoonal rains are relatively common in Moab and 1.36 inches of rain falling in one hour has historically been considered a 100-year precipitation event.

The projections for future change in extreme precipitation and flooding vary. A 2019 study by the Western Water Assessment describes an anticipated increase in the 100-year precipitation event to 1.64 inches falling within one hour by 2050 and 1.84 inches by 2085 (Western Water Assessment, 2019). However, the Fifth National Climate Assessment indicates a possible decrease in flood magnitude in the Moab region (USGCRP, 2023).

The risk of flooding can also be exacerbated by the impact of wildfires, as in the case of the 2021 Pack Creek fire and subsequent flooding (Fixsen, 2021). As temperatures increase, so does the risk of wildfire and when rain falls on recently burned landscapes, runoff can trigger flooding and mudslides (Western Water Assessment, 2019).

Climate change threatens Moab’s water supply and will have impacts for human health, natural ecosystems and the local economy. Taking steps now to build resilience will be critical to preparing for and adapting to future change. This plan therefore prioritizes strategies that have the potential to increase community resilience to anticipated climate change impacts.



## HEALTH & WELLBEING

The plan prioritizes strategies that not only benefit the environment but also create tangible health and wellbeing benefits for local people, for example by reducing the impacts associated with air pollution or increasing access to basic services and open space. The Utah Wellbeing Project 2022 survey found that overall personal wellbeing and community wellbeing were the lowest among the 33 Utah cities studied. Local environmental quality and living standards emerged as “red zone domains” that were rated low but were of high value to residents (Utah Wellbeing Project, 2022).



## LOCAL BENEFIT

As a remote community with a population of 5,300 that plays host to over 3 million visitors each year (Maffly, 2019), Moab faces unique sustainability challenges. Moab’s population is projected to grow by approximately 1,300 residents over the next 20 years, representing a 24% increase (City of Moab, 2023a). A focus on sustainable, responsible growth has emerged as a community priority through the development of this plan and the Utah Wellbeing Project found that the majority of Moab residents felt that population growth and economic development are happening too fast (Utah Wellbeing Project, 2022). The Sustainability Action Plan has local people at its core and prioritizes actions with lasting benefits for community members, while recognizing and leveraging opportunities that are unique to Moab.



## SOCIAL EQUITY & INCLUSION

The impacts of climate change and environmental degradation are not equitably distributed. Furthermore, communities that are overburdened (for example, those experiencing energy cost burden or transportation noise and pollution impacts) and underserved (for example, those without transportation or access to services in their native language) face barriers to accessing existing resources, programs, and services. Moab has been identified as a disadvantaged community by the U.S. Federal Government (U.S. Council on Environmental Quality, 2022) and 50% of the community is defined as low-income (EPA, 2023). Strategies that help to reduce existing inequities are prioritized in this plan. Additionally, plan implementation will aim to address inequities and improve access to sustainability benefits for all Moab residents.



## ECONOMY

A stable economy that serves local people is critical to building support for change and sustaining progress over time. This plan prioritizes strategies that have potential to generate local economic benefits and contribute to a stable and resilient community economy.



## Goals

For each topic area, this plan identifies key goals. These goals are high-level objectives, describing what Moab hopes to achieve in each of the core aspects of sustainability. The level of ambition for each goal was informed by TAC and community input as well as pre-existing community efforts.

## Metrics and Targets

In order to track progress toward the high-level goals, the plan identifies specific metrics and targets within each. These metrics will enable Moab to transparently monitor and communicate sustainability progress over time.

Where appropriate, targets are expressed as numerical or quantitative metrics. Where identifying a numerical target was impractical, or a quantified baseline was unavailable, targets are expressed as directional intent.

## Strategies

Strategies are discrete projects, programs, or initiatives that the City and community can pursue in support of sustainability objectives and targets. During the development of this plan, many potential strategies were identified based on an evaluation of existing conditions in Moab and best practices from other communities, along with TAC and community input. A summary of all strategies is included in [Appendix I: Master Strategies List](#).

### STRATEGY EVALUATION FRAMEWORK

Strategies were evaluated and prioritized based on impact, community priorities, practicality, and co-benefits in connection with the plan's cross-cutting considerations.

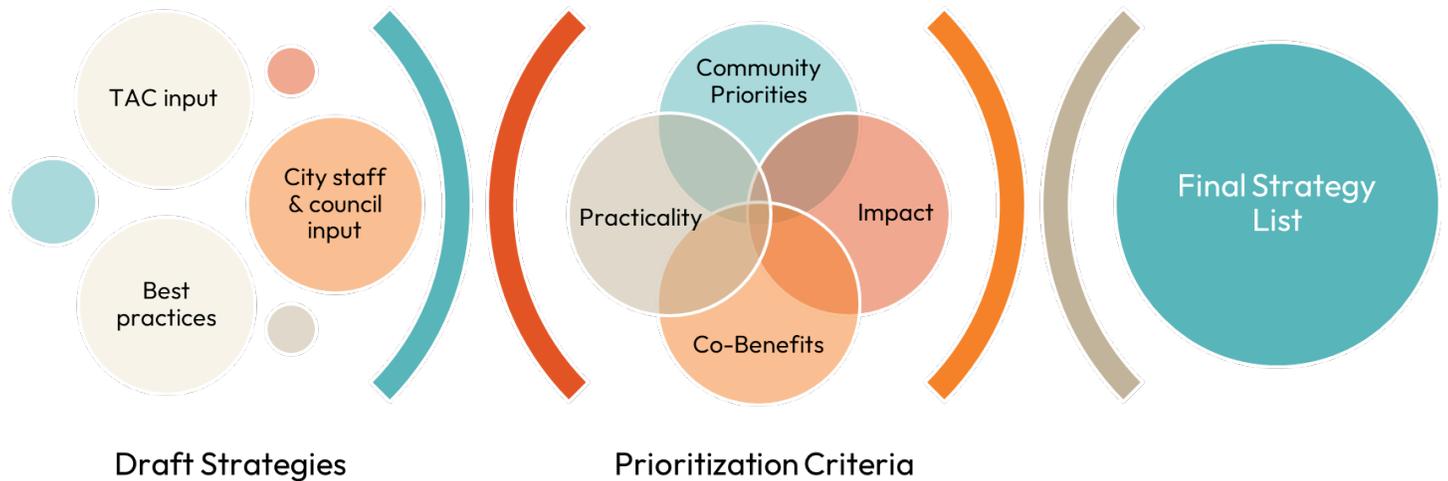


Table 1. High-level summary of strategy evaluation criteria. Community support rating was determined from a community survey, open house event and Technical Advisory Community input. The Impact and Cross-Cutting Benefits rating was determined by project consultants based on anticipated high-level strategy impact. The Feasibility rating was determined by project consultants and the City Project Management Team.

A high-level summary of strategy evaluation is included with each strategy:

<b>Community Support</b> Specific support for this strategy from the community survey, open house and TAC.	<b>Climate Impact</b> Anticipated strategy impact on greenhouse gas emissions and community resiliency	<b>Cross-Cutting Benefits</b> Anticipated benefits connected to Cross-Cutting Considerations.	<b>Feasibility</b> Anticipated practicality of implementation based on cost, staffing needs, and political feasibility
 Some support   Moderate support   Strong support	 Some impact   Moderate impact   Strong Impact	    (Vertical dotted lines connect these icons to the 'Cross-Cutting Benefits' column in the diagram below)	 Somewhat feasible, with some challenge   Moderately feasible with few challenges   Highly feasible

No icon = little/no support, impact, or feasibility

Specific benefits for local people

Economic benefits

Social equity & inclusion benefits

Health & happiness benefits

## STRATEGY WORK PLANS

Six strategies emerged as high priorities for near-term implementation. These priority strategies were further developed with work plans that identify specific actions and resources needed for implementation. Work plans were not developed for strategies that are predominantly covered under another City of Moab planning effort, or where the primary action is to develop another plan document.



Strategies that have near-term work plans built out are identified using this icon.

While work plans were only developed for six near-term strategies, the template in [Appendix II: Work Plan Template](#) can be used by the City throughout implementation to develop additional strategies.

Strategy work plans can be found in [Appendix III: Strategy Work Plans](#) for the following strategies:

- Strategy E-1: Programs to support energy efficiency, renewables, and indoor air quality
- Strategy N-1: Expand the urban tree canopy
- Strategy N-2: Protect and enhance habitat and open space
- Strategy L-1: Urban agriculture programs
- Strategy M-1: Organic waste diversion pilot
- Strategy W-1: Nature-based stormwater solutions



## ENERGY AND BUILDINGS

The Energy and Buildings topic area includes goals and strategies related to Moab's energy supply, including reducing greenhouse gas emissions, enhancing resilience, and improving equitable access to clean, affordable, and reliable energy supply. Additionally, this topic area considers ways to improve the sustainability and resilience of Moab's built environment and to enhance energy efficiency.

Moab has a long history of leadership related to sustainable energy and buildings that continues to this day, from becoming the nation's first EPA Green Power Community in 2004 by exceeding a minimum threshold of voluntary green power purchase to adopting 100% renewable electricity goals and participating in Utah Renewable Communities. With energy use accounting for 57% of Grand County's community wide GHG emissions including distribution, transmission and fugitive losses, transitioning to renewable sources of energy, while maximizing efficiency, will be critical to meeting community goals. Energy used in commercial buildings and facilities accounts for 23% of total emissions, compared to 19% attributed to residential uses. This is reflective of Moab's tourist economy and high level of commercial activity. Another 12% of emissions are associated with industrial energy use and strategies will need to address energy supply and use in all three sectors.

As the climate warms, the amount of electricity used for cooling is anticipated to increase, with implications for both emissions and cost. The number of cooling-degree days (CDD) - a measure of how hot the temperature is and an indication of energy demand for cooling - could increase by approximately 40% by mid-century (U.S. Global Change Research Program, 2023). Moab residents already spend an average of 50% of household income on housing and transportation costs, not including utility bills (Center for Neighborhood Technology, 2023) and increasing temperatures pose a disproportionate threat to residents facing economic barriers to cooling use and efficiency improvements. This topic area therefore includes strategies that provide support for low- and moderate- income households.

Finally, this topic area considers steps to improve the sustainability of both new construction and existing buildings. While 65% of Moab’s occupied housing units were built before 1980 and may be good candidates for weatherization and efficiency improvements (American Community Survey, 2016), improving the efficiency of new construction can ensure that future development aligns with community goals and values.

## GOAL A: REDUCE ENERGY-RELATED GREENHOUSE GAS EMISSIONS

As a catalyst to achieving the community’s broader emissions goals, Moab is committed to achieving 100% renewable electricity by 2030. The City is leading by example and has installed on-site solar generation at five municipal facilities and offsets approximately one third of municipal electricity consumption with Blue Sky solar credits through Rocky Mountain Power.

### Utah Renewable Communities

Moab is a participant in “Utah Renewable Communities,” a coalition of communities that have passed resolutions to use net-100% renewable electricity by 2030, making them eligible to participate in the Community Renewable Energy Program. The effort was launched with House Bill 411 or the “Community Renewable Energy Act” in 2019. Eighteen eligible local communities signed an official governance agreement and began work to define the rules of participation, develop a utility agreement, and work with Rocky Mountain Power to submit a program application to the Utah Public Service Commission. The program is anticipated to launch at the end of 2024 or the beginning of 2025.



