Sandy City

Jurisdictional Annex to the
Salt Lake County Hazard Mitigation Plan

Month XXXX | Draft X.X

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Sandy City Annex

To participate in this multi-jurisdictional hazard mitigation plan (MJHMP) update for Salt Lake County (SLCo), the governing body of Sandy City passed a formal resolution, a copy of which is maintained at the local government offices.

Planning Process Contact Information

Table 1 provides information on the point of contact during the updating of the MJHMP.

Table 1: Contact Information for the Sandy City

Name	Contact Information
Michael Bullock	**Phone:** 801-568-7100; **email**: mbullock@sandy.utah.gov
David Larsen	**Phone:** 801-568-2940; **email**: djlarsen@sandy.utah.gov

Sandy City has a fully integrated approach to hazard mitigation planning and program implementation. During the 2024 update process, the MJHMP participation roles in Table 2 were recorded.

Table 2: Participant List for the Sandy City

Name	Title	Jurisdiction
David Larsen	Emergency Manager	Sandy City Fire Department
Michael Bullock	Deputy Chief	Sandy City Fire Department
Britney Ward	Transportation Engineer	Sandy City
Don Barbee	Storm Water Quality Coordinator	Sandy City Public Utilities
Tyler Shelly	Chief Engineer	Sandy City Public Utilities
Chris Aston	Deputy Chief	Sandy City Fire Department
Tom Ward	Public Utilities Director	Sandy City
Kim Bell	Deputy Mayor	Sandy City

Jurisdiction Profile

Date of Incorporation

1893

Location and Description

Sandy City lies at the base of the Wasatch Mountains, approximately 15 miles south of Salt Lake City. The city is approximately 24.2 square miles in area and is approximately 4,450 feet above sea level.

Sandy City boasts several significant attractions, such as the Shops at South Town shopping mall, the Jordan Commons entertainment and dining complex, and the Mountain America Exposition Center. It is also home to the Rio Tinto Stadium which hosts Real Salt Lake and the Utah Royals Football Club.

Population

The 2022 American Community Survey 5-Year Estimate from the U.S. Census Bureau records the population of Sandy City as 91,934 people.

Demographics

Most of the 91,934 people are between the ages of 35 and 44, with a median age of 39; 46,186 are females (50.2%) and 45,748 are males (49.8%). English is the primary language in 86.3% of homes, with 7.3% Spanish and 6.4% other languages.

Brief History

Sandy City has a rich history that dates back to the 1860s and 1870s, when early settlers began moving into the area due to the availability of land in the southern end of the Salt Lake Valley. The city was officially founded in 1871 and incorporated in 1893. Sandy City was initially a small rural community focused on farming, business, and family life. Over time, it evolved into a rural Utah town while continuing to grow. Today, it is known for its scenic surroundings, outdoor recreational opportunities, and a variety of attractions.

Climate

Sandy City has a humid continental climate (Dsa Köppen classification) characterized by hot, dry summers and cold, snowy winters with significant temperature variations throughout the year. Average high temperatures are approximately 95°F in the summer and approximately 22°F in the winter. Rain each year is approximately 20.1 inches, and snowfall averages 61.2 inches.

Public Services

Sandy City has the “Be Ready Sandy Program” that is the connection between Sandy City and its residents and businesses on issues regarding emergency preparedness. Other services offered by the city include animal services, city recorder services, community development services, community events services, finance & purchasing, fire department services, human resources, justice court, parks and recreation, police services, public utilities services, and public works services.

Governing Body

The governing body of Sandy City is a Mayor–Council form of government with an elected seven-member city council and an elected Mayor. Four members of the council represent the municipal districts, and the other three are elected at-large.

Development Trends

Current development trends are aimed at not increasing the risk to hazards. One trend is that multi-family buildings are being built. Sandy City is Utah's sixth-largest city. Sandy experienced tremendous growth in both land area and population during the past thirty years. The annexation of previously unincorporated land has resulted in growth from 6.6 square miles in 1970 to nearly 23 square miles today. Annexations combined with new construction resulted in population growth from 6,438 to 87,461 in that same time period. Many of the new homes built during the 1970s and the 1980s were bought by young families, which resulted in one of the lowest median ages in the nation. In recent years, the population has aged, as many of the children in young families have grown and left home. This demographic shift has had an effect on the city budget in such areas as declining participation in recreation programs and a reduced rate of growth in both sales tax revenue and state road funds, which are based partially on population.

Commercial growth, however, continues along the I-15 corridor. It continues to fuel a strong economy and tax base and provide job opportunities for residents. The I-15 corridor and Trax light rail line on the west side of the city provide both access to downtown Salt Lake City and the opportunity to be a commercial center for the south end of the valley. To address the growing needs of Sandy City and to accommodate regional growth, a vision for the creation of a city center has been developed, called the Cairns District. The Cairns Master Plan is a culmination of more than six years of planning to reimagine the future of Sandy's downtown area (a printer-friendly version is available). Design guidelines for the area are currently being developed based on the goals and policies outlined in this plan.

Jurisdiction-Specific Hazards and Risk

The Calculated Priority Risk Index (CPRI) is a comprehensive assessment tool for evaluating and prioritizing risks in a given context. It considers various factors, such as probability, impact, and urgency, to determine the level of risk associated with events or situations. The results for each hazard, including its risk factor (RF) value, are shown in Table 3. The results are based on the criteria in Table 4 and the equation that follows it. The CPRI helps organizations and individuals make informed decisions about risk management and mitigation strategies. It provides a systematic approach to identifying and addressing potential issues, allowing for a more efficient allocation of resources and proactive risk prevention. With the CPRI, stakeholders can prioritize their focus on the most critical risks, leading to more effective risk management and, ultimately, better outcomes.

Table 3: Calculated Priority Risk Index Values for Sandy City

Type of Hazard Event	Probability of Future Events	Spatial Extent	Severity of Life/ Property Impact	Warning Time	Duration	Response Capacity	Risk Factor Value
Avalanche	1	1	1	4	1	3	1.5
Drought	4	4	2	1	4	1	2.8
Earthquake	3	4	4	4	4	3	3.6
Extreme Heat	4	4	3	1	3	1	3

Type of Hazard Event	Probability of Future Events	Spatial Extent	Severity of Life/ Property Impact	Warning Time	Duration	Response Capacity	Risk Factor Value
Extreme Cold	3	4	2	1	3	1	2.4
Flooding	3	3	2	1	4	1	2.4
Landslide/ Slope Failure	2	1	2	4	1	2	2
Radon	4	4	2	1	4	2	2.9
Heavy Rain	4	3	2	3	1	1	2.6
High Wind	4	3	3	3	2	1	3
Lightning	4	2	2	4	1	1	2.6
Severe Winter Weather	2	4	3	2	3	1	2.5
Tornado	2	2	3	4	1	2	2.4
Wildfire	4	3	3	4	4	1	3.3
Dam Failure	2	2	3	2	2	3	2.4
Civil Disturbance	2	2	2	4	2	1	2.1
Cyberattack	2	1	4	4	4	2	2.9
Hazardous Materials Incident (Transportation & Fixed Facility)	1	1	2	4	3	2	1.9
Public Health Epidemic/ Pandemic	1	4	4	1	4	1	2.5
Terrorism	2	1	3	4	2	1	2.3

Table 4: Criteria for the Calculated Priority Risk Index

Risk Index Factor	Degree of Risk Level		Criteria	Factor Weight for Degree of Risk Level
Probability of Future Events	1	Unlikely	Less than 1 percent probability of occurrence in the next year or a recurrence interval of greater than every 100 years.	30%
	2	Occasional	1 to 10 percent probability of occurrence in the next year or a recurrence interval of 11 to 100 years.	
	3	Likely	11 to 90 percent probability of occurrence in the next year or a recurrence interval of 1 to 10 years.	

Risk Index Factor	Degree of Risk Level		Criteria	Factor Weight for Degree of Risk Level
	4	Highly Likely	91 to 100 percent probability of occurrence in the next year or a recurrence interval of less than 1 year.	
Spatial Extent	1	Limited	Less than 10% of the planning area could be impacted.	10%
	2	Small	10%–25% of the planning area could be impacted	
	3	Significant	25%–50% of the planning area could be impacted.	
	4	Extensive	50%–100% of the planning area could be impacted.	
Severity of Life/Property Impact	1	Negligible	Less than 5% of the affected area's critical and non-critical facilities and structures are damaged/destroyed. Only minor property damage and minimal disruption of life. Temporary shutdown of critical facilities.	30%
	2	Limited	More than 5% and less than 25% percent of property in the affected area is damaged/destroyed. Complete shutdown of critical facilities for more than one day but less than one week.	
	3	Critical	More than 25% and less than 50% of property in the affected area was damaged/destroyed. Complete shutdown of critical facilities for over a week but less than one month.	
	4	Catastrophic	Over 50% of critical and non-critical facilities and infrastructures in the affected area are damaged/destroyed. Complete shutdown of critical facilities for more than one month.	
Warning Time	1	Self-defined	More than 24 hours	10%
	2	Self-defined	12 to 24 hours.	
	3	Self-defined	6 to 12 hours.	
	4	Self-defined	Less than 6 hours.	
Duration	1	Brief	Up to 6 hours.	10%
	2	Intermediate	Up to one day.	
	3	Extended	Up to one week.	
	4	Prolonged	More than one week.	
Response Capacity	1	High	Significant resources and capability to respond to this kind of event; staff are trained, experienced, and ready.	10%
	2	Medium	Some resources and capability to respond to this kind of staff; some staff may be trained,	

Risk Index Factor	Degree of Risk Level		Criteria	Factor Weight for Degree of Risk Level
			experienced, and ready while others may need additional support.	
	3	Low	Limited resources and capability to respond to this kind of event; additional staff or staff training needed.	
	4	None	No resources and capability to respond this kind of event; additional outside support would be required.	

RISK FACTOR (RF) EQUATION

RF Value = [(Probability x 0.30) + (Spatial Extent x 0.10) + (Severity of Life/Property Impact x 0.30) + (Warning Time x 0.10) + (Duration x 0.10) + (Response Capacity x 0.10)]

Hazards with an RF value greater than or equal to 2.5 are considered high risk. Those with RF values of 2.0 to 2.4 are considered moderate risk hazards, and those with an RF value less than 2.0 are considered low risk. The highest possible RF value is 4.

Hazard Event History

Examining hazard event histories provides valuable insights to inform decision-making and help prioritize resources for risk prevention and response efforts. Table 5 lists the hazard events impacting Sandy City since the 2019 plan update, as recorded in the Storm Events Database from the National Centers for Environmental Information.

Table 5: History of Hazard Events in Sandy City

Type of Hazard Event	FEMA Disaster #	Date(s)	Damage or Impacts	Description
Avalanche		N/A	N/A	Has not occurred but there is risk in the mountains close to unincorporated Salt Lake County
Drought		Summers of 2020–2024	The state has been in a drought period over the last few years.	The statewide drought has impacted tourism and local vegetation. Reduced tourism revenue and reduced vegetation.
Earthquake	DR-4548	05/18/2020	Infrastructure/ building damage	Salt Lake Valley earthquake caused damage across the valley.

