SUSTAINABILITY AND ADAPTATION PLAN

CITY OF Grand Junction COLORADO

ADOPTED JULY 3, 2024

Image Credit: City of Grand Junction
Mount Garfield and Colorado River Valley

LETTER FROM THE MAYOR

Nestled amidst the vibrant landscape of Western Colorado, Grand Junction is a city unlike any other. Our community's unique blend of history, natural beauty, and local identity sets us apart as a city cherished by residents and visitors alike. As the current and former Mayors of Grand Junction, it is our pleasure to share with you the City of Grand Junction's first Sustainability and Adaptation Plan. This Plan signifies a pivotal milestone in our journey towards a more sustainable future, and a community ready to adapt to future challenges and needs. While we can take pride in our past accomplishments, this Plan outlines our vision and strategies for ensuring a stable future for generations of Grand Junction residents to come.

As we navigate the challenges posed by climate change, population growth, and resource management, it is critical that we take proactive measures to safeguard our environment, enhance our quality of life, and promote economic prosperity. The Sustainability and Adaptation Plan serves as a roadmap to achieve these objectives in an effective and inclusive manner.

This Plan reflects our commitment to resource stewardship and the preservation of a high-quality life for all who live, work, and play in Grand Junction. It is the product of productive collaboration between community stakeholders, experts, and City employees, as well as extensive outreach throughout the community. Through this collaborative effort, we have developed practical and actionable strategies that reflect the priorities and aspirations of our community.

As we confront future challenges, the Sustainability and Adaptation Plan empowers us to leverage our strengths and build upon our successes. Together, we can keep Grand Junction a vibrant and thriving city for all.

Sincerely,

Former Mayor Anna Stout

Mayor Abram Herman

ACKNOWLEDGEMENTS

Many thanks to everyone who was involved in the development of this Sustainability and Adaptation Plan.

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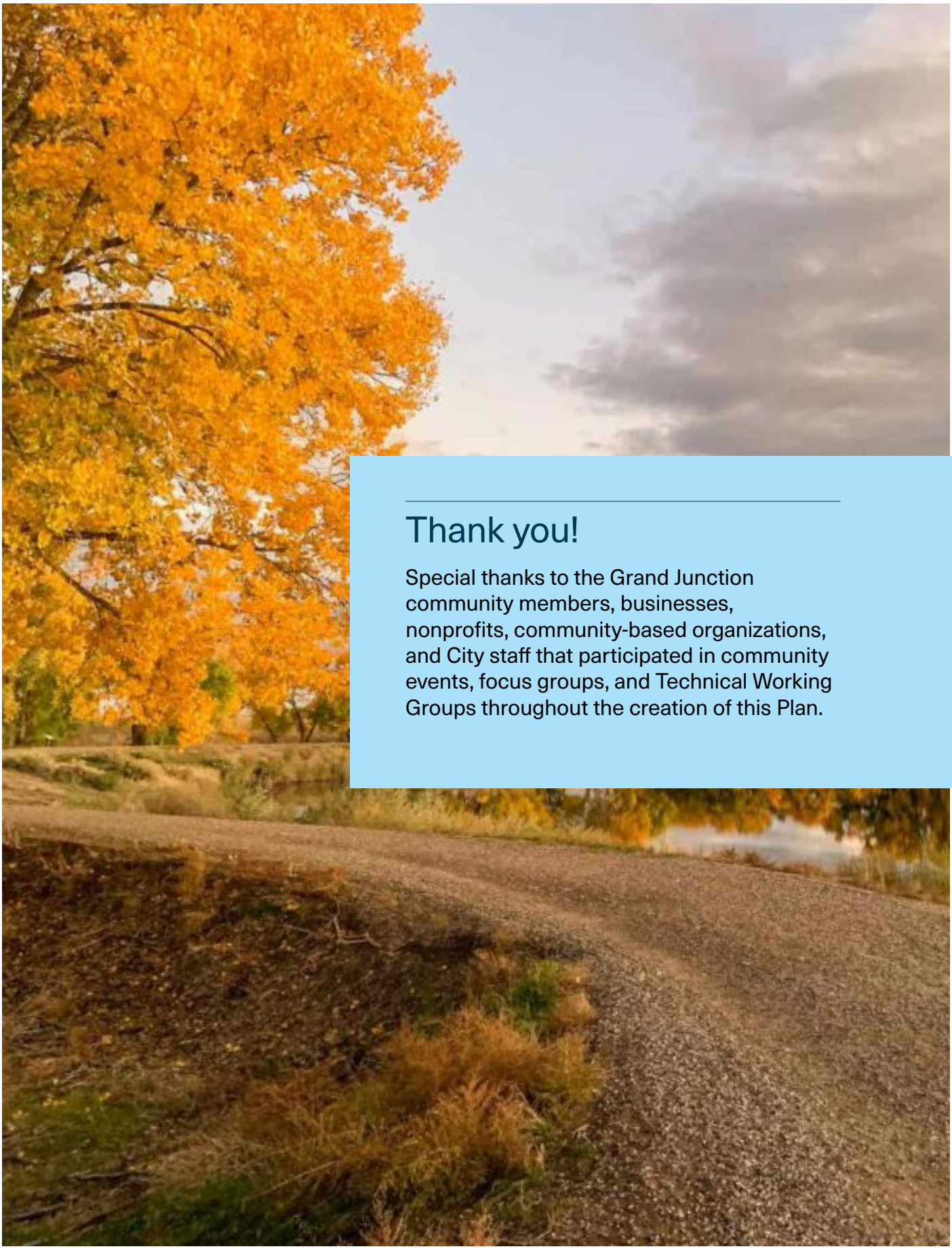

Thank you!

Special thanks to the Grand Junction community members, businesses, nonprofits, community-based organizations, and City staff that participated in community events, focus groups, and Technical Working Groups throughout the creation of this Plan.

Image Credit: City of Grand Junction
Trails in Fall

Image Credit: City of Grand Junction
Downtown Grand Junction

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Image Credit: City of Grand Junction
Grand Junction Mural
Artist Credit: TJ Smith and Danielle Sterle

1 Introduction

Chapter 1 provides foundational information regarding the purpose and context for this Plan. This chapter includes:

- **Plan Process:** A summary of the process of developing this Plan.
- **Plan Organization:** A guide to understanding the structure and terminology of this Plan.
- **Focus Areas and Goals:** An introduction to the Focus Areas and Goals which are further described in Chapter 3.
- **Dashboard:** A summary of Key Performance Indicators (KPIs) and their baseline measurements and targets.

Please see the Glossary section at the end of this document for definitions of terms.

ABOUT THIS PLAN

Grand Junction is the largest city in the region, located at the confluence of the Colorado and Gunnison Rivers, and is set among the Colorado National Monument, Grand Mesa, and Book Cliffs (Figure 1). This rural and urban interface positions the City to lead Colorado's Western Slope in supporting natural and built environments with a plan for sustainability and adaptation. Sustainability recognizes the imminent need to maintain or preserve social, economic, and environmental resources. Adaptability is the critical capacity to adjust to changing circumstances in the natural and built environment. Together, adaptability and sustainability are the heart of ensuring a prosperous future for the Grand Junction community.

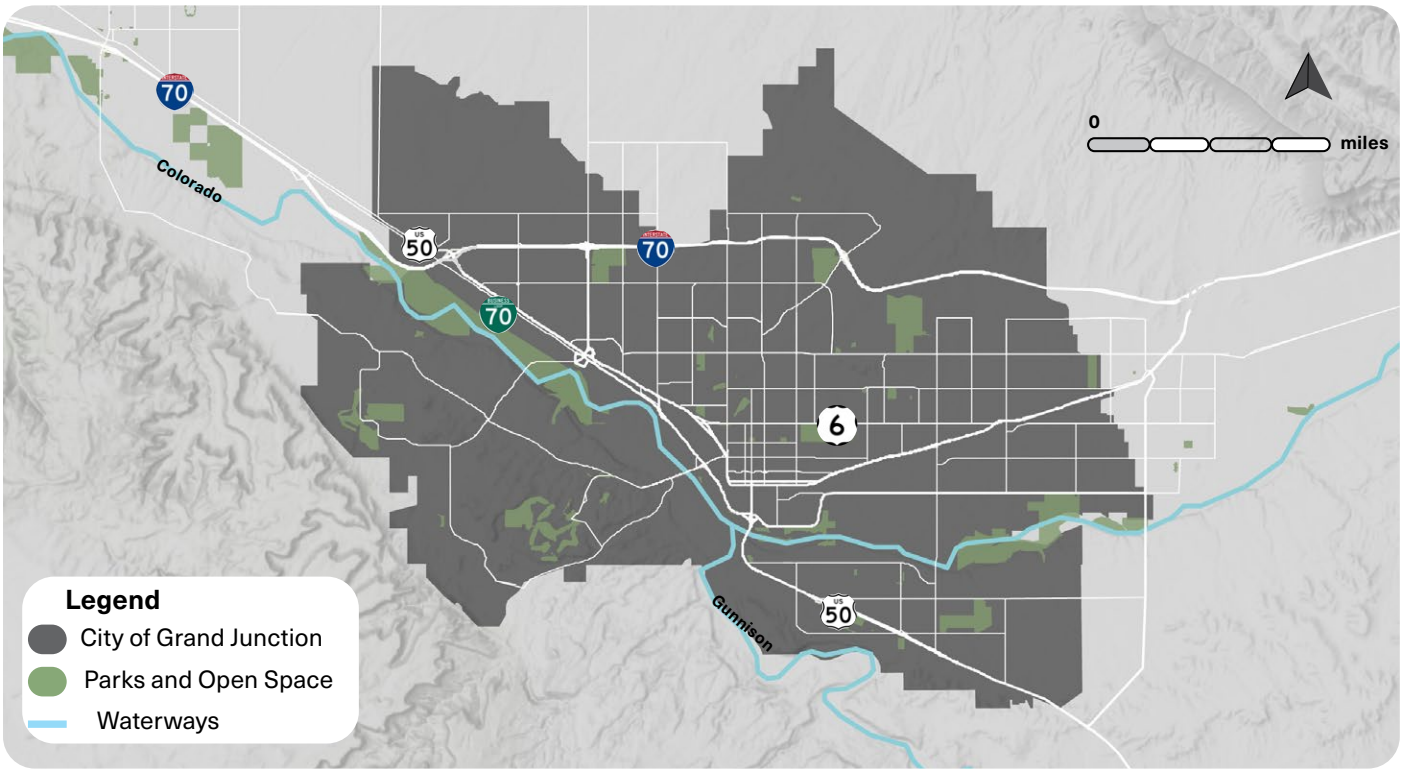


Figure 1: *Map of Grand Junction*

Purpose of this Plan

The Sustainability and Adaptation Plan (the Plan) is organized around six Focus Areas, each of which provides long-range Goals, Strategies, and Priority Actions to foster sustainable practices. This Plan aligns the City of Grand Junction, collaborative partners, and community members to work together to achieve shared goals. It addresses the changing climate, prepares for economic shifts, and complements the 2020 One Grand Junction Comprehensive Plan. The recent introduction of the Dual Stream Recycling Program, Electric Vehicle Readiness Plan, Urban Forestry Management Plan, Housing Strategies, Pedestrian and Bicycle Plan, Regional Water Efficiency Plan and Greenhouse Gas Emissions Inventory set a strong foundation for this effort and demonstrate the City's ambition to lead in resource stewardship.

This Plan...

Defines what 'Sustainability' and 'Adaptation' mean for the community members of Grand Junction.

Addresses environmental issues including water, heat, drought, and natural resource conservation.

Provides an actionable and data-driven path forward to address social, environmental, and economic goals.

Makes provisions for a high quality of life for current and future generations.

Plan Process

This Plan creation took place in five phases as shown in Figure 2. Each phase is built upon a foundation of data to ensure reliability and accountability. The project team initiated the effort with a kick-off meeting in May of 2023. The first phase, Project Understanding, included the creation of project management plans, focus group conversations, and research to establish a baseline understanding. The second phase, Initiate and Describe, gathered input from the community to develop the Focus Areas. The third phase, Evaluate and Target, developed draft Goals and Strategies that were shared at a community open house. Following this feedback, phase 4, Prioritize and Implement, refined the Strategies through implementation workshops and the creation of the Plan. This draft Plan was shared online, at a community open house, and vetted with City Council for adoption.

Figure 2: *Process Diagram*

PLAN ORGANIZATION

This Plan is organized into four chapters. Chapter 2 outlines the community engagement that informed Plan outcomes. Chapter 3 dives deeper into context, Goals and Strategies for each of the six Focus Areas. Chapter 4 identifies Priority Actions for the City.

Focus Areas (I-VI)

Each of the six Focus Areas identifies an opportunity to achieve a more sustainable future. Each Focus Area includes background information and an aspirational statement of what the City hopes to achieve.

Goals (1-12)

A Goal provides a clear objective, expressing the overarching purpose and intention. The Goals are measured by Key Performance Indicators.

Key Performance Indicators (KPIs): KPIs provide benchmarks for measuring progress in each Focus Area. These high-level indicators are based on national best-practices to enable ease of comparison for decision-making and public education. They include a baseline measurement and target.

Strategies (a-z)

The Strategies in Chapter 3 are a tactic or broad approach for how to achieve the Goals.

Equity Impacts: Some of the Strategies identify equity impacts, highlighting opportunities for increased social, environmental, and economic equity and/or considerations to ensure that future actions remain accessible and effective for all members of the community.

Priority Actions (A-VV)

The Implementation Priorities Matrices (IPM) in Chapter 4 identify key actions that are most urgent or impactful for the City to address. These provide a roadmap for how the City will allocate resources, deploy efforts, and adapt to changing circumstances, ensuring a structured and intentional path.

Supplemental Performance Measure (SPM): Aligns with each Priority Action to track and monitor progress over time.

Lead Department: These departments are responsible for leading and reporting Priority Actions.

Partnerships: These identify who are supporting parties or potential collaborative partners.

Timing: Timing horizons are a proposed or aspirational timeframe to completion.

Resources: These are supportive resources to implement the Priority Actions.

LEED for Cities

LEED for Cities metrics are strategically utilized for as KPIs and SPMs given their status as national best practices, ease of performance tracking, and use for benchmarking.

