

| Plan Participant          | Approach                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
|---------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>City of Kanab</b>      | At least annually, during future amendments, and as part of the five-year plan update, City of Kanab will use official public notices, public meetings, jurisdiction websites, email, social media, electronic alerts or other available communication methods, and coordination with Kane County and FCAOG to share implementation updates and draft materials; advertise public review opportunities; collect written, electronic, and meeting comments; and document comments received, how they were considered, and resulting plan decisions.      |
| <b>Town of Orderville</b> | At least annually, during future amendments, and as part of the five-year plan update, Town of Orderville will use official public notices, public meetings, jurisdiction websites, email, social media, electronic alerts or other available communication methods, and coordination with Kane County and FCAOG to share implementation updates and draft materials; advertise public review opportunities; collect written, electronic, and meeting comments; and document comments received, how they were considered, and resulting plan decisions. |

## Washington County Annex

### County Profile

Washington County is located in the far southwestern corner of Utah, bordering Arizona, Nevada, Iron County, and Kane County. The county contains about 2,428 square miles of land and serves as the regional population, employment, medical, education, and transportation hub for Utah's Dixie. The county seat is St. George, which anchors a rapidly growing urbanized area that also includes Washington City, Hurricane, Santa Clara, Ivins, and La Verkin, while smaller communities such as Enterprise, Toquerville, Leeds, Virgin, Springdale, New Harmony, Rockville, Apple Valley, and Hildale contribute distinct rural, gateway, and agricultural characteristics. Unincorporated communities such as Dammeron Valley, Pine Valley, Veyo, and Central are also important to the county's settlement pattern and hazard exposure. This profile summarizes the county's physical setting, development pattern, population, housing, economy, and community systems in order to support the hazard-specific risk assessment and mitigation strategy.<sup>248</sup>

<sup>248</sup> U.S. Census Bureau, Washington County, Utah profile: 2,427.6 square miles of land area and bordering counties. [https://data.census.gov/profile/Washington\\_County,\\_Utah?q=050XX00US49053](https://data.census.gov/profile/Washington_County,_Utah?q=050XX00US49053). Accessed October 9, 2026.

## Geographic Setting and Communities

Washington County spans a diverse landscape of Mojave Desert lowlands, red rock canyons, mesas, river valleys, and upland mountain areas. Elevations and terrain vary significantly from the developed St. George urban area and Virgin River corridor to higher elevation communities such as Enterprise, New Harmony, Pine Valley, and Veyo. Interstate 15 is the county's principal regional transportation corridor and connects the county to the Wasatch Front, Las Vegas, and Arizona. State routes and local arterials connect the county's incorporated municipalities and gateway communities, including those serving Zion National Park, Snow Canyon State Park, and other recreation destinations. Development is concentrated in the greater St. George area and along the Hurricane Valley and Virgin River corridor, while outlying communities retain more rural land use patterns, lower-density residential development, agricultural uses, and greater dependence on limited roadway access. This geographic diversity contributes to varying exposure to flooding, wildfire, drought, problem soils, landslides, winter weather, and extreme heat across the county's jurisdictions.

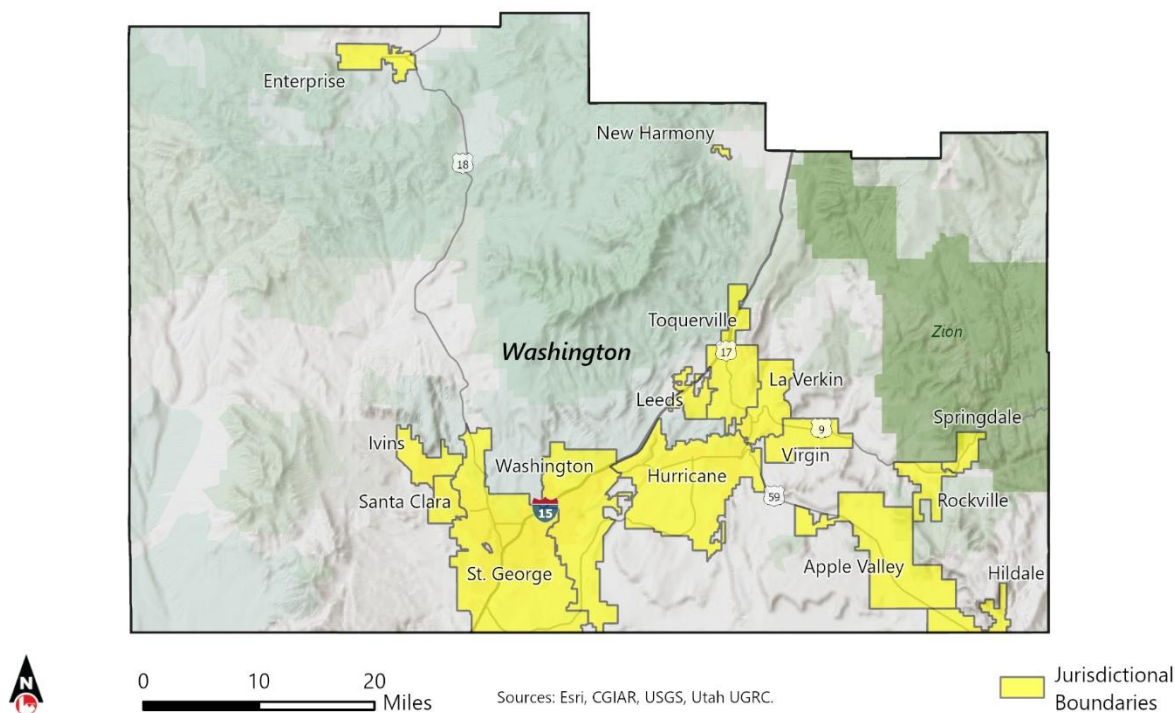


Figure 54: Map of Washington County and Incorporated Jurisdictions

## Population and Housing

Washington County's population increased from 180,279 in the 2020 Census to an estimated 213,670 on July 1, 2025, 18.5% above the 2020 estimates base. The county had an estimated 91,460 housing units in 2025 and approximately 69,786 households in 2020–2024. Persons age 65 or older represented 22.4% of the population. These countywide characteristics inform planning for warning, evacuation, sheltering,

continuity, and recovery; they do not represent direct exposure to a particular hazard without a mapped or otherwise documented hazard area.<sup>249</sup>

## Economy and Critical Infrastructure

The county economy is driven by construction, real estate, tourism, health care, education, trade, and service industries, with regional assets that include Zion National Park visitation, recreation-based commerce, Utah Tech University, local schools, and major medical facilities in the St. George area. Countywide economic output exceeded \$8 billion in 2023 and continued to grow with strong population gains and development activity.<sup>250</sup> Critical infrastructure includes Interstate 15, regional highways, bridges and river crossings, local roadway networks, water delivery and storage systems, wastewater facilities, storm drainage systems, electric and communications infrastructure, public safety facilities, schools, and health care facilities. The county is also served by St. George Regional Airport and supports a network of public buildings, emergency services, utility corridors, and parks that are essential for continuity of operations and post-disaster recovery. Rural and gateway communities may rely on fewer transportation links, localized water systems, and limited redundant infrastructure, which can heighten disruption during hazard events.



Figure 55: Economic Growth in Washington County<sup>251</sup>

## Land Use, Planning, and Mitigation Context

Land use in Washington County ranges from urban and suburban development in the greater St. George area to agricultural, open space, recreation, and low-density rural residential uses in unincorporated areas and smaller municipalities. The county and its communities use general plans, zoning, subdivision regulations, building codes, transportation planning, utility corridor planning, and capital improvements programming to guide growth and manage risk. Washington County has adopted a general plan and transportation planning documents, and many participating jurisdictions maintain their own local plans and development regulations.

In Washington County, continued population growth, expansion into hazard-prone areas, increasing pressure on water resources, and the need to protect critical facilities and transportation corridors all

<sup>249</sup> U.S. Census Bureau, QuickFacts: Washington County, Utah, V2025 population and housing estimates, 2020 Census, and 2020-2024 ACS. <https://www.census.gov/quickfacts/fact/table/washingtoncountyutah/PST045225>. Accessed October 9, 2026. Countywide totals are planning context, not mapped hazard exposure.

<sup>250</sup> Utah.gov., Online Library, "National Association of Counties, County Economies 2025 Profiles-Washington County Utah," 2025, [https://onlinelibrary.utah.gov/wp-content/uploads/washington\\_county\\_NACo\\_economy.pdf](https://onlinelibrary.utah.gov/wp-content/uploads/washington_county_NACo_economy.pdf).

<sup>251</sup> Utah.gov., Online Library, "National Association of Counties, County Economies 2025 Profiles-Washington County Utah," 2025, [https://onlinelibrary.utah.gov/wp-content/uploads/washington\\_county\\_NACo\\_economy.pdf](https://onlinelibrary.utah.gov/wp-content/uploads/washington_county_NACo_economy.pdf).

shape the mitigation context. The county's mix of rapidly urbanizing municipalities, rural communities, and recreation gateway towns requires mitigation actions that are coordinated regionally while remaining tailored to local conditions and jurisdiction-specific risks.

## Hazard Identification

Each plan participant reviewed the hazards identified for the Five County Region and determined their applicability. Table 160 indicates that all profiled hazards apply to each Washington County participant; therefore, no participant-specific hazard omissions are proposed.

**Table 160: Hazard Applicability for Washington County Participants**

| Plan Participant         | Hazard                                                                                                                                                                               | Rationale for Omitting Hazard                                          |
|--------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------|
| <b>Washington County</b> | Dam Failure, Damaging Winds, Drought, Earthquake, Extreme Heat, Flooding, Hail, Landslide, Problem Soils, Radon Gas, Thunderstorms and Lightning, Tornadoes, Wildfire, Winter Storms | No participant-specific omission; all profiled hazards are applicable. |
| <b>St. George</b>        | Dam Failure, Damaging Winds, Drought, Earthquake, Extreme Heat, Flooding, Hail, Landslide, Problem Soils, Radon Gas, Thunderstorms and Lightning, Tornadoes, Wildfire, Winter Storms | No participant-specific omission; all profiled hazards are applicable. |
| <b>Washington City</b>   | Dam Failure, Damaging Winds, Drought, Earthquake, Extreme Heat, Flooding, Hail, Landslide, Problem Soils, Radon Gas, Thunderstorms and Lightning, Tornadoes, Wildfire, Winter Storms | No participant-specific omission; all profiled hazards are applicable. |
| <b>Hurricane</b>         | Dam Failure, Damaging Winds, Drought, Earthquake, Extreme Heat, Flooding, Hail, Landslide, Problem Soils, Radon Gas, Thunderstorms and Lightning, Tornadoes, Wildfire, Winter Storms | No participant-specific omission; all profiled hazards are applicable. |
| <b>Santa Clara</b>       | Dam Failure, Damaging Winds, Drought, Earthquake, Extreme Heat, Flooding, Hail, Landslide, Problem Soils, Radon Gas, Thunderstorms and Lightning, Tornadoes, Wildfire, Winter Storms | No participant-specific omission; all profiled hazards are applicable. |
| <b>Ivins</b>             | Dam Failure, Damaging Winds, Drought, Earthquake, Extreme Heat, Flooding, Hail, Landslide, Problem                                                                                   | No participant-specific omission; all profiled hazards are applicable. |

| Plan Participant   | Hazard                                                                                                                                                                               | Rationale for Omitting Hazard                                          |
|--------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------|
|                    | Soils, Radon Gas, Thunderstorms and Lightning, Tornadoes, Wildfire, Winter Storms                                                                                                    |                                                                        |
| <b>La Verkin</b>   | Dam Failure, Damaging Winds, Drought, Earthquake, Extreme Heat, Flooding, Hail, Landslide, Problem Soils, Radon Gas, Thunderstorms and Lightning, Tornadoes, Wildfire, Winter Storms | No participant-specific omission; all profiled hazards are applicable. |
| <b>Enterprise</b>  | Dam Failure, Damaging Winds, Drought, Earthquake, Extreme Heat, Flooding, Hail, Landslide, Problem Soils, Radon Gas, Thunderstorms and Lightning, Tornadoes, Wildfire, Winter Storms | No participant-specific omission; all profiled hazards are applicable. |
| <b>Toquerville</b> | Dam Failure, Damaging Winds, Drought, Earthquake, Extreme Heat, Flooding, Hail, Landslide, Problem Soils, Radon Gas, Thunderstorms and Lightning, Tornadoes, Wildfire, Winter Storms | No participant-specific omission; all profiled hazards are applicable. |
| <b>Leeds</b>       | Dam Failure, Damaging Winds, Drought, Earthquake, Extreme Heat, Flooding, Hail, Landslide, Problem Soils, Radon Gas, Thunderstorms and Lightning, Tornadoes, Wildfire, Winter Storms | No participant-specific omission; all profiled hazards are applicable. |
| <b>Virgin</b>      | Dam Failure, Damaging Winds, Drought, Earthquake, Extreme Heat, Flooding, Hail, Landslide, Problem Soils, Radon Gas, Thunderstorms and Lightning, Tornadoes, Wildfire, Winter Storms | No participant-specific omission; all profiled hazards are applicable. |
| <b>Springdale</b>  | Dam Failure, Damaging Winds, Drought, Earthquake, Extreme Heat, Flooding, Hail, Landslide, Problem Soils, Radon Gas, Thunderstorms and Lightning, Tornadoes, Wildfire, Winter Storms | No participant-specific omission; all profiled hazards are applicable. |
| <b>New Harmony</b> | Dam Failure, Damaging Winds, Drought, Earthquake, Extreme Heat, Flooding, Hail, Landslide, Problem Soils, Radon Gas, Thunderstorms and Lightning, Tornadoes, Wildfire, Winter Storms | No participant-specific omission; all profiled hazards are applicable. |
| <b>Rockville</b>   | Dam Failure, Damaging Winds, Drought, Earthquake, Extreme Heat, Flooding, Hail, Landslide, Problem                                                                                   | No participant-specific omission; all profiled hazards are applicable. |

| Plan Participant    | Hazard                                                                                                                                                                               | Rationale for Omitting Hazard                                          |
|---------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------|
|                     | Soils, Radon Gas, Thunderstorms and Lightning, Tornadoes, Wildfire, Winter Storms                                                                                                    |                                                                        |
| <b>Apple Valley</b> | Dam Failure, Damaging Winds, Drought, Earthquake, Extreme Heat, Flooding, Hail, Landslide, Problem Soils, Radon Gas, Thunderstorms and Lightning, Tornadoes, Wildfire, Winter Storms | No participant-specific omission; all profiled hazards are applicable. |
| <b>Hildale</b>      | Dam Failure, Damaging Winds, Drought, Earthquake, Extreme Heat, Flooding, Hail, Landslide, Problem Soils, Radon Gas, Thunderstorms and Lightning, Tornadoes, Wildfire, Winter Storms | No participant-specific omission; all profiled hazards are applicable. |

## Vulnerability and Impact Assessment

The vulnerability and impact assessment identifies the people, structures, critical facilities, infrastructure systems, economic activities, natural resources, and other community assets that may be affected by each applicable hazard. Countywide population, housing, facility, and infrastructure figures provide planning context and should not be interpreted as direct hazard exposure unless supported by a mapped footprint, scenario, or documented event. The regional hazard profiles provide hazard characteristics, location, extent, previous occurrences, probability, methodology, and future conditions; this annex supplements those profiles with participant-specific consequences and planning considerations. Facility and infrastructure entries are qualitative planning considerations drawn from the annex inventory. They identify asset types and potential service consequences; they do not represent a verified complete current inventory, a mapped exposure count, or a modeled loss estimate. Inclusion in a county or municipality does not establish that a facility lies within a particular hazard footprint.

### Dam Failure

Table 161 summarizes dam failure vulnerabilities and potential impacts for Washington County participants.

**Table 161: Dam Failure Vulnerability and Impact Assessment for Washington County**

| Plan Participant         | Vulnerabilities and Impacts                                                                                                                                                                                                                                                                                    |
|--------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Washington County</b> | <b>Vulnerabilities:</b> Direct dam-failure exposure for Washington County should be based on current Utah dam-inventory data, applicable emergency action plans, and mapped inundation areas. County location, downstream drainage, or proximity to a reservoir does not by itself establish exposure. Hazard- |

| Plan Participant | Vulnerabilities and Impacts                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
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|                  | <p>potential classification describes potential consequences of failure or misoperation; it does not describe structural condition or probability of failure.</p> <p><b>Impacts:</b> Where a documented inundation area intersects developed assets, a dam incident could cause rapid flooding, erosion, debris, road and utility damage, evacuation, access disruption, and economic loss. Consequences depend on the affected dam, failure mode, warning time, reservoir conditions, downstream development, and exposed assets. A dam failure could cause life safety threats, wash out roads and crossings, damage utilities and public infrastructure, isolate rural communities, disrupt emergency response and evacuation, and damage agricultural land and other economic assets. Countywide impacts may also include debris deposition, erosion, interruption of regional transportation and service delivery, and recovery costs associated with infrastructure repair and post-disaster coordination. The 2012 Santa Clara/Laub Detention Dam failure demonstrates the potential for destructive downstream flooding in the county.<sup>252</sup> Critical facilities and infrastructure potentially impacted include Washington County Sheriff's Office; Washington County Emergency Management; St. George 911 Communications Center; Southwest Utah Public Health Department; St. George Regional Hospital; Washington County School District facilities; Washington County public works, roads, bridges, culverts, drainage crossings, and emergency access routes; Interstate 15, State Route 9, State Route 7, and other county transportation corridors; Virgin River, Santa Clara River, Ash Creek, La Verkin Creek, and Beaver Dam Wash corridor infrastructure; Washington County Water Conservancy District reservoirs, dams, pipelines, pump stations, water storage, and distribution infrastructure; municipal water and wastewater systems; power, communications, and utility corridors; public buildings, parks, recreation facilities, and visitor-serving facilities in downstream dam inundation areas.</p> |
| St. George       | <p><b>Vulnerabilities:</b> Direct dam-failure exposure for St. George should be based on current Utah dam-inventory data, applicable emergency action plans, and mapped inundation areas. County location, downstream drainage, or proximity to a reservoir does not by itself establish exposure. Hazard-potential classification describes potential consequences of failure or misoperation; it does not describe structural condition or probability of failure.</p> <p><b>Impacts:</b> Where a documented inundation area intersects developed assets, a dam incident could cause rapid flooding, erosion, debris, road and utility damage, evacuation, access disruption, and economic loss. Consequences depend on the affected dam, failure mode, warning time, reservoir conditions, downstream development, and exposed assets. A dam failure could threaten</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |

<sup>252</sup> Utah Division of Emergency Management, Disaster Closeout: Laub Dam Failure, June 29, 2018, indexed by the Association of State Dam Safety Officials. <https://damsafety.org/reference/disaster-closeout-laub-dam-failure>. Utah Division of Water Resources, Dam Safety. <https://water.utah.gov/dam-safety/>. Hazard classification describes consequences, not structural condition; current EAPs and inundation mapping are needed to confirm asset exposure.

| Plan Participant | Vulnerabilities and Impacts                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
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|                  | <p>life safety, damage homes, businesses, roads, bridges, utilities, and public facilities, disrupt emergency response and hospital access, and interrupt commerce and regional services centered in St. George. High-velocity flooding could also cause channel erosion, debris impacts, utility outages, and costly recovery needs for damaged infrastructure and developed property. Critical facilities and infrastructure potentially impacted include St. George City Hall and municipal government facilities; St. George Police Department; St. George Fire Department stations; St. George 911 Communications Center; St. George Regional Hospital; schools and public facilities in the Washington County School District; St. George public works, water, wastewater, stormwater, and drainage facilities; bridges, culverts, and local road crossings along the Virgin River and Santa Clara River corridors; Interstate 15, State Route 7, Bluff Street, River Road, and other key access routes; utility substations, overhead and underground power, communications infrastructure, parks, trail systems, and recreation facilities that may be affected by dam inundation or related flooding.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| Washington City  | <p><b>Vulnerabilities:</b> Direct dam-failure exposure for Washington City should be based on current Utah dam-inventory data, applicable emergency action plans, and mapped inundation areas. County location, downstream drainage, or proximity to a reservoir does not by itself establish exposure. Hazard-potential classification describes potential consequences of failure or misoperation; it does not describe structural condition or probability of failure.</p> <p><b>Impacts:</b> Where a documented inundation area intersects developed assets, a dam incident could cause rapid flooding, erosion, debris, road and utility damage, evacuation, access disruption, and economic loss. Consequences depend on the affected dam, failure mode, warning time, reservoir conditions, downstream development, and exposed assets. Dam failure impacts could include injuries or loss of life, structural damage to homes and community facilities, road and bridge closures, disruption to utilities and stormwater systems, and erosion or debris damage to developed areas. Local government operations, schools, and daily travel could also be disrupted while damaged infrastructure is repaired. Critical facilities and infrastructure potentially impacted include Washington City offices and public works facilities; Washington City Police Department; Washington City Fire Department facilities; schools and community facilities; culinary water, irrigation, wastewater, stormwater, drainage, and flood-control infrastructure; bridges, culverts, and road crossings along the Virgin River and local drainage corridors; Interstate 15, State Route 9, Telegraph Street, and major local access routes; Washington County Water Conservancy District facilities serving the Washington area; power, communications, and utility infrastructure; parks, trails, and recreation facilities potentially located in or near dam inundation and flood-prone areas.</p> |
| Hurricane        | <p><b>Vulnerabilities:</b> Direct dam-failure exposure for Hurricane should be based on current Utah dam-inventory data, applicable emergency action plans, and</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |

| Plan Participant | Vulnerabilities and Impacts                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
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|                  | <p>mapped inundation areas. County location, downstream drainage, or proximity to a reservoir does not by itself establish exposure. Hazard-potential classification describes potential consequences of failure or misoperation; it does not describe structural condition or probability of failure.</p> <p><b>Impacts:</b> Where a documented inundation area intersects developed assets, a dam incident could cause rapid flooding, erosion, debris, road and utility damage, evacuation, access disruption, and economic loss. Consequences depend on the affected dam, failure mode, warning time, reservoir conditions, downstream development, and exposed assets. Potential impacts include life safety threats, property and infrastructure damage, washed out roads and crossings, utility disruptions, sediment and debris deposition, and interruption of emergency access and evacuation routes. Commercial activity, schools, and public services could also be disrupted if floodwaters damage developed areas or critical facilities. Critical facilities and infrastructure potentially impacted include Hurricane City Hall and public works facilities; Hurricane Police Department; Hurricane Valley Fire District facilities; schools and community facilities; Hurricane municipal water, wastewater, stormwater, and drainage infrastructure; Ash Creek and Virgin River corridor crossings; State Route 9, State Route 7, Interstate 15 access routes, bridges, culverts, and evacuation corridors; Sand Hollow Reservoir and related recreation, dam, spillway, access, and utility infrastructure; Quail Creek Reservoir-related downstream access and utility infrastructure; power, communications, and utility corridors serving Hurricane Valley.</p> |
| Santa Clara      | <p><b>Vulnerabilities:</b> Direct dam-failure exposure for Santa Clara should be based on current Utah dam-inventory data, applicable emergency action plans, and mapped inundation areas. County location, downstream drainage, or proximity to a reservoir does not by itself establish exposure. Hazard-potential classification describes potential consequences of failure or misoperation; it does not describe structural condition or probability of failure.</p> <p><b>Impacts:</b> Where a documented inundation area intersects developed assets, a dam incident could cause rapid flooding, erosion, debris, road and utility damage, evacuation, access disruption, and economic loss. Consequences depend on the affected dam, failure mode, warning time, reservoir conditions, downstream development, and exposed assets. Dam failure could cause severe flooding, structural damage, erosion, and debris impacts to developed areas, with possible injuries, evacuations, utility outages, transportation disruption, and costly repairs. As shown by the 2012 event, damage could extend to homes, businesses, and community infrastructure and require substantial recovery and emergency response resources. Critical facilities and infrastructure potentially impacted include Santa Clara City Hall and municipal facilities; Santa Clara-Ivins Police Department facilities; Santa Clara fire and emergency response facilities; schools and community facilities; municipal water, irrigation, wastewater, stormwater, and drainage systems; Santa Clara</p>                                                                                                                                                                                                |

| Plan Participant | Vulnerabilities and Impacts                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
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|                  | <p>River corridor bridges, culverts, and local road crossings; Old Highway 91, Santa Clara Drive, and other primary access routes; power, communications, and utility infrastructure; parks, trails, recreation areas, and public facilities near the Santa Clara River or downstream dam inundation areas.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| Ivins            | <p><b>Vulnerabilities:</b> Direct dam-failure exposure for Ivins should be based on current Utah dam-inventory data, applicable emergency action plans, and mapped inundation areas. County location, downstream drainage, or proximity to a reservoir does not by itself establish exposure. Hazard-potential classification describes potential consequences of failure or misoperation; it does not describe structural condition or probability of failure.</p> <p><b>Impacts:</b> Where a documented inundation area intersects developed assets, a dam incident could cause rapid flooding, erosion, debris, road and utility damage, evacuation, access disruption, and economic loss. Consequences depend on the affected dam, failure mode, warning time, reservoir conditions, downstream development, and exposed assets. Potential impacts include damage to homes, roads, culverts, drainage systems, and utilities; temporary isolation of neighborhoods; and disruption of emergency response, travel, and public services. High-velocity floodwaters may also produce erosion, sediment deposition, and long-term infrastructure repair needs. Critical facilities and infrastructure potentially impacted include Ivins City Hall and municipal facilities; Santa Clara-Ivins Police Department facilities serving Ivins; Ivins fire and emergency response facilities; schools and community facilities; municipal water, wastewater, stormwater, drainage, and irrigation infrastructure; local road crossings, culverts, and drainage channels connected to the Santa Clara River watershed; Old Highway 91 and other primary access routes; power, communications, and utility infrastructure; parks, trails, recreation facilities, and public buildings potentially affected by dam-related flooding or disrupted access.</p> |
| La Verkin        | <p><b>Vulnerabilities:</b> Direct dam-failure exposure for La Verkin should be based on current Utah dam-inventory data, applicable emergency action plans, and mapped inundation areas. County location, downstream drainage, or proximity to a reservoir does not by itself establish exposure. Hazard-potential classification describes potential consequences of failure or misoperation; it does not describe structural condition or probability of failure.</p> <p><b>Impacts:</b> Where a documented inundation area intersects developed assets, a dam incident could cause rapid flooding, erosion, debris, road and utility damage, evacuation, access disruption, and economic loss. Consequences depend on the affected dam, failure mode, warning time, reservoir conditions, downstream development, and exposed assets. Dam failure impacts could include danger to residents and visitors, washed out roads and crossings, damage to homes and utilities, erosion along riverbanks and channels, and interruption of access to nearby communities. Public works capacity and recovery costs could be strained if floodwaters damage transportation or</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |

| Plan Participant | Vulnerabilities and Impacts                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
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|                  | <p>utility infrastructure. Critical facilities and infrastructure potentially impacted include La Verkin City offices and public works facilities; La Verkin Police Department; La Verkin fire and emergency response facilities; schools and community facilities; culinary water, wastewater, stormwater, and drainage infrastructure; La Verkin Creek and Virgin River corridor bridges, culverts, and road crossings; State Route 9 and other Zion gateway access routes; power, communications, and utility infrastructure; parks, trails, and public facilities that could be affected by dam inundation, debris, erosion, or access disruption.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| Enterprise       | <p><b>Vulnerabilities:</b> Direct dam-failure exposure for Enterprise should be based on current Utah dam-inventory data, applicable emergency action plans, and mapped inundation areas. County location, downstream drainage, or proximity to a reservoir does not by itself establish exposure. Hazard-potential classification describes potential consequences of failure or misoperation; it does not describe structural condition or probability of failure.</p> <p><b>Impacts:</b> Where a documented inundation area intersects developed assets, a dam incident could cause rapid flooding, erosion, debris, road and utility damage, evacuation, access disruption, and economic loss. Consequences depend on the affected dam, failure mode, warning time, reservoir conditions, downstream development, and exposed assets. Potential impacts include flooding of homes and agricultural areas, road washouts, damage to culverts, water and utility infrastructure, erosion, and disruption of emergency response and school or business access. Recovery may be prolonged where local staffing and financial capacity are limited and infrastructure repair requires outside assistance. Critical facilities and infrastructure potentially impacted include Enterprise City offices and public works facilities; Enterprise Police Department; Enterprise fire and emergency response facilities; schools and community facilities; municipal water, wastewater, drainage, and stormwater infrastructure; reservoirs, irrigation systems, storage ponds, canals, and agricultural water infrastructure serving the Enterprise area; State Route 18, local bridges, culverts, and rural access roads; power, communications, and utility infrastructure; parks, public buildings, and equipment yards that could be affected by dam-related flooding, washout, or service disruption.</p> |
| Toquerville      | <p><b>Vulnerabilities:</b> Direct dam-failure exposure for Toquerville should be based on current Utah dam-inventory data, applicable emergency action plans, and mapped inundation areas. County location, downstream drainage, or proximity to a reservoir does not by itself establish exposure. Hazard-potential classification describes potential consequences of failure or misoperation; it does not describe structural condition or probability of failure.</p> <p><b>Impacts:</b> Where a documented inundation area intersects developed assets, a dam incident could cause rapid flooding, erosion, debris, road and utility damage, evacuation, access disruption, and economic loss. Consequences depend on the affected dam, failure mode, warning time, reservoir conditions,</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |

| Plan Participant | Vulnerabilities and Impacts                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
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|                  | <p>downstream development, and exposed assets. Dam failure could cause injuries, property damage, road and bridge closures, utility disruption, and erosion affecting drainageways and developed areas. The town could also face isolation of neighborhoods, interruption of emergency response, and costly repairs to transportation and stormwater infrastructure. Critical facilities and infrastructure potentially impacted include Toquerville Town Hall and municipal facilities; Toquerville fire and emergency response facilities; public works and utility facilities; schools and community facilities serving the area; culinary water, irrigation, wastewater, stormwater, and drainage infrastructure; Ash Creek and La Verkin Creek watershed crossings; State Route 17, Interstate 15 access routes, bridges, culverts, and local evacuation routes; power, communications, and utility infrastructure; parks, trails, and public facilities that may be exposed to dam-related inundation or disrupted access.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| Leeds            | <p><b>Vulnerabilities:</b> Direct dam-failure exposure for Leeds should be based on current Utah dam-inventory data, applicable emergency action plans, and mapped inundation areas. County location, downstream drainage, or proximity to a reservoir does not by itself establish exposure. Hazard-potential classification describes potential consequences of failure or misoperation; it does not describe structural condition or probability of failure.</p> <p><b>Impacts:</b> Where a documented inundation area intersects developed assets, a dam incident could cause rapid flooding, erosion, debris, road and utility damage, evacuation, access disruption, and economic loss. Consequences depend on the affected dam, failure mode, warning time, reservoir conditions, downstream development, and exposed assets. Potential impacts include flood damage to residences and infrastructure, erosion and debris impacts in channels, temporary closure of roads or interstate access, utility outages, and disruption of emergency response and commuter travel. Damage to transportation links could create broader regional consequences because of the town's connection to major travel corridors. Critical facilities and infrastructure potentially impacted include Leeds Town Hall and public works facilities; Leeds fire and emergency response facilities; local water, wastewater, drainage, and stormwater infrastructure; bridges, culverts, and road crossings along Leeds Creek, Quail Creek, and nearby drainage corridors; Interstate 15, Main Street, and local access routes; power, communications, and utility infrastructure; parks, public buildings, and community facilities that could be affected by dam inundation, flash flooding, washout, or emergency access disruption.</p> |
| Virgin           | <p><b>Vulnerabilities:</b> Direct dam-failure exposure for Virgin should be based on current Utah dam-inventory data, applicable emergency action plans, and mapped inundation areas. County location, downstream drainage, or proximity to a reservoir does not by itself establish exposure. Hazard-potential classification describes potential consequences of failure or misoperation; it does not describe structural condition or probability of failure.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |

| Plan Participant | Vulnerabilities and Impacts                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
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|                  | <p><b>Impacts:</b> Where a documented inundation area intersects developed assets, a dam incident could cause rapid flooding, erosion, debris, road and utility damage, evacuation, access disruption, and economic loss. Consequences depend on the affected dam, failure mode, warning time, reservoir conditions, downstream development, and exposed assets. Dam failure could threaten life safety, damage tourism-related businesses, residences, roads, bridges, and utilities, and disrupt SR-9 access, evacuation, and emergency response. Economic impacts could extend beyond physical damage through lost visitor activity, interruptions to local commerce, and prolonged repair of transportation and infrastructure systems. Critical facilities and infrastructure potentially impacted include Virgin Town Hall and municipal facilities; Virgin fire and emergency response facilities; public works, water, wastewater, drainage, and utility infrastructure; Virgin River corridor bridges, culverts, and low-water crossings; State Route 9 and local Zion gateway access routes; power, communications, and utility corridors; parks, trailheads, recreation access points, campgrounds, and public facilities that could be affected by dam-related flooding, erosion, debris, or access interruption.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| Springdale       | <p><b>Vulnerabilities:</b> Direct dam-failure exposure for Springdale should be based on current Utah dam-inventory data, applicable emergency action plans, and mapped inundation areas. County location, downstream drainage, or proximity to a reservoir does not by itself establish exposure. Hazard-potential classification describes potential consequences of failure or misoperation; it does not describe structural condition or probability of failure.</p> <p><b>Impacts:</b> Where a documented inundation area intersects developed assets, a dam incident could cause rapid flooding, erosion, debris, road and utility damage, evacuation, access disruption, and economic loss. Consequences depend on the affected dam, failure mode, warning time, reservoir conditions, downstream development, and exposed assets. Potential impacts include life safety threats, damage to hotels, businesses, homes, roads, bridges, utilities, and public facilities, and severe disruption to tourism, evacuation, and emergency access in the Zion gateway area. Because transportation options are limited, even moderate infrastructure damage could cause major economic losses and prolonged service interruptions. Critical facilities and infrastructure potentially impacted include Springdale Town Hall and municipal facilities; Springdale Police Department and emergency response facilities; public works, water, wastewater, drainage, and stormwater infrastructure; Virgin River corridor bridges, culverts, and low-water crossings; State Route 9, Zion Canyon access routes, shuttle-related facilities, and visitor-serving transportation infrastructure; power, communications, and utility infrastructure; parks, trails, lodging areas, visitor facilities, and Zion gateway recreation assets potentially exposed to dam-related flooding, erosion, debris, or access disruption.</p> |
| New Harmony      | <p><b>Vulnerabilities:</b> Direct dam-failure exposure for New Harmony should be based on current Utah dam-inventory data, applicable emergency action</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |

| Plan Participant | Vulnerabilities and Impacts                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
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|                  | <p>plans, and mapped inundation areas. County location, downstream drainage, or proximity to a reservoir does not by itself establish exposure. Hazard-potential classification describes potential consequences of failure or misoperation; it does not describe structural condition or probability of failure.</p> <p><b>Impacts:</b> Where a documented inundation area intersects developed assets, a dam incident could cause rapid flooding, erosion, debris, road and utility damage, evacuation, access disruption, and economic loss. Consequences depend on the affected dam, failure mode, warning time, reservoir conditions, downstream development, and exposed assets. Dam failure impacts could include flooding of homes and roads, erosion of drainage channels, damage to water and utility systems, interruption of emergency response and school or commuter access, and economic losses tied to infrastructure repair. Recovery may be slower where local staffing and resources are limited. Critical facilities and infrastructure potentially impacted include New Harmony Town Hall and municipal facilities; fire and emergency response facilities; public works, water, wastewater, drainage, and utility infrastructure; local bridges, culverts, and rural access roads; Interstate 15 and State Route 144 access routes; Ash Creek watershed drainage crossings; power, communications, and utility corridors; parks, community facilities, and public buildings that could be affected by dam-related flooding, washout, debris, or isolation.</p>                                                                                                                                                                                                             |
| Rockville        | <p><b>Vulnerabilities:</b> Direct dam-failure exposure for Rockville should be based on current Utah dam-inventory data, applicable emergency action plans, and mapped inundation areas. County location, downstream drainage, or proximity to a reservoir does not by itself establish exposure. Hazard-potential classification describes potential consequences of failure or misoperation; it does not describe structural condition or probability of failure.</p> <p><b>Impacts:</b> Where a documented inundation area intersects developed assets, a dam incident could cause rapid flooding, erosion, debris, road and utility damage, evacuation, access disruption, and economic loss. Consequences depend on the affected dam, failure mode, warning time, reservoir conditions, downstream development, and exposed assets. Potential impacts include life safety threats, structural damage to homes and historic resources, erosion, roadway and bridge damage, utility outages, and disruption of access for residents and visitors. Because the community is small and access is limited, even localized flood damage could significantly affect evacuation, emergency response, and recovery operations. Critical facilities and infrastructure potentially impacted include Rockville Town Hall and municipal facilities; fire and emergency response facilities; public works, water, wastewater, drainage, and utility infrastructure; Virgin River corridor bridges, culverts, and low-water crossings; State Route 9 and local Zion gateway access routes; power, communications, and utility infrastructure; parks, trailheads, recreation access points, and public facilities that may be affected by dam-related flooding, erosion, debris, or access disruption.</p> |

| Plan Participant | Vulnerabilities and Impacts                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
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| Apple Valley     | <p><b>Vulnerabilities:</b> Direct dam-failure exposure for Apple Valley should be based on current Utah dam-inventory data, applicable emergency action plans, and mapped inundation areas. County location, downstream drainage, or proximity to a reservoir does not by itself establish exposure. Hazard-potential classification describes potential consequences of failure or misoperation; it does not describe structural condition or probability of failure.</p> <p><b>Impacts:</b> Where a documented inundation area intersects developed assets, a dam incident could cause rapid flooding, erosion, debris, road and utility damage, evacuation, access disruption, and economic loss. Consequences depend on the affected dam, failure mode, warning time, reservoir conditions, downstream development, and exposed assets. Dam failure could damage homes, roads, culverts, and utility systems; cause erosion and debris deposition in channels and drainageways; and interrupt emergency response, school travel, and access to essential services. Recovery could be challenging if multiple dispersed areas are affected at the same time. Critical facilities and infrastructure potentially impacted include Apple Valley Town Hall and municipal facilities; fire and emergency response facilities; public works, water, wastewater, drainage, and utility infrastructure; local bridges, culverts, washes, and rural access roads; State Route 59 and local evacuation routes; power, communications, and utility corridors; parks, community facilities, and public buildings that could be affected by dam-related flooding, washout, debris, or delayed emergency access.</p> |
| Hildale          | <p><b>Vulnerabilities:</b> Direct dam-failure exposure for Hildale should be based on current Utah dam-inventory data, applicable emergency action plans, and mapped inundation areas. County location, downstream drainage, or proximity to a reservoir does not by itself establish exposure. Hazard-potential classification describes potential consequences of failure or misoperation; it does not describe structural condition or probability of failure.</p> <p><b>Impacts:</b> Where a documented inundation area intersects developed assets, a dam incident could cause rapid flooding, erosion, debris, road and utility damage, evacuation, access disruption, and economic loss. Consequences depend on the affected dam, failure mode, warning time, reservoir conditions, downstream development, and exposed assets. Potential impacts include danger to residents, damage to homes and infrastructure, washed out roads or crossings, utility and water service interruption, erosion, and disruption of emergency response and public safety operations. In a community with significant infrastructure needs, repair and recovery could require outside technical and financial assistance. Critical facilities and infrastructure potentially impacted include Hildale City Hall and municipal facilities; Hildale Police Department; Hildale fire and emergency response facilities; Water Canyon School and other community facilities; public works, culinary water, wastewater, stormwater, drainage, and utility infrastructure; local bridges, culverts, washes, and drainage crossings; Utah State Route 59 and community</p>                                                 |

| Plan Participant | Vulnerabilities and Impacts                                                                                                                                                               |
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|                  | access routes; power, communications, and utility corridors; parks, public buildings, and facilities that could be affected by dam-related flooding, debris flows, washout, or isolation. |

## Damaging Winds

Table 162 summarizes damaging wind vulnerabilities and potential impacts for Washington County participants.