Utah Renewable Communities will make a significant impact on Moab’s greenhouse gas emissions by matching the electricity consumption of participating communities with naturally replenished resources, such as wind, solar, and geothermal. As Rocky Mountain Power does not anticipate achieving 100% renewables in its mix by 2030, Utah Renewable Communities will allow Moab to close the gap between renewable electricity already available on the grid and its 100% renewable electricity goal. Along with low-income resources, which are a required component of the process, participating in the Utah Renewable Communities has the potential to affordably reduce Moab’s greenhouse gas inventory emissions by half or more.

### Metric: Total energy-related greenhouse gas emissions (MTCO<sub>2</sub>e)

- Target: 80% reduction in GHG emissions by 2040 from a 2018 baseline (City of Moab, 2017b)
- Data Source: Rocky Mountain Power (electricity), Dominion Energy (natural gas)
- Related Strategies: E-1, E-2, E-3, E-4. E-5. E-6

### Metric: Renewable electricity supply (percent of total supply)

- Target: 100% renewable electricity supply community-wide by 2030 (City of Moab, 2019)
- City Leads the Way: 100% renewable electricity for municipal operations by 2027 (City of Moab, 2017a)
- Data Source: Rocky Mountain Power
- Related Strategies: E-1, E-3. E-5

### Metric: Local participation in renewable energy programs (annual)

- Target: Increase annual participation in renewable energy programs
- City Leads the Way: City of Moab currently offsets one-third of municipal electricity use with Blue Sky solar credits
- Data Source: Rocky Mountain Power
- Related Strategies: E-1, E-2. E-7

## GOAL B: INCREASE RESIDENTIAL ENERGY EFFICIENCY

Increasing residential energy efficiency can contribute to emissions reductions and generate comfort and wellbeing benefits while saving money for residents. Both Moab's electricity (Rocky Mountain Power) and natural gas (Dominion Energy) utility companies provide incentives to support residential energy efficiency improvements.

### **Metric: Residential energy use (MMBTU / capita)**

- Target: Reduce residential energy use per capita, compared to a 2016 baseline
- Data Source: Rocky Mountain Power (electricity) and Dominion Energy (natural gas)
- Related Strategies: E-1, E-2, E-4, E-5, E-7

### **Metric: Participation in energy efficiency programs (annual)**

- Target: Increase participation in energy efficiency programs
- Data Source: Rocky Mountain Power (electricity programs) and Dominion Energy (natural gas programs)
- Related Strategies: E-1, E-5, E-7

## GOAL C: INCREASE COMMERCIAL AND INSTITUTIONAL ENERGY EFFICIENCY

Moab businesses and institutions can realize financial and performance benefits while contributing to the community's sustainability goals through energy efficiency. Both Rocky Mountain Power and Dominion Energy offer programs and incentives to support commercial efficiency improvements.

### **Metric: Total commercial and institutional energy consumption (MMBTU)**

- Target: Reduce average commercial energy consumption per account compared to a 2016 baseline
- City Leads the Way: Reduce energy consumption for municipal operations by 20% by 2032 from a 2018 baseline
- Data Source: Rocky Mountain Power (electricity) and Dominion Energy (natural gas)
- Related Strategies: E-1, E-2, E-4, E-5, E-6, E-7

### **Metric: Participation in commercial energy efficiency programs**

- Target: Benchmark against targets established in the [WattSmart Communities Energy Plan](#) and establish new targets where relevant
- Data Source: Rocky Mountain Power (electricity programs) and Dominion Energy (natural gas programs)
- Related Strategies: E-1, E-5, E-6, E-7

## GOAL D: IMPROVE EQUITABLE ENERGY ACCESS

Moab households spend an average of 3% of their income on energy costs. However, lower-income households earning 80% or less than the Area Median Income (AMI) spend an average of 8% of their income on energy costs (U.S. Department of Energy, 2023). This disparity in energy burden creates inequitable access to energy, places a financial strain on lower-income households, and could result in comfort and health impacts; for example if residents cannot afford to run air conditioning during periods of high heat. Programs such as the Southeastern Utah Association of Local Governments (SEUALG) HEAT program provide heating and cooling benefits to households whose income is at or below 150% of the Federal Poverty guidelines and raising awareness of these programs could help reduce the energy burden for those most impacted (SEUALG, n.d.).

### **Metric: Energy burden (% household income spent on energy)**

- Target: Reduce energy burden, particularly for low-income households
- Data Source: [Department of Energy LEAD Tool](#)
- Related Strategies: E-1, E-5

## GOAL E: IMPROVE THE CLIMATE RESILIENCE OF MOAB'S BUILDINGS AND ENERGY SUPPLY

As the global climate warms, Moab can expect to see increased temperatures and an increase in the frequency and severity of severe weather events. The Moab – Tomorrow Together report found that, while Moab has supported the development of desert-suitable housing and streetscapes, there is community support for creating more climate resilient future landscapes (Future iQ, 2022). Ensuring that the community's buildings are resilient to change will help prepare Moab and enhance its ability to respond and adapt. Additionally, a resilient energy supply, particularly during disruption, is critical to ensure continuity of service at critical facilities such as hospitals, emergency services and water and wastewater operations. Third party certifications such as LEED™ include building standards related to resilience, energy efficiency, transportation connections, and sustainable building materials. Additionally, the Mill Creek affordable housing project provides an example of development prioritizing sustainable materials.

### Community Rebuilds: Living Buildings on Mill Creek

In 2018 Community Rebuilds set a goal to build the first affordable single family homes certified Living by the Living Futures Institute. The project incorporated sustainability throughout, starting with deconstruction of the old intern bunkhouse which allowed for the salvage, reuse, donation, or recycling of the vast majority of materials. In order to achieve the Living Certification, the development needed to fulfill a long list of criteria, including net positive water, net positive energy, the use of non-toxic materials, low carbon construction, and biophilic design, all while retaining the affordability of the homes (Community Rebuilds, n.d.).



### Metric: Number of buildings meeting sustainable building standards (e.g., LEED™ certification, Living Building Challenge® or similar rating systems)

- Target: Increase number of buildings meeting sustainable building standards
- City Leads the Way: The Moab City Center building is LEED™ Silver certified. (The Moab Regional Medical Center and USU Moab Academic buildings both have certification in progress)
- Data Source: [U.S. Green Building Council LEED project directory](#)
- Related Strategies: E-2, E-4



## STRATEGY E-1: PROGRAMS TO SUPPORT ENERGY EFFICIENCY, RENEWABLES, AND INDOOR AIR QUALITY

This strategy involves the creation and/or expansion of programs to encourage energy efficiency, local renewable energy generation, and improved indoor air quality (for example by mitigating the impacts of natural gas stoves, radon and other toxins). Moab led a successful grant application in 2023 for the Department of Energy Buildings UP prize which provides financial prizes and technical assistance to support the transformation of existing buildings (U.S. Office of Energy Efficiency & Renewable Energy, 2023). This prize will support collaboration to offer equity-centered navigation for weatherizing and electrifying nonprofits, governments, and homes (HeroX, 2023).

Specific actions within this strategy could include education and outreach related to existing programs and incentives and the creation of new incentives or other programs, such as group-buys or community-owned solar projects, that make it easier and more affordable for residents and businesses to benefit from energy efficiency improvements, renewable energy, and improved indoor air quality.

Community Support	Climate Impact	Cross-Cutting Benefits	Feasibility

## STRATEGY E-2: ENCOURAGE HEALTHY, SUSTAINABLE BUILDING PRACTICES

This strategy explores the adoption of policy(ies) or program to encourage healthy, sustainable building practices. Specific actions could include the creation of best practice guidelines and/or municipal code to incentivize or require development and construction that prioritize use of recycled and sustainable materials, indoor air quality, bio-climatic design, passive survivability, reduced embodied carbon, energy and water efficiency, and waste reduction.

Community Support	Climate Impact	Cross-Cutting Benefits	Feasibility

## STRATEGY E-3: ACHIEVE SOLSMART SILVER CERTIFICATION

SolSmart is a national program that helps communities become solar energy leaders. The program provides technical assistance to help identify and reduce barriers to solar energy in the categories of Permitting and Inspection, Planning and Zoning, Government Operations, Community Engagement, and Market Development. Moab already has Bronze designation under the SolSmart program. Achieving SolSmart designation could help identify further opportunities and send the message that Moab is “open for solar business.”

Community Support	Climate Impact	Cross-Cutting Benefits	Feasibility

### STRATEGY E-4: ADVOCATE FOR HIGH PERFORMANCE BUILDINGS IN STATE CODES

Energy and building codes shape how Moab’s future building stock contributes to community energy and greenhouse gas emissions goals. Utah State Statute requires statewide adoption of building and energy codes. This strategy, therefore, focuses on supporting the State of Utah in adopting and enforcing high-performance building and energy codes.

Community Support	Climate Impact	Cross-Cutting Benefits	Feasibility
			

### STRATEGY E-5: ENERGY EDUCATION CAMPAIGN

Community energy literacy and increased awareness of opportunities to save money and energy have the potential to contribute to overarching community energy goals. This strategy involves creating an education campaign to communicate existing opportunities related to energy efficiency, renewable generation, indoor air quality and electrification measures such as replacing natural gas heating with electric heat pumps or installing electric stoves, including specific programs for low-income households such as SEUALG’s HEAT program.

Community Support	Climate Impact	Cross-Cutting Benefits	Feasibility
			

### STRATEGY E-6: MUNICIPAL FACILITIES ENERGY AUDIT

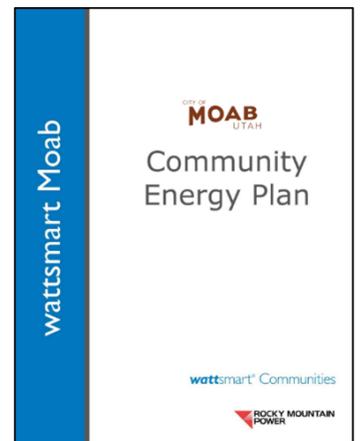
The City of Moab has an opportunity to lead by example through implementing energy saving measures at its own facilities. While the City has already made significant improvements, including installation of solar generation at five facilities, an energy audit of all municipal buildings would help identify opportunities for energy efficiency improvements and future energy related capital improvement projects.

Community Support	Climate Impact	Cross-Cutting Benefits	Feasibility
			

### STRATEGY E-7: IMPLEMENT THE WATTSMART COMMUNITIES ENERGY PLAN

In 2019, the City of Moab worked with Rocky Mountain Power’s WattSmart Communities program to develop a Community Energy Plan. The plan highlights energy priorities for the City of Moab and outlines tangible steps for the City to move the community toward its energy efficiency and renewable energy goals. This strategy involves revisiting and continuing implementation and tracking of strategies identified in the Community Energy Plan.

Community Support	Climate Impact	Cross-Cutting Benefits	Feasibility
			





## NATURE AND ECOSYSTEMS

The Nature and Ecosystems topic area includes goals and strategies to protect and enhance Moab's unique natural environment for the benefit of local residents, visitors, and wildlife.