Figure 3: *Plan Organization*

FOCUS AREAS AND GOALS

The Plan is organized around six Focus Areas. Figure 4 below summarizes the Focus Areas in relationship to their 12 Goals. This graphic indicates the inherent overlap and intersection of the Focus Areas, with City Leadership at the center.

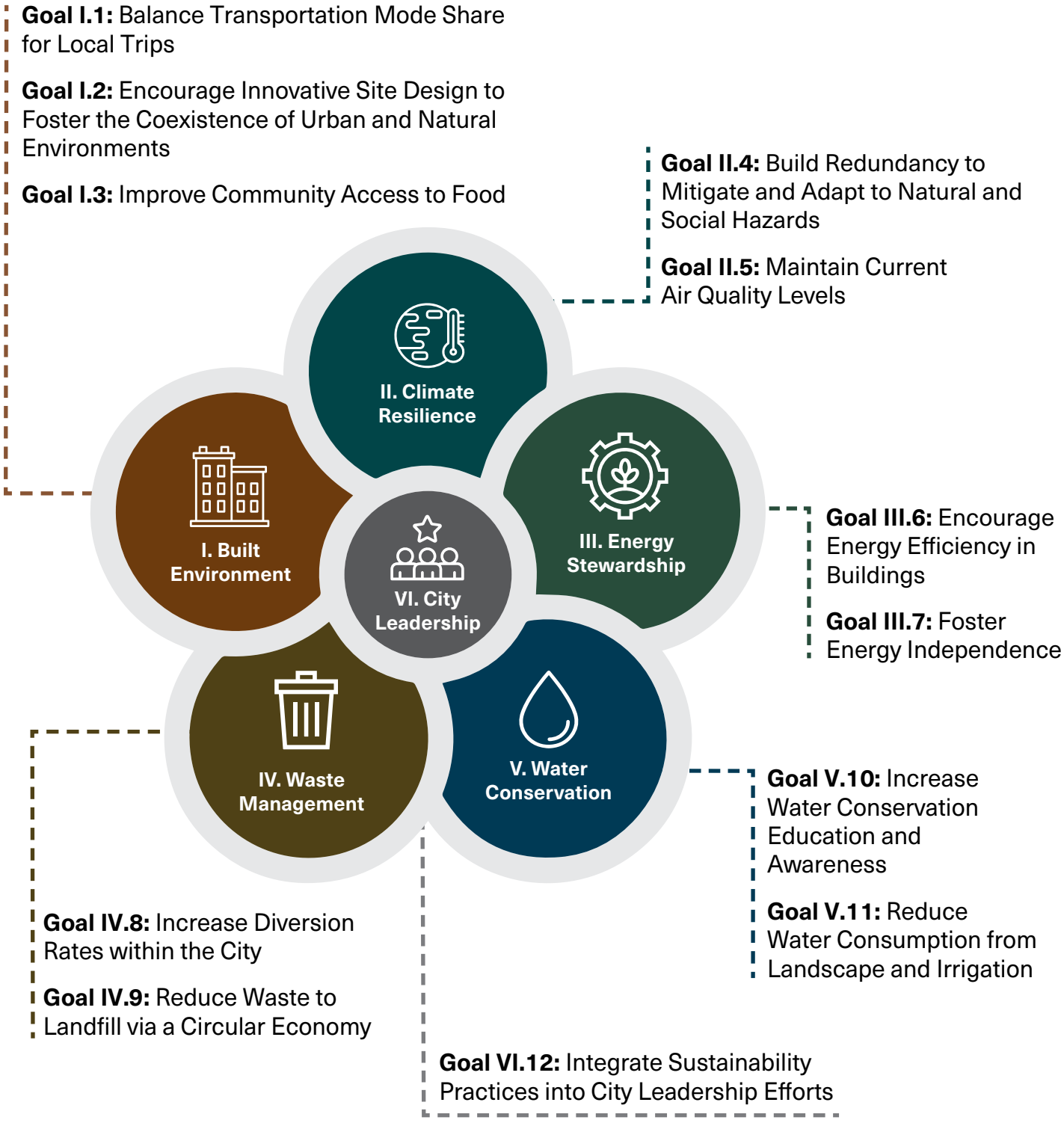


Figure 4: *Focus Areas Diagram*

DASHBOARD

The dashboard is a visual communication tool for managing Goals and Strategies. This is a tool for monitoring progress and tracking performance over time. Dashboard trends data will be used to inform decisions and communicate outcomes with transparency. The baselines and targets are outlined in Chapter 3. For additional supplemental performance measures see Chapter 4.

	BASELINE	TARGET
Goal I.1: Balance Transportation Mode Share for Local Trips **KPI:** Automobile, pedestrian, bicycle travel, and transit trips	92.5% Automobile use 6.1% Pedestrian 1.4% Bicycle In 2023 there were 580,236 unlinked passenger bus trips	Increase share of pedestrian and bicycle trips for local travel Increase number of unlinked passenger bus trips
Goal I.2: Encourage Innovative Site Design to Foster the Coexistence of Urban and Natural Environments **KPI:** Access to services, amenities, and green spaces, especially by foot and bike	Walk Score® = 32 Bike Score® = 55	Increase Walk Score® and Bike Score® to ensure adequate and equitable access for all users who walk, roll, and/or cycle
Goal I.3: Improve Community Access to Food **KPI: Grand Junction population residing in food deserts**	Six census tracts identified as food deserts as of the most recent data set (2019)	Ensure all City residences are within one mile of a grocer, market, or reliable food source, including fresh produce
Goal II.4: Build Redundancy to Mitigate and Adapt to Natural and Social Hazards **KPI:** Inventory of community resiliency capabilities	Inventory complete for City facilities per LEED for Cities	Complete inventory then share and maintain updated inventory
Goal II.5: Maintain Current Air Quality Levels **KPI:** Air quality	Median Air Quality Index (AQI) 44	Aim for more days in the year to fall within the *good* AQI category
Goal III.6: Encourage Energy Efficiency in Buildings **KPI:** Total building-related greenhouse gas (GHG) emissions per capita	7.00 metric tons of CO_2e (carbon dioxide equivalent) per year per capita	Reduce total building-related GHG emissions per capita

BASELINE	TARGET	
Total rooftop solar capacity = 15,742 kW	Install additional solar energy modules	**Goal III.7: Foster Energy Independence** **KPI:** Total installed solar capacity
5.8% diverted from landfill via compost and recycling	Increase diversion rate	**Goal IV.8: Increase Diversion Rates within the City** **KPI:** Total waste diversion community-wide
1.35 tons per capita per year	Reduce annual waste inflow at landfill	**Goal IV.9: Reduce Waste to Landfill via a Circular Economy** **KPI:** Total landfill waste per capita
69 gallons per day per capita	Reduce by 1.4% per year in alignment with the Regional Water Efficiency Plan	**Goal V.10: Increase Water Conservation Education and Awareness** **KPI:** Indoor and outdoor water consumption
34 gallons of outdoor water consumption per capita per day in the summer months	Reduce summer outdoor water consumption	**Goal V.11: Reduce Water Consumption from Landscape and Irrigation** **KPI:** Outdoor water consumption
Adopted Plan and baseline measures	Refresh the Implementation Priorities Matrices	**Goal VI.12: Integrate Sustainability Practices into City Leadership Efforts** **KPI:** Annual updates of the Implementation Priorities Matrices

The KPIs and SPMs identified in the Plan have been established by the City or a partner organization. Where KPIs or SPMs have not yet been established, directional targets (such as increase or decrease) are proposed. The City will evaluate and establish specific KPIs or SPMs when possible as the Plan implementation cycle moves forward and baselines and trends can be established.

Image Credit: Facilitron
Aerial View of Downtown Grand Junction

2 Current Understanding

Chapter 2 presents the community context that informed this Plan's Goals and Strategies. This chapter includes:

- **Community Context:** Key facts about the Grand Junction community composition. This is followed by a summary of how community members defined *sustainability* for Grand Junction.
- **Previous Efforts:** A description of previous City efforts that serve as a foundation for this Plan.
- **Community Engagement:** A review of the methods and feedback that informed this process.

COMMUNITY CONTEXT

Who is the Grand Junction Community?

69,412 population

159,681 people live in Mesa County
5,877,610 people live in Colorado

(Source: V2023 U.S. Census Bureau QuickFacts: Mesa County, Colorado; Grand Junction city, Colorado)

1.32%

annual population growth rate from 2010-2023

↑ Higher than Mesa County (0.65%)
↓ but similar to Colorado (1.21%)

(Source: V2023 U.S. Census Bureau QuickFacts: Mesa County, Colorado; Grand Junction city, Colorado)

$62,933

median household income

↓ Lower than both Mesa County ($68,677) and Colorado ($87,598)

(Source: V2023 U.S. Census Bureau QuickFacts: Mesa County, Colorado; Grand Junction city, Colorado)

2.24

people per household

↓ Mesa County has 2.4 people/household
↓ Colorado has 2.49 people/household

(Source: US Census Bureau, 2010-2023 American Community Survey, ESRI)

35.2%

have a bachelor's degree

92.6%

have a high school diploma

(Source: 2022 American Community Survey)

KEY UNDERSTANDING:

The number of Grand Junction residents continues to increase
(Source: US Census Bureau, 2010-2023 American Community Survey, ESRI)

The daytime population of Grand Junction increases to 73,895 people during the weekday due to inbound commuters
(Source: LEED for Citites 2021)

12.6% of Grand Junction households have incomes below the national poverty threshold
(Source: US Census Bureau, 2023 American Community Survey, ESRI)

Figure 5: *Community Demographics*

The Importance of Equity to Sustainability

We began the planning process by asking the community what the terms *sustainability* and *resilience* mean for Grand Junction. We heard that adaptability to changing environmental and social conditions is critical for the longevity of the community. Community members also expressed a desire to maintain affordability, manage local resources, improve health, and achieve a high quality of life. The word cloud figure below includes additional words or short phrases provided by community members to describe these terms.

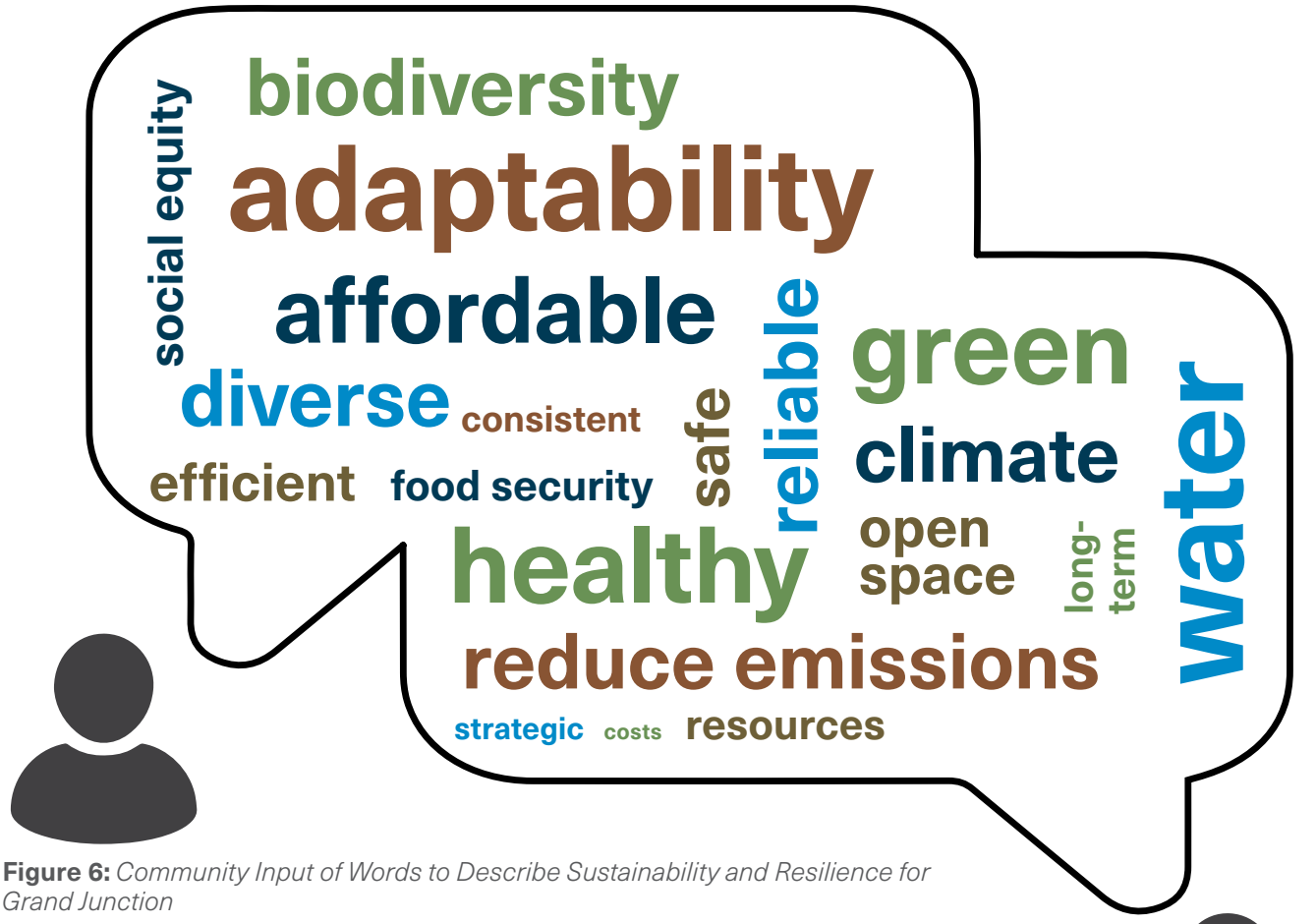


Figure 6: *Community Input of Words to Describe Sustainability and Resilience for Grand Junction*

Equity in social, environmental, and economic systems is vital for effective sustainability and adaptation efforts. It recognizes that the impacts of environmental issues disproportionately and negatively affect marginalized and vulnerable communities, such as low-income populations, indigenous people, people of color, and individuals with disabilities. These communities often face greater exposure to environmental hazards, have limited resources to mitigate risks, and experience barriers to accessing essential services and support. Achieving equity requires that we ensure these communities have a voice in decision-making processes and access to necessary resources, which will facilitate a more equitable distribution of benefits and burdens. Social, environmental, and economic equity are often interrelated or inextricable when creating inclusive solutions for sustainability and adaptation that address the needs of all people.