**Table 162: Damaging Winds Vulnerability and Impact Assessment for Washington County**

| Plan Participant  | Vulnerabilities and Impacts                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
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| Washington County | <p><b>Vulnerabilities:</b> Washington County is highly vulnerable to damaging winds because it contains the largest population and most extensive transportation, utility, public facility, agricultural, and recreation assets in the five-county region. Vulnerable assets include unincorporated neighborhoods, roads and bridges, overhead utilities, public safety facilities, schools, parks, agricultural lands, and county-supported infrastructure located in exposed valleys, desert basins, canyon mouths, and travel corridors where strong winds, downbursts, and blowing dust can occur.</p> <p><b>Impacts:</b> Damaging winds can down trees and power lines, damage roofs and outbuildings, disrupt utilities and communications, create hazardous travel conditions on regional roads, and interrupt emergency response and service delivery. Countywide impacts may also include debris removal costs, short-term business and agricultural losses due to Rocky Mountain Power shutoffs during high wind events, reduced access to recreation areas, and increased wildfire potential during hot, dry conditions. Critical facilities and infrastructure potentially impacted include Washington County Sheriff's Office; Washington County Emergency Management; St. George 911 Communications Center; Southwest Utah Public Health Department; St. George Regional Hospital; Washington County School District facilities; county and municipal government buildings; public safety facilities; public works facilities; Interstate 15, State Route 9, State Route 7, State Route 18, and other regional roadways, bridges, culverts, traffic signals, and evacuation routes; St. George Regional Airport; overhead electric distribution lines, substations, communications towers, cellular and internet infrastructure, water and wastewater systems, storm drainage systems, fuel supply points, traffic-control systems, parks, trailheads, campgrounds, reservoir recreation facilities, tourism and visitor-serving infrastructure, agricultural buildings, sheds, fences, corrals, irrigation equipment, and maintenance yards vulnerable to high winds, debris, downed trees, blowing dust, crosswinds, outages, and access disruption.</p> |

| Plan Participant | Vulnerabilities and Impacts                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
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| St. George       | <p><b>Vulnerabilities:</b> St. George is highly vulnerable because of its dense residential and commercial development, schools, medical facilities, major arterials, airport-related infrastructure, utilities, parks, and recreation assets located in exposed valley and gap-wind settings. Older or lightweight structures, signs, trees, overhead power lines, and heavily traveled roads are especially susceptible to strong winds and downbursts.</p> <p><b>Impacts:</b> Damaging winds can cause roof and window damage, power outages, fallen trees, roadway obstructions, and disruption to businesses, schools, health care access, and public services. Strong winds may also create hazardous driving conditions, damage recreation facilities, and increase emergency response demands and cleanup costs in this regional service center. Critical facilities and infrastructure potentially impacted include St. George City Hall and municipal government facilities; St. George Police Department; St. George Fire Department stations; St. George 911 Communications Center; St. George Regional Hospital; Utah Tech University facilities; Washington County School District schools and support facilities; St. George Regional Airport; public works, water, wastewater, stormwater, and drainage facilities; Interstate 15, State Route 7, Bluff Street, River Road, St. George Boulevard, traffic signals, bridges, culverts, and major arterials; overhead power lines, substations, communications equipment, signs, parks, sports fields, trail systems, recreation facilities, commercial centers, medical offices, hotels, warehouses, and older or lightweight structures vulnerable to roof damage, broken windows, sign failure, debris, power outages, and travel disruption.</p> |
| Washington City  | <p><b>Vulnerabilities:</b> Washington City is vulnerable where growing neighborhoods, schools, commercial areas, arterial roads, utilities, parks, and public facilities are exposed to damaging winds across open urban and suburban terrain. Continued growth increases the number of homes, construction sites, signs, and overhead systems that can be affected by strong winds, debris, and short-duration power outages.</p> <p><b>Impacts:</b> Damaging winds can damage roofs, fences, trees, signs, and utility infrastructure; interrupt power and communications; and create unsafe travel conditions on local roads. City operations, schools, construction activity, and routine travel may also be disrupted while debris is cleared and damaged infrastructure is repaired. Critical facilities and infrastructure potentially impacted include Washington City offices and municipal facilities; Washington City Police Department; Washington City Fire Department facilities; Washington County School District schools and community facilities; public works facilities; culinary water, irrigation, wastewater, stormwater, drainage, and flood-control infrastructure; Interstate 15, State Route 9, Telegraph Street, Green Spring Drive, traffic signals, local bridges, culverts, and major access routes; overhead power and communications infrastructure; utility equipment, parks, sports fields, trail systems, commercial centers, signs, and public facilities vulnerable to wind-driven debris, downed lines, roof and siding damage, blowing dust, crosswinds, outages, and interrupted access.</p>                                                                                                                                                                              |

| Plan Participant | Vulnerabilities and Impacts                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
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| Hurricane        | <p><b>Vulnerabilities:</b> Hurricane is vulnerable because homes, schools, businesses, roads, utilities, and public facilities are exposed in the Hurricane Valley and along travel corridors where strong winds, thunderstorm outflows, and blowing dust can occur. Growing development, exposed terrain, recreation traffic, and overhead infrastructure increase the city's sensitivity to wind-related damage and service disruption.</p> <p><b>Impacts:</b> Potential impacts include roof and fence damage, fallen trees and debris, power outages, hazardous travel conditions, disruption to schools, businesses, and emergency access. Damaging winds may also affect recreation-oriented travel and increase wildfire risk when strong winds coincide with dry vegetation and hot weather. Critical facilities and infrastructure potentially impacted include Hurricane City Hall and municipal facilities; Hurricane Police Department; Hurricane Valley Fire District facilities; Washington County School District schools and community facilities; public works, water, wastewater, stormwater, drainage, and irrigation infrastructure; Interstate 15 access routes, State Route 9, State Route 7, State Route 59, major local roads, traffic signals, bridges, culverts, and evacuation routes; overhead power and communications infrastructure; Sand Hollow Reservoir and Quail Creek Reservoir recreation-support facilities; parks, trailheads, campgrounds, marinas, commercial areas, tourism businesses, signs, utility corridors, and lightweight structures vulnerable to high winds, crosswinds, blowing dust, downed lines, debris, roof damage, and access disruption.</p> |
| Santa Clara      | <p><b>Vulnerabilities:</b> Santa Clara is vulnerable where residential neighborhoods, schools, parks, local roads, utilities, and public buildings are exposed to damaging winds moving through open urban-edge terrain and drainage-influenced corridors. Trees, fences, signage, lightweight structures, and overhead power lines are particularly susceptible to strong gusts and debris impacts.</p> <p><b>Impacts:</b> Damaging winds can cause structural and landscape damage, utility interruptions, road obstructions, and temporary disruption to schools, city functions, and neighborhood access. Winds can also elevate fire danger and increase cleanup and repair costs when they affect trees, poles, signs, and other exposed infrastructure. Critical facilities and infrastructure potentially impacted include Santa Clara City Hall and municipal facilities; Santa Clara-Ivins Police Department facilities; Santa Clara fire and emergency response facilities; Washington County School District schools and community facilities; public works, water, wastewater, stormwater, drainage, and irrigation infrastructure; Old Highway 91, Santa Clara Drive, traffic signals, bridges, culverts, and local access routes; overhead electric and communications infrastructure; parks, trails, recreation facilities, signs, commercial areas, and public buildings vulnerable to wind damage, downed trees or limbs, debris, power interruptions, roof and siding damage, and temporary road closures.</p>                                                                                                                                                                        |
| Ivins            | <p><b>Vulnerabilities:</b> Ivins is vulnerable where neighborhoods, roads, public facilities, utility systems, tourism-related amenities, and trail or recreation access areas are exposed to strong winds across open desert terrain and near</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |

| Plan Participant | Vulnerabilities and Impacts                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
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|                  | <p>slope and canyon transitions. The city's growth and reliance on limited transportation and utility connections increase sensitivity to debris, falling trees, and wind damage.</p> <p><b>Impacts:</b> Potential impacts include roof and fence damage, downed trees and utility lines, temporary loss of power or communications, and travel disruption on local roads. Public events, recreation use, and day-to-day services may also be interrupted while debris is removed and damaged infrastructure is restored. Critical facilities and infrastructure potentially impacted include Ivins City Hall and municipal facilities; Santa Clara-Ivins Police Department facilities serving Ivins; Ivins fire and emergency response facilities; Washington County School District schools and community facilities; public works, water, wastewater, stormwater, drainage, and irrigation infrastructure; Old Highway 91, Center Street, local access routes, bridges, culverts, and traffic-control devices; overhead power and communications infrastructure; parks, trailheads, recreation facilities, signs, public buildings, utility equipment, and lightweight structures vulnerable to high winds, debris impacts, outages, downed lines, roof damage, and disrupted access.</p>                                                                                                                                                                                                          |
| La Verkin        | <p><b>Vulnerabilities:</b> La Verkin is vulnerable because homes, roads, utilities, bridges, schools, and public facilities are exposed in a valley-and-river corridor setting where strong winds and outflow events can move debris and affect access. The community's transportation connections and overhead infrastructure are susceptible to fallen trees, damaged poles, and reduced travel safety during wind events.</p> <p><b>Impacts:</b> Damaging winds can cause property damage, road blockages, utility outages, and disruption to emergency response, schools, and daily travel. Winds may also create dangerous conditions for vehicles, increase cleanup costs, and contribute to wildfire spread potential during dry conditions. Critical facilities and infrastructure potentially impacted include La Verkin City offices and municipal facilities; La Verkin Police Department; La Verkin fire and emergency response facilities; Washington County School District schools and community facilities; public works, water, wastewater, stormwater, drainage, and utility infrastructure; State Route 9, State Route 17, local bridges, culverts, traffic-control devices, and Zion gateway access routes; overhead electric and communications infrastructure; parks, trailheads, visitor-serving businesses, signs, public buildings, and utility corridors vulnerable to wind-driven debris, crosswinds, downed lines, power outages, roof damage, and access disruption.</p> |
| Enterprise       | <p><b>Vulnerabilities:</b> Enterprise is vulnerable where homes, agricultural buildings, corrals, fences, roads, schools, utilities, and local businesses are exposed across open rural terrain with limited windbreaks. The community's agricultural assets, overhead infrastructure, and reliance on a smaller number of transportation routes increase sensitivity to high winds, debris, and service interruption.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |

| Plan Participant | Vulnerabilities and Impacts                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
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|                  | <p><b>Impacts:</b> Potential impacts include roof and outbuilding damage, damage to fences and agricultural equipment, power outages, road obstructions, and disruption to school, business, and emergency access. Strong winds can also increase wildfire danger and prolong recovery where local staffing and financial resources are limited. Critical facilities and infrastructure potentially impacted include Enterprise City offices and municipal facilities; Enterprise Police Department; Enterprise fire and emergency response facilities; Washington County School District schools and community facilities; public works, water, wastewater, drainage, stormwater, irrigation, and agricultural water infrastructure; State Route 18, local roads, bridges, culverts, traffic-control devices, and rural access routes; overhead power and communications infrastructure; agricultural buildings, barns, sheds, fences, corrals, irrigation equipment, parks, public buildings, signs, and maintenance yards vulnerable to strong winds, blowing dust, downed lines, debris, roof damage, and delayed emergency access.</p>                                                                                                                                                                                                                                                                                                                                              |
| Toquerville      | <p><b>Vulnerabilities:</b> Toquerville is vulnerable because homes, roads, utilities, schools, and expanding residential areas are exposed on open terrain and along transportation corridors where damaging winds can occur. Trees, fences, signs, construction sites, and overhead lines are especially susceptible as growth continues and more assets are placed in wind-exposed settings.</p> <p><b>Impacts:</b> Damaging winds can cause structural damage, fallen trees and debris, power interruptions, and unsafe travel conditions on local roads. The town may also experience disruption to public services, school access, and routine travel, along with added fire danger and cleanup costs during dry and windy periods. Critical facilities and infrastructure potentially impacted include Toquerville Town Hall and municipal facilities; Toquerville fire and emergency response facilities; public works and utility facilities; Washington County School District schools and community facilities serving the area; culinary water, irrigation, wastewater, stormwater, and drainage infrastructure; State Route 17, Interstate 15 access routes, local roads, bridges, culverts, traffic-control devices, and evacuation routes; overhead electric and communications infrastructure; parks, trails, public buildings, signs, and visitor-serving facilities vulnerable to wind damage, debris, downed lines, outages, blowing dust, and interrupted access.</p> |
| Leeds            | <p><b>Vulnerabilities:</b> Leeds is vulnerable where homes, Interstate 15 access, local roads, utility systems, and community facilities are exposed to strong winds in an area influenced by steep terrain, open gaps, and major travel corridors. Transportation links, overhead utilities, trees, signs, and lightweight structures are especially susceptible to crosswinds, debris, and visibility reduction.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |

| Plan Participant | Vulnerabilities and Impacts                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
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|                  | <p><b>Impacts:</b> Potential impacts include roof and fence damage, downed trees or power lines, temporary closures or hazardous conditions on local roads and interstate connections, and interruption of utility service and emergency access. Because of the town's connection to major travel routes, wind events can also create wider regional transportation and safety consequences. Critical facilities and infrastructure potentially impacted include Leeds Town Hall and public works facilities; Leeds fire and emergency response facilities; water, wastewater, stormwater, drainage, and utility infrastructure; Interstate 15, Main Street, local roads, bridges, culverts, traffic-control devices, and access routes; overhead electric and communications infrastructure; parks, public buildings, signs, utility corridors, and community facilities vulnerable to high winds, crosswinds, downed lines, debris, power interruptions, roof damage, and access disruption.</p>                                                                                                                                                                                                                                                                                                                                                                                                                  |
| Virgin           | <p><b>Vulnerabilities:</b> Virgin is vulnerable because homes, businesses, SR-9, utility systems, lodging, and visitor-serving facilities are exposed in the Zion gateway corridor where canyon and valley winds can affect residents and visitors. Limited access routes, tourism activity, and overhead infrastructure increase the town's sensitivity to high winds, debris, and travel disruption.</p> <p><b>Impacts:</b> Damaging winds can threaten life safety, damage businesses and residences, interrupt utility service, and create hazardous travel conditions for residents and park visitors. Economic impacts may also include disruption to tourism, temporary closure of outdoor activities, and recovery costs tied to debris removal and infrastructure repair. Critical facilities and infrastructure potentially impacted include Virgin Town Hall and municipal facilities; Virgin fire and emergency response facilities; public works, water, wastewater, drainage, and utility infrastructure; State Route 9, local roads, bridges, culverts, traffic-control devices, and Zion gateway access routes; overhead electric and communications infrastructure; parks, trailheads, campgrounds, visitor-serving facilities, signs, public buildings, and utility corridors vulnerable to wind-driven debris, downed lines, power outages, crosswinds, roof damage, and interrupted access.</p> |
| Springdale       | <p><b>Vulnerabilities:</b> Springdale is highly vulnerable because lodging, businesses, homes, roads, utilities, and visitor facilities are concentrated in a narrow Zion gateway corridor with constrained transportation access and high visitor volumes. Trees, signs, overhead lines, and lightweight or exposed structures are susceptible to damaging winds that can move through canyon and river-adjacent settings.</p> <p><b>Impacts:</b> Potential impacts include damage to buildings and tourism infrastructure, utility outages, roadway obstructions, hazardous conditions for visitors and employees, and interruption of access, evacuation, and local commerce. Even moderate wind damage can create outsized economic and operational impacts because of the town's reliance on tourism and limited transportation redundancy. Critical facilities and infrastructure potentially impacted include Springdale Town Hall and municipal facilities; Springdale Police Department and emergency response facilities; public works, water,</p>                                                                                                                                                                                                                                                                                                                                                        |

| Plan Participant | Vulnerabilities and Impacts                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
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|                  | wastewater, drainage, stormwater, and utility infrastructure; State Route 9, Zion Canyon access routes, shuttle-related transportation facilities, bridges, culverts, traffic-control devices, and local access routes; overhead electric and communications infrastructure; parks, trailheads, lodging areas, restaurants, visitor facilities, signs, public buildings, and recreation assets vulnerable to damaging winds, downed trees or limbs, debris, outages, crosswinds, and access disruption.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| New Harmony      | <p><b>Vulnerabilities:</b> New Harmony is vulnerable where homes, local roads, water systems, public buildings, and agricultural or open land areas are exposed in a rural mountain-valley setting with limited alternate access and overhead utility infrastructure. Trees, outbuildings, fencing, and road access are especially susceptible to strong winds, falling limbs, and power disruption.</p> <p><b>Impacts:</b> Damaging winds can cause property damage, utility outages, road obstructions, and interruption of emergency response, school travel, and local services. The town may also face prolonged recovery where staffing and resources are limited, particularly if wind damage affects roads, water systems, or wildfire conditions. Critical facilities and infrastructure potentially impacted include New Harmony Town Hall and municipal facilities; fire and emergency response facilities; public works, water, wastewater, drainage, and utility infrastructure; Interstate 15, State Route 144, local roads, bridges, culverts, traffic-control devices, and rural access routes; overhead electric and communications infrastructure; parks, public buildings, signs, agricultural structures, sheds, fences, and utility corridors vulnerable to high winds, blowing dust, downed lines, debris, roof damage, and delayed emergency access.</p>                                        |
| Rockville        | <p><b>Vulnerabilities:</b> Rockville is vulnerable because homes, historic resources, roads, bridges, utilities, and public spaces are concentrated in a small gateway setting with limited access and exposure to canyon and river corridor winds. Trees, signs, fences, and older or lightweight structures are particularly susceptible to wind damage, debris, and service interruption.</p> <p><b>Impacts:</b> Potential impacts include damage to homes and historic assets, blocked roads, power outages, unsafe travel conditions, and disruption of access for residents and visitors. Because the community is small and transportation options are limited, even localized wind damage can significantly affect emergency response, tourism activity, and recovery operations. Critical facilities and infrastructure potentially impacted include Rockville Town Hall and municipal facilities; fire and emergency response facilities; public works, water, wastewater, drainage, and utility infrastructure; State Route 9, local roads, bridges, culverts, traffic-control devices, and Zion gateway access routes; overhead electric and communications infrastructure; parks, trailheads, visitor-serving facilities, signs, public buildings, and utility corridors vulnerable to damaging winds, downed trees or limbs, debris, power outages, crosswinds, roof damage, and interrupted access.</p> |

| Plan Participant | Vulnerabilities and Impacts                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
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| Apple Valley     | <p><b>Vulnerabilities:</b> Apple Valley is vulnerable where dispersed residential development, local roads, water and utility systems, and community facilities are exposed across open rural terrain. Fences, outbuildings, trees, overhead lines, and limited-access roads are susceptible to damaging winds, debris, and short-term service disruption.</p> <p><b>Impacts:</b> Damaging winds can damage homes, outbuildings, fences, and utilities; create hazardous travel conditions; and interrupt access to essential services and emergency response. Recovery can be challenging if multiple dispersed neighborhoods are affected at once or if winds contribute to wildfire spread and extended utility outages. Critical facilities and infrastructure potentially impacted include Apple Valley Town Hall and municipal facilities; fire and emergency response facilities; public works, water, wastewater, drainage, and utility infrastructure; State Route 59, local roads, bridges, culverts, washes, traffic-control devices, and rural access routes; overhead electric and communications infrastructure; parks, public buildings, signs, agricultural structures, sheds, fences, and utility corridors vulnerable to high winds, blowing dust, downed lines, debris, roof damage, and delayed emergency access.</p>                                                                                                                                                                                            |
| Hildale          | <p><b>Vulnerabilities:</b> Hildale is vulnerable where homes, schools, roads, utility and water systems, and public facilities are exposed to strong winds in a rugged terrain setting with drainage-sensitive development and limited infrastructure redundancy. The community's buildings, overhead lines, trees, and transportation connections can be affected by damaging gusts, debris, and service disruption.</p> <p><b>Impacts:</b> Potential impacts include roof and school building damage, utility and water service interruption, road obstructions, injuries from debris, and disruption to emergency response and public safety operations. Wind events can also increase recovery demands in a community with ongoing infrastructure needs and may elevate wildfire danger during dry conditions. Critical facilities and infrastructure potentially impacted include Hildale City Hall and municipal facilities; Hildale Police Department; Hildale fire and emergency response facilities; Water Canyon School and other community facilities; public works, culinary water, wastewater, stormwater, drainage, and utility infrastructure; Utah State Route 59, local roads, bridges, culverts, washes, traffic-control devices, and community access routes; overhead electric and communications infrastructure; parks, public buildings, signs, utility corridors, and lightweight structures vulnerable to damaging winds, debris, downed lines, power outages, roof damage, blowing dust, and isolation.</p> |

## Drought

Table 163 summarizes drought vulnerabilities and potential impacts for Washington County participants.

**Table 163: Drought Vulnerability and Impact Assessment for Washington County**

| Plan Participant  | Vulnerabilities and Impacts                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
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| Washington County | <p><b>Vulnerabilities:</b> Washington County is highly vulnerable to drought because it is Utah's most arid county, depends on the Virgin River Basin and limited stored and groundwater supplies, and contains a large and growing population, extensive landscaping demand, agricultural lands, parks, recreation areas, and county-supported infrastructure that all rely on reliable water availability. Prolonged drought could affect municipal water systems serving St. George, Washington, Hurricane, Santa Clara, Ivins, Toquerville, La Verkin, and Virgin. These systems are critical for public health, firefighting, and sanitation. Vulnerable assets include municipal and domestic water systems, irrigation delivery systems, public landscapes, agricultural operations, rural communities, and natural areas stressed by prolonged dry conditions.<sup>253</sup></p> <p><b>Impacts:</b> Drought can reduce water supply reliability, increase pressure on county and local conservation measures, stress agriculture and livestock operations, degrade vegetation and watershed conditions, and increase wildfire and dust potential. Countywide impacts may also include higher operating costs for water management, reduced landscape health, pressure on recreation resources, and service challenges for rural communities and public facilities dependent on limited water supplies. Critical facilities and infrastructure potentially impacted include Washington County Water Conservancy District reservoirs, wells, pipelines, pump stations, water storage tanks, treatment and distribution infrastructure; municipal and domestic water systems serving St. George, Washington City, Hurricane, Santa Clara, Ivins, Toquerville, La Verkin, Virgin, and other county communities; irrigation systems, canals, agricultural water delivery infrastructure, livestock water supplies, parks, public landscapes, recreation areas, campgrounds, trailheads, public buildings, schools, health care facilities, fire protection water supplies, wastewater systems, utility corridors, and rural community water systems vulnerable to reduced water availability, conservation restrictions, vegetation stress, increased wildfire risk, dust, and higher operating costs.</p> |

<sup>253</sup> Washington County Water Conservancy District, 2025 Water Shortage Contingency Plan, Executive Summary and Chapter 2. <https://wcwcd.gov/wp-content/uploads/2025/11/2025WaterShortageContingencyPlan.pdf>. Source for water-shortage vulnerability and the eight municipal partners; it describes the county as one of the hottest and driest regions rather than establishing a statewide aridity ranking.

| Plan Participant | Vulnerabilities and Impacts                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
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| St. George       | <p><b>Vulnerabilities:</b> St. George is highly vulnerable because of its large and growing population, heavy municipal and landscape irrigation demand, reliance on regional water supplies, parks and recreation amenities, commercial development, and public facilities that require dependable water service. The city's urban setting, summer evapotranspiration, and continued growth increase sensitivity to prolonged drought and conservation needs.</p> <p><b>Impacts:</b> Drought can strain municipal water supply and demand management, increase conservation requirements, stress landscaped public spaces and private properties, and raise costs associated with water delivery, cooling, and vegetation maintenance. Reduced water availability can also affect quality of life, urban tree cover, recreation amenities, and wildfire risk at the urban edge. Critical facilities and infrastructure potentially impacted include St. George municipal water supply, treatment, storage, pumping, and distribution systems; Washington County Water Conservancy District facilities serving the St. George area; St. George public works facilities; St. George Regional Hospital; St. George 911 Communications Center; St. George City Hall and municipal facilities; Washington County School District schools; Utah Tech University facilities; parks, golf courses, sports fields, public landscapes, street trees, recreation facilities, trail systems, fire protection water supplies, wastewater systems, commercial centers, hotels, medical offices, and visitor-serving infrastructure vulnerable to water restrictions, increased irrigation demand, reduced landscape health, higher operating costs, and elevated wildfire risk at the urban edge.</p> |
| Washington City  | <p><b>Vulnerabilities:</b> Washington City is vulnerable where growing neighborhoods, schools, parks, commercial areas, and utility systems depend on reliable municipal water supply and landscaping irrigation. Continued residential growth increases water demand and places additional pressure on limited regional supplies during prolonged dry periods.</p> <p><b>Impacts:</b> Drought can require stricter conservation measures, reduce irrigation reliability, stress landscaped areas and community vegetation, and increase costs for water management and public facility operations. Prolonged drought may also elevate wildfire risk, affect outdoor amenities, and place pressure on long-term infrastructure planning for growth. Critical facilities and infrastructure potentially impacted include Washington City municipal water supply, storage, pumping, irrigation, wastewater, and distribution systems; Washington City offices and public works facilities; Washington City Police Department; Washington City Fire Department facilities; schools and community facilities; parks, sports fields, public landscapes, trail systems, commercial centers, residential irrigation systems, fire protection water supplies, stormwater and drainage infrastructure, utility corridors, and Washington County Water Conservancy District facilities serving the Washington area vulnerable to reduced water availability, conservation requirements, vegetation stress, higher maintenance costs, and increased wildfire potential.</p>                                                                                                                                                                                                                         |

| Plan Participant | Vulnerabilities and Impacts                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
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| Hurricane        | <p><b>Vulnerabilities:</b> Hurricane is vulnerable because homes, schools, businesses, parks, utility systems, and some agricultural and open-space lands depend on reliable water supply in a fast-growing area with strong seasonal demand. Landscape irrigation, recreation-related uses, and development expansion increase sensitivity to prolonged dry conditions and reduced water availability.</p> <p><b>Impacts:</b> Drought can reduce water supply flexibility, increase conservation requirements, stress vegetation and community landscapes, and raise operating costs for water delivery, irrigation, and facility maintenance. It can also affect agricultural production, heighten wildfire potential, and create longer-term planning challenges as population growth continues. Critical facilities and infrastructure potentially impacted include Hurricane municipal water, irrigation, wastewater, storage, pumping, and distribution infrastructure; Hurricane City Hall and public works facilities; Hurricane Police Department; Hurricane Valley Fire District facilities; schools and community facilities; Sand Hollow Reservoir and Quail Creek Reservoir recreation-support facilities; parks, trailheads, campgrounds, marinas, public landscapes, agricultural and open-space irrigation systems, fire protection water supplies, commercial areas, tourism businesses, utility corridors, and recreation amenities vulnerable to reduced water supply flexibility, conservation restrictions, stressed vegetation, increased wildfire risk, and higher operating and maintenance costs.</p> |
| Santa Clara      | <p><b>Vulnerabilities:</b> Santa Clara is vulnerable where residential areas, parks, schools, community facilities, and landscaped public and private properties rely on dependable municipal water supply and irrigation. Its location within the arid St. George urban area means prolonged drought can quickly affect outdoor water use, vegetation health, and local conservation needs.</p> <p><b>Impacts:</b> Drought can reduce irrigation availability, stress urban vegetation and public landscapes, increase pressure for conservation, and raise costs for maintaining community amenities and water infrastructure. It can also contribute to wildfire risk at the community edge and reduce resilience of trees and open-space resources during extended dry periods. Critical facilities and infrastructure potentially impacted include Santa Clara municipal water, irrigation, wastewater, storage, pumping, and distribution systems; Santa Clara City Hall and municipal facilities; Santa Clara-Ivins Police Department facilities; Santa Clara fire and emergency response facilities; schools and community facilities; parks, trails, public landscapes, community open spaces, street trees, residential irrigation systems, fire protection water supplies, utility corridors, and public buildings vulnerable to reduced irrigation availability, water conservation measures, vegetation decline, higher landscape maintenance costs, and increased wildfire risk near community edges.</p>                                                                                                        |
| Ivins            | <p><b>Vulnerabilities:</b> Ivins is vulnerable because homes, parks, public facilities, tourism-related amenities, and desert-edge landscapes depend on reliable municipal water supplies and irrigation in an already arid setting. Continued</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |

| Plan Participant | Vulnerabilities and Impacts                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
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|                  | <p>growth and outdoor amenity demands increase sensitivity to prolonged drought and water conservation needs.</p> <p><b>Impacts:</b> Drought can increase pressure on municipal water management, reduce irrigation flexibility, stress landscaping and vegetation, and increase costs for maintaining public spaces and community facilities. It can also heighten wildfire risk near open lands and affect the appearance and usability of parks, trails, and outdoor gathering spaces. Critical facilities and infrastructure potentially impacted include Ivins municipal water, wastewater, irrigation, storage, pumping, and distribution infrastructure; Ivins City Hall and municipal facilities; Santa Clara-Ivins Police Department facilities serving Ivins; Ivins fire and emergency response facilities; schools and community facilities; parks, trailheads, recreation facilities, public landscapes, desert-edge open spaces, residential irrigation systems, fire protection water supplies, utility corridors, and tourism-related amenities vulnerable to reduced water availability, drought-related vegetation stress, conservation restrictions, higher operating costs, and increased wildfire risk near open lands.</p>                                                                                                                                                                                                                  |
| La Verkin        | <p><b>Vulnerabilities:</b> La Verkin is vulnerable where homes, parks, schools, utility systems, and nearby agricultural or open-space lands rely on dependable water supplies in a dry climate. Local vegetation, public landscapes, and municipal systems can be stressed during prolonged drought, especially where water sources are limited or demand rises during hot months.</p> <p><b>Impacts:</b> Drought can reduce water availability for irrigation and community needs, increase conservation pressure, stress vegetation and local landscapes, and raise costs associated with water management and public facility maintenance. It can also increase wildfire potential and affect nearby agricultural uses and outdoor community assets. Critical facilities and infrastructure potentially impacted include La Verkin municipal water, wastewater, storage, pumping, irrigation, and distribution infrastructure; La Verkin City offices and public works facilities; La Verkin Police Department; La Verkin fire and emergency response facilities; schools and community facilities; parks, trailheads, public landscapes, nearby agricultural and open-space irrigation systems, fire protection water supplies, utility corridors, and Zion gateway visitor-serving facilities vulnerable to reduced water availability, vegetation stress, higher water management costs, conservation requirements, and increased wildfire potential.</p> |
| Enterprise       | <p><b>Vulnerabilities:</b> Enterprise is highly vulnerable because of its rural setting, dependence on local water systems, agricultural lands, livestock operations, irrigated fields, and open-space resources that are sensitive to prolonged dry conditions. Homes, schools, businesses, and farms all depend on limited water supplies, forage conditions, and reliable irrigation in a drought-prone environment.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |

| Plan Participant | Vulnerabilities and Impacts                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
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|                  | <p><b>Impacts:</b> Drought can reduce irrigation reliability, degrade forage and rangeland productivity, increase feed and operating costs for producers, stress local water supplies, and affect vegetation and community landscapes. It can also heighten wildfire potential, increase dust, and create long-term financial and service challenges in a small rural community with limited redundancy. Critical facilities and infrastructure potentially impacted include Enterprise municipal and domestic water systems, wells, storage tanks, pumping and distribution infrastructure; Enterprise City offices and public works facilities; Enterprise Police Department; Enterprise fire and emergency response facilities; schools and community facilities; irrigation systems, canals, reservoirs, storage ponds, livestock water supplies, agricultural water infrastructure, farms, ranches, corrals, barns, fields, parks, public landscapes, fire protection water supplies, wastewater and drainage infrastructure, utility corridors, and rural access routes vulnerable to reduced irrigation reliability, forage loss, water shortages, dust, increased wildfire potential, and higher operating costs for agricultural and community systems.</p>                                                                                                                                                                                       |
| Toquerville      | <p><b>Vulnerabilities:</b> Toquerville is vulnerable where growing residential areas, parks, utility systems, and some agricultural or open lands depend on dependable water supply in an arid environment. Continued development and landscape irrigation needs increase sensitivity to prolonged drought and constrained water availability.</p> <p><b>Impacts:</b> Drought can increase pressure on local conservation measures, reduce irrigation reliability, stress vegetation and public landscapes, and raise operating costs for water delivery and infrastructure management. It can also elevate wildfire risk, affect outdoor amenities, and require longer-term adjustments to growth and utility planning. Critical facilities and infrastructure potentially impacted include Toquerville culinary water, irrigation, wastewater, storage, pumping, and distribution infrastructure; Toquerville Town Hall and municipal facilities; Toquerville fire and emergency response facilities; public works and utility facilities; schools and community facilities serving the area; parks, trails, public landscapes, residential irrigation systems, fire protection water supplies, nearby agricultural and open-space irrigation systems, utility corridors, and public buildings vulnerable to reduced water availability, conservation requirements, vegetation stress, higher utility management costs, and increased wildfire risk.</p> |
| Leeds            | <p><b>Vulnerabilities:</b> Leeds is vulnerable where homes, community facilities, utility systems, landscaping, and limited local water supplies are exposed to prolonged drought in a small community setting. Its location along major travel routes and dependence on a relatively small infrastructure base can make drought-related water management challenges more difficult to absorb.</p> <p><b>Impacts:</b> Drought can reduce water supply flexibility, stress landscaping and vegetation, increase conservation demands, and raise maintenance costs for community facilities and utility systems. It may also increase wildfire risk, affect roadside and open-space vegetation, and place added pressure on local planning for long-term water reliability. Critical facilities and</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |

| Plan Participant | Vulnerabilities and Impacts                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
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|                  | <p>infrastructure potentially impacted include Leeds local water, wastewater, storage, pumping, and distribution infrastructure; Leeds Town Hall and public works facilities; Leeds fire and emergency response facilities; community facilities; parks, public landscapes, residential irrigation systems, fire protection water supplies, utility corridors, roadside vegetation, open-space areas, and public buildings vulnerable to reduced water supply flexibility, conservation demands, vegetation stress, higher maintenance costs, and increased wildfire risk along community edges and transportation corridors.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| Virgin           | <p><b>Vulnerabilities:</b> Virgin is vulnerable because residents, lodging, restaurants, visitor-serving businesses, parks, and utility systems depend on reliable water supply in the Zion gateway corridor. Limited local infrastructure, tourism-related seasonal demand, and an arid setting increase sensitivity to prolonged drought, conservation requirements, and vegetation stress.</p> <p><b>Impacts:</b> Drought can strain local water systems, increase conservation pressure on residents and businesses, stress landscaped and natural areas, and affect the appearance and function of visitor-serving spaces. It can also contribute to wildfire risk, reduce resilience of vegetation along the corridor, and create economic impacts if drought conditions affect tourism experience or operating costs. Critical facilities and infrastructure potentially impacted include Virgin public works, water, wastewater, storage, pumping, and distribution infrastructure; Virgin Town Hall and municipal facilities; Virgin fire and emergency response facilities; lodging, restaurants, visitor-serving businesses, parks, trailheads, campgrounds, public landscapes, fire protection water supplies, utility corridors, residential irrigation systems, and Zion gateway recreation assets vulnerable to reduced water availability, conservation restrictions, stressed vegetation, higher operating costs, reduced visitor-serving landscape quality, and increased wildfire risk.</p> |
| Springdale       | <p><b>Vulnerabilities:</b> Springdale is highly vulnerable because residents, hotels, restaurants, visitor facilities, parks, and municipal systems in the Zion gateway corridor depend on reliable water supply and attractive landscape conditions in a very arid environment. High visitor volumes, limited corridor capacity, and dependence on local and regional water systems increase sensitivity to prolonged drought and conservation needs.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |

| Plan Participant | Vulnerabilities and Impacts                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
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|                  | <p><b>Impacts:</b> Drought can increase water supply and demand pressures, stress landscaping and vegetation, raise costs for hotels, businesses, and local government operations, and affect visitor experience in the gateway area. It can also heighten wildfire risk, reduce resilience of natural and landscaped areas, and create broader economic impacts because of the town's reliance on tourism. Critical facilities and infrastructure potentially impacted include Springdale municipal water, wastewater, storage, pumping, and distribution systems; Springdale Town Hall and municipal facilities; Springdale Police Department and emergency response facilities; public works facilities; hotels, restaurants, lodging areas, employee housing, visitor facilities, parks, trailheads, shuttle-related facilities, public landscapes, fire protection water supplies, utility corridors, and Zion gateway recreation assets vulnerable to reduced water supply reliability, conservation requirements, stressed vegetation, higher operating costs for visitor-serving facilities, and increased wildfire risk in the canyon corridor.</p>                                                                                                                                                                                                                                                                                                             |
| New Harmony      | <p><b>Vulnerabilities:</b> New Harmony is vulnerable because homes, roads, water systems, agricultural and open lands, and community facilities depend on limited local water availability in a rural mountain-valley setting. Drought can affect both domestic water reliability and surrounding vegetation, forage, and natural resources that support the community's rural character.</p> <p><b>Impacts:</b> Drought can reduce water supply reliability, stress local vegetation and agricultural lands, increase wildfire danger, and raise costs for maintaining community water systems and public spaces. It may also affect road dust control, emergency response conditions, and long-term resilience where local staffing and resources are limited. Critical facilities and infrastructure potentially impacted include New Harmony local and domestic water systems, wells, storage, pumping, and distribution infrastructure; New Harmony Town Hall and municipal facilities; fire and emergency response facilities; public works, water, wastewater, drainage, and utility infrastructure; agricultural and open lands, irrigation systems, livestock water supplies, parks, community facilities, public landscapes, rural access roads, fire protection water supplies, and utility corridors vulnerable to reduced water reliability, vegetation and forage stress, increased wildfire danger, dust, and higher maintenance and operating costs.</p> |
| Rockville        | <p><b>Vulnerabilities:</b> Rockville is vulnerable because its small residential and historic community, local water systems, vegetation, and visitor-serving environment along the Virgin River corridor depend on limited water supplies in an arid setting. The town's small size, historic resources, and constrained infrastructure increase sensitivity to prolonged drought and vegetation stress.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |

| Plan Participant | Vulnerabilities and Impacts                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
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|                  | <p><b>Impacts:</b> Drought can strain local water supply and conservation efforts, stress community vegetation and historic landscape character, and increase wildfire risk in and around the town. It may also affect quality of life, visitor experience, and maintenance costs for public spaces and historic or scenic resources that support the local economy. Critical facilities and infrastructure potentially impacted include Rockville local water, wastewater, storage, pumping, and distribution systems; Rockville Town Hall and municipal facilities; fire and emergency response facilities; public works and utility infrastructure; historic and residential landscapes, parks, public spaces, visitor-serving facilities, Virgin River corridor vegetation, fire protection water supplies, utility corridors, public buildings, and scenic or historic community resources vulnerable to reduced water availability, conservation requirements, vegetation stress, higher maintenance costs, and increased wildfire risk.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| Apple Valley     | <p><b>Vulnerabilities:</b> Apple Valley is vulnerable where dispersed residential development, community water systems, roads, and some agricultural or open lands rely on limited water availability in a rural-desert environment. The town's dispersed layout and dependence on modest local infrastructure increase sensitivity to prolonged drought, vegetation stress, and conservation needs.</p> <p><b>Impacts:</b> Drought can reduce water supply reliability, increase pressure on local conservation measures, stress vegetation and open-space resources, and raise costs for water system operation and maintenance. It can also heighten wildfire risk, affect rural property conditions, and create service challenges if multiple dispersed areas experience water stress at the same time. Critical facilities and infrastructure potentially impacted include Apple Valley community water systems, wells, storage, pumping, and distribution infrastructure; Apple Valley Town Hall and municipal facilities; fire and emergency response facilities; public works, water, wastewater, drainage, and utility infrastructure; dispersed residential water systems, rural access roads, open-space resources, parks, community facilities, fire protection water supplies, utility corridors, and limited agricultural or livestock water infrastructure vulnerable to reduced water reliability, conservation requirements, vegetation stress, dust, increased wildfire risk, and service challenges across dispersed neighborhoods.</p> |
| Hildale          | <p><b>Vulnerabilities:</b> Hildale is vulnerable where homes, schools, utility and water systems, public facilities, and surrounding vegetation depend on limited water supplies in a rugged, arid setting. Existing infrastructure needs, local growth pressures, and dependence on community water systems increase sensitivity to prolonged drought and conservation requirements.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |

| Plan Participant | Vulnerabilities and Impacts                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
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|                  | <p><b>Impacts:</b> Drought can strain municipal and community water systems, stress vegetation and public landscapes, increase wildfire danger, and raise costs for water delivery and infrastructure management. It may also affect schools, public facilities, and household water reliability, creating added pressure on a community with ongoing infrastructure and service challenges. Critical facilities and infrastructure potentially impacted include Hildale municipal and community water systems, culinary water storage, pumping, wastewater, stormwater, drainage, and distribution infrastructure; Hildale City Hall and municipal facilities; Hildale Police Department; Hildale fire and emergency response facilities; Water Canyon School and other community facilities; public works facilities, residential water systems, parks, public landscapes, fire protection water supplies, utility corridors, drainage-sensitive open areas, and public buildings vulnerable to reduced water availability, conservation requirements, vegetation stress, higher infrastructure management costs, increased wildfire danger, and household water reliability concerns.</p> |

## Earthquake

Table 164 summarizes earthquake vulnerabilities and potential impacts for Washington County participants.

**Table 164: Earthquake Vulnerability and Impact Assessment for Washington County**

| Plan Participant  | Vulnerabilities and Impacts                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
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| Washington County | <p><b>Vulnerabilities:</b> Washington County is highly vulnerable to earthquake because it lies near the Hurricane Fault Zone and other active seismic sources and contains the county's largest concentration of people, homes, businesses, public facilities, utilities, transportation corridors, and critical infrastructure. Vulnerable assets include older or unreinforced masonry buildings, schools, bridges, water and wastewater systems, overhead and buried utilities, public safety facilities, and communities in river corridors or soft-sediment settings where shaking may be amplified and secondary hazards such as liquefaction, rockfall, or landslides may occur. The hazard profile identifies countywide extensive exposure and notes likely school-related URM<sup>254</sup> concerns.</p> <p><b>Impacts:</b> Earthquake impacts could include injuries, structural and nonstructural building damage, utility outages, damage to roads and bridges, disruption of emergency response and regional travel, and prolonged interruption of public services and commerce. Countywide consequences may also include landslides or rockfall in steep terrain, localized liquefaction along river corridors, damage to older buildings and schools, and high recovery costs associated with repairing lifeline systems and public facilities. Critical facilities and infrastructure potentially impacted include Washington County</p> |

<sup>254</sup> URM = unreinforced masonry

| Plan Participant | Vulnerabilities and Impacts                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
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|                  | <p>Sheriff's Office; Washington County Emergency Management; St. George 911 Communications Center; Southwest Utah Public Health Department; St. George Regional Hospital; Washington County School District facilities; county and municipal government buildings; public safety facilities; emergency operations and communications facilities; Interstate 15, State Route 9, State Route 7, State Route 18, and other regional roads, bridges, culverts, retaining walls, and evacuation routes; St. George Regional Airport; Washington County Water Conservancy District reservoirs, dams, pipelines, pump stations, water storage, and distribution infrastructure; municipal water, wastewater, stormwater, and drainage systems; power substations, overhead and underground electric lines, communications towers, fiber and cellular infrastructure, fuel supply points, public works yards, parks, recreation facilities, and older or unreinforced masonry buildings vulnerable to ground shaking, utility failure, bridge damage, liquefaction, rockfall, landslides, and access disruption.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| St. George       | <p><b>Vulnerabilities:</b> St. George is highly vulnerable because of its large population, dense residential and commercial development, schools, medical facilities, utilities, major arterials, and regional service functions located near active fault influence and in valley settings where shaking may be amplified. Older buildings, critical facilities, water and wastewater infrastructure, bridges, and transportation corridors are especially susceptible to ground shaking and service disruption.</p> <p><b>Impacts:</b> An earthquake could cause injuries, damage to homes, businesses, schools, hospitals, roads, and utilities, and major disruption to emergency response, health care access, and regional commerce. Utility outages, blocked roads, damage to older buildings, and interruption of government and business operations could create countywide cascading impacts because St. George serves as the region's principal urban and service center. Critical facilities and infrastructure potentially impacted include St. George City Hall and municipal government facilities; St. George Police Department; St. George Fire Department stations; St. George 911 Communications Center; St. George Regional Hospital; Utah Tech University facilities; Washington County School District schools and support facilities; St. George Regional Airport; public works, water, wastewater, stormwater, and drainage facilities; Interstate 15, State Route 7, Bluff Street, River Road, St. George Boulevard, bridges, culverts, retaining walls, traffic signals, and major arterials; Washington County Water Conservancy District facilities serving the St. George area; power substations, overhead and underground utilities, communications equipment, medical offices, commercial centers, hotels, warehouses, public buildings, older or unreinforced masonry structures, parks, and recreation facilities vulnerable to structural damage, nonstructural damage, utility outages, road closures, liquefaction, slope instability, and emergency access disruption.</p> |
| Washington City  | <p><b>Vulnerabilities:</b> Washington City is vulnerable because of its proximity to the Hurricane Fault Zone, continued rapid growth, and concentration of homes, schools, public facilities, arterial roads, and utility systems. Development on</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |

| Plan Participant | Vulnerabilities and Impacts                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
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|                  | <p>valley sediments and the city's history of strong shaking during the 1992 Washington City area earthquake increase sensitivity to ground motion, nonstructural damage, and disruption of essential services.</p> <p><b>Impacts:</b> Earthquake impacts could include injuries, damage to homes and community facilities, utility interruptions, and disruption of roads, schools, and local government operations. Strong shaking could also damage older or more vulnerable buildings, interrupt water and wastewater service, and create recovery costs associated with debris removal, inspections, and infrastructure repair. Critical facilities and infrastructure potentially impacted include Washington City offices and municipal facilities; Washington City Police Department; Washington City Fire Department facilities; Washington County School District schools and community facilities; public works facilities; culinary water, irrigation, wastewater, stormwater, drainage, and flood-control infrastructure; Interstate 15, State Route 9, Telegraph Street, Green Spring Drive, bridges, culverts, traffic signals, retaining walls, and major access routes; Washington County Water Conservancy District facilities serving the Washington area; power, communications, and utility infrastructure; parks, sports fields, trail systems, commercial centers, public buildings, older structures, and community facilities vulnerable to earthquake shaking, utility interruption, roadway damage, liquefaction in soft-sediment areas, and disruption of emergency response and evacuation access.</p>                                                                                                                                                                                                  |
| Hurricane        | <p><b>Vulnerabilities:</b> Hurricane is highly vulnerable because of its location near the Hurricane Fault Zone, growing population, schools, public facilities, bridges, utilities, and development along the Hurricane Valley and nearby river and wash corridors. Ground shaking could be amplified in sediment-filled areas, and the city's transportation and utility networks are susceptible to damage and service interruption during a significant earthquake.</p> <p><b>Impacts:</b> Potential impacts include injuries, structural and nonstructural damage to homes and businesses, utility outages, and disruption of schools, roads, bridges, and emergency response. Earthquake damage could also interrupt commerce and recreation travel, trigger limited slope instability or rockfall in nearby steeper terrain, and require costly repair of public infrastructure. Critical facilities and infrastructure potentially impacted include Hurricane City Hall and municipal facilities; Hurricane Police Department; Hurricane Valley Fire District facilities; Washington County School District schools and community facilities; public works, water, wastewater, stormwater, drainage, irrigation, storage, pumping, and distribution infrastructure; Interstate 15 access routes, State Route 9, State Route 7, State Route 59, bridges, culverts, retaining walls, traffic signals, and evacuation routes; Sand Hollow Reservoir and Quail Creek Reservoir recreation-support, dam, spillway, access, and utility infrastructure; power substations, overhead and underground utilities, communications infrastructure, commercial areas, parks, trailheads, campgrounds, marinas, tourism businesses, and lightweight or older structures vulnerable to ground shaking, utility outages, bridge or road</p> |

| Plan Participant | Vulnerabilities and Impacts                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
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|                  | damage, liquefaction in sediment-filled areas, slope instability, and access disruption.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| Santa Clara      | <p><b>Vulnerabilities:</b> Santa Clara is vulnerable because homes, schools, parks, public buildings, roads, and utility systems are exposed to strong ground shaking in the St. George urban area near active fault influence. Older or more lightly built structures, overhead and underground utilities, and transportation connections may be susceptible to shaking damage and service interruption.</p> <p><b>Impacts:</b> Earthquake impacts could include injuries, building damage, utility outages, roadway disruption, and interruption of city operations, schools, and neighborhood access. Strong shaking may also damage retaining walls, public facilities, and community infrastructure and increase recovery costs tied to inspections, repairs, and emergency operations. Critical facilities and infrastructure potentially impacted include Santa Clara City Hall and municipal facilities; Santa Clara-Ivins Police Department facilities; Santa Clara fire and emergency response facilities; Washington County School District schools and community facilities; public works, water, wastewater, stormwater, drainage, irrigation, storage, pumping, and distribution systems; Old Highway 91, Santa Clara Drive, bridges, culverts, retaining walls, traffic signals, and local access routes; Santa Clara River corridor infrastructure; power, communications, and utility infrastructure; parks, trails, recreation facilities, public buildings, commercial areas, older structures, and community facilities vulnerable to ground shaking, utility interruption, road and bridge damage, retaining wall failure, liquefaction near river sediments, and emergency access disruption.</p>    |
| Ivins            | <p><b>Vulnerabilities:</b> Ivins is vulnerable where homes, public facilities, roads, utilities, and tourism-related amenities are exposed to ground shaking in a desert valley setting influenced by nearby active faults and local slope transitions. Development near steeper terrain and reliance on limited transportation and utility connections increase sensitivity to shaking damage, rockfall, and service disruption.</p> <p><b>Impacts:</b> Potential impacts include building damage, utility outages, roadway obstruction, and interruption of public services, recreation access, and emergency response. Ground shaking could also trigger localized rockfall or slope instability in susceptible areas and create costly repair needs for roads, utilities, and public facilities. Critical facilities and infrastructure potentially impacted include Ivins City Hall and municipal facilities; Santa Clara-Ivins Police Department facilities serving Ivins; Ivins fire and emergency response facilities; Washington County School District schools and community facilities; public works, water, wastewater, stormwater, drainage, irrigation, storage, pumping, and distribution infrastructure; Old Highway 91, Center Street, local access routes, bridges, culverts, retaining walls, and traffic-control devices; overhead and underground power and communications infrastructure; parks, trailheads, recreation facilities, public buildings, tourism-related amenities, utility equipment, and structures near slope transitions or desert-edge terrain vulnerable to earthquake shaking, rockfall, slope instability, utility outages, roadway damage, and disrupted emergency access.</p> |

| Plan Participant | Vulnerabilities and Impacts                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
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| La Verkin        | <p><b>Vulnerabilities:</b> La Verkin is highly vulnerable because of its proximity to the Hurricane Fault Zone, location near the Virgin River corridor, and exposure of homes, schools, roads, bridges, utilities, and public facilities to strong shaking and secondary hazards. River sediments and nearby steeper terrain may increase susceptibility to amplified shaking, localized liquefaction, rockfall, or landslide-related impacts.</p> <p><b>Impacts:</b> Earthquake impacts could include injuries, damage to buildings and bridges, utility outages, blocked roads, and interruption of emergency response and access to nearby communities. Secondary ground failure, including limited liquefaction or slope instability, could further affect transportation, river corridor infrastructure, and recovery operations. Critical facilities and infrastructure potentially impacted include La Verkin City offices and municipal facilities; La Verkin Police Department; La Verkin fire and emergency response facilities; Washington County School District schools and community facilities; public works, water, wastewater, stormwater, drainage, storage, pumping, and utility infrastructure; State Route 9, State Route 17, local bridges, culverts, retaining walls, traffic-control devices, and Zion gateway access routes; La Verkin Creek and Virgin River corridor infrastructure; overhead and underground electric and communications infrastructure; parks, trailheads, visitor-serving businesses, public buildings, and utility corridors vulnerable to strong shaking, bridge and road damage, liquefaction or ground failure near river sediments, rockfall, landslides, utility outages, and access disruption.</p> |
| Enterprise       | <p><b>Vulnerabilities:</b> Enterprise is vulnerable where homes, schools, agricultural buildings, local businesses, roads, and utility systems are exposed in a rural setting with limited redundancy and some older building stock. Historic earthquakes near Enterprise and the broader county demonstrate that even moderate events can affect this community, and limited alternate routes and service capacity can increase vulnerability.</p> <p><b>Impacts:</b> Potential impacts include structural and nonstructural damage to homes, schools, barns, and public buildings; utility outages; and disruption of local roads, emergency response, and school or business operations. Recovery may be prolonged where staffing, equipment, and financial resources are limited and outside assistance is needed for inspections and repairs. Critical facilities and infrastructure potentially impacted include Enterprise City offices and municipal facilities; Enterprise Police Department; Enterprise fire and emergency response facilities; Washington County School District schools and community facilities; public works, water, wastewater, drainage, stormwater, irrigation, storage, pumping, and agricultural water infrastructure; State Route 18, local roads, bridges, culverts, retaining walls, traffic-control devices, and rural access routes; power and communications infrastructure; agricultural buildings, barns, sheds, corrals, irrigation equipment, maintenance yards, parks, public buildings, older structures, and utility corridors vulnerable to ground shaking, structural and nonstructural damage, utility outages, road or</p>                                                                            |

| Plan Participant | Vulnerabilities and Impacts                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
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|                  | culvert damage, limited access, and delayed emergency response in a rural setting.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| Toquerville      | <p><b>Vulnerabilities:</b> Toquerville is vulnerable because growing residential areas, roads, utilities, and public facilities are exposed to strong ground shaking in an area influenced by active faults, drainage corridors, and nearby steeper terrain. Continued growth adds more structures and infrastructure that may be affected by shaking damage, nonstructural failures, and limited access disruption.</p> <p><b>Impacts:</b> Earthquake impacts could include injuries, damage to homes and infrastructure, utility outages, roadway disruption, and interruption of public services and emergency access. Shaking may also contribute to localized slope or embankment instability and create significant repair costs for transportation and utility systems. Critical facilities and infrastructure potentially impacted include Toquerville Town Hall and municipal facilities; Toquerville fire and emergency response facilities; public works and utility facilities; Washington County School District schools and community facilities serving the area; culinary water, irrigation, wastewater, stormwater, drainage, storage, pumping, and distribution infrastructure; State Route 17, Interstate 15 access routes, local roads, bridges, culverts, retaining walls, traffic-control devices, and evacuation routes; power and communications infrastructure; parks, trails, public buildings, visitor-serving facilities, and structures near benches, drainage corridors, or slope transitions vulnerable to earthquake shaking, utility damage, roadway disruption, localized slope instability, retaining wall failure, and interrupted access.</p> |
| Leeds            | <p><b>Vulnerabilities:</b> Leeds is vulnerable where homes, Interstate 15 connections, local roads, utilities, and community facilities are exposed near active fault influence, steep slopes, and geologic constraints. The town's location near major transportation corridors and more rugged terrain increases sensitivity to shaking damage, rockfall, embankment failure, and service disruption.</p> <p><b>Impacts:</b> Potential impacts include damage to buildings, utility outages, blocked roads, disruption of interstate and local access, and interruption of emergency response and daily travel. Secondary impacts such as rockfall or slope instability could create broader regional transportation consequences and increase repair costs for infrastructure and public services. Critical facilities and infrastructure potentially impacted include Leeds Town Hall and public works facilities; Leeds fire and emergency response facilities; water, wastewater, stormwater, drainage, storage, pumping, and utility infrastructure; Interstate 15, Main Street, local roads, bridges, culverts, retaining walls, traffic-control devices, and access routes; overhead and underground electric and communications infrastructure; parks, public buildings, community facilities, and corridor-related infrastructure vulnerable to ground shaking, rockfall, slope instability, roadway and bridge damage, utility outages, and disruption of emergency access and regional travel along Interstate 15.</p>                                                                                                                                                |

| Plan Participant | Vulnerabilities and Impacts                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
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| Virgin           | <p><b>Vulnerabilities:</b> Virgin is vulnerable because homes, businesses, SR-9, lodging, utility systems, and visitor-serving facilities are concentrated in the Zion gateway corridor near the Virgin River and steep terrain where strong shaking and secondary hazards could affect both residents and visitors. Limited transportation access and reliance on a small infrastructure base increase sensitivity to earthquake disruption.</p> <p><b>Impacts:</b> Earthquake impacts could include building damage, utility interruption, hazardous travel conditions, and disruption of SR-9 access, evacuation, and emergency response. Secondary effects such as rockfall, slope instability, or river corridor ground failure could worsen damage, reduce visitor access, and create economic losses tied to tourism and local commerce. Critical facilities and infrastructure potentially impacted include Virgin Town Hall and municipal facilities; Virgin fire and emergency response facilities; public works, water, wastewater, drainage, storage, pumping, and utility infrastructure; State Route 9, local roads, bridges, culverts, retaining walls, traffic-control devices, and Zion gateway access routes; Virgin River corridor infrastructure; overhead and underground electric and communications infrastructure; lodging, restaurants, visitor-serving businesses, parks, trailheads, campgrounds, public buildings, and utility corridors vulnerable to earthquake shaking, rockfall, slope instability, river-corridor ground failure, utility outages, road closures, and interrupted access for residents and visitors.</p> |
| Springdale       | <p><b>Vulnerabilities:</b> Springdale is highly vulnerable because it is located in a narrow Zion gateway corridor with steep slopes, high visitor volumes, constrained transportation access, and development near the Virgin River. Homes, hotels, businesses, roads, bridges, utilities, and public facilities are exposed not only to strong shaking but also to secondary hazards such as landslides, rockfall, and localized ground failure, as demonstrated by the 1992 earthquake-triggered landslide that destroyed homes and blocked Highway 9.<sup>255</sup></p> <p><b>Impacts:</b> Potential impacts include injuries, damage to buildings and utilities, closure of SR-9 and access routes, interruption of tourism and park access, and major disruption of evacuation and emergency response. Even a moderate earthquake could trigger slope failures or rockfall with outsized consequences for life safety, transportation, visitor activity, and local economic recovery. Critical facilities and infrastructure potentially impacted include Springdale Town Hall and municipal facilities; Springdale Police Department and emergency response facilities; public works, water, wastewater, drainage, stormwater, storage, pumping, and utility infrastructure; State Route 9, Zion Canyon access routes, shuttle-related transportation</p>                                                                                                                                                                                                                                                                                          |