Type of Hazard Event	FEMA Disaster #	Date(s)	Damage or Impacts	Description
Extreme Heat		Summers from 2020-present	The statewide drought has contributed to this.	Local temperatures have increased in the summer. Cooling centers have been opened by the county.
Extreme Cold		Code Blue Days in the winter (2020-present)	Some cooler temperatures in the winter contribute to Code Blue days. The county has experienced some.	Shelters expand their capacity on Code Blue days.
Flooding		Spring 2023	Basement flooding, debris in streets	Risk of flooding following record snowpack in winter 2022/2023. Sandbags were available.
Landslide/ Slope Failure		N/A	N/A	N/A
Radon		Ongoing risk	54% of Sandy households are at or above WHO's mitigation threshold.	Increased concern with climate change.
Heavy Rain		Spring 2023	Increased snowpack melting and rain caused some flooding.	Some debris in roads, basement flooding
High Wind	DR-4578	09/07/2020	Some wind damage and power outages	Debris in roads
Lightning		N/A	N/A	N/A
Severe Winter Weather		December 2021/January 2022	Lengthy impacts on roadways that were not major thoroughfares.	Several feet of snow came down in one week. Side roads and cul-de-sacs were not cleared for several days.
Tornado		N/A	N/A	Salt Lake City tornado in 1999 impacted road access.
Wildfire		Multiple over the years	Wildlife, vegetation, minor private property damage	Multiple small wildfires have occurred in the city every year.
Dam Failure		N/A	N/A	There are multiple high and significant hazard dams in the city.
Civil Disturbance		N/A	N/A	N/A
Cyberattack		N/A	N/A	N/A
Hazardous Materials Incident (Transportation & Fixed Facility)		November 2023 and October 2019	Hazmat fire and beer truck crash	Businesses were evacuated, a supply plant was damaged, and additional fire support was needed.

Type of Hazard Event	FEMA Disaster #	Date(s)	Damage or Impacts	Description
				Hazmat team completed cleanup after a semi-truck carrying beer crashed into a church parking lot.
Public Health Epidemic/ Pandemic	DR-4525 for COVID-19	February 2020 and January 2020	Minor impacts on residents and drinking water. COVID-19 relief funds were provided to assist residents and local businesses.	Incident in which too much fluoride was released into the water systems. The Emergency Operations Center was activated. The whole world was impacted by the COVID-19 pandemic, which affected city revenue and public health.
Terrorism		N/A	N/A	N/A

National Flood Insurance Program Summary

Sandy City participates in the National Flood Insurance Program (NFIP). Table 6 displays statistics related to the NFIP. Sandy City does not participate in the Community Rating System (CRS).

Table 6: National Flood Insurance Program Status for Sandy City[1]

Initial FHBM Identified	Initial FIRM Identified	Current Effective Map Date	Adopted Date	Date Joined NFIP	Tribal
07/26/1974	12/18/1985	11/19/2021	2021	12/18/1985	No

Table 7: National Flood Insurance Program Overview for Sandy City

Community ID	Number of Losses	Total Net Payment	Active Policies	Total Coverage
490106	9	$41,053.73	45	$14,722,000

Sandy City has designated the Public Utilities Director as the Floodplain Administrator. Public Utilities helps address local flood issues across the city due to rainstorms, snowmelt, or groundwater. The current Floodplain Overlay Zone Ordinance is dated 2/5/2025. The current effective Flood Insurance Rate Mape (FIRM) is dated 11/19/2021. The city, through the Public Utilities Department, issues Floodplain Development Permits for construction in the Special Flood Hazard Area (SFHA). Substantial damage/substantial improvement determinations are made through the building permit application process. The Floodplain Administrator utilizes the guidance provided in the Federal Emergency Management Agency's (FEMA) Substantial Improvement/Substantial Damage Desk Reference to make determinations. Structures that meet these definitions are required to come into compliance with current codes and standards.

[1] FIRM = Flood Insurance Rate Map, FHBM = Flood Hazard Boundary Map

Jurisdiction-Specific Vulnerabilities and Impacts

Table 8 provides information on the vulnerable assets in Sandy City, including its critical facilities, highlighting the city's vulnerability to identified hazards. It also describes the potential impacts to the community arising from those vulnerabilities. Impacts are the consequences or effects of each hazard on the assets. By understanding the risks associated with these assets, local authorities can develop proactive strategies to mitigate vulnerabilities and ensure the safety and functionality of these important assets during hazard events. These data are invaluable for decision-making and prioritizing resources for emergency response and preparedness efforts, ultimately contributing to more effective risk management and greater resilience in the community.

Vulnerable assets in Sandy: All 91,934 residents can be vulnerable to hazards, including particularly vulnerable populations such as the elderly, children, people with disabilities, and low-income residents. Seven percent of Sandy City's population under age 65 has a disability. Critical facilities include 5 fire stations, 1 police station, 2 hospitals, 31 schools, and 1 EOC. Community centers include Sandy Amphitheater, America First Field, Dimple Dell Regional Park, Dimple Dell Recreation Center, Quail Hollow Park, Lone Peak Park, Hidden Valley Golf Club, and multiple trailheads. Economic centers are near primary roads such as I-15 interchanges, along State Street, and along 9000/9400 South. Sandy Historic District includes over 300 structures located between State Street and 700 East, and between 9000 South and Pioneer Avenue.

Table 8: Jurisdiction-Specific Vulnerabilities and Impacts in Sandy City

Hazard	Vulnerable Asset	Description of Vulnerability and Impacts
Avalanche	People	*Vulnerability:* Backcountry enthusiasts are vulnerable to avalanches, with limited risk to residences on the East Bench slopes. *Impacts:* Avalanches can lead to injuries or fatalities. Although an avalanche is unlikely in the city, those who venture into the backcountry may be at risk. Skiers, snowboarders, and snowshoers who venture into backcountry areas are at higher risk because they may not be familiar with avalanche terrain or conditions. Their activities often take them into areas prone to avalanches. Inexperienced individuals: People without adequate training or knowledge about snow safety and avalanche risk are particularly vulnerable. A lack of awareness about signs of instability in the snowpack or how to respond in an avalanche situation can increase risk. Tourists and non-locals: Visitors who are unfamiliar with the local geography and snow conditions might not recognize potential hazards. They might not know the terrain features that can influence avalanche risk. Professionals in high-risk areas: Workers such as mountain guides and construction crews operating in mountainous regions may be at risk, especially during avalanche control work or if they are required to traverse unstable areas as part of their job.

Hazard	Vulnerable Asset	Description of Vulnerability and Impacts
		Groups without proper gear: Those without appropriate safety equipment (like avalanche beacons, probes, and shovels) are at greater risk because they may not be able to respond effectively to an avalanche event. Individuals ignoring warnings: People who do not heed avalanche warnings or neglect to check avalanche forecasts before going into the backcountry may place themselves in harm's way.
	Structures	*Vulnerability:* Homes and businesses on the high East Bench of Sandy and water facilities may be damaged by avalanche. *Impacts:* Their roofs may not be designed to withstand the weight of accumulated snow, increasing the likelihood of structural failure.
	Economic Assets	*Vulnerability:* Winter sports-related business are vulnerable to avalanches. *Impacts:* Shutdown of nearby commercial skiing areas can cause major loss of revenue and taxes to the city. Businesses could suffer structural damage or total loss. Road closures and necessary repairs can be expensive.
	Natural, Historic, and Cultural Resources	*Vulnerability:* Forests, trails, wildlife habitats, and watershed areas are vulnerable. *Impacts:* Avalanche can uproot trees, strip slopes of vegetation, and lead to erosion. There are several popular trailheads and hiking trails along the East Bench that could be damaged or where people could encounter harm from avalanche.
	Critical Facilities and Infrastructure	*Vulnerability:* Power lines, gas lines, water supply, and transportation systems can be damaged. *Impacts:* Utilities can be damaged, and outages could affect other facilities, homes, and businesses. Roads and highways: Avalanches can heavily affect transportation infrastructure, leading to blockages and the potential for damage to vehicles and road surfaces. Little Cottonwood Canyon Road/Highway 210 and Wasatch Boulevard could be blocked by avalanches or may be backed up during road closures for avalanche mitigation in the canyon.
	Community Activities	*Vulnerability:* Recreation opportunities are vulnerable to avalanches. *Impacts:* Winter hiking and activities on the mountain benches could cause loss of life and difficulty locating missing persons. Summer recreation areas can also be damaged by avalanche.
Drought	People	*Vulnerability:* All of Sandy City is vulnerable to drought. *Impacts:* Possible lack of culinary water to all populations. Elderly, young, and homeless individuals are particularly vulnerable and might not be able to obtain water for hydration. Residents may face restrictions or increased costs for water. Air and water quality are also vulnerable.
	Structures	*Vulnerability:* All structures are vulnerable. *Impacts:* Structures may need to switch to water-wise landscaping. There may be increased water and utility costs, especially if drought is coupled with extreme heat. Severe, prolonged drought can contribute to changes in soil conditions that may result in cracks in foundations or walls.

Hazard	Vulnerable Asset	Description of Vulnerability and Impacts
	Economic Assets	*Vulnerability:* Businesses, particularly those that depend heavily on water, are vulnerable. *Impacts:* Increased water costs. Businesses providing water recreation and outdoor landscaping will be unable to continue normal operations.
	Natural, Historic, and Cultural Resources	*Vulnerability:* Vegetation, parks, and open spaces are vulnerable to drought. *Impacts:* Much of Sandy's East Bench is in the wildlife–urban interface (WUI), and homes are at risk. Parks, golf courses, and urban forests may suffer from drought conditions, making the city less green and increasing heat levels. Dimple Dell Regional Park and other outdoor recreation areas, such as parks and golf courses, may experience deterioration in the health of vegetation and their aesthetic appeal during drought. Drought increases wildfire risk, which poses a risk to homes and structures in the WUI areas.
	Critical Facilities and Infrastructure	*Vulnerability:* Water systems are vulnerable to drought. *Impacts:* Water supply systems are susceptible to drought and may struggle to deliver adequate water supply to the community. There may be a lack of water in the drinking water supply and secondary water for irrigation.
	Community Activities	*Vulnerability:* Community events and recreation are vulnerable to drought. *Impacts:* Recreational spaces such as parks, golf courses, pools, and other open spaces may be vulnerable to poor vegetation health and reduced appeal during drought. The city may struggle with maintenance and increased costs for landscaping and pools. Outdoor recreation or community events may be moved to other locations, especially if local vegetation dies off or invasive species arise.
Earthquake	People	*Vulnerability:* All people in the Salt Lake Valley would be affected, especially those with access and functional needs. *Impacts:* Over 90,000 people in Sandy are vulnerable. People may be injured or killed and may be displaced from their homes. Power outages are a concern for those who have medical equipment or are at critical facilities. Disruption to utilities and infrastructure will disrupt daily life for all residents.
	Structures	*Vulnerability:* All structures in the city are vulnerable. *Impacts:* Catastrophic damage to homes and buildings is likely.
	Economic Assets	*Vulnerability:* All businesses are vulnerable to the impacts of an earthquake. *Impacts:* A complete shutdown of economic activities in Sandy and throughout Salt Lake County could occur.
	Natural, Historic, and Cultural Resources	*Vulnerability:* Sandy Historic District and other historic structures are vulnerable to earthquakes. *Impacts:* Older structures are more likely to experience damage from an earthquake due to the lack of seismic building codes when they were built.
	Critical Facilities and Infrastructure	*Vulnerability:* All critical facilities and infrastructure are potentially vulnerable to earthquakes.