PREVIOUS EFFORTS

The City of Grand Junction has taken tangible steps to become a more sustainable city. The plans and efforts described below set a strong foundation to build upon.

2018

Waste Diversion Efforts

Since 2018, waste diversion efforts in the City and County have increased recycling by 75% and composting by 5%. *(Source: GHG Inventory Report and Results, City of Grand Junction)*

"Dual-stream recycling was introduced in 2023 and is set to expand across the city. It includes a choice of sizes for landfill waste, with smaller containers costing less, and two separate recycling bins for containers and fiber products at no additional cost. Recycling in this program is picked up twice per month. The multi-stream recycling program, which was only picked up once per month, is being phased out." *(Source: Beck, Kym. Waste Management for Grand Junction. 24 Aug. 2023)*

2024

LEED for Cities Silver

Grand Junction was awarded LEED for Cities Silver certification after winning grant funding and technical assistance to participate in the LEED for Cities Leadership Program.

2023

Grand Junction Regional Water Efficiency Plan

Following the 2012 Grand Valley Regional Water Conservation Plan, the Grand Junction Regional Water Efficiency Plan outlines Grand Junction's efforts to reduce water system losses, initiate a graywater program, and improve irrigation systems. The DRIP program provided a water conservation campaign including educational materials and resources for the community. These recent efforts have reduced residential sector water demand by 1.4% annually.

Figure 7: *Existing Plans Diagram*

2022

City of Grand Junction Community Greenhouse Gas (GHG) Inventory and Recommendations Report and GHG Reduction Roadmap

The State Climate Action Plan calls for the reduction of statewide GHG pollution by 90% by 2050.

The City has launched several initiatives to reduce GHG emissions via energy procurement and production. The City subscribes to three solar farms to help offset the electricity usage at different facilities and produces on-site solar-generated electricity at six different facilities. The City and Grand Valley Transit have also transitioned many of their vehicles to be powered by Compressed Natural Gas (CNG) some of which comes from bioCNG from the Persigo Wastewater Treatment Facility.

2023

Grand Junction Pedestrian and Bicycle Plan

Adopted in May 2023, this plan identifies investments and strategies to achieve the vision of Grand Junction as a city where people of all ages and abilities can safely and conveniently walk, roll, and bike on a connected network of well-maintained infrastructure for transportation or recreation.

2023

Grand Junction Electric Vehicle Readiness Plan

Adopted in 2023, the Electric Vehicle plan stresses the importance of Grand Junction to the I-70 corridor and the role of equitable electric mobility in the future.

2023

Urban Forestry Management Plan

As of 2019, tree canopy covered about 13% of the city, mostly in single-family neighborhoods.

The plan seeks to diversify the tree canopy, using drought-tolerant species, and address damage from tree-boring insects.

COMMUNITY ENGAGEMENT

Development of the Plan has been a process of deep listening and seeking innovative solutions to address issues facing the community. Community members and stakeholders provided insight into how to tailor this Plan to fit the needs and values of the Grand Junction community. Hearing from diverse perspectives, including youth and other traditionally underrepresented populations, was critical for creating an equitable plan. To garner community input, focus groups, open houses, pop-up events, and roadshow presentations were held throughout the process (Figure 8). Stakeholders shaped Plan Goals and Strategies through meetings with the Community Steering Committee and Technical Working Groups. City Council was engaged at key milestones. Virtual engagement was also encouraged via the City's Engage GJ webpage.

Community engagement aimed to meet a diversity of residents.

Engagement Process

ENGAGEMENT WINDOW #1: INITIATE & DESCRIBE

- Focus Group Listening Sessions
- Community Conversations at Pop-Up Events
- Steering Committee Meeting #1
- Community Roadshows
- Council and Planning Commission Presentation

ENGAGEMENT WINDOW #2: EVALUATE AND TARGET

- Steering Committee Meeting #2
- Community Open House
- Technical Working Groups/Steering Committee Meeting #3
- Community Roadshows
- Council Presentation

ENGAGEMENT WINDOW #3: PRIORITIZE, IMPLEMENT, & COMMUNICATE

- Implementation Workshops/Steering Committee Meeting #4
- Community Open House
- Council Presentation

Figure 8: *Engagement Process*

118 Pop-up Event Participants

Pop-up events took place at the farmers market, school events, and library events in the summer of 2023. These were important to meet the community where they are and engage a broad spectrum of participants.

63 Focus Groups Participants

The team conducted 11 focus group sessions in July, 2023. More than 100 topical experts and local representatives were invited to share their insights and perspectives.

335 Community Roadshow Participants

From January to April 2024, staff presented to over 18 organizations at community roadshows. Attendees gave feedback on Focus Areas, Goals, and Strategies.

Who did we hear from?

672

Community Members

70 Open House Participants

A community open house took place at the Lincoln Park Barn in November, 2023. This event included four stations for attendees to talk with the project team and share their suggestions for Plan Strategies. A second community open house took place on Earth Day in April, 2024 to share the Public Review Draft Plan.

20 Steering Committee Members

A City Council-approved Community Steering Committee provided input at four meetings to inform the direction of this Plan.

66 Technical Working Groups Participants

Five Technical Working Group meetings took place in January, 2024. Participants were asked to review, revise, add, or remove Goals and Strategies and identify where the City should focus action. The Technical Working Groups met again in March, 2024 for implementation workshops to refine the Priority Actions.

Figure 9: *Engagement Summary*

COMMUNITY ENGAGEMENT

"...to have resources for the future."

- Community Comment from Farmers Market Pop-Up Event in response to "Why is Sustainabilty and Resilience Important?"

"…. to ensure that Grand Junction thrives and make sure that Grand Junction is healthy."

- Student Comment R5 Pop-Up Event in response to "Why is Sustainabilty and Resilience Important?"

Farmers Market Pop-Up Event, Sept. 7, 2023.

Pop-Up Events

Method: In-person engagement activities were conducted at five community event booths. Community members with diverse interests shaped the Plan via interactions with tabling events to identify issues and share opportunities. Input was collected from 118 participants of various ages, neighborhoods, and interests. Participants were asked about hopes and dreams for the future of their community. These answers provided insights into what the community would like the Plan to address.

Understanding: When asked to define what sustainabilty and resilience mean to the community, common responses included adaptability and equity. Water conservation, energy stewardship, waste management, and hazard resilience ranked highest among participant priorities. Additional topics identified as important by the community included food access, affordable and safe housing, and flexibility to adapt to changing social and environmental conditions.

Focus Groups

Method: Focus group meetings devoted time to discussion and listening early in the Plan creation process. In all, more than 60 participants attended one of the eleven sessions, including City of Grand Junction staff and subject matter experts. The objectives were to gain a better understanding of concerns and opportunities as well as gather input about what is working and what improvements are desired.

Understanding: Figure 10 indicates water conservation was the most common concern of the participants. The region's scarce precipitation and recent drought and temperature changes have raised awareness of

the importance of conserving water. Participants pointed out the importance of water to public health, the local economy, and quality of open spaces. Additionally, energy was identified as a topic of high priority with attention to building practices that are reliable and affordable. Other focus group suggestions included education and programs to get involved and promote sustainable lifestyle choices for residents, especially around transportation alternatives, recycling, and composting.

Community Roadshows

Method: The Community Roadshows convened a wide variety of local organizations to build awareness. City staff presented the draft Focus Areas of the Plan and examples of relevant Strategies. Following the presentation, staff provided business cards containing a QR code for attendees to submit feedback and ideas online.

Understanding: Roadshow participants' feedback was requested to offer suggestions and voice concerns early in the Plan's development, when the Strategies were still flexible and input could be easily incorporated. The input received aligned with feedback from the other engagement methods.

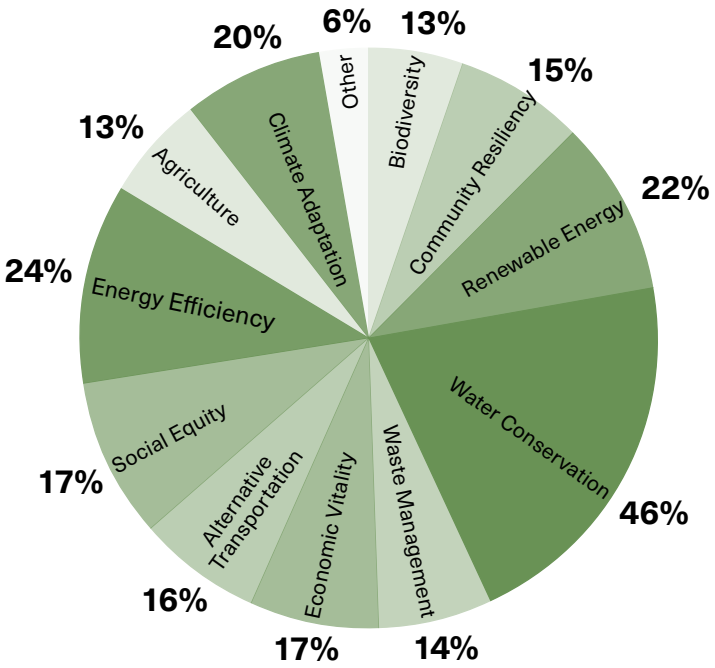


Figure 10: *This graph displays a composite of the focus group participants' prioritization of topics for the Plan. Water conservation, energy, and climate adaptation were the most selected by Focus Group participants.*

Community Roadshow Event, 2023 and 2024

COMMUNITY ENGAGEMENT

"We need more protected bike lanes through the City."

- Community Comment from Community Open House

Community Open House

Method: On November 16th, 45 participants attended a community open house. Participants learned about the Plan process and baseline conditions, and suggested ideas for projects and actions. Community participants demonstrated their preferences, priorities, and desired actions by placing dots and posting sticky note comments on information boards. A follow up open house took place on April 21, 2024 with 25 participants in attendance.

Understanding: The open house revealed a strong desire from the community to support sustainable activities, both by individual community members and by the City. Popular ideas included native and drought-tolerant landscaping, efficiency in irrigation, and alternatives to lawns. Education and programs were suggested regarding recycling and composting, improved home appliance efficiency, and opportunities for solar energy at the residential scale. Support was also expressed for increased density to address housing affordability and streetscape improvements that promote walking and biking. This feedback informed the development of the Plan Strategies.

"There's a lot of food waste. Grand Junction needs to promote home composting."

- Community Comment from Community Open House

"Encourage native plants in all landscaping, not just xeriscaping."

- Community Comment from Community Open House

Community Open House Event, Nov. 16, 2023.

Community Steering Committee

Method: The Steering Committee was selected by staff and approved by City Council, which includes representatives from local organizations such as conservation groups and local businesses. The Steering Committee met five times throughout the process to guide and direct the Focus Areas, provide input on Goals, and prioritize Strategies.

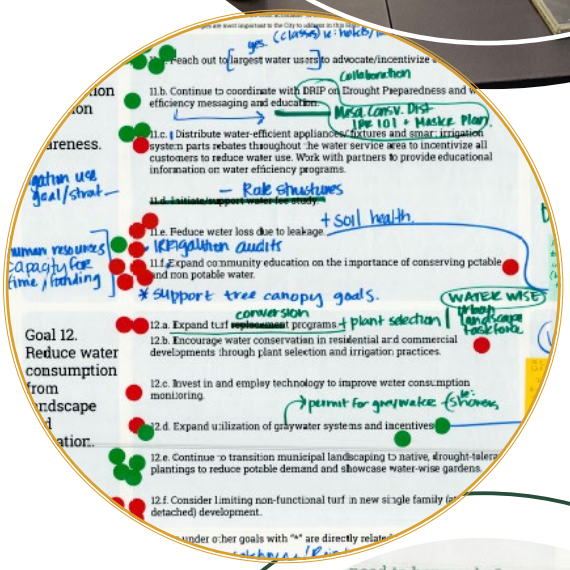
Understanding: The Steering Committee offered guidance to directly inform the development of a Plan that is representative of the Grand Junction community.

Technical Working Groups

Method: The Technical Working Groups included representatives from City staff and local agencies such as water districts, utility providers, developers, and non-profit organizations. Throughout one day, over 60 participants, including Community Steering Committee members, provided in-depth discussion and refinement of draft Goals and Strategies.

Understanding: These conversations were an opportunity for subject experts to converse on what is working, where to make improvements, prioritize future actions, and identify resources and partnerships for implementation.

The group reconvened for an implementation workshop in March to discuss how feedback was incorporated and refine the Priority Actions found in Chapter 4.



Technical Working Groups, Jan.18, 2024.

Image Credit: City of Grand Junction
Community Engagement Farmers Market Pop-Up Event

3 Goals and Strategies

Chapter 3 provides a long-term vision regarding sustainability and adaptation in Grand Junction. This chapter includes:

- **Focus Areas:** The six Focus Areas are Built Environment, Climate Resilience, Energy Stewardship, Waste Management, Water Conservation, and City Leadership. The Focus Areas provide the structure for this Chapter.
- **Goals**: Delineate the objective within each Focus Area to provide a clear purpose.
- **Strategies:** Potential pathways to achieving these Goals are suggested through Strategies. Strategies are tactics or broad approaches for how to achieve the Goals over the next decade.

The Focus Areas, Goals, and Strategies were developed from community feedback, analysis, focus group conversations, Technical Working Groups, and Community Steering Committee direction.

INTRODUCTION TO GOALS AND STRATEGIES

Each of the six Focus Areas include content organized as shown in Figure 11. The Focus Areas are framed with aspirational statements, background information, and current measures. The twelve Goals and their supporting Strategies are the heart of the Plan. Progress towards the Goals is measured through the provided Key Performance Indicators (KPI).