### GOAL A: PRESERVE AND ENHANCE OPEN SPACE, HABITAT, AND THE URBAN - NATURE INTERFACE

A deep connection to Moab's landscape and nature is a strong unifying factor for members of our community (Future iQ, 2022). Open spaces and urban trees have many community benefits, including providing shade and reducing the "urban heat island effect," providing wildlife habitat, reducing energy usage, improving air quality, and creating social and health benefits.

#### **Metric: Open space preserved or enhanced (acres)**

- Target: Increase acres open space preserved or enhanced
- Data Source: City of Moab Parks & Recreation and Community Development Departments, The Nature Conservancy
- Related Strategies: N-2

#### **Metric: Wildlife habitat preserved or enhanced (acres)**

- Target: Increase acres wildlife habitat preserved or enhanced
- Data Source: City of Moab Parks & Recreation, The Nature Conservancy
- Related Strategies: N-2

#### **Metric: Urban forest canopy coverage (percent total land area)**

- Target: Increase urban forest canopy coverage, TBD based on tree inventory (anticipated in 2024)
- Data Source: City of Moab tree inventory (pending)
- Related Strategies: N-1

**Metric: Area treated for invasive species removal (acres)**

- Target: Increase acres treated and replanting with native species
- Data Source: City of Moab Parks & Recreation, Rim to Rim Restoration
- Related Strategies: N-2

**GOAL B: RESTORE NATURAL DARKNESS WHILE BEING CONSISTENT WITH SAFETY CONSIDERATIONS**

Minimizing light pollution has health benefits for Moab’s residents and wildlife, while being a certified Dark Skies Community also has tourism benefits. Efforts to reduce light pollution must comply with all applicable safety requirements.

**Metric: International Dark Skies Association certification**

- Target: Achieve certification in 2024
- Data Source: City of Moab, International Dark Skies Association
- Related Strategies: N-4

**Dark Skies**

As a gateway to three International Dark Sky Parks, Moab has set its sights on the Milky Way. The goal is comfort and safety below and darkness above. Combining the efficiency of LEDs, scientific observation, and beauty of nature, the dark sky initiative embodies Moab’s values. After years of efforts and collaboration with the local Moab Dark Skies, Friends of Arches and Canyonlands, Grand County, and Rocky Mountain Power, the groundwork is underway for the City to shift to lighting that makes it easiest to see activities below and stars above. Among the first major steps was a lighting audit conducted by a team of students from 2017 to 2018. Moab City passed an ordinance in 2019 establishing outdoor lighting and sign illumination standards. It piloted full cutoff utility-owned streetlights in 2022. By 2023, the city had also audited four city properties and initiated a pilot for city-owned decorative lighting. In 2024, Moab will be ready to apply for Dark Sky Community status (Moab Dark Skies, n.d.).



**GOAL C: RESTORE NATURAL QUIET WHILE BEING CONSISTENT WITH SAFETY CONSIDERATIONS**

Minimizing noise pollution has benefits for Moab’s residents, visitors, and wildlife. Efforts to reduce ambient noise must comply with all applicable safety requirements.

**Metric: Ambient noise levels (decibels)**

- Target: Baseline and track ambient noise levels
- Data Source: Noise measurements and/or community perceptions via surveys
- Related Strategies: N-3



## STRATEGY N-1: EXPAND THE URBAN TREE CANOPY

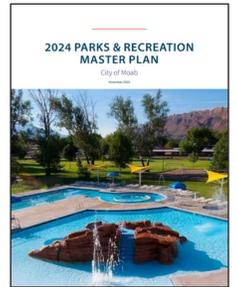
The City of Moab has been designated as a Tree City USA since 1993 and is committed to the health, maintenance, and planting of trees. In 2023, the City of Moab received over \$500,000 in grant funds from the U.S. Forest Service to improve urban forest resilience by identifying trees adapted to Moab’s environment (e.g., drought tolerant trees) and analyzing where coverage is most needed, for example in lower income areas that currently have fewer shade trees. The grant will also provide training for City staff and residents on tree maintenance and increase the accessibility of trees. This strategy will leverage this new funding to expand and enhance Moab’s urban tree canopy while ensuring that benefits are equitably distributed.

Community Support	Climate Impact	Cross-Cutting Benefits	Feasibility



## STRATEGY N-2: PROTECT AND ENHANCE HABITAT AND OPEN SPACE

This strategy involves the purchase, protection, and enhancement of habitat and open space throughout Moab. The strategy will connect to and help guide implementation of the 2024 Parks and Recreation Master Plan to ensure that sustainability and climate resilience are prioritized.



Community Support	Climate Impact	Cross-Cutting Benefits	Feasibility

## STRATEGY N-3: REDUCE AMBIENT NOISE

This strategy involves improving noise monitoring and identifying opportunities to reduce ambient noise levels in Moab. Moab City Code explicitly prohibits noise pollution above specified levels. This strategy could involve a review of existing policy to identify additional opportunities to track and reduce ambient noise levels.

Community Support	Climate Impact	Cross-Cutting Benefits	Feasibility

## STRATEGY N-4: BECOME A DARK SKY COMMUNITY

This strategy involves developing a plan to apply for and achieve International Dark Sky Community certification.

Community Support	Climate Impact	Cross-Cutting Benefits	Feasibility





## LAND USE AND PLANNING

The Land Use and Planning topic area focuses on opportunities to improve sustainability by influencing how Moab develops and grows. The community faces unique challenges due to the high number of annual visitors and the need to provide infrastructure and services for a temporary population up to 8 times the size of the full-time residential population. Goals and strategies in this topic area are designed to leverage local land use planning for the benefit of local people and ecosystems.

### **GOAL A: INTEGRATE SUSTAINABILITY CONSIDERATIONS THROUGHOUT LAND USE DECISION MAKING PROCESSES**

Factoring considerations such as resource use efficiency, greenhouse gas emissions, and climate resilience into land use decision making processes (e.g., site plan proposals, annexations, changes in zoning) can ensure that Moab is developing in a way that centers community values and enhances sustainability.

#### **Metric: Integration of sustainability review considerations into land use decisions**

- Target: Baseline and track number of land use decisions integrating sustainability review
- Data Source: City of Moab
- Related Strategies: L-2

### **GOAL B: REDUCE THE IMPACTS OF REGIONAL INDUSTRY ON LOCAL HEALTH AND QUALITY OF LIFE**

An increase in regional industrial activities has the potential to create jobs and contribute to a stable local economy. However, factoring in impacts on the health and quality of life of local residents will be critical to ensure that industrial development is sustainable, appropriate, and beneficial for the community.

#### **Metric: Local air quality and health metrics**

- Target: Monitor and improve local air quality and health metrics (e.g., asthma)
- Data Source: AirNow (air quality), EPA EJScreen (environmental justice metrics, including health

indicators), PLACES: Local Data for Better Health (asthma)

- Related Strategies: L-3

**Metric: Industrial emissions**

- Target: Baseline, monitor and set a target to stabilize or reduce
- Data Source: EPA, Utah Department of Environmental Quality
- Related Strategies: L-3

**GOAL C: REMOVE BARRIERS AND THREATS TO URBAN AGRICULTURE**

Identifying and removing any existing land use and planning barriers to urban agriculture can help to improve equitable access to the benefits of growing local food. Additionally, easements and/or updated code provisions could help protect existing agriculture uses from future redevelopment.

**Metric: Land used for agricultural purposes (sites or acres)**

- Target: Increase acres land used for agricultural purposes
- Data Source: City of Moab Community Development Department
- Related Strategies: L-1



**STRATEGY L-1: URBAN AGRICULTURE PROGRAMS**

This strategy involves promoting community agriculture in Moab through codes, programs, and education.

Community Support	Climate Impact	Cross-Cutting Benefits	Feasibility

**Community Highlight: Youth Garden Project**

The Moab Youth Garden Project is run by a local non-profit and sits on 1.5 acres of land next to Grand County High School. Each year, it provides opportunities for approximately 1,000 youth across all age groups to connect with the environment and our local food system. The garden grows over 7,000 pounds of produce each season and in 2020 donated nearly 20% to community members in need.



**STRATEGY L-2: SUSTAINABLE DEVELOPMENT BEST PRACTICES AND PERFORMANCE REVIEW**

This strategy involves the development of sustainability best practices and performance indicators and integration into development review and approval processes.

Community Support	Climate Impact	Cross-Cutting Benefits	Feasibility

### STRATEGY L-3: REDUCE INDUSTRIAL AIR POLLUTION IMPACTS

This strategy involves exploring opportunities to coordinate with regional industrial entities and regulators to minimize air pollution impacts associated with regional industrial activities.

Community Support	Climate Impact	Cross-Cutting Benefits	Feasibility
		   	





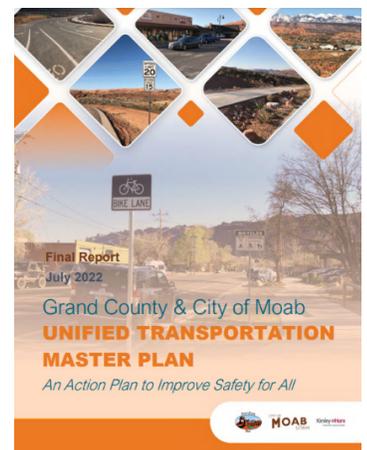
## TRANSPORTATION

The Transportation topic area focuses on ways to reduce the environmental impact of Moab’s current transportation systems while improving safety, connectivity, and access for local people. In 2021, transportation accounted for 21% of greenhouse gas emissions in Grand County (excluding the interstate and US 191). While emissions from Utah State Highway 191 are not included in the emissions inventory, the community faces impacts associated with this major throughway connecting to neighboring states and serving numerous national parks.

This topic area draws on and connects to work already completed through the 2022 [Moab and Grand County Unified Transportation Master Plan](#) (UTMP) which establishes a goal for a “safe, reliable, connected, and efficient multimodal transportation system.” The goal and strategies in this topic area will help to ensure that sustainability is integrated into implementation of the UTMP, while also moving forward other sustainable transportation priorities.

- **Grand County & City of Moab Unified Transportation Master Plan: An Action Plan to Improve Safety for All**

- The 2022 UTMP was developed jointly by Grand County and the City of Moab to identify actions, strategies, and projects to achieve the community’s goals for a safe, reliable, connected, and efficient transportation system to improve all modes of transportation. The UTMP also establishes a goal to reduce traffic-related serious injury crashes and fatalities to zero per year, by the year 2025. Priorities identified in the UTMP that have the potential to reduce greenhouse gas emissions and improve the overall sustainability of Moab’s transportation system include a Complete Streets Policy to guide future design of multimodal streets, bicycle parking, future trail acquisition, bicycle and pedestrian safety campaign, the development of multimodal nodes, shared use path design standards, and a rail service feasibility study (Grand County, 2022).



## GOAL A: REDUCE VEHICLE MILES TRAVELED

This goal focuses on reducing the number of vehicle miles traveled (VMT) within Grand County. In 2021, the VMT within Grand County (excluding US-191) was approximately 85.7 million. This number can be brought down by reducing the share of trips made by single occupancy personal vehicles and increasing the share of trips made by active and shared transportation modes. In addition to reducing the emissions associated with on-road travel, increasing active and shared transportation can create significant benefits for local people, including air quality improvements, enhanced connectivity, safety, and reduced transportation cost burden.