Hazard	Vulnerable Asset	Description of Vulnerability and Impacts
		Impacts: Critical structures for supplies of clean water, power, communication, and natural gas, as well as roadways in and out of Salt Lake Valley, will be affected. Damage to I-15, State Street, 9000/9400 South, and Trax trail lines may occur. Hospitals may be affected, particularly Alta View Hospital (AVH), which is located on the East Bench of Sandy City. Fire and police facilities could be damaged, and emergency response could be delayed.
	Community Activities	*Vulnerability:* All community events are vulnerable to disruption by earthquakes. *Impacts:* Community activities will be stopped. There may be an activation of community emergency volunteers and the Community Emergency Response Team. Evacuations may occur, and there may be a need for FEMA resources.
Extreme Heat	People	*Vulnerability:* All residents are vulnerable, with increased risk for the elderly, young, and those experiencing homelessness. *Impacts:* Extreme heat can lead to severe heat-related illnesses such as dehydration, heat exhaustion, and heat stroke, which can be fatal.
	Structures	*Vulnerability:* All structures are vulnerable to damage from extreme heat. *Impacts:* Prolonged heat exposure can weaken building materials, causing cracks in concrete, warping of wood, and deterioration of roofing materials.
	Economic Assets	*Vulnerability:* All businesses are vulnerable to the impacts of extreme heat. *Impacts:* Businesses may face increased energy costs and reduced worker productivity due to heat-related stress.
	Natural, Historic, and Cultural Resources	*Vulnerability:* Vegetation and parks are vulnerable to extreme heat. Impact: Extreme heat can dry out vegetation, increasing wildfire risks that can destroy forests, parks, and historic sites. Outdoor events and supporting activities may need to be postponed or canceled due to heat risks.
	Critical Facilities and Infrastructure	*Vulnerability:* Power infrastructure, transportation, and water systems are vulnerable to extreme heat. *Impacts:* Increased use of air conditioning can overload the power grid. Extreme heat can also cause roads to soften, crack, and buckle, creating transportation hazards. Prolonged extreme heat can also increase water demand while leading water reservoirs to evaporate faster, putting pressure on water systems.
	Community Activities	*Vulnerability:* Summer public events are vulnerable to extreme heat. *Impacts:* Multiple large city events, including July 4th celebrations and the Balloon Festival, could lead to medical emergencies for attendees due to heat exposure.
Extreme Cold	People	*Vulnerability:* All Sandy residents are vulnerable, with some demographics are at higher risk. *Impacts:* Extreme cold can cause illnesses such as hypothermia or frostbite. There is a heightened risk for the elderly, the young, and those experiencing homelessness. Approximately 6.5% of residents

Hazard	Vulnerable Asset	Description of Vulnerability and Impacts
		are under age 5, and 14.9% are over age 65 in Sandy and are vulnerable. The number of unhoused persons is unknown.
	Structures	*Vulnerability:* All structures are vulnerable to damage from extreme cold. *Impacts:* Water can freeze, expand, and burst pipes. Heavy snow accumulation can also collapse roofs, especially on older/weaker structures. Freeze–thaw cycles can also weaken building foundations and cause cracks in roads, bridges, and sidewalks.
	Economic Assets	*Vulnerability:* Extreme cold can lead to increased heating costs. *Impacts:* Outdoor winter businesses and recreation, such as skiing, could be affected or closed down due to unsafe outdoor temperatures, causing a loss of revenue for industry businesses. There is also a high cost of road salt for city and county road maintenance.
	Natural, Historic, and Cultural Resources	*Vulnerability:* The historic district and wildlife are vulnerable to extreme cold. *Impacts:* Historic homes may be less efficient at maintaining a warm interior and may be at increased risk for broken pipes. Extreme cold can harm local wildlife by reducing food sources.
	Critical Facilities and Infrastructure	*Vulnerability:* Critical facilities, transportation networks, and power systems are vulnerable to extreme cold. *Impacts:* The operations of fire and police stations or hospitals could be disrupted by power failures or water line breaks. Increased demand for electricity and natural gas for heating can overload systems and lead to outages. Transportation can also be disrupted due to secondary hazards, leading to closures, accidents, and delays. Colder temperatures can also freeze water infrastructure, leading to supply disruptions and costly repairs.
	Community Activities	*Vulnerability:* Commuting, roadway safety, and community events are vulnerable to extreme cold. *Impacts:* Extreme cold can cause schools and offices to close or delay their start. Extreme cold can also reduce participation in outdoor sports, events, and activities.
Flooding	People	*Vulnerability:* Population in 1% and 0.2% chance annual flood zones is vulnerable to flooding, including areas near Jordan River, Dry Creek, Little Cottonwood Creek, Rocky Mouth, and Big and Little Willow Creeks. *Impacts:* The population on the East Bench at canyon mouths, along creeks, and homes in the valley where water will accumulate is at risk. People can be injured or killed by fast-moving floodwaters. Residents can be displaced due to evacuations or flood damage to homes.
	Structures	*Vulnerability:* Any structure along natural waterways and in low-level flood planes at the base of the Wasatch Mountains is vulnerable to flooding. *Impacts:* Water can cause significant structural damage.
	Economic Assets	*Vulnerability:* Businesses near waterways are vulnerable to flooding. *Impacts:* Flooding can cause damage to structures, resulting in increased insurance claims.

Hazard	Vulnerable Asset	Description of Vulnerability and Impacts
	Natural, Historic, and Cultural Resources	*Vulnerability:* Rivers and creeks are vulnerable to flooding. *Impacts:* During high runoff, severe erosion along creeks can occur.
	Critical Facilities and Infrastructure	*Vulnerability:* No critical facilities were identified in SFHAs. However, water distribution systems at the base on the East Bench and major roadways, such as 2000 East and 1300 East that cross flood areas are vulnerable. *Impacts:* Water treatment facility in Little Cottonwood Canyon could be damaged. Floodwaters could block, damage, or wash out major roads.
	Community Activities	*Vulnerability:* Recreation and community events are vulnerable to flooding. *Impacts:* Areas of hiking and recreation in the flood zones would have to be shut down, and security would need to be enforced due to the danger. Commuting would be difficult because of poor road conditions.
Landslide/ Slope Failure	People	*Vulnerability:* People residing on the East Bench and along the entire Dimple Dell Gully on both the North and South slopes could be affected by landslides. *Impacts:* People could be injured if caught in a fast-moving landslide. If homes are impacted, residents would be displaced.
	Structures	*Vulnerability:* Structures in the same area as described in the People section are vulnerable to landslides. *Impacts:* Many large homes built on the East Slope and on the edges of the gully are at risk of damage from slope failure. Residences or other structures can be damaged or destroyed by a landslide.
	Economic Assets	*Vulnerability:* Businesses in landslide-susceptible areas are vulnerable to impacts. *Impacts:* Large insurance claims may arise due to structure or home damage. If roads are damaged, costly repairs could be required. Disruptions to transportation networks could affect nearby businesses.
	Natural, Historic, and Cultural Resources	*Vulnerability:* The natural landscape and outdoor recreation areas are vulnerable to landslides. *Impacts:* Landslides can cause damage to wildlife refuge areas and established hiking/recreation areas.
	Critical Facilities and Infrastructure	*Vulnerability:* Water treatment/storage areas on the upper East Bench may be affected by landslides. *Impacts:* Landslides could disrupt water delivery to communities.
	Community Activities	*Vulnerability:* Outdoor recreation in affected areas is vulnerable to landslides. *Impacts:* Trailheads and trails could be damaged or become inaccessible for use.
Radon	People	*Vulnerability:* UtahRadon.org reports that 54% of homes in Sandy test with dangers levels of radon, and residents are vulnerable. Test results aggregated by zip code indicate vulnerability may be higher in the northeast area of Sandy.

Hazard	Vulnerable Asset	Description of Vulnerability and Impacts
		Impacts: Radon is the second leading cause of lung cancer after smoking. Certain populations, such as children, the elderly, and those with respiratory conditions, are more vulnerable.
	Structures	*Vulnerability:* Although radon does not directly damage structures, some buildings may be more likely to accumulate radon gas, increasing exposure to occupants. *Impacts:* Radon enters buildings and homes through cracks in foundations, basements, and crawl spaces. Many homes would need proper mitigation to reduce radon levels.
	Economic Assets	*Vulnerability:* Medical businesses and household budgets are vulnerable to the impacts of radon exposure. *Impacts:* Long-term exposure can lead to increased medical expenses for lung cancer treatment and respiratory issues.
	Natural, Historic, and Cultural Resources	*Vulnerability:* Older structures may lack modern radon-resistant designs, making mitigation more difficult and expensive. *Impacts:* Residents in historic homes may have higher exposure to radon, and more homes may require mitigation.
	Critical Facilities and Infrastructure	*Vulnerability:* City facilities are vulnerable to radon accumulation. *Impacts:* Employees and patrons in critical facilities may be vulnerable if radon levels accumulate to high levels. Radon can dissolve into groundwater, potentially affecting well water sources.
	Community Activities	*Vulnerability:* Indoor community events are vulnerable to radon exposure. *Impacts:* Some venues could be avoided, especially in buildings with high radon levels. Mitigation measures may be needed for those who are immunocompromised.
Heavy Rain	People	*Vulnerability:* Residents along waterways on the East Bench and floodplain areas on the west side of the city are vulnerable to heavy rain impacts. *Impacts:* Heavy rain could cause flash flooding along roadways and low-lying areas if drainage systems are overwhelmed. People near drainage systems and waterways may be at risk of injury or drowning during flash flooding. Residents may be displaced if homes are flooded. Flash flooding places those traveling on roadways in danger, particularly if they choose to drive through floodwaters. Vehicles can be carried away in floodwaters, and occupants may be injured or killed.
	Structures	*Vulnerability:* Homes and business along Little Cottonwood Creek, Dry Creek, and Big and Little Willow Creeks are vulnerable to flooding. *Impacts:* Structures may encounter flooding from large amounts of stormwater runoff. Water can cause severe damage to buildings and their contents.
	Economic Assets	*Vulnerability:* Businesses in low-lying areas are vulnerable to flooding. *Impacts:* Flooding or water damage may close businesses, leading to financial losses. Outdoor construction projects may be delayed due to heavy rain.
	Natural, Historic, and	*Vulnerability:* Waterway ecosystems are vulnerable to heavy rain impacts.

Hazard	Vulnerable Asset	Description of Vulnerability and Impacts
	Cultural Resources	*Impacts:* Increased soil erosion can harm these ecosystems.
	Critical Facilities and Infrastructure	*Vulnerability:* Roads, emergency response, and stormwater systems are vulnerable to heavy rain impacts. *Impacts:* Roads can become dangerous or unpassable due to standing water, creating a public safety issue. There could be disruption to essential services and potential access issues for police and fire response. Heavy rain could overwhelm drainage systems. Roads could be inundated or washed out. Roads along waterways, particularly on the East Bench, could be affected, including Little Cottonwood Canyon Road and Wasatch Boulevard.
	Community Activities	*Vulnerability:* Trails and community events are vulnerable to heavy rain impacts. *Impacts:* The public might avoid outdoor hiking areas due to flash flood dangers. Commuting during heavy rain is dangerous due to road conditions. Outdoor activities may be canceled or delayed.
High Wind	People	*Vulnerability:* Any resident or visitor in the area is vulnerable. *Impacts:* Public safety is a concern. Blowing debris or falling limbs can cause injury or death. Those with access and functional needs may need assistance with evacuating or obtaining additional resources, especially if the power goes out.
	Structures	*Vulnerability:* High-profile buildings along the I-15 corridor, homes, and businesses are vulnerable to high wind. *Impacts:* High winds can damage houses and commercial buildings. Flying debris can shatter windows. Sheds, fences, and older homes are more vulnerable to wind damage.
	Economic Assets	*Vulnerability:* Businesses in high profile buildings are vulnerable to high wind. *Impacts:* Most of the retail and office space in the city is in and around the high-profile buildings, which are susceptible to damage from high winds. This could cause temporary or moderate shutdowns of activities. It also creates a large draw on insurance claims in the city.
	Natural, Historic, and Cultural Resources	*Vulnerability:* Trees are vulnerable to high wind. *Impacts:* Sandy City has a large number of large trees, creating a hazard of downed trees. This situation can contribute to injuries and structure damage and also requires major debris cleanup resources.
	Critical Facilities and Infrastructure	*Vulnerability:* City Hall and other city facilities, as well as power infrastructure, are vulnerable to high wind. *Impacts:* City Hall sits in the middle of the susceptible areas. Wind damage to power lines and IT network lines can lead to power outages, which can disrupt emergency response and government operations.
	Community Activities	*Vulnerability:* Public events are vulnerable to high wind. *Impacts:* Community events and activities may be postponed or canceled due to high wind conditions.