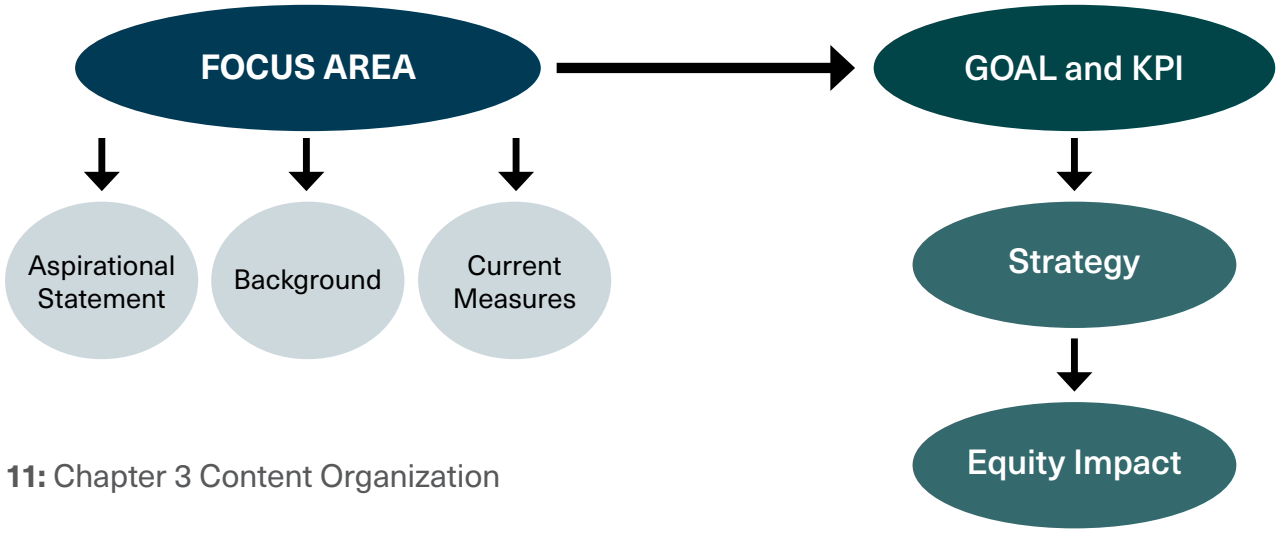
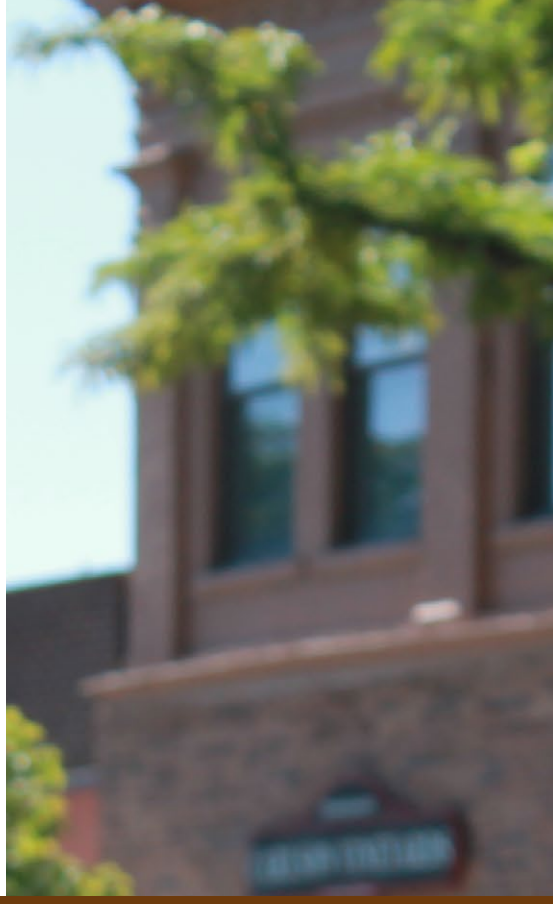


Figure 11: Chapter 3 Content Organization

- Each goal includes a Key Performance Indicator (KPI) and a directional target for how to measure success.
- Where applicable, equity impacts are described for consideration.
- Strategies with an asterisk (*) highlight a direct relationship to greenhouse gas (GHG) emissions reduction.
- Order/numbering of Strategies and/or Priority Actions does not indicate the order of importance.

FOCUS AREA I



Built Environment

Built Environment targets community design that enables sustainable, efficient, and accessible transportation, housing, goods and services to meet Grand Junction's specific needs while protecting natural resources.

Aspirational Statement

We aim to be a more responsible and sustainable community by transforming the design of our built environment to fit the needs of all community members and improve community health. We promote responsible public investment in the development of safe and connected facilities to encourage multiple modes of transportation and reduce vehicle miles traveled. We encourage innovative site design that promotes efficient use of land and protection of the natural environment.

Image Credit: City of Grand Junction
Downtown Grand Junction

BUILT ENVIRONMENT

BACKGROUND

The built environment addresses the physical attributes of a city, interwoven with environmental, social, and economic principles. Urban design and expanded multimodal transportation choices contribute to enhanced safety and decreased emissions. Building design and development patterns have implications for urban heat island effect and vehicle miles traveled (VMT). These are some of the built environment considerations to foster a vibrant community with a high quality of life for everyone.

A mix of uses and infill development support sustainable lifestyle choices for community members. By increasing housing choices, multimodal transportation options, and the integration of nature into public spaces, the built environment becomes more welcoming. The One Grand Junction Comprehensive Plan identifies three tiers to direct planning decisions, the first of which is Tier 1, focused on infill development.

The sprawling nature of Grand Junction has evolved to support a car culture. Walk Score ratings extend from zero (completely car dependent) to 100 (daily errands do not require a car); Grand Junction's current Walk Score® of 32 falls into the 25-49 range of a car-dependent community. The Greenhouse Gas (GHG) Inventory and Recommendations Report indicates that vehicle exhaust is one of the largest contributors to air pollution in the region. Improvements to biking and walking infrastructure promotes alternative transportation and improved quality of life. A stronger emphasis on pedestrian design can help reduce car use, encourage more person-to-person connections, and mitigate air pollution.

Trees and vegetation provide multifaceted benefits to human health and the environment. This includes improving air quality and moderating effects of sun, rain, and wind. The current urban tree canopy is concentrated in the core of the city, with lower-income and peripheral areas having less access to shade and other benefits that a healthy tree canopy provides.

Definitions

Road Diets:
Reallocation of space on existing roadways to improve safety, accommodate multiple modes of transportation, enhance the livability of communities, and promote active transportation. Typically involves reducing the number of travel lanes, narrowing lanes, adding or enhancing bicycle lanes or facilities, and/or implementing traffic calming measures.

LEED BASELINE (2021)

25.7 Vehicle Miles Traveled (VMT)

Miles per day per capita travelled in 2021.

VMT is a measure used to quantify the total distance traveled by all vehicles within a specific geographic area.

Definitions

Modal Filter:
Traffic management measures used in urban areas to restrict vehicle access to improve passage for pedestrians, cyclists, and emergency vehicles.

Mode Share:
Percentage distribution of trips or journeys made by different modes of transportation, such as walking, cycling, driving, public transit, or other means.

Current Measures

The 2023 Urban Forestry Management Plan aims for an 18% increase to tree canopy cover by 2030.

(Source: City of Grand Junction Urban Forestry Management Plan)

LAND

5.2% of the City area is categorized as public land. There are over 1.2 million acres of public land in the surrounding region.

The City manages 35 developed parks, and 56% of residents live within a 10-minute walk of a park.

(Source: City of Grand Junction Parks and Recreation Master Plan)

TRANSPORTATION BEHAVIORS

36% of county residents commute into Grand Junction, which increases the daytime population by **32%.**

92.5% of residents use automobiles, **6.1%** residents walk, and **1.4%** residents use bicycles as their primary mode of transportation.

(Source: City of Grand Junction's Environmental Insights Explorer)

TRANSPORTATION EMISSIONS

Transportation emissions are one of the largest sources of GHG emissions. On-road vehicle use of fossil fuels contributes to **32-34%** of GHG emissions.

(Source: City of Grand Junction Greenhouse Gas Inventory Results & Recommendations Report)

Goal I.1:
Balance Transportation Mode Share for Local Trips

Key Performance Indicators:	Measure:	Directional Target:	Baseline:
Automobile, pedestrian, and bicycle travel Transit trips	Percent of in-boundary trips taken by automobile, pedestrian, or bicycle Unlinked passenger bus trips	Increase share of pedestrian and bicycle trips for local travel Increase number of unlinked passenger bus trips	92.5% Automobile use 6.1% Pedestrian 1.4% Bicycle In 2023 there were 580,236 unlinked passenger bus trips

Source: City of Grand Junction's Environmental Insights Explorer/ Source: Transit Planner for the Regional Transportation Planning Office of Mesa County

Strategy I.1.a. *Build safe and comfortable pedestrian and bicycle infrastructure, including intersections, transit stops, and connectivity for pedestrians and cyclists. Prioritize protected walking and biking paths to serve people without access or who choose not to use motorized vehicles.

- Equity Impacts: Increases mobility in the community without requiring access to a motor vehicle.

Strategy I.1.b. Repurpose Grand Junction's vehicular network. Where possible, consider mechanisms such as road diets, modal filters, expanded paid parking hours, and repurposing underutilized street parking.

- Equity Impacts: Steering public investment away from car traffic and towards walking, biking, and buses.

Strategy I.1.c. Maximize motorized transportation investments by prioritizing maintenance of existing infrastructure.

Strategy I.1.d. *Partner with Mesa County, and other agencies, to establish enduring revenue streams to enhance the level of operating service of Grand Valley Transit.

- Equity Impacts: Increases mobility in the community without requiring access to a motor vehicle.

Strategy I.1.e. Partner with Grand Valley Transit to improve the ridership experience with modernized transit infrastructure and the expansion of pilot programs. Integrate first and last mile connections such as bikeshare programs.

- Equity Impacts: Empowers bus riders and enhances the dignity and predictability of public transportation.

Strategy I.1.f. Develop appropriate services to increase transportation mode options along active transportation corridors. This may include vehicle-share programs, universal accessibility adaptations, on-demand transport infrastructure, and safety services.

- Equity Impacts: Increases accessibility, safety, and peace of mind for human scale travel.

Strategy I.1.g. *Partner with private sector to incentivize active commuting, carpooling, and/or carshare programs.

Strategy I.1.h. Strengthen relationships with surrounding jurisdictions and transportation partners to expedite planned connectivity and mobility improvements.

Goal I.2:

Encourage Innovative Site Design to Foster the Coexistence of Urban and Natural Environments

Key Performance Indicators:	Measure:	Directional Target:	Baseline:
Access to services, amenities, and green spaces, especially by foot and bike	Walk Score® Bike Score®	Increase Walk Score® and Bike Score® to ensure adequate and equitable access for all users who walk, roll, and/or cycle	Walk Score® = 32 Bike Score® = 55

Source: Walkscore.com

Strategy I.2.a. *Encourage transit-oriented development through design overlays around transit hubs and establish transit corridors. Consider parking maximums and expanded sidewalk/trail connectivity requirements for infill development.

- Equity Impacts: Promotes highest-use development adjacent to transit hubs and improves opportunities for car-light living.

Strategy I.2.b. *Implement policies that encourage proximal access to essential services from residential parcels. Consider development incentives for strong community connections and promoting compact development.

- Equity Impacts: Provides increased access to essential services for all populations.

Strategy I.2.c. Provide incentives including expedited review of permitting processes, and/or positive publicity to buildings achieving sustainable/green certification, or other desired measures.

- Equity Impacts: Reduces long-term operating costs and potentially reduces exposure to environmental toxins.

Strategy I.2.d. Protect and preserve existing tree canopy and recover lost canopy through the planting of adaptive and climate-appropriate trees for shading, targeting census blocks below target canopy cover goals and underserved areas. Ensure a balance between maintaining healthy trees to reduce heat islands and lowering water use.

- Equity Impacts: Improves quality of life and provides public health benefits.

Strategy I.2.e. Encourage policy discussions around impact fee incentives for sustainable development approaches.

Strategy I.2.f. Create a toolkit to educate and incentivize regionally appropriate green infrastructure including relevant new technologies.

- Equity Impacts: Reduces the risk of flood damage, erosion, and water contamination. Supports ground/surface water recharge and natural water filtration. Both the harm of unmanaged stormwater and the benefits of properly managed stormwater impact all community members.

Strategy I.2.g. Support existing development standards that protect and avoid diminishment of wildlife habitat, vegetation, water, natural land, vistas, and minerals.

Strategy I.2.h. Increase water quality monitoring in local bodies of water for pollutants of concern. Proactively address changes in water quality through management and development of best practices.

- Equity Impacts: Ensures proper water quality in water bodies that may be primary sources of water for individuals.

Strategy I.2.i. Conduct a feasibility assessment of connection to recycled, raw, or ditch water for City parks currently using potable water.

Strategy I.2.j. Update lighting standards for parks and streets in the Zoning and Development Code and the Transportation and Engineering Design Standards (TEDS). Obtain Dark Sky Certification and ensure lighting is adequate for safety where needed.

Strategy I.2.k Ensure that riverfront and riparian areas are properly maintained. Establish protocols to decrease waste in ecologically sensitive areas, including the Colorado River.

Goal I.3:
Improve Community Access to Food

Key Performance Indicators:	Measure:	Directional Target:	Baseline:
Grand Junction population residing in food deserts	Number of census tracts defined as USDA Food Deserts	Ensure all City residences are within one mile of a grocer, market, or reliable food source, including fresh produce	Six census tracts identified as food deserts as of the most recent data set (2019)

Source: USDA Food Atlas

Strategy I.3.a. Improve education about urban agriculture and evaluate polices for reducing barriers to implementing urban agriculture.

Strategy I.3.b. Collaborate with partners to explore opportunities to expand markets for local food producers and increase access to local food options in the community.

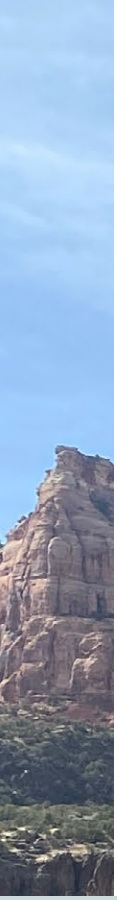
Strategy I.3.c. Work to eliminate existing food deserts.

- Equity Impacts: Reduces disproportionate impacts to low-income and vulnerable populations.

Strategy I.3.d. Encourage sustainable urban agriculture best practices.

Strategy I.3.e. Promote the creation of community gardens in residential areas, especially subdivisions.

FOCUS AREA II



Climate Resilience

Climate Resilience is the ability to prepare for, recover from, and adapt to change. It involves mitigating environmental stresses such as rising temperatures, changing precipitation patterns, and increasing frequency of extreme weather events as well as preparing for social disruptions such as disease and economic shifts.

