

Town of Carbondale Community Profile

Planning Team

Name	Title
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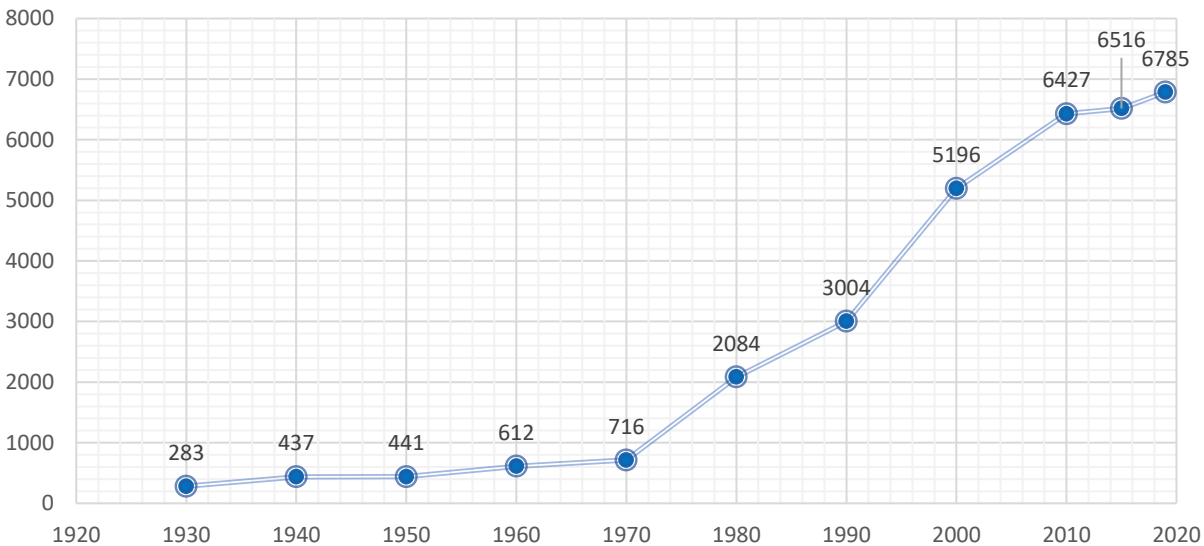
Location and Geography

Carbondale is a Home Rule Municipality in Garfield County. The Town is located at the base of Mount Sopris. Carbondale covers an area of two square miles.

Population and Demographics

Carbondale's population grew from 6,516 people in 2015 to 6,785 in 2019. However, the local planning team noted the population in 2021 is closer to 7,000. This growth in population is due to residents having vacation homes in the area, increased school numbers, and more companies working from home. Carbondale's population accounted for 11.4 percent of Garfield County's population in 2019.

Figure CRB.1: Population 1930 – 2019



Source: US Census Bureau

The most vulnerable groups of the population during a disaster are women, children, minorities, and the poor. In comparison to the County, Carbondale's population was:

- Slightly older.** The median age of Carbondale was 36.9 years old in 2019, compared with the County average of 36.5 years. Carbondale's population grew older since 2015, when

the median age was 35.3 years old. Carbondale has a smaller proportion of people under 20 years old (22.8 percent) than the County (27.7 percent).¹

- **More ethnically diverse.** In 2015 and 2019, 40 percent of Carbondale’s population was Hispanic or Latino (2,607 and 2,722 people respectively). The Hispanic population in the County has grown from 28.1 percent in 2015 to 28.4 percent in 2019.²
- **Equally likely to be in poverty.** The poverty rate in Carbondale (8.6 percent) was the same as the County’s poverty rate (8.6 percent) in 2019.³

Employment and Economics

Consideration of Carbondale’s economy is important in mitigation planning. In comparison to Garfield County, Carbondale’s economy had:

- **Similar mix of industries.** Carbondale’s major employment sectors, accounting for 10 percent or more of employment each, were: Construction, Retail Trade, Professional and Scientific industries, and Educational Services and Health Care. Garfield County’s industries include Construction, Retail Trade, Professional and Scientific jobs, Educational Services, and Arts and Entertainment.⁴
- **Higher household income.** Carbondale’s median household income in 2019 (\$87,052) was about \$11,115 higher than the County (\$75,937).⁵
- **More long-distance commuters.** About 30.7 percent of workers in Carbondale commute for fewer than 15 minutes, compared with 27.7 percent of workers in Garfield County. About 48.4 percent of workers in Carbondale commute 30 minutes or more to work, compared to about 45.4 percent of the County workers.⁶ This is an indicator of the importance of the transportation infrastructure within the Town and the connection to County infrastructure for the local economy.