### Metric: VMT per year

- Target: Reduce VMT per year from a 2021 baseline
- Data Source: UDOT, City of Moab
- Related Strategies: T-2, T-3

### Metric: Mode share

- Target: Increase active and shared transportation, reduce single occupancy vehicle trips
- Data Source: American Community Survey, local transportation surveys
- Related Strategies: T-2, T-3, T-4

## GOAL B: REDUCE TRANSPORTATION EMISSIONS

In addition to reducing the total VMT within Moab, transitioning transportation to zero and low emissions options, including electric vehicles (EVs) will help improve air quality and reduce the greenhouse gas emissions impact of Moab's current transportation system.

As Moab moves towards 100% renewable electricity, the emissions reduction benefits of moving to EV will compound. EVs also help reduce community noise levels and create opportunities for financial savings, with lower and more reliable fuel costs and less preventative maintenance required over their lifetime. Finally, at the time of writing there is unprecedented federal funding available to support EV adoption and charging infrastructure. In 2023, there were 63 EVs (including battery electric only and plug-in hybrid vehicles) and 252 hybrid vehicles registered in Grand County, accounting for less than 0.5% and approximately 2% of the total County vehicle registrations respectively (Utah State Tax Commission, 2023). For comparison, the 2023 EV adoption rate was approximately 1% statewide and hybrid vehicles accounted for 2% of total emissions (Utah State Tax Commission, 2023).

### Metric: Transportation emissions (MTCO<sub>2</sub>e)

- Target: Reduce from a 2021 baseline
- Data Source: Grand County emissions inventories
- Related Strategies: T-1, T-2, T-3, T-4, T-5, T-6

### Metric: EV adoption rate (percent total vehicle registrations)

- Target: Increase EV registrations, as compared with a 2021 baseline
- City Leads the Way: Reduce municipal gasoline and diesel use by 20% by 2030 from a 2023 baseline, through VMT reduction and vehicle electrification
- Data Source: Utah State Tax Commission, City of Moab
- Related Strategies: T-1, T-4, T-6

### Moab Commuting Characteristics Compared to the National Average

According to 2021 American Community Survey 5-year estimates, this is how Moab residents get to work, compared to the U.S. average:

	Moab	U.S. Average
Drive alone	68.5%	68.7%
Carpool	10.6%	8.6%
Public Transit	0.0%	3.1%
Walk	3.8%	2.4%
Bicycle	5.3%	0.5%
Taxicab, motorcycle or other	0.7%	1.5%
Worked from home	11%	15.2%

### STRATEGY T-1: DEVELOP A TRANSPORTATION ELECTRIFICATION PLAN

This strategy involves development of a Transportation Electrification Plan, including the identification of policies and strategies to prepare for projected EV adoption and charging demand, as well as other forms of electric mobility such as transit and e-bikes. The plan should also include consideration of strategies to increase equitable access to electrified transportation and charging, such as income-qualified vehicle purchase incentives, multi-family and workplace charging incentives, bi-lingual outreach, and other opportunities such as EV car-share.

Community Support	Climate Impact	Cross-Cutting Benefits	Feasibility
			

### STRATEGY T-2: DEVELOP A COMPLETE STREETS POLICY

The Grand County and Moab UTMP includes development of a Complete Streets Policy or Ordinance to guide the future design of multimodal streets. This strategy focuses on integrating sustainability into the design of complete streets, alongside multimodal, accessibility, and safety considerations.

Community Support	Climate Impact	Cross-Cutting Benefits	Feasibility
			

### STRATEGY T-3: SUSTAINABLE TRANSPORTATION EDUCATION CAMPAIGN

Resident and visitor education related to sustainable transportation can help to raise awareness of public transit and active transportation options as well as incentives or other opportunities. In addition to transportation electrification and active transportation options, a sustainable transportation campaign could also include tips to reduce fuel use, air quality impacts, greenhouse gas emissions, and noise pollution.

Community Support	Climate Impact	Cross-Cutting Benefits	Feasibility
			

### STRATEGY T-4: OFF-ROAD VEHICLE ELECTRIFICATION

Off-road recreational vehicle electrification emerged as a community priority throughout the development of this plan and also through Moab – Tomorrow Together. This strategy involves exploring opportunities to support, incentivize, or require the electrification of off-road recreational vehicles to help reduce emissions, address resident noise pollution concerns, and raise awareness of the benefits of electrification more broadly.

Community Support	Climate Impact	Cross-Cutting Benefits	Feasibility
			

## STRATEGY T-5: ANTI-IDLING POLICY ENFORCEMENT

The City of Moab Municipal Code Section 10.04.230 prohibits the idling of any motor vehicle, commercial vehicle, or recreational vehicle on any public road, street, alley, or municipal property for more than five minutes. This strategy involves review of the existing anti-idling policy and exploration of how to raise awareness and enforcement of this regulation.

Community Support	Climate Impact	Cross-Cutting Benefits	Feasibility
			

## STRATEGY T-6: MUNICIPAL FLEET ELECTRIFICATION

The City of Moab has an opportunity to lead by example, while realizing long-term fuel and financial savings, by electrifying the municipal fleet. This strategy includes evaluation and implementation of opportunities to electrify municipal fleet vehicles. The City could also consider development of an “electric-first” vehicle replacement policy, requiring purchase of an electric alternative whenever feasible at time of vehicle replacement, within operational and budget requirements.

Community Support	Climate Impact	Cross-Cutting Benefits	Feasibility
			



## MATERIALS MANAGEMENT

As described elsewhere in this plan, Moab faces unique challenges associated with providing services to a temporary population much larger than the full-time residential population, and waste disposal is no exception. The disposal of solid waste in the landfill accounted for approximately 13% of Grand County greenhouse gas emissions in 2021. Additionally, while solid waste transportation and disposal accounts for a relatively small percentage of total greenhouse gas emissions, the emissions and other environmental impacts associated with the production, transportation, use, and disposal of materials more generally are much larger. This focus area therefore goes beyond consideration of waste disposal to include the sustainable management of materials flowing through the community.

### • Consumption-Based Greenhouse Gas Emissions Inventories

• Consumption-based inventories are used by some cities to estimate emissions generated outside  
• jurisdictional boundaries that are associated with goods and services consumed inside the community. From  
• construction materials to food, incorporating these emissions can double total emissions calculated using  
• typical sector-based inventory protocols (Broekhoff, Erickson, & Piggot, 2019).

## GOAL A: REDUCE WASTE SENT TO LANDFILL AND WASTE STREAM CONTAMINATION

The Canyonlands Solid Waste Authority manages two landfill facilities – the Klondike Class I Landfill which accepts municipal solid waste, biosolids, waste grease, and contaminated soils; and the Moab Landfill which accepts construction, demolition, and yard waste. Reducing the volume of waste sent to the landfill by minimizing total waste generation and increasing the diversion of recyclable materials can both extend the life of community landfill facilities and contribute to community emissions goals.

Waste stream contamination occurs when materials are sorted into the wrong waste stream – for example, when non-recyclable items are placed in recycling containers. Recycling contamination is problematic since it can reduce the value of recycled materials or, in severe cases, even mean that entire loads of recyclable material end up in the landfill.

**Metric: Waste sent to landfill (tons)**

- Target: Reduce waste sent to landfill from a 2021 baseline
- Data Source: City of Moab waste audits, Canyonlands Solid Waste Authority
- Related Strategies: M-1, M-2, M-4, M-5, M-6, M-7

**Metric: Recycling contamination rate (percent)**

- Target: Reduce contamination rate (TBD, pending waste audit)
- Data Source: City of Moab waste audits, Canyonlands Solid Waste Authority
- Related Strategies: M-5, M-6, M-7

**GOAL B: REDUCE CONSTRUCTION AND DEMOLITION WASTE**

In September 2023 alone, the Moab Landfill received 1,329.70 cubic yards of construction demolition debris (Canyonlands Solid Waste Authority, 2023a). Our community has seen significant development over recent years and with Moab’s population projected to grow by 24% over the next 20 years and approximately one-third of the city’s land area having potential for redevelopment based on current land use designations, we can expect to see continued development (City of Moab, 2023a). Reducing construction and demolition waste can help to reduce the environmental impact of future development.

**Metric: Construction and demolition waste (tons)**

- Target: Reduce construction and demolition waste from a 2021 baseline
- Data Source: Moab Landfill
- Related Strategies: M-2, M-7

**GOAL C: INCREASE LOCAL USE OF REUSED AND RECYCLED MATERIALS**

In addition to increasing the recycling of materials used locally, there is also an opportunity to increase local reuse and prioritize the use of recycled materials. Local reuse and recycling can help to support circular markets for recyclable material, create local economic benefits, and reduce the need for new materials.

⋮ **Circular Economy Principles**

A circular economy is based on three principles:

- Eliminate waste and pollution
- Circulate products and materials
- Regenerate nature (Ellen MacArthur Foundation, n.d.)



**Metric: Programs in place to support local reuse and use of recycled materials**

- Target: Establish programs to support local reuse and use of recycled materials
- City Leads the Way: Establish policy or programs to support local reuse and use of recycled materials for municipal operations
- Data Source: City of Moab
- Related Strategies: M-2, M-3, M-4, M-5, M-6, M-7

**GOAL D: IMPROVE WASTE MANAGEMENT AND MONITORING**

**Metric: Measurement of waste volume and/or weight**

- Target: Establish methodology for ongoing tracking of waste generation
- Data Source: City of Moab, Canyonlands Solid Waste Authority
- Related Strategies: M-1, M-2, M-7

**Metric: Evaluation of waste composition**

- Target: Establish a baseline for waste composition through waste audits
- Data Source: City of Moab, Canyonlands Solid Waste Authority
- Related Strategies: M-1, M-2, M-7



**STRATEGY M-1: ORGANIC WASTE DIVERSION PILOT**

Moab already has several small-scale organic waste diversion efforts, including chipping of yard waste at the Moab Landfill and composting at the Youth Garden Project. This strategy involves the development and launch of an organic waste pilot program to divert yard and food waste and be scalable to the neighborhood or community level.



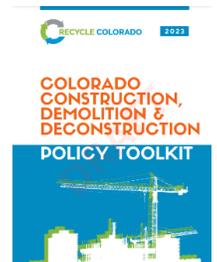
Community Support	Climate Impact	Cross-Cutting Benefits	Feasibility

**STRATEGY M-2: CONSTRUCTION AND DEMOLITION WASTE REDUCTION**

This strategy involves the development and implementation of a policy or program to encourage construction and demolition waste separation, recycling, and reduction. Examples could include deconstruction policies or programs to encourage rehabilitation and refurbishment of existing buildings as an alternative to demolition.

Community Support	Climate Impact	Cross-Cutting Benefits	Feasibility

- **Construction, Demolition, and Deconstruction Policy**
- A 2023 policy toolkit developed by Recycle Colorado is designed to assist local government staff and policymakers in developing diversion programs for the built environment. The toolkit describes the benefits of diverting construction and demolition waste and provides a step-by-step process to develop policies such as incentives or deconstruction ordinances (Recycle Colorado, 2023).



**STRATEGY M-3: MUNICIPAL ENVIRONMENTAL PURCHASING POLICY**

Developing guidelines or requirements for goods and services purchased by municipal operations is one way that the City can help lead the way on sustainable materials management. This strategy involves the development and implementation of a municipal environmental purchasing policy to ensure that city purchasing aligns with community sustainability goals.