Hazard	Vulnerable Asset	Description of Vulnerability and Impacts
Lightning	People	*Vulnerability:* Lightning can occur anywhere in the city. All residents are vulnerable, but those working or engaging in recreational activities outdoors are at increased risk. *Impacts:* Areas where people may be at higher risk of lightning strike include flat or exposed ground such as parks or golf courses. Locations such as hiking trails, Dimple Dell Park, and city parks are also vulnerable. Direct lightning strikes on people can cause severe burns, cardiac arrest, or neurological damage. Strikes hitting trees, metal structures, or ground currents can also injure people.
	Structures	*Vulnerability:* Tall buildings along the I-15 corridor are vulnerable to lightning strikes. *Impacts:* Lightning strikes can ignite house fires. Barns, sheds, and outdoor storage buildings are also vulnerable.
	Economic Assets	*Vulnerability:* All businesses are vulnerable to lightning strikes. *Impacts:* Lightning can disrupt power and telecommunications systems. Business disruptions resulting from lightning strikes can lead to business closures or financial losses.
	Natural, Historic, and Cultural Resources	*Vulnerability:* Lightning increases the risk of wildfire in WUI. *Impacts*: Trees and vegetation could be damaged or destroyed by lightning or fire.
	Critical Facilities and Infrastructure	*Vulnerability:* Power, cell towers, and other internet/communications infrastructure are vulnerable to lightning strikes. *Impacts:* These systems can be damaged by lightning strikes, which can delay emergency services and cause disruptions throughout the community.
	Community Activities	*Vulnerability:* Outdoor recreation is vulnerable to lightning strikes. *Impacts:* Outdoor events may be delayed or canceled, especially if lightning is likely to occur in certain areas.
Severe Winter Weather	People	*Vulnerability:* All Sandy residents are potentially vulnerable to severe winter weather such as heavy snow. East Bench is at a higher elevation and often sees higher snow accumulation, and residents in this area are at higher risk. *Impacts:* Public safety is a concern due to traffic accidents from the heavy snow. People can be injured in car accidents while driving in severe winter weather conditions or may be stuck in vehicles or away from home. People are at risk of injuries from slips and falls due to slick conditions. Older residents or people with disabilities may be particularly vulnerable to injury. People who rely on home health or other home delivery services may be at risk due to travel delays. The unsheltered population is vulnerable to exposure or hypothermia.
	Structures	*Vulnerability:* Severe winter weather could affect structures anywhere in Sandy, but the higher elevations along the East Bench tend to receive higher snow accumulation. *Impacts:* Flat-roofed buildings in older neighborhoods may be damaged by heavy snow loads. Heavy snow loads can cause roofs to collapse, especially for older buildings, barns, or poorly maintained structures. Prolonged freezing temperatures can cause pipes to burst,

Hazard	Vulnerable Asset	Description of Vulnerability and Impacts
		leading to water damage. Freeze–thaw cycles can crack foundations, driveways, and roads.
	Economic Assets	*Vulnerability:* Businesses throughout Sandy are vulnerable to severe winter weather. *Impacts:* Telecommunications and power infrastructure can be affected, leading to shutdowns of commerce due to travel restrictions. There are high costs for snow removal and salt for city/county operations. Severe winter weather may shut down businesses and schools. The retail and tourism industries may see fewer customers during extreme winter weather. There will also be an increased demand for heating and electricity, raising energy costs for homes and businesses. Severe winter weather can also delay or halt deliveries, affecting grocery stores, fuel, and other essential goods.
	Natural, Historic, and Cultural Resources	*Vulnerability:* Parks and trees are vulnerable to severe winter weather. *Impacts:* Downed trees or broken branches can occur due to heavy snow load, causing damage to parks and trails.
	Critical Facilities and Infrastructure	*Vulnerability:* Roads, power, communication, and emergency response systems are vulnerable to severe winter weather. *Impacts:* Heavy snow creates road and travel dangers. This hinders commuters, reduces the ability of emergency vehicles to respond in the city, and increases call for rates about traffic-related incidents. Roads might be impassable due to snowdrifts or accidents. Major roads such as I-15, State Street, 9000/9400 South, and Wasatch Boulevard, as well as numerous smaller routes may be inaccessible or may experience severe delays. Buses, trains such as Trax, and flights may be delayed or canceled. Emergency services may be delayed due to road conditions. Heavy snow also increases the risk of damage to critical infrastructure, including power and telecommunications equipment. Downed power/telecommunications lines can impair emergency response. Heavy snow can weigh down power lines, causing widespread outages and leaving homes without power.
	Community Activities	*Vulnerability:* Disruptions to daily activities such as commuting, school, and recreation are possible during severe winter weather. *Impacts:* Severe winter weather creates roadway danger for commuting and traveling. These conditions may force schools to close. Outdoor activities such as skiing and snowshoeing may be too hazardous. Recreational facilities and city parks may close. Homeless shelters and warming centers may see increased demand as people seek protection from the extreme cold. Variable conditions contribute to avalanche risk.
Tornado	People	*Vulnerability:* All people in the path of a tornado are vulnerable, particularly those in buildings with large glass windows. *Impacts*: Similar to downslope and other high wind events, residents are at risk of injury or death from flying debris and collapsing buildings, especially those in mobile homes or weak structures. Individuals without access to basements or similar storm shelters are more vulnerable to injury. Older residents and those with limited mobility or other disabilities are also vulnerable. Outdoor workers or others without shelter are at high risk of injury.

Hazard	Vulnerable Asset	Description of Vulnerability and Impacts
	Structures	*Vulnerability:* Glass buildings and small RV/trailer park areas are vulnerable to tornado damage. Sandy City has three mobile/manufactured home communities that are at risk: Sandy Mobile Home Park, Sandee Village Mobile Home Park, Crescentwood Village Manufactured Home Community. *Impacts:* High winds can rip roofs off houses, shatter windows, and collapse walls. Tornadoes can flatten shopping centers, businesses, and restaurants, leading to long-term closures. Mobile homes and other structures that are not firmly anchored are at extreme risk.
	Economic Assets	*Vulnerability:* Businesses in the path of a tornado are vulnerable. *Impacts:* Damage to businesses can lead to closures, layoffs, and financial losses. Industries such as retail, hospitality, and manufacturing may be disrupted for weeks or months.
	Natural, Historic, and Cultural Resources	*Vulnerability:* Trees, parks, and vegetation are vulnerable to tornado damage. *Impacts:* There is potential for wildfires sparked by downed power lines. Tornadoes can uproot trees, destroy parks, and damage local ecosystems.
	Critical Facilities and Infrastructure	*Vulnerability:* Power, communication networks, roads, and critical facilities are vulnerable to tornado damage. *Impacts:* Tornadoes can knock down power lines and damage substations, leaving residents and businesses without power for days or weeks depending on the severity of damage. Highways like I-15 could be blocked by debris. Traffic signals and streetlights may be damaged, as well as schools, public facilities, and communication infrastructure.
	Community Activities	*Vulnerability:* Schools, public facilities, and transportation are vulnerable to disruptions caused by tornadoes. *Impacts:* Evacuation routes and emergency access may be limited along the path of damage. Schools and public facilities may close temporarily for repairs.
Wildfire	People	*Vulnerability:* People residing along the WUI, the East Bench, and Dimple Dell Park are vulnerable to wildfires. *Impacts:* Residents may be evacuated or permanently displaced from homes by wildfire. Wildfire can kill those unable to evacuate quickly.
	Structures	*Vulnerability:* Homes, garages, sheds, and Salt Lake County Park buildings are vulnerable to wildfire damage. *Impacts:* Wildfires can burn entire neighborhoods, especially those within the WUI. Homes without defensible space are more vulnerable.
	Economic Assets	*Vulnerability:* Business operations are vulnerable to disruptions and losses caused by wildfires. *Impacts:* Power and telecommunications poles can be damaged by wildfires. Stores, restaurants, and offices may be forced to shut down due to fire damage, evacuations, or power outages.
	Natural, Historic, and Cultural Resources	*Vulnerability:* Large areas of designated protected wildlife areas in Dimple Dell and the Wasatch Front are vulnerable to wildfires. Drought and extreme heat can increase the risk of wildfires.

Hazard	Vulnerable Asset	Description of Vulnerability and Impacts
		Impacts: Wildfire can burn thousands of acres of forests, grasslands, and habitats, displacing wildlife. The loss of vegetation can lead to erosion, landslides, and long-term environmental damage.
	Critical Facilities and Infrastructure	*Vulnerability:* Many power and telecommunications infrastructures are vulnerable to wildfires, especially along and in WUI areas. Road networks and water supply systems are also vulnerable. *Impacts:* Fire can damage electrical grids, transformers, and transmission lines. Roads may be closed due to flames, smoke, or fallen trees. If the water supply systems are damaged, firefighting efforts become more difficult. Emergency services and hospitals may be overwhelmed.
	Community Activities	*Vulnerability:* Community activities, recreation, work, school. *Impacts:* Possibility of extensive private property loss, power outages, life safety issues in outdoor recreation areas. Community events/activities may be canceled or postponed. Schools may close due to damage. Workplaces may remain closed for days or weeks due to evacuation and/or damage.
Dam Failure	People	*Vulnerability:* Any individuals in or around the base of the Bells Canyon watershed or within the White Pine, Red Pine, Alta Canyon, or Flat Iron Mesa dam inundation boundaries are vulnerable to dam failure. *Impacts:* Those downstream could be injured or displaced due to dam failure.
	Structures	*Vulnerability:* Homes, schools, and water storage facilities are vulnerable to damage or destruction from dam failure. *Impacts:* Large amounts of water from the Bell Canyon reservoir could cause major damage to homes and roadways located directly below.
	Economic Assets	*Vulnerability:* Businesses located in the dam inundation zone are vulnerable to dam failure. *Impacts:* Businesses could be damaged or disrupted due to interruptions in power, communications, or transportation systems. Water storage, telecommunications towers, roads, and/or public buildings such as schools may require costly repairs.
	Natural, Historic, and Cultural Resources	*Vulnerability:* High-volume recreational trails along the dam and below the site of rupture are vulnerable to dam failure. *Impacts:* The Bell Canyon Reservoir holds a substantial amount of water high above the heavily populated East Bench. There is also a large amount of outdoor recreation at the base of the reservoir. The inundation area of this reservoir is not included in the mapped dam failure inundation areas. Large amounts of water could cause significant damage and possible life safety risks to residents in the downslope area of Wasatch Boulevard and Dimple Dell Gully. Trails and trailheads could be damaged or washed out and become unusable.
	Critical Facilities and Infrastructure	*Vulnerability:* One fire station, two schools, major roads, and utilities are vulnerable to dam failure. *Impacts:* One fire station and one school are within the Flat Iron Mesa inundation boundary, and one school in the Alta Canyon inundation area could be damaged by a failure.

Hazard	Vulnerable Asset	Description of Vulnerability and Impacts
		Homes and schools in the flood path have limited immediate evacuation routes. Flooding could damage electrical grids, substations, and transformers, leading to power outages. Gas lines could be damaged, increasing the risk of fires and explosions. Roads could become impassable, and emergency services may struggle to reach people due to these conditions and may become overwhelmed.
	Community Activities	*Vulnerability:* Life safety in schools, homes, and recreation areas. *Impacts:* People could be injured, property damaged, and community activities disrupted or canceled.
Civil Disturbance	People	City employees and business district employees/visitors. If demonstrations escalate, people could suffer injuries from physical altercations, tear gas, and projectiles.
	Structures	Sandy City Hall, local businesses, Hale Center Theater, Mountain America Administration Building, multiple high-rise high-density housing buildings. Sandy City Amphitheater and Mountain America Exposition Center could be targeted for graffiti, broken windows, arson, or other damage.
	Economic Assets	City Hall, Mountain America Credit Union (MACU) Administration, the Amphitheater and AVH are all in critical and busy commuting areas. Mountain America Expo are at risk within Sandy City. Civil unrest can force store closures, reducing revenue. Tourists and shoppers may avoid certain areas affecting local businesses and restaurants. Businesses may struggle with costly repairs.
	Natural, Historic, and Cultural Resources	The Hale Center Theater is in the middle of the high-target area. Demonstrations in parks or streets may result in environmental damage.
	Critical Facilities and Infrastructure	The Emergency Operations Center, City Hall, and Sandy Police Department headquarters are places where people could protest. Protestors may block access to roads delaying emergency response.
	Community Activities	Area of high traffic. America First Field is in the area. Community events and activities may be postponed or canceled
Cyberattack	People	Government and banking buildings. MACU headquarters is near City Hall and is a major target in the city. Cyberattacks could interrupt government work, public safety, and critical infrastructure operation. A data breach could result in cybercriminals stealing personal information, tax documents, and other critical records.
	Structures	IT communication systems, IT storage, Businesses, government buildings, and public spaces could be targeted for graffiti, broken windows, arson, or other damage.
	Economic Assets	All city systems and transactions, EMS/Police data, banking data could be impacted. Cyberattacks can disrupt financial systems, causing delays in payroll and payment processing, licensing and permitting, as well as other essential services and record management.
	Natural, Historic, and	A cyberattack on Sandy City's water supply or power grid could disrupt irrigation systems impacting parks and other natural areas.