<sup>255</sup> Utah Geological Survey, Investigation of Geologic Effects Associated with the September 2, 1992, St. George Earthquake, September 24, 1992.  
<https://geodata.geology.utah.gov/pages/download.php?direct=1&noattach=true&ref=11053&ext=pdf>. Source for structural damage in Hurricane and New Harmony and the Springdale landslide, destroyed homes, and SR-9 blockage.

| Plan Participant | Vulnerabilities and Impacts                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
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|                  | <p>facilities, bridges, culverts, retaining walls, traffic-control devices, and local access routes; Virgin River corridor infrastructure; overhead and underground electric and communications infrastructure; hotels, restaurants, lodging areas, employee housing, visitor facilities, parks, trailheads, public buildings, and Zion gateway recreation assets vulnerable to strong shaking, rockfall, landslides, road blockage, utility outages, building damage, evacuation constraints, and disruption of visitor access.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| New Harmony      | <p><b>Vulnerabilities:</b> New Harmony is vulnerable where homes, roads, water systems, agricultural lands, and community facilities are exposed in a rural mountain-valley setting with limited alternate access and older structures. The 1992 earthquake caused damage in New Harmony, illustrating that even moderate regional earthquakes can affect this community through shaking damage and infrastructure disruption.<sup>256</sup></p> <p><b>Impacts:</b> Earthquake impacts could include damage to homes and community buildings, utility interruptions, roadway damage, and disruption of emergency response, school travel, and local services. Recovery may be slower where local staffing and resources are limited and outside technical assistance is required for inspections, repairs, and restoration of water and transportation systems. Critical facilities and infrastructure potentially impacted include New Harmony Town Hall and municipal facilities; fire and emergency response facilities; public works, local and domestic water systems, wells, storage, pumping, wastewater, drainage, and utility infrastructure; Interstate 15, State Route 144, local roads, bridges, culverts, retaining walls, traffic-control devices, and rural access routes; Ash Creek watershed drainage crossings; power and communications infrastructure; parks, community facilities, agricultural support facilities, public buildings, older structures, and utility corridors vulnerable to ground shaking, building damage, utility interruption, roadway damage, slope instability, and isolation or delayed emergency response in a rural mountain-valley setting.</p> |
| Rockville        | <p><b>Vulnerabilities:</b> Rockville is highly vulnerable because of its small historic and residential development pattern along the Virgin River corridor, constrained access, and proximity to steep terrain and Zion-related travel. Historic and older structures, roads, bridges, utilities, and public spaces are susceptible to strong shaking and to secondary hazards such as rockfall, landslides, and embankment failure.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |

<sup>256</sup> Utah Geological Survey, Investigation of Geologic Effects Associated with the September 2, 1992, St. George Earthquake, September 24, 1992.  
<https://geodata.geology.utah.gov/pages/download.php?direct=1&noattach=true&ref=11053&ext=pdf>. Source for structural damage in Hurricane and New Harmony and the Springdale landslide, destroyed homes, and SR-9 blockage.

| Plan Participant | Vulnerabilities and Impacts                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
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|                  | <p><b>Impacts:</b> Potential impacts include damage to homes and historic resources, blocked roads, utility outages, and disruption of access for residents and visitors. Because transportation options are limited and the community is small, even localized earthquake damage or slope failure could significantly affect evacuation, emergency response, tourism activity, and long-term recovery. Critical facilities and infrastructure potentially impacted include Rockville Town Hall and municipal facilities; fire and emergency response facilities; public works, water, wastewater, drainage, storage, pumping, and utility infrastructure; State Route 9, local roads, bridges, culverts, retaining walls, traffic-control devices, and Zion gateway access routes; Virgin River corridor infrastructure; overhead and underground electric and communications infrastructure; historic buildings, homes, parks, trailheads, visitor-serving facilities, public buildings, and utility corridors vulnerable to ground shaking, rockfall, landslides, retaining wall failure, road blockage, utility outages, and disrupted emergency access in a constrained gateway corridor.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| Apple Valley     | <p><b>Vulnerabilities:</b> Apple Valley is vulnerable where dispersed residential development, local roads, water and utility systems, and community facilities are exposed in a rural setting with limited infrastructure redundancy. Homes, small public facilities, and utility connections may be susceptible to shaking damage and prolonged service interruption because of the community's dispersed layout and dependence on modest local systems.</p> <p><b>Impacts:</b> Earthquake impacts could include structural and nonstructural damage to homes, utility outages, roadway disruption, and interruption of access to essential services and emergency response. Recovery could be challenging if multiple dispersed areas are affected at once or if inspections, utility repairs, and road restoration require outside assistance. Critical facilities and infrastructure potentially impacted include Apple Valley Town Hall and municipal facilities; fire and emergency response facilities; public works, community water systems, wells, storage, pumping, wastewater, drainage, and utility infrastructure; State Route 59, local roads, bridges, culverts, washes, retaining walls, traffic-control devices, and rural access routes; overhead and underground electric and communications infrastructure; parks, community facilities, dispersed residential water systems, public buildings, older or lightweight structures, and utility corridors vulnerable to earthquake shaking, utility outages, roadway damage, wash crossing failure, limited access, and delayed emergency response across dispersed neighborhoods.</p> |
| Hildale          | <p><b>Vulnerabilities:</b> Hildale is vulnerable where homes, schools, roads, utility and water systems, and public facilities are exposed in a rugged terrain setting with drainage-sensitive development and limited infrastructure redundancy. Strong shaking could damage buildings, utilities, and transportation links, and the community's infrastructure needs and remote setting can increase sensitivity to prolonged disruption.</p> <p><b>Impacts:</b> Potential impacts include injuries, building damage, utility and water service interruption, blocked roads, and disruption of emergency response,</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |

| Plan Participant | Vulnerabilities and Impacts                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
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|                  | schools, and public safety operations. In a community with ongoing infrastructure needs, recovery may require outside technical and financial assistance and could be complicated by limited alternate access and service capacity. Critical facilities and infrastructure potentially impacted include Hildale City Hall and municipal facilities; Hildale Police Department; Hildale fire and emergency response facilities; Water Canyon School and other community facilities; public works, culinary water, wastewater, stormwater, drainage, storage, pumping, and utility infrastructure; Utah State Route 59, local roads, bridges, culverts, washes, retaining walls, traffic-control devices, and community access routes; overhead and underground electric and communications infrastructure; parks, public buildings, residential water systems, utility corridors, and structures in rugged or drainage-sensitive areas vulnerable to ground shaking, building damage, utility and water service interruption, road blockage, rockfall, slope instability, and isolation. |

## Extreme Heat

Table 165 summarizes extreme-heat vulnerabilities and potential impacts for Washington County participants.

**Table 165: Extreme Heat Vulnerability and Impact Assessment for Washington County**

| Plan Participant  | Vulnerabilities and Impacts                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
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| Washington County | <p><b>Vulnerabilities:</b> Washington County is vulnerable to extreme heat because high summer temperatures can affect older adults, outdoor workers, recreation users, and visitors, especially when overnight relief, shade, water, or reliable cooling are limited. Vulnerable assets include public health and social service systems, county facilities, roads, utilities, parks, state and national park access areas, landscaping, agricultural operations, and communities dependent on reliable cooling, water supply, and electric service. Future warming may increase heat stress; no projection-specific day count is assigned without an identified model, baseline, and reporting period.<sup>257</sup></p> <p><b>Impacts:</b> Extreme heat can cause dehydration, heat exhaustion, heat stroke, and heat-related deaths; increase demand for cooling centers, emergency response, and health care; strain the electric grid and water systems; and reduce outdoor work productivity and recreation safety. Countywide impacts may also include vegetation stress, degraded park and landscape conditions, increased wildfire risk, harmful algal bloom concerns, and economic effects tied to tourism, construction, and agriculture.</p> |

<sup>257</sup> U.S. Global Change Research Program, Fifth National Climate Assessment (2023), Chapter 28, Southwest, particularly heat-related risks in Key Message 28.3. [https://nca2023.globalchange.gov/downloads/NCA5\\_Ch28\\_Southwest.pdf](https://nca2023.globalchange.gov/downloads/NCA5_Ch28_Southwest.pdf). The future-conditions statement is qualitative and does not assign a county-specific projected day count.

| Plan Participant | Vulnerabilities and Impacts                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
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|                  | <p><b>Critical facilities and infrastructure potentially impacted include</b> Washington County Sheriff's Office; Washington County Emergency Management; St. George 911 Communications Center; Southwest Utah Public Health Department; St. George Regional Hospital; Washington County School District facilities; county and municipal government buildings; public safety facilities; cooling centers and public shelter locations; senior centers, libraries, community centers, and health care facilities; Interstate 15, State Route 9, State Route 7, State Route 18, and other regional roadways, bridges, traffic signals, and emergency access routes; St. George Regional Airport; electric substations, overhead and underground distribution systems, communications towers, cellular and internet infrastructure, fuel supply points, municipal and domestic water systems, reservoirs, wells, pump stations, water storage, wastewater systems, parks, trailheads, campgrounds, recreation areas, agricultural water infrastructure, livestock water supplies, public landscapes, and visitor-serving infrastructure vulnerable to heat-related power demand, water demand, pavement stress, cooling system strain, vegetation stress, worker exposure, recreation safety impacts, and service disruption.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| St. George       | <p><b>Vulnerabilities:</b> St. George is highly vulnerable because summer heat affects a growing population, a large share of older adults, outdoor workers, and substantial visitor and recreation activity. Homes, schools, medical facilities, parks, roads, utility systems, landscaped areas, and businesses all depend on reliable cooling, power, and water during prolonged heat events.</p> <p><b>Impacts:</b> Extreme heat can increase heat illness and mortality risk, strain hospitals and emergency services, raise electricity demand, stress the power grid, and increase water use and cooling costs. It can also damage pavement and infrastructure, reduce outdoor labor productivity, affect public events and recreation, and create broader economic and quality-of-life impacts in the county's principal urban center. Critical facilities and infrastructure potentially impacted include St. George City Hall and municipal government facilities; St. George Police Department; St. George Fire Department stations; St. George 911 Communications Center; St. George Regional Hospital; Utah Tech University facilities; Washington County School District schools and support facilities; senior centers, libraries, community centers, cooling centers, medical offices, and public-facing facilities; St. George Regional Airport; public works, water, wastewater, stormwater, and drainage facilities; Interstate 15, State Route 7, Bluff Street, River Road, St. George Boulevard, traffic signals, bridges, transit stops, sidewalks, and major arterials; electric substations, overhead and underground power systems, communications equipment, hotels, commercial centers, recreation facilities, parks, golf courses, sports fields, trail systems, public landscapes, and visitor-serving infrastructure vulnerable to peak electricity demand, cooling system strain, pavement and asphalt stress, increased water use, heat exposure for outdoor workers and visitors, vegetation decline, and service interruption.</p> |

| Plan Participant | Vulnerabilities and Impacts                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
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| Washington City  | <p><b>Vulnerabilities:</b> Washington City is vulnerable where growing neighborhoods, schools, parks, commercial areas, and utility systems are exposed to prolonged high temperatures in the lower Washington County heat zone. Population growth, outdoor work, landscape irrigation, and dependence on cooling and reliable power increase the city's sensitivity to extreme heat.</p> <p><b>Impacts:</b> Extreme heat can increase heat-related illness, strain local power demand and water use, stress landscaped areas and public facilities, and raise operating costs for cooling and irrigation. It may also disrupt outdoor activities, reduce construction productivity, increase wildfire risk at the community edge, and create added demand on public information and emergency response services. Critical facilities and infrastructure potentially impacted include Washington City offices and municipal facilities; Washington City Police Department; Washington City Fire Department facilities; schools and community facilities; senior centers, libraries, cooling centers, and public gathering locations; public works facilities; culinary water, irrigation, wastewater, stormwater, drainage, storage, pumping, and distribution infrastructure; Interstate 15, State Route 9, Telegraph Street, Green Spring Drive, traffic signals, local bridges, sidewalks, and major access routes; electric and communications infrastructure; parks, sports fields, trail systems, public landscapes, commercial centers, residential cooling systems, fire protection water supplies, and community facilities vulnerable to peak power demand, increased water and irrigation needs, cooling system strain, pavement stress, heat exposure for outdoor workers, and disruption of public services during prolonged heat events.</p> |
| Hurricane        | <p><b>Vulnerabilities:</b> Hurricane is vulnerable because residents, schools, parks, businesses, utility systems, and outdoor recreation users are exposed to prolonged summer heat in a fast-growing area with strong seasonal demand and outdoor activity. Outdoor workers, older adults, and visitors using nearby trails and recreation areas are especially susceptible to heat illness.</p> <p><b>Impacts:</b> Extreme heat can increase medical incidents, stress power and water systems, reduce worker productivity, and raise costs for cooling, irrigation, and public facility operations. Heat may also affect parks and recreation use, increase wildfire risk, strain landscaping and vegetation, and disrupt outdoor events and daily routines. Critical facilities and infrastructure potentially impacted include Hurricane City Hall and municipal facilities; Hurricane Police Department; Hurricane Valley Fire District facilities; Washington County School District schools and community facilities; senior centers, libraries, cooling centers, and public facilities; public works, water, wastewater, stormwater, drainage, irrigation, storage, pumping, and distribution infrastructure; Interstate 15 access routes, State Route 9, State Route 7, State Route 59, traffic signals, bridges, sidewalks, and evacuation routes; electric and communications infrastructure; Sand Hollow Reservoir and Quail Creek Reservoir recreation-support facilities; parks, trailheads, campgrounds, marinas, commercial areas, tourism businesses, fire protection water supplies,</p>                                                                                                                                                                                                                                               |

| Plan Participant | Vulnerabilities and Impacts                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
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|                  | public landscapes, and outdoor recreation assets vulnerable to heat illness exposure, increased cooling and water demand, power system strain, pavement stress, vegetation decline, and reduced recreation safety.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| Santa Clara      | <p><b>Vulnerabilities:</b> Santa Clara is vulnerable where homes, schools, parks, community facilities, landscaped areas, and utility systems are exposed to persistent summer heat within the greater St. George urban area. Older adults, outdoor workers, and residents without adequate cooling are particularly vulnerable, and urban heat island conditions can increase nighttime heat exposure.</p> <p><b>Impacts:</b> Extreme heat can cause heat illness, increase demand for cooling and public information, stress electric and water systems, and raise costs for maintaining public landscapes and facilities. It can also reduce comfort and safety for outdoor activities, damage vegetation, and elevate wildfire risk near the community edge. Critical facilities and infrastructure potentially impacted include Santa Clara City Hall and municipal facilities; Santa Clara-Ivins Police Department facilities; Santa Clara fire and emergency response facilities; Washington County School District schools and community facilities; senior centers, libraries, cooling centers, and public gathering spaces; public works, water, wastewater, stormwater, drainage, irrigation, storage, pumping, and distribution systems; Old Highway 91, Santa Clara Drive, traffic signals, sidewalks, local access routes, and emergency routes; electric and communications infrastructure; parks, trails, recreation facilities, public landscapes, street trees, community open spaces, residential cooling systems, fire protection water supplies, and public buildings vulnerable to prolonged heat, increased electricity and water demand, cooling system strain, vegetation stress, heat exposure for residents and outdoor workers, and wildfire potential near community edges.</p> |

| Plan Participant | Vulnerabilities and Impacts                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
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| Ivins            | <p><b>Vulnerabilities:</b> Ivins is vulnerable because residents, parks, trails, tourism-related amenities, public facilities, and utility systems are exposed to intense desert heat, especially during summer recreation periods. Outdoor visitors, older adults, and workers without sufficient cooling, shade, or hydration are particularly sensitive to prolonged heat.</p> <p><b>Impacts:</b> Extreme heat can increase dehydration and heat illness, reduce safe use of parks and trails, raise cooling and irrigation costs, and stress electric and water systems. Heat may also affect special events and tourism activity, damage landscaping, and contribute to wildfire risk and power system strain during peak demand. Critical facilities and infrastructure potentially impacted include Ivins City Hall and municipal facilities; Santa Clara-Ivins Police Department facilities serving Ivins; Ivins fire and emergency response facilities; schools and community facilities; senior centers, libraries, cooling centers, and public gathering spaces; public works, water, wastewater, stormwater, drainage, irrigation, storage, pumping, and distribution infrastructure; Old Highway 91, Center Street, local access routes, sidewalks, traffic-control devices, and emergency routes; electric and communications infrastructure; parks, trailheads, recreation facilities, public landscapes, desert-edge open spaces, residential cooling systems, fire protection water supplies, utility corridors, and tourism-related amenities vulnerable to heat exposure, increased cooling and irrigation demand, power system strain, vegetation stress, reduced outdoor recreation safety, and elevated wildfire risk.</p> |
| La Verkin        | <p><b>Vulnerabilities:</b> La Verkin is vulnerable because of its high summer temperatures, river-corridor setting, homes, schools, parks, businesses, and utility systems that rely on dependable cooling, power, and water during hot periods. Residents, outdoor workers, and visitors traveling through or recreating nearby are especially susceptible to heat stress.</p> <p><b>Impacts:</b> Extreme heat can increase heat-related illness, strain utilities and public facilities, raise water and electricity demand, and reduce safe outdoor activity and worker productivity. Heat may also stress vegetation, increase wildfire potential, and affect tourism and travel comfort in this corridor community. Critical facilities and infrastructure potentially impacted include La Verkin City offices and municipal facilities; La Verkin Police Department; La Verkin fire and emergency response facilities; schools and community facilities; senior centers, cooling centers, libraries, and public buildings; public works, water, wastewater, stormwater, drainage, storage, pumping, and utility infrastructure; State Route 9, State Route 17, local roads, sidewalks, bridges, traffic-control devices, and Zion gateway access routes; electric and communications infrastructure; parks, trailheads, visitor-serving businesses, public landscapes, fire protection water supplies, utility corridors, and corridor travel infrastructure vulnerable to heat illness exposure, increased power and water demand, cooling system strain, pavement stress, vegetation decline, reduced outdoor activity safety, and wildfire potential.</p>                                                                               |
| Enterprise       | <p><b>Vulnerabilities:</b> Enterprise is vulnerable where residents, schools, farms, ranch operations, local businesses, and utility systems are exposed to prolonged</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |

| Plan Participant | Vulnerabilities and Impacts                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
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|                  | <p>heat in a rural community with significant agricultural activity and outdoor labor. Livestock, crops, irrigation needs, and workers in construction and agriculture are especially sensitive to sustained high temperatures.</p> <p><b>Impacts:</b> Extreme heat can increase heat illness risk, reduce livestock productivity and crop performance, raise irrigation and cooling demand, and increase operating costs for agriculture and local businesses. Heat may also stress local power and water systems, reduce worker productivity, increase wildfire danger, and create longer-term recovery challenges where local resources are limited. Critical facilities and infrastructure potentially impacted include Enterprise City offices and municipal facilities; Enterprise Police Department; Enterprise fire and emergency response facilities; schools and community facilities; senior centers, cooling centers, and public buildings; municipal and domestic water systems, wells, storage tanks, pumping and distribution infrastructure; wastewater, drainage, irrigation, and agricultural water infrastructure; State Route 18, local roads, sidewalks, bridges, traffic-control devices, and rural access routes; electric and communications infrastructure; farms, ranches, livestock water supplies, barns, corrals, fields, irrigation equipment, parks, public landscapes, fire protection water supplies, maintenance yards, and agricultural support facilities vulnerable to heat stress, livestock and crop impacts, increased irrigation and cooling demand, power system strain, worker exposure, wildfire danger, and delayed emergency response during prolonged heat events.</p>                                                  |
| Toquerville      | <p><b>Vulnerabilities:</b> Toquerville is vulnerable where residential areas are growing, parks, roads, utility systems, and outdoor community spaces are exposed to prolonged summer heat in an arid environment. Outdoor workers, residents without reliable cooling, and people engaged in recreation or travel are particularly susceptible during extended hot periods.</p> <p><b>Impacts:</b> Extreme heat can increase health risks, raise demand for power and water, stress vegetation and public landscapes, and increase costs for cooling and facility operations. It may also reduce outdoor activity, affect construction and maintenance work, elevate wildfire risk, and create added strain on local services during prolonged heat waves. Critical facilities and infrastructure potentially impacted include Toquerville Town Hall and municipal facilities; Toquerville fire and emergency response facilities; public works and utility facilities; schools and community facilities serving the area; senior centers, cooling centers, and public gathering spaces; culinary water, irrigation, wastewater, stormwater, drainage, storage, pumping, and distribution infrastructure; State Route 17, Interstate 15 access routes, local roads, sidewalks, bridges, traffic-control devices, and evacuation routes; electric and communications infrastructure; parks, trails, public landscapes, residential cooling systems, fire protection water supplies, nearby agricultural and open-space irrigation systems, public buildings, and visitor-serving facilities vulnerable to prolonged heat, increased power and water demand, cooling system strain, vegetation stress, pavement stress, outdoor worker exposure, and wildfire risk.</p> |

| Plan Participant | Vulnerabilities and Impacts                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
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| Leeds            | <p><b>Vulnerabilities:</b> Leeds is vulnerable where residents, community facilities, roads, utility systems, and travelers using the Interstate 15 corridor are exposed to prolonged high temperatures with limited local infrastructure redundancy. Outdoor workers, travelers, and residents without adequate cooling can be affected during heat events.</p> <p><b>Impacts:</b> Extreme heat can increase heat-related illness, raise electricity and water demand, stress public facilities and landscaping, and affect travel safety and comfort along local and interstate routes. It may also reduce outdoor labor productivity, increase wildfire danger, and create maintenance issues for roads and other infrastructure. Critical facilities and infrastructure potentially impacted include Leeds Town Hall and public works facilities; Leeds fire and emergency response facilities; community facilities, cooling centers, and public buildings; water, wastewater, stormwater, drainage, storage, pumping, and utility infrastructure; Interstate 15, Main Street, local roads, sidewalks, bridges, traffic-control devices, and access routes; electric and communications infrastructure; parks, public landscapes, fire protection water supplies, roadside vegetation, open-space areas, public buildings, and corridor-related travel infrastructure vulnerable to heat exposure, increased power and water demand, cooling system strain, pavement and roadway stress, wildfire danger, outdoor worker exposure, and disruption of emergency access and regional travel during prolonged heat events.</p>                                             |
| Virgin           | <p><b>Vulnerabilities:</b> Virgin is vulnerable because residents, lodging, restaurants, visitor-serving businesses, parks, and utility systems are exposed to high summer temperatures in the Zion gateway corridor. Visitors unfamiliar with desert heat, outdoor recreation users, and workers in tourism-related businesses are especially vulnerable when temperatures remain very high and overnight relief is limited.</p> <p><b>Impacts:</b> Extreme heat can increase dehydration, heat exhaustion, and emergency medical incidents; strain power and water systems; and reduce safe use of outdoor spaces and trail access. Economic impacts may also include disruption to visitor activity, higher operating costs for local businesses, stressed landscaping, and elevated wildfire risk. Critical facilities and infrastructure potentially impacted include Virgin Town Hall and municipal facilities; Virgin fire and emergency response facilities; public works, water, wastewater, drainage, storage, pumping, and utility infrastructure; cooling centers and public gathering spaces; State Route 9, local roads, sidewalks, bridges, traffic-control devices, and Zion gateway access routes; electric and communications infrastructure; lodging, restaurants, visitor-serving businesses, parks, trailheads, campgrounds, public landscapes, fire protection water supplies, utility corridors, and recreation assets vulnerable to heat illness exposure, increased cooling and water demand, power system strain, reduced outdoor recreation safety, vegetation stress, wildfire potential, and interrupted access for residents and visitors.</p> |
| Springdale       | <p><b>Vulnerabilities:</b> Springdale is highly vulnerable because residents, hotels, restaurants, employee housing, visitor facilities, parks, and utilities are</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |

| Plan Participant | Vulnerabilities and Impacts                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
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|                  | <p>concentrated in the Zion gateway corridor where summer temperatures are very high and visitor volumes peak during warm months. Tourists, outdoor workers, and people recreating in canyon environments are especially susceptible to heat illness, particularly where access to shade, water, and quick medical response is limited.</p> <p><b>Impacts:</b> Extreme heat can cause dehydration, heat exhaustion, heat stroke, and fatalities; disrupt tourism and outdoor recreation; strain local medical response, utilities, and water use; and raise costs for cooling and public operations. Even short-duration heat events can create outsized safety and economic impacts because of high visitor numbers, constrained transportation access, and the town's reliance on outdoor tourism. Critical facilities and infrastructure potentially impacted include Springdale Town Hall and municipal facilities; Springdale Police Department and emergency response facilities; public works, water, wastewater, drainage, stormwater, storage, pumping, and utility infrastructure; cooling centers, employee housing, public gathering spaces, and health-related visitor support facilities; State Route 9, Zion Canyon access routes, shuttle-related transportation facilities, sidewalks, bridges, traffic-control devices, and local access routes; electric and communications infrastructure; hotels, restaurants, lodging areas, visitor facilities, parks, trailheads, public landscapes, fire protection water supplies, utility corridors, and Zion gateway recreation assets vulnerable to heat illness exposure, increased cooling and water demand, power system strain, limited shade and hydration access, reduced outdoor recreation safety, visitor service disruption, vegetation stress, and wildfire risk in the canyon corridor.</p> |
| New Harmony      | <p><b>Vulnerabilities:</b> New Harmony is vulnerable where homes, roads, water systems, agricultural lands, and community facilities are exposed to prolonged summer heat in a rural mountain-valley setting. Outdoor workers, older residents, and those dependent on limited local water and cooling resources can be especially affected during extended heat events.</p> <p><b>Impacts:</b> Extreme heat can increase heat illness risk, stress local water and power demand, affect agricultural lands and vegetation, and raise costs for maintaining public spaces and community services. It may also reduce worker productivity, increase wildfire danger, and create challenges for emergency response in a small community with limited staffing and resources. Critical facilities and infrastructure potentially impacted include New Harmony Town Hall and municipal facilities; fire and emergency response facilities; public works, local and domestic water systems, wells, storage, pumping, wastewater, drainage, and utility infrastructure; community facilities, cooling centers, and public buildings; Interstate 15, State Route 144, local roads, sidewalks, bridges, traffic-control devices, and rural access routes; electric and communications infrastructure; agricultural and open lands, irrigation systems, livestock water supplies, parks, public landscapes, rural access roads, fire protection water supplies, and utility corridors vulnerable to heat stress, increased water and power demand, worker and livestock exposure,</p>                                                                                                                                                                                                                                                                                         |

| Plan Participant | Vulnerabilities and Impacts                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
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|                  | vegetation and forage stress, wildfire danger, road and pavement stress, and delayed emergency response during prolonged heat.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| Rockville        | <p><b>Vulnerabilities:</b> Rockville is vulnerable because residents, historic resources, visitor-serving spaces, and local utilities in the Virgin River corridor are exposed to prolonged high temperatures in a small gateway community with limited infrastructure and heavy seasonal visitation. Older adults, visitors, and people recreating outdoors are particularly susceptible to heat stress.</p> <p><b>Impacts:</b> Extreme heat can increase heat-related illness, stress water and electric systems, affect the condition of historic and landscaped resources, and reduce safe use of outdoor spaces. Heat may also disrupt visitor activity, increase cooling and maintenance costs, elevate wildfire danger, and strain local response capacity during medical or infrastructure incidents. Critical facilities and infrastructure potentially impacted include Rockville Town Hall and municipal facilities; fire and emergency response facilities; public works, water, wastewater, drainage, storage, pumping, and utility infrastructure; cooling centers and public gathering spaces; State Route 9, local roads, sidewalks, bridges, traffic-control devices, and Zion gateway access routes; electric and communications infrastructure; historic buildings, homes, parks, public spaces, visitor-serving facilities, Virgin River corridor vegetation, public landscapes, fire protection water supplies, utility corridors, and scenic or historic community resources vulnerable to heat exposure, increased cooling and water demand, power strain, vegetation stress, reduced outdoor activity safety, wildfire risk, and disrupted emergency access in a constrained gateway corridor.</p> |
| Apple Valley     | <p><b>Vulnerabilities:</b> Apple Valley is vulnerable where dispersed residential development, local roads, water systems, and community facilities are exposed to prolonged heat in a rural-desert setting. Residents without reliable cooling, outdoor workers, and people living farther from services may be more vulnerable during extended heat waves.</p> <p><b>Impacts:</b> Extreme heat can increase health risks, strain local water and electric demand, stress vegetation and open-space resources, and raise costs for cooling and system maintenance. It may also affect travel safety, reduce outdoor labor productivity, elevate wildfire danger, and create service challenges where response capacity is limited. Critical facilities and infrastructure potentially impacted include Apple Valley Town Hall and municipal facilities; fire and emergency response facilities; public works, community water systems, wells, storage, pumping, wastewater, drainage, and utility infrastructure; cooling centers and public gathering spaces; State Route 59, local roads, sidewalks, bridges, washes, traffic-control devices, and rural access routes; electric and communications infrastructure; parks, community facilities, dispersed residential cooling and water systems, fire protection water supplies, utility corridors, open-space resources, and limited agricultural or livestock water infrastructure vulnerable to prolonged heat, increased power and water demand, heat exposure for residents and outdoor workers,</p>                                                                                                                                                              |

| Plan Participant | Vulnerabilities and Impacts                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
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|                  | vegetation stress, dust, wildfire risk, roadway stress, and service challenges across dispersed neighborhoods.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| Hildale          | <p><b>Vulnerabilities:</b> Hildale is vulnerable where homes, schools, public facilities, utility and water systems, and surrounding open areas are exposed to prolonged heat in a rugged desert setting. Residents with limited cooling options, older adults, outdoor workers, and people dependent on community water and power systems are especially susceptible to heat stress.</p> <p><b>Impacts:</b> Extreme heat can increase dehydration and heat illness, strain water and power systems, stress public facilities and vegetation, and raise operating costs for cooling and infrastructure management. It may also reduce outdoor work and recreation safety, increase wildfire danger, and create additional pressure on a community with ongoing infrastructure and service needs. Critical facilities and infrastructure potentially impacted include Hildale City Hall and municipal facilities; Hildale Police Department; Hildale fire and emergency response facilities; Water Canyon School and other community facilities; public works, culinary water, wastewater, stormwater, drainage, storage, pumping, and utility infrastructure; cooling centers, public buildings, and community gathering spaces; Utah State Route 59, local roads, sidewalks, bridges, culverts, washes, traffic-control devices, and community access routes; electric and communications infrastructure; parks, public landscapes, residential cooling and water systems, fire protection water supplies, utility corridors, and structures in rugged or drainage-sensitive areas vulnerable to heat exposure, increased cooling and water demand, power and water service strain, vegetation stress, wildfire danger, roadway stress, and isolation or delayed emergency response.</p> |

## Flooding

Table 166 summarizes flooding vulnerabilities and potential impacts for Washington County participants.

**Table 166: Flooding Vulnerability and Impact Assessment for Washington County**

| Plan Participant  | Vulnerabilities and Impacts                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
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| Washington County | <p><b>Vulnerabilities:</b> Washington County is vulnerable to flooding because the Virgin River, Santa Clara River, Fort Pearce Wash, and numerous other wash and drainage networks intersect the county's primary population centers, transportation corridors, public facilities, utilities, agricultural lands, and recreation areas. NOAA/NCEI records list multiple flood and flash flood events in the county between 2022 and 2025. Vulnerable assets include homes and businesses in river corridors and alluvial settings, bridges and roads, stormwater and drainage systems, schools, public safety facilities, parks, and</p> |

| Plan Participant | Vulnerabilities and Impacts                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
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|                  | <p>county-supported infrastructure exposed to riverine flooding, flash flooding, and post-wildfire debris-laden runoff.<sup>258</sup></p> <p><b>Impacts:</b> Flooding can cause injuries or fatalities, inundate homes and businesses, erode channels and embankments, wash out roads and bridges, damage utilities and public facilities, and isolate communities or recreation areas. Countywide impacts may also include debris and sediment deposition, stormwater system failures, interruption of emergency response and regional travel, damage to agricultural lands and tourism assets, and high recovery costs for critical infrastructure and public services. Critical facilities and infrastructure potentially impacted include Washington County Sheriff's Office; Washington County Emergency Management; St. George 911 Communications Center; Southwest Utah Public Health Department; St. George Regional Hospital; Washington County School District facilities; county and municipal government buildings; public safety facilities; public works yards; Interstate 15, State Route 9, State Route 7, State Route 18, and other regional roadways, bridges, culverts, low-water crossings, and evacuation routes; Virgin River, Santa Clara River, Fort Pearce Wash, Ash Creek, La Verkin Creek, Beaver Dam Wash, and other wash and drainage corridor infrastructure; Washington County Water Conservancy District reservoirs, pipelines, pump stations, water storage, and distribution infrastructure; municipal water, wastewater, stormwater, drainage, flood-control, power, communications, and utility systems; parks, trailheads, campgrounds, agricultural lands, irrigation infrastructure, recreation areas, visitor-serving facilities, and public buildings vulnerable to inundation, erosion, debris, sediment deposition, washouts, utility interruption, and access disruption.</p> |
| St. George       | <p><b>Vulnerabilities:</b> St. George is highly vulnerable because major flood sources, including the Virgin River system, the Santa Clara River, Fort Pearce Wash, and local storm drainage corridors, intersect dense residential and commercial development, major arterials, utilities, public facilities, and airport-related infrastructure. Low-lying developed areas, stormwater systems, bridges, and roads are especially susceptible to riverine flooding, flash flooding, channel erosion, and debris-laden runoff during large storms or rain-on-snow events. The January 2005 flood damaged homes, roads, utilities, and agricultural lands in and around St. George.</p> <p><b>Impacts:</b> Flooding can threaten life safety, damage homes, businesses, roads, bridges, storm drainage systems, utilities, and public facilities, and disrupt emergency response, hospital access, airport operations, and regional commerce. High-velocity floodwaters and sediment can also erode channels, overwhelm drainage infrastructure, interrupt travel and services, and create costly long-term recovery needs in this regional urban center. Critical facilities and infrastructure potentially impacted include St. George City Hall and</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |

<sup>258</sup> NOAA = National Oceanic and Atmospheric Administration; NCEI = National Centers for Environmental Information

| Plan Participant | Vulnerabilities and Impacts                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
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|                  | <p>municipal government facilities; St. George Police Department; St. George Fire Department stations (Fire Station #10 at 3270 E Flowers Way); St. George 911 Communications Center; St. George Regional Hospital at 1380 S Medical Center Dr; Utah Tech University facilities; Washington County School District schools and support facilities; St. George Regional Airport; public works, water, wastewater, stormwater, and drainage facilities; bridges, culverts, and road crossings along the Virgin River, Santa Clara River, Fort Pearce Wash, and local drainage corridors; Interstate 15, State Route 7, Bluff Street, River Road, St. George Boulevard, Riverside Drive, and other major arterials; Washington County Water Conservancy District facilities serving the St. George area; electric substations, power, communications, fiber, cellular infrastructure, parks, trail systems, golf courses, recreation facilities, commercial centers, hotels, medical offices, public buildings, and visitor-serving infrastructure vulnerable to flooding, erosion, debris, sediment, utility outages, airport access disruption, and emergency response delays.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| Washington City  | <p><b>Vulnerabilities:</b> Washington City is vulnerable because growing neighborhoods, schools, parks, roads, utilities, and drainage infrastructure are exposed to flooding from river corridors, washes, alluvial drainageways, and localized stormwater exceedance. Continued growth increases the number of structures, roads, and public facilities potentially affected by flash flooding, channel erosion, and sediment-laden runoff during intense storms.</p> <p><b>Impacts:</b> Flooding impacts could include injuries, damage to homes and community facilities, road and bridge closures, erosion of drainage channels, utility interruptions, and disruption of schools, city operations, and neighborhood access. Stormwater system overload, debris deposition, and washed out roads may also create costly repair needs and delay emergency response and daily travel. Critical facilities and infrastructure potentially impacted include Washington City offices and municipal facilities; Washington City Police Department; Washington City Fire Department facilities; Washington County School District schools and community facilities; public works facilities; culinary water, irrigation, wastewater, stormwater, drainage, and flood-control infrastructure; bridges, culverts, and road crossings along the Virgin River, Mill Creek, and local washes; Interstate 15, State Route 9, Telegraph Street, Green Spring Drive, Washington Parkway, and major local access routes; Washington County Water Conservancy District facilities serving the Washington area; power, communications, fiber, cellular, and utility infrastructure; parks, sports fields, trail systems, commercial centers, public buildings, and neighborhoods vulnerable to inundation, street flooding, channel erosion, sediment deposition, utility disruption, and interrupted emergency access.</p> |
| Hurricane        | <p><b>Vulnerabilities:</b> Hurricane is highly vulnerable because development near the Virgin River system, washes, roads, bridges, utility corridors, and neighborhoods in the Hurricane Valley can be affected by both riverine flooding and fast-moving flash floods. Growing residential and commercial areas, schools, parks, and transportation links increase exposure to flooding,</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |

| Plan Participant | Vulnerabilities and Impacts                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
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|                  | <p>sediment deposition, culvert overtopping, and drainage failures during intense rainfall or runoff events.</p> <p><b>Impacts:</b> Potential impacts include injuries, property damage, washed out roads and crossings, utility disruptions, erosion of channels and embankments, and interruption of emergency access, schools, and business activity. Flooding may also damage stormwater infrastructure, affect recreation travel, and require costly cleanup and repair of sediment- and debris-impacted public facilities and transportation routes. Critical facilities and infrastructure potentially impacted include Hurricane City Hall and municipal facilities; Hurricane Police Department; Hurricane Valley Fire District facilities (Fire Station #42 at 445 N 3400 W); Washington County School District schools and community facilities; public works, water, wastewater, stormwater, drainage, irrigation, storage, pumping, and distribution infrastructure; Ash Creek, Gould Wash, Virgin River, and local wash corridor bridges, culverts, low-water crossings, and drainage channels; State Route 9, State Route 7, State Route 59, Interstate 15 access routes, evacuation corridors, and major local roads; Sand Hollow Reservoir and Quail Creek Reservoir recreation-support, access, dam, spillway, and utility infrastructure; power, communications, fiber, cellular, and utility corridors; parks, trailheads, campgrounds, marinas, commercial areas, tourism businesses, and public facilities vulnerable to flash flooding, debris flows, sediment deposition, culvert overtopping, erosion, washouts, utility interruption, and access disruption.</p>                                                    |
| Santa Clara      | <p><b>Vulnerabilities:</b> Santa Clara is highly vulnerable because of its direct exposure to the Santa Clara River corridor, nearby washes, bridges, roads, utilities, and developed areas with known flood history. Homes, businesses, community facilities, and local streets near flood conveyance areas remain sensitive to riverine flooding, flash flooding, erosion, and debris-laden flows, as shown by past damaging flood events in and around the city.</p> <p><b>Impacts:</b> Flooding can cause severe damage to homes, businesses, public facilities, roads, bridges, stormwater infrastructure, and utility systems, with possible injuries, evacuations, and long-term recovery needs. High flows may also erode channels, undermine developed areas, deposit sediment and debris, interrupt transportation and daily services, and create substantial repair and mitigation costs. Critical facilities and infrastructure potentially impacted include Santa Clara City Hall and municipal facilities; Santa Clara-Ivins Police Department facilities; Santa Clara fire and emergency response facilities; Washington County School District schools and community facilities; public works, water, irrigation, wastewater, stormwater, drainage, and flood-control systems; Santa Clara River corridor bridges, culverts, bank protection, storm drain outfalls, and local road crossings; Old Highway 91, Santa Clara Drive, Pioneer Parkway, and other primary access routes; power, communications, fiber, cellular, and utility infrastructure; parks, trails, recreation areas, public buildings, commercial areas, neighborhoods, and community facilities vulnerable to riverine flooding, flash flooding, bank</p> |

| Plan Participant | Vulnerabilities and Impacts                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
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|                  | erosion, sediment deposition, debris impacts, stormwater overload, utility disruption, and evacuation or emergency access constraints.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| Ivins            | <p><b>Vulnerabilities:</b> Ivins is vulnerable where homes, roads, parks, public facilities, drainage channels, and utility systems are located near washes, desert drainageways, and slope transition areas that can convey fast runoff during intense storms. Urbanizing areas, limited transportation connections, and local drainage constraints increase sensitivity to flash flooding, street flooding, and sediment movement.</p> <p><b>Impacts:</b> Flooding can damage homes, roads, culverts, parks, drainage infrastructure, and utilities; isolate neighborhoods; and disrupt emergency response, travel, and public services. High-intensity runoff may also erode channels, deposit sediment and debris, affect recreation access, and create expensive repair and maintenance needs for local infrastructure. Critical facilities and infrastructure potentially impacted include Ivins City Hall and municipal facilities; Santa Clara-Ivins Police Department facilities serving Ivins; Ivins fire and emergency response facilities; Washington County School District schools and community facilities; public works, water, wastewater, stormwater, drainage, irrigation, storage, pumping, and distribution infrastructure; local washes, desert drainageways, culverts, low-water crossings, and drainage channels connected to the Santa Clara River watershed; Old Highway 91, Center Street, Snow Canyon Parkway, local access routes, bridges, and emergency routes; power, communications, fiber, cellular, and utility infrastructure; parks, trailheads, recreation facilities, public buildings, tourism-related amenities, and neighborhoods vulnerable to flash flooding, street flooding, sediment movement, erosion, culvert overtopping, utility interruption, and temporary isolation.</p> |
| La Verkin        | <p><b>Vulnerabilities:</b> La Verkin is highly vulnerable because of its location near the Virgin River system, steep terrain, bridges, roads, utilities, and developed areas exposed to riverine flooding and flash flooding in drainage corridors. Confined channels, riverbanks, and transportation links can be affected by high-velocity water, sediment, and erosion during intense storms, snowmelt events, or runoff from upstream basins.</p> <p><b>Impacts:</b> Flooding impacts could include injuries, washed out roads and crossings, damage to homes and utilities, bank erosion, disruption of SR-9 and local travel, and interruption of emergency access to nearby communities. Sediment and debris may also damage drainage infrastructure and increase recovery costs for public works, utilities, and river-adjacent development. Critical facilities and infrastructure potentially impacted include La Verkin City offices and municipal facilities; La Verkin Police Department; La Verkin fire and emergency response facilities; Washington County School District schools and community facilities; public works, water, wastewater, stormwater, drainage, storage, pumping, and utility infrastructure; La Verkin Creek, Ash Creek, Virgin River, and local drainage corridor bridges, culverts, low-water crossings, and channel infrastructure; State Route 9, State Route 17, local bridges, evacuation routes, and Zion gateway access routes; power, communications, fiber,</p>                                                                                                                                                                                                                                                                                                                |

| Plan Participant | Vulnerabilities and Impacts                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
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|                  | cellular, and utility infrastructure; parks, trailheads, visitor-serving businesses, public buildings, and river- or wash-adjacent facilities vulnerable to riverine flooding, flash flooding, erosion, debris, sediment deposition, utility outages, road washouts, and access disruption.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| Enterprise       | <p><b>Vulnerabilities:</b> Enterprise is vulnerable where local roads, culverts, agricultural lands, homes, schools, utility systems, and dispersed development are located near washes, low-water crossings, and drainageways that can flood during intense storms or runoff events. Rural land use patterns, limited alternate routes, and dependence on smaller local systems increase sensitivity to localized flooding, erosion, and stormwater damage.</p> <p><b>Impacts:</b> Potential impacts include flooding of homes and agricultural areas, road washouts, culvert failure, erosion, utility disruption, and interruption of school, business, and emergency access. Recovery may be prolonged where local staffing and funding are limited and where sediment and infrastructure damage require outside technical or financial assistance. Critical facilities and infrastructure potentially impacted include Enterprise City offices and municipal facilities; Enterprise Police Department; Enterprise fire and emergency response facilities; Washington County School District schools and community facilities; public works, municipal and domestic water systems, wastewater, drainage, stormwater, irrigation, storage, pumping, and agricultural water infrastructure; State Route 18, local roads, bridges, culverts, low-water crossings, drainage channels, and rural access routes; reservoirs, irrigation systems, canals, storage ponds, farms, ranches, barns, corrals, fields, and agricultural support facilities; power, communications, fiber, cellular, and utility infrastructure; parks, public buildings, and maintenance yards vulnerable to localized flooding, erosion, sediment deposition, culvert failure, road washouts, irrigation infrastructure damage, utility disruption, and delayed emergency access.</p> |
| Toquerville      | <p><b>Vulnerabilities:</b> Toquerville is highly vulnerable because homes, roads, drainage crossings, utilities, and expanding residential areas are located near washes and drainage corridors with documented recent flooding. Its terrain, canyon-influenced runoff patterns, and growing development increase exposure to localized flash flooding, culvert overtopping, erosion, and debris-laden flows during heavy rain or runoff events.</p> <p><b>Impacts:</b> Flooding can cause injuries, property damage, road and bridge closures, stormwater and utility disruption, and erosion affecting channels and developed areas. The town may also face neighborhood isolation, interruption of emergency response, costly roadway and drainage repairs, and recurring cleanup needs where sediment and debris accumulate. Critical facilities and infrastructure potentially impacted include Toquerville Town Hall and municipal facilities; Toquerville fire and emergency response facilities; public works and utility facilities; Washington County School District schools and community facilities serving the area; culinary water, irrigation, wastewater, stormwater, drainage, storage, pumping, and distribution infrastructure; Ash Creek, La Verkin Creek watershed drainages, local washes, culverts, low-water</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |

| Plan Participant | Vulnerabilities and Impacts                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
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|                  | <p>crossings, and channel infrastructure; State Route 17, Interstate 15 access routes, local roads, bridges, evacuation routes, and developing neighborhood access roads; power, communications, fiber, cellular, and utility infrastructure; parks, trails, public buildings, visitor-serving facilities, and neighborhoods vulnerable to flash flooding, debris-laden flows, culvert overtopping, erosion, sediment deposition, utility interruption, neighborhood isolation, and emergency access disruption.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| Leeds            | <p><b>Vulnerabilities:</b> Leeds is vulnerable where homes, Interstate 15 access points, local roads, drainage channels, bridges, and utility systems are located near washes, steep slopes, and alluvial drainage features that can convey sudden runoff. The town's terrain, transportation dependence, and limited roadway connections increase sensitivity to flash flooding, debris, erosion, and wash-related travel disruption.</p> <p><b>Impacts:</b> Potential impacts include flood damage to residences and infrastructure, culvert and channel failure, road closures affecting local and interstate access, utility outages, and disruption of emergency response and commuter travel. Flooding may also produce sediment and debris impacts that create broader regional transportation consequences and increase public works repair costs. Critical facilities and infrastructure potentially impacted include Leeds Town Hall and public works facilities; Leeds fire and emergency response facilities; water, wastewater, stormwater, drainage, storage, pumping, and utility infrastructure; Leeds Creek, Quail Creek, local washes, culverts, low-water crossings, and drainage channels; Interstate 15, Main Street, local roads, bridges, access ramps, evacuation routes, and corridor transportation infrastructure; power, communications, fiber, cellular, and utility infrastructure; parks, public buildings, community facilities, and corridor-related infrastructure vulnerable to flash flooding, debris, sediment deposition, culvert failure, road washouts, utility outages, interstate access disruption, and delayed emergency response.</p> |
| Virgin           | <p><b>Vulnerabilities:</b> Virgin is highly vulnerable because of its location in the Zion gateway corridor along the Virgin River system, proximity to flash flood channels, and reliance on limited transportation and utility infrastructure serving both residents and visitors. Homes, businesses, roads, bridges, and visitor-oriented facilities in low-lying or drainage-adjacent areas are especially susceptible to riverine flooding, flash flooding, bank erosion, and debris impacts.</p> <p><b>Impacts:</b> Flooding can threaten life safety, damage tourism-related businesses, residences, roads, bridges, and utilities, and disrupt SR-9 access, evacuation, and emergency response. Economic impacts may also extend beyond physical damage through lost visitor activity, interrupted local commerce, sediment cleanup, and prolonged repair of transportation and infrastructure systems. Critical facilities and infrastructure potentially impacted include Virgin Town Hall and municipal facilities; Virgin fire and emergency response facilities; public works, water, wastewater, drainage, storage, pumping, and utility infrastructure; Virgin River corridor bridges, culverts, low-</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                           |

| Plan Participant | Vulnerabilities and Impacts                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
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|                  | <p>water crossings, and local drainage channels; State Route 9, local roads, evacuation routes, and Zion gateway access routes; power, communications, fiber, cellular, and utility corridors; lodging, restaurants, visitor-serving businesses, parks, trailheads, campgrounds, recreation access points, public landscapes, and public buildings vulnerable to riverine flooding, flash flooding, bank erosion, debris, sediment deposition, utility interruption, SR-9 access disruption, and emergency response delays.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| Springdale       | <p><b>Vulnerabilities:</b> Springdale is highly vulnerable because development is concentrated along the Virgin River corridor in a narrow canyon setting with steep slopes, limited transportation access, and high visitor volumes tied to Zion National Park. Homes, hotels, businesses, roads, bridges, utilities, and public facilities are exposed to riverine flooding, flash flooding, bank erosion, and debris-laden flows, as shown by repeated flood impacts in the community and the broader Zion corridor.</p> <p><b>Impacts:</b> Potential impacts include life safety threats, damage to lodging, businesses, homes, roads, bridges, utilities, and public facilities, and severe disruption to tourism, evacuation, and emergency access in the Zion gateway area. Because transportation options are limited, even moderate flooding can create outsized economic losses, prolonged service interruptions, and significant recovery demands. Critical facilities and infrastructure potentially impacted include Springdale Town Hall and municipal facilities; Springdale Police Department and emergency response facilities; public works, water, wastewater, stormwater, drainage, storage, pumping, and utility infrastructure; Virgin River corridor bridges, culverts, low-water crossings, bank protection, and drainage channels; State Route 9, Zion Canyon access routes, shuttle-related transportation facilities, local roads, evacuation routes, and visitor access corridors; power, communications, fiber, cellular, and utility infrastructure; hotels, restaurants, lodging areas, employee housing, visitor facilities, parks, trailheads, public buildings, Zion gateway recreation assets, and public gathering areas vulnerable to riverine flooding, flash flooding, bank erosion, debris-laden flows, sediment deposition, utility outages, tourism disruption, evacuation constraints, and emergency access disruption.</p> |
| New Harmony      | <p><b>Vulnerabilities:</b> New Harmony is vulnerable where local roads, bridges, drainage channels, water infrastructure, homes, and agricultural or open land areas can be affected by runoff from mountain-valley drainage systems and localized flash flooding. Its rural setting, steep surrounding terrain, winter runoff influences, and limited access routes increase sensitivity to washouts, culvert failure, and isolation during flood events.</p> <p><b>Impacts:</b> Flooding can damage homes and roads, erode channels and embankments, affect water and utility systems, interrupt emergency response and school or commuter access, and create economic losses tied to infrastructure repair. Recovery may be slower where staffing, equipment, and financial resources are limited and road or drainage repairs require outside assistance. Critical facilities and infrastructure potentially impacted include New Harmony Town Hall and municipal facilities; fire and emergency</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |

| Plan Participant | Vulnerabilities and Impacts                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
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|                  | <p>response facilities; public works, local and domestic water systems, wells, storage, pumping, wastewater, drainage, and utility infrastructure; Ash Creek watershed drainage crossings, local washes, culverts, low-water crossings, and rural drainage channels; Interstate 15, State Route 144, local roads, bridges, evacuation routes, and rural access roads; power, communications, fiber, cellular, and utility corridors; agricultural and open lands, irrigation systems, livestock water supplies, parks, community facilities, public buildings, and public landscapes vulnerable to flash flooding, runoff, culvert failure, road washouts, sediment deposition, erosion, utility interruption, and isolation or delayed emergency response.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| Rockville        | <p><b>Vulnerabilities:</b> Rockville is especially vulnerable because of its location directly along the Virgin River corridor, small historic and residential development pattern, constrained evacuation routes, and repeated recent flood impacts. Homes, historic resources, roads, bridges, utilities, and public spaces in low-lying or river-adjacent areas are susceptible to riverine flooding, flash flooding, bank erosion, and debris-laden flows moving through the narrow Zion corridor.</p> <p><b>Impacts:</b> Potential impacts include life safety threats, structural damage to homes and historic resources, road and bridge damage, utility outages, erosion, and disruption of access for residents and visitors. Because the community is small and access is limited, even localized flooding can significantly affect evacuation, emergency response, tourism activity, and long-term recovery operations. Critical facilities and infrastructure potentially impacted include Rockville Town Hall and municipal facilities; fire and emergency response facilities; public works, water, wastewater, drainage, storage, pumping, and utility infrastructure; Virgin River corridor bridges, culverts, low-water crossings, bank protection, and drainage channels; State Route 9, local roads, evacuation routes, and Zion gateway access routes; power, communications, fiber, cellular, and utility infrastructure; historic buildings, homes, parks, trailheads, visitor-serving facilities, public buildings, public spaces, and scenic or historic community resources vulnerable to riverine flooding, flash flooding, bank erosion, debris, sediment deposition, utility outages, road or bridge damage, constrained evacuation, and disrupted emergency access.</p> |
| Apple Valley     | <p><b>Vulnerabilities:</b> Apple Valley is vulnerable where dispersed residential development, local roads, drainage crossings, utilities, and water infrastructure are exposed to localized flooding in washes and drainage-sensitive areas. The community's rural-residential layout, limited alternate access, and modest infrastructure systems increase sensitivity to flash flooding, erosion, culvert overtopping, and service disruption during intense storms.</p> <p><b>Impacts:</b> Flooding can damage homes, roads, culverts, and utility systems; cause erosion and debris deposition in drainageways; and interrupt emergency response, school travel, and access to essential services. Recovery could be challenging if multiple dispersed neighborhoods are affected at</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |

| Plan Participant | Vulnerabilities and Impacts                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
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|                  | <p>once or if repairs to roads and drainage infrastructure require outside support. Critical facilities and infrastructure potentially impacted include Apple Valley Town Hall and municipal facilities; fire and emergency response facilities; public works, community water systems, wells, storage, pumping, wastewater, drainage, and utility infrastructure; State Route 59, local roads, bridges, culverts, washes, low-water crossings, evacuation routes, and rural access roads; power, communications, fiber, cellular, and utility corridors; parks, community facilities, dispersed residential water systems, public buildings, open-space resources, limited agricultural or livestock water infrastructure, and maintenance facilities vulnerable to flash flooding, washout, erosion, debris, sediment deposition, culvert overtopping, utility disruption, delayed emergency access, and service challenges across dispersed neighborhoods.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| Hildale          | <p><b>Vulnerabilities:</b> Hildale is highly vulnerable because homes, roads, drainage infrastructure, utility and water systems, and public facilities are located in rugged terrain and drainage-sensitive areas with a history of dangerous flash flooding. Washes, low-water crossings, and transportation links can be overwhelmed by sudden high-intensity rainfall, increasing exposure to fast-moving water, debris, erosion, and isolation.</p> <p><b>Impacts:</b> Potential impacts include life safety threats, damage to homes and infrastructure, washed out roads and crossings, utility and water service interruption, erosion, and disruption of emergency response and public safety operations. In a community with significant infrastructure needs, flood recovery may require outside technical and financial assistance and could be complicated by limited alternate access and service capacity. Critical facilities and infrastructure potentially impacted include Hildale City Hall and municipal facilities; Hildale Police Department; Hildale Fire (Hildale/Colorado City Fire Station at 40 S Pioneer St) and emergency response facilities; Water Canyon School and other community facilities; public works, culinary water, wastewater, stormwater, drainage, storage, pumping, and utility infrastructure; Utah State Route 59, local roads, bridges, culverts, washes, low-water crossings, community access routes, and evacuation routes; power, communications, fiber, cellular, and utility corridors; parks, public buildings, residential water systems, public landscapes, drainage-sensitive open areas, and structures in rugged terrain vulnerable to flash flooding, debris flows, washouts, erosion, sediment deposition, utility and water service interruption, isolation, and delayed emergency response.</p> |

## Hail

Table 167 summarizes hail vulnerabilities and potential impacts for Washington County participants.

**Table 167: Hail Vulnerability and Impact Assessment for Washington County**

| Plan Participant  | Vulnerabilities and Impacts                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
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| Washington County | <p><b>Vulnerabilities:</b> Washington County is vulnerable to hail because it combines repeated hail occurrence with the largest concentration of population, housing, commercial development, public facilities, transportation assets, visitor-serving businesses, and agricultural operations in the planning area. The NCEI hail selection contains 4 records on 4 dates in Washington County during 2021–2025, filtered to reported diameters of at least 1 inch, with \$7,500 in reported property damage. Modeled hail-footprint estimates do not establish the number of damaged homes. Vulnerable assets include homes, roofs, windows, vehicles, schools, health care and public safety facilities, utilities, parks, solar and HVAC equipment, airport-related assets, and agricultural lands and equipment in outlying areas.<sup>259260</sup></p> <p><b>Impacts:</b> Hail can damage roofs, siding, windows, skylights, solar arrays, vehicles, aircraft, crops, and outdoor equipment; create hazardous travel conditions; and interrupt transportation, airport operations, health care, education, tourism, and public services. Countywide impacts may also include repeated maintenance and replacement costs, business interruption, strain on public-sector repair budgets, and indirect economic losses tied to visitor activity, agriculture, and service disruption. Recent reports include 1.00-inch hail near Washington on August 22, 2022, 1.00-inch hail near Rockville on September 19, 2023, and St. George events up to 1.75 inches affecting more than 300 homes. Critical facilities and infrastructure potentially impacted include Washington County Sheriff’s Office; Washington County Emergency Management; St. George 911 Communications Center; Southwest Utah Public Health Department; St. George Regional Hospital; Washington County School District facilities; county and municipal government buildings; public safety facilities; public works facilities; Interstate 15, State Route 9, State Route 7, State Route 18, and other regional roadways, traffic signals, bridges, culverts, evacuation routes, fleet vehicles, and maintenance yards; St. George Regional Airport, aircraft, hangars, aviation support equipment, and airport operations facilities; electric substations, overhead and underground power systems, communications towers, cellular and internet infrastructure, water and wastewater facilities, stormwater and drainage systems, fuel supply points, solar arrays, HVAC systems, rooftops, skylights, windows, signage, parks, trailheads, campgrounds, reservoir recreation facilities, tourism and visitor-serving infrastructure, agricultural buildings, sheds, barns, fences, corrals,</p> |

<sup>259</sup> HVAC = heating, ventilation, and air conditioning

<sup>260</sup> NOAA National Centers for Environmental Information, Storm Events Database, annual details CSV files, retrieved October 10, 2026. <https://www.ncei.noaa.gov/pub/data/swdi/stormevents/csvfiles/> Washington County, 2021–2025 hail, reported diameters at least 1 inch. Four records, four dates, \$7,500 property damage.

| Plan Participant | Vulnerabilities and Impacts                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
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|                  | irrigation equipment, crops, forage, livestock support facilities, and public buildings vulnerable to hail damage, broken glass, roof and siding damage, vehicle and aircraft damage, equipment failure, crop loss, hazardous travel conditions, service interruption, and increased repair and replacement costs.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| St. George       | <p><b>Vulnerabilities:</b> St. George is highly vulnerable because of its dense residential and commercial development, high property values, schools, medical facilities, utilities, airport-related assets, parks, vehicles, and rapidly growing neighborhoods exposed to recurring hail. Large areas of roofing, skylights, solar equipment, HVAC units, signage, and parked vehicles increase the city's sensitivity to even localized severe hail. Recent hail reports include 1.50-inch hail on September 13, 2023, 1.25-inch hail on October 18, 2024, and 1.75-inch hail on October 10, 2025.</p> <p><b>Impacts:</b> Hail can damage homes, businesses, schools, hospitals, vehicles, solar installations, airport facilities, and outdoor equipment; create hazardous driving conditions; and interrupt commerce, tourism, and regional services centered in St. George. Repeated hail events can also shorten the useful life of exterior materials and equipment and generate substantial insurance claims, repair costs, and temporary service disruptions in this regional urban center. Recent St. George hail events were estimated to affect approximately 115 homes in 2023, 719 homes in 2024, and 314 homes in 2025. Critical facilities and infrastructure potentially impacted include St. George City Hall and municipal government facilities; St. George Police Department; St. George Fire Department stations; St. George 911 Communications Center; St. George Regional Hospital; Utah Tech University facilities; Washington County School District schools and support facilities; St. George Regional Airport, aircraft, hangars, aviation support equipment, runways, parking areas, and airport operations facilities; public works, water, wastewater, stormwater, and drainage facilities; Interstate 15, State Route 7, Bluff Street, River Road, St. George Boulevard, Riverside Drive, traffic signals, bridges, culverts, fleet vehicles, and major arterials; electric substations, power and communications infrastructure, solar arrays, HVAC units, rooftops, skylights, windows, signage, parks, sports fields, golf courses, trail systems, recreation facilities, commercial centers, medical offices, hotels, warehouses, public buildings, and visitor-serving infrastructure vulnerable to hail-related roof damage, broken windows, vehicle and aircraft damage, solar and HVAC damage, hazardous travel conditions, airport delays, business interruption, and increased maintenance and insurance costs.</p> |
| Washington City  | <p><b>Vulnerabilities:</b> Washington City is vulnerable where growing neighborhoods, schools, parks, commercial areas, utility systems, vehicles, and public facilities are exposed to localized hailstorms capable of damaging roofs, windows, siding, solar equipment, and outdoor assets. Continued growth increases the number of homes, businesses, and public facilities potentially affected by hail damage.</p> <p><b>Impacts:</b> Hail impacts could include damage to homes and community facilities, broken windows and roof coverings, vehicle damage, temporary</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |

| Plan Participant | Vulnerabilities and Impacts                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
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|                  | <p>disruption to schools and city operations, and increased maintenance and insurance costs. Local travel may also be affected during storms by reduced visibility and hazardous road conditions while cleanup and repairs are underway. Critical facilities and infrastructure potentially impacted include Washington City offices and municipal facilities; Washington City Police Department; Washington City Fire Department facilities; Washington County School District schools and community facilities; public works facilities; culinary water, irrigation, wastewater, stormwater, drainage, and flood-control infrastructure; Interstate 15, State Route 9, Telegraph Street, Green Spring Drive, Washington Parkway, traffic signals, local bridges, culverts, fleet vehicles, and major access routes; overhead and underground power and communications infrastructure; solar arrays, HVAC units, rooftops, skylights, windows, signage, parks, sports fields, trail systems, commercial centers, public buildings, utility equipment, and neighborhood facilities vulnerable to hail damage, broken glass, roof and siding damage, dented vehicles, equipment failure, hazardous travel conditions, temporary service disruption, and increased repair costs.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| Hurricane        | <p><b>Vulnerabilities:</b> Hurricane is vulnerable because homes, schools, businesses, roads, utilities, parks, vehicles, and outdoor recreation-related assets are exposed to spring and summer thunderstorms capable of producing damaging hail. Growing residential and commercial development increases the amount of roofing, siding, windows, signage, and outdoor equipment susceptible to hail damage.</p> <p><b>Impacts:</b> Potential impacts include roof and window damage, dented vehicles, damage to landscaping and outdoor equipment, hazardous travel conditions, and temporary interruption of schools, businesses, and public services. Hail may also increase repair costs for public facilities and private property and create short-term disruptions to recreation-oriented travel and outdoor activity. Critical facilities and infrastructure potentially impacted include Hurricane City Hall and municipal facilities; Hurricane Police Department; Hurricane Valley Fire District facilities; Washington County School District schools and community facilities; public works, water, wastewater, stormwater, drainage, irrigation, storage, pumping, and distribution infrastructure; Interstate 15 access routes, State Route 9, State Route 7, State Route 59, major local roads, traffic signals, bridges, culverts, fleet vehicles, and evacuation routes; overhead and underground power and communications infrastructure; Sand Hollow Reservoir and Quail Creek Reservoir recreation-support facilities; parks, trailheads, campgrounds, marinas, commercial areas, tourism businesses, signs, solar arrays, HVAC equipment, utility corridors, lightweight structures, outdoor equipment, and public buildings vulnerable to hail-related roof and window damage, vehicle damage, equipment damage, hazardous travel conditions, recreation disruption, business interruption, and repair or replacement costs.</p> |
| Santa Clara      | <p><b>Vulnerabilities:</b> Santa Clara is vulnerable where residential neighborhoods, schools, parks, community facilities, vehicles, utility systems, and landscaped</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |

| Plan Participant | Vulnerabilities and Impacts                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
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|                  | <p>areas are exposed to localized hail in the greater St. George urban area. Roof coverings, windows, siding, skylights, solar equipment, and outdoor furnishings are especially susceptible to repeated small or moderate hail events.</p> <p><b>Impacts:</b> Hail can damage homes, vehicles, public facilities, windows, roofs, and outdoor amenities; disrupt travel during storms; and increase repair and replacement costs for residents and the city. Hail may also affect public events, park use, and utility operations where exposed equipment or facilities are damaged. Critical facilities and infrastructure potentially impacted include Santa Clara City Hall and municipal facilities; Santa Clara-Ivins Police Department facilities; Santa Clara fire and emergency response facilities; Washington County School District schools and community facilities; public works, water, wastewater, stormwater, drainage, irrigation, storage, pumping, and distribution infrastructure; Old Highway 91, Santa Clara Drive, Pioneer Parkway, traffic signals, local bridges, culverts, fleet vehicles, and local access routes; overhead and underground electric and communications infrastructure; rooftops, windows, skylights, siding, HVAC units, solar arrays, parks, trails, recreation facilities, signs, commercial areas, public buildings, community facilities, landscaped areas, and outdoor amenities vulnerable to hail damage, broken glass, roof and siding damage, dented vehicles, damaged utility equipment, temporary road hazards, public facility disruption, and increased maintenance costs.</p>                                                                                               |
| Ivins            | <p><b>Vulnerabilities:</b> Ivins is vulnerable where homes, roads, parks, public facilities, tourism-related amenities, vehicles, utility systems, and outdoor recreation assets are exposed to localized hailstorms across open desert terrain. Roofs, windows, solar equipment, HVAC units, vehicles, and outdoor furnishings are especially susceptible to hail damage.</p> <p><b>Impacts:</b> Hail can damage homes, vehicles, public buildings, recreation amenities, and exposed utility or cooling equipment; create hazardous travel conditions; and interrupt public events and outdoor activity. The city may also face increased maintenance costs for parks, facilities, and landscaping, as well as short-term tourism and business disruption. Critical facilities and infrastructure potentially impacted include Ivins City Hall and municipal facilities; Santa Clara-Ivins Police Department facilities serving Ivins; Ivins fire and emergency response facilities; Washington County School District schools and community facilities; public works, water, wastewater, stormwater, drainage, irrigation, storage, pumping, and distribution infrastructure; Old Highway 91, Center Street, Snow Canyon Parkway, local access routes, bridges, culverts, traffic-control devices, fleet vehicles, and emergency routes; overhead and underground power and communications infrastructure; rooftops, windows, skylights, solar arrays, HVAC units, parks, trailheads, recreation facilities, signs, public buildings, tourism-related amenities, outdoor furnishings, utility equipment, and lightweight structures vulnerable to hail damage, broken glass, roof and siding damage, dented vehicles, equipment</p> |

| Plan Participant | Vulnerabilities and Impacts                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
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|                  | damage, disrupted outdoor activity, temporary service interruption, and increased facility maintenance costs.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| La Verkin        | <p><b>Vulnerabilities:</b> La Verkin is vulnerable where homes, schools, roads, bridges, vehicles, utility systems, parks, and public facilities are exposed to localized hail in a corridor community with growing development. Roofs, siding, windows, skylights, and outdoor equipment can be damaged by even moderate hail, and the community's transportation connections increase exposure for vehicles and travelers.</p> <p><b>Impacts:</b> Hail impacts could include damage to homes, vehicles, public facilities, and utilities; hazardous travel conditions on local roads and corridor routes; and interruption of public services and daily activity. Repeated hail may also increase long-term maintenance costs for buildings and outdoor infrastructure and affect tourism and traveler comfort in the area. Critical facilities and infrastructure potentially impacted include La Verkin City offices and municipal facilities; La Verkin Police Department; La Verkin fire and emergency response facilities; Washington County School District schools and community facilities; public works, water, wastewater, stormwater, drainage, storage, pumping, and utility infrastructure; State Route 9, State Route 17, local roads, bridges, culverts, traffic-control devices, fleet vehicles, and Zion gateway access routes; overhead and underground electric and communications infrastructure; rooftops, windows, skylights, siding, HVAC units, solar arrays, parks, trailheads, visitor-serving businesses, signs, public buildings, utility corridors, and outdoor equipment vulnerable to hail damage, broken glass, roof and siding damage, dented vehicles, hazardous travel conditions, utility equipment damage, visitor travel disruption, and increased maintenance or replacement costs.</p> |
| Enterprise       | <p><b>Vulnerabilities:</b> Enterprise is vulnerable where homes, schools, agricultural buildings, corrals, fences, vehicles, local businesses, roads, utility systems, and farm equipment are exposed across open rural terrain that can experience severe convective storms. Agricultural operations, outbuildings, roofing, windows, pivots, and outdoor equipment are especially susceptible to hail damage.</p> <p><b>Impacts:</b> Potential impacts include roof and window damage, dented vehicles and equipment, damage to crops, forage, fencing, and agricultural structures, and hazardous travel conditions on local roads. Hail may also interrupt business and school activity, increase repair and replacement costs, and reduce seasonal farm income where agricultural assets are affected. Critical facilities and infrastructure potentially impacted include Enterprise City offices and municipal facilities; Enterprise Police Department; Enterprise fire and emergency response facilities; Washington County School District schools and community facilities; public works, water, wastewater, drainage, stormwater, irrigation, storage, pumping, and agricultural water infrastructure; State Route 18, local roads, bridges, culverts, traffic-control devices, fleet vehicles, and rural access routes; overhead and underground power and communications infrastructure; agricultural buildings, barns, sheds, fences, corrals, irrigation</p>                                                                                                                                                                                                                                                                                                                                                     |

| Plan Participant | Vulnerabilities and Impacts                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
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|                  | equipment, pivots, crops, forage, livestock support facilities, parks, public buildings, signs, vehicles, equipment yards, and maintenance facilities vulnerable to hail-related roof and window damage, vehicle and equipment damage, crop and forage loss, damage to agricultural structures and fencing, hazardous travel conditions, business or school disruption, and increased repair and replacement costs.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| Toquerville      | <p><b>Vulnerabilities:</b> Toquerville is vulnerable where growing residential areas, vehicles, roads, utilities, parks, and public facilities are exposed to localized hailstorms associated with spring and summer thunderstorms. Continued development increases the amount of roofing, windows, siding, fences, and outdoor equipment that may be damaged by hail.</p> <p><b>Impacts:</b> Hail can cause property damage, broken or weathered roofing materials, dented vehicles, damage to outdoor equipment and landscaping, and temporary travel hazards during storms. The town may also face interruption of public services, added maintenance costs, and localized economic impacts where homes or public facilities require repair. Critical facilities and infrastructure potentially impacted include Toquerville Town Hall and municipal facilities; Toquerville fire and emergency response facilities; public works and utility facilities; Washington County School District schools and community facilities serving the area; culinary water, irrigation, wastewater, stormwater, drainage, storage, pumping, and distribution infrastructure; State Route 17, Interstate 15 access routes, local roads, bridges, culverts, traffic-control devices, fleet vehicles, and evacuation routes; overhead and underground electric and communications infrastructure; rooftops, windows, skylights, siding, solar arrays, HVAC units, parks, trails, public buildings, signs, visitor-serving facilities, outdoor equipment, and developing neighborhood infrastructure vulnerable to hail damage, dented vehicles, broken glass, roof and siding damage, damaged utility equipment, temporary travel hazards, interrupted public services, and increased repair costs.</p> |
| Leeds            | <p><b>Vulnerabilities:</b> Leeds is vulnerable where homes, Interstate 15 access, local roads, vehicles, utility systems, and community facilities are exposed to hail along a major transportation corridor and open terrain. Roofs, windows, siding, signage, vehicles, and exposed utility or communications equipment are particularly susceptible to hail damage.</p> <p><b>Impacts:</b> Potential impacts include damage to residences and infrastructure, hazardous travel conditions affecting local and interstate traffic, vehicle damage, and temporary interruption of utility service or community functions. Hail may also create broader regional transportation and safety consequences because of the town's connection to a major travel corridor. Critical facilities and infrastructure potentially impacted include Leeds Town Hall and public works facilities; Leeds fire and emergency response facilities; water, wastewater, stormwater, drainage, storage, pumping, and utility infrastructure; Interstate 15, Main Street, local roads, bridges, culverts, traffic-control devices, access ramps, fleet vehicles, and evacuation routes; overhead and</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |

| Plan Participant | Vulnerabilities and Impacts                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
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|                  | underground electric and communications infrastructure; rooftops, windows, siding, skylights, HVAC units, solar arrays, parks, public buildings, signs, utility corridors, community facilities, and corridor-related infrastructure vulnerable to hail damage, vehicle damage, broken glass, roof and siding damage, hazardous travel conditions, interstate access disruption, utility equipment damage, service interruption, and increased maintenance costs.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| Virgin           | <p><b>Vulnerabilities:</b> Virgin is vulnerable because homes, lodging, restaurants, visitor-serving businesses, roads, vehicles, utility systems, and outdoor recreation support assets are exposed to localized hail in the Zion gateway corridor. Roofs, windows, skylights, vehicles, signage, and outdoor furnishings are especially susceptible, and visitor activity increases exposure of parked vehicles and outdoor assets.</p> <p><b>Impacts:</b> Hail can damage tourism-related businesses, residences, vehicles, roofs, windows, and outdoor equipment; create hazardous travel conditions on SR-9; and interrupt visitor activity and local commerce. Even short-duration hail events may generate repair costs, temporary business disruption, and added demands on local response and cleanup. Critical facilities and infrastructure potentially impacted include Virgin Town Hall and municipal facilities; Virgin fire and emergency response facilities; public works, water, wastewater, drainage, storage, pumping, and utility infrastructure; State Route 9, local roads, bridges, culverts, traffic-control devices, fleet vehicles, evacuation routes, and Zion gateway access routes; overhead and underground electric and communications infrastructure; lodging, restaurants, visitor-serving businesses, parks, trailheads, campgrounds, recreation access points, signs, public buildings, rooftops, windows, skylights, HVAC units, solar arrays, outdoor furnishings, and utility corridors vulnerable to hail damage, dented vehicles, broken glass, roof and siding damage, damaged outdoor equipment, hazardous SR-9 travel conditions, visitor activity disruption, business interruption, and increased repair costs.</p> |
| Springdale       | <p><b>Vulnerabilities:</b> Springdale is highly vulnerable because lodging, restaurants, homes, vehicles, public facilities, roads, utilities, and visitor-serving businesses are concentrated in a narrow Zion gateway corridor with heavy seasonal traffic and extensive outdoor exposure. Roofs, windows, skylights, signs, outdoor dining or recreation areas, and parked vehicles are all susceptible to hail damage.</p> <p><b>Impacts:</b> Potential impacts include damage to hotels, businesses, homes, vehicles, and public facilities; hazardous travel conditions; and disruption to tourism, local commerce, and access in the Zion gateway area. Even moderate hail can create outsized economic and operational impacts because of high visitor volumes, limited transportation redundancy, and the town's reliance on visitor-serving infrastructure. Critical facilities and infrastructure potentially impacted include Springdale Town Hall and municipal facilities; Springdale Police Department and emergency response facilities; public works, water, wastewater, drainage, stormwater, storage, pumping, and utility infrastructure; State Route 9, Zion Canyon access routes, shuttle-related transportation</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |

| Plan Participant | Vulnerabilities and Impacts                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
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|                  | <p>facilities, bridges, culverts, traffic-control devices, local access routes, fleet vehicles, and evacuation routes; overhead and underground electric and communications infrastructure; hotels, restaurants, lodging areas, employee housing, visitor facilities, parks, trailheads, public buildings, signs, rooftops, windows, skylights, HVAC units, solar arrays, outdoor dining areas, recreation assets, and visitor-serving infrastructure vulnerable to hail damage, vehicle damage, broken glass, roof and siding damage, damaged outdoor equipment, hazardous travel conditions, tourism disruption, shuttle and visitor access impacts, and increased repair or replacement costs.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| New Harmony      | <p><b>Vulnerabilities:</b> New Harmony is vulnerable where homes, roads, agricultural buildings, vehicles, water system components, and community facilities are exposed to hail in a rural mountain-valley setting. Roofs, windows, siding, outbuildings, fencing, vehicles, and seasonal agricultural assets can all be damaged by localized hailstorms.</p> <p><b>Impacts:</b> Hail can damage homes, vehicles, outbuildings, agricultural assets, and local infrastructure; create hazardous driving conditions; and interrupt access, school travel, and local services. Recovery may be slower where staffing, repair capacity, and financial resources are limited, particularly if multiple private and public assets are damaged at once. Critical facilities and infrastructure potentially impacted include New Harmony Town Hall and municipal facilities; fire and emergency response facilities; public works, local and domestic water systems, wells, storage, pumping, wastewater, drainage, and utility infrastructure; Interstate 15, State Route 144, local roads, bridges, culverts, traffic-control devices, fleet vehicles, rural access routes, and evacuation routes; overhead and underground electric and communications infrastructure; agricultural and open lands, irrigation systems, livestock water supplies, barns, sheds, fences, outbuildings, public buildings, parks, community facilities, rooftops, windows, vehicles, equipment yards, and utility corridors vulnerable to hail damage, broken glass, roof and siding damage, dented vehicles, damage to agricultural structures and equipment, hazardous travel conditions, delayed emergency access, and increased repair costs in a rural setting.</p> |
| Rockville        | <p><b>Vulnerabilities:</b> Rockville is vulnerable because homes, historic resources, vehicles, roads, utility systems, and visitor-serving spaces in the Virgin River corridor are exposed to localized hail in a small gateway community with limited infrastructure and heavy seasonal visitation. Historic structures, older roofing materials, windows, signs, and parked vehicles are especially susceptible to hail damage.</p> <p><b>Impacts:</b> Hail can damage homes, historic resources, vehicles, windows, roofs, and outdoor amenities; create hazardous travel conditions; and disrupt visitor activity and local services. Because the community is small and access is limited, even localized hail damage can affect tourism, emergency response, and recovery operations more noticeably than in larger jurisdictions. Critical facilities and infrastructure potentially impacted include Rockville Town Hall and municipal facilities; fire and emergency response facilities; public works,</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |

| Plan Participant | Vulnerabilities and Impacts                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
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|                  | <p>water, wastewater, drainage, storage, pumping, and utility infrastructure; State Route 9, local roads, bridges, culverts, traffic-control devices, fleet vehicles, evacuation routes, and Zion gateway access routes; overhead and underground electric and communications infrastructure; historic buildings, homes, parks, trailheads, visitor-serving facilities, public buildings, signs, rooftops, windows, skylights, HVAC units, solar arrays, outdoor furnishings, public spaces, and scenic or historic community resources vulnerable to hail damage, broken glass, roof and siding damage, vehicle damage, damaged outdoor amenities, hazardous travel conditions, visitor disruption, and increased repair costs for historic and community assets.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| Apple Valley     | <p><b>Vulnerabilities:</b> Apple Valley is vulnerable where dispersed residential development, local roads, vehicles, water and utility systems, and community facilities are exposed to localized hailstorms in a rural-residential setting. Roofs, siding, windows, vehicles, outbuildings, and outdoor equipment are susceptible to hail damage, especially where assets are spread out and exposed.</p> <p><b>Impacts:</b> Hail can damage homes, vehicles, outdoor equipment, and community infrastructure; create hazardous travel conditions; and interrupt access to services and emergency response. Recovery could be challenging if multiple dispersed neighborhoods are affected at once or if repairs require outside contractors and extended replacement timelines. Critical facilities and infrastructure potentially impacted include Apple Valley Town Hall and municipal facilities; fire and emergency response facilities; public works, community water systems, wells, storage, pumping, wastewater, drainage, and utility infrastructure; State Route 59, local roads, bridges, culverts, washes, traffic-control devices, fleet vehicles, rural access routes, and evacuation routes; overhead and underground electric and communications infrastructure; parks, community facilities, dispersed residential water systems, public buildings, rooftops, windows, siding, vehicles, sheds, fences, outbuildings, outdoor equipment, utility corridors, open-space resources, and limited agricultural or livestock support infrastructure vulnerable to hail damage, broken glass, roof and siding damage, dented vehicles, equipment damage, hazardous travel conditions, delayed emergency response, service interruption, and repair challenges across dispersed neighborhoods.</p> |
| Hildale          | <p><b>Vulnerabilities:</b> Hildale is vulnerable where homes, schools, roads, vehicles, utility and water systems, public facilities, and outdoor assets are exposed to hail in a rugged terrain setting with limited infrastructure redundancy. Roofs, windows, siding, vehicles, fencing, and exposed utility or water system components can all be damaged by localized hailstorms.</p> <p><b>Impacts:</b> Potential impacts include damage to homes, schools, vehicles, utility infrastructure, and outdoor equipment; hazardous travel conditions; and disruption of public safety operations and local services. In a community with ongoing infrastructure needs, hail damage may add to maintenance backlogs and require outside technical and financial assistance for recovery. Critical facilities and infrastructure potentially impacted include Hildale City Hall and</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |

| Plan Participant | Vulnerabilities and Impacts                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
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|                  | municipal facilities; Hildale Police Department; Hildale fire and emergency response facilities; Water Canyon School and other community facilities; public works, culinary water, wastewater, stormwater, drainage, storage, pumping, and utility infrastructure; Utah State Route 59, local roads, bridges, culverts, washes, traffic-control devices, fleet vehicles, community access routes, and evacuation routes; overhead and underground electric and communications infrastructure; parks, public buildings, residential water systems, rooftops, windows, siding, HVAC units, solar arrays, fencing, outdoor equipment, utility corridors, and structures in rugged or drainage-sensitive areas vulnerable to hail damage, broken glass, roof and siding damage, vehicle damage, utility equipment damage, hazardous travel conditions, interruption of public safety operations, maintenance backlogs, and need for outside repair assistance. |

## Landslide

Table 168 summarizes landslide vulnerabilities and potential impacts for Washington County participants.