Housing

Understanding the characteristics of Carbondale’s housing stock is important to mitigation planning. Housing that is in poor condition is more likely to be at-risk than housing in good condition. Some indicators of condition include housing tenure and housing age, with older renter-occupied housing is more likely to be in poor condition than newer owner-occupied housing. Garfield County has adopted the 2015 International Building Codes as of July 1, 2016. All residential and commercial developments must follow these regulations. However, homes and structures built prior to building code adoption may not meet current regulatory standards. In comparison to Garfield County, Carbondale’s housing stock was:

- **More renter-occupied.** About 42.7 percent of occupied housing units in Carbondale are renter occupied compared with 33.4 percent of occupied housing in Garfield County.⁷
- **Newer.** Carbondale had a smaller share of housing built prior to 1970 than the County (12.8 percent compared to 17.6 percent).⁸
- **More multi-family units.** Carbondale had a larger percentage of multi-family housing with five or more units per structure (15.1 percent) than the County average (13.4 percent). About 56 percent of housing in Carbondale was single-family detached, compared with

¹ United States Census Bureau. “2019 American Fact Finder: S0101: Age and Sex.” [database file]. <https://factfinder.census.gov/>.

² United States Census Bureau. “2019 American Fact Finder: DP05: ACS Demographic and Housing Estimates.” [database file]. <https://factfinder.census.gov/>.

³ United States Census Bureau. “2019 American Fact Finder: DP03: Selected Economic Characteristics.” [database file]. <https://factfinder.census.gov/>.

⁴ United States Census Bureau. “2019 American Fact Finder: DP03: Selected Economic Characteristics.” [database file]. <https://factfinder.census.gov/>.

⁵ United States Census Bureau. “2019 American Fact Finder: DP03: Selected Economic Characteristics.” [database file]. <https://factfinder.census.gov/>.

⁶ United States Census Bureau. “2019 American Fact Finder: S0802: Means of Transportation to Work by Selected Characteristics.” [database file]. <https://factfinder.census.gov/>.

⁷ United States Census Bureau. “2019 American Fact Finder: DP04: Selected Housing Characteristics.” [database file]. <https://factfinder.census.gov/>.

⁸ United States Census Bureau. “2019 American Fact Finder: DP04: Selected Housing Characteristics.” [database file]. <https://factfinder.census.gov/>.

62.4 percent on the County's housing. Carbondale had a smaller share of mobile and manufactured housing (0.7 percent) compared to the County (9.7 percent).⁹

The local planning team indicated that a large portion of the homes in town are trailers or old/low quality construction. These structures are more vulnerable to hazards such as high winds.

Land use, Development, and Transportation

Several regional transportation routes run through Carbondale, including Highway 133 and Highway 82. The community also has a network of recreational trails. A priority for the community is continued residential development. As residential development continues to occur in the community, many new homes are going to be more affordable multi-family homes. The area west of Main Street is also currently being developed for mixed-use.

Critical Facilities and Infrastructure

Each participating jurisdiction identified critical facilities vital for disaster response, providing shelter to the public, and essential for returning the jurisdiction's functions to normal during and after a disaster. Critical facilities were identified during the original planning process and updated by the local planning team as a part of this plan update. The following table and figure provide a summary of the critical facilities for Carbondale and whether they are in known hazard areas.

Table CRB.1: Carbondale Critical Facilities

#	Name	Generator (Y/N)	Floodplain	Dam Inundation	Wildfire Hazards	Geologic Hazards
1	Carbondale Town Hall	N	No	Yes	Low	None
2	Colorado Mountain College Lappala Center	N	No	Yes	Low	None
3	Carbondale Branch Library	N	No	No	Moderate	None
4	Carbondale & Rural Fire Protection District	N	No	No	Low	None
5	Bridges High School	N	No	No	Moderate	None
6	Colorado Rocky Mountain School	N	No	Yes	Low	None
7	Carbondale Middle School	N	No	No	Low	None
8	Carbondale Community School	N	No	Yes	Low	None
9	Crystal River Elementary School	N	No	No	Low	None
10	Carbondale Post Office	N	No	Yes	Low	None
11	Crystal River Fish Hatchery	N	No	No	Low	None
12	Carbondale Police	N	No	Yes	Low	None
13	Roaring Fork High School	N	No	No	Low	None
14	Carbondale Public Works	N	No	Yes	Low	None
15	Carbondale Recreation & Community Center	N	No	Yes	Low	None
16	US Forest Service	N	No	Yes	Low	None
17	Carbondale Municipal Pool	N	No	No	Low	None
18	Third Street Center	N	No	No	Low	None
19	Ross Montessori School	N	No	No	Low	None

⁹ United States Census Bureau. "2019 American Fact Finder: DP04: Selected Housing Characteristics." [database file]. <https://factfinder.census.gov/>.

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#	Name	Generator (Y/N)	Floodplain	Dam Inundation	Wildfire Hazards	Geologic Hazards
20	Quest Building for telecom	N		No	Low	None
21	Xcel substations	N		No	Low	None
22	Water plant	N		Yes	Low	None
23	Wastewater plant	Yes Nettle Creek and Crystal Well	Yes	Yes	Low	None

Other critical facilities or key infrastructure of concern in the city include electrical substations, dispatch tower wells, water tanks, and the three key bridges into town. While not mapped here, these facilities should be considered when evaluating localized risks and disaster response activities.