Community Support	Climate Impact	Cross-Cutting Benefits	Feasibility

## STRATEGY M-4: WASTE EDUCATION CAMPAIGN

Ensuring that residents, businesses, and visitors know what can and cannot be recycled locally, and that they are informed about opportunities to reduce waste generation will be critical to achieving the community’s waste goals. This strategy will see the development and launch of a focused education campaign to reduce waste generation and waste stream contamination. The campaign will build on and expand work already underway, including development of the Moab Recycles website by Moab Solutions.

Community Support	Climate Impact	Cross-Cutting Benefits	Feasibility
			

## STRATEGY M-5: MATERIALS REPAIR AND REUSE RESOURCES

This strategy will develop opportunities and resources to support local materials repair and reuse. This strategy could support existing and/or past initiatives in Moab to support local materials reuse and the exploration of new initiatives such as “fix-it clinics” providing resources for residents to repair common household items, a permanent construction materials reuse hub, or development of a local guide to existing reuse opportunities.

Community Support	Climate Impact	Cross-Cutting Benefits	Feasibility
			

### Local Opportunities for Materials Repair and Reuse

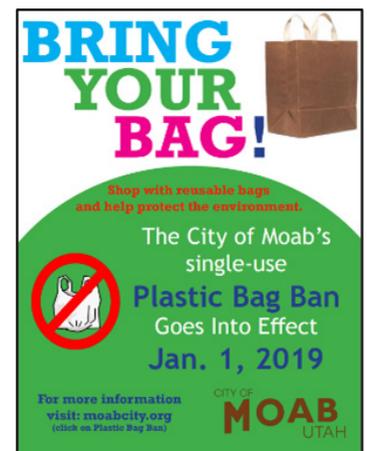
Moab already has several initiatives that encourage the local reuse and repair of materials, including:

- The Moab Arts Re-Use Residency (MARR) offers artists studio space, facilitation, a stipend, and access to local waste and recycling materials ( Moab Arts, 2023).
- The Salt Lake City “Reanimator” gear repair tour visited Moab in 2023, providing an opportunity for local people to have their outdoor gear repaired (Harford, 2023).
- Community Rebuilds Pop-up Restores support the reuse of gently used and new construction materials, furniture, and home goods (Community Rebuilds, 2023).

## STRATEGY M-6: EVALUATE THE PLASTIC BAG BAN

In 2018, Moab City Council voted unanimously to enact a ban on single-use plastic bags. This strategy will involve an evaluation of the ban’s impact and lessons learned during implementation. The evaluation will consider whether any amendments, updates, or further analysis are needed to maximize impact and community benefits.

Community Support	Climate Impact	Cross-Cutting Benefits	Feasibility
			



## STRATEGY M-7: WASTE AUDITS AND MONITORING

Accurate waste data will be key to tracking the impact of waste reduction and diversion strategies over time and monitoring progress toward community waste goals. This strategy involves investment in waste audits and procedures to monitor waste stream composition and the volume of waste sent to landfill. Understanding the community's waste generation and composition will facilitate the development of targeted education to support reduced contamination, increased diversion, and source reduction.

Community Support	Climate Impact	Cross-Cutting Benefits	Feasibility
		   	

Ma's  
JEWELRY  
INDIAN ART  
JEWELRY

KACHINAS

KACHINAS

KACHINAS



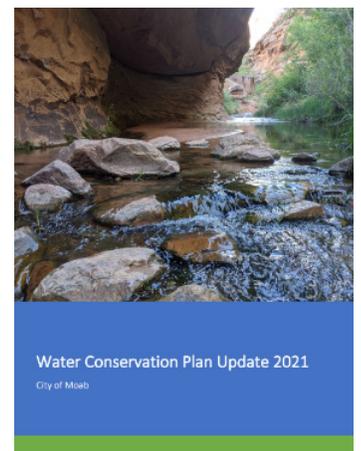


## WATER

The Utah Wellbeing Project found that 90% of Moab residents feel that water supply is a moderate or major concern (Utah Wellbeing Project, 2022). The Water topic area includes goals and strategies related to the protection of Moab’s water supply along with efforts to improve community resilience to drought and flooding. This topic area draws on and reinforces significant work already underway through the Moab Water Utility Resource Management Plan (in development 2023 – 2024) and the 2021 [Water Conservation Plan Update](#). A more detailed evaluation of community water use and water-related strategies is covered in those plans.

### Moab Water Planning and Policy

- **Water Utility Resource Management Plan:** This plan is under development in 2023 and will provide an inventory of existing water sources and distribution systems, an evaluation of current water rights, projection of future water demand, and an evaluation of water infrastructure alternatives (City of Moab, 2023c).
- **[Water Conservation Plan:](#)** An update to Moab’s Water Conservation Plan was completed in 2021. The plan establishes community-wide water goals and identifies water conservation measures (City of Moab, 2021).
- **[Water Efficient Landscaping Code:](#)** In September, 2023, the City of Moab adopted a water efficient landscaping ordinance establishing standards to support the design, installation, and maintenance of healthy landscapes suited for the Moab climate.



### GOAL A: PROTECT DRINKING WATER QUALITY

The City of Moab’s drinking water source is groundwater. All sources of drinking water are subject to potential contamination by constituents such as microbes, organic or inorganic materials, or radioactive materials. The City’s water utility manages source protection zones and implements other management strategies to protect groundwater resources from contamination. The City also treats water in accordance with state and federal

regulations, conducting routine monitoring for constituents in drinking water, and reporting those results annually.

**Metric: Drinking water quality**

- Target: Meet or exceed all state and federal requirements for drinking water
- Data Source: Moab Annual Water Quality Report
- Related Strategies: W-1, W-3

## GOAL B: PROTECT THE QUANTITY OF GROUNDWATER

The City of Moab 2021 Water Conservation Plan established goals to protect Moab’s groundwater supply. The strategies identified in this Sustainability Action Plan are intended to support and reinforce, rather than duplicate, work already identified in the Water Conservation Plan.

**Metric: Total water consumption (gallons)**

- Target: Achieve a 20% reduction in total water consumption (City of Moab, 2021)
- Data Source: City of Moab Utilities Department
- Related Strategies: W-2, W-3, W-4, W-5

**Metric: Water consumption per capita (gallons per capita per day)**

- Target: Achieve 250 gallons per capita per day (GPCD) by 2030 with step-wise decreases to 230 GPCD based on State participation in conservation efforts. A goal of 230 GPCD represents a 50% decrease in outdoor landscape irrigation and would result in the total volume of residential water use staying the same when accounting for the projected increase in population (City of Moab, 2021).
- Data Source: City of Moab
- Related Strategies: W-2, W-3, W-4, W-5

## GOAL C: SAFEGUARD WATER RESOURCES AND REDUCE FLOOD IMPACTS

This goal focuses on safeguarding Moab’s surface water resources while preparing for and mitigating community impacts of flooding. Our community has experienced negative impacts from flooding in recent years and flood events are anticipated to become more frequent and severe as a result of climate change.

**August 2022 Moab Flash Flooding**

In August 2022, Moab experienced severe flooding associated as a result of strong storms moving through portions of east central Utah. Mill Creek rose approximately 11.6 feet in one hour and the community faced flash flooding caused road closures and significant property damage to homes and businesses (National Weather Service, 2022)



**Metric: Impaired water quality**

- Target: Reduce number of impaired waters in the Mill Creek and Castle Creek watersheds
- Data Source: Utah Department of Environmental Quality
- Related Strategies: W-1, W-3

**Metric: Property flood risk**

- Target: Reduce the number of buildings and structures at risk of flooding (304 homes, 13 miles of road, 2 social facilities at risk of minor risk of flooding in 2023)
- Data Source: RiskFactor.com (Flood Factor), FEMA
- Related Strategies: W-1, W-3



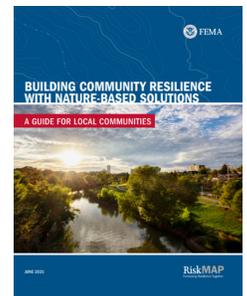
## STRATEGY W-1: NATURE-BASED STORMWATER SOLUTIONS

Nature-based solutions are defined by the Federal Emergency Management Agency (FEMA) as “sustainable planning, design, environmental management, and engineering practices that weave natural features or processes into the built environment to build more resilient communities” (FEMA, 2021). Nature-based stormwater solutions such as green infrastructure and low impact development can improve resilience, create ecosystem benefits and realize long-term financial savings. This strategy involves the identification and implementation of nature-based stormwater solutions on city property while exploring opportunities to encourage or require their use in private development, for example through adoption of a green streets policy.

Community Support	Climate Impact	Cross-Cutting Benefits	Feasibility

### Building Community Resilience with Nature-Based Solutions

FEMA developed a guide for local communities to identify and engage the staff and resources to develop and implement nature-based solutions to natural hazards. The guide introduces nature-based solutions, outlines the business case for using them and walks planning, policy, funding, and implementation considerations for local governments.



## STRATEGY W-2: WATER CONSERVATION PLAN IMPLEMENTATION

This strategy involves implementation of measures identified in the 2021 Moab Water Conservation Plan and alignment with overarching sustainability goals.

Community Support	Climate Impact	Cross-Cutting Benefits	Feasibility

## STRATEGY W-3: ACCESSIBLE DATA ON WATER CONDITIONS

This strategy involves developing accessible, real-time information on water conditions such as flood warnings, streamflow, water quality, and drought.

Community Support	Climate Impact	Cross-Cutting Benefits	Feasibility

## STRATEGY W-4: GRAYWATER ADOPTION

The City of Moab municipal code defines a graywater system as “a plumbing system for a single-household dwelling where untreated wastewater which has not come into contact with toilet water or human waste is disposed of on site, and not via connection to the City wastewater treatment system” (City of Moab, 2023b). The use of graywater on-site, for example for irrigation, in place of treated municipal water contributes to water conservation goals. Graywater systems are permitted by the City of Moab and this strategy involves removing barriers, incentivizing, or requiring implementation for new residential and commercial development and advancing adoption at existing buildings through outreach and other programs. In addition, the City of Moab will explore opportunities to increase graywater use at municipal properties.

Community Support	Climate Impact	Cross-Cutting Benefits	Feasibility
			

## STRATEGY W-5: MUNICIPAL WATER AUDITS

Conducting an audit of municipal facilities to identify opportunities for water efficiency and conservation is one way that the City can demonstrate leadership in this topic area. This strategy involves completing a water audit of City facilities and the implementation of identified improvements.

Community Support	Climate Impact	Cross-Cutting Benefits	Feasibility
			

# PLAN IMPLEMENTATION AND MAINTENANCE

The Moab Sustainability Action Plan is intended to be a living document that City staff, elected officials and community partners use to drive the City towards the community’s sustainability vision.