**Table 168: Landslide Vulnerability and Impact Assessment for Washington County**

| Plan Participant  | Vulnerabilities and Impacts                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
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| Washington County | <p><b>Vulnerabilities:</b> Washington County has landslide vulnerability associated with rapid population growth, extensive hillside and bench development, dense transportation networks, and the concentration of people, infrastructure, and economic activity in and around St. George, Washington, Santa Clara, Ivins, Hurricane, La Verkin, and other expanding communities. The county had about 180,279 residents in 2020, an estimated 213,670 residents in 2025, about 69,786 households, and roughly 91,460 housing units, which provide countywide planning context rather than a mapped exposure count. Vulnerability occurs where neighborhoods, schools, utilities, and roads intersect steep slopes, benches, canyon mouths, and unstable drainage corridors. Vulnerable assets include Interstate 15, SR-9, SR-18, SR-34, SR-7, airport access routes, local hillside roads, schools, hospitals, utilities, and developed areas affected by slope instability such as the Truman Drive landslide in Santa Clara, which measured at least 300 feet wide by 150 feet long.<sup>261</sup></p> |

<sup>261</sup> U.S. Census Bureau, QuickFacts: Washington County, Utah, V2025 population and housing estimates, 2020 Census, and 2020-2024 ACS. <https://www.census.gov/quickfacts/fact/table/washingtoncountyutah/PST045225>. Accessed October 9, 2026. Countywide totals are planning context, not mapped hazard exposure. Utah Geological Survey, Truman Drive Landslide, Washington County, updated June 6, 2023. <https://geology.utah.gov/portfolio-item/truman-drive-landslide/>. The documented slide was at least 300 feet wide by 150 feet long; the source reports scarps and ponding but no building damage. These sources do not establish the comparative vulnerability ranking or exposure of all listed assets.

| Plan Participant | Vulnerabilities and Impacts                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
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|                  | <p><b>Impacts:</b> Landslides can damage homes and developed lots near unstable slopes, impair major and local transportation corridors, disrupt water, sewer, stormwater, power, and communications infrastructure, and interrupt access for residents, schools, emergency responders, businesses, and visitors. Countywide impacts may include debris removal, slope stabilization, roadway and utility repair, evacuation, temporary displacement, loss of airport and hospital access, and disruption to tourism and regional commerce. Because the county contains dense urban development and gateway corridors, even localized slope failures can create broad community-wide consequences and repeated maintenance burdens. Critical facilities and infrastructure potentially impacted include Washington County Sheriff's Office; Washington County Emergency Management; St. George 911 Communications Center; Southwest Utah Public Health Department; St. George Regional Hospital; Washington County School District facilities; Utah Tech University facilities; Dixie Technical College facilities; county and municipal government buildings; public safety facilities; public works facilities; Interstate 15, State Route 9, State Route 18, State Route 34, State Route 7/Southern Parkway, and other regional roadways, bridges, culverts, retaining walls, drainage crossings, airport access routes, hillside roads, evacuation routes, and emergency response routes; St. George Regional Airport and supporting access and utility infrastructure; Washington County Water Conservancy District reservoirs, pipelines, pump stations, water storage, and distribution infrastructure; municipal water, wastewater, stormwater, drainage, power, communications, fiber, cellular, and utility systems; residential neighborhoods, schools, commercial corridors, hospitals and clinics, parks, trailheads, campgrounds, recreation access corridors, Zion gateway travel routes, visitor-serving facilities, and public buildings located on or below steep slopes, developed benches, canyon mouths, alluvial fans, incised drainages, unstable slopes, post-wildfire runoff areas, and slope-modified terrain vulnerable to landslides, rockfall, debris flows, rotational movement, embankment failure, culvert blockage, drainage erosion, roadway damage, utility disruption, evacuation constraints, and interrupted access.</p> |
| St. George       | <p><b>Vulnerabilities:</b> St. George is highly vulnerable because of rapid growth, hillside and bench development, major transportation routes, utilities, schools, medical facilities, and public infrastructure located near steep slopes, drainage corridors, and unstable geologic materials. As the county's principal urban center, St. George contains the largest concentration of homes, businesses, and public facilities potentially affected by slope failure, especially where development expands into foothill and bench areas or near incised drainages and modified slopes.</p> <p><b>Impacts:</b> Landslides can damage homes, roads, retaining structures, utilities, and public facilities; interrupt access to neighborhoods, schools, and hospitals; and create expensive long-term stabilization and maintenance needs. Slope failure could also disrupt commuter travel, local commerce, drainage systems, and emergency response in the county's primary service center, causing</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |

| Plan Participant | Vulnerabilities and Impacts                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
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|                  | <p>broader regional consequences even when impacts begin at a single site. Critical facilities and infrastructure potentially impacted include St. George City Hall and municipal government facilities; St. George Police Department; St. George Fire Department stations; St. George 911 Communications Center; St. George Regional Hospital; Utah Tech University facilities; Dixie Technical College facilities; Washington County School District schools and support facilities; St. George Regional Airport and airport access routes; public works, water, wastewater, stormwater, and drainage facilities; Interstate 15, State Route 7/Southern Parkway, Bluff Street, River Road, St. George Boulevard, Riverside Drive, hillside roads, bridges, culverts, retaining walls, drainage crossings, and major arterials; Washington County Water Conservancy District facilities serving the St. George area; electric substations, overhead and underground power systems, communications, fiber, cellular, and utility infrastructure; hospitals, clinics, medical offices, commercial centers, hotels, warehouses, parks, trail systems, golf courses, recreation facilities, public buildings, hillside neighborhoods, and bench or slope-adjacent development vulnerable to slope movement, rockfall, debris deposition, retaining wall failure, road blockage, drainage erosion, utility interruption, airport access disruption, emergency response delays, and increased slope stabilization and repair costs.</p>                                                                                                                                                                                                                                                                                                                                                                                   |
| Washington City  | <p><b>Vulnerabilities:</b> Washington City is vulnerable because continued growth places more homes, schools, roads, utilities, parks, and public facilities near benches, drainage corridors, and unstable slopes influenced by clay-rich soils and slope-modified terrain. Its proximity to the St. George urban area means that local neighborhoods and infrastructure may be exposed where hillside grading, concentrated runoff, or geologic conditions reduce slope stability.</p> <p><b>Impacts:</b> Landslides could damage homes and local infrastructure, undermine roads and drainage facilities, interrupt utilities, and disrupt school access, emergency response, and daily travel. Even a localized slope failure could require roadway closure, debris removal, geotechnical evaluation, and costly repair of public works and private property in growing residential areas. Critical facilities and infrastructure potentially impacted include Washington City offices and municipal facilities; Washington City Police Department; Washington City Fire Department facilities; Washington County School District schools and community facilities; public works facilities; culinary water, irrigation, wastewater, stormwater, drainage, storage, pumping, and distribution infrastructure; Interstate 15, State Route 9, Telegraph Street, Green Spring Drive, Washington Parkway, hillside access roads, bridges, culverts, retaining walls, drainage crossings, traffic-control devices, and emergency routes; Washington County Water Conservancy District facilities serving the Washington area; power, communications, fiber, cellular, and utility infrastructure; parks, trail systems, sports fields, commercial centers, public buildings, neighborhoods near benches, drainage corridors, alluvial fans, and slope transition areas vulnerable to landslides, rockfall, debris</p> |

| Plan Participant | Vulnerabilities and Impacts                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
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|                  | movement, drainage erosion, roadway distress, culvert blockage, utility disruption, slope stabilization needs, and interrupted emergency access.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| Hurricane        | <p><b>Vulnerabilities:</b> Hurricane is highly vulnerable because of expanding residential and commercial growth near steep terrain, alluvial slopes, drainage corridors, and transportation links in the Hurricane Valley. Homes, roads, bridges, schools, utilities, and public facilities may be exposed where slope instability, runoff erosion, and post-wildfire conditions affect foothills, bench development, or canyon-adjacent areas.</p> <p><b>Impacts:</b> Landslides can damage roads, homes, retaining features, utilities, and drainage systems; disrupt emergency access and commuter travel; and create costly stabilization and repair needs. Slope failures may also isolate neighborhoods, affect recreation-related travel, and generate recurring maintenance burdens where unstable areas continue to move after the initial event. Critical facilities and infrastructure potentially impacted include Hurricane City Hall and municipal facilities; Hurricane Police Department; Hurricane Valley Fire District facilities; Washington County School District schools and community facilities; public works, water, wastewater, stormwater, drainage, irrigation, storage, pumping, and distribution infrastructure; Interstate 15 access routes, State Route 9, State Route 7/Southern Parkway, State Route 59, hillside and mesa access roads, bridges, culverts, retaining walls, drainage crossings, evacuation routes, and major local roads; Sand Hollow Reservoir and Quail Creek Reservoir recreation-support, dam, spillway, access, and utility infrastructure; power, communications, fiber, cellular, and utility corridors; parks, trailheads, campgrounds, marinas, commercial areas, tourism businesses, public buildings, and developing neighborhoods near steep slopes, mesas, benches, drainage corridors, and post-wildfire runoff areas vulnerable to rockfall, debris flows, slope failure, drainage erosion, embankment failure, road blockage, utility outages, recreation access disruption, and emergency response delays.</p> |
| Santa Clara      | <p><b>Vulnerabilities:</b> Santa Clara is highly vulnerable because developed benches, hillside neighborhoods, roads, utilities, and public facilities are directly exposed to slope instability in an area with known landslide activity. The Truman Drive landslide documented in 2023 measured at least 300 feet wide by 150 feet long, demonstrating that active movement can affect developed residential settings and public infrastructure within the city.<sup>262</sup></p> <p><b>Impacts:</b> Landslides can damage neighborhood roads, retaining walls, utilities, and homes; create public safety concerns; and require repeated stabilization, monitoring, and infrastructure repair. Continued slope movement may also reduce property access, increase maintenance costs, and disrupt emergency response and city operations in affected neighborhoods. Critical facilities and infrastructure potentially impacted include Santa Clara</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |

<sup>262</sup> Utah Geological Survey, Truman Drive Landslide, Washington County, updated June 6, 2023. <https://geology.utah.gov/portfolio-item/truman-drive-landslide/>. The documented slide was at least 300 feet wide by 150 feet long; the source reports scarps and ponding but no building damage.

| Plan Participant | Vulnerabilities and Impacts                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
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|                  | <p>City Hall and municipal facilities; Santa Clara-Ivins Police Department facilities; Santa Clara fire and emergency response facilities; Washington County School District schools and community facilities; public works, water, irrigation, wastewater, stormwater, drainage, storage, pumping, and distribution systems; Old Highway 91, Santa Clara Drive, Pioneer Parkway, hillside and bench access roads, bridges, culverts, retaining walls, drainage crossings, and emergency routes; Santa Clara River corridor infrastructure; power, communications, fiber, cellular, and utility infrastructure; parks, trails, recreation areas, public buildings, commercial areas, neighborhoods, and slope-adjacent development near the Santa Clara bench, foothills, drainage corridors, and Truman Drive landslide area vulnerable to active slope movement, rockfall, debris flows, rotational landslides, road and retaining wall damage, utility disruption, drainage alteration, evacuation constraints, and recurring slope stabilization and maintenance needs.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| Ivins            | <p><b>Vulnerabilities:</b> Ivins is vulnerable where neighborhoods, roads, utility systems, public facilities, and tourism-related amenities are located near slope transitions, benches, drainage edges, and desert foothill terrain that can become unstable during intense rainfall, erosion, or post-wildfire runoff. Continued growth and reliance on limited roadway and utility connections increase sensitivity to slope failure in localized hillside areas.</p> <p><b>Impacts:</b> Landslides can damage roads, utilities, drainage systems, and nearby structures; interrupt access to neighborhoods and recreation amenities; and require costly stabilization and repair. Slope failure may also reduce emergency response reliability, affect public events and tourism access, and create recurring maintenance issues where unstable terrain remains active. Critical facilities and infrastructure potentially impacted include Ivins City Hall and municipal facilities; Santa Clara-Ivins Police Department facilities serving Ivins; Ivins fire and emergency response facilities; Washington County School District schools and community facilities; public works, water, wastewater, stormwater, drainage, irrigation, storage, pumping, and distribution infrastructure; Old Highway 91, Center Street, Snow Canyon Parkway, local hillside access routes, bridges, culverts, retaining walls, drainage crossings, and emergency routes; overhead and underground power, communications, fiber, cellular, and utility infrastructure; parks, trailheads, recreation facilities, public buildings, tourism-related amenities, neighborhoods, and structures near slope transitions, desert-edge terrain, foothills, washes, alluvial fans, and canyon mouths vulnerable to rockfall, slope instability, debris movement, drainage erosion, roadway damage, retaining wall failure, utility outages, recreation access disruption, and temporary neighborhood isolation.</p> |
| La Verkin        | <p><b>Vulnerabilities:</b> La Verkin is highly vulnerable because of its location near steep terrain, drainage corridors, SR-9 access, bridges, utilities, and developed areas that may be affected by slope instability, rockfall, or erosion-related movement. The community's river-corridor setting, transportation dependence, and proximity to canyon and bench terrain increase vulnerability where roads and public infrastructure interface with unstable slopes.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |

| Plan Participant | Vulnerabilities and Impacts                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
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|                  | <p><b>Impacts:</b> Landslides can damage roads, utilities, bridge approaches, and homes; interrupt SR-9 and local travel; and affect emergency access to nearby communities. Slope failure and rockfall could also increase maintenance costs, create detours, and disrupt tourism and daily commerce in this corridor community. Critical facilities and infrastructure potentially impacted include La Verkin City offices and municipal facilities; La Verkin Police Department; La Verkin fire and emergency response facilities; Washington County School District schools and community facilities; public works, water, wastewater, stormwater, drainage, storage, pumping, and utility infrastructure; State Route 9, State Route 17, local hillside roads, bridges, culverts, retaining walls, drainage crossings, evacuation routes, and Zion gateway access routes; La Verkin Creek, Ash Creek, Virgin River corridor, and adjacent slope infrastructure; overhead and underground electric, communications, fiber, cellular, and utility infrastructure; parks, trailheads, visitor-serving businesses, public buildings, neighborhoods, and river- or slope-adjacent facilities vulnerable to rockfall, landslides, debris movement, embankment failure, drainage erosion, roadway blockage, utility outages, evacuation constraints, and disruption of Zion gateway access.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| Enterprise       | <p><b>Vulnerabilities:</b> Enterprise is vulnerable where local roads, homes, agricultural support facilities, utility systems, and dispersed development intersect steeper terrain, drainage crossings, and slope-sensitive rural areas. While the community has a smaller population than the county's urban jurisdictions, limited route redundancy and reliance on local infrastructure increase sensitivity to rockfall, embankment failure, erosion, and roadway disruption.</p> <p><b>Impacts:</b> Landslides can damage roads, culverts, utilities, agricultural access routes, and nearby structures; isolate residents or rural service areas; and interrupt school, business, and emergency access. Recovery may be prolonged where staffing, equipment, and funding are limited and outside technical assistance is needed for geotechnical evaluation and roadway repair. Critical facilities and infrastructure potentially impacted include Enterprise City offices and municipal facilities; Enterprise Police Department; Enterprise fire and emergency response facilities; Washington County School District schools and community facilities; public works, municipal and domestic water systems, wells, wastewater, drainage, stormwater, irrigation, storage, pumping, and agricultural water infrastructure; State Route 18, local roads, bridges, culverts, drainage crossings, rural access routes, and emergency routes; reservoirs, irrigation systems, canals, storage ponds, farms, ranches, barns, corrals, fields, and agricultural support facilities; power, communications, fiber, cellular, and utility infrastructure; parks, public buildings, maintenance yards, and rural development near slopes, drainageways, embankments, and erosion-prone terrain vulnerable to localized landslides, slope failure, road shoulder or embankment instability, culvert blockage, drainage erosion, utility interruption, agricultural access disruption, and delayed emergency response.</p> |
| Toquerville      | <p><b>Vulnerabilities:</b> Toquerville is vulnerable because growing neighborhoods, roads, drainage crossings, utilities, and public facilities are located near</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |

| Plan Participant | Vulnerabilities and Impacts                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
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|                  | <p>steeper terrain, benches, and erosion-prone slopes that may become unstable during intense rainfall, runoff, or post-wildfire conditions. Continued residential growth increases the number of structures and local roads potentially exposed to slope movement or embankment failure.</p> <p><b>Impacts:</b> Landslides can damage roads, drainage infrastructure, utilities, and nearby homes; isolate neighborhoods; and disrupt emergency access and daily travel. The town may also face significant repair and stabilization costs, recurring maintenance, and public safety concerns where slope conditions remain unstable after an initial failure. Critical facilities and infrastructure potentially impacted include Toquerville Town Hall and municipal facilities; Toquerville fire and emergency response facilities; public works and utility facilities; Washington County School District schools and community facilities serving the area; culinary water, irrigation, wastewater, stormwater, drainage, storage, pumping, and distribution infrastructure; State Route 17, Interstate 15 access routes, local hillside roads, bridges, culverts, retaining walls, drainage crossings, evacuation routes, and developing neighborhood access roads; Ash Creek and La Verkin Creek watershed drainage infrastructure; power, communications, fiber, cellular, and utility infrastructure; parks, trails, public buildings, visitor-serving facilities, and neighborhoods near benches, drainage corridors, canyon-influenced terrain, and slope transition areas vulnerable to landslides, rockfall, debris-laden slope failures, erosion, culvert blockage, road and retaining wall damage, utility interruption, neighborhood isolation, and emergency access disruption.</p> |
| Leeds            | <p><b>Vulnerabilities:</b> Leeds is vulnerable where homes, Interstate 15 access, local roads, bridges, utility systems, and community facilities are located near steep slopes, cuts, embankments, and geologically constrained terrain. The town's position near major transportation corridors and rugged topography increases susceptibility to rockfall, slope failure, and erosion-related roadway damage.</p> <p><b>Impacts:</b> Landslides can block or damage local roads and interstate connections, disrupt utilities, affect nearby residences, and interrupt emergency response and commuter travel. Because of Leeds' connection to a major regional corridor, even a localized slope failure can create wider transportation, safety, and public works consequences. Critical facilities and infrastructure potentially impacted include Leeds Town Hall and public works facilities; Leeds fire and emergency response facilities; water, wastewater, stormwater, drainage, storage, pumping, and utility infrastructure; Interstate 15, Main Street, local hillside roads, bridges, culverts, retaining walls, access ramps, drainage crossings, evacuation routes, and corridor transportation infrastructure; Leeds Creek, Quail Creek, and nearby drainage corridor infrastructure; overhead and underground electric, communications, fiber, cellular, and utility infrastructure; parks, public buildings, community facilities, and corridor-related infrastructure near steep slopes, geologic constraints, embankments, washes, and canyon margins vulnerable to landslides, rockfall, slope instability, roadway and bridge damage, retaining wall failure, culvert</p>                                                                                                     |

| Plan Participant | Vulnerabilities and Impacts                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
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|                  | blockage, utility outages, interstate access disruption, and delayed emergency response.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| Virgin           | <p><b>Vulnerabilities:</b> Virgin is vulnerable because homes, lodging, restaurants, visitor-serving businesses, roads, SR-9 access, utilities, and outdoor recreation support assets are located in the Zion gateway corridor near steep slopes, canyon walls, and unstable terrain. Limited transportation redundancy and heavy visitor traffic increase exposure where rockfall, slope failure, or debris movement affect corridor travel and developed areas.</p> <p><b>Impacts:</b> Landslides can damage roads, utilities, businesses, and nearby residences; disrupt SR-9 travel, evacuation, and emergency response; and reduce access for visitors and residents. Economic impacts may extend beyond physical damage through lost tourism activity, cleanup and stabilization costs, and interruption of local commerce and gateway operations. Critical facilities and infrastructure potentially impacted include Virgin Town Hall and municipal facilities; Virgin fire and emergency response facilities; public works, water, wastewater, drainage, storage, pumping, and utility infrastructure; State Route 9, local roads, bridges, culverts, retaining walls, drainage crossings, evacuation routes, and Zion gateway access routes; Virgin River corridor and adjacent slope infrastructure; overhead and underground electric, communications, fiber, cellular, and utility corridors; lodging, restaurants, visitor-serving businesses, parks, trailheads, campgrounds, recreation access points, public buildings, and neighborhoods near steep terrain, river corridors, canyon mouths, and drainage-sensitive slopes vulnerable to landslides, rockfall, debris flows, river-corridor ground failure, roadway blockage, utility interruption, SR-9 access disruption, evacuation constraints, tourism disruption, and emergency response delays.</p> |
| Springdale       | <p><b>Vulnerabilities:</b> Springdale is highly vulnerable because development is concentrated in a narrow Zion gateway corridor with steep slopes, canyon walls, limited transportation redundancy, and high visitor volumes. Homes, hotels, businesses, roads, bridges, utilities, and public facilities are exposed to rockfall, debris flow, and slope failure affecting corridor access and developed areas, especially during intense rainfall or post-wildfire runoff. Although a smaller community in population (Pop. 602 in 2025) Springdale's exposure is amplified by the countywide concentration of 213,670 residents in 2025 and dependence on SR-9, one of the county's key landslide-sensitive lifeline corridors serving Zion access and nearby communities.</p> <p><b>Impacts:</b> Landslides can damage buildings, roads, bridges, and utilities; interrupt SR-9 access, evacuation, and emergency response; and create major disruptions to tourism and local commerce. Even a moderate slope failure or rockfall event can create outsized life safety and economic consequences because the town depends on a single constrained travel corridor and a visitor-based economy. The 1992 earthquake-triggered landslide near Springdale destroyed homes and blocked Highway 9, demonstrating that slope failures in this corridor can cause direct structural loss and complete</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |

| Plan Participant | Vulnerabilities and Impacts                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
|------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                  | <p>transportation disruption.<sup>263</sup> Critical facilities and infrastructure potentially impacted include Springdale Town Hall and municipal facilities; Springdale Police Department and emergency response facilities; public works, water, wastewater, drainage, stormwater, storage, pumping, and utility infrastructure; State Route 9, Zion Canyon access routes, shuttle-related transportation facilities, local roads, bridges, culverts, retaining walls, drainage crossings, evacuation routes, and visitor access corridors; Virgin River corridor and canyon-slope infrastructure; overhead and underground electric, communications, fiber, cellular, and utility infrastructure; hotels, restaurants, lodging areas, employee housing, visitor facilities, parks, trailheads, public buildings, Zion gateway recreation assets, and public gathering areas in the narrow canyon corridor vulnerable to landslides, rockfall, debris flows, road blockage, retaining wall failure, slope movement, utility outages, evacuation constraints, emergency access disruption, visitor access disruption, and major tourism-related economic impacts.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| New Harmony      | <p><b>Vulnerabilities:</b> New Harmony is vulnerable where local roads, homes, water infrastructure, agricultural lands, and community facilities are exposed to slope instability in a rural mountain-valley setting with limited alternate access. Steep surrounding terrain, winter runoff, erosion, and post-wildfire conditions can increase susceptibility to rockfall, embankment failure, and localized slope movement affecting transportation and utilities.</p> <p><b>Impacts:</b> Landslides can damage roads, culverts, utilities, and nearby structures; interrupt school, commuter, and emergency access; and increase costs for roadway repair and slope stabilization. Recovery may be slower where local staffing and equipment are limited and outside support is needed to restore access and critical services. Critical facilities and infrastructure potentially impacted include New Harmony Town Hall and municipal facilities; fire and emergency response facilities; public works, local and domestic water systems, wells, storage, pumping, wastewater, drainage, and utility infrastructure; Interstate 15, State Route 144, local roads, bridges, culverts, retaining walls, drainage crossings, evacuation routes, and rural access roads; Ash Creek watershed drainage crossings and nearby slope infrastructure; power, communications, fiber, cellular, and utility corridors; agricultural and open lands, irrigation systems, livestock water supplies, parks, community facilities, public buildings, public landscapes, and rural development near mountain-valley slopes, drainage corridors, and embankments vulnerable to landslides, rockfall, slope instability, culvert blockage, road washout, utility interruption, isolation, and delayed emergency response.</p> |
| Rockville        | <p><b>Vulnerabilities:</b> Rockville is highly vulnerable because of its small historic and residential development pattern along the Virgin River corridor, constrained</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |

<sup>263</sup> Utah Geological Survey, Investigation of Geologic Effects Associated with the September 2, 1992, St. George Earthquake, September 24, 1992.

<https://geodata.geology.utah.gov/pages/download.php?direct=1&noattach=true&ref=11053&ext=pdf>. Source for structural damage in Hurricane and New Harmony and the Springdale landslide, destroyed homes, and SR-9 blockage.

| Plan Participant | Vulnerabilities and Impacts                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
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|                  | <p>evacuation routes, and direct proximity to steep slopes and canyon walls in the Zion gateway area. Homes, historic resources, roads, bridges, utilities, and public spaces are susceptible to rockfall, debris flow, slope failure, and erosion where unstable terrain intersects developed areas and corridor travel.</p> <p><b>Impacts:</b> Landslides can damage homes, historic resources, roads, bridges, and utilities; block access for residents and visitors; and complicate evacuation and emergency response. Because Rockville is small and transportation options are limited, even localized slope failure can have disproportionate effects on public safety, tourism, and long-term recovery. Critical facilities and infrastructure potentially impacted include Rockville Town Hall and municipal facilities; fire and emergency response facilities; public works, water, wastewater, drainage, storage, pumping, and utility infrastructure; State Route 9, local roads, bridges, culverts, retaining walls, drainage crossings, evacuation routes, and Zion gateway access routes; Virgin River corridor and adjacent canyon-slope infrastructure; overhead and underground electric, communications, fiber, cellular, and utility infrastructure; historic buildings, homes, parks, trailheads, visitor-serving facilities, public buildings, public spaces, and scenic or historic community resources in a constrained gateway corridor vulnerable to landslides, rockfall, debris flows, retaining wall failure, slope movement, roadway blockage, utility outages, constrained evacuation, emergency access disruption, and increased repair costs for historic and community assets.</p> |
| Apple Valley     | <p><b>Vulnerabilities:</b> Apple Valley is vulnerable where dispersed residential development, local roads, drainage crossings, utilities, and water infrastructure are exposed to localized slope instability in a rural-residential setting. The community's modest infrastructure systems, limited access redundancy, and open terrain can increase sensitivity where erosion, embankment failure, or slope movement affects roads, utilities, or nearby homes.</p> <p><b>Impacts:</b> Landslides can damage roads, culverts, utility systems, and nearby structures; interrupt emergency response and access to essential services; and require outside support for repair and stabilization. Recovery may be challenging if multiple dispersed neighborhoods are affected or if access routes remain unstable after the initial event. Critical facilities and infrastructure potentially impacted include Apple Valley Town Hall and municipal facilities; fire and emergency response facilities; public works, community water systems, wells, storage, pumping, wastewater, drainage, and utility infrastructure; State Route 59, local roads, bridges, culverts, washes, retaining walls, drainage crossings, evacuation routes, and rural access roads; power, communications, fiber, cellular, and utility corridors; parks, community facilities, dispersed residential water systems, public buildings, open-space resources, limited agricultural or livestock support infrastructure, and maintenance facilities near slopes, washes, embankments, and drainage-sensitive terrain vulnerable to landslides, slope failure, rockfall, erosion, culvert</p>                                              |

| Plan Participant | Vulnerabilities and Impacts                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
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|                  | blockage, road damage, utility disruption, delayed emergency access, and service challenges across dispersed neighborhoods.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| Hildale          | <p><b>Vulnerabilities:</b> Hildale is vulnerable where homes, roads, utility and water systems, schools, and public facilities are located in rugged terrain and drainage-sensitive areas with limited infrastructure redundancy. Steep slopes, erosion-prone drainages, and constrained access routes increase exposure to rockfall, debris movement, and slope failure affecting transportation and service delivery.</p> <p><b>Impacts:</b> Landslides can damage roads, utilities, public facilities, and nearby homes; disrupt emergency response and public safety operations; and isolate parts of the community. In a community with ongoing infrastructure needs, slope failure may add substantial repair demands and require outside technical and financial assistance to restore services and stabilize affected areas. Critical facilities and infrastructure potentially impacted include Hildale City Hall and municipal facilities; Hildale Police Department; Hildale fire and emergency response facilities; Water Canyon School and other community facilities; public works, culinary water, wastewater, stormwater, drainage, storage, pumping, and utility infrastructure; Utah State Route 59, local roads, bridges, culverts, washes, retaining walls, drainage crossings, community access routes, and evacuation routes; power, communications, fiber, cellular, and utility corridors; parks, public buildings, residential water systems, public landscapes, drainage-sensitive open areas, and structures in rugged terrain vulnerable to landslides, rockfall, debris flows, washout-related slope failure, roadway blockage, utility and water service interruption, isolation, delayed emergency response, and increased need for outside technical and financial assistance.</p> |

## Problem Soils

Table 169 summarizes problem soils vulnerabilities and potential impacts for Washington County participants.

**Table 169: Problem Soils Vulnerability and Impact Assessment for Washington County**

| Plan Participant  | Vulnerabilities and Impacts                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
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| Washington County | <p><b>Vulnerabilities:</b> Washington County has problem-soil vulnerability associated with rapid population growth, high housing density, extensive urban and suburban development, and the widespread presence of expansive, collapsible, saline, shallow, and locally gypsiferous or erodible soils within the St. George–Hurricane urban corridor and surrounding communities. The county had 180,279 residents in 2020 and an estimated 213,670 residents in 2025, with about 69,786 households and 91,460 housing units, which provide countywide planning context rather than a mapped exposure count.</p> |

| Plan Participant | Vulnerabilities and Impacts                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
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|                  | <p>Vulnerability occurs where homes, schools, hospitals, roads, utilities, commercial centers, and public facilities are built on or adjacent to clay-rich alluvial deposits, alluvial fans, floodplain terraces, and basin-margin soils that can change significantly over short distances.<sup>264</sup></p> <p><b>Impacts:</b> Problem soils can cause foundation cracking, slab movement, wall distress, uneven floors, pavement cracking and rutting, curb and sidewalk displacement, culvert and drainage failure, and damage to buried water, wastewater, irrigation, and utility systems. Countywide impacts may include recurring maintenance burdens, water loss from pipe breaks, service interruption, higher construction and repair costs, business disruption, and long-term geotechnical and drainage needs as continued growth places more people and infrastructure in soil-sensitive areas. Critical facilities and infrastructure potentially impacted include Washington County Sheriff's Office; Washington County Emergency Management; St. George 911 Communications Center; Southwest Utah Public Health Department; St. George Regional Hospital; Washington County School District facilities; Utah Tech University facilities; Dixie Technical College facilities; county and municipal government buildings (111 E Tabernacle); public safety facilities; public works facilities; Interstate 15, State Route 9, State Route 18, State Route 34, State Route 7/Southern Parkway, State Route 59, and other regional roads, bridges, culverts, retaining walls, sidewalks, curb and gutter, drainage crossings, airport access routes, evacuation routes, and emergency response routes; St. George Regional Airport and supporting access and utility infrastructure; Washington County Water Conservancy District reservoirs, wells, pipelines, pump stations, water storage, treatment, and distribution infrastructure; municipal water, wastewater, stormwater, drainage, irrigation, power, communications, fiber, cellular, and utility systems; public works yards, schools, hospitals and clinics, commercial centers, residential neighborhoods, parks, trailheads, campgrounds, agricultural lands, irrigation infrastructure, visitor-serving facilities, and public buildings located on or adjacent to expansive, collapsible, saline, gypsiferous, shallow, rocky, erodible, karst-prone, alluvial fan, floodplain terrace, basin-margin, and clay-rich soils vulnerable to foundation cracking, slab movement, differential settlement, pavement cracking, sidewalk displacement, retaining wall distress, pipe breaks, utility misalignment, drainage failure, erosion, subsidence, sinkhole-like settlement, access disruption, recurring maintenance costs, and higher geotechnical design and repair needs.</p> |

<sup>264</sup> U.S. Census Bureau, QuickFacts: Washington County, Utah, V2025 population and housing estimates, 2020 Census, and 2020-2024 ACS. <https://www.census.gov/quickfacts/fact/table/washingtoncountyutah/PST045225>. Accessed October 9, 2026. Countywide totals are planning context, not mapped hazard exposure. Utah Geological Survey, Problem Soil and Rock Hazards. <https://geology.utah.gov/hazards/problem-soils/>. Source for general soil-hazard mechanisms; site-specific distribution and comparative ranking require supporting mapped analysis.

| Plan Participant | Vulnerabilities and Impacts                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
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| St. George       | <p><b>Vulnerabilities:</b> St. George is highly vulnerable because of its rapid growth, dense residential and commercial development, schools, medical facilities, roads, utilities, and public infrastructure built across clay-rich alluvial deposits, alluvial fans, and variable basin-margin soils. As the county's primary urban center, St. George contains the largest concentration of homes, businesses, and public facilities subject to expansive and collapsible soils, settlement, corrosive conditions, and pavement or drainage distress where moisture-sensitive soils are activated by irrigation, landscaping, leaking utilities, or stormwater infiltration.</p> <p><b>Impacts:</b> Problem soils can crack foundations, slabs, roads, sidewalks, and retaining features; damage buried utilities and storm drainage; and increase construction, maintenance, and repair costs for homes, businesses, hospitals, schools, and city infrastructure. Because St. George is the county's principal service center, recurring soil-related failures can also disrupt transportation, utilities, public services, and regional commerce while creating long-term geotechnical and capital improvement needs. Critical facilities and infrastructure potentially impacted include St. George City Hall and municipal government facilities (61 S Main St.); St. George Police Department; St. George Fire Department stations (Fire Station #1 at 51 S 1000 E, Fire Station #8 at 1096 W Bluegrass way, Fire Station #3 at 2315 S River Rd); St. George 911 Communications Center; St. George Regional Hospital; Utah Tech University facilities; Dixie Technical College facilities; Washington County School District schools (East Elementary School at 453 South 600 East) and support facilities; St. George Regional Airport and airport access infrastructure; public works, water, wastewater, stormwater, irrigation, drainage, storage, pumping, treatment, and distribution facilities; Interstate 15, State Route 7/Southern Parkway, Bluff Street, River Road, St. George Boulevard, Riverside Drive, Red Hills Parkway, traffic signals, bridges, culverts, sidewalks, retaining walls, curb and gutter, and major arterials; Washington County Water Conservancy District facilities serving the St. George area; electric substations, overhead and underground power systems, communications, fiber, cellular, and utility infrastructure; hospitals, clinics, medical offices, commercial centers, hotels, warehouses, schools, parks, trail systems, golf courses, recreation facilities, public buildings, residential subdivisions, and bench or alluvial-fan development vulnerable to expansive clay movement, collapsible soil settlement, saline or corrosive soil effects, pavement and sidewalk cracking, foundation and slab distress, buried utility breaks, stormwater and drainage failure, airport access disruption, business interruption, and recurring infrastructure maintenance.<sup>265</sup></p> |

<sup>265</sup> City of St. George, Contact the City, City Hall at 61 S. Main St.

<https://www.sgcityutah.gov/government/contact-the-city/index.php>. Utah Tech University, institutional name-change announcement. <https://news.utahtech.edu/2022/05/16/dixie-state-reveals-utah-tech-university-logos-in-preparation-for-july-1-name-change/>. City Hall is not a university administration building.

| Plan Participant | Vulnerabilities and Impacts                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
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| Washington City  | <p><b>Vulnerabilities:</b> Washington City is vulnerable because growing neighborhoods, schools, parks, commercial areas, roads, utilities, and public facilities are built in the St. George urban corridor where expansive clays, collapsible alluvium, and variable alluvial-fan soils are widespread. Continued growth increases the number of homes, streets, sidewalks, and buried infrastructure potentially affected by shrink-swell movement, settlement, drainage limitations, and corrosive or low-strength subgrade conditions.</p> <p><b>Impacts:</b> Problem soils can damage homes and community facilities through foundation cracking and uneven floors, deform pavement and sidewalks, and increase maintenance costs for roads, drainage systems, and utilities. Soil-related movement can also contribute to water line leaks, service interruption, and recurring repair needs that affect schools, city operations, and neighborhood access. Critical facilities and infrastructure potentially impacted include Washington City offices and municipal facilities (150 North 1100 East); Washington City Police Department; Washington City Fire Department facilities (250 Buena Vista Blvd); Washington County School District schools and community facilities; public works facilities; culinary water, irrigation, wastewater, stormwater, drainage, storage, pumping, treatment, and distribution infrastructure; Interstate 15, State Route 9, Telegraph Street, Green Spring Drive, Washington Parkway, bridges, culverts, sidewalks, curb and gutter, retaining walls, traffic-control devices, and major access routes; Washington County Water Conservancy District facilities serving the Washington area; power, communications, fiber, cellular, and utility infrastructure; parks, trail systems, sports fields, commercial centers, public buildings, residential neighborhoods, and developing areas located on valley-fill, alluvial fan, basin-margin, and clay-rich soils vulnerable to foundation movement, slab cracking, pavement distress, sidewalk displacement, utility line breaks, irrigation or stormwater leakage that worsens soil instability, drainage system damage, increased maintenance costs, and interrupted emergency access.</p> |
| Hurricane        | <p><b>Vulnerabilities:</b> Hurricane is highly vulnerable because expanding residential and commercial growth in the Hurricane Valley places more homes, schools, roads, utility systems, and public facilities on clay-rich alluvial deposits, alluvial fans, and variable basin-margin soils. Expansive and collapsible soils can affect neighborhoods, transportation corridors, and infrastructure where irrigation, landscaping, stormwater, or leaking utilities introduce moisture and trigger shrink-swell movement or settlement.</p> <p><b>Impacts:</b> Problem soils can crack foundations and slabs, damage roads, curbs, sidewalks, drainage systems, and buried utilities, and increase repair and maintenance costs for public and private property. Soil instability may also interrupt traffic, school access, and utility service while creating long-term geotechnical and drainage challenges in fast-growing areas. Critical facilities and infrastructure potentially impacted include Hurricane City Hall and municipal facilities; Hurricane Police Department; Hurricane Valley Fire District facilities; Washington County School District schools (Hurricane Elementary</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |

| Plan Participant | Vulnerabilities and Impacts                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
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|                  | <p>School at 948 West 325 North) and community facilities; public works, water, wastewater, stormwater, drainage, irrigation, storage, pumping, treatment, and distribution infrastructure; Interstate 15 access routes, State Route 9, State Route 7/Southern Parkway, State Route 59, local roads, bridges, culverts, sidewalks, retaining walls, drainage crossings, evacuation routes, and major local roads; Sand Hollow Reservoir and Quail Creek Reservoir recreation-support, dam, spillway, access, and utility infrastructure; power, communications, fiber, cellular, and utility corridors; parks, trailheads, campgrounds, marinas, commercial areas, tourism businesses, public buildings, residential subdivisions, and developing neighborhoods on alluvial fan, basin-margin, expansive, collapsible, saline, gypsiferous, shallow, rocky, or erodible soils vulnerable to foundation cracking, differential settlement, pavement and sidewalk damage, buried pipe failure, irrigation and drainage system movement, retaining wall distress, erosion, subsidence, road maintenance needs, utility interruption, recreation access disruption, and higher development or repair costs.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| Santa Clara      | <p><b>Vulnerabilities:</b> Santa Clara is vulnerable where homes, schools, parks, community facilities, roads, and utility systems are located on expansive, collapsible, and shallow alluvial-fan soils within the greater St. George urban area. Moisture-sensitive soils beneath residential neighborhoods and public infrastructure can shift with irrigation, landscaping, leaking utilities, and wet-dry cycles, increasing exposure to foundation distress and infrastructure damage.</p> <p><b>Impacts:</b> Problem soils can cause cracking and movement in homes, public buildings, sidewalks, roads, and buried utilities; increase drainage and maintenance problems; and raise long-term repair costs for residents and the city. Repeated soil-related damage may also affect park facilities, water and sewer systems, and neighborhood access where underlying soils remain unstable. Critical facilities and infrastructure potentially impacted include Santa Clara City Hall and municipal facilities; Santa Clara-Ivins Police Department facilities; Santa Clara fire (2771 Circle Dr) and emergency response facilities; Washington County School District schools and community facilities; public works, water, irrigation, wastewater, stormwater, drainage, storage, pumping, treatment, and distribution systems; Old Highway 91, Santa Clara Drive, Pioneer Parkway, local roads, bridges, culverts, sidewalks, retaining walls, curb and gutter, drainage crossings, and emergency routes; Santa Clara River corridor infrastructure; power, communications, fiber, cellular, and utility infrastructure; parks, trails, recreation areas, public buildings, commercial areas, neighborhoods, and slope- or terrace-adjacent development located on alluvial deposits, river terraces, clay-rich soils, collapsible soils, saline soils, erodible soils, and locally unstable fill vulnerable to foundation and slab movement, pavement cracking, sidewalk displacement, utility breaks, drainage and irrigation leakage, retaining wall damage, erosion, soil collapse, increased public works maintenance, and recurring repair needs.</p> |

| Plan Participant | Vulnerabilities and Impacts                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
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| Ivins            | <p><b>Vulnerabilities:</b> Ivins is vulnerable because homes, roads, parks, public facilities, tourism-related amenities, and utility systems are built on or adjacent to expansive, collapsible, shallow, and variable alluvial-fan soils within the St. George urban corridor. Ivins shares county exposure where continued growth places more structures and buried infrastructure on moisture-sensitive soils affected by irrigation, landscaping, leaking utilities, and wet-dry cycles. The hazard profile also notes that soil expansion impacts range from very low to very high under the Soil Expansion Index, with very high expansion occurring above 130.</p> <p><b>Impacts:</b> Problem soils can crack foundations, slabs, sidewalks, roads, and retaining features; damage buried utilities and drainage systems; and increase maintenance costs for homes, public buildings, tourism amenities, and city infrastructure. Soil movement and settlement may also interrupt roadway access, contribute to water loss from pipe breaks, and create long-term geotechnical, drainage, and capital improvement needs where variable soils remain unstable. Critical facilities and infrastructure potentially impacted include Ivins City Hall and municipal facilities; Santa Clara-Ivins Police Department facilities serving Ivins; Ivins fire and emergency response facilities; Washington County School District schools and community facilities; public works, water, wastewater, stormwater, drainage, irrigation, storage, pumping, treatment, and distribution infrastructure; Old Highway 91, Center Street, Snow Canyon Parkway, local access routes, bridges, culverts, sidewalks, retaining walls, drainage crossings, and emergency routes; overhead and underground power, communications, fiber, cellular, and utility infrastructure; parks, trailheads, recreation facilities, public buildings, tourism-related amenities, residential neighborhoods, and desert-edge development near alluvial fans, slope transitions, clay-rich deposits, shallow rocky soils, erodible soils, and collapsible soils vulnerable to foundation settlement, slab and wall cracking, pavement distress, utility misalignment, irrigation or stormwater-related soil movement, retaining wall distress, drainage failure, erosion, service disruption, and increased geotechnical and maintenance needs.</p> |
| La Verkin        | <p><b>Vulnerabilities:</b> La Verkin is vulnerable because homes, schools, roads, bridges, parks, businesses, utilities, and public facilities are built in a corridor setting where expansive, collapsible, saline, and variable alluvial soils can affect foundations, pavements, and buried infrastructure. As part of Washington County, which had an estimated 213,670 residents and 91,460 housing units in 2025, La Verkin shares regional exposure to clay-rich alluvial deposits and basin-margin soils that can change over short distances and react to irrigation, landscaping, leaking utilities, and stormwater infiltration.</p> <p><b>Impacts:</b> Problem soils can cause foundation cracking, slab movement, pavement rutting, sidewalk displacement, drainage problems, and damage to buried water, wastewater, and utility lines. Soil-related failures may also affect corridor travel, increase maintenance costs for roads and public facilities, and create recurring repair needs where moisture-sensitive soils continue to settle or shrink and swell over time. Critical facilities and infrastructure potentially</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |

| Plan Participant | Vulnerabilities and Impacts                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
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|                  | <p>impacted include La Verkin City offices and municipal facilities; La Verkin Police Department; La Verkin fire and emergency response facilities (Hurricane Valley Fire District Station 43 at 305 N Main St); Washington County School District schools and community facilities; public works, water, wastewater, stormwater, drainage, storage, pumping, treatment, and utility infrastructure; State Route 9, State Route 17, local roads, bridges, culverts, sidewalks, retaining walls, drainage crossings, evacuation routes, and Zion gateway access routes; La Verkin Creek, Ash Creek, Virgin River corridor, and adjacent terrace or slope infrastructure; overhead and underground electric, communications, fiber, cellular, and utility infrastructure; parks, trailheads, visitor-serving businesses, public buildings, neighborhoods, and river-, terrace-, or slope-adjacent facilities vulnerable to expansive or collapsible soil movement, foundation cracking, settlement, pavement damage, buried utility breaks, culvert and drainage failure, retaining wall movement, erosion, corrosive or saline soil effects, access disruption, and increased public works repair needs.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| Enterprise       | <p><b>Vulnerabilities:</b> Enterprise is vulnerable where homes, schools, agricultural buildings, corrals, local businesses, roads, utility systems, and farm infrastructure are located on or near valley-bottom, alluvial, shallow, or moisture-sensitive soils that can settle, crack, erode, or lose bearing strength when wet. Although smaller than the urban corridor communities, Enterprise shares Washington County's broader problem-soils setting and may face higher consequences where local roads, water systems, and agricultural support facilities have limited redundancy and are affected by expansive, saline, shallow, or collapsible soils.</p> <p><b>Impacts:</b> Problem soils can crack foundations and slabs, damage roads, culverts, water lines, septic or irrigation systems, and create uneven pads or drainage problems for agricultural structures and equipment areas. Recovery may be prolonged where local staffing and budgets are limited, and repeated soil-related failures can increase long-term maintenance costs for both municipal infrastructure and agricultural operations. Critical facilities and infrastructure potentially impacted include Enterprise City offices and municipal facilities; Enterprise Police Department; Enterprise fire and emergency response facilities; Washington County School District schools and community facilities; public works, municipal and domestic water systems, wells, wastewater, drainage, stormwater, irrigation, storage, pumping, treatment, and agricultural water infrastructure; State Route 18, local roads, bridges, culverts, sidewalks, drainage crossings, rural access routes, and emergency routes; reservoirs, irrigation systems, canals, storage ponds, farms, ranches, barns, corrals, fields, livestock water supplies, and agricultural support facilities; power, communications, fiber, cellular, and utility infrastructure; parks, public buildings, maintenance yards, and rural development located on valley-fill, alluvial, saline, collapsible, expansive, shallow, rocky, or erodible soils vulnerable to foundation settlement, slab cracking, pavement failure, culvert misalignment, canal or irrigation leakage,</p> |

| Plan Participant | Vulnerabilities and Impacts                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
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|                  | pipe breaks, drainage failure, erosion, road shoulder instability, agricultural infrastructure damage, utility interruption, delayed emergency response, and higher repair costs in a rural setting.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| Toquerville      | <p><b>Vulnerabilities:</b> Toquerville is vulnerable because growing residential areas, roads, utility systems, parks, and public facilities are being developed in an arid environment where expansive, collapsible, shallow, and variable alluvial soils can affect foundations, pavements, and buried infrastructure. Continued growth increases the number of homes, streets, and utility corridors that may be affected by shrink-swell movement, settlement, drainage limitations, and moisture-sensitive subgrades within Washington County’s extensive problem-soils setting.</p> <p><b>Impacts:</b> Problem soils can damage homes and public facilities through foundation cracking and uneven floors, deform roads, curbs, and sidewalks, and contribute to drainage and utility failures. Soil-related movement may also increase maintenance costs, affect neighborhood access, and require recurring geotechnical investigation, drainage improvements, and infrastructure repair as development expands. Critical facilities and infrastructure potentially impacted include Toquerville Town Hall and municipal facilities; Toquerville fire and emergency response facilities; public works and utility facilities; Washington County School District schools and community facilities serving the area; culinary water, irrigation, wastewater, stormwater, drainage, storage, pumping, treatment, and distribution infrastructure; State Route 17, Interstate 15 access routes, local roads, bridges, culverts, sidewalks, retaining walls, drainage crossings, evacuation routes, and developing neighborhood access roads; Ash Creek and La Verkin Creek watershed drainage infrastructure; power, communications, fiber, cellular, and utility infrastructure; parks, trails, public buildings, visitor-serving facilities, and neighborhoods near benches, alluvial fans, drainage corridors, basin-margin soils, clay-rich deposits, collapsible soils, and erodible terrain vulnerable to foundation movement, differential settlement, pavement and sidewalk cracking, buried utility breaks, irrigation or drainage leakage, culvert and stormwater system damage, retaining wall distress, soil collapse, erosion, neighborhood access disruption, and increased maintenance costs.</p> |
| Leeds            | <p><b>Vulnerabilities:</b> Leeds is vulnerable where homes, Interstate 15 access points, local roads, utility systems, and community facilities are located on or near shallow, rocky, erodible, expansive, or variable soils in a geologically constrained setting. The town’s position near major transportation corridors and limited local infrastructure means even localized soil-related damage can affect roadway performance, drainage, utilities, and access, especially where subgrades are weak or moisture-sensitive.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |

| Plan Participant | Vulnerabilities and Impacts                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
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|                  | <p><b>Impacts:</b> Problem soils can crack foundations and pavements, damage culverts and utility lines, reduce roadway and shoulder stability, and increase maintenance costs for roads and public facilities. Because of Leeds' connection to a major regional corridor, localized soil failures may also create wider transportation and safety consequences and require repeated repair or engineered stabilization. Critical facilities and infrastructure potentially impacted include Leeds Town Hall and public works facilities; Leeds fire and emergency response facilities; water, wastewater, stormwater, drainage, storage, pumping, treatment, and utility infrastructure; Interstate 15, Main Street, local roads, bridges, culverts, sidewalks, retaining walls, access ramps, drainage crossings, evacuation routes, and corridor transportation infrastructure; Leeds Creek, Quail Creek, and nearby drainage corridor infrastructure; overhead and underground electric, communications, fiber, cellular, and utility infrastructure; parks, public buildings, community facilities, and corridor-related development near steep slopes, shallow rocky soils, erodible soils, alluvial deposits, clay-rich soils, and drainage-sensitive terrain vulnerable to foundation settlement, pavement distress, bridge approach movement, culvert misalignment, utility breaks, drainage failure, erosion, retaining wall damage, interstate access disruption, service interruption, and delayed emergency response.</p>                                                                                                                                                                                                                                                                                                                                                                                                                 |
| Virgin           | <p><b>Vulnerabilities:</b> Virgin is vulnerable because homes, lodging, restaurants, roads, utilities, and visitor-serving businesses in the Zion gateway corridor may be built on variable alluvial, shallow, erodible, or moisture-sensitive soils that can affect foundations, roads, and buried infrastructure. The town's small size, heavy visitor use, and limited transportation and utility redundancy increase exposure where soil-related distress affects SR-9 access, drainage, or service reliability.</p> <p><b>Impacts:</b> Problem soils can crack foundations, damage pavement and drainage systems, distort sidewalks and utility lines, and create recurring repair costs for businesses, residences, and corridor infrastructure. Even localized soil failures can disrupt visitor access, local commerce, and emergency response because the town depends on limited infrastructure and a single primary travel corridor. Critical facilities and infrastructure potentially impacted include Virgin Town Hall and municipal facilities; Virgin fire and emergency response facilities; public works, water, wastewater, drainage, storage, pumping, treatment, and utility infrastructure; State Route 9, local roads, bridges, culverts, sidewalks, retaining walls, drainage crossings, evacuation routes, and Zion gateway access routes; Virgin River corridor and adjacent terrace, alluvial fan, and slope infrastructure; overhead and underground electric, communications, fiber, cellular, and utility corridors; lodging, restaurants, visitor-serving businesses, parks, trailheads, campgrounds, recreation access points, public buildings, residential areas, and tourism-related facilities located on or near collapsible, expansive, saline, shallow, rocky, erodible, floodplain terrace, and basin-margin soils vulnerable to foundation and slab cracking, differential settlement, pavement distress,</p> |

| Plan Participant | Vulnerabilities and Impacts                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
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|                  | buried utility failure, septic or wastewater limitations, drainage and irrigation-related soil movement, erosion, SR-9 access disruption, visitor service interruption, and recurring repair costs.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| Springdale       | <p><b>Vulnerabilities:</b> Springdale is vulnerable because hotels, restaurants, homes, employee housing, roads, utilities, and visitor facilities in the Zion gateway corridor may be built on variable alluvial, shallow, rocky, or erosion-prone soils that complicate construction and increase maintenance needs. Although Springdale is a much smaller community than the urban corridor, it shares Washington County's broader problem-soils setting and has added exposure because development is concentrated in a narrow corridor with limited transportation redundancy and high seasonal visitation.</p> <p><b>Impacts:</b> Problem soils can crack foundations, damage roads, curbs, sidewalks, retaining features, and buried utilities, and increase costs for maintaining lodging, restaurants, public facilities, and corridor infrastructure. Even localized soil-related damage can disrupt tourism, visitor circulation, and emergency access because the town depends on limited transportation capacity and uninterrupted operation of visitor-serving businesses. Critical facilities and infrastructure potentially impacted include Springdale Town Hall (118 Lion Blvd) and municipal facilities; Springdale Police Department and emergency response facilities (Rockville/Springdale Fire Station at 1130 Zion Park Blvd, 188 W. Main); public works, water, wastewater, drainage, stormwater, storage, pumping, treatment, and utility infrastructure; State Route 9, Zion Canyon access routes, shuttle-related transportation facilities, local roads, bridges, culverts, sidewalks, retaining walls, drainage crossings, evacuation routes, and visitor access corridors; Virgin River corridor and canyon-slope infrastructure; overhead and underground electric, communications, fiber, cellular, and utility infrastructure; hotels, restaurants, lodging areas, employee housing, visitor facilities, parks, trailheads, public buildings, Zion gateway recreation assets, and public gathering areas in narrow canyon, terrace, slope, alluvial, collapsible, shallow, rocky, erodible, and drainage-sensitive soil settings vulnerable to foundation settlement, slab and wall cracking, pavement failure, retaining wall distress, buried utility and wastewater system damage, drainage failure, erosion, access disruption, visitor service disruption, and higher geotechnical design, maintenance, and repair costs.</p> |
| New Harmony      | <p><b>Vulnerabilities:</b> New Harmony is vulnerable where homes, roads, water infrastructure, agricultural lands, and community facilities are located on shallow, rocky, erodible, or variable mountain-valley soils that can limit excavation, reduce bearing capacity, and complicate drainage and utility installation. Its rural setting and limited alternate access can increase the consequences of localized soil-related damage where roads, water systems, or building sites are affected by erosion, settlement, or moisture-sensitive subgrades.</p> <p><b>Impacts:</b> Problem soils can crack foundations, damage roads, culverts, and water infrastructure, affect septic and drainage performance, and increase</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |

| Plan Participant | Vulnerabilities and Impacts                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
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|                  | <p>costs for site preparation and long-term maintenance. Recovery may be slower where staffing and resources are limited and where repeated repairs or engineering solutions are needed to maintain access and service reliability. Critical facilities and infrastructure potentially impacted include New Harmony Town Hall and municipal facilities; fire and emergency response facilities (Fire Station #1 at 133 E Center St, Fire Station #2 at 1388 S Old Hwy 91); public works, local and domestic water systems, wells, storage, pumping, wastewater, drainage, and utility infrastructure; Interstate 15, State Route 144, local roads, bridges, culverts, sidewalks, retaining walls, drainage crossings, evacuation routes, and rural access roads; Ash Creek watershed drainage crossings and nearby slope, valley-fill, and alluvial infrastructure; power, communications, fiber, cellular, and utility corridors; agricultural and open lands, irrigation systems, livestock water supplies, parks, community facilities, public buildings, public landscapes, and rural development near mountain-valley soils, shallow bedrock, erodible slopes, alluvial deposits, collapsible soils, and drainage-sensitive terrain vulnerable to foundation settlement, pavement cracking, pipe breaks, culvert and drainage misalignment, erosion, shallow bedrock excavation constraints, septic or wastewater limitations, utility interruption, isolation, and delayed emergency response.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| Rockville        | <p><b>Vulnerabilities:</b> Rockville is vulnerable because its small historic and residential development pattern along the Virgin River corridor includes homes, roads, utilities, public spaces, and historic resources that may be affected by shallow, variable, erosion-prone, or moisture-sensitive soils. Older structures and limited infrastructure redundancy increase sensitivity where foundations, roadbeds, and buried utilities are placed on soils that respond poorly to moisture changes, runoff, or constrained site conditions.</p> <p><b>Impacts:</b> Problem soils can crack foundations, damage historic resources, roads, sidewalks, and utilities, and increase costs for maintenance, drainage improvements, and engineered site stabilization. Because Rockville is small and access is limited, even localized soil-related failures can disrupt community function, visitor access, and long-term preservation of historic and public assets. Critical facilities and infrastructure potentially impacted include Rockville Town Hall and municipal facilities; fire and emergency response facilities (Rockville/Springdale Fire Station at 1130 Zion Park Blvd); public works, water, wastewater, drainage, storage, pumping, treatment, and utility infrastructure; State Route 9, local roads, bridges, culverts, sidewalks, retaining walls, drainage crossings, evacuation routes, and Zion gateway access routes; Virgin River corridor and adjacent terrace, slope, and canyon infrastructure; overhead and underground electric, communications, fiber, cellular, and utility infrastructure; historic buildings, homes, parks, trailheads, visitor-serving facilities, public buildings, public spaces, and scenic or historic community resources located on or near alluvial, river terrace, shallow, rocky, erodible, collapsible, expansive, and drainage-sensitive soils vulnerable to foundation and wall cracking, slab movement, pavement distress, buried utility breaks, septic or wastewater limitations, drainage failure, erosion, retaining wall</p> |

| Plan Participant | Vulnerabilities and Impacts                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
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|                  | movement, constrained emergency access, visitor disruption, and higher maintenance costs for historic and community assets.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| Apple Valley     | <p><b>Vulnerabilities:</b> Apple Valley is vulnerable where dispersed residential development, local roads, drainage crossings, water infrastructure, and utility systems are built on variable alluvial, shallow, erodible, or moisture-sensitive soils in a rural-residential setting. The town's dispersed layout and modest infrastructure systems increase exposure where settlement, cracking, poor drainage, or low-strength subgrades affect roads, homes, or buried utilities.</p> <p><b>Impacts:</b> Problem soils can damage foundations, roads, culverts, water lines, septic or drainage systems, and increase maintenance costs for homes and community infrastructure. Recovery may be challenging if multiple dispersed neighborhoods experience recurring soil-related failures at once or if repairs require outside geotechnical and construction support. Critical facilities and infrastructure potentially impacted include Apple Valley Town Hall and municipal facilities; fire and emergency response facilities; public works, community water systems, wells, storage, pumping, wastewater, drainage, and utility infrastructure; State Route 59, local roads, bridges, culverts, washes, sidewalks, retaining walls, drainage crossings, evacuation routes, and rural access roads; power, communications, fiber, cellular, and utility corridors; parks, community facilities, dispersed residential water systems, public buildings, open-space resources, limited agricultural or livestock support infrastructure, maintenance facilities, and rural-residential development located on alluvial fan, basin-margin, shallow, rocky, erodible, collapsible, expansive, saline, or drainage-sensitive soils vulnerable to foundation settlement, slab cracking, pavement and road shoulder damage, culvert misalignment, pipe breaks, septic or wastewater limitations, erosion, utility disruption, delayed emergency access, and repair challenges across dispersed neighborhoods.</p> |
| Hildale          | <p><b>Vulnerabilities:</b> Hildale is vulnerable where homes, schools, roads, utility and water systems, and public facilities are located on variable, shallow, erodible, or moisture-sensitive soils in a rugged terrain setting with ongoing infrastructure needs. Limited infrastructure redundancy increases exposure where foundation movement, roadway distress, drainage problems, or utility instability occur on poor or changing subgrades.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |

| Plan Participant | Vulnerabilities and Impacts                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
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|                  | <p><b>Impacts:</b> Problem soils can crack foundations, damage roads, sidewalks, culverts, water and utility infrastructure, and increase maintenance and repair demands for public facilities and neighborhoods. In a community with significant infrastructure needs, repeated soil-related failures may require outside technical and financial assistance and can prolong disruption to services, access, and public safety operations. Critical facilities and infrastructure potentially impacted include Hildale City Hall and municipal facilities; Hildale Police Department; Hildale fire and emergency response facilities; Water Canyon School and other community facilities; public works, culinary water, wastewater, stormwater, drainage, storage, pumping, treatment, and utility infrastructure; Utah State Route 59, local roads, bridges, culverts, washes, sidewalks, retaining walls, drainage crossings, community access routes, and evacuation routes; power, communications, fiber, cellular, and utility corridors; parks, public buildings, residential water systems, public landscapes, drainage-sensitive open areas, and structures in rugged terrain located on or near shallow, rocky, erodible, collapsible, expansive, saline, alluvial fan, and drainage-sensitive soils vulnerable to foundation and slab movement, pavement distress, pipe breaks, drainage and stormwater failure, culvert misalignment, erosion, utility and water service interruption, road damage, isolation, delayed emergency response, and increased need for outside technical and financial assistance.</p> |

## Radon Gas

Table 170 summarizes radon vulnerabilities and potential impacts for Washington County participants.

**Table 170: Radon Gas Vulnerability and Impact Assessment for Washington County**

| Plan Participant  | Vulnerabilities and Impacts                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
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| Washington County | <p><b>Vulnerabilities:</b> Washington County is vulnerable to radon exposure because radon can accumulate in any occupied ground-contact structure where gas migrates from soil and rock into indoor spaces. The county is classified by EPA as Zone 2, with predicted average indoor screening levels between 2 and 4 pCi/L. Vulnerable assets include homes, apartments, schools, childcare facilities, health care and assisted living facilities, government buildings, commercial buildings, and lodging. Vulnerability is increased by rapid population growth, high housing density, and continued residential and commercial development in and around St. George, Washington, Hurricane, Santa Clara, and other communities, especially where buildings have</p> |

| Plan Participant | Vulnerabilities and Impacts                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
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|                  | <p>basements, crawlspaces, slab-on-grade construction, foundation cracks, utility penetrations, or limited ventilation.<sup>266267268</sup></p> <p><b>Impacts:</b> Radon does not cause visible structural damage, but long-term indoor exposure significantly increases lung cancer risk. The profile notes that radon is the second leading cause of lung cancer in the United States, the leading cause among nonsmokers, and is associated with about 21,000 lung cancer deaths nationally each year. EPA recommends mitigation at or above 4 pCi/L and suggests considering mitigation at 2.0–3.9 pCi/L. Countywide impacts therefore include chronic public health risk, testing and mitigation costs, potential delays in property transfers or facility use, and increased operational burdens for schools, health care facilities, local governments, and property owners if elevated levels are identified.<sup>269270</sup> Critical facilities and infrastructure potentially impacted include Washington County Sheriff's Office; Washington County Emergency Management; St. George 911 Communications Center; Southwest Utah Public Health Department; St. George Regional Hospital; Washington County School District facilities; Utah Tech University facilities; Dixie Technical College facilities; county and municipal government buildings; public safety facilities; public works facilities; health care, assisted living, childcare, school, library, senior center, community center, emergency operations, and public-facing government buildings; homes, apartments, multifamily housing, rental units, employee housing, lodging, commercial buildings, offices, and other frequently occupied ground-contact structures; public health outreach systems, building inspection and permitting programs, property management systems, real estate transaction processes, facility maintenance programs, and radon testing and mitigation contractor networks vulnerable to elevated indoor radon concentrations, long-term occupant exposure, testing and follow-up testing needs, mitigation costs, delayed occupancy or property transfers, facility management burdens, communication needs, and disproportionate impacts for lower-income households, renters, older buildings, and structures without radon-resistant construction or adequate ventilation.</p> |
| St. George       | <p><b>Vulnerabilities:</b> St. George is highly vulnerable because radon can accumulate in any occupied ground-contact structure, and the city contains the county's largest concentration of homes, apartments, schools, childcare facilities, hospitals, offices, government buildings, lodging, and other</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |

<sup>266</sup> EPA = U.S. Environmental Protection Agency

<sup>267</sup> pCi/L = picocuries per liter

<sup>268</sup> U.S. Environmental Protection Agency, Utah Map of Radon Zones (map developed in 1993). <https://www.epa.gov/sites/default/files/2014-08/documents/utah.pdf>. County zones do not predict individual-building levels; all homes should be tested.

<sup>269</sup> DEQ = Department of Environmental Quality

<sup>270</sup> U.S. Environmental Protection Agency, What is EPA's Action Level for Radon and What Does it Mean? <https://www.epa.gov/radon/what-epas-action-level-radon-and-what-does-it-mean>. Utah Department of Environmental Quality, Radon Program. <https://deq.utah.gov/dwmrc/radon>. Sources for action levels and the statewide one-in-three statistic; local test counts and building-specific costs require separate records.

| Plan Participant | Vulnerabilities and Impacts                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
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|                  | <p>frequently occupied buildings. Washington County is classified as EPA Zone 2, with predicted average indoor screening levels between 2 and 4 pCi/L. Rapid development, multifamily housing, older structures, and continued expansion into previously untested areas increase the number of buildings that may contain elevated radon if testing and radon-resistant construction are not consistently applied.</p> <p><b>Impacts:</b> Radon creates chronic rather than sudden impacts, but long-term exposure can significantly increase lung cancer risk for residents, students, workers, patients, and visitors. EPA recommends mitigation at or above 4 pCi/L; mitigation costs vary with building and system design. In St. George, elevated radon could affect households and public-serving facilities where testing identifies elevated levels, create testing and mitigation costs for property owners and institutions, and complicate occupancy, leasing, property transfer, or facility management decisions if high indoor levels are identified. Critical facilities and infrastructure potentially impacted include St. George City Hall and municipal government facilities; St. George Police Department; St. George Fire Department stations; St. George 911 Communications Center; St. George Regional Hospital; Utah Tech University facilities; Dixie Technical College facilities; Washington County School District schools and support facilities; health care, assisted living, childcare, school, library, senior center, community center, emergency operations, and public-facing municipal buildings; homes, apartments, multifamily housing, rental units, employee housing, lodging, hotels, offices, commercial centers, medical offices, public buildings, and other frequently occupied ground-contact structures; building inspection and permitting programs, property management systems, real estate transaction processes, facility maintenance programs, public health education systems, and radon testing and mitigation contractor networks vulnerable to elevated indoor radon, cumulative lung cancer risk, testing and mitigation expenses, delayed leasing or property transfers, facility use decisions, tenant and occupant communication needs, and increased operational burdens in the county's largest residential, medical, education, lodging, and commercial center.</p> |
| Washington City  | <p><b>Vulnerabilities:</b> Washington City is vulnerable because radon can accumulate in homes, schools, childcare facilities, public buildings, and commercial spaces with direct ground contact, including slab-on-grade buildings, basements, crawlspaces, and structures with cracks or utility penetrations. As part of Washington County, the city shares the county's EPA Zone 2 classification and moderate predicted indoor screening range of 2 to 4 pCi/L, and continued residential growth increases the number of occupied buildings that may not yet have been tested or mitigated.</p> <p><b>Impacts:</b> Radon can create long-term public health consequences by increasing lung cancer risk for residents, students, employees, and other building occupants, even when no visible warning signs are present. Because EPA recommends mitigation at or above 4 pCi/L, Washington City may face ongoing testing and mitigation costs, property management and disclosure</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |

| Plan Participant | Vulnerabilities and Impacts                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
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|                  | <p>issues, and operational burdens for schools or public facilities if elevated indoor radon levels are found. Critical facilities and infrastructure potentially impacted include Washington City offices and municipal facilities; Washington City Police Department; Washington City Fire Department facilities; Washington County School District schools and community facilities; public works and public-facing municipal buildings; homes, apartments, multifamily housing, rental units, childcare facilities, schools, libraries, senior or community centers, commercial buildings, offices, lodging or short-term rental units, and other occupied ground-contact structures; building inspection and permitting programs, code enforcement and development review processes, property management systems, real estate transaction processes, facility maintenance programs, public health outreach systems, and radon testing and mitigation contractor networks vulnerable to elevated indoor radon concentrations, chronic occupant exposure, testing and mitigation costs, delayed occupancy, property disclosure or transfer issues, public education needs, and increased exposure as residential and commercial growth continues.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| Hurricane        | <p><b>Vulnerabilities:</b> Hurricane is vulnerable because radon can accumulate in any occupied ground-contact structure, including homes, schools, childcare facilities, businesses, public buildings, and lodging or rental units. The city shares Washington County's EPA Zone 2 classification, with predicted average indoor screening levels between 2 and 4 pCi/L, and continued residential and commercial growth expands the number of structures that may expose occupants if site-specific testing and mitigation are not completed.</p> <p><b>Impacts:</b> Radon does not damage buildings directly, but prolonged exposure can increase long-term lung cancer risk for residents, students, workers, and visitors, especially in untested or poorly ventilated buildings. Elevated levels may also require follow-up testing and mitigation, and can create indirect burdens on homeowners, landlords, schools, and public agencies through added expense, occupancy concerns, and delayed corrective action. Critical facilities and infrastructure potentially impacted include Hurricane City Hall and municipal facilities; Hurricane Police Department; Hurricane Valley Fire District facilities; Washington County School District schools and community facilities; public works and public-facing municipal buildings; homes, apartments, rental units, childcare facilities, schools, libraries, senior or community centers, lodging, short-term rentals, commercial buildings, offices, recreation-support buildings, and other occupied ground-contact structures; building inspection and permitting programs, development review processes, property management systems, real estate transaction processes, facility maintenance programs, public health outreach systems, and radon testing and mitigation contractor networks vulnerable to elevated indoor radon, long-term occupant exposure, testing and mitigation expenses, property transfer or leasing delays, facility management burdens, occupant communication needs, and increased exposure as housing, recreation-related development, and visitor-serving uses expand.</p> |

| Plan Participant | Vulnerabilities and Impacts                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
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| Santa Clara      | <p><b>Vulnerabilities:</b> Santa Clara is vulnerable because radon can collect in homes, schools, parks buildings, community facilities, and other enclosed ground-contact structures in the greater St. George urban area. As part of Washington County, Santa Clara is within EPA Zone 2 with predicted average indoor screening levels between 2 and 4 pCi/L, and older buildings, slab-on-grade construction, crawlspaces, and limited ventilation can increase exposure if structures are not tested and mitigated.</p> <p><b>Impacts:</b> Radon primarily affects human health by increasing cumulative lung cancer risk over time, especially for residents, children, older adults, smokers, and occupants of buildings that remain untested. If elevated indoor concentrations are found at or above EPA's 4 pCi/L action level, the city and property owners may face costs for testing, mitigation, and communication, as well as possible delays in property transfers or facility use until corrective actions are completed. Critical facilities and infrastructure potentially impacted include Santa Clara City Hall and municipal facilities; Santa Clara-Ivins Police Department facilities; Santa Clara fire and emergency response facilities; Washington County School District schools and community facilities; public works and public-facing municipal buildings; homes, apartments, rental units, childcare facilities, schools, libraries, senior or community centers, commercial buildings, offices, public buildings, lodging or short-term rental units, and other occupied ground-contact structures; building inspection and permitting programs, development review processes, property management systems, real estate transaction processes, facility maintenance programs, public health education systems, and radon testing and mitigation contractor networks vulnerable to elevated indoor radon, chronic health risk for building occupants, testing and mitigation expenses, delayed occupancy or property transfers, communication needs for residents and tenants, and facility management burdens where elevated indoor concentrations are identified.</p> |
| Ivins            | <p><b>Vulnerabilities:</b> Ivins is vulnerable because radon can accumulate in homes, public facilities, tourism-related buildings, and other enclosed structures with direct soil contact, including slab-on-grade and crawlspace construction common in expanding neighborhoods. The city shares Washington County's EPA Zone 2 classification and moderate predicted indoor screening levels of 2 to 4 pCi/L, and continued growth in residential and visitor-serving development increases the number of buildings that may require testing and mitigation.</p> <p><b>Impacts:</b> Long-term exposure to indoor radon can increase lung cancer risk for residents, workers, and visitors even though there are no visible signs of the hazard. Elevated results can also generate testing and mitigation costs, and may affect occupancy decisions, property transactions, or facility management if mitigation is delayed. Critical facilities and infrastructure potentially impacted include Ivins City Hall and municipal facilities; Santa Clara-Ivins Police Department facilities serving Ivins; Ivins fire and emergency response facilities; Washington County School District schools and community facilities; public works and public-facing municipal buildings; homes,</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |

| Plan Participant | Vulnerabilities and Impacts                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
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|                  | apartments, rental units, childcare facilities, schools, libraries, senior or community centers, medical or assisted living facilities, tourism-related buildings, lodging, offices, commercial buildings, and other frequently occupied ground-contact structures; building inspection and permitting programs, development review processes, property management systems, real estate transaction processes, facility maintenance programs, public health outreach systems, and radon testing and mitigation contractor networks vulnerable to elevated indoor radon, long-term occupant exposure, testing and mitigation costs, property transfer or leasing delays, facility management burdens, and communication needs for residents, visitors, students, workers, and other occupants.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| La Verkin        | <p><b>Vulnerabilities:</b> La Verkin is vulnerable because radon can build up in homes, schools, public facilities, and commercial buildings with basements, crawlspaces, slab-on-grade construction, or other direct soil contact in a community where continued growth adds new occupied structures. As part of Washington County, La Verkin shares the county's EPA Zone 2 classification and moderate predicted indoor radon range of 2 to 4 pCi/L, but site-specific levels may exceed that range and cannot be identified without testing.</p> <p><b>Impacts:</b> Radon can create chronic health consequences through long-term exposure, increasing lung cancer risk for residents, students, workers, and people spending extended time indoors. Elevated indoor levels may also require mitigation at or above EPA's 4 pCi/L action level, adding costs for homeowners and public agencies and potentially complicating property transfers, school operations, or building management if corrective action is delayed. Critical facilities and infrastructure potentially impacted include La Verkin City offices and municipal facilities; La Verkin Police Department; La Verkin fire and emergency response facilities; Washington County School District schools and community facilities; public works and public-facing municipal buildings; homes, apartments, rental units, childcare facilities, schools, libraries, senior or community centers, lodging, short-term rentals, visitor-serving businesses, offices, commercial buildings, and other occupied ground-contact structures; building inspection and permitting programs, development review processes, property management systems, real estate transaction processes, facility maintenance programs, public health outreach systems, and radon testing and mitigation contractor networks vulnerable to elevated indoor radon, chronic occupant exposure, testing and mitigation expenses, delayed property transfers or occupancy decisions, tenant and visitor communication needs, and operational burdens for public and visitor-serving facilities.</p> |
| Enterprise       | <p><b>Vulnerabilities:</b> Enterprise is vulnerable because radon can accumulate in homes, schools, agricultural support buildings used regularly by workers, public buildings, and other enclosed structures with direct soil contact in a rural community where testing and mitigation services may be less accessible. Although smaller than the urban corridor communities, Enterprise still shares Washington County's EPA Zone 2 classification and moderate predicted</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |

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|                  | <p>indoor screening range of 2 to 4 pCi/L, and rural settlement patterns can prolong exposure where buildings remain untested for long periods.</p> <p><b>Impacts:</b> Radon exposure can increase long-term lung cancer risk for residents, students, workers, and other occupants of frequently used buildings, particularly where the hazard remains undetected. Indirect impacts may include the cost of testing and mitigation, potential delays in home sales or occupancy decisions, and added burdens on households or public facilities if mitigation is needed and outside contractors must travel to the community. Critical facilities and infrastructure potentially impacted include Enterprise City offices and municipal facilities; Enterprise Police Department; Enterprise fire and emergency response facilities; Washington County School District schools and community facilities; public works and public-facing municipal buildings; homes, rental units, childcare facilities, schools, libraries, senior or community centers, agricultural support offices, commercial buildings, local businesses, public buildings, and other occupied ground-contact structures; rural housing, older buildings, dispersed properties, building inspection and permitting programs, property management systems, real estate transaction processes, facility maintenance programs, public health outreach systems, and radon testing and mitigation contractor networks vulnerable to elevated indoor radon, long-term occupant exposure, testing and mitigation costs, delayed property transfers, limited local contractor availability, communication challenges, and disproportionate burdens for lower-income households, renters, older structures, and dispersed rural properties.</p> |
| Toquerville      | <p><b>Vulnerabilities:</b> Toquerville is vulnerable because radon can occur in homes, schools, public buildings, and other occupied structures with direct ground contact as development continues in an arid, expanding residential setting. Like the rest of Washington County, Toquerville is in EPA Zone 2 with predicted average indoor screening levels between 2 and 4 pCi/L, but the hazard is site-specific and can exceed those averages where buildings are untested or have poor ventilation.</p> <p><b>Impacts:</b> Radon creates long-term health impacts by increasing cumulative lung cancer risk for occupants of untested buildings, even though no immediate symptoms or visible damage occur. If elevated levels are identified, property owners and local facilities may face testing and mitigation expenses, along with added planning and communication needs to reduce exposure. Critical facilities and infrastructure potentially impacted include Toquerville Town Hall and municipal facilities; Toquerville fire and emergency response facilities; public works and public-facing municipal buildings; Washington County School District schools and community facilities serving the area; homes, apartments, rental units, childcare facilities, schools, libraries, senior or community centers, commercial buildings, visitor-serving facilities, offices, and other occupied ground-contact structures; building inspection and permitting programs, development review processes, property management systems, real estate transaction processes, facility maintenance programs, public health outreach systems, and radon testing and mitigation contractor networks</p>                                                                                              |

| Plan Participant | Vulnerabilities and Impacts                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
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|                  | vulnerable to elevated indoor radon, chronic occupant exposure, testing and mitigation expenses, delayed occupancy or property transfers, tenant and resident communication needs, and increased exposure as new neighborhoods and public-serving facilities are developed.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| Leeds            | <p><b>Vulnerabilities:</b> Leeds is vulnerable because radon can accumulate in homes, community facilities, and other enclosed buildings with direct soil contact, especially where structures include slab-on-grade or crawlspace construction and where routine testing has not occurred. As part of Washington County, Leeds shares the county's EPA Zone 2 classification and moderate predicted screening range of 2 to 4 pCi/L, but localized indoor levels may be higher in individual buildings and can only be determined through testing.</p> <p><b>Impacts:</b> Radon can increase long-term lung cancer risk for residents and other building occupants without producing visible structural effects, making delayed detection a key concern. Elevated test results may also create testing and mitigation costs for homeowners and local facilities, reduce housing marketability until corrected, and add burdens on a small community where radon service access may be more limited. Critical facilities and infrastructure potentially impacted include Leeds Town Hall and public works facilities; Leeds fire and emergency response facilities; public-facing municipal and community facilities; homes, rental units, childcare facilities, schools or community learning spaces, libraries, senior or community centers, commercial buildings, corridor-related businesses, lodging or short-term rental units, and other occupied ground-contact structures; building inspection and permitting programs, property management systems, real estate transaction processes, facility maintenance programs, public health outreach systems, and radon testing and mitigation contractor networks vulnerable to elevated indoor radon, long-term occupant exposure, testing and mitigation costs, delayed property transfers or occupancy decisions, limited local contractor availability, and communication needs for residents, business owners, travelers, and building occupants.</p> |
| Virgin           | <p><b>Vulnerabilities:</b> Virgin is vulnerable because radon can accumulate in homes, lodging, restaurants, public buildings, and other occupied structures with direct soil contact in a small Zion gateway community with limited infrastructure and high visitor use. Virgin shares Washington County's EPA Zone 2 classification and the county's moderate predicted indoor screening range of 2 to 4 pCi/L, but tourism-oriented buildings and rental units may be especially vulnerable where testing and mitigation are inconsistent.</p> <p><b>Impacts:</b> Long-term radon exposure can increase lung cancer risk for residents, workers, renters, and visitors spending extended time indoors in untested buildings. Elevated indoor levels may also require mitigation, add operating costs for lodging and commercial property owners, and affect property transfer, rental, or occupancy decisions if testing identifies concentrations at or above EPA's 4 pCi/L action level. Critical facilities and infrastructure potentially impacted include Virgin Town Hall and municipal facilities; Virgin fire and emergency response facilities; public works and</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |

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|                  | <p>public-facing municipal buildings; homes, rental units, childcare or community facilities, schools or community learning spaces, lodging, restaurants, visitor-serving businesses, short-term rentals, offices, and other occupied ground-contact structures in the Zion gateway corridor; building inspection and permitting programs, property management systems, real estate transaction processes, facility maintenance programs, public health outreach systems, lodging management systems, and radon testing and mitigation contractor networks vulnerable to elevated indoor radon, chronic occupant exposure, testing and mitigation expenses, visitor and employee communication needs, delayed leasing or property transfers, limited contractor availability, and operational burdens for lodging and visitor-serving facilities.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| Springdale       | <p><b>Vulnerabilities:</b> Springdale is vulnerable because radon can accumulate in homes, employee housing, hotels, restaurants, public facilities, and other frequently occupied enclosed buildings in a constrained Zion gateway corridor. Like all counties in the region, Washington County is EPA Zone 2 with predicted average indoor screening levels between 2 and 4 pCi/L, but site-specific radon levels may exceed 4 pCi/L and cannot be determined without testing. Because Springdale contains lodging and visitor-serving buildings with frequent occupancy, the consequences of unrecognized radon exposure may extend beyond permanent residents to employees and long-stay visitors.</p> <p><b>Impacts:</b> Radon can increase long-term lung cancer risk for residents, workers, and visitors who spend extended time indoors, even though no visible warning signs are present. Elevated results can also create costs for testing and mitigation, and may affect building operations, visitor lodging decisions, and property management if mitigation is required to reduce indoor radon levels above EPA guidance. Critical facilities and infrastructure potentially impacted include Springdale Town Hall and municipal facilities; Springdale Police Department and emergency response facilities; public works and public-facing municipal buildings; homes, apartments, employee housing, rental units, childcare or community facilities, schools or community learning spaces, hotels, lodging areas, restaurants, visitor facilities, short-term rentals, offices, commercial buildings, and other occupied ground-contact structures in the Zion gateway corridor; building inspection and permitting programs, lodging and property management systems, real estate transaction processes, facility maintenance programs, public health outreach systems, tenant and visitor communication systems, and radon testing and mitigation contractor networks vulnerable to elevated indoor radon, long-term exposure for residents, workers, students, and visitors, testing and mitigation costs, delayed occupancy or lodging operations, property transfer or leasing complications, and facility management burdens in a high-visitor-use corridor.</p> |
| New Harmony      | <p><b>Vulnerabilities:</b> New Harmony is vulnerable because radon can build up in homes, community facilities, and other enclosed structures with direct soil contact in a rural mountain-valley setting where testing and mitigation resources may be less convenient to access. As part of Washington County,</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |

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|                  | <p>the community shares the county's EPA Zone 2 classification and moderate predicted indoor screening levels of 2 to 4 pCi/L, but individual buildings may test above EPA's action level depending on local geology, construction, and ventilation.</p> <p><b>Impacts:</b> Radon exposure can increase long-term lung cancer risk for residents and other occupants of untested buildings, particularly where people spend long periods indoors during colder months. Indirect impacts include testing and mitigation costs, potential delays in home sales or building use, and increased burdens on households or local facilities if certified mitigation services are limited and travel distances increase the cost of corrective work. Critical facilities and infrastructure potentially impacted include New Harmony Town Hall and municipal facilities; fire and emergency response facilities; public works and public-facing community buildings; homes, rental units, childcare or community facilities, schools or community learning spaces, libraries, senior or community centers, agricultural support buildings with occupied spaces, local businesses, and other occupied ground-contact structures; rural housing, older buildings, dispersed properties, building inspection and permitting programs, property management systems, real estate transaction processes, facility maintenance programs, public health outreach systems, and radon testing and mitigation contractor networks vulnerable to elevated indoor radon, chronic occupant exposure, testing and mitigation costs, limited local contractor availability, delayed property transfers, communication challenges, and disproportionate burdens for lower-income households, renters, older structures, and isolated rural properties.</p> |
| Rockville        | <p><b>Vulnerabilities:</b> Rockville is vulnerable because radon can accumulate in homes, historic structures, public buildings, and other enclosed ground-contact buildings in a small gateway community where older construction and limited infrastructure redundancy may delay detection and correction. Rockville shares Washington County's EPA Zone 2 classification and moderate predicted indoor screening range of 2 to 4 pCi/L, but localized conditions in older or less-ventilated structures could produce higher indoor concentrations without obvious warning signs.</p> <p><b>Impacts:</b> Radon primarily affects health rather than structures, increasing long-term lung cancer risk for residents and occupants of untested historic and residential buildings. If elevated levels are found, mitigation and follow-up testing can create added costs and management burdens for a small community, and concerns about indoor air quality may also affect housing decisions, building use, and preservation planning for historic properties. Critical facilities and infrastructure potentially impacted include Rockville Town Hall and municipal facilities; fire and emergency response facilities; public works and public-facing municipal buildings; historic homes, residential structures, rental units, childcare or community facilities, visitor-serving buildings, short-term rentals, offices, public buildings, and other occupied ground-contact structures in the Zion gateway corridor; historic property management systems, building inspection and permitting programs, real</p>                                                                                                                                                                                                         |

| Plan Participant | Vulnerabilities and Impacts                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
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|                  | <p>estate transaction processes, facility maintenance programs, public health outreach systems, lodging or rental management systems, and radon testing and mitigation contractor networks vulnerable to elevated indoor radon, chronic occupant exposure, testing and mitigation expenses, property transfer or leasing complications, visitor and resident communication needs, limited contractor availability, and added challenges where mitigation must be compatible with historic or older structures.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| Apple Valley     | <p><b>Vulnerabilities:</b> Apple Valley is vulnerable because radon can accumulate in dispersed homes, community facilities, and other enclosed structures with direct soil contact in a rural-residential setting where buildings may not be routinely tested. As part of Washington County, Apple Valley shares the county's EPA Zone 2 classification and moderate predicted indoor screening levels between 2 and 4 pCi/L, but actual indoor levels may exceed that range depending on site-specific geology, construction, and ventilation.</p> <p><b>Impacts:</b> Radon can increase long-term lung cancer risk for residents and occupants of untested buildings, especially where exposure continues for years before discovery. Elevated results may also create mitigation expenses, reduce housing marketability until corrective action is completed, and create service challenges if households must rely on outside contractors to install mitigation systems in a dispersed rural community. Critical facilities and infrastructure potentially impacted include Apple Valley Town Hall and municipal facilities; fire and emergency response facilities; public works and public-facing community buildings; homes, rental units, childcare or community facilities, schools or community learning spaces, local businesses, dispersed residential structures, public buildings, and other occupied ground-contact structures; rural housing, older or self-built structures, dispersed properties, building inspection and permitting programs, property management systems, real estate transaction processes, facility maintenance programs, public health outreach systems, and radon testing and mitigation contractor networks vulnerable to elevated indoor radon, chronic occupant exposure, testing and mitigation costs, limited local contractor availability, delayed property transfers, communication challenges across dispersed neighborhoods, and disproportionate burdens for lower-income households, renters, and older or unmitigated structures.</p> |
| Hildale          | <p><b>Vulnerabilities:</b> Hildale is vulnerable because radon can accumulate in homes, schools, public facilities, and other occupied buildings with direct soil contact in a community with ongoing infrastructure needs and limited redundancy. Hildale shares Washington County's EPA Zone 2 classification and moderate predicted indoor screening levels of 2 to 4 pCi/L, but site-specific indoor concentrations can exceed the 4 pCi/L action level and remain undetected without testing. Older buildings, cracks, slab-on-grade construction, and limited ventilation can further increase exposure potential.</p> <p><b>Impacts:</b> Radon can create chronic health impacts by increasing long-term lung cancer risk for residents, students, and staff in untested buildings, especially because there are no visible warning signs. If elevated levels are</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |

| Plan Participant | Vulnerabilities and Impacts                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
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|                  | identified, property owners and local agencies may face testing, mitigation, and communication costs, and may need outside technical and financial assistance to reduce exposure in homes, schools, and community facilities. Critical facilities and infrastructure potentially impacted include Hildale City Hall and municipal facilities; Hildale Police Department; Hildale fire and emergency response facilities; Water Canyon School and other community facilities; public works and public-facing municipal buildings; homes, rental units, childcare facilities, schools, community centers, public buildings, local businesses, and other occupied ground-contact structures; older buildings, structures with slab-on-grade construction, foundation cracks, utility penetrations, or limited ventilation, building inspection and permitting programs, property management systems, real estate transaction processes, facility maintenance programs, public health outreach systems, and radon testing and mitigation contractor networks vulnerable to elevated indoor radon, chronic occupant exposure, testing and mitigation costs, outside technical or financial assistance needs, delayed occupancy or property transfers, and communication burdens for residents, students, staff, and public facility users. |

## Thunderstorms and Lightning

Table 171 summarizes thunderstorm and lightning vulnerabilities and potential impacts for Washington County participants.

**Table 171: Thunderstorms and Lightning Vulnerability and Impact Assessment for Washington County**

| Plan Participant         | Vulnerabilities and Impacts                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
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| <b>Washington County</b> | <b>Vulnerabilities:</b> Washington County is highly vulnerable to thunderstorms and lightning because it contains the region's largest concentration of population, housing, critical facilities, businesses, transportation corridors, and recreation assets in areas regularly affected by monsoon storms. Selected documented Washington County examples include at least five thunderstorm wind events causing about \$215,000 in property damage and one 2018 lightning-caused residential fire in St. George causing about \$400,000 in damage, for roughly \$615,000 in reported losses in those selected examples; these examples are not a complete county loss total. Vulnerable assets include homes, schools, health care facilities, utility infrastructure, major roads, public facilities, outdoor recreation areas, and wildland-urban interface locations exposed to cloud-to-ground lightning, damaging outflow winds, heavy rain, and localized flash flooding. <sup>271</sup> |

<sup>271</sup> NOAA National Centers for Environmental Information, Storm Events Database, annual details CSV files, retrieved October 10, 2026. <https://www.ncei.noaa.gov/pub/data/swdi/stormevents/csvfiles/>. Selected examples summarized in

| Plan Participant | Vulnerabilities and Impacts                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
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|                  | <p><b>Impacts:</b> Thunderstorms and lightning can damage roofs and siding, down trees and power lines, interrupt communications and utilities, create hazardous travel and flash flooding, and ignite structure or wildland fires. Countywide impacts may also include injuries, emergency response disruptions, school and business interruption, cleanup and repair costs, and cascading outages affecting water, wastewater, traffic control, and other critical services. Critical facilities and infrastructure potentially impacted include Washington County Sheriff's Office; Washington County Emergency Management; St. George 911 Communications Center; Southwest Utah Public Health Department; St. George Regional Hospital; Washington County School District facilities; Utah Tech University facilities; Dixie Technical College facilities; county and municipal government buildings; public safety facilities; public works facilities; Interstate 15, State Route 9, State Route 18, State Route 34, State Route 7/Southern Parkway, State Route 59, and other regional roadways, bridges, culverts, traffic signals, drainage crossings, evacuation routes, emergency response routes, and airport access routes; St. George Regional Airport; Washington County Water Conservancy District reservoirs, pipelines, pump stations, water storage, and distribution infrastructure; municipal water, wastewater, stormwater, drainage, power, communications, fiber, cellular, and utility systems; public buildings, schools, health care facilities, parks, trailheads, campgrounds, reservoir recreation facilities, tourism and visitor-serving infrastructure, agricultural buildings, sheds, fences, corrals, irrigation equipment, maintenance yards, utility poles, overhead lines, antennas, radio towers, rooftops, mechanical systems, and wildland-urban interface assets vulnerable to lightning strikes, power surges, fire ignition, wind-driven rain, localized flooding, downed lines, blocked roads, outages, and service disruptions.</p> |
| St. George       | <p><b>Vulnerabilities:</b> St. George is highly vulnerable because its dense residential and commercial development, schools, hospitals, major roads, airport-related infrastructure, utilities, and parks are exposed to recurring thunderstorm winds, cloud-to-ground lightning, and localized flash flooding. The thunderstorm profile identifies St. George as one of the county's most repeatedly affected communities, including documented thunderstorm wind property damage in 2005 and a 2018 lightning strike that caused a residential fire destroying a home and resulting in about \$400,000 in damage. Large numbers of people, buildings, vehicles, and outdoor users increase exposure when storms move through the urban area.</p> <p><b>Impacts:</b> Thunderstorms and lightning can damage roofs, trees, signs, vehicles, and utility systems; create dangerous travel conditions; interrupt airport, school, medical, business, and public services; and ignite structure fires. Because St. George is the region's primary service center, even localized storm damage can create broader cascading impacts through outages, roadway disruptions, emergency response delays, and costly repair and</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |

the regional thunderstorms/lightning profile; Event 748262, 2018, reports a \$400,000 lightning-caused residential fire in St. George.