Health and Medical Facilities

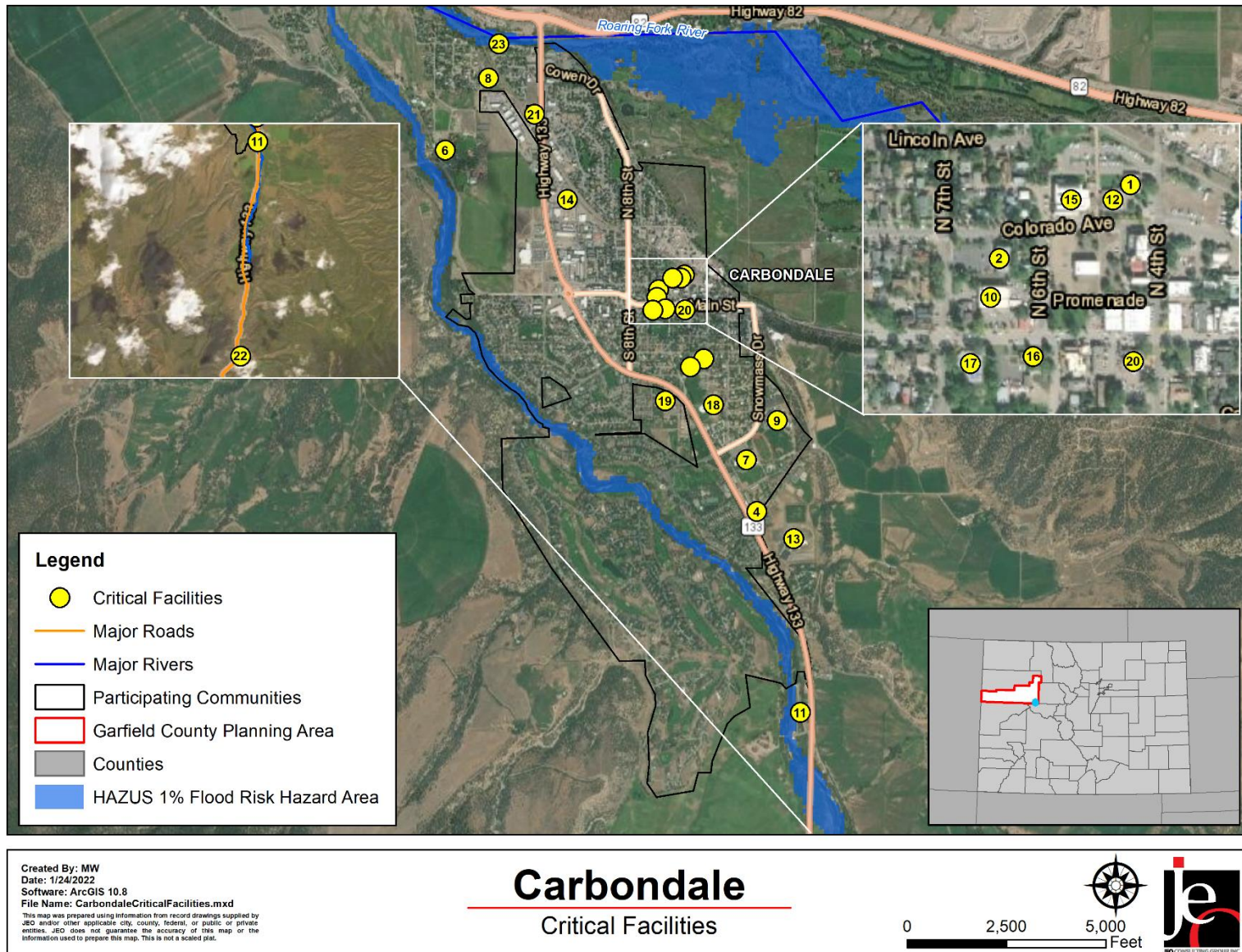
The following medical and health facilities are located within the community.

Table CRB.6: Town of Carbondale Medical Facilities

Type of Facility	Facility Name	Operating Status
IDD – Program Approved Services	Ascendigo Autism Services Inc	Active
IDD – Group Home	Columbine House	Active
Assisted Living Residence	Heritage Park Assisted Living	Active
Nursing Home	Heritage Park Care Center	Active
IDD – Program Approved Services	Mike’s Place	Active
Assisted Living Residence	Sopris Lodge at Carbondale	Pending

Source: Colorado Department of Public Health and Environment

Figure CRB.2: Carbondale Critical Facilities



Historic and Cultural Resources

The West Elk Loop Scenic Byway travels through the Crystal River Valley connecting Crested, Butte, Gunnison, Montrose, and Carbondale. This route is one of Colorado’s 25 scenic byways and is a draw for its historical significance, as well as the outdoor recreation opportunities.

Though not officially designated, the downtown district of Carbondale is historic in nature and offers amenities that draw locals and tourists to the downtown. The Town has several historic preservation ordinances to maintain the historic quality of this neighborhood. Carbondale is currently studying the feasibility of a Creative Arts District.

Historic Places

The following table lists Historic Sites in the Town of Carbondale according to the National Register of Historic Places.