Aspirational Statement

We aspire to build a more resilient community by employing strategies to mitigate current environmental and social hazards exacerbated by climate change while strengthening community preparedness for future hazards. With robust planning, monitoring, and response implemented alongside proven emissions reduction strategies, our community will be prepared to respond and adapt to climate impacts.

Image Credit: City of Grand Junction Colorado National Monument

CLIMATE RESILIENCE

BACKGROUND

Planning for the future requires both climate mitigation and adaptation. Grand Junction faces acute and chronic environmental stresses such as drought, floods, heat waves, high winds, and wildfires, which have significant economic, social, and environmental repercussions. Changing climate conditions and extreme weather events will impact critical infrastructure including roads, bridges, dams, and railways. Preventing, mitigating, and planning for catastrophic failures is important to preserve human life and maintain city functions. Mitigating risks minimizes the overall financial impact and can save lives in the case of an emergency.

The trend of increased average daily temperatures in the region exacerbates drought conditions and potential wildfires. The associated risks can lead to reduced air quality by increasing particulate matter (PM) from desert dust, wildfire smoke, and inversions. While aiming for a trend of good air quality over time, wildfires and inversions create outliers and may establish new norms in the data that the City does not have direct control over. An anticipated increase in the number and duration of high heat days can put people at greater risk during the summer heat. Vulnerable groups most at-risk to heat include people experiencing homelessness, those with pre-existing health conditions, youth, elderly, and low-income persons.

Exposure to natural hazards such as extreme weather and flooding can exacerbate environmental challenges and need to be factored into community resilience. A community that has plans and provisions in place is better able to withstand and recover from economic fluctuations, social disruptions, and other community crises.

LEED BASELINE (2021)

44 Median AQI

From 2019-2024, Grand Junction air quality has been at the high end of the 'good' range.

The Air Quality Index (AQI) indicates the level of air pollution and health concern. Grand Junction AQI has been stable over the last five years, ranging from 43-46. An AQI score of 0-50 is considered 'good'; higher scores indicate increased levels of health concern.

Definitions

Air Quality Index (AQI):

A numerical scale used to communicate the quality of outdoor air and its potential health effects to the public.

Current Measures

HEAT RISK

Grand Junction experienced **43 days above 95 ºF** in 2023.

Grand Junction experienced **74 days above 90 ºF** in 2023.

(Source: https://mesonet.agron.iastate.edu/sites/hist.phtml?station=GJT&network=CO_ASOS&year=2013&month=8)

WILDFIRE RISK

Area burned each year is projected to increase by 50-200% in Colorado by 2050 according to the 2017 Forest Management to Protect Colorado's Water Resources report.

(Source: Colorado Water Conservation Board)

POTENTIAL FLOOD DAMAGE COSTS

$42 MILLION
in Residential Assets at Risk

$11.5 MILLION
in Industrial Assets at Risk

$27 MILLION in Commercial Assets at Risk

(Source: Grand Junction Asset Inventory - Wildfires, Mesa County Hazards Mitigation Plan)

AIR QUALITY

RANKED 12th
for the cleanest US City in 2023 for particulate matter pollution.

30+ PurpleAir monitors are currently tracking particulate matter (PM).

(Source: "Cleanest Cities: State of the Air" by the American Lung Association)

Goal II.4:
Build Redundancy to Mitigate and Adapt to Natural and Social Hazards

Key Performance Indicators:	Measure:	Directional Target:	Baseline:
Inventory of community resiliency capabilities	Complete inventory in 2024	Complete inventory then share and maintain updated inventory	Inventory complete for City facilities per LEED for Cities

Source: City of Grand Junction, City facilities per LEED

Strategy II.4.a. Integrate climate-related hazards into existing emergency response plans and/or efforts.

- Equity Impacts: Protects all community members with climate and disaster readiness.

Strategy II.4.b. Work with Mesa County on implementation and updates to the 2020 Hazard Mitigation Plan.

- Equity Impacts: Addresses the disproportionate impacts of hazard events on people with low incomes and/or experiencing homelessness and provides recovery resources.

Strategy II.4.c. Conduct a vulnerability and capacity assessment for climate change risks, natural and man-made hazards, and extreme weather events per LEED for Cities.

- Equity Impacts: Helps spotlight hazards and risks which impact at-risk populations and can lead to more equitable distribution of resources and opportunities.

Strategy II.4.d. Support Wildland Urban Interface (WUI) wildfire mitigation efforts in impacted portions of the City.

- Equity Impacts: Reduces the financial burden on residents to invest in mitigation efforts to prevent wildfire damage.

Strategy II.4.e. Expand the adoption of broadcast systems to warn the public about natural hazards and available resources.

Strategy II.4.f. Develop equitable heat response plans including cooling centers and hydration centers in resilience hubs.

- Equity Impacts: Ensures access to resources for community members with inadequate access to safe and cool environments, which are critical during extreme heat events.

Strategy II.4.g. Identify and conduct an inventory of backup power sources for City facilities and fleet; this may include battery storage, fuel, and microgrids that can supply emergency energy needs. Support essential industries and/or institutions to do the same.

Strategy II.4.h. Upgrade infrastructure to be weather-resilient using industry standards and best practices.

Strategy II.4.i. Promote household-level emergency preparedness through multi-lingual community outreach programs, emergency kits, resilient social networks, and disaster planning and recovery programs.

- Equity Impacts: Alerts and prepares all populations for emergency situations.

Strategy II.4.j. Strengthen partnerships with regional providers to coordinate emergency response procedures and resources. Add climate preparedness elements to community programs already aimed at vulnerable populations and low-income households. Dedicate increased funding to accommodate demand for public health services among at-risk populations in partnership with Mesa County.

Strategy II.4.k. Establish a protocol(s) for assisting vulnerable populations, including low-income populations, communities of color, older adults, and people with disabilities that may face financial strain caused by climate hazards, such as higher utility bills.

- Equity Impacts: Improves the resilience of all community members.

Goal II.5:
Maintain Current Air Quality Levels

Key Performance Indicators:	Measure:	Directional Target:	Baseline:
Air quality	Annual median AQI	Aim for more days in the year to fall within the *good* AQI category (0-50 AQI)	Median AQI 44

Source: www.airnow.gov (US EPA)

Strategy II.5.a. Investigate and incentivize air quality technologies to implement in preparation of unhealthy air days.

- Equity Impacts: Improves air quality for all. This is an important benefit for those unable to stay indoors on unhealthy air days.

Strategy II.5.b. Expand outdoor air quality monitoring through state and regional partnerships, including monitoring and collection of actionable data.

- Equity Impacts: Allows for more equitable participation beyond EPA monitors and can target underserved or vulnerable areas.

Strategy II.5.c. Track and report biannual greenhouse gas emissions per capita.

Strategy II.5.d. Expand educational programs to support clean air including actions that minimize health-related and environmental impacts from different pollution sources to use on days with inversions and agricultural burning. Alternative actions may include travel advisories, limiting wood burning, and avoiding outdoor activities.

Strategy II.5.e. Explore partnerships and/or regulations to implement more stringent vehicle emission standards.

Strategy II.5.f. Compare social equity data with air quality data to inform decisionmaking relating to implementing air quality improvement actions.

Strategy II.5.g. Create an anti-idling policy.

FOCUS AREA III

Energy Stewardship

Energy Stewardship entails improving energy efficiency, reducing overall energy consumption, and reducing energy-related pollution and GHG emissions. Renewable energy refers to energy derived from naturally occurring, replenishable sources that are essentially inexhaustible over time, whereas energy efficiency involves reducing energy usage and cost.

Aspirational Statement

We aspire to develop programs and policies that drive meaningful reductions in energy consumption among businesses and residents, support the diversification of energy sources to build redundancy in the power system, and identify opportunities to expand clean energy options.

Image Credit: City of Grand Junction
The Grand Mesa

ENERGY STEWARDSHIP

BACKGROUND

The energy industry has played a significant role in the history of Grand Junction's economic development. The energy industry supports the economy by providing jobs which increases demand for housing supply, and impacts both the environment and transportation infrastructure. A combination of mineral resources and clean energy resources position Grand Junction well for producing energy from a diversity of sources including renewable natural gas (biogas), solar power, and alternative fuels such as hydrogen and geothermal. Opting for clean fuel sources decreases emissions, improves air quality, and reduces greenhouse gas emissions. Regardless of the fuel type, reducing overall energy consumption is a resource-saving measure.

Electricity in the City is commercially supplied by Xcel Energy and Grand Valley Power. Xcel Energy and others provide natural gas and propane. State programs such as the Colorado Renewable Energy Standard (RES) and Clean Air - Clean Jobs Act (passed as House Bill 1365 in 2010), are driving the change in viable energy options. This Bill requires Xcel Energy to increase efficiency and process increased amounts of low to zero-carbon energy to meet a goal of 80% reduction in greenhouse gas (GHG) emissions by 2030.

Energy stewardship in buildings entails design and operations to reduce energy consumption and reduce utility costs. This may include building features such as solar orientation, smart thermostats, insulation, air sealing, and energy-efficient windows to reduce heating and cooling demands.

Fossil fuel production and use has been a mainstay of the Western Colorado economy for many decades, providing reliable and affordable energy and jobs for Grand Junction and surrounding communities. During the last decade, the energy economy of Colorado has begun a transition as renewable energy has become more affordable and concerns regarding climate change have caused our community to take steps to reduce GHG emissions. As the economic impacts of energy transition are felt, steps must be taken to ensure that decent, well-paying jobs are available, and that the energy that drives our economy remains reliable, clean, and affordable for all members of our community.

Natural gas production and use is an important part of the Grand Junction's energy economy. Today, most of Colorado's natural gas is produced east of the Continental Divide, but it is still important as it supplies jobs and energy to our growing city. It is the cleanest of all fossil fuels and generates important tax revenues, but climate concerns are demanding more from natural gas producers and consumers. Colorado has some of the strictest regulations on emissions of GHGs during production and transport of natural gas, but burning the fuel still produces the most important GHG, carbon dioxide. Over 30 percent of Colorado's electricity is fueled by natural gas. In the coming years, sequestration of carbon dioxide will be required to further reduce emissions from natural gas use and this will create jobs for the Grand Junction economy and ensure that its continued use will meet our sustainability goals.

LEED BASELINE (2021)

13.1 Metric Tons of CO_2e per Capita
Annually in 2021

Greenhouse gas (GHG) emissions include carbon dioxide (CO_2) and other gas produced from burning fossil fuels for electricity, heat, and transportation. This traps heat in the atmosphere and contributes to warming global temperatures.

Definitions

CO_2:

Carbon dioxide, a primary greenhouse gas (GHG).

CO_2e:

Carbon Dioxide Equivalent includes all greenhouse gases, including CH_4 (methane) and N_2O (nitrous oxide) converted to the equivalent amount of carbon emissions using a global warming potential factor.

Current Measures

58-61% of GHG emissions in Grand Junction come from buildings.

(Source: City of Grand Junction Greenhouse Gas Inventory Results & Recommendations Report)

GHG EMISSIONS

32-34% of GHG emissions in Grand Junction come from on-road fossil fuels.

Natural gas use increased from 2018 to 2021 for both residential and commercial use, compared to electricity which has declined by 6%.

(Source: City of Grand Junction Greenhouse Gas Inventory Results & Recommendations Report)

SOLAR ENERGY

The City of Grand Junction has installed 5 on-site solar arrays on City facilities.

(Source: City of Grand Junction Greenhouse Gas Inventory Results & Recommendations Report)

OIL & GAS

Statewide oil and gas operations contribute to 16.1% of carbon emissions in Colorado.

**Note: All regional oil and gas companies operate within the current state (ECMC) and federal regulations for emissions. Colorado regulations are among the most stringent in the nation.*

(Source: Colorado Department of Public Health and Environment's GHG inventory Report, 2022)

Goal III.6:
Encourage Energy Efficiency in Buildings

Key Performance Indicators:	Measure:	Directional Target:	Baseline:
Total building-related GHG emissions per capita	Total building GHG emissions (metric tons of CO_2e) per capita	Reduce total building-related GHG emissions per capita	7.00 metric tons of CO_2e per year per capita

Source: City of Grand Junction GHG Inventory

Strategy III.6.a. Adopt regular updates to the International Energy Conservation Code (IECC). Strive to be current within three years of newest IECC code.

Strategy III.6.b. Collaborate with partners to conduct energy and building code-related training for implementing the IECC. Consider expanding education for builders, inspectors, and other key stakeholders.

- Equity Impacts: Energy-efficient buildings can reduce energy costs.

Strategy III.6.c. *Develop energy efficiency and resource conservation education and outreach programs for residents and businesses, including incentives for physical upgrades that reduce building emissions.

Strategy III.6.d. *Upgrade municipal buildings through retro-commissioning studies and deep efficiency retrofits to demonstrate leadership and feasibility.

Strategy III.6.e. *Offer incentives for electrified buildings, such as efficient building certification, expedited permitting and fee reduction, and energy financing programs to spur private sector adoption of IECC code.

Strategy III.6.f. Encourage high-efficiency standards for City-owned buildings.

Strategy III.6.g. Share educational resources with commercial and residential property owners and renters to help reduce energy consumption of buildings.

Goal III.7:
Foster Energy Independence

Key Performance Indicators:	Measure:	Directional Target:	Baseline:
Total installed solar capacity	Total rooftop solar energy capacity (kW) as reported by Xcel Energy	Install additional solar energy modules	Total rooftop solar capacity = 15,742 kW

Source: Xcel Energy

Strategy III.7.a. *Continue to invest in relevant and available clean technology, including solar arrays for City facilities.

Strategy III.7.b. *Identify additional community solar options.

- Equity Impacts: Enables individuals who do not have the means to install solar panels to benefit from solar energy by subscribing to shared solar projects.

Strategy III.7.c. *Promote solar co-ops that bulk purchase neighborhood solar panels.

- Equity Impacts: Democratizes energy access by allowing residents, particularly those in underserved or remote areas, to generate their own energy. Increases feasibility of residential solar community-wide and allows all community members to gain energy independence.

Strategy III.7.d. *Explore the purchase of certified natural gas for municipal facilities.

Strategy III.7.e. Ensure all Renewable Energy Certificates (RECs) are owned and retired as they are generated for City solar projects.