| Plan Participant | Vulnerabilities and Impacts                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
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|                  | <p>cleanup needs affecting a large number of residents and visitors. Critical facilities and infrastructure potentially impacted include St. George City Hall and municipal government facilities; St. George Police Department; St. George Fire Department stations; St. George 911 Communications Center; St. George Regional Hospital; Utah Tech University facilities; Dixie Technical College facilities; Washington County School District schools and support facilities; St. George Regional Airport and airport access infrastructure; public works, water, wastewater, stormwater, irrigation, drainage, storage, pumping, and distribution facilities; Interstate 15, State Route 7/Southern Parkway, Bluff Street, River Road, St. George Boulevard, Riverside Drive, Red Hills Parkway, traffic signals, bridges, culverts, drainage crossings, and major arterials; Washington County Water Conservancy District facilities serving the St. George area; electric substations, overhead and underground power systems, communications, fiber, cellular, and utility infrastructure; hospitals, clinics, medical offices, commercial centers, hotels, warehouses, schools, parks, sports fields, trail systems, golf courses, recreation facilities, public buildings, signs, rooftops, mechanical systems, antennas, radio equipment, and wildland-urban interface neighborhoods vulnerable to lightning strikes, fire ignition, power surges, outages, downed lines, wind-driven debris, localized flooding, hazardous travel, airport access disruption, and emergency response delays.</p>                                                                                                                                                                                                                                                                                                    |
| Washington City  | <p><b>Vulnerabilities:</b> Washington City is vulnerable because growing neighborhoods, schools, parks, commercial areas, roads, and utilities are exposed to thunderstorm winds, lightning, heavy rain, and occasional flash flooding across open urban and suburban terrain. The hazard profile identifies Washington as one of the county communities with documented thunderstorm wind damage, including a 2011 event contributing to the county's repeated loss history. Continued growth increases the number of people, structures, construction sites, and overhead systems that may be affected by severe weather.</p> <p><b>Impacts:</b> Thunderstorms and lightning can damage roofs, fences, trees, signs, and utility infrastructure; interrupt power and communications; create unsafe travel conditions; and increase injury risk for people outdoors. City operations, schools, and daily travel may also be disrupted by debris, outages, localized flooding, and emergency response activity during and after severe storms. Critical facilities and infrastructure potentially impacted include Washington City offices and municipal facilities; Washington City Police Department; Washington City Fire Department facilities; Washington County School District schools and community facilities; public works facilities; culinary water, irrigation, wastewater, stormwater, drainage, storage, pumping, and distribution infrastructure; Interstate 15, State Route 9, Telegraph Street, Green Spring Drive, Washington Parkway, traffic signals, bridges, culverts, drainage crossings, and major access routes; Washington County Water Conservancy District facilities serving the Washington area; power, communications, fiber, cellular, and utility infrastructure; parks, trail systems, sports fields, commercial centers, public buildings, signs, rooftops, mechanical</p> |

| Plan Participant | Vulnerabilities and Impacts                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
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|                  | systems, utility poles, overhead lines, antennas, radio equipment, construction sites, and developing neighborhoods vulnerable to lightning strikes, power surges, downed lines, outages, roof and siding damage, wind-driven debris, localized flooding, blocked roads, and interrupted emergency access.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| Hurricane        | <p><b>Vulnerabilities:</b> Hurricane is highly vulnerable because homes, schools, businesses, roads, utilities, and recreation traffic in the Hurricane Valley are exposed to thunderstorm winds, lightning, heavy rain, and occasional flash flooding. The community's expanding residential and commercial growth, overhead infrastructure, and proximity to outdoor recreation areas increase sensitivity to outflow winds, lightning strikes, and rapidly changing storm conditions.</p> <p><b>Impacts:</b> Thunderstorms and lightning can damage roofs, fences, trees, and utility systems; create hazardous travel conditions; interrupt schools, businesses, and emergency access; and ignite wildland or structure fires. Severe storms may also produce localized flooding, debris cleanup needs, temporary outages, and recreation-related safety incidents affecting both residents and visitors. Critical facilities and infrastructure potentially impacted include Hurricane City Hall and municipal facilities; Hurricane Police Department; Hurricane Valley Fire District facilities; Washington County School District schools and community facilities; public works, water, wastewater, stormwater, drainage, irrigation, storage, pumping, and distribution infrastructure; Interstate 15 access routes, State Route 9, State Route 7/Southern Parkway, State Route 59, major local roads, traffic signals, bridges, culverts, drainage crossings, evacuation routes, and emergency routes; Sand Hollow Reservoir and Quail Creek Reservoir recreation-support, dam, spillway, access, and utility infrastructure; power, communications, fiber, cellular, and utility corridors; parks, trailheads, campgrounds, marinas, commercial areas, tourism businesses, public buildings, signs, rooftops, mechanical systems, overhead lines, antennas, radio equipment, utility poles, and expanding neighborhoods vulnerable to lightning strikes, fire ignition, power surges, downed lines, outages, wind-driven debris, localized flooding, recreation access disruption, and emergency response delays.</p> |
| Santa Clara      | <p><b>Vulnerabilities:</b> Santa Clara is vulnerable because homes, schools, parks, roads, public facilities, and utility systems are exposed to thunderstorm winds and lightning moving through the greater St. George urban area. The hazard profile identifies Santa Clara as one of the county communities with documented thunderstorm wind property damage, including a 2010 event contributing to the county's repeated severe-weather loss history. Trees, signs, overhead lines, and lightly built structures are especially susceptible to strong gusts and debris impacts.</p> <p><b>Impacts:</b> Thunderstorms and lightning can damage buildings and landscapes, interrupt power and communications, create road obstructions, and increase public safety risks for residents and outdoor users. Severe storms may also elevate fire danger, require debris removal and infrastructure repair, and temporarily disrupt schools, city services, and neighborhood access. Critical</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |

| Plan Participant | Vulnerabilities and Impacts                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
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|                  | <p>facilities and infrastructure potentially impacted include Santa Clara City Hall and municipal facilities; Santa Clara-Ivins Police Department facilities; Santa Clara fire and emergency response facilities; Washington County School District schools and community facilities; public works, water, irrigation, wastewater, stormwater, drainage, storage, pumping, and distribution systems; Old Highway 91, Santa Clara Drive, Pioneer Parkway, traffic signals, bridges, culverts, drainage crossings, and emergency routes; Santa Clara River corridor infrastructure; power, communications, fiber, cellular, and utility infrastructure; parks, trails, recreation areas, public buildings, commercial areas, neighborhoods, signs, rooftops, mechanical systems, overhead lines, utility poles, antennas, radio equipment, and slope- or river-adjacent facilities vulnerable to lightning strikes, fire ignition, power surges, downed lines, outages, roof and siding damage, wind-driven debris, localized flooding, road obstructions, and temporary disruption of city services and neighborhood access.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| Ivins            | <p><b>Vulnerabilities:</b> Ivins is vulnerable because neighborhoods, roads, public facilities, tourism-related amenities, trails, and utility systems are exposed to thunderstorm winds and lightning across open desert terrain and near slope transitions. The city's growth and reliance on limited transportation and utility connections increase sensitivity to downed lines, debris, wildfire ignition from lightning, and storm-related recreation safety concerns.</p> <p><b>Impacts:</b> Thunderstorms and lightning can damage roofs, fences, trees, and utility components; disrupt power and communications; create hazardous travel conditions; and threaten people engaged in outdoor recreation or events. Lightning-caused fire, debris cleanup, and temporary service interruptions may also affect tourism amenities, city operations, and emergency response access. Critical facilities and infrastructure potentially impacted include Ivins City Hall and municipal facilities; Santa Clara-Ivins Police Department facilities serving Ivins; Ivins fire and emergency response facilities; Washington County School District schools and community facilities; public works, water, wastewater, stormwater, drainage, irrigation, storage, pumping, and distribution infrastructure; Old Highway 91, Center Street, Snow Canyon Parkway, local access routes, bridges, culverts, traffic-control devices, drainage crossings, and emergency routes; overhead and underground power, communications, fiber, cellular, and utility infrastructure; parks, trailheads, recreation facilities, tourism-related amenities, public buildings, signs, rooftops, mechanical systems, antennas, radio equipment, utility poles, and desert-edge neighborhoods vulnerable to lightning strikes, fire ignition, power surges, outages, downed lines, wind-driven debris, roof damage, hazardous travel, recreation access disruption, and temporary service interruptions.</p> |
| La Verkin        | <p><b>Vulnerabilities:</b> La Verkin is vulnerable because homes, roads, bridges, schools, utilities, and public facilities are located in a valley-and-river corridor setting where thunderstorm winds, lightning, brief heavy rain, and localized flash flooding can occur. The community's transportation connections,</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |

| Plan Participant | Vulnerabilities and Impacts                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
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|                  | <p>overhead infrastructure, and proximity to canyon and recreation travel corridors increase sensitivity to debris, outages, and rapidly changing weather affecting residents and travelers.</p> <p><b>Impacts:</b> Thunderstorms and lightning can damage property and utility systems, create hazardous travel on local roads and corridor routes, interrupt public services and school access, and increase wildfire ignition potential during dry storms. Localized flooding, debris, and power disruption may also raise public works and cleanup costs and affect tourism and traveler safety in the area. Critical facilities and infrastructure potentially impacted include La Verkin City offices and municipal facilities; La Verkin Police Department; La Verkin fire and emergency response facilities; Washington County School District schools and community facilities; public works, water, wastewater, stormwater, drainage, storage, pumping, and utility infrastructure; State Route 9, State Route 17, local bridges, culverts, traffic-control devices, drainage crossings, evacuation routes, and Zion gateway access routes; La Verkin Creek, Ash Creek, Virgin River corridor, and adjacent transportation and utility infrastructure; overhead and underground electric, communications, fiber, cellular, and utility infrastructure; parks, trailheads, visitor-serving businesses, public buildings, signs, rooftops, mechanical systems, antennas, radio equipment, utility poles, and river- or corridor-adjacent neighborhoods vulnerable to lightning strikes, fire ignition, power surges, downed lines, outages, wind-driven debris, localized flooding, road blockage, public service disruption, and visitor travel delays.</p> |
| Enterprise       | <p><b>Vulnerabilities:</b> Enterprise is vulnerable because homes, agricultural buildings, corrals, fences, roads, schools, utilities, and farm operations are exposed across open rural terrain where thunderstorms can produce lightning, microburst winds, brief heavy rain, and wildfire-starting dry lightning. Although smaller than the urban corridor communities, Enterprise's agricultural assets, overhead infrastructure, and limited route redundancy increase the proportion of the community that can be affected by a single storm.</p> <p><b>Impacts:</b> Thunderstorms and lightning can damage outbuildings, fences, equipment, and utility systems; interrupt power and road access; threaten livestock, workers, and school operations; and ignite rangeland or interface fires. Recovery may be prolonged where local staffing and financial capacity are limited and where storm damage affects both public infrastructure and agricultural production at the same time. Critical facilities and infrastructure potentially impacted include Enterprise City offices and municipal facilities; Enterprise Police Department; Enterprise fire and emergency response facilities; Washington County School District schools and community facilities; public works, municipal and domestic water systems, wells, wastewater, drainage, stormwater, irrigation, storage, pumping, and agricultural water infrastructure; State Route 18, local roads, bridges, culverts, traffic-control devices, drainage crossings, rural access routes, and emergency routes; reservoirs, irrigation systems, canals, storage ponds, farms, ranches, barns,</p>                                                                                               |

| Plan Participant | Vulnerabilities and Impacts                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
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|                  | sheds, corrals, fields, livestock water supplies, and agricultural support facilities; power, communications, fiber, cellular, and utility infrastructure; parks, public buildings, signs, maintenance yards, exposed vehicles and equipment, utility poles, overhead lines, antennas, and radio equipment vulnerable to lightning strikes, fire ignition, power surges, downed lines, outages, wind-driven debris, localized flooding, agricultural disruption, road blockage, and delayed emergency response.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| Toquerville      | <p><b>Vulnerabilities:</b> Toquerville is vulnerable because homes, roads, utilities, schools, and expanding residential areas are exposed on open terrain and near drainage corridors where thunderstorms can bring lightning, damaging outflow winds, and heavy rain. The hazard profile identifies Toquerville as one of the county communities with documented thunderstorm wind property damage, including a 2024 event contributing to the county's overall severe-weather loss history. Growth continues to add structures, overhead systems, and people in storm-exposed settings.</p> <p><b>Impacts:</b> Thunderstorms and lightning can damage roofs, fences, trees, and utility lines; create road hazards and localized flooding; interrupt public services and school access; and increase wildfire risk during dry and windy storm conditions. Repeated storm impacts may also increase cleanup, repair, and maintenance costs for the town's transportation, drainage, and utility infrastructure. Critical facilities and infrastructure potentially impacted include Toquerville Town Hall and municipal facilities; Toquerville fire and emergency response facilities; public works and utility facilities; Washington County School District schools and community facilities serving the area; culinary water, irrigation, wastewater, stormwater, drainage, storage, pumping, and distribution infrastructure; State Route 17, Interstate 15 access routes, local roads, bridges, culverts, traffic-control devices, drainage crossings, evacuation routes, and developing neighborhood access roads; Ash Creek and La Verkin Creek watershed drainage infrastructure; power, communications, fiber, cellular, and utility infrastructure; parks, trails, public buildings, visitor-serving facilities, signs, rooftops, mechanical systems, antennas, radio equipment, overhead lines, utility poles, and expanding neighborhoods vulnerable to lightning strikes, fire ignition, power surges, outages, downed lines, wind-driven debris, localized flooding, road hazards, neighborhood access disruption, and increased maintenance needs.</p> |
| Leeds            | <p><b>Vulnerabilities:</b> Leeds is vulnerable because homes, Interstate 15 access points, local roads, utility systems, and community facilities are exposed to strong thunderstorm winds and lightning in a geologically constrained area influenced by open gaps and major travel corridors. Transportation links, overhead utilities, trees, and signs are especially susceptible to crosswinds, debris, and outage-causing electrical damage.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |

| Plan Participant | Vulnerabilities and Impacts                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
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|                  | <p><b>Impacts:</b> Thunderstorms and lightning can cause roof and fence damage, down power lines, create hazardous driving conditions on local and interstate routes, and interrupt utility service and emergency access. Because Leeds is connected to major regional travel corridors, even localized storm impacts may create wider transportation and safety consequences beyond the town itself. Critical facilities and infrastructure potentially impacted include Leeds Town Hall and public works facilities; Leeds fire and emergency response facilities; water, wastewater, stormwater, drainage, storage, pumping, and utility infrastructure; Interstate 15, Main Street, local roads, bridges, culverts, traffic-control devices, access ramps, drainage crossings, evacuation routes, and corridor transportation infrastructure; Leeds Creek, Quail Creek, and nearby drainage corridor infrastructure; overhead and underground electric, communications, fiber, cellular, and utility infrastructure; parks, public buildings, community facilities, signs, rooftops, mechanical systems, antennas, radio equipment, utility poles, corridor businesses, and interstate-related infrastructure vulnerable to lightning strikes, fire ignition, power surges, outages, downed lines, wind-driven debris, localized flooding, hazardous travel, interstate access disruption, and delayed emergency response.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| Virgin           | <p><b>Vulnerabilities:</b> Virgin is vulnerable because homes, lodging, restaurants, SR-9, utility systems, and visitor-serving facilities are exposed in the Zion gateway corridor where thunderstorms can produce lightning, strong outflow winds, heavy rain, and dangerous rapidly changing conditions for residents and visitors. Limited access routes, tourism activity, and overhead infrastructure increase sensitivity to storm damage and travel disruption.</p> <p><b>Impacts:</b> Thunderstorms and lightning can damage buildings and utilities, create hazardous travel on SR-9, interrupt business and lodging operations, and threaten people in outdoor settings. Severe storms may also produce localized flooding, wildfire ignition, and emergency response complications that affect both local commerce and visitor movement in the gateway corridor. Critical facilities and infrastructure potentially impacted include Virgin Town Hall and municipal facilities; Virgin fire and emergency response facilities; public works, water, wastewater, drainage, storage, pumping, and utility infrastructure; State Route 9, local roads, bridges, culverts, traffic-control devices, drainage crossings, evacuation routes, and Zion gateway access routes; Virgin River corridor and adjacent transportation and utility infrastructure; overhead and underground electric, communications, fiber, cellular, and utility corridors; lodging, restaurants, visitor-serving businesses, parks, trailheads, campgrounds, recreation access points, public buildings, signs, rooftops, mechanical systems, antennas, radio equipment, utility poles, and corridor neighborhoods vulnerable to lightning strikes, fire ignition, power surges, outages, downed lines, wind-driven debris, localized flooding, SR-9 travel disruption, visitor service interruption, and emergency response constraints.</p> |
| Springdale       | <p><b>Vulnerabilities:</b> Springdale is highly vulnerable because lodging, restaurants, homes, roads, utilities, and visitor facilities are concentrated in a narrow Zion</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |

| Plan Participant | Vulnerabilities and Impacts                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
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|                  | <p>gateway corridor with constrained access, steep surrounding terrain, and high visitor volumes exposed to lightning, strong winds, and rapidly changing storm conditions. The town shares the elevated recreation and corridor exposure described for nearby gateway communities and is especially sensitive where outdoor users, employees, and travelers have limited shelter and transportation redundancy.</p> <p><b>Impacts:</b> Thunderstorms and lightning can damage tourism infrastructure, interrupt utility service, create hazardous travel and evacuation conditions, threaten people outdoors, and cause temporary closure of recreation or visitor-serving sites. Even moderate storm impacts can create outsized life-safety and economic consequences because Springdale depends on tourism, a single constrained corridor, and uninterrupted access to Zion-area destinations. Critical facilities and infrastructure potentially impacted include Springdale Town Hall and municipal facilities; Springdale Police Department and emergency response facilities; public works, water, wastewater, drainage, stormwater, storage, pumping, and utility infrastructure; State Route 9, Zion Canyon access routes, shuttle-related transportation facilities, local roads, bridges, culverts, traffic-control devices, drainage crossings, evacuation routes, and visitor access corridors; Virgin River corridor and canyon-slope infrastructure; overhead and underground electric, communications, fiber, cellular, and utility infrastructure; hotels, restaurants, lodging areas, employee housing, visitor facilities, parks, trailheads, public buildings, Zion gateway recreation assets, public gathering areas, signs, rooftops, mechanical systems, antennas, radio equipment, and utility poles vulnerable to lightning strikes, fire ignition, power surges, outages, downed lines, wind-driven debris, localized flooding, visitor access disruption, evacuation constraints, tourism interruption, and emergency response delays.</p> |
| New Harmony      | <p><b>Vulnerabilities:</b> New Harmony is vulnerable because homes, roads, water systems, community facilities, and agricultural or open lands are exposed in a rural mountain-valley setting where thunderstorms can produce lightning, strong winds, and heavy rain. Limited alternate access, overhead infrastructure, and exposure of outdoor workers and travelers increase sensitivity to outages, road obstructions, and storm-related fire or flood concerns.</p> <p><b>Impacts:</b> Thunderstorms and lightning can damage roofs, trees, power lines, and local infrastructure; interrupt emergency response and local travel; and raise wildfire ignition risk during dry storms. Recovery may be slower where staffing and resources are limited and where roads, water systems, or utilities are disrupted by debris, outages, or localized flooding. Critical facilities and infrastructure potentially impacted include New Harmony Town Hall and municipal facilities; fire and emergency response facilities; public works, local and domestic water systems, wells, storage, pumping, wastewater, drainage, and utility infrastructure; Interstate 15, State Route 144, local roads, bridges, culverts, traffic-control devices, drainage crossings, evacuation routes, and rural access roads; Ash Creek watershed drainage crossings and nearby</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |

| Plan Participant | Vulnerabilities and Impacts                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
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|                  | <p>transportation and utility infrastructure; power, communications, fiber, cellular, and utility corridors; agricultural and open lands, irrigation systems, livestock water supplies, parks, community facilities, public buildings, public landscapes, sheds, fences, maintenance facilities, utility poles, overhead lines, antennas, and radio equipment vulnerable to lightning strikes, fire ignition, power surges, outages, downed lines, wind-driven debris, localized flooding, rural access disruption, utility interruption, and delayed emergency response.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| Rockville        | <p><b>Vulnerabilities:</b> Rockville is especially vulnerable because homes, historic resources, roads, bridges, utilities, and public spaces are concentrated in a small Zion gateway setting with limited access and repeated weather exposure. A 2021 NCEI wind record coded to Rockville describes property damage in Hildale; that record does not establish damage in Rockville. Outdoor users, older structures, and corridor infrastructure are particularly susceptible to lightning, wind, and heavy-rain-related hazards.<sup>272</sup></p> <p><b>Impacts:</b> Thunderstorms and lightning can damage historic and residential structures, block roads, interrupt utilities, and create dangerous conditions for residents and visitors. Because the community is small and transportation options are limited, even localized storm damage can significantly affect evacuation, emergency response, tourism activity, and recovery operations. Critical facilities and infrastructure potentially impacted include Rockville Town Hall and municipal facilities; fire and emergency response facilities; public works, water, wastewater, drainage, storage, pumping, and utility infrastructure; State Route 9, local roads, bridges, culverts, traffic-control devices, drainage crossings, evacuation routes, and Zion gateway access routes; Virgin River corridor and adjacent canyon-slope infrastructure; overhead and underground electric, communications, fiber, cellular, and utility infrastructure; historic buildings, homes, parks, trailheads, visitor-serving facilities, public buildings, public spaces, scenic or historic community resources, signs, rooftops, mechanical systems, antennas, radio equipment, and utility poles vulnerable to lightning strikes, fire ignition, power surges, outages, downed lines, wind-driven debris, localized flooding, constrained evacuation, visitor disruption, damage to older or historic structures, and emergency response delays.</p> |
| Apple Valley     | <p><b>Vulnerabilities:</b> Apple Valley is vulnerable where dispersed homes, local roads, water systems, and community facilities are exposed across open rural-residential terrain where thunderstorms can produce lightning, damaging winds, and heavy rain. The town's dispersed layout, overhead infrastructure, and distance from some services can increase sensitivity to outages, travel hazards, and delayed response during severe weather.</p> <p><b>Impacts:</b> Thunderstorms and lightning can damage homes, outbuildings, fences, and utility systems; create hazardous travel; interrupt access to</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |

<sup>272</sup> NOAA National Centers for Environmental Information, Storm Events Database, annual details CSV files, retrieved October 10, 2026. <https://www.ncei.noaa.gov/pub/data/swdi/stormevents/csvfiles/> Event 974340, July 24, 2021. Database location label and damage narrative refer to different places.

| Plan Participant | Vulnerabilities and Impacts                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
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|                  | <p>essential services and emergency response; and increase wildfire ignition potential. Recovery may be challenging if multiple dispersed neighborhoods are affected at once or if repairs require outside contractors and extended restoration timelines. Critical facilities and infrastructure potentially impacted include Apple Valley Town Hall and municipal facilities; fire and emergency response facilities; public works, community water systems, wells, storage, pumping, wastewater, drainage, and utility infrastructure; State Route 59, local roads, bridges, culverts, washes, traffic-control devices, drainage crossings, evacuation routes, and rural access roads; power, communications, fiber, cellular, and utility corridors; parks, community facilities, dispersed residential water systems, public buildings, open-space resources, limited agricultural or livestock support infrastructure, maintenance facilities, homes, outbuildings, fences, utility poles, overhead lines, antennas, radio equipment, and exposed vehicles or equipment vulnerable to lightning strikes, fire ignition, power surges, outages, downed lines, wind-driven debris, localized flooding, delayed emergency access, and service challenges across dispersed neighborhoods.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| Hildale          | <p><b>Vulnerabilities:</b> Hildale is vulnerable because homes, schools, roads, utility and water systems, and public facilities are exposed in rugged terrain and drainage-sensitive areas where thunderstorms can bring lightning, strong winds, and sudden heavy rain. Limited infrastructure redundancy, overhead utilities, and constrained access routes increase sensitivity to outages, debris, hazardous travel, and wildfire ignition during dry storm conditions.</p> <p><b>Impacts:</b> Thunderstorms and lightning can damage buildings and utility systems, interrupt water and electric service, block roads, threaten people outdoors, and disrupt emergency response and public safety operations. In a community with ongoing infrastructure needs, repeated storm impacts may increase recovery demands and require outside technical and financial assistance to restore services and access. Critical facilities and infrastructure potentially impacted include Hildale City Hall and municipal facilities; Hildale Police Department; Hildale fire and emergency response facilities; Water Canyon School and other community facilities; public works, culinary water, wastewater, stormwater, drainage, storage, pumping, and utility infrastructure; Utah State Route 59, local roads, bridges, culverts, washes, traffic-control devices, drainage crossings, community access routes, and evacuation routes; power, communications, fiber, cellular, and utility corridors; parks, public buildings, residential water systems, public landscapes, drainage-sensitive open areas, homes, outbuildings, signs, rooftops, mechanical systems, antennas, radio equipment, utility poles, and overhead lines vulnerable to lightning strikes, fire ignition, power surges, outages, downed lines, wind-driven debris, localized flooding, road blockage, water and electric service interruption, isolation, delayed emergency response, and increased need for outside technical and financial assistance.</p> |

## Tornadoes

Table 172 summarizes tornado vulnerabilities and potential impacts for Washington County participants.

**Table 172: Tornadoes Vulnerability and Impact Assessment for Washington County**

| Plan Participant  | Vulnerabilities and Impacts                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
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| Washington County | <p><b>Vulnerabilities:</b> Washington County is vulnerable to tornadoes because it contains the region’s largest concentration of population, housing, schools, medical services, businesses, utilities, transportation corridors, and visitor-serving development in areas that may be affected by localized tornado wind damage. The tornado profile identifies two Washington County tornado records during 2000–2025, rated EF0 in 2011 and EFU (unknown intensity) in 2017. Countywide planning context includes 213,670 residents and 91,460 housing units in 2025 and 69,786 households in the 2020–2024 ACS; these totals do not quantify tornado exposure. Additional vulnerable populations include 23.8% of residents under age 18, 22.4% age 65 or older, and 9.0% of residents under age 65 with a disability. Critical facilities at risk include schools, St. George Regional Hospital River Road Emergency Department, major corridors such as Interstate 15, State Route 9, and State Route 18, and concentrations of manufactured housing, older housing, and visitor-serving facilities where shelter options may be limited.<sup>273</sup></p> <p><b>Impacts:</b> Tornadoes in Washington County are expected to be infrequent but can still cause meaningful localized consequences where paths intersect dense neighborhoods, schools, commercial areas, utilities, and major travel routes. Regionally, NOAA/NCEI records show 10 tornado records on 10 distinct dates across the five counties during 2000–2025 causing about \$300,000 in property damage with no reported deaths or injuries; a tornado affecting Washington County could damage roofs, siding, windows, signs, vehicles, power lines, communications equipment, and trees. Potential impacts include structural damage, debris-blocked roads, utility outages, temporary business interruption, school disruption, reduced access to medical care, and cascading effects on emergency response, visitor travel, and essential community services.<sup>274</sup> Critical facilities and infrastructure potentially impacted include Washington County Sheriff’s Office; Washington County Emergency Management; St. George 911 Communications Center; Southwest Utah Public Health Department; St. George Regional Hospital and emergency</p> |

<sup>273</sup> U.S. Census Bureau, QuickFacts: Washington County, Utah; July 1, 2025 population and housing estimates (V2025), 2020 Census, and 2020–2024 American Community Survey, as applicable. Age percentages are those reported in QuickFacts. <https://www.census.gov/quickfacts/fact/table/washingtoncountyutah/PST045225>. Accessed October 10, 2026. NOAA National Centers for Environmental Information, Storm Events Database, annual details CSV files, retrieved October 10, 2026. <https://www.ncei.noaa.gov/pub/data/swdi/stormevents/csvfiles/> Washington County tornado Events 346603 (2011) and 715693 (2017).

<sup>274</sup> NOAA National Centers for Environmental Information, Storm Events Database, annual details CSV files, retrieved October 10, 2026. <https://www.ncei.noaa.gov/pub/data/swdi/stormevents/csvfiles/> Tornado records, county-based selection for Beaver, Garfield, Iron, Kane, and Washington counties, 2000–2025. Ten records on ten dates; \$300,000 reported property damage; no reported deaths or injuries.

| Plan Participant | Vulnerabilities and Impacts                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
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|                  | <p>care sites; Washington County School District schools, transportation, and support facilities; Utah Tech University facilities; Dixie Technical College facilities; county and municipal government buildings; public safety facilities; EMS<sup>275</sup> resources; public works facilities; Interstate 15, State Route 9, State Route 18, State Route 34, State Route 7/Southern Parkway, State Route 59, and other regional roads, bridges, culverts, traffic-control devices, signs, evacuation routes, airport access routes, and emergency response routes; St. George Regional Airport; electric distribution lines, substations, communications towers, fiber, cellular, internet, dispatch, and radio systems; water, wastewater, stormwater, drainage, fuel, and utility systems; hospitals, clinics, schools, public buildings, retail centers, lodging, tourism-oriented businesses, parks, recreation sites, outdoor venues, manufactured housing, older housing, apartments, large-span commercial or institutional buildings, agricultural buildings, barns, outbuildings, fencing, irrigation systems, equipment, rooftops, mechanical systems, antennas, utility poles, overhead lines, vehicles, and trees vulnerable to tornado winds, windborne debris, roof or structural damage, broken windows, downed power and communications lines, blocked roads, utility disruption, loss of emergency access, school disruption, medical access interruption, visitor sheltering needs, and short-term interruption of essential services.</p>                                                                                                                                                                                                                                                                                                                           |
| St. George       | <p><b>Vulnerabilities:</b> St. George is highly vulnerable because it contains the county's largest concentration of homes, apartments, schools, hospitals, businesses, utilities, and regional transportation infrastructure that could be affected by a localized tornado path. Within Washington County, St. George includes dense neighborhoods, manufactured and older housing, high-value commercial property, and heavily used lifeline systems that can be disrupted even by weak to moderate EF0 to EF2 tornadoes. The reviewed 2000–2025 county records include an EF0 tornado in 2011 and an EFU tornado in 2017; they do not establish a tornado footprint over the city.</p> <p><b>Impacts:</b> Tornadoes can damage roofs, windows, siding, signs, vehicles, utility poles, and trees; interrupt power and communications; and create dangerous roadway debris and short-term service disruption. Because St. George is the regional service hub, even localized tornado damage could affect hospitals, schools, commerce, emergency response, and major travel routes, creating broader cascading impacts across Washington County while generating costly repair and cleanup needs. Critical facilities and infrastructure potentially impacted include St. George City Hall and municipal government facilities; St. George Police Department; St. George Fire Department stations; St. George 911 Communications Center; St. George Regional Hospital and emergency care facilities; Utah Tech University facilities; Dixie Technical College facilities; Washington County School District schools and support facilities; St. George Regional Airport and airport access infrastructure; public works, water, wastewater, stormwater, drainage, storage, pumping, and distribution facilities; Interstate 15, State Route 7/Southern Parkway, Bluff Street, River</p> |

<sup>275</sup> EMS = emergency medical services

| Plan Participant | Vulnerabilities and Impacts                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
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|                  | <p>Road, St. George Boulevard, Riverside Drive, Red Hills Parkway, traffic signals, bridges, culverts, signs, and major arterials; Washington County Water Conservancy District facilities serving the St. George area; electric substations, overhead and underground power systems, communications, fiber, cellular, internet, radio, and dispatch infrastructure; hospitals, clinics, medical offices, commercial centers, hotels, warehouses, schools, parks, sports fields, trail systems, golf courses, recreation facilities, public buildings, manufactured or older housing, apartments, large-span buildings, rooftops, windows, signs, vehicles, mechanical systems, antennas, utility poles, overhead lines, and trees vulnerable to tornado winds, windborne debris, roof and siding damage, broken windows, downed lines, roadway debris, airport access disruption, emergency response delays, business interruption, school disruption, and short-term interruption of regional services.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| Washington City  | <p><b>Vulnerabilities:</b> Washington City is vulnerable because growing neighborhoods, schools, parks, commercial areas, roads, and utility systems could be affected if a tornado path crosses developed portions of the city. The broader county has documented EF0 and EFU tornado reports during 2000–2025, and Washington City’s continued growth increases the number of homes, public facilities, and overhead systems that may be exposed to localized wind damage, flying debris, and short warning times.</p> <p><b>Impacts:</b> Tornadoes can damage homes and community facilities, break windows, strip roofing, overturn or damage lighter structures, down trees and utility lines, and create roadway blockages. Even a short-lived tornado could interrupt schools, city operations, utilities, and neighborhood access, while generating repair costs and temporary disruptions to emergency response and daily travel. Critical facilities and infrastructure potentially impacted include Washington City offices and municipal facilities; Washington City Police Department; Washington City Fire Department facilities; Washington County School District schools and community facilities; public works facilities; culinary water, irrigation, wastewater, stormwater, drainage, storage, pumping, and distribution infrastructure; Interstate 15, State Route 9, Telegraph Street, Green Spring Drive, Washington Parkway, traffic signals, bridges, culverts, signs, and major access routes; Washington County Water Conservancy District facilities serving the Washington area; power, communications, fiber, cellular, internet, radio, and utility infrastructure; parks, trail systems, sports fields, commercial centers, public buildings, neighborhoods, manufactured or older housing, rooftops, windows, signs, vehicles, mechanical systems, antennas, utility poles, overhead lines, trees, and developing areas vulnerable to tornado winds, windborne debris, roof and siding damage, broken windows, downed power and communications lines, blocked roads, utility disruption, city service interruption, school disruption, and interrupted emergency access.</p> |
| Hurricane        | <p><b>Vulnerabilities:</b> Hurricane is vulnerable because homes, schools, businesses, roads, utilities, and public facilities in the Hurricane Valley may be affected by localized tornado wind damage associated with severe thunderstorms.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |

| Plan Participant | Vulnerabilities and Impacts                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
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|                  | <p>Continued residential and commercial growth increases the number of people and structures exposed, especially where manufactured housing, older buildings, overhead utilities, and heavily traveled local roads could be affected by an EF0 to EF2 event.</p> <p><b>Impacts:</b> Tornadoes can damage roofs, windows, garages, fences, signs, vehicles, and utility infrastructure; create debris-blocked roads; and interrupt power, communications, and emergency access. Even a weak tornado can create costly property damage and short-term disruption to schools, businesses, and city services, while stronger localized winds may increase repair needs for public infrastructure and private development. Critical facilities and infrastructure potentially impacted include Hurricane City Hall and municipal facilities; Hurricane Police Department; Hurricane Valley Fire District facilities; Washington County School District schools and community facilities; public works, water, wastewater, stormwater, drainage, irrigation, storage, pumping, and distribution infrastructure; Interstate 15 access routes, State Route 9, State Route 7/Southern Parkway, State Route 59, traffic signals, bridges, culverts, signs, evacuation routes, and major local roads; Sand Hollow Reservoir and Quail Creek Reservoir recreation-support, access, marina, campground, dam, spillway, and utility infrastructure; power, communications, fiber, cellular, internet, radio, and utility corridors; parks, trailheads, campgrounds, marinas, commercial areas, tourism businesses, public buildings, manufactured or older housing, lightweight structures, rooftops, garages, windows, fences, signs, vehicles, mechanical systems, antennas, utility poles, overhead lines, and trees vulnerable to tornado winds, windborne debris, roof and structural damage, downed lines, utility outages, roadway blockage, recreation access disruption, school and business interruption, and emergency response delays.</p> |
| Santa Clara      | <p><b>Vulnerabilities:</b> Santa Clara is vulnerable where residential neighborhoods, schools, parks, roads, and utility systems are exposed to highly localized tornado winds that may occur with severe thunderstorms. The community shares Washington County's documented tornado history and includes homes, older structures, trees, signs, and overhead lines that can be damaged even by lower-intensity EF0 to EF1 events.</p> <p><b>Impacts:</b> Tornadoes can damage buildings, vehicles, fencing, roofs, and utility systems; down trees and poles; and create hazardous debris and temporary access problems. A localized tornado could also interrupt schools, neighborhood services, and city operations while increasing emergency response and cleanup demands in affected areas. Critical facilities and infrastructure potentially impacted include Santa Clara City Hall and municipal facilities; Santa Clara-Ivins Police Department facilities; Santa Clara fire and emergency response facilities; Washington County School District schools and community facilities; public works, water, irrigation, wastewater, stormwater, drainage, storage, pumping, and distribution systems; Old Highway 91, Santa Clara Drive, Pioneer Parkway, traffic signals, bridges, culverts, signs, local access routes, and emergency routes; Santa Clara River corridor infrastructure;</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |

| Plan Participant | Vulnerabilities and Impacts                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
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|                  | <p>power, communications, fiber, cellular, internet, radio, and utility infrastructure; parks, trails, recreation facilities, public buildings, commercial areas, neighborhoods, older structures, rooftops, windows, fences, signs, vehicles, mechanical systems, antennas, utility poles, overhead lines, and trees vulnerable to tornado winds, windborne debris, roof and siding damage, broken windows, downed trees or limbs, downed power and communications lines, utility interruption, temporary road closures, city service disruption, and increased emergency response and cleanup demands.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| Ivins            | <p><b>Vulnerabilities:</b> Ivins is vulnerable where homes, roads, public facilities, tourism-related amenities, and utility systems are exposed to localized tornadoes and severe thunderstorm winds moving across open desert terrain and developing neighborhoods. Although tornado occurrence is relatively low, even weak events can affect lightweight structures, older homes, overhead utilities, and places where shelter options are limited during outdoor activities or public events.</p> <p><b>Impacts:</b> Tornadoes can damage roofs, windows, fences, vehicles, signs, and utility infrastructure; create short-term road obstructions; and disrupt public services, recreation access, and emergency response. Localized tornado damage may also increase repair and stabilization costs for city facilities and private properties and complicate operations in areas with limited transportation redundancy. Critical facilities and infrastructure potentially impacted include Ivins City Hall and municipal facilities; Santa Clara-Ivins Police Department facilities serving Ivins; Ivins fire and emergency response facilities; Washington County School District schools and community facilities; public works, water, wastewater, stormwater, drainage, irrigation, storage, pumping, and distribution infrastructure; Old Highway 91, Center Street, Snow Canyon Parkway, local access routes, bridges, culverts, traffic-control devices, signs, and emergency routes; overhead and underground power, communications, fiber, cellular, internet, radio, and utility infrastructure; parks, trailheads, recreation facilities, tourism-related amenities, public buildings, neighborhoods, lightweight structures, older homes, rooftops, windows, fences, signs, vehicles, mechanical systems, antennas, utility poles, overhead lines, and trees vulnerable to tornado winds, windborne debris, roof damage, broken windows, downed lines, utility outages, short-term road obstructions, recreation access disruption, neighborhood isolation, public service disruption, and emergency response delays.</p> |
| La Verkin        | <p><b>Vulnerabilities:</b> La Verkin is vulnerable because homes, schools, roads, bridges, utility systems, and public facilities are concentrated in a corridor setting where a localized tornado could affect both residents and travelers. Overhead infrastructure, older or lighter buildings, and transportation connections increase sensitivity to wind damage, flying debris, and short-term service disruption even if tornadoes remain infrequent.</p> <p><b>Impacts:</b> Tornadoes can damage roofs, windows, utility lines, vehicles, and public facilities; create debris-blocked roads and bridge approaches; and interrupt power, communications, and emergency access. Because La Verkin</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |

| Plan Participant | Vulnerabilities and Impacts                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
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|                  | <p>supports nearby corridor travel, even localized damage could affect daily commerce, school access, and connections to neighboring communities while generating repair and cleanup costs. Critical facilities and infrastructure potentially impacted include La Verkin City offices and municipal facilities; La Verkin Police Department; La Verkin fire and emergency response facilities; Washington County School District schools and community facilities; public works, water, wastewater, stormwater, drainage, storage, pumping, and utility infrastructure; State Route 9, State Route 17, local roads, bridges, culverts, traffic-control devices, signs, evacuation routes, and Zion gateway access routes; La Verkin Creek, Ash Creek, Virgin River corridor, and adjacent transportation and utility infrastructure; overhead and underground electric, communications, fiber, cellular, internet, radio, and utility infrastructure; parks, trailheads, visitor-serving businesses, public buildings, neighborhoods, older or lighter structures, rooftops, windows, signs, vehicles, mechanical systems, antennas, utility poles, overhead lines, and trees vulnerable to tornado winds, windborne debris, roof and window damage, downed lines, power and communications outages, blocked roads and bridge approaches, utility disruption, emergency access delays, school access disruption, daily commerce interruption, and Zion gateway travel delays.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| Enterprise       | <p><b>Vulnerabilities:</b> Enterprise is vulnerable because homes, schools, agricultural buildings, corrals, barns, local businesses, roads, utility systems, and farm infrastructure could be affected by a localized tornado path crossing open rural terrain. While tornado occurrence is relatively low, even weak to moderate EF0 to EF1 tornadoes can damage manufactured homes, older buildings, agricultural structures, fences, irrigation equipment, and overhead utilities, and the community's limited route redundancy can increase consequences if a tornado damages key local roads or service lines.</p> <p><b>Impacts:</b> Tornadoes can damage roofs, windows, outbuildings, utility lines, fences, and agricultural support facilities; create debris-blocked roads; interrupt power and communications; and threaten workers, students, and residents with limited shelter options. Recovery may be prolonged where local staffing, equipment, and financial resources are limited, and a single localized event could disrupt both municipal services and agricultural operations at the same time. Critical facilities and infrastructure potentially impacted include Enterprise City offices and municipal facilities; Enterprise Police Department; Enterprise fire and emergency response facilities; Washington County School District schools and community facilities; public works, municipal and domestic water systems, wells, wastewater, drainage, stormwater, irrigation, storage, pumping, and agricultural water infrastructure; State Route 18, local roads, bridges, culverts, traffic-control devices, signs, rural access routes, and emergency routes; reservoirs, irrigation systems, canals, storage ponds, farms, ranches, barns, sheds, corrals, fencing, fields, livestock water supplies, and agricultural support facilities; power, communications, fiber, cellular, internet, radio, and utility infrastructure; parks, public buildings, maintenance yards, exposed vehicles and equipment, manufactured or older housing,</p> |

| Plan Participant | Vulnerabilities and Impacts                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
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|                  | <p>outbuildings, rooftops, windows, mechanical systems, antennas, utility poles, and overhead lines vulnerable to tornado winds, windborne debris, roof and structural damage, downed lines, blocked rural roads, utility interruption, agricultural disruption, limited sheltering, delayed emergency response, and prolonged recovery where local staffing, equipment, and financial resources are limited.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| Toquerville      | <p><b>Vulnerabilities:</b> Toquerville is vulnerable because growing residential areas, schools, roads, utilities, and public facilities could be affected if a localized tornado crosses the community or nearby developed corridors. Continued growth increases the number of homes, lighter structures, overhead utilities, and transportation links exposed to tornado wind damage, and the town's setting near open terrain and drainage corridors can increase debris and access problems even during lower-intensity EF0 to EF1 events.</p> <p><b>Impacts:</b> Tornadoes can damage roofs, windows, fences, signs, vehicles, and utility systems; down trees and poles; and create roadway obstructions that interrupt emergency response, school access, and neighborhood travel. Even a short-duration tornado could generate costly repair needs for public and private property, disrupt utilities and city services, and create temporary safety concerns for residents and travelers. Critical facilities and infrastructure potentially impacted include Toquerville Town Hall and municipal facilities; Toquerville fire and emergency response facilities; public works and utility facilities; Washington County School District schools and community facilities serving the area; culinary water, irrigation, wastewater, stormwater, drainage, storage, pumping, and distribution infrastructure; State Route 17, Interstate 15 access routes, local roads, bridges, culverts, traffic-control devices, signs, evacuation routes, and developing neighborhood access roads; Ash Creek and La Verkin Creek watershed drainage infrastructure; power, communications, fiber, cellular, internet, radio, and utility infrastructure; parks, trails, public buildings, visitor-serving facilities, neighborhoods, lighter structures, rooftops, windows, fences, signs, vehicles, mechanical systems, antennas, utility poles, overhead lines, and trees vulnerable to tornado winds, windborne debris, roof damage, broken windows, downed lines, outages, blowing debris, road obstructions, neighborhood access disruption, school and city service interruption, and temporary safety concerns for residents and travelers.</p> |
| Leeds            | <p><b>Vulnerabilities:</b> Leeds is vulnerable because homes, Interstate 15 access points, local roads, utility systems, and community facilities could be affected by a localized tornado crossing a geologically constrained area tied to major travel corridors. Even relatively weak tornadoes can damage roofs, signs, vehicles, overhead utilities, and lighter structures, while the town's transportation dependence and limited local redundancy increase sensitivity to debris, outages, and temporary isolation.</p> <p><b>Impacts:</b> Tornadoes can damage residences and infrastructure, down trees and utility lines, create hazardous driving conditions on local and interstate routes, and interrupt electric, communications, and emergency access.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |

| Plan Participant | Vulnerabilities and Impacts                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
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|                  | <p>Because Leeds is tied to a major regional corridor, even a short-lived tornado could create wider transportation and safety consequences beyond the town itself while increasing repair and cleanup costs for public works and utility systems. Critical facilities and infrastructure potentially impacted include Leeds Town Hall and public works facilities; Leeds fire and emergency response facilities; water, wastewater, stormwater, drainage, storage, pumping, and utility infrastructure; Interstate 15, Main Street, local roads, bridges, culverts, traffic-control devices, signs, access ramps, evacuation routes, and corridor transportation infrastructure; Leeds Creek, Quail Creek, and nearby drainage corridor infrastructure; overhead and underground electric, communications, fiber, cellular, internet, radio, and utility infrastructure; parks, public buildings, community facilities, corridor businesses, lighter structures, rooftops, windows, signs, vehicles, mechanical systems, antennas, utility poles, overhead lines, and trees vulnerable to tornado winds, windborne debris, roof damage, broken windows, downed lines, power interruptions, hazardous driving conditions, debris on local and interstate routes, access disruption, temporary isolation, and delayed emergency response.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| Virgin           | <p><b>Vulnerabilities:</b> Virgin is vulnerable because homes, lodging, restaurants, SR-9, utility systems, and visitor-serving facilities in the Zion gateway corridor could be affected by a localized tornado or landspout-type event. Although tornadoes remain infrequent, the town's corridor setting, high seasonal visitation, limited access routes, and concentration of exposed roofs, signs, windows, vehicles, and overhead utilities increase sensitivity where a tornado path intersects developed areas or travel corridors.</p> <p><b>Impacts:</b> Tornadoes can damage tourism-related businesses, residences, vehicles, windows, roofing, signs, and utilities; create debris-blocked roads and hazardous travel on SR-9; and interrupt power, communications, and visitor access. Even a weak tornado could produce outsized economic and operational impacts in a small gateway town because the community depends on tourism, limited transportation redundancy, and uninterrupted access for residents and visitors. Critical facilities and infrastructure potentially impacted include Virgin Town Hall and municipal facilities; Virgin fire and emergency response facilities; public works, water, wastewater, drainage, storage, pumping, and utility infrastructure; State Route 9, local roads, bridges, culverts, traffic-control devices, signs, evacuation routes, and Zion gateway access routes; Virgin River corridor and adjacent transportation and utility infrastructure; overhead and underground electric, communications, fiber, cellular, internet, radio, and utility corridors; lodging, restaurants, visitor-serving businesses, parks, trailheads, campgrounds, recreation access points, public buildings, homes, short-term rentals, rooftops, windows, signs, vehicles, mechanical systems, antennas, utility poles, overhead lines, and trees vulnerable to tornado winds, windborne debris, roof damage, broken windows, downed lines, power and communications outages, SR-9 roadway</p> |

| Plan Participant | Vulnerabilities and Impacts                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
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|                  | debris, visitor access disruption, tourism business interruption, limited sheltering, and emergency response constraints.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| Springdale       | <p><b>Vulnerabilities:</b> Springdale is vulnerable because homes, hotels, restaurants, employee housing, roads, utilities, and visitor facilities are concentrated in a narrow Zion gateway corridor where even a weak tornado or landspout-type event could affect a high share of exposed assets. The town's small but concentrated population, constrained SR-9 access, high visitor volumes, and limited shelter and transportation redundancy increase sensitivity to localized tornado wind damage, especially to roofs, windows, vehicles, signs, and utility systems.</p> <p><b>Impacts:</b> Tornadoes can damage lodging, businesses, homes, roads, and utilities; create debris-blocked travel routes; interrupt evacuation and emergency response; and threaten residents, employees, and visitors in exposed buildings or outdoor areas. Even a short-duration tornado could create outsized life-safety and economic consequences because Springdale depends on tourism, visitor circulation, and a single constrained access corridor serving Zion-area destinations. Critical facilities and infrastructure potentially impacted include Springdale Town Hall and municipal facilities; Springdale Police Department and emergency response facilities; public works, water, wastewater, drainage, stormwater, storage, pumping, and utility infrastructure; State Route 9, Zion Canyon access routes, shuttle-related transportation facilities, local roads, bridges, culverts, traffic-control devices, signs, evacuation routes, and visitor access corridors; Virgin River corridor and canyon transportation and utility infrastructure; overhead and underground electric, communications, fiber, cellular, internet, radio, and utility infrastructure; hotels, restaurants, lodging areas, employee housing, visitor facilities, short-term rentals, parks, trailheads, public buildings, Zion gateway recreation assets, public gathering areas, homes, rooftops, windows, signs, vehicles, mechanical systems, antennas, utility poles, overhead lines, and trees vulnerable to tornado winds, windborne debris, roof and window damage, downed lines, power outages, debris-blocked SR-9 access, evacuation constraints, visitor sheltering needs, tourism interruption, and emergency response delays in the constrained canyon corridor.</p> |
| New Harmony      | <p><b>Vulnerabilities:</b> New Harmony is vulnerable because homes, roads, water systems, agricultural buildings, and community facilities in a rural mountain-valley setting could be affected by a localized tornado crossing developed areas or nearby travel corridors. Older structures, outbuildings, overhead utilities, and limited alternate access increase sensitivity to debris, service disruption, and emergency response delays even when tornado intensity remains in the EF0 to EF1 range.</p> <p><b>Impacts:</b> Tornadoes can damage roofs, windows, fences, sheds, water and utility systems, and local roads; create blocked access; and interrupt emergency response, school travel, and local services. Recovery may be slower where staffing and repair resources are limited, and even a brief tornado could create disproportionate disruption if it affects transportation or</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |

| Plan Participant | Vulnerabilities and Impacts                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
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|                  | <p>utility lifelines in this small rural community. Critical facilities and infrastructure potentially impacted include New Harmony Town Hall and municipal facilities; fire and emergency response facilities; public works, local and domestic water systems, wells, storage, pumping, wastewater, drainage, and utility infrastructure; Interstate 15, State Route 144, local roads, bridges, culverts, traffic-control devices, signs, evacuation routes, and rural access roads; Ash Creek watershed transportation and utility crossings; power, communications, fiber, cellular, internet, radio, and utility corridors; agricultural and open lands, irrigation systems, livestock water supplies, parks, community facilities, public buildings, homes, older structures, barns, sheds, fences, outbuildings, exposed vehicles and equipment, rooftops, windows, mechanical systems, antennas, utility poles, overhead lines, and trees vulnerable to tornado winds, windborne debris, roof damage, broken windows, downed lines, blocked rural access, utility interruption, school travel disruption, local service interruption, isolation, and delayed emergency response.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| Rockville        | <p><b>Vulnerabilities:</b> Rockville is vulnerable because of its small historic and residential development pattern along the Virgin River corridor, constrained access routes, and concentration of exposed homes, historic buildings, roads, bridges, and utilities in a narrow gateway setting. Although tornadoes are infrequent, even weak EF0 to EF1 events can damage older or lighter structures, break windows, remove roof materials, and create debris hazards where shelter options and transportation redundancy are limited.</p> <p><b>Impacts:</b> Tornadoes can damage historic and residential structures, utility systems, vehicles, and public spaces; block roads with debris; and interrupt emergency response and visitor access. Because Rockville is small and access is constrained, even localized tornado damage could have outsized effects on life safety, preservation of historic resources, tourism activity, and long-term recovery operations. Critical facilities and infrastructure potentially impacted include Rockville Town Hall and municipal facilities; fire and emergency response facilities; public works, water, wastewater, drainage, storage, pumping, and utility infrastructure; State Route 9, local roads, bridges, culverts, traffic-control devices, signs, evacuation routes, and Zion gateway access routes; Virgin River corridor and adjacent transportation and utility infrastructure; overhead and underground electric, communications, fiber, cellular, internet, radio, and utility infrastructure; historic buildings, homes, parks, trailheads, visitor-serving facilities, public buildings, public spaces, scenic or historic community resources, older or lighter structures, rooftops, windows, signs, vehicles, mechanical systems, antennas, utility poles, overhead lines, and trees vulnerable to tornado winds, windborne debris, roof and structural damage, broken windows, downed lines, blocked roads, emergency access disruption, visitor access disruption, impacts to historic resources, tourism interruption, and extended recovery needs in a constrained gateway corridor.</p> |

| Plan Participant | Vulnerabilities and Impacts                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
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| Apple Valley     | <p><b>Vulnerabilities:</b> Apple Valley is vulnerable where dispersed homes, local roads, water systems, utility lines, and community facilities in a rural-residential setting could be intersected by a localized tornado path. The community's modest infrastructure systems, overhead utilities, outbuildings, and distance from some services increase sensitivity to damage and service disruption, particularly where residents may have limited immediate shelter options or where debris blocks access roads.</p> <p><b>Impacts:</b> Tornadoes can damage homes, vehicles, sheds, fences, utility systems, and nearby public facilities; create hazardous travel conditions; and interrupt access to emergency response and essential services. Recovery may be challenging if multiple dispersed neighborhoods are affected at once or if repairs require outside contractors and extended restoration timelines for roads, utilities, and private property. Critical facilities and infrastructure potentially impacted include Apple Valley Town Hall and municipal facilities; fire and emergency response facilities; public works, community water systems, wells, storage, pumping, wastewater, drainage, and utility infrastructure; State Route 59, local roads, bridges, culverts, washes, traffic-control devices, signs, evacuation routes, and rural access roads; power, communications, fiber, cellular, internet, radio, and utility corridors; parks, community facilities, dispersed residential water systems, public buildings, open-space resources, limited agricultural or livestock support infrastructure, maintenance facilities, homes, outbuildings, sheds, fences, exposed vehicles and equipment, rooftops, windows, mechanical systems, antennas, utility poles, and overhead lines vulnerable to tornado winds, windborne debris, roof damage, broken windows, downed lines, road debris, utility interruption, delayed emergency access, service challenges across dispersed neighborhoods, and extended repair timelines requiring outside contractors or assistance.</p> |
| Hildale          | <p><b>Vulnerabilities:</b> Hildale is vulnerable because homes, schools, roads, utility and water systems, and public facilities are concentrated in a rugged terrain setting with limited infrastructure redundancy and a mix of housing types that can be sensitive to localized tornado wind damage. Even though tornadoes remain infrequent, weaker EF0 to EF1 events can still damage roofs, windows, older structures, overhead utilities, and lighter buildings, while constrained access routes may complicate sheltering and response.</p> <p><b>Impacts:</b> Tornadoes can damage homes, schools, utility infrastructure, roads, and community facilities; create debris-blocked access; and interrupt public safety operations, water service, and emergency response. In a community with ongoing infrastructure needs, even a localized tornado could add substantial repair demands and require outside technical and financial assistance to restore services and stabilize affected areas. Critical facilities and infrastructure potentially impacted include Hildale City Hall and municipal facilities; Hildale Police Department; Hildale fire and emergency response facilities; Water Canyon School and other community facilities; public works, culinary water, wastewater, stormwater, drainage, storage, pumping, and</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |

| Plan Participant | Vulnerabilities and Impacts                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
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|                  | utility infrastructure; Utah State Route 59, local roads, bridges, culverts, washes, traffic-control devices, signs, community access routes, and evacuation routes; power, communications, fiber, cellular, internet, radio, and utility corridors; parks, public buildings, residential water systems, public landscapes, drainage-sensitive open areas, homes, older structures, lightweight buildings, outbuildings, rooftops, windows, mechanical systems, antennas, utility poles, overhead lines, and vehicles vulnerable to tornado winds, windborne debris, roof and structural damage, broken windows, downed power and communications lines, blocked roads, water and electric service interruption, public safety disruption, school disruption, isolation, delayed emergency response, and increased need for outside technical and financial assistance. |

## Wildfire

Table 173 summarizes wildfire vulnerabilities and potential impacts for Washington County participants.