The plan identifies a broad range of goals and strategies and is not intended to provide an exhaustive list of all community sustainability activities, but rather to organize and provide direction on near-term and new actions. During plan development, detailed work plans were developed for six near-term strategies to identify key action steps, resource needs, and connection to the communities cross-cutting priorities. These work plans can be found in [Appendix III: Strategy Work Plans](#) and will help the City maintain the momentum created through the plan development phase into implementation. The strategies selected for work plan development were those that emerged as a high priority for near-term implementation, and for which a plan of action did not already exist. The order in which plan strategies are implemented will be guided, but not solely determined, by the prioritization criteria identified in this plan. The sequencing of implementation will also reflect City of Moab and partner capacity, the availability of funding and other resources, and the emergence of timely priorities. The template in [Appendix II: Work Plan Template](#) will be used to build out detailed work plans for future strategies.

While some of the strategies identified can be implemented by City staff alone, others will require partnerships across local, regional, and state government, or between the public and private sector. The strategies identified in this plan are intended to be implemented by 2030. However, they will be revisited annually to update the status of each strategy, identify challenges, and ensure ongoing alignment with community priorities, technological advancements, and available resources. Development of one or more work plans for additional strategies (beyond the initial six priorities) is recommended each year, as plan implementation progresses. A more comprehensive update to the Sustainability Action Plan will be completed approximately every seven years to ensure that the plan remains relevant and actionable.

## Performance Management

For Moab to determine success in achieving its vision, this plan establishes goals and targets for each plan topic area. Some targets are expressed as quantitative metrics, while others are expressed as directional intent (i.e., increase/maintain/decrease) and an initial step will be to establish a baseline for metrics where one does not already exist. Progress towards targets can be achieved by implementing the Sustainability Action Plan strategies, along with other City plans, programs, and projects that contribute to sustainability. When considered together, tracking progress towards these targets can help to answer the question “How are we doing?” and provide an opportunity to highlight achievements and identify areas for improvement.

Targets will be monitored and reported annually to ensure transparency and accountability using a tracking and evaluation tool developed as part of this planning process. Ongoing tracking and reporting will be coordinated by the City’s Director of Sustainability and the results will be shared with the community to invite feedback and participation in upcoming sustainability efforts.



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# APPENDICES

## Appendix I: Master Strategies List

### Strategy Name

- N-1: Expand the urban tree canopy
- N-2: Protect and enhance habitat and open space
- W-1: Nature-based stormwater solutions
- E-1: Programs to support energy efficiency, renewables, and indoor air quality
- W2: Water Conservation Plan implementation
- T-1: Develop an EV Readiness Plan
- L-1: Urban agriculture programs
- L-2: Sustainable development best practices and performance review
- T-2: Develop a complete streets policy
- E-2: Encourage healthy, sustainable building practices
- W-3: Accessible data on water conditions
- E-3: Achieve SolSmart silver certification
- M-1: Organic waste diversion pilot
- N-3: Reduce ambient noise
- T-3: Sustainable transportation education campaign
- T-4: Off-road vehicle electrification
- M-2: Construction and demolition waste reduction
- W-4: Graywater adoption
- L-3: Reduce industrial air pollution impacts
- T-5: Anti-idling policy enforcement
- W-5: Municipal water audits
- E-4: Energy education campaign
- T-6: Municipal fleet electrification
- M-3: Municipal environmental purchasing policy
- E-5: Advocate for high performance buildings in state codes
- M-4: Waste education campaign
- N-4: Become a Dark Sky Community
- L-4: Reduce industrial noise impacts
- E-6: Municipal facilities energy audit
- E-7: Implement the WattSmart Communities Energy Plan
- M-5: Materials repair and reuse resources
- M-6: Evaluate the plastic bag ban
- M-7: Waste audits and monitoring

Community Score	Impact Score	Co-Benefits Score	Practicality Score	Overall Strategy Score
3.0	2	2.8	1.7	9.4
3.0	2	2.5	0.7	8.2
3.0	2	1.8	1.3	8.1
2.3	2.5	2.3	1.0	8.1
2.7	2	2.0	1.3	8.0
1.3	2	2.0	2.0	7.3
2.3	1.5	1.8	1.7	7.3
2.0	2.5	1.8	1.0	7.3
1.3	2	2.0	1.7	7.0
2.0	2	1.3	1.7	6.9
1.7	1.5	2.3	1.0	6.4
1.7	1.5	1.3	2.0	6.4
3.0	1	0.8	1.7	6.4
2.0	0.5	1.8	2.0	6.3
0.7	2	1.3	2.3	6.3
1.3	1.5	2.0	1.3	6.2
2.7	1	0.5	1.7	5.8
2.0	1.5	1.0	1.3	5.8
1.0	1	1.8	2.0	5.8
0.7	1	1.5	2.3	5.5
1.0	1.5	1.0	2.0	5.5
1.0	2	1.5	1.0	5.5
0.7	1.5	1.3	2.0	5.4
1.0	1.5	0.8	2.0	5.3
1.0	1	1.5	1.7	5.2
1.7	1	0.8	1.7	5.1
1.7	0	1.8	1.7	5.1
1.3	0	1.8	2.0	5.1
1.7	1	1.0	1.3	5.0
0.0	2	1.3	1.3	4.6
0.0	0.5	2.0	1.7	4.2
0.3	0	0.5	2.0	2.8
1.0	0	0.0	1.7	2.7

## Appendix II: Work Plan Template

Strategy Name:

Strategy Description and Key Context

Key Implementation Steps and Timeline

Action Step	Roles	Timeline
1.		
2.		
3.		
4.		
5.		
6.		

Staffing and Resource Needs

## Appendix III: Strategy Work Plans

### STRATEGY E-1: PROGRAMS TO SUPPORT ENERGY EFFICIENCY, RENEWABLES, AND INDOOR AIR QUALITY

Strategy Description and Key Context	
<p>This strategy involves the creation of programs to encourage energy efficiency, local renewable energy generation, and improved indoor air quality. Specific actions could include education and outreach related to existing programs and incentives and the creation of new incentives or other programs, such as group-buys, that make it easier and more affordable for residents and businesses to make energy improvements. Currently, a mix of residential and commercial programs and incentives are offered by Dominion, Rocky Mountain Power, and the State of Utah. Moab led a successful grant application this year for the Buildings UP prize with the Southeastern Utah Association of Governments as the monetary recipient to provide electrification and weatherization to Grand County. Phase one was \$400k, and we expect phase two to be an additional \$400k in 2024.</p>	
Key Implementation Steps and Timeline	
Action Step	Timeline
1. Inventory existing incentives and programs and identify gaps and barriers to participation.	Q1 2024
2. Develop a communications strategy to connect people to existing resources (e.g., targeted marketing, education/trainings, website links, etc.).	Q2 2024+ ongoing
3. Research program and incentive offerings in peer communities (e.g., <a href="#">Park City Energy Detective kits</a> ), with an emphasis on low and no-cost options.	Q3 2024
4. Identify potential programs to address barriers and gaps, for example: <ul style="list-style-type: none"> <li>• Incentive enhancements or additions</li> <li>• Potential for cross-boundary collaboration to develop consistent regional offerings</li> <li>• Energy workforce development</li> <li>• Exploring collaboration with local or out-of-town contractors to cluster appointments and services</li> <li>• Bundling opportunities for residents that include radon testing and energy audits and/or improvements.</li> </ul>	Q4 2024
5. Evaluate and prioritize any new program/incentive offerings, including public engagement (potentially leveraging city contracted services) to see if option(s) are desirable by the community and to inform program/incentive design.	Q1-2 2025
6. Design and launch any new program/incentive offerings.	Q3 2025
7. Conduct ongoing tracking and monitoring of energy efficiency and renewable energy program/incentive participation leveraging data from utility providers and State.	Ongoing
Staffing and Resource Needs	
<p>City staff time for:</p> <ul style="list-style-type: none"> <li>• Existing incentive/program research</li> <li>• Communications strategy</li> <li>• Program/incentive research and potential design</li> <li>• Ongoing tracking and monitoring</li> </ul> <p>Potential additional resource needs:</p> <ul style="list-style-type: none"> <li>• Marketing/communications materials (e.g., mailers)</li> <li>• Funding for incentives</li> </ul>	

## STRATEGY N-1: EXPAND THE URBAN TREE CANOPY

Strategy Description and Key Context	
<p>The City of Moab has been designated as a Tree City USA since 1993 and is committed to the health, maintenance, and planting of trees. In 2023, the City of Moab received over \$500,000 in grant funds from the U.S. Forest Service to improve urban forest resilience by identifying trees appropriate for our community, analyzing where coverage is most needed, training City staff and residents to maintain trees, and increasing accessibility. This strategy will leverage this new funding to expand and enhance Moab’s urban tree canopy while ensuring that benefits are equitably distributed.</p>	
Key Implementation Steps and Timeline	
Action Step	Timeline
1. Research peer community and best practice urban tree canopy expansion programs.	Q1 2024
2. Conduct community-wide tree inventory.	Q1-2 2024
3. Identify non-native species for potential removal/replacement.	Q3 2024
4. Conduct analysis to identify tree canopy gaps and assess tree canopy suitability (e.g., soil health, irrigation opportunities, future climate-adapted tree species).	Q3 2024
5. Engage the community to identify desirable locations for new trees (e.g., verify gaps) and help inform what types are most desirable.	Q4 2024
6. Design tree planting pilot program, including tree species identification, tree sourcing, and scale.	Q4 2024 - Q1 2025
7. Develop a communications and engagement strategy to connect residents to free or low-cost trees and support them with planting (e.g., planting workdays, planting and maintenance guides).	Q1 2025
8. Develop a strategy for the removal and replacement of non-native or undesirable trees.	Q1 2025
9. Begin community tree planting program implementation.	Q2 2025
10. Conduct ongoing tracking and monitoring of tree canopy additions/removals, tree canopy coverage, and program participation.	Ongoing
Staffing and Resource Needs	
<p>City staff time for:</p> <ul style="list-style-type: none"> <li>• Tree inventory</li> <li>• Tree canopy gaps and suitability assessment</li> <li>• Community engagement</li> <li>• Planting support</li> <li>• Ongoing tracking and monitoring</li> </ul> <p>Potential additional resource needs:</p> <ul style="list-style-type: none"> <li>• Marketing/communications materials (e.g., mailers)</li> <li>• Trainings for staff</li> <li>• Tree maintenance</li> </ul>	

## STRATEGY N-2: PROTECT AND ENHANCE HABITAT AND OPEN SPACE

Strategy Description and Key Context	
<p>This strategy involves the purchase, protection, and enhancement of habitat and open space throughout Moab. The strategy will connect to and help guide the implementation of the 2024 Parks and Recreation Master Plan to ensure that sustainability and climate resilience are prioritized.</p>	
Key Implementation Steps and Timeline	
Action Step	Timeline
1. Map existing habitat, biodiversity, and wildlife corridors (coordinate with tree inventory from strategy N-1).	Q1-3 2024
2. Identify known and potential threats, gaps, barriers, and land/space with potential for protection or enhancement, leveraging community feedback.	Q4 2024
3. Research best practices and models from other communities about how to approach obtaining open space and funding.	Q1-4 2024
4. Identify public parks suitable for different maintenance standards.	Q1 2025
5. Develop pilot practices, educate staff, and monitor progress of different park maintenance standards.	Q2-3 2025
6. Identify and develop guidelines and/or programs to encourage pollinator gardens and habitat on private lands (building on landscape ordinance).	Q4 2025
7. Develop a communications strategy to connect people to guidelines/programs for private lands.	Q1 2026
8. Conduct ongoing tracking and monitoring of open space lands, improvement projects, and pilot efforts.	Ongoing
Staffing and Resource Needs	
<p>City staff time for:</p> <ul style="list-style-type: none"> <li>• Inventory mapping</li> <li>• Threats/gaps/opportunities identification</li> <li>• Community engagement</li> <li>• Parks management</li> <li>• Ongoing tracking and monitoring</li> </ul> <p>Potential additional resource needs:</p> <ul style="list-style-type: none"> <li>• Habitat mapping and technical analysis</li> <li>• Marketing/communications materials (e.g., guides)</li> <li>• Parks staff training on modified maintenance practices</li> <li>• Parks maintenance equipment and supplies</li> </ul> <p>Note that City/County Land Trust holds conservation easements and provides funding for governmental entities</p>	