Strategy III.7.f. Support programs in research and development (R&D) and innovations in clean energy. Train local workers for jobs in clean energy project installation, maintenance, and power distribution. Collaborate with local schools and community organizations to support programs and training.

Strategy III.7.g. *Expand clean energy systems, including renewable natural gas generated from the wastewater treatment plant.

Strategy III.7.h. *Diversify the energy supply and reduce dependence on centralized fossil fuel generators for City facilities, including renewable power generation and storage for City-owned EV stations.

Strategy III.7.i. *Explore clean energy generation for City-owned and City-funded buildings.

Strategy III.7.j. Explore options for developing a trust or coalition for energy funding.

Strategy III.7.k. Support outcomes of the Electric Vehicle Readiness Plan.

FOCUS AREA IV

Waste Management

Waste Management considers the systematic planning, collection, diversion, recycling, and disposal of materials generated by residents, businesses, and industries to minimize negative environmental impacts, conserve resources, and ensure the City's ability to effectively manage waste streams.

Aspirational Statement

We aspire to maximize the use of industry best practices for waste reduction by expanding the accessibility of recycling and material diversion programs; driving community-wide education on ways to reduce, reuse, and recycle; and exploring innovative programs to recapture waste for beneficial use.

Image Credit: Grand Junction Sentinel

WASTE MANAGEMENT

BACKGROUND

Grand Junction operates a robust waste diversion program. Strong partnerships in the region support composting, recycling, and diversion initiatives. However, the City's relatively remote geographical location is a challenge. Improvements could serve as a catalyst for developing diversion resources that benefit the larger area of the western slope.

Grand Junction's waste and recycling are serviced by municipal and private haulers. The City runs both multi-stream and dual-stream recycling programs. The landfill, which is run by Mesa County, has a yard waste drop-off and an e-waste drop-off. The City is expanding curbside recycling options for residents and has been exploring additional programs for material streams such as pre-consumer food waste.

Waste management has a significant impact to the environment and both human and animal health. As the local landfill approaches capacity, it is environmentally important and cost-effective to implement strategies to reduce waste by diverting it.

A community commitment to diverting waste through recycling, reuse, and reduction of materials will preserve space in the landfill, save money, reduce greenhouse gas emissions, and preserve natural resources. Increasing diversions to different types of waste material streams improves the potential for more closed-loop solutions. For example, recovering building supplies, sorting waste streams for metals and parts, and increasing the use of local compost saves money and keeps resources local.

LEED BASELINE (2021)

1.35 Tons Per Capita
Related to annual Municipal Solid Waste (MSW) generated by weight.

5.8% Diversion Rate
The diversion rate is the total waste diverted from the landfill (including recycling and compost) divided by the total waste generated from the project and multiplied by 100.

Current Measures

Between 2018-2021 residents produced
11.2% less waste
***despite increased population growth*.**

(Source: City of Grand Junction Greenhouse Gas Inventory Results & Recommendations Report)

RECYCLE

75% **increase in total recycling between 2018-2021.**

5% **increase in total composting between 2018-2021.**

(Source: City of Grand Junction Greenhouse Gas Inventory Results & Recommendations Report)

FOOD WASTE

14 **establishments have participated in a pilot program for composting which has delivered**
69 tons **of food waste to**
3xM Thunder Mountain Organics as of April 2024.

(Source: Beck, Kym. Waste Management for Grand Junction. April, 2024)

Goal IV.8:
Increase Diversion Rates within the City

Key Performance Indicators:	Measure:	Directional Target:	Baseline:
Total waste diversion community-wide	Diversion rate (tons of recycling + tons of compost/ total waste)	Increase diversion rate	5.8% diverted from landfill via compost and recycling

Source: 2021 GHG Inventory

Strategy IV.8.a. Add recycling containers in public spaces and buildings, especially schools, parks, and downtown. Include signage to educate and reduce contamination of recycling and compost streams.

- Equity Impacts: Provides more recycling opportunities for everyone in public spaces.

Strategy IV.8.b. Increase community education and resources on household contamination and available options for waste diversion.

- Equity Impacts: Reduces the cost of waste management for the community.

Strategy IV.8.c. Increase participation in residential recycling program through educational and informational programs.

Strategy IV.8.d. Pass an ordinance to improve data through waste hauler licensing and/or registration and reporting.

Strategy IV.8.e. Restart commercial recycling programs.

Strategy IV.8.f. Increase e-waste diversion from landfills and encourage legal and proper disposal.

Goal IV.9:
Reduce Waste to Landfill via a Circular Economy

Key Performance Indicators:	Measure:	Directional Target:	Baseline:
Total landfill waste per capita	Municipal Solid Waste (MSW) generated tons per capita	Reduce annual waste inflow at landfill	1.35 tons per capita per year

Source: 2021 GHG Inventory

Strategy IV.9.a. Support building a Supply Diversion Center. Partner with the County landfill and other organizations on grants and funding.

- Equity Impacts: Supports opportunities for lower-cost building materials.

Strategy IV.9.b. Investigate benefits and tradeoffs of a deconstruction ordinance.

Strategy IV.9.c. Educate event organizers on hosting zero-waste events in the community.

Strategy IV.9.d. *Expand on existing pilot restaurant composting program with other businesses and institutions.

- Equity Impacts: Expands composting inclusion to underserved areas.

Strategy IV.9.e. *Explore options to expand residential food waste collection.

- Equity Impacts: Provides food waste management for all. Considers collection fee reduction for lower-income populations.

Strategy IV.9.f. Support Mesa County in their creation of a Class 3 compost facility.

Strategy IV.9.g. *Encourage the utilization of local or regional compost and use in City operations.

Strategy IV.9.h. Partner with the County to conduct an updated landfill waste audit. Conduct a City-wide audit to determine a baseline.

Strategy IV.9.i. Increase education for residential and backyard composting programs.

IV.9.j: Support the creation of a regional materials recovery facility (MRF).

FOCUS AREA V

Water Conservation

Water Conservation is the practice of using water efficiently and reducing water waste. Water education and innovation are essential in Grand Junction's semiarid climate to ensure a sustainable supply for future consumption, household and business use, agricultural production, and natural habitats.

Aspirational Statement

We aspire to cultivate a community commitment to prioritize water conservation in response to our region's drought risk, ensuring water is used efficiently and effectively. We will work to strengthen partnerships with regional water providers to improve monitoring, conduct water use reduction education, and implement programs that incentivize reduced water consumption for residents and businesses.

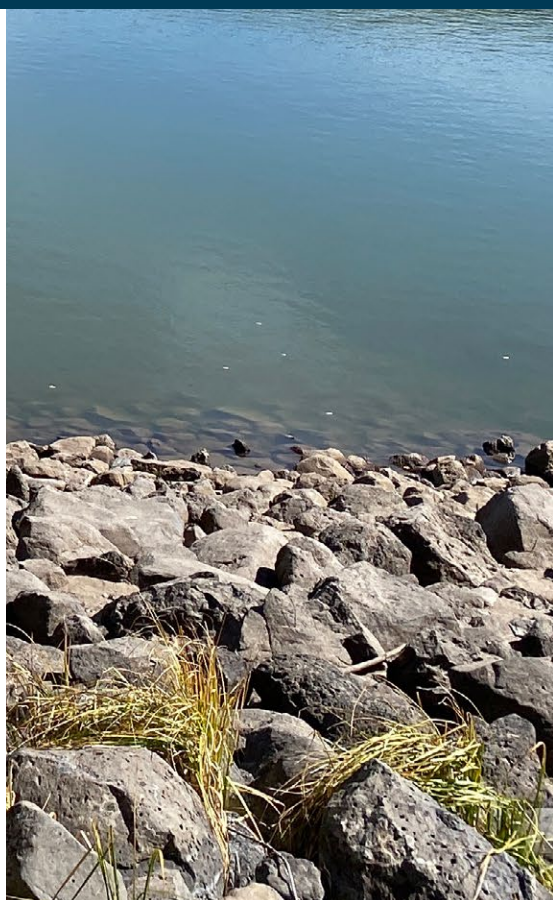


Image Credit: City of Grand Junction
The Grand Mesa

WATER CONSERVATION

BACKGROUND

Grand Junction is situated at the confluence of the Colorado River and Gunnison River, in a semiarid climate with low precipitation. Water from these rivers is a vital resource supporting life in Grand Junction and downstream communities. The threat of increased drought requires proactive planning to ensure availability for critical supply in a water-constrained future. The management of water resources is important to the local economy, human health, and natural environment.

Agriculture is a significant industry in the region and is valued by the Grand Junction community. Agriculture is dependent on water availability and is a major user of surface water. Additionally, a growing population can stress the existing and future supply. Increasing drought conditions and higher temperature trends highlight the need to use water efficiently and implement an adaptive water plan. The 2023 Regional Water Efficiency Plan suggests Grand Junction may need to seek additional water sources by 2039 without significant conservation measures.

The key to water conservation is two-pronged, combining efficiency and conservation to reduce both potable and non-potable water use among residents, businesses, and industries. Effective water management requires a multi-faceted approach with the various Water Districts and partners to balance the needs of residents, businesses, and the environment while considering the implications of growth and development on water resources.

Water Consumption Data

City of Grand Junction Water Service water consumption (2021): 1.55 billion gallons; 88 gallons per day per capita

Ute Water Conservancy District water consumption (2021): 3.01 billion gallons; 69 gallons per day per capita

City of Grand Junction Water Service supplies about 22% of water inside the City.

The Ute Water Conservancy District supplies about 72.5% of water inside the City.

Per City of Grand Junction GIS utility mapping data estimate

In 2021, the total annual water consumption in Grand Junction was 4.6 billion gallons.

In 2021, the average daily water consumption per capita in Grand Junction was 69.06 gallons.

This data comes from annual reporting by each water utility, as collected in the Regional Water Efficiency Plan. The City was unable to obtain per capita water consumption from Clifton Water District for the approximately 4.5% of water supply inside the City of Grand Junction limits.

69 Gallons per Day per Capita

The 2021 average water use for the combined City and Ute Water Conservancy District.

Current Measures

The Grand Junction Regional Water Efficiency Plan **aims to reduce water use by 10% over the next SEVEN years.**

(Source: 2023 Water Efficiency Plan, Grand Junction Water and Ute Water Conservation District)

RESOURCES

29,000 people are served by the City's current water service.

Grand Junction is served by 3 water utilities (Grand Junction, Ute, and Clifton) **and 7 irrigation districts** (Grand Valley Water Users Association, Grand Valley Irrigation Company, Mesa County Irrigation District, Palisade Irrigation District, Orchard Mesa Irrigation District, Redlands Water and Power Company, and Ridges Irrigation District).

(Source: 2023 Water Efficiency Plan, Grand Junction Water and Ute Water Conservation District)

SEASONAL USE

Water usage increased by 3X during the summer due to outdoor uses in 2022.
2.7 million gallons/day in January vs. 7.9 million gallons/day in July.

(Source: 2023 Water Efficiency Plan, Grand Junction Water and Ute Water Conservation District)

LAND USE

83% of water use in Grand Junction is by residential properties.

(Source: 2023 Water Efficiency Plan, Grand Junction Water and Ute Water Conservation District)

Goal V.10:
Increase Water Conservation Education and Awareness

Key Performance Indicators:	Measure:	Directional Target:	Baseline:
Indoor and outdoor water consumption	Per capita domestic water consumption (gallons per day per resident)	Reduce by 1.4% per year in alignment with the Regional Water Efficiency Plan	69 gallons per day per person

Source: City of Grand Junction Water

Strategy V.10.a. Reach out to largest water users to advocate and/or incentivize conservation.

Strategy V.10.b. Continue to coordinate with DRIP and Mesa Conservation District, including Irrigation 101, drought preparedness, water efficiency messaging, and education.

- Equity Impacts: Enhances public awareness of per capita consumption reduction tactics for all residents.

Strategy V.10.c. Encourage water conservation in residential and commercial developments. Provide education around water-wise plant selection and irrigation practices.

Goal V.11:
Reduce Water Consumption from Landscape and Irrigation

Key Performance Indicators:	Measure:	Directional Target:	Baseline:
Outdoor water consumption	City of Grand Junction metered outdoor water (gallons)	Reduce summer outdoor water consumption	34 gallons of outdoor water consumption per person per day in the summer months

Source: City of Grand Junction

Strategy V.11.a. Expand turf conversion and water-wise plant selection programs.

Strategy V.11.b. Invest in and employ technology to improve water consumption monitoring.

Strategy V.11.c. Expand utilization of graywater permitting systems and incentives.

Strategy V.11.d. Continue to transition municipal landscaping to climate-appropriate and/or native, drought-tolerant planting to reduce potable demand. Showcase water-wise gardens.

Strategy V.11.e. Consider development standards that limit non-functional turf in new single family (attached and detached) development.

Strategy V.11.f. Reduce water loss due to leakage and overuse through irrigation and/or water use audits.

Strategy V.11.g. Distribute water-efficient appliances and/or fixtures. Offer smart irrigation system parts rebates throughout the water service area to incentivize all customers to reduce water use.

Strategy V.11.h. Expand community education on the importance of conserving potable and non-potable water. This may include a toolkit with water-wise best practices landscape design suggestions.

- Equity Impacts: Help consumers make more conscious use of water to avoid local water shortages in the near future.

FOCUS AREA IV

City Leadership

City Leadership, encompassing City staff and elected officials, must keep sustainability and adaptation in focus for the Goals of this Plan to be achieved. Strategic planning will need backing from policies, resources, procedures, community support, and champions. The City will track progress, evaluate effectiveness through assessments, and adjust accordingly.

Aspirational Statement

We aspire to lead with innovation and integrity to benefit environmental health, foster resilience in the face of changing conditions, and maintain the prosperity of the community for future generations.

Image Credit: City of Grand Junction
Grand Junction City Hall

CITY LEADERSHIP

What is LEED for Cities?

The City of Grand Junction received a grant through the LEED for Cities Local Government Leadership Program to help pursue the Leadership in Energy and Environmental Design (LEED) for Cities certification. LEED for Cities is a tool for the City to track performance using nationally recognized best practices and measures. The measures and practices in the LEED for Cities efforts are complementary to the Plan and will be used selectively as appropriate for the City of Grand Junction.