Table CRB.6: Town of Carbondale Historical Sites

Name	Location	Date Listed
Holland-Thompson Property	1605 SH 133	7/23/2013
Missouri Heights School	County Road 102, 0.5 miles east of its junction with County Road 100	9/23/1999
Satank Bridge	County Road 106	2/4/1985

Source: *National Register of Historic Places, 2021*¹⁰

Community Organizations & Programs

There are several community organizations and programs in Carbondale that could assist in implementing mitigation measures:

- Kiwanis Club
- Roaring Fork Conservancy
- Rotary Club
- Chamber of Commerce
- Homeowners Associations
- Neighborhood Watch Groups

Additionally, the City has established several boards and commissions to guide decision making and implementation of its programs and services:

- Bike, Pedestrian, and Trails Commission
- Board of Adjustment
- Board of Trustees
- Environmental Board
- Historic Preservation
- Parks & Recreation Commission
- Planning & Zoning Commission
- Public Arts Commission

Administrative Structure

In 2002, voters approved the Town Charter and Carbondale became a Home Rule Municipality. Carbondale is guided by a 7-member Board of Trustees that consists of a mayor and six

¹⁰National Register of Historic Places: Garfield County Colorado. 2021.
<https://www.nationalregisterofhistoricplaces.com/co/garfield/state.html>

members, all with staggered four-year terms. The Board of Trustees is vested with policy making and legislative authority. The Town has the following departments:

- Administration
- Building Department
- Finance
- Municipal Court
- Parks & Recreation
- Planning Department
- Police
- Public Works

Hazard Prioritization

The Garfield County Hazard Mitigation Plan evaluates a range of natural and man-made hazards which pose a risk to the county and communities. However, during the planning process, the local planning team identified specific hazards of top concern for Carbondale which required a more nuanced and in-depth discussion of local events, vulnerabilities, and mitigation actions the community wishes to pursue. The following section expands on the hazards of top concern identified by the Town of Carbondale local planning team, including:

- Wildfire
- Landslide, Mud/Debris Flow, and Rockfall
- Drought
- Hazardous Materials
- Flood
- Severe Wind
- Severe Winter Weather

For a review and analysis of other natural hazards, please see the county-wide summary in *Section Four: Risk Assessment*.

Wildfire

Carbondale experiences a somewhat lower risk of wildfire than the County overall because the Town is surrounded by rivers and well-irrigated agricultural land. Due to that natural boundary, the Town serves as an evacuation location for other communities in Garfield County. However, the Lake Christine Fire in 2018 showed local vulnerabilities to the power grid system. This fire burned over 12,000 acres on Basalt Mountain and seriously injured a volunteer firefighter. The local grocery store and gas stations were also negatively impacted in the Glenwood Canyon fire due to major supply chain interruptions and fuel shortages. Additionally the water treatment plant and facilities are located in the WUI in neighboring Pitkin County to the south.

Mitigation Success:

Some of the recent mitigation actions that the Town has taken include:

- The Town facilitated several community meetings to discuss wildfire mitigation with homeowners.
- The Town of Carbondale implemented a permit system that allows homeowners along the Crystal River to remove vegetation to create a defensible wildfire zone along the riparian habitat.
- The water treatment plant has had some mitigation work done including clearing debris around the facility.

Landslides, Mud/Debris Flow, Rockfall

The following geographic areas and related vulnerabilities experience local landslide and debris flow risk that is greater than the risk described in the County's Risk Assessment:

- The Highway 82 corridor runs through Carbondale. Highway 82 and Highway 133 are both critical transportation routes that are susceptible to landslides.
- Debris flows could endanger access to the Nettle Creek filtration plant. The road has washed out historically, and the distribution line may align in some areas with the section(s) of road that could wash out.

Mitigation Success:

Some of the Town's recent mitigation projects include:

- In 2009, the Bowles Gulch debris channel was re-built and the debris basin was enlarged in the River Valley Ranch community.
- The community noted that CDOT is working on mitigation work along major transportation routes, especially I-70.

Drought

The local planning team is primarily concerned with the potential impacts on water quality and quantity during extended drought periods. Carbondale has made several efforts to proactively address water quality/quantity issues within the community. There are emergency pump systems in place for the city but the city is also working on increasing the local well supply.

Mitigation Success:

- Purchased additional capacity at Ruedi Reservoir for water supply redundancy.
- Utilized a raw water ditch system for irrigation.
- Completed Source Water Protection Plan in 2015.
- Completed Municipal Water Efficiency Plan in 2015.
- Piloted an early warning system for quantity and quality issues in water/wastewater system.

Carbondale has an additional pump back project identified in the budget and 1/5year plan for funding. This project includes developing a way to pump water from town to the existing Nettle Creek plant which provides the majority of potable water to Carbondale. The project would incorporate hydroelectric components for additional redundancy and produce additional power from hydroelectric capacity. During periods of drought, existing water rights may cause lack of access to existing water resources. This project would allow water from town to be transported to the plant and continue to provide service to other residents.

Hazardous Materials

Several hazardous materials transfer routes (most notably I-70 and the rail line) bisect the County; spills or accidents along these lines, which also run near the Colorado River, could result in contamination of the source of drinking water for many communities in the County. Of specific concern in Carbondale is the Amerigas site, which is a propane storage facility. The Grand Avenue Bridge was also identified as a location of concern. Carbondale is served by the Carbondale Fire Protection District which would respond first to local spills but has a limited staff available for response.