## STRATEGY L-1: URBAN AGRICULTURE PROGRAMS

Strategy Description and Key Context	
<p>This strategy involves promoting community agriculture in Moab through codes, programs, and education. It includes using our water efficiently and balancing water-efficient landscaping with the water demands of urban agriculture. The community has a solid base of urban agriculture programming with local non-profits, including Moab Community Gardens and Youth Garden Project.</p>	
Key Implementation Steps and Timeline	
Action Step	Timeline
1. Connect with existing community gardens to understand needs.	Q1 2024
2. Conduct a community survey to understand interest, perceptions, and barriers to participation in urban agriculture.	Q1 2024
3. Research what other communities are doing to develop urban agriculture programs, with a focus on improving access and uplifting those who already participate (e.g., reducing barriers to local farmers markets, investigating available park land or City land trusts).	Q2 2024
4. Develop education and training to address barriers identified in survey, and to increase the number of growers.	Q3 2024
5. Explore incentives for new and/or existing neighborhoods to use a portion of open space intentionally.	Q4 2024
6. Continue and expand community garden tours (e.g., add community bike rides).	Q2-3 2024
7. In coordination with Strategy N-2 mapping and outreach, explore new places to develop urban gardens or farms.	Q1-3 2024
8. Conduct ongoing tracking and monitoring of urban agriculture projects.	Ongoing
Staffing and Resource Needs	
<p>City staff time for:</p> <ul style="list-style-type: none"> <li>• Survey development, distribution, and analysis</li> <li>• Research and incentive/policy development</li> <li>• Education and training</li> <li>• Tracking and monitoring</li> </ul> <p>Potential additional resource needs:</p> <ul style="list-style-type: none"> <li>• Training and education events and materials</li> <li>• Incentives (if not policy-based)</li> </ul>	

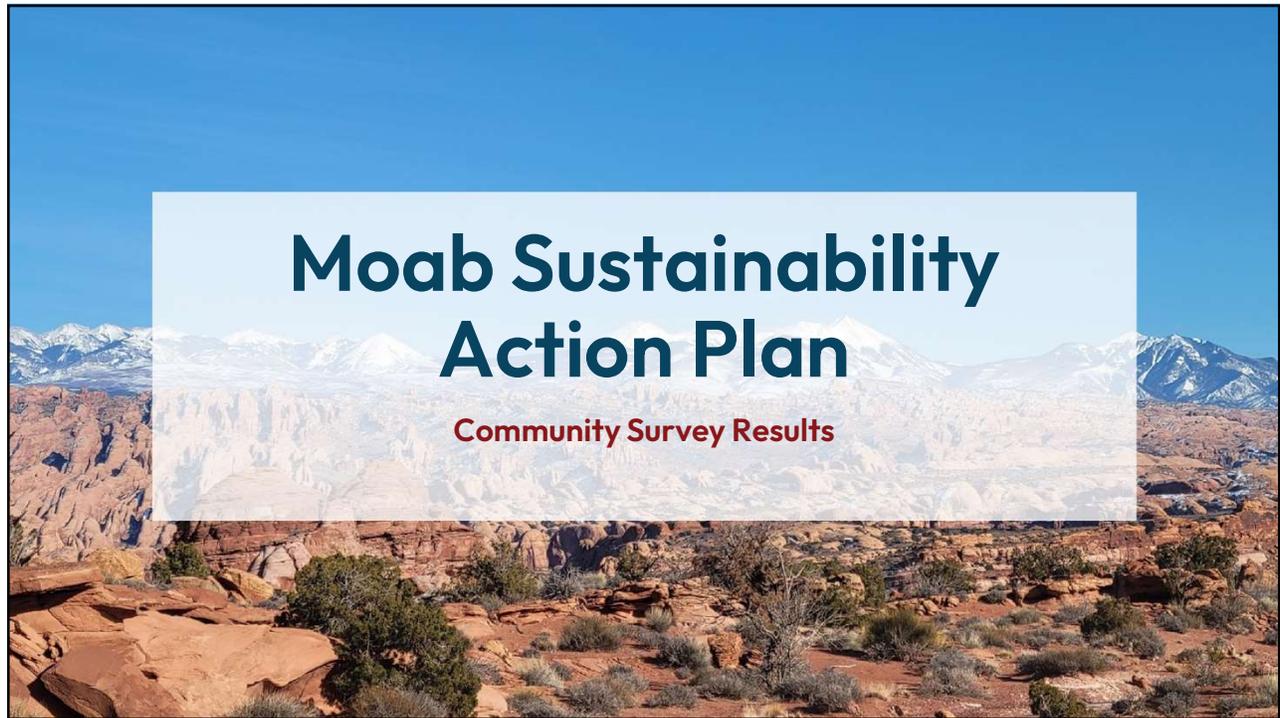
## STRATEGY M-1: ORGANIC WASTE DIVERSION PILOT

Strategy Description and Key Context	
<p>Moab already has several small-scale organic waste diversion efforts, including chipping of yard waste at the Moab Landfill and composting at the Youth Garden Project. This strategy involves the development and launch of an organic waste pilot program to divert yard and food waste and be scalable to the neighborhood or community level.</p>	
Key Implementation Steps and Timeline	
Action Step	Timeline
1. Research examples from other communities and identify potential organic waste diversion pilot program models.	Q1-2 2024
2. Explore feasibility of organic waste diversion pilot project models based on lessons learned from other communities, local community considerations and funding/resource needs.	Q1-2 2024
3. Develop pilot organic waste program design, including consideration of different users (e.g., people already composting at home, people willing to pay for pickup, restaurants) and future scalability.	Q1-2 2025
4. Develop education and training materials related to home composting (including clinics, workshops, tours, giveaways, etc.). Connect home composting to trash bill savings (smaller and less frequent pickup).	Q3-4 2024
5. Launch pilot organic waste diversion pilot.	Q1 2025
6. Track and monitor year 1 impact of pilot program including participation, waste diversion, and community perceptions/satisfaction.	Q4 2025
7. Explore interest, opportunities, and pathways for large-scale organic waste diversion.	Q4 2025 - Q1 2026
8. Conduct ongoing tracking and monitoring of organic waste diversion efforts.	Ongoing
Staffing and Resource Needs	
<p>City staff time for:</p> <ul style="list-style-type: none"> <li>• Research and feasibility exploration</li> <li>• Education and training</li> <li>• Tracking and monitoring</li> </ul> <p>Potential additional resource needs:</p> <ul style="list-style-type: none"> <li>• Training and education events and materials</li> <li>• Pilot program funding</li> <li>• More dropoff sites (Youth Garden Project at capacity)</li> <li>• Additional staff to manage/oversee</li> </ul>	

## STRATEGY W-1: NATURE-BASED STORMWATER SOLUTIONS

Strategy Description and Key Context	
<p>Nature-based solutions are defined by the Federal Emergency Management Agency (FEMA) as “sustainable planning, design, environmental management, and engineering practices that weave natural features or processes into the built environment to build more resilient communities” (FEMA, 2021). Nature-based stormwater solutions such as green infrastructure and low-impact development can improve resilience, create ecosystem benefits and realize long-term financial savings. This strategy involves the identification and implementation of nature-based stormwater solutions on city property while exploring opportunities to encourage or require their use in private development.</p>	
Key Implementation Steps and Timeline	
Action Step	Timeline
1. Research other cities to see what they are doing (e.g., “ <a href="#">Green Infrastructure Manual for Desert Communities</a> ”) and what has worked (especially leveraging private developers).	Q1 2024
2. Identify potential regulatory/policy changes and/or new programs/incentives to shift development norms and practices.	Q2-3 2024
3. Identify and plan pilot projects/policies (e.g., beaver dam analogue systems).	Q4 2024-Q1 2025
4. Implement and evaluate pilot projects.	Q2-4 2025
5. Develop hands-on educational events and trainings for engineering and environmental professionals.	2026
Staffing and Resource Needs	
<p>City staff time for:</p> <ul style="list-style-type: none"> <li>• Research and feasibility exploration</li> <li>• Policy/regulation/program/incentive development</li> <li>• Education and training</li> <li>• Tracking and monitoring</li> </ul> <p>Potential additional resource needs:</p> <ul style="list-style-type: none"> <li>• Training and education events and materials</li> <li>• Pilot program funding</li> <li>• Incentives</li> </ul>	

# Appendix IV

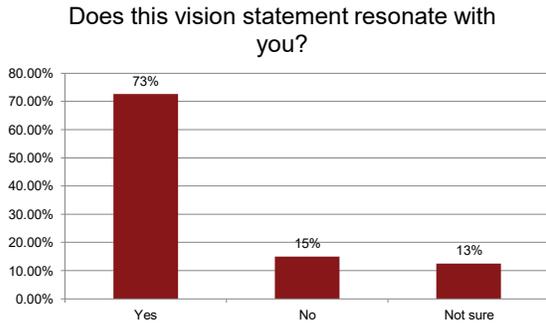


## Community Survey Summary

- 208 responses
- 58 indicated interest in receiving further information about the Community Sustainability Event
- Demographics
  - 60% inside Moab City Limits
  - 53% female, 35% male, 12% other or prefer not to say
  - 94% speak English at home
  - 85% white
  - 28% 65+, 21% 25-34
  - 50% <\$75,000 household income, 14% > \$100,000 (24% prefer not to say)



# Vision Statement



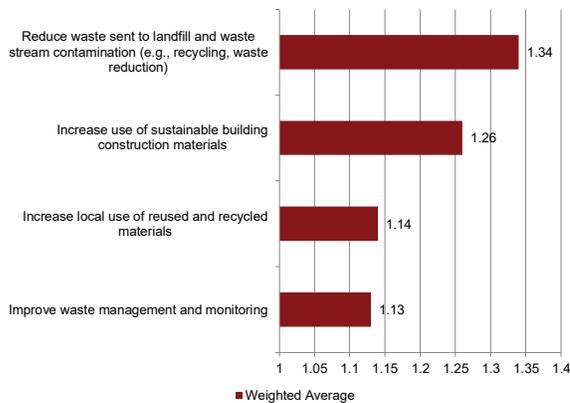
## Comments

- Support for the emphasis on actionable goals and transparency
- Replace “aspire” with stronger language
- Emphasize community belonging



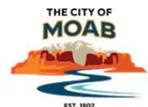
# Materials Management Goals

Please review the draft goals for the Materials Management focus area and provide input on the appropriate level of ambition.