Hazard	Vulnerable Asset	Description of Vulnerability and Impacts
	Cultural Resources	
	Critical Facilities and Infrastructure	Sandy City's data system at City Hall and at remote locations/ departments around the city that could be impacted by a cyberattack. A cyberattack on Rocky Mountain Power our Enbridge gas could lead to power outages, gas shortages, and water system failures. A breach at Intermountain Healthcare could compromise patient records, delay medical treatment, and disrupt emergency services. Attacks on 911 dispatch systems could day emergency response times.
	Community Activities	Sandy Amphitheater connected to Sandy Network could cause a shutdown. Cyberattacks can disrupt school and education, delay government services, and spread misinformation which can lead to public distrust
Hazardous Materials Incident (Transporta-tion & Fixed Facility)	People	Traffic on I-15, America First Field next to BD Medical, Trax on 9000 S 150 E. Exposure to toxic chemicals, fumes, or radiation can cause burns, respiratory issues, poisoning, and long-term diseases (cancer or organ damage). Immediate health effects that could occur include nausea, dizziness, difficulty breathing, and skin irritation. Residents and businesses near the spill or explosion site may need to evacuate and people may need to temporarily shelter somewhere.
	Structures	BD Medical, Steris, I-15, America First Field, Trax, Mountain America Exposition Center are vulnerable to this hazard. hazardous materials explosion at a gas station, industrial site, or along a transportation route could destroy nearby homes, businesses, and other critical infrastructure.
	Economic Assets	Major shutdown of largest transportation route in Utah. Businesses within hazard zones may be forced to close for weeks or months for cleanup. Road closures due to a spill on I-15 or nearby railways could delay supply chain and daily commute. Government agencies and businesses may face millions of dollars in cleanup expenses and legal claims from affected residents.
	Natural, Historic, and Cultural Resources	BD Medical next to America First Field could create a very large mass casualty event during a sporting event at the stadium. Chemicals could seep into groundwater, rivers, and wetland areas impacting Sandy City's water supply and local ecosystems.
	Critical Facilities and Infrastructure	I-15, Trax could be impacted by a hazardous materials incident. Firefighters, police, and local hospitals could be overwhelmed, delaying response times for other emergencies as well. Powerlines could be damaged causing power outages, if a train derailment or truck accident involved hazardous chemicals transportation roads could be closed.
	Community Activities	Sporting events with large amounts of people could be targets for a planned incident or casualties of an accidental incident. Community events and activities may be postponed or canceled due to air quality concerns or evacuation orders.
Public Health Epidemic/ Pandemic	People	All citizens, but especially the elderly, the young and high-risk populations. Fear of infection could cause panic, distrust, and social unrest. Isolation from quarantines, lockdowns, and social distancing can lead to depression, anxiety, and stress.

Hazard	Vulnerable Asset	Description of Vulnerability and Impacts
	Structures	Assisted living and senior living, commercial areas around South Towne Mall. Public buildings, public transportation systems, and shared public spaces may require frequent cleanings and modifications to prevent the spread of disease.
	Economic Assets	High use of EMS, shutdown of commercial districts, shutdown of sporting events. Retail stores, restaurants, and small businesses may suffer from reduced foot traffic, workforce shortages, or mandatory shutdowns. Increased demand for hospital care, medications, and vaccines could become costly.
	Natural, Historic, and Cultural Resources	Parks and natural hiking trails and events may close or limit access to prevent gatherings and disease spread.
	Critical Facilities and Infrastructure	Overload of medical resources including EMS, AVH, and freestanding clinics. Hospitals and urgent care clinics may become overwhelmed, leading to long waiting times and shortages of medical staff. Fewer people may use public transportation systems, if utility workers and emergency service providers get sick, critical services may slow down leading to increased response times.
	Community Activities	Cancelation of all events in the city. Large gatherings like sports games, religious services, and community events may be canceled or restricted. Schools and workplaces may implement virtual classes and remote work.
Terrorism	People	Key targets include America First Field, Mountain America Exposition Center, BD Medical, and Steris. A terrorist attack in a public area (such as a shopping center, school, or public event) could result in mass casualties and injuries.
	Structures	Key targets include America First Field, Mountain America Exposition Center, BD Medical, and Steris. A terrorist attack could damage businesses, schools, government buildings, transportation hubs, and other public facilities.
	Economic Assets	Target areas of commerce and large gatherings. Attacks on business, districts, bans, or commercial centers could result in closures and loss of revenue. Tourism and local businesses may suffer if people avoid public places out of fear. Businesses, schools, and government/public buildings may need to invest in security upgrades increasing operational costs. Property and business owners may have higher insurance premiums and expensive rebuilding costs after an attack.
	Natural, Historic, and Cultural Resources	Mountain America Exposition Center and Hale Center Theater gather large amounts of people in a small area. If an attack targeted churches or monuments, it would be devastating for the community. A biological, chemical, or radiological attack could cause environmental damage.
	Critical Facilities and Infrastructure	Physical attacks on substations, transformers, water treatment facilities, could cause long-term power outages and water shortages. Disruptions in communication systems could delay emergency response efforts. A terrorist attack on a major highway like I-15 or public transit could shut down travel and delay supply chain. Hospitals

Hazard	Vulnerable Asset	Description of Vulnerability and Impacts
		and ERs can become overwhelmed delaying care for other medical emergencies that do not just stop.
	Community Activities	Any mass gathering event. Schools, shopping centers, and office buildings may close temporarily or indefinitely after an attack. Large community gatherings and events may be postponed or canceled due to safety concerns.

Jurisdiction-Specific Changes in Vulnerability

Hazard events can impact communities, infrastructures, and ecosystems. The severity of these impacts can be influenced by climate change, population patterns, and land use developments. Understanding these factors is crucial for Sandy City to develop a resilient community and minimize the impacts of hazards. Table 9 displays the unique changes within the community and the related effects on each identified hazard affecting Sandy City.

Table 9: Jurisdiction-Specific Changes in Vulnerability in Sandy City

Type of Hazard Event	Effects of Climate Change	Changes in Population Patterns	Changes in Land Use and Development	Overall Vulnerability
Avalanche	Changes in extreme weather have had major impacts on snow levels across the Wasatch Front.	Population growth and a drive to experience the outdoors puts more individuals in the elements and potential path of natural disasters in the wildland–urban interface (WUI).	More and more homes are being built on the eastern border of Sandy, bordering the wilderness areas of the Wasatch Front Mountains, exposing them to avalanche risk.	Increased
Drought	Hotter and longer summers are reducing the buildup of snowpack in the Wasatch Front.	Population growth in Salt Lake Valley on top of drier and longer summers is creating an increased risk of drought.	New commercial developments, particularly in the Cairns development area, increase the water demand in Sandy and increase risk for drought.	Increased
Earthquake	N/A, Climate does not affect earthquake risk.	High-density housing and homes in areas with limited access might require more urban search and rescue efforts.	New high-density housing with limited access and egress on the East Bench near an active fault line increases earthquake risk in Sandy.	Increased
Extreme Heat	Climate change has increased the number of days at or above 100°F over the past few years.	An aging population and a large number of senior living areas could lead to increased life safety risk from sustained extreme heat. An increase in the homeless population also represents an increased risk of life safety from exposure.	Densifying developments, such as the Union Heights Community Development Project Area, can trap heat and increase the risk of extreme heat.	Increased
Extreme Cold	Similar to extreme heat, there have been sustained extreme cold spells in the area.	An aging population and a large number of senior living areas could lead to increased life safety risk from sustained extreme cold. An increase in the homeless population also represents an increased risk of life safety from exposure.	Increased growth of commercial and residential developments in Sandy increases energy demand during extreme cold events, stressing the electrical grid	Increased

Type of Hazard Event	Effects of Climate Change	Changes in Population Patterns	Changes in Land Use and Development	Overall Vulnerability
			and increasing the risk of harm.	
Flooding	Larger snowpacks in the winter and fast melting in the spring increase the levels in the reservoir.	Those with access and functional needs are at risk, especially if they need to be evacuated or seek shelter.	More homes have been built in the flood path below the reservoir, increasing the risk of flood damage.	Increased
Landslide/Slope Failure	Fast water runoff can cause instability to ground	Those with access and functional needs are at risk. Fatalities or injuries are a concern.	Homes have been built on slopes throughout the city, putting them at risk of landslides.	Stayed the same
Radon	Air, soil, and water quality concerns	Increased rates of lung cancer are likely if radon levels cannot be reduced.	Development in Sandy has not increased radon risk.	Stayed the same
Heavy Rain	Changing weather has been more extreme over the past few seasons.	Access and functional needs are a concern, especially for evacuations or any type of transport.	Increased impervious surfaces due to development across Midvale could contribute to ponding and other pluvial flooding.	Increased
High Wind	Changing weather has been more extreme over the past few seasons.	High wind can cause injuries and fatalities, which is a concern at schools. EMS response may be delayed if responders are overwhelmed.	Building has continued in high wind areas, and insurance may be dropped for certain areas.	Increased
Lightning	Increased in severe weather	First responders could become overwhelmed, especially if an event is on a hiking trail requiring additional resources.	Widespread development in Sandy puts more structures and people at risk of lightning strikes.	Increased
Severe Winter Weather	The last El Niño weather pattern brought heavy snow to the Salt Lake Valley. Per the National Weather Service, El Niño years bring roughly triple the days of snow. This trend may	The population growth across Salt Lake Valley has increased road traffic in every city. This can put great burdens on systems during heavy snow periods. A rise in the elderly also increases 911 calls,	N/A – Land use is not currently affecting the risk from heavy snow.	Increased

Type of Hazard Event	Effects of Climate Change	Changes in Population Patterns	Changes in Land Use and Development	Overall Vulnerability
	increase the odds of heavy snow and blizzards in the coming years.	especially if supplies and heating are cut off.		
Tornado	Weather is becoming more extreme and unpredictable. This increases the chance of a tornado in the area.	People may move to areas not affected by tornadoes. Tornado safety may become more prominent in schools.	Increased development puts more structures at risk from tornados.	Stayed the same
Wildfire	Weather changes have created hotter and drier summers and falls, extending and increasing the risk of wildfires in the area.	Population growth and a drive to experience the outdoors put more individuals in the elements and potential paths of natural disasters in the WUI.	More and more homes are being built on the border of wilderness areas, exposing them to the dangers of natural disasters in the WUI.	Increased
Dam Failure	Higher amounts of snowpack on the Wasatch Front create high amounts of runoff during the increasingly warm early spring creating higher water levels and runoff into the reservoir.	Busier trail hiking paths create life safety risk increase.	New development has not increased the risk of dam failure.	Increased
Civil Disturbance	Conversations surrounding climate change could cause a civil disturbance or increase the likelihood of them occurring in the city.	Increased social media use has led to an increase in civil disturbances. Bad actors may become inspired by others.	Development in Sandy has not increased the risk of civil disturbance.	Stayed the same
Cyberattack	Bad actors can hack into critical infrastructure systems, impacting public health.	The rise in social media and digital platforms places the city at risk.	Cyberattacks could pose a threat to the physical security of buildings, impacting revenue and public access.	Stayed the same
Hazardous Materials Incident (Transportation & Fixed Facility)	Conversations surrounding climate change could pose a threat if there are bad actors. In addition,	More people live in the area, leading to increased likelihood of traffic accidents with semi-trucks carrying hazardous chemicals.	Development in Sandy has not increased hazardous material risk.	Stayed the same

Type of Hazard Event	Effects of Climate Change	Changes in Population Patterns	Changes in Land Use and Development	Overall Vulnerability
	increased fossil fuel use and population changes can impact resource needs. Air, water, and soil quality is a concern.			
Public Health Epidemic/ Pandemic	Air, water, and soil quality issues if it is coupled with drought or extreme heat/cold	Spread from person to person in high-density housing could increase the rate of infection.	Development in Sandy has not increased epidemic/pandemic risk.	Stayed the same
Terrorism	Conversations surrounding climate change could trigger bad actors.	Increased social media use could cause panic. Misinformation is a concern.	Development in Sandy has not increased terrorism risk.	Stayed the same

Additional Public Involvement

Sandy City provided several opportunities for public participation. Figure 1 shows examples of public outreach.