BACKGROUND

Adapting City operations and developing partnerships are critical to Plan implementation. The Key Performance Indicators (KPIs) are included to help staff track progress. The broad nature of the KPIs allows for flexibility and modification to be made to the Strategies in case of changing situations, new technologies, and availability of resources. This is the same approach expressed in the City of Grand Junction City Council Strategic Framework for 2023-2025 that states:

> *To flourish in the future, the City needs to remain nimble, resilient and welcoming of new ideas. Through engagement with the community, the City recognizes the importance of being strategic and innovative.*

The Shared Vision from the 2023-2025 Strategic Framework provides additional direction for leadership's implementation of the Sustainability and Adaptation Plan:

> *Grand Junction is a safe, welcoming, healthy and accessible city that builds on its collective character to be a place where opportunity abounds, resources are well-managed, and people are connected and engaged in their community.*

The 2023-2025 Strategic Framework includes five Strategic Outcomes that guide staff in crafting initiatives: 1. Placemaking, 2. Thriving and Vibrant, 3. Welcoming, Livable, and Engaging, 4. Safe and Healthy, and 5. Resource Stewardship. City staff can embed these initiatives to seek resources and partnerships for implementation.

Goal VI.12:

Integrate Sustainability Practices into City Leadership Efforts

Key Performance Indicators:	Measure:	Directional Target:	Baseline:
Annual updates of the Implementation Priorities Matrices	Number of Priority Actions implemented	Refresh the Implementation Priorities Matrices	Adopted Plan and baseline measures

Strategy VI.12.a. Ensure City staff are focused on Diversity, Equity, and Inclusion (DEI) in hiring practices, community engagement, and programs.

Strategy VI.12.b. Identify coalitions that help the City further sustainability initiatives.

Strategy VI.12.c. Create a sustainability standard that drives the ethos of the City, how it conducts business, and purchases goods.

Strategy VI.2.d. Create a collaborative organization that helps to implement clean energy projects across the Grand Junction area.

Strategy VI.12.e. Ensure the City has the staff capacity and resources to proactively implement the Sustainability and Adaptation Plan. Allocate resources to implement Strategies on an annual basis.

Strategy VI.12.f. Continue to track and report metrics related to the Sustainability and Adaptation Plan's Strategies, including LEED for Cities performance metrics. Compile metrics into a database and other appropriate industry standard tracking mechanisms.

Strategy VI.12.g. Develop a Council-Appointed Sustainability Advisory Board.

Strategy VI.12.h. Proactively seek out and connect with like-minded entities to explore opportunities for strategic collaboration at the local, regional, and state levels in the public, private, and non-profit sectors.

4 Implementation Priorities

The Implementation Priorities Matrices (IPM) provided in this chapter organize the Goals and Strategies into a refined list of Priority Actions. Priority Action items were selected by the Technical Working Groups and Community Steering Committee based on the action's impact, urgency, alignment with community values, and near-term feasibility. Priority Actions account for resource limits of the City and identify investment needs. The following chapter includes:

- **Priority Action:** These are key tasks or efforts for the City to undertake. Priority Actions align with Strategies in Chapter 3, as identified in the Strategy Alignment column of the Matrices.
- **Supplemental Performance Measure (SPM):** Aligns with each Priority Action to track and monitor progress over time.
- **Strategy Alignment:** Denotes Strategies in Chapter 3 that support or align with Priority Actions.
- **Lead Department:** Departments responsible for leading and reporting Priority Actions.
- **Partnerships:** Supporting parties or potential collaborative partners.
- **Timing:** Priority Action timeframes are defined as near-term (1-2 years), medium-term (3-5 years), and ongoing to identify when the City might initiate a project, program, or policy.
- **Resources:** Supportive programming, organizations, and funding sources to implement the Priority Actions.

Image Credit: City of Grand Junction
Snow on the Grand Mesa

SUSTAINING THIS PLAN

The Priority Actions serve as an initial springboard to start implementation. The first few years will serve as a testing ground for the viability of the Strategies given the available resources that include staffing, community support, funding (grants and appropriations), and political will.

Adoption of this Plan by City Council indicates their support for implementing the Strategies and allocating resources to meet this Plan's Goals.

A Sustainability Advisory Board focused on supporting implementation of the Plan can help leverage community passion. This Board should help calibrate the required level of effort and prioritize Strategies to be pursued each year. The Partnerships identified by the City in the following Implementation Priorities Matrices (Figures 12-18) should be regularly consulted to ensure the City is effectively avoiding duplication of services and amplifying efforts.

To ensure successful implementation, the City of Grand Junction must retain the ability to modify the Plan to match available resources and establish a regular cadence of refreshed Plan strategies. The Plan should be evaluated each year to assess successes and lessons learned. Ideally, this evaluation cycle would align with the City's budgeting process, allowing for inclusions into the annual budget to update with current realities and priorities. An annual public event to review the plans' updated Implementation Priorities Matrices (IPM) is one approach for ensuring communication of commitments, encouraging feedback, and fostering community engagement in plan implementation.

Built Environment

Goal I.1: Balance Transportation Mode Share for Local Trips

Action	Priority Action	SPM	Strategy Alignment	Lead Department	Partnerships	Timeframes
A	Focus on improving safety and connectivity through intersections for pedestrians and cyclists. Develop modern and safe intersection standards for retrofits and new builds and begin implementation.	Number of improved intersections	1.a, 1.b	Engineering and Transportation	Bicycle Colorado, Community Development	Near-term
B	Help pilot new public transit programs and increase awareness to increase ridership. Coordinate with Grand Valley Transit (GVT) to implement a free ridership program with a focus on encouraging new riders.	Annual public transit ridership	1.d, 1.e	Community Development	Grand Valley Transit	Medium-term

Goal I.2: Encourage Innovative Site Design to Foster the Coexistence of Urban and Natural Environments

Action	Priority Action	SPM	Strategy Alignment	Lead Department	Partnerships	Timeframes
C	Work with property owners on individual streets and areas that are good candidates for road diets, parking management, and design interventions. Allow low impact development (LID) techniques to extend into right-of-way.	Number of interventions	2.a	Engineering and Transportation	Developers, Mesa County, Community Development	Medium-term

Built Environment

Goal I.2: Encourage Innovative Site Design to Foster the Coexistence of Urban and Natural Environments (Continued)

Action	Priority Action	SPM	Strategy Alignment	Lead Department	Partnerships	Timeframes
D	Incorporate transit-oriented development (TOD) through design overlays around transit hubs. Establish transit corridors and incentives into the Zoning & Development Code. Establish sustaining funding sources to support pedestrian and bicycle-friendly retrofits.	Adoption of an ordinance	2.a	Engineering and Transportation	Developers, Grand Valley Transit	Medium-term
E	Protect and preserve existing tree canopy and expand climate-appropriate trees citywide, with a focus on census blocks below target canopy cover goals and underserved areas.	Tree canopy cover percentage	2.d	Parks and Recreation	Community Development, General Services, Engineering and Transportation, Utilities, Grand Junction Forestry Board	Medium-term
F	Determine appropriate incentives for developers to install desired features that exceed minimum code requirements.	Incentives included	2.c, 2.e, 7.e	Community Development	Developers, Home Builders Association, Mesa County	Medium-term

Goal I.3: Improve Community Access to Food

Action	Priority Action	SPM	Strategy Alignment	Lead Department	Partnerships	Timeframes
G	Encourage and support food sovereignty in Grand Junction, including urban agriculture. Identify areas of focus to rectify food deserts.	Educational events	3.a, 3.b, 3.c	Community Development	Farmers, Developers, Parks and Recreation	Near-term

Climate Resilience

Goal II.4: Build Redundancy to Mitigate and Adapt to Natural and Social Hazards

Action	Priority Action	SPM	Strategy Alignment	Lead Department	Partnerships	Timeframes
H	Support mitigation efforts in the Wildland Urban Interface (WUI), specifically reducing wildfire fuel loads of grasses within draws near Redlands.	Acres of natural hazards and fire risk mitigated	4.d	Fire	Parks and Recreation, private landowners, Utilities	Medium-term
I	Build community resiliency to natural hazards by improving community education and emergency notifications, especially to vulnerable populations.	Educational events	4.e, 4.f, 4.k, 4.c, 4.i	Fire	Non-profits, Communications and Engagement, Community Development	Medium-term
J	Inventory existing back-up power systems for community facing facilities.	Inventory complete (Y/N)	4.g	General Services	Faith-based organizations, non-profits, Community Development	Near-term
K	Update the Mesa County Hazard and Mitigation Plan with relevant climate concerns. This Plan update should be accompanied by a robust vulnerability and capacity assessment.	Assessment complete (Y/N)	4.a, 4.b, 4.j	Community Development	Colorado Resiliency Office, local non-profits, Governor's Office, Climate Preparedness	Near-term

Climate Resilience

Goal II.5: Maintain Current Air Quality Levels

Action	Priority Action	SPM	Strategy Alignment	Lead Department	Partnerships	Timeframes
L	Support expansion of the existing air monitoring network, focusing on expanding air monitors in vulnerable areas of the city.	Number of air monitors	5.b, 5.f	Community Development	Citizens for Clean Air, Mesa County Public Health-Environmental Programs, Colorado Air Quality Control Commission, Communications and Engagement	Near-term
M	Continue community education on air quality impacts.	Number of educational events	5.d	Community Development	Citizens for Clean Air, Mesa County Public Health, Colorado Air Quality Control Commission, Communications and Engagement	Medium-term
N	Implement recommendations of the Electric Vehicle Readiness Plan.	Number of EVs registered, number of level 2 and DCFC chargers	5.b	Community Development	Engineering and Transportation	Medium-term
O	Complete bi-annual update to GHG Inventory.	Total GHG emissions per capita	5.c	Community Development	Air Quality Organizations, Transportation, Mesa County Building	Ongoing
P	Conduct a study of the air quality impact of requiring tailpipe emissions controls.	Study complete (Y/N)	5.e, 5.g	Community Development	Engineering and Transportation, Mesa County Public Health, Mesa County DMV	Medium-term
Q	Install outdoor air quality monitors in every Census Block Group within City limits.	Number of monitors installed	5.b, 5.f	Community Development	Mesa County Public Health	Medium-term

Climate Resilience

Goal II.5: Maintain Current Air Quality Levels (Continued)

Action	Priority Action	SPM	Strategy Alignment	Lead Department	Partnerships	Timeframes
R	Start a joint initiative to educate the public on the health impacts of air pollution and preventative and adaptive transportation habits.	Educational materials produced	5.d, 5.g	Community Development	Mesa County Public Health	Medium-term
S	Implement protocols for issuing “poor air quality advisories” when there are days with high ozone levels, inversions, high levels of particulate matter (including blowing dust storms), and/or high AQI. Include education about how individuals can protect themselves from these hazards in hazard mitigation planning.	Protocols implemented	5.a, 4.b, 5.f	Community Development	Mesa County Public Health Grand Junction Fire	Medium-term

Energy Stewardship

Goal III.6: Encourage Energy Efficiency in Buildings

Action	Priority Action	SPM	Strategy Alignment	Lead Department	Partnerships	Timeframes
T	Support code-related trainings and education.	Number of participants	6.b, 6.g	Community Development	Community Development, Colorado Energy Office, contractors, Mesa County Building Department	Near-term
U	Adopt regular updates to the International Energy Conservation Code. Strive to be current within three years of current code.	Years from current code	6.a, 6.b, 6.e	Community Development	Mesa County Building	Medium-Term
V	Educate the community about local utility energy conservation programs.	Number of participants in conservation programs	6.c, 6.g	Community Development	Local businesses,	Medium-term

Energy Stewardship

Goal III.7: Foster Energy Independence

Action	Priority Action	SPM	Strategy Alignment	Lead Department	Partnerships	Timeframes
W	Ensure ownership of Renewable Energy Certificates (REC) for all City solar projects and/or equivalent REC purchases.	RECs owned	7.e	Finance	General Services	Near-term
X	Support clean energy jobs through training and collaboration.	Number of trainings	7.f	City Manager's Office	Local businesses, workforce development, Colorado Mesa University (CMU), Community Development	Medium-term
Y	Support expansion of Renewable Natural Gas (RNG) from Persigo.	Total RNG used	7.g, 7.h	Utilities	Grand Valley Transit	Medium-term
Z	Support bulk purchasing programs of renewable energy and participation in utility renewable energy programs for community members.	Programs implemented	7.c	Community Development	General Services, Communications and Engagement, and local utilities	Medium-term
AA	Continue to invest in solar arrays for City facilities.	Total City Solar Capacity	7.a	General Services	Solar Developers, Xcel Energy, Grand Valley Power	Ongoing
BB	Investigate investment in Xcel's clean energy programs for City facilities.	Number of Programs	7.g, 7.h	General Services	Xcel Energy	Ongoing

Waste Management

Goal IV.8: Increase Recycling Rates within the City

Action	Priority Action	SPM	Strategy Alignment	Lead Department	Partnerships	Timeframes
CC	Implement waste hauler registration and annual reporting system.	Number of haulers registered and reporting	8.d	General Services	Waste hauling companies, Mesa County	Near-term
DD	Improve education for residents on how to recycle and where to divert materials.	Diversion rate	8.b, 8.c	Communications and Engagement	Technology provider, residents, Western Metals Recycling, Mesa County SD 51, CMU, General Services	Near-term
EE	Add recycling containers in public spaces.	Number of bins added in public spaces	8.a	General Services	Waste haulers, non-profits	Medium-term
FF	Explore Zoning and Development Code subdivision regulations to ensure adequate space is provided for recycling bins in new development.	Addition of regulations	8.a	Community Development	Local developers	Medium-term

Waste Management

Goal IV.9: Reduce Waste to Landfill via a Circular Economy

Action	Priority Action	SPM	Strategy Alignment	Lead Department	Partnerships	Timeframes
GG	Support Mesa County in their creation of a Class 3 compost facility.	Facility constructed	9.f	General Services	Mesa County, composting partners	Medium-term
HH	Publicize an expanded restaurant composting program.	Tons of composted material	9.d	General Services	Composting partners, Downtown Development Authority, technology providers, Communications and Engagement	Near-term
II	Utilize more local/regional compost in City operations.	Tons of compost used	9.g	General Services	Composting partners, Recycling Division, Parks and Recreation	Near-term
JJ	Confirm and conduct most useful waste audit type with partners (MSW, C&D).	Audit results	9.h	General Services	Mesa County Landfill	Medium-term
KK	Support zero-waste and hard-to-recycle waste events.	Number of events	9.c	Community Development and General Services	Eco-Cycle, General Services, Parks and Recreation (Arbor Fest), Communications and Engagement	Near-term
LL	Initiate a backyard composting educational program.	Programs initiated	9.i, 9.c	General Services	Mesa County	Medium-term