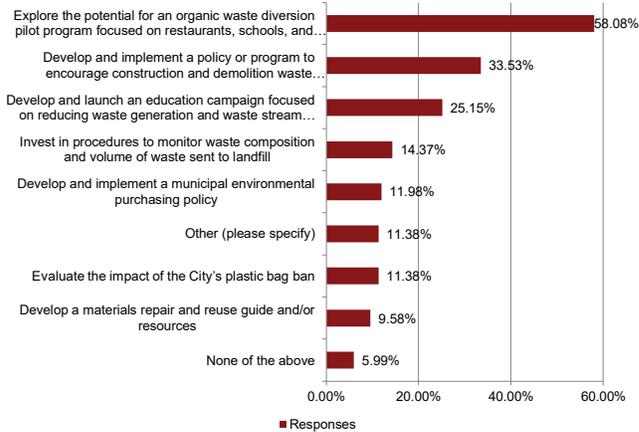
## Comments

- Sustainable and local building materials use
- Visitor education



# Materials Management Strategies

Please review the draft strategies for the Materials Management focus area and select up to two that you think are a priority for implementation in 2024 - 2025.



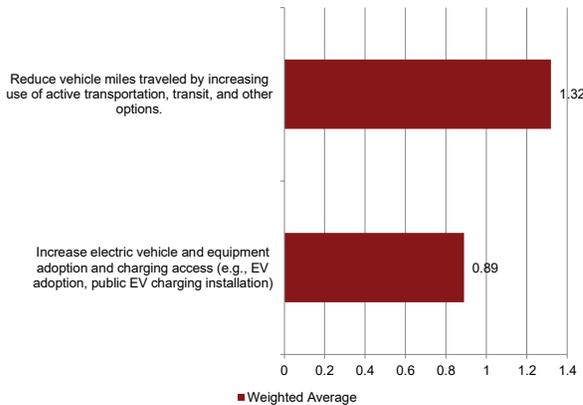
## Comments

- Strong interest in a community composting program



# Transportation Goals

Please review the draft goals for the Transportation focus area and provide input on the appropriate level of ambition.



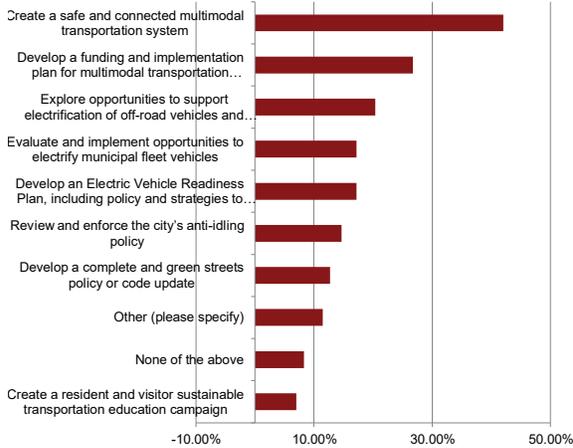
## Comments

- Strong support for bike, public transit, ride sharing, pedestrian infrastructure and safety
- E-bike accessibility and use
- Visitor transportation footprints



# Transportation Strategies

Please review the draft strategies for the Transportation focus area and select up to two that you think are a priority for implementation in 2024 - 2025.



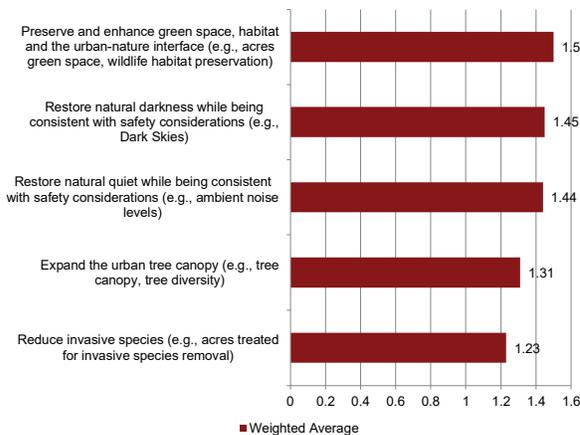
## Comments

- Strong support for bike infrastructure
- Mixed support for EV strategies



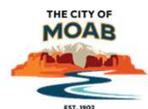
# Nature & Ecosystems Goals

Please review the draft goals for the Nature & Ecosystems focus area and provide input on the appropriate level of ambition.



## Comments

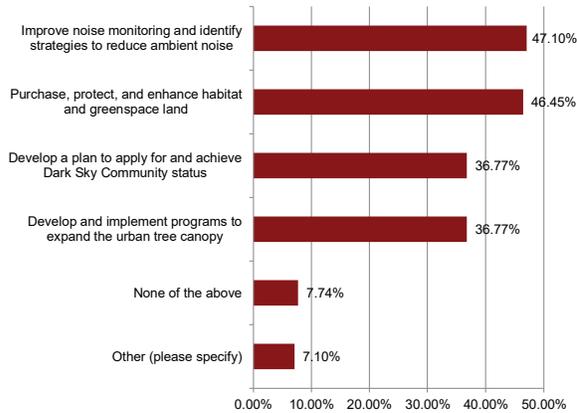
- Strong support for noise reduction, light pollution reduction
- Support for habitat protection and creation
- Emphasis on tree planting



# Nature & Ecosystem Strategies

Please review the draft strategies for the Nature & Ecosystems focus area and select up to two that you think are a priority for implementation in 2024 - 2025.

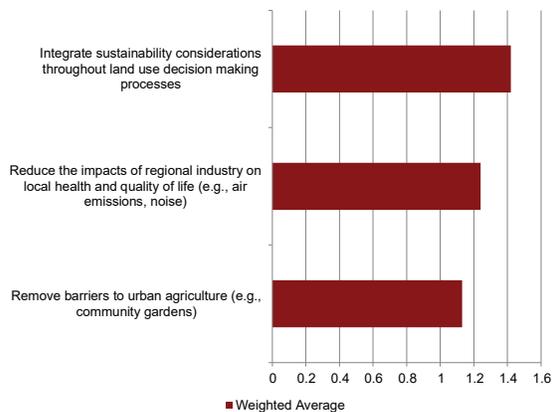
## Comments



# Land Use & Planning Goals

Please review the draft goals for the Land Use & Planning focus area and provide input on the appropriate level of ambition.

## Comments

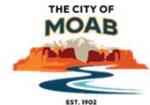
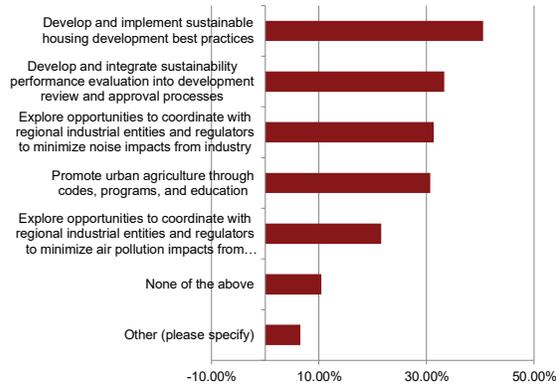


- Emphasis on growth management and sustainable carrying capacity
- Emphasis on housing
- Support for community gardens, beekeeping
- Consideration of water conservation in development



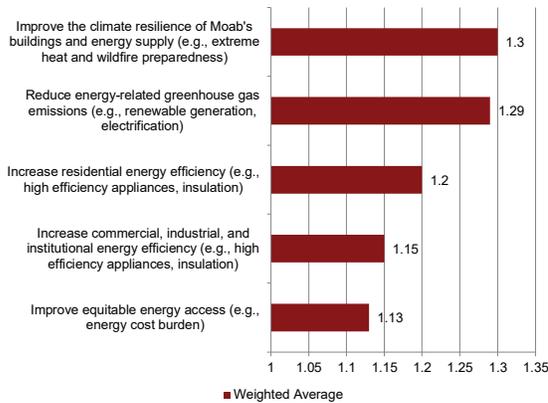
# Land Use & Planning Strategies

Please review the draft strategies for the Land Use & Planning focus area and select up to two that you think area priority for implementation in 2024 - 2025.



# Energy & Building Goals

Please review the draft goals for the Energy & Buildings focus area and provide input on the appropriate level of ambition.



## Comments

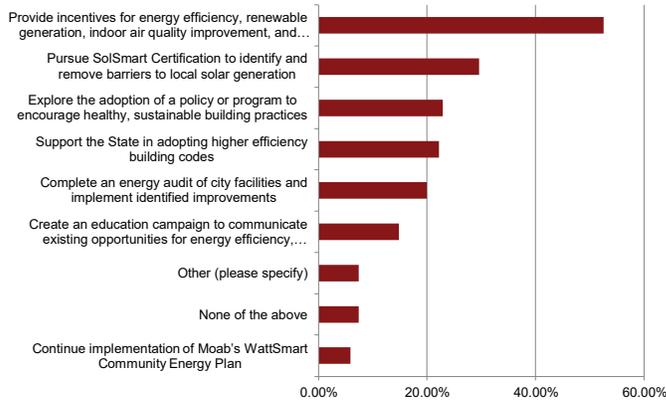
- Support for solar
- Support for passive design principles



# Energy & Building Strategies

Please review the draft strategies for the Energy & Buildings focus area and select up to two that you think are a priority for implementation in 2024 - 2025.

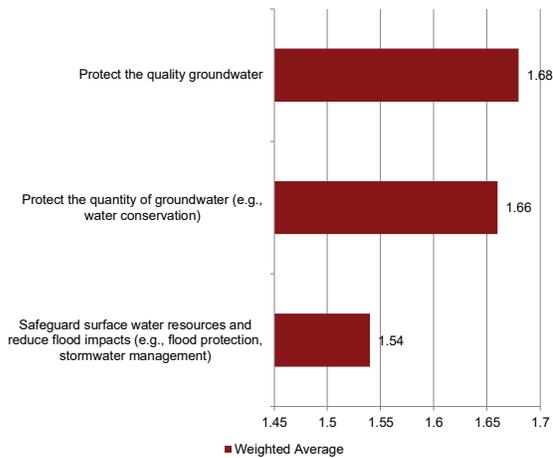
## Comments



# Water Goals

Please provide input on the level of ambition you would like to see for goals in the Water focus area:

## Comments

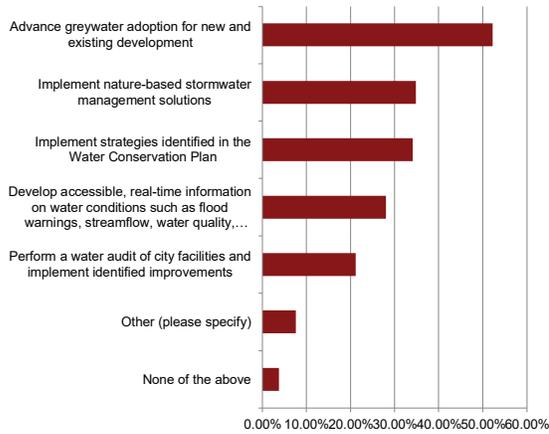


- Strong support for water conservation
  - Education, reduced lawn area, development restriction, enforcement, incentives
- Support for flood protection



# Water Strategies

Please review the draft strategies for the Water focus area and select up to two that you think are a priority for implementation in 2024 - 2025.



## Comments

- Tiered water rates
- Focus on hotels
- Water conservation highlighted