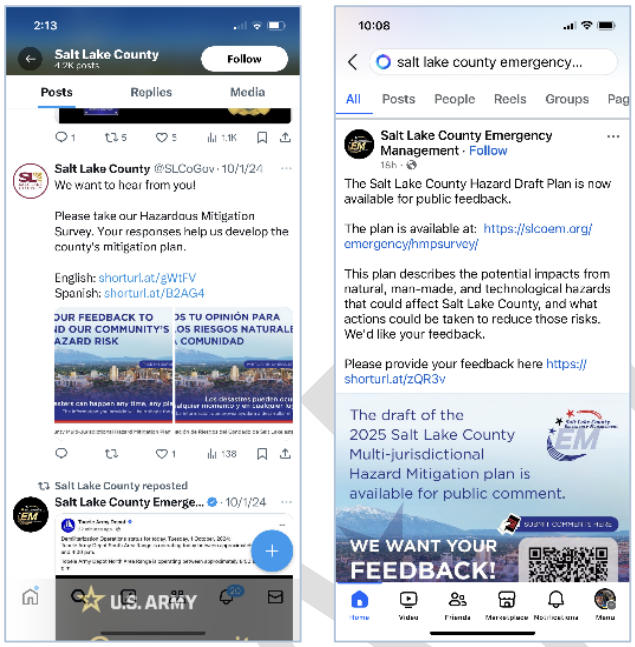

Figure 1: Social Media Posts for the Hazard Mitigation Plan (*left*) and Draft Plan Review (*right*)

Plan Integration

Incorporating the underlying principles of the Hazard Mitigation Plan and its recommendations into other plans is a highly effective and low-cost way to expand their influence. All plan participants will use existing methods and programs to implement hazard mitigation actions where possible. As previously stated, mitigation is most successful when it is incorporated into the day-to-day functions and priorities of government and public service. This plan builds on the momentum developed through previous and related planning efforts and mitigation programs, and it recommends implementing actions where possible through these other program mechanisms. These existing mechanisms include the following:

- Regularity Capabilities
- Administrative Capabilities
- Fiscal Capabilities

Respective planning stakeholders will conduct implementation and incorporation into existing planning mechanisms and will be done through the routine actions of:

- Monitoring other planning/program agendas
- Attending other planning/program meetings

- Participating in other planning processes; and
- Monitoring community budget meetings for other community program opportunities.

The successful implementation of this plan will require constant and vigilant review of existing plans and programs for coordination and multi-objective opportunities that promote a safe, sustainable community. Regular efforts should be made to monitor the progress of mitigation actions implemented through other planning mechanisms. Where appropriate, priority actions should be incorporated into planning updates. Table 11 lists the opportunities for integrating elements of this plan into other plans.

Table 10 lists existing planning mechanisms in which the Hazard Mitigation Plan has been integrated. Table 11 lists the opportunities for integrating elements of this plan into other plans.

Table 10: Integration of Previous Plans by Sandy City

Plan	Description
None	N/A

Table 11: Opportunities for Integration with Future Plans of Sandy City

Plan	Description
Trails and Open Lands Plan	The city recently updated the open lands and trails plan. This included many individuals in the city to ensure that the plan was relevant and updated for our current situation.
Community Wildfire Preparedness Plan (CWPP)	The Fire Department is currently updating the CWPP. This includes hazard assessments and identifying critical wildland–urban interface areas in the city. It also identifies critical exposure areas and evacuation routes in the event of an emergency.
General Plan	City's long-term goals and initiatives
Stormwater Management Plan	Stormwater infrastructure maintenance
Cemetery Master Plan	Recommended improvements and functionality
Active Transportation Plan	Review of any human-powered transportation for the city
Neighborhood Preservation and Maintenance Plan	Protection of health, safety, and welfare of Sandy City residents
Master Transportation Plan	Overview of transportation goals and ways to improve accessibility
Water Conservation Plan	Water-saving measures
Energy Action Plan	Energy goals and initiatives
Area Master Plans	Additional plans for areas with special consideration: Bell Canyon, Cairns, Hidden Valley Park, 90th S Gateway, Historic Sandy, Sandy City Downtown, Sandy Corners, South Towne Promenade Urban Streetscape

Capability Assessment

Local mitigation capabilities are existing authorities, policies, programs, and resources that reduce hazard impacts or could help carry out hazard mitigation activities.

Planning and Regulatory Capabilities

Planning and regulatory capabilities are the plans, policies, codes, and ordinances that prevent and reduce the impacts of hazards.

Table 12: Assessment of the Planning Capabilities of Sandy City

Plan	Does it address hazards? (Y/N)	How can it be used to implement mitigation actions?	When was the last update? When is the next update?
General Plan	Y	This plan identifies funding sources and provides general direction and guidance for the future of the city.	Yearly
Capital Improvement Plan	Y	This plan can identify vulnerable areas, such as buildings that are not up to code or that need renovation for natural disasters. This would help identify target hazards in the city.	Yearly
Climate Change Adaptation Plan	N – Water Conservation Plan	Can implement water-saving measures into drought, extreme heat, or wildfire mitigation actions	Annually
Community Wildfire Protection Plan	Y	This plan is updated every 5 years and reflects current evacuation routes, identifies target hazards, and identifies the department response model.	2019; currently undergoing update
Economic Development Plan	Y	Provide information on funding sources	Annually
Land Use Plan	Y	Incorporate information on land use and development into mitigation actions	Annually
Local Emergency Operations Plan	Y	The city provides Emergency Operations Center (EOC) training throughout the year. This includes activation of the EOC, running full scale exercises, and Incident Command System training. Information can be incorporated into mitigation actions and identify responsible departments	This is a continual process.
Stormwater Management Plan	Y	This plan identifies who is notified when a violation occurs. Can incorporate this information into responsible departments for mitigation actions	This plan is updated yearly

Plan	Does it address hazards? (Y/N)	How can it be used to implement mitigation actions?	When was the last update? When is the next update?
Transportation Plan	Y	Identifies critical infrastructure and planning for evacuation routes during a natural disaster. Also provides a temporary traffic control plan.	Every 10 years – most recently updated in 2019
Substantial Damage Plan	N/A	N/A	N/A
Other? (Describe)			

Table 13: Assessment of the Regulations and Ordinances of Sandy City

Regulation/Ordinance	Does it effectively reduce hazard impacts?	Is it adequately administered and enforced?	When was the last update? When is the next update?
Building Code	Y; Sandy City has adopted IBC 2021 with amendments specifically requiring the use of ignition-resistant materials in the WUI.	Y	Yearly
Flood Insurance Rate Maps	Y	Y	2022
Floodplain Ordinance	Y	Y	2022
Subdivision Ordinance	Y	Y	2022
Zoning Ordinance	Y	Y	As needed
Natural Hazard-Specific Ordinance (Stormwater, Steep Slope, Wildfire)	Y	Y	2022
Acquisition of Land for Open Space and Public Recreation Use	N/A	N/A	N/A
Prohibition of Building in At-Risk Areas	N/A	N/A	N/A
Other? (Describe)			

Administrative and Technical Capabilities

Administrative and technical capabilities include staff and their skills. They also include tools that can help carry out mitigation actions.

Table 14: Assessment of the Administrative Capabilities of Sandy City

Administrative Capability	In Place? (Y/N)	Is staffing adequate?	Are staff trained on hazards and mitigation?	Is coordination between agencies and staff effective?
Chief Building Official	Y	Y	Y	Y

Administrative Capability	In Place? (Y/N)	Is staffing adequate?	Are staff trained on hazards and mitigation?	Is coordination between agencies and staff effective?
Civil Engineer	Y	Y	Y	Y
Community Planner	Y	Y	Y	Y
Emergency Manager	Y	N	Y	Y
Floodplain Administrator	Y	Y	Y	Y
Geographic Information System (GIS) Coordinator	Y	Y	Y	Y
Planning Commission	Y	Y	Y	Y
Fire Safe Council	Y	Y	Y	Y
CERT (Community Emergency Response Team)	Y	Y	Y	Y
Active VOAD (Voluntary Agencies Active in Disasters)	Y	Y	Y	Y
Other? (Please describe.)				

Table 15: Assessment of the Technical Capabilities of Sandy City

Technical Capability	In Place? (Y/N)	How has it been used to assess/mitigate risk in the past?	How can it be used to assess/mitigate risk in the future?
Mitigation Grant Writing	Y	Used to fund infrastructure improvements	Can be used to fund mitigation actions
Hazard Data and Information	Y	Used to identify areas of concern related to flooding and wildfire	Can be used to submit with grant applications or show the need for mitigation actions
GIS	Y	Used to map vulnerable area and identify safety zones/ evacuation routes	Ensure that updates are an ongoing process, keep the public informed and aware of current data that is available.
Mutual Aid Agreements	Y	Aid is provided or received to enhance emergency response capabilities.	Continue to work on these aid agreements, ensure that multi-jurisdictional training is taking place with all stakeholders involved.
Other? (Please describe.)			

Financial Capabilities

Financial capabilities are the resources to fund mitigation actions. Talking about funding and financial capabilities is important to determine what kinds of projects are feasible, given their cost. Mitigation actions like outreach programs are lower cost and often use staff time and existing budgets. Other actions, such as earthquake retrofits, could require substantial funding from local, state, and federal partners. Partnerships, including those willing to donate land, supplies, in-kind matches, and cash, can be included.

Table 16: Assessment of the Financial Capabilities of Sandy City

Funding Resource	In Place? (Y/N)	Has it been used in the past and for what types of activities?	Could it be used to fund future mitigation actions?	Can it be used as the local cost match for a federal grant?
Capital Improvement Project Funding	Y	Used to bring existing and new construction to code	Y	Y
General Funds	Y	Used to fund projects and purchases to enhance emergency response capabilities.	Y	Y
Hazard Mitigation Grant Program (HMGP/404)	Y	Has not been used yet	Y	N
Building Resilient Infrastructure & Communities (BRIC)	Y	Has not been used yet	Y	N
Flood Mitigation Assistance (FMA)	Y	Has not been used yet	Y	N
Public Assistance Mitigation (PA Mitigation/406)	Y	Has not been used yet	Y	N
Community Development Block Grant (CDBG)	Y	Operation costs, infrastructure improvements	Y	N
Natural Resources Conservation Services (NRCS) Programs	Y	Has not been used yet	Y	N
U.S. Army Corps (USACE) Programs	Y	Has not been used yet	Y	N
Property, Sales, Income, or Special Purpose Taxes	Y	Used to fund fire department operations	Y	N

Funding Resource	In Place? (Y/N)	Has it been used in the past and for what types of activities?	Could it be used to fund future mitigation actions?	Can it be used as the local cost match for a federal grant?
Stormwater Utility Fee	Y	The fees are used for operations, maintenance, repair of the stormwater system, and capital improvement projects.	Y	Y
Fees for Water, Sewer, Gas, or Electric Services	Y	Infrastructure improvements	Y	Y
Impact Fees from New Development and Redevelopment	Y	Operation costs	Y	Y
General Obligation or Special Purpose Bonds	Y	Operation costs	Y	Y
Federal-funded Programs (Please describe)	Y	Currently, the fire department applies for federal funding through FEMA for equipment and staffing.	Y	N
Private Sector or Nonprofit Programs	Y	Has not been used yet	Y	Y
Other?				