Water Conservation

Goal V.10: Increase Water Conservation Education and Awareness

Action	Priority Action	SPM	Strategy Alignment	Lead Department	Partnerships	Timeframes
MM	Support a water-wise demonstration garden.	Garden initiated	10.e	Utilities	DRIP, CMU, Mesa Conservation District, Community Development, Parks and Recreation	Medium-term
NN	Recognize water savers who have implemented conservation projects.	Awards given out	10.a	Utilities	DRIP	Near-term
OO	Offer irrigation audits to targeted customers with high water usage.	Number of audits	10.c	Utilities	Water, CSU Extension	Near-term
PP	Support fee study to better align costs and incentives for conservation.	Fee study initiated	10.e	Utilities, Parks and Recreation	CMU, General Services, Community Development	Medium-term
QQ	Support rain barrel workshops.	Rain barrels installed	10.b	Utilities	DRIP, CMU, non-profits, Parks and Recreation	Near-term

Water Conservation

Goal V.11: Reduce Water Consumption from Landscape and Irrigation

Action	Priority Action	SPM	Strategy Alignment	Lead Department	Partnerships	Timeframes
RR	Limit turf in new developments and replace with turf alternatives in existing developments.	Ordinance	11.a	Community Development	Homeowners associations (HOAs), CMU, CWCB, water providers	Medium-term
SS	Continue to transition to climate-appropriate tree and plant species for municipal landscaping.	Planting progress	11.c	Parks and Recreation	Parks and Recreation, CSU Extension, Community Development	Medium-term
TT	Implement continuous use of notifications to raise awareness when there may be a water leak.	Annual notifications	11.g	Utilities	DRIP	Medium-term
UU	Provide education and notices to private property owners on low water use turf options/alternatives, appropriate vegetation, and irrigation system adjustments to improve efficiency.	Number of trainings/ events	10.c, 10.d, 11.e	Utilities	Communications and Engagement, DRIP	Near-term
VV	Host Qualified Water Efficient Landscaper certification training and test in Grand Junction.	Training conducted	10.b, 11.a, 10.c	Utilities	CSU Extension Office, Mesa Conservation District	Near-term
WW	Create a toolkit with water-wise landscape design suggestions	Creation of a toolkit	11.i	Community Development	Utilities, DRIP, Communications and Engagement	Near-term
XX	Support water efficient appliance programs.	Water savings	11.f	Utilities	CSU Extension, Mesa County Public Health, CMU, Utilities	Medium-term

City Leadership

Goal VI.12: Integrate Sustainability Practices into City Leadership Efforts

Action	Priority Action	SPM	Strategy Alignment	Lead Department	Partnerships	Timeframes
YY	Allocate resources to implement Strategies.	Annual budget allocated to projects, programs or policies	12.e, 12.c	Community Development	City Administration, City Council	Near-term
ZZ	Develop a Council-appointed Sustainability Advisory Board. Members may also serve as representatives on local coalitions and/or Colorado Communities for Climate Action.	Number of meetings held annually	12.b, 12.g	Community Development	City Administration, City Council	Near-term
AAA	Create a Sustainability Standard to drive the ethos of the City to be used by a newly formed Sustainability Advisory Board.	Creation of a standard (Y/N)	12.c, 12.g	Community Development	City Administration, City Council	Near-term
BBB	Develop training material to inform new staff and City Council members of social, environmental, and economic sustainability initiatives.	Creation of training material (Y/N)	12.a, 12.c	Community Development	City Administration, City Council	Near-term

GLOSSARY

Active Commuting: Using active transportation (AT), such as walking, cycling or public transit, to get to and from work.

Adaptation: An adjustment or modification to improve survival, reduce risks, and maximize potential benefits due to environmental conditions.

Air Quality Index (AQI): A numerical scale used to communicate the quality of outdoor air and its potential health effects to the public.

Building Redundancy: Process of incorporating backup systems or duplicate components into a system or infrastructure to ensure continued operation in case of failure or disruption.

Built Environment: Man-made structures, features, landscapes, and facilities viewed collectively as an environment in which people live and work.

CO_2: Carbon dioxide, a primary greenhouse gas (GHG).

Carbon Dioxide Equivalent (CO_2e): Number of metric tons of CO2 emissions with the same global warming potential as one metric ton of another greenhouse gas.

Carbon Mitigation: Methods to reduce emissions and stabilize the heat-trapping greenhouse gases in the atmosphere.

Certified Natural Gas: Natural gas that has been compressed and meets specific quality standards for use as a fuel in compressed natural gas vehicles.

Clean Energy: Energy sourced from systems with minimal GHG emissions such as solar, wind, geothermal, hydro, nuclear, biogas, and green hydrogen.

Circular Economy: Minimizing waste of resources by extracting the maximum value from them during their lifespan, and then recovering and regenerating products and materials at the end of their service life.

Climate Resilience: The ability to prepare for, recover from, and adapt to the impacts of climate change. It involves mitigating environmental stresses such as rising temperatures, changing precipitation patterns, and increasing frequency of extreme weather events as well as preparing for resulting social disruptions such as disease and economic shifts.

Compost: Nutrient-rich organic matter created through decomposition of organic materials such as food scraps, yard waste, leaves, and grass clippings.

Conservation: Management and sustainable use of natural resources to ensure their long-term availability and preservation for future generations.

Compressed Natural Gas (CNG): Natural gas that has been compressed to high pressures for use as a fuel in vehicles, industrial applications, and other energy-intensive processes.

Dark Sky Certification: Places, properties, or developments that meet specific criteria aimed at preserving and protecting the natural nighttime environment from light pollution.

Diversity, Equity, and Inclusion (DEI): Together, these initiatives promote a culture of respect, acceptance, and belonging, where everyone has equitable opportunities to thrive and contribute to their fullest potential. Diversity is the range of human differences, including but not limited to race, ethnicity, gender identity, sexual orientation, age, religion, socioeconomic

GLOSSARY

status, disability, and cultural background. Social Equity involves ensuring fairness, justice, and impartiality in the treatment of all individuals, particularly those from marginalized or underrepresented groups. Inclusion refers to creating environments where all individuals feel welcomed, respected, supported, and valued.

Drought Response Information Project (DRIP): Part of the Drought Response Plan and provides public education on why and how to reduce per capita water consumption.

Electric Vehicle (EV): A vehicle that can be powered by an electric motor that draws electricity from a battery and is capable of being charged from an external source. An EV includes both a vehicle that can only be powered by an electric motor that draws electricity from a battery (all-electric vehicle) and a vehicle that can be powered by an electric motor that draws electricity from a battery and by an internal combustion engine (plug-in hybrid electric vehicle).'

Energy Efficiency: Optimization of the way energy is consumed, produced, and distributed to minimize waste and maximize productivity.

Energy Stewardship: Responsible management of energy resources, which can involve individuals, organizations, and communities taking proactive measures to conserve energy, reduce waste, and promote the efficient and responsible use of energy resources.

Engage GJ: Online engagement platform for Grand Junction community members to participate in local government.

Social Equity: Fairness and justice by allocating resources and opportunities to create equal outcomes for everyone.

Focus Area: A broad thematic group which identifies an opportunity to achieve a more resilient future.

Food Sovereignty: Concerns about global food systems, which are often characterized by inequalities, environmental degradation, and dependence on multinational corporations.

Goal: Provides a clear direction supporting a Focus Area, expressing the overarching purpose and intention.

Graywater: Wastewater generated from certain domestic activities such as bathing, showering, washing dishes, and laundry.

Green Infrastructure: A network of natural and semi-natural features, systems, and practices designed to provide various ecosystem services, manage environmental issues, and enhance the resilience and sustainability of human settlements. Examples include bioswales, permeable pavements, and green roofs.

Greenhouse Gas (GHG): Gas in the Earth's atmosphere that absorbs and emits radiation within the thermal infrared range, warming the Earth's surface and lower atmosphere.

GHG Emissions: The release of greenhouse gases into the Earth's atmosphere as a result of human activities and natural processes.

Key Performance Indicator (KPI): Benchmarks for measuring progress in each Goal.

Impact Fees: Charges imposed by local governments on new developments or policies to help cover the costs associated with providing public services.

Infill Development: Development of vacant or underutilized parcels of land.

GLOSSARY

International Energy Conservation Code (IECC): A model building energy code developed by the International Code Council (ICC) to establish minimum energy efficiency requirements for new residential and commercial buildings.

LEED: Leadership in Energy and Environmental Design is a rating system for green building design, construction and operation.

LEED for Cities: A tool for the City to track performance over time using nationally recognized best practices and measures for sustainability objectives.

Materials Recovery Facility (MRF): a\A specialized plant that receives, separates and prepares recyclable materials for marketing to end-user manufacturers.

Microgrid: A localized energy system that operates independently or in conjunction with the main grid to generate, distribute, and manage electricity for a specific geographic area.

Modal Filters: Traffic management measures used in urban areas to restrict vehicle access for to improve passage for pedestrians, cyclists, and emergency vehicles.

Mode Share: Percentage distribution of trips or journeys made by different modes of transportation, such as walking, cycling, driving, public transit, or other means.

Municipal Solid Waste (MSW): Solid waste generated by households, commercial establishments, institutions, and other non-industrial sources within a municipality.

Non-Functional Turf: Turfgrass that serves aesthetic purposes such as along streetscape sidewalks and roundabouts, rather than functional or practical uses such as sports fields, playgrounds, or recreational areas

Non-Potable Water: Water that is not suitable for drinking or human consumption due to its quality, contamination, or treatment status.

Property Assessed Clean Energy (PACE): Financing that uses future energy cost savings to collateralize capital improvements.

Particulate Matter (PM): A complex mixture of solid particles and liquid droplets suspended in the air.

Potable Water: Water that is safe and suitable for human consumption.

Priority Action: Actions that are most urgent or impactful for the to address.

Recycled vs Raw vs Ditchwater: Recycled water is treated wastewater suitable for reuse; raw water is untreated or minimally treated water from natural sources; ditchwater is untreated or minimally treated water collected or conveyed through open channels or ditches for agricultural or drainage purposes.

Retro-Commissioning (RCx): A process to improve the performance, efficiency, and operation of existing building systems and equipment to optimize energy use, reduce operating costs, and enhance occupant comfort, health, and productivity.

Renewable Energy: Energy derived from naturally occurring, replenishable sources that are essentially inexhaustible over time.

Renewable Energy Certificates (RECs): Tradeable renewable energy credits intended to incentivize renewable energy production.

GLOSSARY

Renewable Natural Gas (RNG): A type of renewable energy derived from organic material. RNG is also known as biomethane or biogas.

Resilience: An ability to recover from or adjust easily to misfortune or change.

Resilience Hub: A community-based facility or resource center to enhance the resilience and preparedness of individuals, families, neighborhoods, and communities to cope with and recover from various hazards, emergencies, disasters, and other adverse events.

Road Diets: Reallocation of space on existing roadways to improve safety, accommodate multiple modes of transportation, enhance the livability of communities, and promote active transportation. Typically involves reducing the number of travel lanes, narrowing lanes, adding or enhancing bicycle lanes or facilities, and/or implementing traffic calming measures.

Steering Committee: A group of individuals selected by staff and approved by City Council to provide strategic direction, advice and leadership. This may include representatives from local organizations and businesses, conservation groups, and the general community.

Strategy: A tactic or broad approach to achieve the Goals.

Supplemental Performance Measure (SPM): Additional metrics which align with each action to track and monitor progress.

Supply Diversion Center (SDC): A facility or organization that coordinates the management and distribution of supplies to support disaster relief efforts, humanitarian aid missions, and emergency response operations.

Sustainable: A method of harvesting or using a resource so that the resource is not depleted or permanently damaged.

Technical Working Group: A group of individuals with expert knowledge in specific areas who work together on specific goals.

Transportation and Engineering Design Standards (TEDS): The TEDS Manual establishes requirements and guides the city and developers on how streets and multimodal transportation infrastructure will be designed within Grand Junction. It includes guidance and requirements for preparing transportation impact statements (TIS), street design standards, access control, traffic signal design, street lighting, pavement, and pedestrian, bicycle, and transit facility design standards.

Transit-Oriented Development: An urban planning and design approach that focuses on creating compact, walkable, mixed-use developments around transit stations or corridors.

Tree Canopy: Branches, leaves, and foliage which form the crowns of trees and cover the ground when viewed from above.

Urban Forestry: Focuses on the management, conservation, and cultivation of trees and forests within urban areas.

Urban Heat Island (UHI): Urban areas that experience significantly higher temperatures than surrounding rural areas due to human activities and the built environment.

Vehicle Miles Traveled (VMT): A measure used to quantify the total distance traveled by all vehicles within a specific geographic area.

GLOSSARY

Walk Score®: Uses publicly available data to provide assessments of walkability and other modes of transportation (transit, bicycle) and is a good proxy to assess whether a city is becoming more or less walkable over time.

Waste Diversion: Minimization of the amount of waste sent to landfills and maximization of the recovery of valuable resources from waste streams.

Waste Management: The collection, transportation, treatment, recycling, disposal, and monitoring of waste materials generated by human activities.

Water Conservation: Using water efficiently and responsibly to minimize waste, reduce water consumption, and preserve water resources for current and future generations.

Water-Wise: Practices, behaviors, and technologies that promote efficient and responsible water use, particularly in the context of landscaping, gardening, and outdoor water usage.

Wildland Urban Interface (WUI): The zone of transition between unoccupied land and human development where structures and other human development meet or intermingle with undeveloped wildland or vegetative fuels.

Xeriscaping: A type of landscaping that conserves water and minimizes the need for irrigation.

Zero-Waste: Aims to minimize the amount of waste generated and sent to landfills or incinerators, ultimately striving to eliminate waste entirely.

Zoning and Development Code: The Zoning and Development Code update is the city's land use regulation that serves as a planning implementation tool of the City's One Grand Junction Comprehensive Plan.