Severe Wind

Top concerns for severe wind include power outages, blocked transportation routes, and damaged trees. Past severe wind events have resulted in damages to the urban forest. Downed tree limbs can result in power outages and provide ladder fuel for wildfires. Xcel power has conducted tree maintenance surrounding their infrastructure and cleared transmission lines.

Mitigation Success:

- Generators are installed at water and wastewater facilities.
- Carbondale has arborists on staff and educates the public on proper tree maintenance.

Flood

In general, the County's Risk Assessment adequately describes the risk from flood within the areas surrounding the Town of Carbondale, given the data currently available (refer to *Section Four: Risk Assessment*, p. 38-51). This includes impacts due to a catastrophic failure at the Ruedi Reservoir dam and the vulnerability of drinking water sources. If the dam were to fail local concerns exist for heavy flows or debris blocking or damaging the bridges that provide access to town.

In Carbondale, a separate municipal district manages irrigation and storm water ditches.

Mitigation Success:

- Carbondale Public Works has accomplished many culvert upgrades and improvements throughout the Town.
- Membrane Water Filtrations Plants - The Water/Wastewater Department operates three water plants with three differing treatment technologies utilized. The technologies used are membrane filtration, Mixed Media filtration and disinfection only on true ground water. Water production annual daily average is 1.1 gallons per day to 2.6 million gallons per day (mgd). The water system has treatment plant capacity of producing up to 4 mgd. The distribution system consists of 28 miles of pipe, one pump station, three storage tanks; the total storage capacity is 2.7 million gallons.
- Dry wells throughout Carbondale mitigate urban flooding problems.
- Prior to construction within any area of special flood hazard, a development plan must also be approved. Any construction must meet certain parameters in the zoning code. A special hazard zone is identified by FEMA in a report entitled "The Flood Insurance Study" for the town dated February 5, 1986 and an accompanying flood insurance rate map.

Carbondale Public Works has developed redundancies in the water treatment and water well system to ensure that the resilience of this critical utility. Water sources are:

- Nettle Creek, located primarily in Pitkin County, is a primary gravity fed source into town mixed media filtration 2 mgd
- Crystal well (ground water) –secondary pumped source ground water, disinfection only 1 mgd
- Roaring Fork Wells (surface water under the influence of surface water) –secondary pumped source, membrane (Low Pressure Memcor CMF) 1 mgd

The National Flood Insurance Program (NFIP)

Carbondale participates in the NFIP by adopting and enforcing floodplain management ordinances to reduce future flood damage. In exchange, the NFIP makes federally-backed flood insurance available to homeowners, renters, and business owners in these communities. Preliminary Flood Insurance Study (FIS) Flood Insurance and Rate Maps (FIRM) are effective as of February 5, 1986. There are no repetitive loss properties in Carbondale.

New FIRMs are currently under development for Garfield County and will include Carbondale. To continue to comply with NFIP requirements, Carbondale will review and adopt the new FIRMs once approved by FEMA. Planned adoption of new mapping is anticipated for 2024.

Table CRB.2: Carbondale NFIP Statistics

Jurisdiction	Policies In-Force	Total Coverage	Total Premiums	Closed Losses	Total Payments
Carbondale	8	\$2,800,000	\$3,918	0	N/A

Source: NFIP Community Status Book, August 2021; NFIP Policy and Claim Statistics

Winter Storms

Severe winter storms occur annually in Carbondale and are of concern due to potential transportation route closures and blocked access for supplies and emergency response. The county has experienced warmer winter seasons in the past years which has led to more ice events.

Additional Concerns

Climate Change

Climate change is a significant concern to the Town of Carbondale. The local planning team has witnessed an intensification of hazard events over the years and climate change is likely the cause. Climate change has the potential to have significant impacts on the community, the nearby ski resorts, and adjacent rivers. Specific concerns include impacts to the local economy, ecosystem, and water supply due to reduced snowpack and streamflow.

Vulnerable Populations

Carbondale has a few groups that may be more vulnerable during hazard events. The local planning team is concerned with the mobility of these groups in the event of an evacuation, as well as effective communication during a hazard event. These groups include:

- The elderly population in the senior care facilities
- Children in the several schools located in or near Carbondale
- The Spanish speaking population

Capability Assessment

The capability assessment consisted of a review of local existing policies, regulations, plans, and programs with hazard mitigation capabilities. The following tables summarize the jurisdiction’s planning and regulatory capability; administrative and technical capability; fiscal capability; educational and outreach capability; and overall capability to implement mitigation projects.