Education and Outreach Capabilities

Education and outreach capabilities are programs and methods that could communicate about and encourage risk reduction. These programs may be run by a participant or a community-based partner. Partners, especially those who work with underserved communities, can help identify additional education and outreach capabilities.

Table 17: Assessment of the Education and Outreach Capabilities of Sandy City

Education and Outreach Capability	In Place? (Y/N)	Does it currently incorporate hazard mitigation?	Could it be used to support mitigation in the future?
Community Newsletter(s)	Y	Y	Y
Hazard Awareness Campaigns (such as Firewise, Storm Ready, Severe Weather Awareness Week, School Programs)	Y	Y	Y
Public Meetings/Events (Please describe.)	Y	Y	Y
Emergency Management Listserv	Y	Y	Y

Education and Outreach Capability	In Place? (Y/N)	Does it currently incorporate hazard mitigation?	Could it be used to support mitigation in the future?
Local News	Y	Y	Y
Distributing Hard Copies of Notices (e.g., public libraries, door-to-door outreach)	Y	Y	Y
Insurance Disclosures/Outreach	N	N/A	Y
Organizations that represent, advocate for, or interact with underserved and vulnerable communities (Please describe.)	Y	Y	Y
Social media (Please describe.)	Y – Facebook, Instagram, city websites	Y	Y
Other? (Please describe.)	N/A	N/A	N/A

Opportunities to Expand and/or Improve Capabilities

Actions that can expand and improve existing authorities, plans, policies, and resources for mitigation include budgeting for mitigation actions, passing policies and procedures for mitigation actions, adopting and implementing stricter mitigation regulations, approving mitigation updates, and making additions to existing plans as new needs are recognized. Table 18 lists the opportunities for Sandy City.

Table 18: Opportunities to Expand and/or Improve the Capabilities of Sandy City

Capability	Opportunity to Expand and/or Improve
Planning and Regulation	The Fire Department is currently updating the Community Wildfire Protection Plan (CWPP) for the city. This includes identifying and updating the target hazards in the wildland-urban interface (WUI) and identifying evacuation routes and safety zones. The city is expanding its efforts to collaborate with neighboring departments and other stakeholders to ensure that all parties involved have input on the CWPP.
Administrative and Technical	Currently all departments are facing staffing and budget shortages. The workloads continue to increase, and personnel are being stretched thinner and thinner. The city can explore options to expand and cross-train staff. Additional MOUs or partnerships could also be expanded.
Financial	The community has taken advantage of many grant funding opportunities to expand services and hire and retain personnel. However, the city has not yet applied for federal mitigation grants such as the Hazard Mitigation Grant Program (HMGP/404), Flood Mitigation Assistance (FMA), and Public Assistance Mitigation (PA Mitigation/406). Applying for these types of funding sources would expand the city's ability to finance mitigation projects.
Education and Outreach	The city is taking advantage of many social media outlets to ensure that citizens are provided pertinent information. There are also department-specific outreach programs that are designed to target specific information and provide training and outreach opportunities for the public.

Capability	Opportunity to Expand and/or Improve
	The city can expand this capability by identifying opportunities to educate the public on emergency hazards and hazard-specific mitigation measures including green infrastructure. The city continues to seek and develop programs to enhance its efforts to ensure the community is receiving information and education on different city programs and events and it continues to have a large social media presence and provide as much outreach to the community as possible.

Mitigation Strategy

Mitigation strategies provide proactive measures that are designed to minimize the impacts of hazards on Sandy City. Table 19 shows mitigation action alternatives, and Table 20 shows the status of previous mitigation activities. Table 21 is the 2025 mitigation action plan for Sandy City.

Table 19: Mitigation Action Alternatives for Sandy City

Action	Type of Action	Selected for inclusion in the plan?	If not selected, why not?
Create all-hazards evacuation zones for the city	Local plans and regulations	No	Response rather than mitigation

Table 20: Status of Prior Mitigation Actions of Sandy City[2]

Action	Hazard(s)	Agency Lead	Support Agency(ies)	Status Update
Dry Creek improvement project.	Dam Failure, Extreme Heat, Flooding, Severe Weather, Severe Winter Weather	Sandy City Public Utilities	Sandy City, SLCo Flood Control, SLCo EM, SLCo Public Works	Complete.
Provide education and outreach to residents and businesses located on the benches.	Avalanche	Sandy City Public Works and Sandy City Communications	SLCo EM, Sandy City Fire, Sandy City EM, Sandy City PD	Ongoing.
Identify drainage pathways and seek cost/benefit analysis of placing diversion	Dam Failure	Sandy City Public Works	Sandy City Public Utilities, Sandy City Communications, Sandy City EM, SLCo	Ongoing.

[2] EM = Emergency Management, FFSL = Division of Forestry, Fire, and State Lands, IT = Information Technology, NWS = National Weather Service, PD = Police Department, SLCo = Salt Lake County, SLCo EM = Salt Lake County Emergency Management, UDEM = Utah Division of Emergency Management, UDEQ = Utah Department of Environmental Quality, UFA = Unified Fire Authority.

Action	Hazard(s)	Agency Lead	Support Agency(ies)	Status Update
structures or add capacity for drainage.			Flood Control, SLCo EM	
Develop a 5-year Water Conservation Plan.	Drought	Sandy City Public Works	SLCo EM, Sandy City Public Utilities, water districts, Sandy City Fire, Sandy City Communications, SLCo Public Works, Sandy City Parks and Recreation, SLCo Parks and Recreation	Complete.
Offer annual sprinkler maintenance workshops to promote efficient and effective watering of landscapes.	Drought	Sandy City Public Works	Sandy City Communications, Sandy City EM, Sandy City Parks and Recreation, SLCo Parks and Recreation, SLCo EM, Sandy City Public Utilities	Ongoing.
Promote "Water Week" with elementary students to promote best management practices for water conservation.	Drought	Sandy City Public Works	Sandy City EM, Sandy City Fire, Sandy City Parks and Recreation, SLCo EM, SLCo Parks and Recreation, water districts, Sandy City Public Utilities, Sandy City Communications	Ongoing.
Install automatic gas shut off fixtures on any City owned buildings or structures with gas service/meter that do not have one currently.	Earthquake	Sandy City Administrative Services – Facilities Division	Sandy City Public Utilities, Sandy City EM, Sandy City Fire, Sandy City Public Works	Ongoing.
Distribution of earthquake hazard preparedness/response information. Post such information on the City's website	Earthquake	Sandy City EM and IT	Sandy City Fire, Sandy City PD, Sandy City Communications, NWS, SLCo EM	Ongoing.
Maintain community participation in the National Flood Insurance Program.	Flooding	Sandy City Public Works	Sandy City Public Utilities, Sandy City EM, Sandy City Fire, SLCo EM	Ongoing.
Distribution of flood hazard and flood preparedness/response information, such as the "Flooding: What you should Know when Living in Utah" brochure which the city partnered	Flooding	Sandy City EM and IT	Sandy City Fire, NWS, SLCo EM, Sandy City PD, Sandy City Parks and Recreation, Sandy City Economic Development, SLCo	Ongoing.

Action	Hazard(s)	Agency Lead	Support Agency(ies)	Status Update
in developing in 2014, or similar types of information. Post such information on the City's website.			Flood Control, SLCo Public Works, NWS	
Update of the city's Stormwater Master Plan to include specific flood mitigation projects in flood-prone areas of the city.	Flooding	Sandy City Public Works	Sandy City Public Utilities, Sandy City Communications, Sandy City EM, Sandy City EM, water districts, NWS, SLCo Flood Control	Complete.
Perform a comprehensive soil sample of slope areas of the city.	Landslide	Sandy City Community Development	Sandy City Public Utilities, Sandy City Public Works, SLCo Public Works, SLCo Health Department, Sandy City Parks and Recreation, SLCo Parks and Recreation	Not complete.
Development of a Pandemic Response & Recovery Plan.	Pandemic	Sandy City EM and Fire	SLCo Health Department, SLCo EM, local jurisdictions, Sandy City Public Works, Sandy City Public Utilities, Sandy City Parks and Recreation, Sandy City Community Development	Not complete.
Creation of a radon hazard map showing potential areas of the community that may be affected by radon.	Radon	Sandy City EM and IT	SLCo Health Department, SLCo EM, UDEQ, UDEM, Sandy City EM, Sandy City Fire, Sandy City GIS	Not complete.
Distribution of information on radon. Post such information on the city's website.	Radon	Sandy City EM and IT	SLCo Health Department, SLCo EM, UDEQ, UDEM, Sandy City EM, Sandy City Fire, Sandy City GIS	Complete.
Promote public education in the community regarding severe weather. Post such information on the City's website.	Severe Weather	Sandy City EM and IT	SLCo Health Department, SLCo EM, NWS, UDEM, Sandy City EM, Sandy City Fire, Sandy City GIS	Ongoing.
Support of community education programs that raise awareness and provide information to property owners on how	Wildfire	Sandy City EM, Fire, and IT	SLCo Health Department, SLCo EM, NWS, UDEM, Sandy	Ongoing.

Action	Hazard(s)	Agency Lead	Support Agency(ies)	Status Update
to protect their structures from wildfire damage. Post such information on the city's website.			City EM, FFSL, Sandy City GIS	
Maintain a wildland fire response unit.	Wildfire	Sandy City Fire	Sandy City EM, FFSL, UFA, SLCo EM	Complete.
Prohibit the use of fireworks in high-risk areas.	Wildfire	Sandy City Fire	Sandy City EM, FFSL, UFA, SLCo EM	Ongoing.
Training for firefighters in wildland firefighting.	Wildfire	Sandy City Fire	Sandy City EM, FFSL, UFA, SLCo EM	Ongoing.

Mitigation Success Story

Sandy City, in collaboration Bowen Collins & Associates (BC&A), completed the design, environmental permitting, and construction management of 1,200 linear feet of the Dry Creek channel realignment near the Sandy City South Town Mall. This project was undertaken to accommodate future development, provide public open space, mitigate 100-year flood concerns, and connect Monroe Street from 10200 South to 10600 South and I-15. BC&A completed environmental compliance, including an extensive Individual Permit with the US Army Corps of Engineers, Salt Lake County Flood Control permitting, and a State of Utah Stream Alteration permit. The project goals were to enhance riparian habitat, develop a pedestrian trail that connects Dimple Dell to the Jordan River Parkway Trail, provide a pedestrian bridge over Dry Creek, and create a park for leisure and recreational use.