Table CRB.2: Carbondale Capability Assessment

Survey Components/Subcomponents		Yes/No
Planning & Regulatory Capability	Comprehensive Plan	Yes
	Capital Improvements Plan	Yes
	Economic Development Plan	Yes
	Emergency Operational Plan	Yes (County)
	Floodplain Management Plan	No
	Storm Water Management Plan	No

Survey Components/Subcomponents		Yes/No
	Zoning Ordinance	Yes
	Subdivision Regulation/Ordinance	Yes
	Floodplain Ordinance	Yes
	Building Codes	Yes
	National Flood Insurance Program	Yes
	Community Rating System	No
	Other (if any)	
Administrative & Technical Capability	Planning Commission	Yes
	Floodplain Administration	Yes
	GIS Capabilities	Yes
	Chief Building Official	Yes
	Civil Engineering	Yes
	Local Staff Who Can Assess Community's Vulnerability to Hazards	Yes
	Grant Manager	Yes
	Mutual Aid Agreement	Yes
	Other (if any)	
Fiscal Capability	Capital Improvement Plan/ 1 & 6 Year plan	Yes
	Applied for grants in the past	Yes
	Awarded a grant in the past	Yes
	Authority to Levy Taxes for Specific Purposes such as Mitigation Projects	Yes
	Gas/Electric Service Fees	Yes
	Storm Water Service Fees	No
	Water/Sewer Service Fees	Yes
	Development Impact Fees	No
	General Obligation Revenue or Special Tax Bonds	Yes
Other (if any)		
Education & Outreach Capability	Local citizen groups or non-profit organizations focused on environmental protection, emergency preparedness, access and functional needs populations, etc. Ex. CERT Teams, Red Cross, etc.	Yes
	Ongoing public education or information program (e.g., responsible water use, fire safety, household preparedness, environmental education)	Yes
	Natural Disaster or Safety related school programs	No
	StormReady Certification	No
	Firewise Communities Certification	No
	Tree City USA	Yes
	Other (if any)	

Overall Capability	2017 Plan Limited, Moderate, High	2022 Plan Limited, Moderate, High
Does the jurisdiction have the financial resources needed to implement mitigation projects?	Moderate	Moderate
Does the jurisdiction have the staff/expertise to implement projects?	Moderate	Moderate
Does the jurisdiction have the community support to implement projects?	High	High
Does the jurisdiction have the time to devote to hazard mitigation?	Moderate	Moderate

Plan Integration

Plans listed in the following section were reviewed by the local planning team to identify opportunities to integrate the HMP with current planning mechanisms. These documents were also used by the local planning team to assist in identifying risks, vulnerabilities, and potential mitigation actions. The documents directly contributed to the hazard prioritization and mitigation action items sections of this community profile. These documents have not been updated since the adoption of the previous HMP and therefore have not incorporated the HMP into them. When these plans and other relevant community planning mechanisms are updated, the local planning team will review the HMP for opportunities to incorporate the goals, risk and vulnerability data, and mitigation actions into the plan update as appropriate.

Comprehensive Plan (2013)

The Comprehensive Plan for Carbondale was under revision as of January 2022. The 2013 plan was developed at a time of strong population growth for the city. The comprehensive plan framed this population growth with its desire to remain a desirable place to live and play, while restricting outward development. The comprehensive plan is designed to guide the future actions of the city. It contains goals aimed at safe growth, directs development away from hazardous areas including the floodplain, encourages infill, encourages the elevation of structures located in the floodplain, and encourages the preservation of open space.

The 2013 Carbondale Comprehensive Plan includes numerous strategies that support the goals of the hazard mitigation plan. These strategies include, but are not limited to:

- Identify key riparian areas for acquisition and conservation
- Develop river trails where terrain and access allow, that are carefully designed to support water quality through reductions in sedimentation and erosion
- Continue participating in regional watershed planning and projects
- Employ naturalized storm water treatment techniques such as naturalized detention, bio-swales, rain gardens, trees, terracing and porous pavements

The plan is amended every five years with a major updated planned in 2022. Like the hazard mitigation plan, the construction of the comprehensive plan reinforces and builds upon other plans and programs required or supported by the town. The city’s future land use plan proposes centralized and compact growth while managing infill and redevelopment.

Crystal River Management Plan (2016)

The Crystal River Management Plan identifies the need for water conservation strategies to mitigate impacts during drought periods. The plan also identifies the need to limit development in the floodplain to reduce the impact on watershed ecosystems.

Energy and Climate Protection Plan (2017)

The 2017 Climate Action Plan outlines strategies that work toward a goal of carbon neutrality by 2050. Strategies included in the plan, such as energy efficiency improvements and the installation of renewable energy systems, add to the overall resilience of Carbondale. The Energy and Climate Protection Plan states that Carbondale must prepare for the future impacts of climate change.

Municipal Water Efficiency Plan (2015)

Carbondale's Municipal Water Efficiency Plan evaluates current water supplies, forecasts future water needs, and contains strategies to further water conservation.

Parks, Recreation, and Trails Comprehensive Master Plan (2015)

Updating the town's 2004 plan, the 2015 Parks, Recreation, and Trails Comprehensive Plan focusing on providing a welcoming and outdoor-focused environment through trails improvements, sustainable parks, and community spaces. It also acknowledges that limited resources will introduce challenges to achieving all the goals outlined in the plan.

Roaring Fork Watershed Plan (2012)

The Roaring Fork Watershed Plan identifies actions to protect water quality and quantity in the Roaring Fork Watershed. These actions include improving public education about state and federal policies impacting the watershed, reduce impacts of droughts, and protecting stream flows, to name a few. The plan also introduces land-use recommendations to avoid negative impacts to the watershed and promotes management decisions that incorporate climate protection.

Source Water Protection Plan (2015)

This plan identifies potential risks to surface water and groundwater quality within the watershed, promotes management practices to protect and enhance the drinking water supply, and provides for a comprehensive action plan in case of an emergency that threatens or disrupts the community water supply.

Unified Development Code (2016)

Amended in November 2020, Carbondale's Unified Development Code includes subsections devoted specifically to flood, geologic, and wildfire hazard areas. The Code limits development within these areas unless the developer can show the hazard impacts will be properly mitigated. Relatedly, Carbondale adopted the International Green Construction Code in 2013 which is intended to reduce the negative impacts and increase the positive impacts of the built environment on the natural environment and the building occupants. The International Green Construction Code also addresses water and energy conservation. Relatedly, the town adopted the Residential Efficient Building Program/Code in February 2020, the 2021 Building and Energy Codes, and the 2015 International Energy Conservation Code. These codes focus on increasing energy efficiency and reducing the energy needed in the built environment.

Other Plans

The Water and Wastewater Master Plan provides Carbondale with a plan for required water and wastewater infrastructure improvements for the next 20 years. These improvements will reduce the impacts of future hazard events such as flooding and drought.

Grants and Funding

Municipal funds are sufficient to maintain current facilities and pursue some new capital improvements projects. Funds have increased in recent years as the community has increased local fees to accommodate for increasing cost of facility maintenance. The town has several large-scale projects anticipated in the next ten years which have funds earmarked in the annual budget. These projects include treatment facility upgrades, improvements to the distribution system to extend services and pipelines to previously underserved areas and improve water quality. The town has used grants in the past to update equipment and implement projects including emergency response communications.

Plan Maintenance

Hazard Mitigation Plans should be living documents and updated regularly to reflect changes in hazard events, priorities, and mitigation actions. These updates are encouraged to occur after every major disaster event, alongside updates to community planning documents (i.e. annual budgets and Capital Improvement Plans) to identify plan integration opportunities, during the fall before the HMA grant cycle begins, and/or prior to other funding opportunity cycles begin including CDBG, Revolving State Fund, or other identified funding mechanisms.

The local planning team is responsible for reviewing and updating the profile as changes occur or after a major event. The local planning team for all future updates should include the following positions:

- Police Chief
- Public Works Director
- Town Manager
- Board of Trustees
- Carbondale Fire Department
- Public Information Officer (or relevant partner agency)
- County Emergency Management

The local planning team shall review the plan annually alongside the town budget and will include the public in the review and revision process by sharing information through social media, website updates (including the Carbondale Kaleidoscope partnership), and the community Facebook page.

Mitigation Action Items

Short and long-term action items identified through the planning process are an important part of the mitigation plan. Action items are detailed recommendations for activities that local departments, citizens and others could engage in to reduce risk. Although not all the actions below fit the definition of mitigation, they add to the overall resilience of the community and are thus included within the hazard mitigation plan.

New and Ongoing Actions:

Action and Description	Hazards Addressed	Goals	Estimated Cost	Potential Funding	Timeline	Priority	Lead Agency	Status
Underground Utilities: Install underground utilities throughout town, and upgrade and install fiber optic cables	All Hazards	3	\$2M per mile	Carbondale General Fund, 1 percent Funds from Holy Cross	Ongoing	High	Public Works	This is a continued mitigation action. Utilities are buried for new projects and existing utilities are buried as funds are available.
NFIP Participation: Continue compliance with the National Flood Insurance Program (NFIP) through the enforcement of local floodplain ordinances	Flooding	1,5	Staff Time	Carbondale General Fund	Ongoing	High	Floodplain Administrator	This is a continued mitigation action. Carbondale is currently in good standing in the NFIP but will continue to comply with requirements by reviewing and adopting new floodplain maps once completed.
Assess Resilience of Treatment Plants: Assess the resilience of the wastewater treatment plant and water intake plants and develop mitigation alternatives accordingly as part of the capital	All Hazards	1	Varies by Project	Carbondale General Fund, Colorado Department of Public Health and Environment	Ongoing	Medium	Utilities	This is a continued mitigation action. The town has accomplished facility hardening at the Nettle Creek Plant including metal siding and roofing and debris management around the plant. Additional improvements are anticipated in the coming years for

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Action and Description	Hazards Addressed	Goals	Estimated Cost	Potential Funding	Timeline	Priority	Lead Agency	Status
facilities plans for water and wastewater infrastructure								remaining facilities, including the pump back project referenced in the drought section.
Continuity of Operations Plan: Develop a Continuity of Operations Plan for the Town of Carbondale	All Hazards	1,2,3,4,5	\$15,000	Carbondale General Fund, Colorado DHSEM	2-4 years	Medium	Town Manager, Garfield County Emergency Manager	This is a continued mitigation action. This project has not yet been started. Carbondale Police and Garfield County Emergency Management intend to meet during 2022 to discuss COOP development.
Collaborate Mapping Efforts: Collaborate with regional, state, and federal agencies, and private industry to increase the extent of data available for hazard mapping, especially landslide and debris flow and wildfire hazards	All Hazards	1,2,3,4,5	Staff Time	Carbondale General Fund	Ongoing	Medium	Planning	This is a continued mitigation action. Garfield County is currently in the process of updating the FIRMs throughout the county. Carbondale received additional hazard mapping through Source Water Protection Plan and will continue to collaborate with external agencies to improve available hazard data.