Table 21: 2025 Mitigation Action Plan for Sandy City[3]

#	Action	Hazard(s)	Lead Agency	Potential Partners	Benefits (Losses Avoided)	Cost Estimate	Funding Source(s)	Time-frame	Priority	Comments
1	Continue training and improve coordination between agencies for Public Order Unit.	Civil Disturbance	Sandy City Police	UHP, SLCo EM	Improved coordination with other agencies, reduces public safety risk	Low	City General Fund, department budget, SHSP grant	Short-Term	Low	The city has a Public Order Unit that participates in a state-sponsored mutual aid Public Order Team.
2	Conduct yearly inspections to identify potential maintenance needs.	Dam Failure	Sandy City Public Utilities	Sandy City Public Works, Sandy City EM, SLCo EM, SLCo Public Works, SLCo Flood Control	Stay current on status of dam and provide timely repairs to reduce risk of dam failure and subsequent flood damage.	Low-High	City General Fund	Long-Term	High	Cost is dependent on needed actions.
3	Develop and implement a water conservation plan to assist in monitoring of reservoir storage.	Drought	Sandy City Public Utilities	SLCo Public Works, Sandy City Public Works, Sandy City Parks and Recreation, SLCo Parks and Recreation	Keep water reservoir storage sufficient for needs and reduce risk of drought.	Low	City General Fund, CDBG grant	Long-Term	Medium	
4	Retrofit critical facilities and infrastructure to withstand earthquakes and other geologic hazards.	Earthquake	Sandy City Community Development	SLCo EM, Sandy City Fire, Sandy City EM, Sandy City PD, Sandy City Public Works, Sandy City Public Utilities	Improved safety, ensures buildings are up to code, reduces potential loss.	High	City General Fund, City Capital Projects Fund, HMGP grant, BRIC grant	Long-Term	Medium	
5	Improve communication to the public and stakeholders on available resources during Code Blue activation, including with local MVP shelter residents.	Extreme Cold	Sandy City Police	Sandy City Fire, Sandy City MVP Shelter, NWS, SLCo EM, local jurisdictions	Notify and work with MVP shelter staff to ensure safe living quarters for MVP residents. Reduce risk to population from exposure to cold.	Low	City General Fund, SLCo EM, UDEM, NWS	Long-Term	High	
6	Develop and implement a plan to track green infrastructure projects and improve energy efficiency throughout the city.	Drought, Extreme Heat	Sandy City Public Utilities and Parks and Recreation	SLCo EM, SLCo Parks and Recreation, Sandy City Communications, Sandy City EM, Sandy City Fire, Sandy City IT	Collect and maintain information on green infrastructure projects in Sandy City, improved energy efficiency, improved water and air quality. Improved resilience to drought and extreme heat.	Medium	City General Fund, City Capital Projects fund, HMA funds	Medium	Medium	
7	Monitor areas of potential flooding and identify needs for debris basins, flood retention ponds, energy flow dissipaters and other improvements to reduce damage from floodwaters.	Flooding, Dam Failure, Heavy Rain	Sandy City Public Utilities	Sandy Public Works, Sandy Fire	Identified flood zones, monitoring of water runoff. Preparation of equipment and supplies to minimize flood damage. Reduce risk of injury or property loss from flooding.	High	City General Fund, City Capital Projects fund, HMA, FMA	Long-Term	High	

[3] BRIC = Building Resilient Infrastructure and Communities, CDBG = Community Development Block Grant, CWPP = Community Wildfire Protection Plan, EM = Emergency Management, FBI = Federal Bureau of Investigation, FMA = Flood Mitigation Assistance, HMA = GIS = Geographic Information System, Hazard Mitigation Assistance, HMGP = Hazard Mitigation Grant Program, IT = Information Technology, LEPC = Local Emergency Planning Committee, MVP = Medically Vulnerable People, NWS = National Weather Service, PD = Police Department, PPE = Personal Protective Equipment, SHSP = State Homeland Security Program, SIAC = Statewide Information and Analysis Center, SLCo = Salt Lake County, SLCo EM = Salt Lake County Emergency Management, SOP = Standard Operating Procedure, UDEM = Utah Division of Emergency Management, UDNR = Utah Department of Natural Resources, UDOT = Utah Department of Transportation, UGS = Utah Geological Survey, UHP = Utah Highway Patrol, WUI = Wildland-Urban Interface.

#	Action	Hazard(s)	Lead Agency	Potential Partners	Benefits (Losses Avoided)	Cost Estimate	Funding Source(s)	Time-frame	Priority	Comments
8	Complete/participate in Tier II reporting and documentation.	Hazardous Materials Incident	Sandy City Fire Department	SLCo LEPC, Salt Lake Valley Hazmat Alliance	Better access to known chemical storage in our response areas. Use information to identify potential risks and ways to reduce potential incidents.	Low	Funded by SLCo LEPC	Short Term	Medium	
9	Implement recommendations from debris flow study for which pre-planning is in progress.	Landslide/Slope Failure	Sandy City Public Works	UGS	Reduce potential property loss or personal injury from debris flow.	High	City Capital Projects Fund	Short-Term	High	A debris flow study has been funded through BRIC. Once completed, recommendations for mitigations will be provided.
10	Increased stock of PPE for responding personnel for future events.	Public Health Epidemic/ Pandemic	Sandy City Fire Department	SLCo Health Department	Be prepared for the logistical needs of an epidemic/pandemic. Adequate supplies help reduce risk of illness during pandemic.	Low	Budgeted in Fire Department PPE costs	Long-Term	Medium	
11	Create public awareness campaigns and public education programs on radon risks and increase public support for home testing for radon.	Radon	Sandy City Fire Department/EM	SLCo EM, SLCo Health Department, State of Utah	Decrease radon-caused illness or deaths. Increase engagement and understanding by public of radon risks.	Low	City General Fund	Medium	Medium	
12	Promote public education in the community regarding severe weather through website, print, social media, or in-person training.	Avalanche, Extreme Heat, Extreme Cold, Heavy Rain, High Wind, Lightning, Tornado, Severe Winter Weather	Sandy City Fire Department	SLCo EM, NWS, SLCo Health Department, SLCo EM, NWS, UDEM, Sandy City EM, Sandy City Fire, Sandy City GIS	Education increases residents' understanding of weather-related hazards and ways residents can reduce their risk of injury. Examples of educational content to reduce risk: • Avalanche: Educate on recognizing avalanche-prone areas and safe travel practices in snowy terrains. • Extreme Heat: Offer information on staying cool and hydrated. • Extreme Cold: Discuss home insulation techniques, safe heating practices, preparing vehicles for winter conditions. • Flood/Heavy Rain: Teach flood proofing methods, avoiding areas of high risk, and "Turn Around, Don't Drown." • Lightning: Share safety tips for outdoor lightning protection and guidelines for cancelling events. • Severe Winter Weather, Tornado, High Wind: Educate on locating shelter locations and home weatherization.	Low	City General Fund	Medium	Medium	

#	Action	Hazard(s)	Lead Agency	Potential Partners	Benefits (Losses Avoided)	Cost Estimate	Funding Source(s)	Time-frame	Priority	Comments
13	Develop process for Joint Terrorism Task Force to monitor and analyze potential threats.	Terrorism (including cyberattacks)	Sandy Police	IT, FBI	Collect and analyze information, development of SOPs for intelligence, greater collaboration to reduce terrorism risk.	Low	Department budget	Short-Term	Medium	The city participates in the Joint Terrorism Task Force, sponsored by the FBI. It is also in touch with and participates with the SIAC.
14	Complete yearly wildland mitigation work to reduce fuel loads in WUI areas. CWPP agreement.	Wildfire	Sandy Fire Department	UDNR, State Forestry Lands Division	Reduce impact and potential for wildland fire.	Low	Budgeted for equipment and use of labor hours for in-kind credit, City General Fund, department budget, staff time	Long-Term	High	
15	Provide education and outreach to residents and businesses located on the benches.	Avalanche	Sandy City Public Works and Sandy City Communications	SLCo EM, Sandy City Fire, Sandy City EM, Sandy City PD, Utah Avalanche Center	Reduce risk of injury to residents and damage to structures from avalanche.	Low	City General Fund	Ongoing	Medium	
16	Identify drainage pathways and seek cost/benefit analysis of placing diversion structures or adding capacity for drainage.	Dam Failure	Sandy City Public Works	Sandy City Public Utilities, Sandy City Communications, Sandy City EM, SLCo Flood Control, SLCo EM	Reduce risk of damage or injury from dam failure.	Low	City General Fund	Short-term	Medium	
17	Offer annual sprinkler maintenance workshops to promote efficient and effective watering of landscapes.	Drought	Sandy City Public Works	Sandy City Communications, Sandy City EM, Sandy City Parks and Recreation, SLCo Parks and Recreation, SLCo EM, Sandy City Public Utilities	Improve resilience to drought.	Low	City General Fund	Ongoing	Medium	
18	Promote “Water Week” with elementary students to promote best management practices for water conservation.	Drought	Sandy City Public Works	Sandy City EM, Sandy City Fire, Sandy City Parks and Recreation, SLCo EM, SLCo Parks and Recreation, water districts, Sandy City Public Utilities, Sandy City Communications	Encourage water conservation to improve resilience to drought.	Low	City General Fund	Ongoing	Low	
19	Install automatic gas shut off fixtures on any City owned buildings or structures with gas service/meter that do not have one currently.	Earthquake	Sandy City Administrative Services – Facilities Division	Sandy City Public Utilities, Sandy City EM, Sandy City Fire, Sandy City Public Works	Reduce risk of structural damage from damaged gas fixtures caused by earthquakes.	Medium	City General Fund, Capital Improvement Fund.	Long-term	Medium	
20	Distribute earthquake hazard education information. Post	Earthquake	Sandy City EM and IT	Sandy City Fire, Sandy City PD,	Reduce risk of injury and structural damage from	Low	City General Fund	Short-term	Medium	

#	Action	Hazard(s)	Lead Agency	Potential Partners	Benefits (Losses Avoided)	Cost Estimate	Funding Source(s)	Time-frame	Priority	Comments
	such information on the City's website and update annually.			Sandy City Communications, NWS, SLCo EM	earthquakes by educating residents on actions they can take to retrofit homes, secure furniture, etc.					
21	Maintain community participation in the National Flood Insurance Program.	Flooding	Sandy City Public Works	Sandy City Public Utilities, Sandy City EM, Sandy City Fire, SLCo EM	Reduce risk to flooding	Low	City General Fund	Ongoing	Medium	
22	Distribute flood hazard and flood preparedness/response information, such as the "Flooding: What You Should Know when Living in Utah" brochure, which the city partnered in developing in 2014, or similar types of information. Post such information on the city's website. Update annually.	Flooding	Sandy City EM and IT	Sandy City Fire, NWS, SLCo EM, Sandy City PD, Sandy City Parks and Recreation, Sandy City Economic Development, SLCo Flood Control, SLCo Public Works, NWS	Education can encourage residents to take steps to reduce their personal risk.	Low	City General Fund	Ongoing	Medium	
23	Perform a comprehensive soil sample of slope areas in the city.	Landslide	Sandy City Community Development	Sandy City Public Utilities, Sandy City Public Works, SLCo Public Works, SLCo Health Department, Sandy City Parks and Recreation, SLCo Parks and Recreation	Identify areas that may be more susceptible to landslide and possibly in need of stabilization.	Medium	City General Fund	Long-term	Medium	
24	Develop a Pandemic Response & Recovery Plan.	Pandemic	Sandy City EM and Fire	SLCo Health Department, SLCo EM, local jurisdictions, Sandy City Public Works, Sandy City Public Utilities, Sandy City Parks and Recreation, Sandy City Community Development	Improve resilience to pandemics.	Low	City General Fund, EMPG	Long-term	Medium	
25	Create a radon hazard map showing potential areas of the community that may be affected by radon.	Radon	Sandy City EM and IT	SLCo Health Department, SLCo EM, UDEQ, UDEM, Sandy City EM, Sandy City Fire, Sandy City GIS	Use tools to improve awareness of radon risk and encourage residents to test homes to reduce potential exposure.	Low	City General Fund	Short-term	Medium	

#	Action	Hazard(s)	Lead Agency	Potential Partners	Benefits (Losses Avoided)	Cost Estimate	Funding Source(s)	Time-frame	Priority	Comments
26	Support community education programs that raise awareness and provide information to property owners on how to protect their structures from wildfire damage. Post such information on the city's website.	Wildfire	Sandy City EM, Fire, and IT	SLCo Health Department, SLCo EM, NWS, UDEM, Sandy City EM, FFSL, Sandy City GIS	Education can encourage residents to take steps to reduce their personal risk.	Low	City General Fund	Short-term	Medium	
27	Prohibit the use of fireworks in high-risk areas.	Wildfire	Sandy City Fire	Sandy City EM, FFSL, UFA, SLCo EM	Reduce risk of igniting wildfire.	Low	City General Fund	Ongoing, annually	Medium	
28	Maintain training for firefighters in wildland firefighting.	Wildfire	Sandy City Fire	Sandy City EM, FFSL, UFA, SLCo EM	Improve response to wildfire.	Medium	City General Fund	Ongoing	Medium	

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