Action and Description	Hazards Addressed	Goals	Estimated Cost	Potential Funding	Timeline	Priority	Lead Agency	Status
<p>Evaluate Property Loss along Crystal River: Evaluate historic and potential future property loss along Crystal River and its tributaries to determine whether mitigation or property acquisition is warranted</p>	Flooding	2,5	Varies by project and property	Carbondale General Fund, FMA, CDHSEM	Ongoing	Medium	Floodplain Administrator, Planning Department. Supporting Agencies: Property Owners, Building Department, Utilities	This is a continued mitigation action. This action has not yet been started.
<p>Dry Wells: Construct additional dry wells and other measures to mitigate surface water runoff</p>	Flooding	5	\$500-\$5,000+ Depending on size	Carbondale General Fund	Ongoing	Medium	Public Works	This is a continued mitigation action. Carbondale has built additional dry wells for the community and integrated continued work into the municipal budget. New drywells have been developed in conjunction to new development and community growth, maintenance of drywells is primarily the responsibility of the property owner.
<p>Coordinate with Fire Protection District: Coordinate with Carbondale and Rural Fire Protection District to review development codes and improve</p>	Wildfire	1,5	Staff Time	Carbondale General Fund	Ongoing	Low	Building Department. Supporting Agencies: Carbondale and Rural Fire Protection District.	This is a continued mitigation action. This project has not yet been started. The community is working to reflect actions taken by the Carbondale Fire Protection District and is considering future

Section Seven: Carbondale Community Profile

Action and Description	Hazards Addressed	Goals	Estimated Cost	Potential Funding	Timeline	Priority	Lead Agency	Status
opportunities to mitigate wildfires near residential communities								updates for a WUI code.
Backup Generators: Install backup generators for critical facilities.	All Hazards	1	Varies by size	General Fund or Water Enterprise Fund (depending on final destination)	2-5 years	High	Police Department, Public Works	This is a new mitigation action. Generators are needed at the Town Hall/Police Department and at the Roaring Fork Water Treatment Plants.

Completed Actions:

Action and Description	Hazards Addressed	Goals	Funding	Lead Agency	Status
Review Comprehensive Plans: Review Comprehensive Plan and development codes for opportunities to more effectively reduce risks to new development; integrate mitigation action items into updated comprehensive plan and zoning code and identify opportunities to integrate actions	All Hazards	1,5	Carbondale General Fund	Board of Trustees, Planning Commission	This action was originally identified in the 2012 plan. Carbondale updated their Comprehensive Plan in 2013 and their Unified Development Code in 2016.
Wildfire Mitigation Permitting: Implementing a permit system that will allow homeowners along the Crystal River the ability to remove vegetation to create a defensible wildfire zone along the riparian habitat	Wildfire	1,5	Carbondale General Fund	Building Department. Supporting Agencies: Carbondale and Rural Fire Protection District	This action was originally identified in the 2012 plan. Completed in 2013.
Improve Communication Systems: Improve communications among facilities controlled by various entities to facilitate response and recovery after an event	All Hazards	2,3	Carbondale General Fund	Police Chief	New equipment has been purchased and installed in emergency response vehicles. Current capabilities are robust and meet local needs. Schools are encouraged to have repeaters or equipment to provide additional communication capabilities.
Prevent Tree Damage: Educate the public about the role of proper tree pruning and stability in	Severe Wind, Winter	4,5	Carbondale General Fund	Public Works. Supporting Agencies:	Tree maintenance is an ongoing activity throughout the community. The community

Action and Description	Hazards Addressed	Goals	Funding	Lead Agency	Status
preventing damage during windstorms; continue to conduct hazard related tree damage mitigation on town property	Storms, Wildfire			Contractors, property owners	has numerous outfits that help property owners maintain trees.

Removed Actions:

Action and Description	Hazards Addressed	Reason for Removal
72-Hour Kits: Continue to encourage citizens to prepare and maintain 72-hour kits	All Hazards	This action was originally identified in the 2012 plan. This action will be led by County Emergency Management.
Landslide Mitigation: Coordinate with CDOT on landslide mitigation along Highway 82 and 133	Landslides	This action was originally identified in the 2012 plan. Carbondale will continue to collaborate with CDOT on mitigation projects near the town. However, this effort will be led by CDOT.
Firewise: Implement Firewise Program	Wildfire	This action was originally identified in the 2012 plan. This action will be led by the Carbondale Rural and Fire Protection District.
Evaluate and Improve Bridges: Continue to evaluate and improve bridges in Carbondale in collaboration with CDOT and County	All Hazards	Current roads and bridges are in good condition and any further work or improvements would be the responsibility of CDOT.