**Table 173: Wildfire Vulnerability and Impact Assessment for Washington County**

| Plan Participant         | Vulnerabilities and Impacts                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
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| <b>Washington County</b> | <p><b>Vulnerabilities:</b> Washington County is highly vulnerable to wildfire because rapid population growth, extensive development in wildland-urban interface areas, fire-prone vegetation, and recurring hot, dry, and windy conditions combine to expose people, property, infrastructure, and natural resources to significant wildfire risk. The county includes rapidly growing communities such as St. George, Washington City, Hurricane, Santa Clara, and Ivins, along with smaller communities such as Pine Valley, Diamond Valley, Veyo, Gunlock, Brookside, and Central where homes, businesses, transportation corridors, utilities, recreation assets, and public facilities interface with grass, shrub, and pinyon-juniper fuels. The 2025 Forsyth Fire burned 15,563 acres and affected the Pine Valley area. For countywide planning context, the county had an estimated 213,670 residents on July 1, 2025, and about 91,460 housing units in 2025 across roughly 2,427.6 square miles, providing inventory context rather than a count of people or housing within the wildland-urban interface.<sup>276277</sup></p> <p><b>Impacts:</b> Wildfire can threaten life safety, destroy homes and outbuildings, damage utilities, roads, schools, and critical facilities, force evacuations, and</p> |

<sup>276</sup> WUI = wildland-urban interface

<sup>277</sup> U.S. Census Bureau, QuickFacts: Washington County, Utah; July 1, 2025 population and housing estimates (V2025), 2020 Census, and 2020–2024 American Community Survey, as applicable. Age percentages are those reported in QuickFacts. <https://www.census.gov/quickfacts/fact/table/washingtoncountyutah/PST045225>. Accessed October 10, 2026. NOAA National Centers for Environmental Information, Storm Events Database, annual details CSV files, retrieved October 10, 2026. <https://www.ncei.noaa.gov/pub/data/swdi/stormevents/csvfiles/> Event 1278611, Forsyth Fire, June 2025, Southern Mountains forecast zone.

| Plan Participant | Vulnerabilities and Impacts                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
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|                  | <p>create prolonged smoke and air quality impacts. Countywide impacts may also include power and communications outages, interruption of tourism and daily travel, loss of business activity, and long-term watershed degradation, erosion, post-fire flooding, and debris-flow risk. The hazard profile notes multiple federal wildfire declarations in Washington County, including the 2025 Forsyth Fire, 2020 Veyo West Fire, 2016 Saddle Fire, 2009 Mill Flat Fire, 2005 Blue Springs Fire, and 2004 Brookside Fire.<sup>278</sup> Critical facilities and infrastructure potentially impacted include Washington County Sheriff's Office; Washington County Emergency Management; St. George 911 Communications Center; Southwest Utah Public Health Department; St. George Regional Hospital; Washington County School District facilities; Utah Tech University facilities; Dixie Technical College facilities; county and municipal government buildings; public safety facilities; fire stations and EMS resources; public works facilities; Interstate 15, State Route 9, State Route 18, State Route 34, State Route 7/Southern Parkway, State Route 59, and other regional roadways, bridges, culverts, evacuation routes, emergency response routes, airport access routes, traffic-control systems, and fuel supply points; St. George Regional Airport; Washington County Water Conservancy District reservoirs, pipelines, pump stations, water storage, treatment, and distribution infrastructure; municipal water, wastewater, stormwater, drainage, irrigation, power, substations, overhead electric distribution lines, communications towers, fiber, cellular, internet, dispatch, and radio systems; parks, trailheads, campgrounds, reservoir recreation facilities, tourism and visitor-serving infrastructure, public buildings, schools, hospitals, clinics, commercial centers, residential neighborhoods, WUI communities, agricultural buildings, sheds, barns, fences, corrals, irrigation equipment, maintenance yards, watershed areas, open space, desert shrubland, pinyon-juniper areas, and public lands vulnerable to direct flame exposure, ember intrusion, smoke, evacuation constraints, structure loss, power and communications outages, road closures, water system damage, utility interruption, recreation closures, tourism disruption, post-fire erosion, sedimentation, flooding, debris flows, and long-term watershed degradation.</p> |
| St. George       | <p><b>Vulnerabilities:</b> St. George is highly vulnerable because of its rapid growth, large population, extensive housing and commercial development, major transportation corridors, utility systems, schools, hospitals, parks, and recreation facilities located at the urban edge where neighborhoods interface with burnable vegetation. As the county's principal urban center, St. George includes a high concentration of exposed structures, public facilities, and lifeline systems that can be threatened by wind-driven wildfire, ember exposure, smoke, and evacuation pressure. The countywide 2025 inventory of 213,670 residents and 91,460 housing units provides planning context; it does not quantify St. George's wildfire or WUI exposure.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |

<sup>278</sup> FEMA, OpenFEMA Disaster Declarations Summaries, version 2, Utah records, retrieved October 10, 2026. <https://www.fema.gov/openfema-data-page/disaster-declarations-summaries-v2> FM declarations 5591, 5321, 5130, 2831, 2564, and 2521, respectively.

| Plan Participant | Vulnerabilities and Impacts                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
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|                  | <p><b>Impacts:</b> Wildfire can damage homes, businesses, schools, medical facilities, roads, utilities, parks, and public infrastructure; force evacuations; degrade air quality; and disrupt emergency response, health care access, commerce, and daily travel. Because St. George functions as the region's main service center, wildfire could also create broader cascading impacts through utility outages, transportation disruption, school and facility closures, and interruption of regional tourism and visitor activity. Post-fire erosion, flooding, and watershed impacts may continue to affect roads, drainage systems, and downstream developed areas after the flames are out. Critical facilities and infrastructure potentially impacted include St. George City Hall (61 S Main St.) and municipal government facilities; St. George Police Department; St. George Fire Department stations (Winchester Hills Station at 5297 N Winchester Hills Dr, Fire Station #5 at 140 N Dixie Dr); St. George 911 Communications Center; St. George Regional Hospital; Hillside Health medical facility (1841 E Riverside Dr, Suite 201); Utah Tech University facilities; Dixie Technical College facilities; Washington County School District schools and support facilities; St. George Regional Airport and airport access infrastructure; public works, water, wastewater, stormwater, drainage, storage, pumping, treatment, and distribution facilities; Interstate 15, State Route 7/Southern Parkway, Bluff Street, River Road, St. George Boulevard, Riverside Drive, Red Hills Parkway, traffic signals, bridges, culverts, evacuation routes, emergency response routes, and major arterials; Washington County Water Conservancy District facilities serving the St. George area; electric substations, overhead and underground power systems, communications, fiber, cellular, internet, radio, and dispatch infrastructure; hospitals, clinics, medical offices, commercial centers, hotels, warehouses, schools, parks, sports fields, trail systems, golf courses, recreation facilities, public buildings, hillside and desert-edge neighborhoods, WUI subdivisions, airport-related facilities, utility corridors, signs, rooftops, mechanical systems, vehicles, and open-space edges vulnerable to direct flame exposure, ember intrusion, smoke, roof and structure loss, downed utility lines, power and communications outages, transportation disruption, airport access disruption, school and medical service interruption, evacuation pressure, business interruption, post-fire erosion, drainage damage, flooding, debris flows, and regional service disruption.</p> |
| Washington City  | <p><b>Vulnerabilities:</b> Washington City is highly vulnerable because growing neighborhoods, schools, parks, commercial areas, roads, utility systems, and public facilities continue to expand into or near fire-prone desert and wildland-urban interface settings. The city's rapid development increases the number of homes, landscaped areas, transportation links, and public assets exposed to fast-moving grass, shrub, and pinyon-juniper fires, especially where communities connect to open space and drainage corridors that can carry fire. Washington County's 2025 totals of 213,670 residents and 91,460 housing units provide countywide planning context, not an estimate of Washington City's WUI population or exposed infrastructure.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |

| Plan Participant | Vulnerabilities and Impacts                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
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|                  | <p><b>Impacts:</b> Wildfire can threaten homes and community facilities, force evacuations, damage utilities and transportation routes, reduce air quality, and interrupt schools, businesses, and city operations. Even when direct fire damage is localized, smoke, road closures, utility disruption, and post-fire flooding or erosion can create longer-duration impacts for residents and public services while increasing maintenance and recovery costs. Washington City offices (111 N 100 E) and municipal facilities; Washington City Police Department; Washington City Fire Department facilities (250 Buena Vista Blvd); Washington County School District schools and community facilities; public works facilities; culinary water, irrigation, wastewater, stormwater, drainage, storage, pumping, treatment, and distribution infrastructure; Interstate 15, State Route 9, Telegraph Street, Green Spring Drive, Washington Parkway, bridges, culverts, traffic-control devices, evacuation routes, emergency response routes, and major access routes; Washington County Water Conservancy District facilities serving the Washington area; power, communications, fiber, cellular, internet, radio, and utility infrastructure; parks, trail systems, sports fields, commercial centers, public buildings, residential neighborhoods, developing areas, WUI subdivisions, open-space edges, drainage corridors, utility corridors, signs, rooftops, vehicles, mechanical systems, and landscaped areas vulnerable to direct flame exposure, ember intrusion, smoke, structure and roof damage, utility outages, road closures, evacuation constraints, school and business interruption, drainage system damage, post-fire flooding, erosion, debris movement, and increased public works maintenance and recovery costs.</p> |
| Hurricane        | <p><b>Vulnerabilities:</b> Hurricane is highly vulnerable because expanding residential and commercial growth in the Hurricane Valley places more homes, schools, parks, roads, utilities, and public facilities near burnable vegetation and WUI conditions. The city's location near recreation access routes, open space, and foothill terrain increases exposure to fast-moving grass and shrub fires, smoke, and evacuation pressure, especially where neighborhoods and transportation corridors connect directly to wildland fuels.</p> <p><b>Impacts:</b> Wildfire can damage homes, roads, drainage and utility infrastructure, schools, and public facilities; force evacuations; reduce visibility and air quality; and disrupt business activity, recreation travel, and emergency access. Post-fire erosion and debris-flow risk may also affect channels, roads, and stormwater systems after a burn, creating costly recovery and mitigation needs in addition to direct fire suppression and property loss. Critical facilities and infrastructure potentially impacted include Hurricane City Hall and municipal facilities; Hurricane Police Department; Hurricane Valley Fire District facilities (Hurricane City Fire Station #41 202 E State St); Washington County School District schools and community facilities; public works, water, wastewater, stormwater, drainage, irrigation, storage, pumping, treatment, and distribution infrastructure; Interstate 15 access routes, State Route 9, State Route 7/Southern Parkway, State Route 59, local roads, bridges, culverts, traffic-control devices, evacuation routes, emergency response routes, and</p>                                                                                                                                                             |

| Plan Participant | Vulnerabilities and Impacts                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
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|                  | <p>major access corridors; Sand Hollow Reservoir and Quail Creek Reservoir recreation-support, dam, spillway, access, marina, campground, and utility infrastructure; power, communications, fiber, cellular, internet, radio, and utility corridors; parks, trailheads, campgrounds, marinas, commercial areas, tourism businesses, public buildings, developing neighborhoods, WUI subdivisions, open-space edges, utility corridors, signs, rooftops, vehicles, mechanical systems, and recreation assets vulnerable to direct flame exposure, ember intrusion, smoke, evacuation pressure, roof and structure loss, road closures, utility outages, water system disruption, recreation closures, visitor service interruption, post-fire erosion, sedimentation, flooding, debris flows, and emergency response delays.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| Santa Clara      | <p><b>Vulnerabilities:</b> Santa Clara is highly vulnerable because developed neighborhoods, parks, roads, utilities, public facilities, and open-space edges are exposed to wildfire in a community where homes interface with desert vegetation, benches, and nearby WUI terrain. The city's location within the greater St. George urban area means that even a localized fire can threaten a substantial number of homes, community facilities, and transportation links while smoke and evacuation demands affect surrounding jurisdictions as well.</p> <p><b>Impacts:</b> Wildfire can damage homes, parks, roads, public facilities, utilities, and nearby open-space assets; trigger evacuations; and degrade air quality for residents and schools. Fire may also disrupt local travel, city services, and neighborhood access, while post-fire erosion and runoff can create longer-term impacts to drainageways, roads, and public infrastructure in and around affected slopes or open lands. Critical facilities and infrastructure potentially impacted include Santa Clara City Hall and municipal facilities; Santa Clara-Ivins Police Department facilities; Santa Clara fire and emergency response facilities; Washington County School District schools and community facilities; public works, water, irrigation, wastewater, stormwater, drainage, storage, pumping, treatment, and distribution systems; Old Highway 91, Santa Clara Drive, Pioneer Parkway, local roads, bridges, culverts, traffic-control devices, evacuation routes, emergency response routes, and neighborhood access roads; Santa Clara River corridor infrastructure; power, communications, fiber, cellular, internet, radio, and utility infrastructure; parks, trails, recreation areas, public buildings, commercial areas, neighborhoods, WUI edges, open-space areas, slope-adjacent development, drainage corridors, utility corridors, rooftops, signs, vehicles, mechanical systems, and landscaped areas vulnerable to direct flame exposure, ember intrusion, smoke, structure loss, roof damage, utility outages, road closures, evacuation constraints, neighborhood access disruption, city service interruption, post-fire erosion, runoff, drainage damage, and increased stabilization and cleanup needs.</p> |
| Ivins            | <p><b>Vulnerabilities:</b> Ivins is highly vulnerable because homes, roads, parks, tourism-related amenities, public facilities, and utility systems are situated near desert-edge vegetation, open-space recreation areas, and wildland-urban interface conditions. Continued growth places more structures and visitors in fire-prone settings near foothills and open lands, increasing</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |

| Plan Participant | Vulnerabilities and Impacts                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
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|                  | <p>exposure to wind-driven wildfire, smoke, evacuation challenges, and limited transportation redundancy.</p> <p><b>Impacts:</b> Wildfire can damage homes, roads, parks, trails, utilities, and public facilities; interrupt access to neighborhoods and recreation amenities; and create smoke and air quality impacts for residents and visitors. Because Ivins supports tourism, parks, and public events, even localized fire can disrupt community life and visitor activity while post-fire erosion and runoff create longer-term infrastructure and maintenance burdens. Critical facilities and infrastructure potentially impacted include Ivins City Hall (65 West 350 North) and municipal facilities; Santa Clara-Ivins Police Department facilities serving Ivins; Ivins fire and emergency response facilities; Washington County School District schools and community facilities; public works, water, wastewater, stormwater, drainage, irrigation, storage, pumping, treatment, and distribution infrastructure; Old Highway 91, Center Street, Snow Canyon Parkway, local access routes, bridges, culverts, traffic-control devices, evacuation routes, emergency response routes, and neighborhood access roads; overhead and underground power, communications, fiber, cellular, internet, radio, and utility infrastructure; parks, trailheads, recreation facilities, tourism-related amenities, public buildings, desert-edge neighborhoods, WUI subdivisions, open-space edges, foothill areas, utility corridors, rooftops, signs, vehicles, mechanical systems, and trail systems vulnerable to direct flame exposure, ember intrusion, smoke, structure and roof damage, utility outages, road closures, limited access, recreation closures, visitor disruption, neighborhood isolation, post-fire erosion, runoff, debris movement, and public service interruption.</p> |
| La Verkin        | <p><b>Vulnerabilities:</b> La Verkin is highly vulnerable because homes, schools, roads, bridges, utility systems, and public facilities are located in a corridor setting near the Virgin River, steep terrain, and vegetated slopes that can support WUI wildfire spread. Its transportation role, nearby recreation traffic, and proximity to canyon and bench terrain increase sensitivity where fire, smoke, or protective closures affect neighborhoods, roads, or utility corridors.</p> <p><b>Impacts:</b> Wildfire can damage homes, roads, bridges, utility systems, and public facilities; force evacuations; interrupt corridor travel and emergency response; and reduce air quality for residents and travelers. Post-fire runoff, erosion, and debris-flow potential may further damage drainage systems and transportation infrastructure after a burn, creating extended public works and recovery costs. Critical facilities and infrastructure potentially impacted include La Verkin City offices and municipal facilities; La Verkin Police Department; La Verkin fire and emergency response facilities; Washington County School District schools and community facilities; public works, water, wastewater, stormwater, drainage, storage, pumping, treatment, and utility infrastructure; State Route 9, State Route 17, local roads, bridges, culverts, traffic-control devices, evacuation routes, emergency response routes, and Zion gateway access routes; La Verkin Creek, Ash Creek, Virgin River corridor, and adjacent transportation and utility infrastructure; overhead and</p>                                                                                                                                                                                                                                                                                    |

| Plan Participant | Vulnerabilities and Impacts                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
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|                  | underground electric, communications, fiber, cellular, internet, radio, and utility infrastructure; parks, trailheads, visitor-serving businesses, public buildings, neighborhoods, WUI edges, river- and slope-adjacent facilities, utility corridors, signs, rooftops, vehicles, mechanical systems, and open-space areas vulnerable to direct flame exposure, ember intrusion, smoke, road closures, utility outages, evacuation constraints, Zion gateway travel disruption, public service interruption, post-fire erosion, sedimentation, flooding, debris flows, drainage damage, and emergency access delays.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| Enterprise       | <p><b>Vulnerabilities:</b> Enterprise is highly vulnerable because of its rural setting, dependence on local roads and utility systems, agricultural lands, livestock operations, irrigated fields, outbuildings, and homes located near fire-prone grass, shrub, and pinyon-juniper vegetation. Limited route redundancy, dispersed development, and the town's reliance on local water, agricultural, and emergency response systems increase exposure where wildfire threatens homes, farms, and travel corridors in or near WUI conditions.</p> <p><b>Impacts:</b> Wildfire can damage homes, barns, corrals, fences, grazing lands, crops, utility systems, and local roads; force evacuations; interrupt school and business access; and reduce air quality for residents and workers. Post-fire impacts may include loss of forage, increased erosion, drainage damage, and prolonged recovery challenges where local staffing and financial resources are limited and restoration depends on outside assistance. Critical facilities and infrastructure potentially impacted include Enterprise City offices and municipal facilities; Enterprise Police Department; Enterprise fire and emergency response facilities; Washington County School District schools and community facilities; public works, municipal and domestic water systems, wells, wastewater, drainage, stormwater, irrigation, storage, pumping, treatment, and agricultural water infrastructure; State Route 18, local roads, bridges, culverts, traffic-control devices, rural access routes, evacuation routes, and emergency response routes; reservoirs, irrigation systems, canals, storage ponds, farms, ranches, barns, sheds, corrals, fencing, fields, livestock water supplies, grazing lands, and agricultural support facilities; power, communications, fiber, cellular, internet, radio, and utility infrastructure; parks, public buildings, maintenance yards, WUI areas, grass, shrub, and pinyon-juniper edges, utility corridors, exposed vehicles, equipment, rooftops, outbuildings, and rural homes vulnerable to direct flame exposure, ember intrusion, smoke, structure and outbuilding loss, fence and agricultural infrastructure damage, utility outages, blocked rural roads, evacuation challenges, livestock and forage impacts, post-fire erosion, drainage damage, and prolonged recovery where local resources are limited.</p> |
| Toquerville      | <p><b>Vulnerabilities:</b> Toquerville is highly vulnerable because growing residential areas, roads, utilities, parks, and public facilities are expanding near fire-prone open land, benches, and drainage corridors that can support fast-moving grass and shrub fires. Continued development increases the number of homes and local infrastructure exposed to wildfire, smoke, and evacuation pressure,</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |

| Plan Participant | Vulnerabilities and Impacts                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
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|                  | <p>while limited roadway redundancy may complicate emergency access and reentry.</p> <p><b>Impacts:</b> Wildfire can damage homes, roads, utility systems, public facilities, and open-space assets; force evacuations; interrupt city services; and reduce air quality for residents and nearby communities. Fire may also be followed by erosion, runoff, and debris impacts in drainage corridors, increasing the need for slope, drainage, and roadway repair after suppression activities end. Critical facilities and infrastructure potentially impacted include Toquerville Town Hall and municipal facilities; Toquerville fire and emergency response facilities; public works and utility facilities; Washington County School District schools and community facilities serving the area; culinary water, irrigation, wastewater, stormwater, drainage, storage, pumping, treatment, and distribution infrastructure; State Route 17, Interstate 15 access routes, local roads, bridges, culverts, traffic-control devices, evacuation routes, emergency response routes, and developing neighborhood access roads; Ash Creek and La Verkin Creek watershed drainage infrastructure; power, communications, fiber, cellular, internet, radio, and utility infrastructure; parks, trails, public buildings, visitor-serving facilities, neighborhoods, developing WUI areas, open-space edges, drainage corridors, utility corridors, signs, rooftops, vehicles, mechanical systems, and landscaped areas vulnerable to direct flame exposure, ember intrusion, smoke, roof and structure damage, downed utility lines, outages, road closures, evacuation constraints, neighborhood access disruption, school and city service interruption, post-fire erosion, flooding, debris impacts, and increased public works repair needs.</p> |
| Leeds            | <p><b>Vulnerabilities:</b> Leeds is highly vulnerable because homes, Interstate 15 access, local roads, utility systems, and community facilities are located near steep terrain, desert vegetation, and open travel corridors where wildfire can spread quickly and disrupt regional movement. The town's small size and dependence on a limited number of roadway and utility connections increase sensitivity where fire, smoke, or protective closures affect local access and interstate-related travel.</p> <p><b>Impacts:</b> Wildfire can damage homes, roads, utility infrastructure, and nearby open-space assets; force evacuations; reduce visibility and air quality; and interrupt local and interstate travel. Because Leeds is tied to a major regional transportation corridor, even localized wildfire can create wider safety, transportation, and public works consequences while post-fire erosion and runoff may continue to affect roads and drainage infrastructure. Critical facilities and infrastructure potentially impacted include Leeds Town Hall and public works facilities; Leeds fire and emergency response facilities; water, wastewater, stormwater, drainage, storage, pumping, treatment, and utility infrastructure; Interstate 15, Main Street, local roads, bridges, culverts, traffic-control devices, access ramps, evacuation routes, emergency response routes, and corridor transportation infrastructure; Leeds Creek, Quail Creek, and nearby drainage corridor infrastructure; overhead and underground electric, communications, fiber, cellular, internet, radio, and utility infrastructure; parks,</p>                                                                                                                                                                                      |

| Plan Participant | Vulnerabilities and Impacts                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
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|                  | <p>public buildings, community facilities, corridor businesses, WUI edges, steep terrain, open-space areas, utility corridors, signs, rooftops, vehicles, mechanical systems, and interstate-related infrastructure vulnerable to direct flame exposure, ember intrusion, smoke, road closures, interstate access disruption, power and communications outages, evacuation constraints, public service interruption, post-fire erosion, runoff, culvert blockage, drainage damage, and delayed emergency response.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| Virgin           | <p><b>Vulnerabilities:</b> Virgin is highly vulnerable because homes, lodging, restaurants, SR-9, utility systems, and visitor-serving facilities are located in the Zion gateway corridor near fire-prone vegetation, steep slopes, and limited transportation options. The town's small population, heavy visitor use, and reliance on a single primary corridor increase exposure where wildfire or smoke affects local businesses, nearby open lands, and access for residents and travelers.</p> <p><b>Impacts:</b> Wildfire can damage tourism-related businesses, residences, roads, and utilities; force evacuations; interrupt SR-9 access and emergency response; and reduce air quality for residents, workers, and visitors. Economic losses may also extend beyond direct fire damage through lost visitation, temporary closure of tourism services, and the cost of cleanup, slope stabilization, and infrastructure repair after the fire. Critical facilities and infrastructure potentially impacted include Virgin Town Hall and municipal facilities; Virgin fire (Hurricane Valley Fire District at 361 N Pocketville Rd) and emergency response facilities; public works, water, wastewater, drainage, storage, pumping, treatment, and utility infrastructure; State Route 9, local roads, bridges, culverts, traffic-control devices, evacuation routes, emergency response routes, and Zion gateway access routes; Virgin River corridor and adjacent transportation and utility infrastructure; overhead and underground electric, communications, fiber, cellular, internet, radio, and utility corridors; lodging, restaurants, visitor-serving businesses, parks, trailheads, campgrounds, recreation access points, public buildings, homes, short-term rentals, WUI edges, steep terrain, open-space areas, utility corridors, signs, rooftops, vehicles, and mechanical systems vulnerable to direct flame exposure, ember intrusion, smoke, road closures, utility outages, evacuation constraints, SR-9 travel disruption, visitor service interruption, tourism business losses, post-fire erosion, flooding, debris flows, drainage damage, and emergency response constraints.</p> |
| Springdale       | <p><b>Vulnerabilities:</b> Springdale is highly vulnerable because development is concentrated in a narrow Zion gateway corridor with steep slopes, high visitor volumes, constrained transportation access, and direct adjacency to burnable vegetation. Homes, hotels, restaurants, employee housing, roads, bridges, utilities, and visitor facilities are exposed where wildfire can spread through WUI conditions and where smoke, ember intrusion, and protective closures can affect both the community and Zion-related travel. Although Springdale is small, its exposure is amplified by its dependence on SR-9, one of the county's key gateway corridors.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |

| Plan Participant | Vulnerabilities and Impacts                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
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|                  | <p><b>Impacts:</b> Wildfire can damage lodging, businesses, homes, roads, bridges, and utilities; force evacuations; interrupt Zion access and emergency response; and create major smoke and air quality impacts for residents and visitors. Even a localized wildfire can produce outsized life-safety and economic consequences because the town depends on tourism, a single constrained corridor, and uninterrupted operation of visitor-serving businesses. Post-fire erosion, debris flows, and flooding can also threaten the corridor after the fire is contained. Critical facilities and infrastructure potentially impacted include Springdale Town Hall and municipal facilities; Springdale Police Department and emergency response facilities; public works, water, wastewater, drainage, stormwater, storage, pumping, treatment, and utility infrastructure; State Route 9, Zion Canyon access routes, shuttle-related transportation facilities, local roads, bridges, culverts, traffic-control devices, evacuation routes, emergency response routes, and visitor access corridors; Virgin River corridor and canyon transportation and utility infrastructure; overhead and underground electric, communications, fiber, cellular, internet, radio, and utility infrastructure; hotels, restaurants, lodging areas, employee housing, visitor facilities, short-term rentals, parks, trailheads, public buildings, Zion gateway recreation assets, public gathering areas, homes, WUI edges, canyon slopes, open-space areas, utility corridors, signs, rooftops, vehicles, and mechanical systems vulnerable to direct flame exposure, ember intrusion, smoke, evacuation constraints, SR-9 closure, shuttle and visitor access disruption, power and communications outages, lodging and business interruption, public safety response delays, post-fire erosion, flooding, debris flows, drainage damage, and major tourism-related economic impacts.</p> |
| New Harmony      | <p><b>Vulnerabilities:</b> New Harmony is highly vulnerable because homes, roads, water systems, agricultural lands, and community facilities are located in a rural mountain-valley setting with nearby vegetated slopes and limited alternate access. Wildfire can threaten homes and infrastructure directly and also create smoke, evacuation, and service challenges where local roads, utilities, and emergency response capacity are limited and where post-fire runoff can affect drainageways and transportation links.</p> <p><b>Impacts:</b> Wildfire can damage homes, roads, utility and water infrastructure, agricultural lands, and community facilities; force evacuations; reduce air quality; and interrupt emergency response, school access, and local travel. Post-fire erosion, flooding, and debris can further damage roads, culverts, and water systems, extending recovery timelines and increasing the need for outside technical and financial assistance. Critical facilities and infrastructure potentially impacted include New Harmony Town Hall and municipal facilities; fire and emergency response facilities; public works, local and domestic water systems, wells, storage, pumping, wastewater, drainage, and utility infrastructure; Interstate 15, State Route 144, local roads, bridges, culverts, traffic-control devices, evacuation routes, emergency response routes, and rural access roads; Ash Creek watershed drainage crossings and nearby</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |

| Plan Participant | Vulnerabilities and Impacts                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
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|                  | <p>transportation and utility infrastructure; power, communications, fiber, cellular, internet, radio, and utility corridors; agricultural and open lands, irrigation systems, livestock water supplies, parks, community facilities, public buildings, public landscapes, homes, rural WUI areas, mountain-valley slopes, outbuildings, barns, sheds, fences, equipment, utility poles, and overhead lines vulnerable to direct flame exposure, ember intrusion, smoke, structure and outbuilding loss, water system damage, utility outages, blocked rural access, evacuation challenges, post-fire erosion, flooding, debris movement, isolation, and delayed emergency response.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| Rockville        | <p><b>Vulnerabilities:</b> Rockville is highly vulnerable because of its small historic and residential development pattern along the Virgin River corridor, constrained evacuation routes, and direct proximity to steep slopes and burnable vegetation in the Zion gateway area. Homes, historic resources, roads, bridges, utilities, and public spaces are exposed where wildfire, ember intrusion, smoke, and post-fire runoff can affect both the community and corridor travel. The town's small size and limited infrastructure redundancy increase sensitivity even when a fire affects only a small geographic area.</p> <p><b>Impacts:</b> Wildfire can damage homes, historic resources, roads, bridges, utilities, and public spaces; force evacuations; reduce air quality; and interrupt access for residents and visitors. Because Rockville is small and transportation options are limited, even localized fire can significantly affect life safety, tourism activity, emergency response, and long-term recovery, while post-fire flooding and debris-flow potential may continue to threaten the community after suppression ends. Critical facilities and infrastructure potentially impacted include Rockville Town Hall and municipal facilities; fire and emergency response facilities; public works, water, wastewater, drainage, storage, pumping, treatment, and utility infrastructure; State Route 9, local roads, bridges, culverts, traffic-control devices, evacuation routes, emergency response routes, and Zion gateway access routes; Virgin River corridor and adjacent canyon transportation and utility infrastructure; overhead and underground electric, communications, fiber, cellular, internet, radio, and utility infrastructure; historic buildings, homes, parks, trailheads, visitor-serving facilities, public buildings, public spaces, scenic or historic community resources, WUI edges, canyon slopes, open-space areas, utility corridors, signs, rooftops, vehicles, and mechanical systems vulnerable to direct flame exposure, ember intrusion, smoke, structure loss, impacts to historic resources, power and communications outages, SR-9 travel disruption, constrained evacuation, emergency access disruption, visitor service interruption, post-fire flooding, debris flows, erosion, and extended recovery needs in a constrained gateway corridor.</p> |
| Apple Valley     | <p><b>Vulnerabilities:</b> Apple Valley is highly vulnerable where dispersed residential development, local roads, water systems, utilities, and community facilities are exposed in a rural-residential setting near open land and fire-prone vegetation. The town's modest infrastructure systems, limited access redundancy, and distance from some services increase sensitivity to wildfire,</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |

| Plan Participant | Vulnerabilities and Impacts                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
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|                  | <p>smoke, evacuation challenges, and post-fire erosion or flooding affecting roads and utility connections.</p> <p><b>Impacts:</b> Wildfire can damage homes, roads, utility systems, and nearby open-space assets; interrupt access to essential services and emergency response; and degrade air quality for residents. Recovery may be challenging if multiple dispersed neighborhoods are affected at once or if post-fire runoff and erosion further damage roads, drainage crossings, and infrastructure after the initial fire event. Critical facilities and infrastructure potentially impacted include Apple Valley Town Hall and municipal facilities; fire and emergency response facilities; public works, community water systems, wells, storage, pumping, wastewater, drainage, and utility infrastructure; State Route 59, local roads, bridges, culverts, washes, traffic-control devices, evacuation routes, emergency response routes, and rural access roads; power, communications, fiber, cellular, internet, radio, and utility corridors; parks, community facilities, dispersed residential water systems, public buildings, open-space resources, rural-residential neighborhoods, WUI edges, limited agricultural or livestock support infrastructure, maintenance facilities, homes, outbuildings, sheds, fences, exposed vehicles, equipment, utility poles, and overhead lines vulnerable to direct flame exposure, ember intrusion, smoke, structure and outbuilding loss, utility outages, road closures, delayed emergency access, dispersed evacuation challenges, water system interruption, post-fire erosion, flooding, drainage damage, service challenges across dispersed neighborhoods, and extended repair timelines.</p> |
| Hildale          | <p><b>Vulnerabilities:</b> Hildale is highly vulnerable because homes, schools, roads, utility and water systems, and public facilities are located in rugged terrain and drainage-sensitive areas with nearby burnable vegetation and limited infrastructure redundancy. Wildfire can threaten structures, community services, and transportation access directly, while smoke and evacuation demands can be especially difficult in a community with ongoing infrastructure needs and constrained access routes.</p> <p><b>Impacts:</b> Wildfire can damage homes, schools, utility and water infrastructure, roads, and community facilities; force evacuations; interrupt public safety operations; and degrade air quality for residents. Post-fire flooding, erosion, and debris-flow potential may further threaten drainageways, roads, and public infrastructure, creating prolonged recovery demands and a likely need for outside technical and financial assistance. Critical facilities and infrastructure potentially impacted include Hildale City Hall and municipal facilities; Hildale Police Department; Hildale fire (350 Newel Avenue) and emergency response facilities; Water Canyon School and other community facilities; public works, culinary water, wastewater, stormwater, drainage, storage, pumping, treatment, and utility infrastructure; Utah State Route 59, local roads, bridges, culverts, washes, traffic-control devices, community access routes, evacuation routes, and emergency response routes; power, communications, fiber, cellular, internet, radio, and utility corridors; parks, public buildings, residential water systems, public landscapes, drainage-</p>                                                    |

| Plan Participant | Vulnerabilities and Impacts                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
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|                  | sensitive open areas, homes, older structures, rugged terrain, WUI edges, outbuildings, utility poles, overhead lines, vehicles, and equipment vulnerable to direct flame exposure, ember intrusion, smoke, structure loss, school disruption, road blockage, power and communications outages, water and wastewater service interruption, evacuation constraints, post-fire flooding, erosion, debris flows, isolation, delayed emergency response, and increased need for outside technical and financial assistance. |

## Winter Storms

Table 174 summarizes winter storm vulnerabilities and potential impacts for Washington County participants.

**Table 174: Winter Storms Vulnerability and Impact Assessment for Washington County**

| Plan Participant  | Vulnerabilities and Impacts                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
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| Washington County | <p><b>Vulnerabilities:</b> Washington County is vulnerable to winter storms because it combines rapidly growing lower-elevation population centers with higher-elevation mountain areas and transportation corridors that are susceptible to snowfall, icy conditions, and cold weather disruption. Although communities such as St. George, Washington, and Hurricane experience less frequent snow accumulation than the higher-elevation counties in the region, even minor winter weather events can create disproportionate impacts because road systems, travel behavior, and infrastructure are less routinely exposed to snow and ice. For countywide planning context, the county has an estimated population of about 213,670 residents, approximately 69,786 households, and roughly 91,460 housing units. These totals are not mapped winter-storm exposure estimates; icy roads, freezing temperatures, localized snowfall, and winter travel disruption can affect different areas during severe events. About 22.4% of the county population is age 65 or older, increasing sensitivity to outages, heating interruptions, and delayed access to medical care.</p> <p><b>Impacts:</b> Winter storms in Washington County are most likely to produce minor to moderate impacts countywide and localized moderate impacts in higher-elevation areas and along major travel corridors, especially during snowfall, freezing temperatures, black ice, and brief but disruptive winter weather events. The most consequential impacts are expected along Interstate 15, State Route 9, State Route 18, and routes connecting lower-elevation communities to higher terrain, where icy roads and reduced visibility can cause crashes, travel delays, freight disruption, delayed emergency response, and interruption of commuter and visitor traffic. Power outages and communications interruptions can affect homes, businesses, schools, public safety facilities, St. George Regional Hospital, and utility systems. Regional winter-weather records may cover forecast zones spanning several counties and do not establish Washington County event or loss totals. Critical facilities</p> |

| Plan Participant | Vulnerabilities and Impacts                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
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|                  | <p>and infrastructure potentially impacted include Washington County Sheriff's Office; Washington County Emergency Management; St. George 911 Communications Center; Southwest Utah Public Health Department; St. George Regional Hospital; Washington County School District facilities; Utah Tech University facilities; Dixie Technical College facilities; county and municipal government buildings; public safety facilities; fire stations and EMS resources; public works facilities; Interstate 15, State Route 9, State Route 18, State Route 34, State Route 7/Southern Parkway, State Route 59, and other regional roadways, bridges, culverts, traffic-control devices, evacuation routes, emergency response routes, airport access routes, and routes connecting lower-elevation communities to the Pine Valley Mountains and other higher terrain; St. George Regional Airport; electric distribution lines, substations, communications towers, fiber, cellular, internet, dispatch, radio, fuel supply, water, wastewater, stormwater, drainage, and utility systems; schools, hospitals, clinics, public buildings, shelters, senior-serving facilities, parks, trailheads, campgrounds, reservoir recreation facilities, visitor-serving infrastructure, agricultural buildings, barns, sheds, fences, corrals, irrigation systems, livestock water supplies, maintenance yards, exposed vehicles, equipment, utility poles, overhead lines, and rural access routes vulnerable to snow accumulation, black ice, freezing rain, reduced visibility, crashes, road closures, delayed emergency response, power and communications outages, frozen or burst pipes, heating interruption, roof stress in higher-elevation areas, tree limb damage, fuel delivery delays, school and business interruption, tourism disruption, and reduced access to medical care and essential services.</p> |
| St. George       | <p><b>Vulnerabilities:</b> St. George is vulnerable because even though it is a lower-elevation desert city, minor winter weather events can create disproportionate impacts on roads, utilities, schools, hospitals, businesses, and public services that are not routinely exposed to snow and ice. The city contains the county's largest concentration of population, critical facilities, and transportation activity, including major arterials, medical services, airport-related infrastructure, and public facilities that depend on reliable travel conditions and power. The county profile indicates Washington County has about 213,670 residents and 91,460 housing units, providing countywide inventory context rather than a mapped exposure estimate for St. George.</p> <p><b>Impacts:</b> Winter storms can create black ice, hazardous travel, crashes, delayed emergency response, frozen pipes, localized power outages, and disruptions to schools, businesses, hospitals, and regional services centered in St. George. Even short-duration snow or freezing events can interrupt commuter travel, medical access, and commercial activity, while cold temperatures can increase heating demand and create public health concerns for older adults, medically vulnerable residents, and people without reliable shelter or backup power. Critical facilities and infrastructure potentially impacted include St. George City Hall and municipal government facilities; St. George Police Department; St. George Fire Department stations; St. George</p>                                                                                                                                                                                                                                                                                                                              |

| Plan Participant | Vulnerabilities and Impacts                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
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|                  | <p>911 Communications Center; St. George Regional Hospital and emergency care facilities; Utah Tech University facilities; Dixie Technical College facilities; Washington County School District schools and support facilities; St. George Regional Airport and airport access infrastructure; public works, water, wastewater, stormwater, drainage, storage, pumping, treatment, and distribution facilities; Interstate 15, State Route 7/Southern Parkway, Bluff Street, River Road, St. George Boulevard, Riverside Drive, Red Hills Parkway, bridges, culverts, traffic signals, evacuation routes, emergency response routes, and major arterials; Washington County Water Conservancy District facilities serving the St. George area; electric substations, overhead and underground power systems, communications, fiber, cellular, internet, radio, dispatch, and fuel supply infrastructure; hospitals, clinics, medical offices, schools, commercial centers, hotels, warehouses, public buildings, parks, sports fields, trail systems, golf courses, recreation facilities, fleet vehicles, maintenance yards, signs, rooftops, mechanical systems, utility poles, overhead lines, and trees vulnerable to black ice, brief snowfall, freezing temperatures, crashes, airport access disruption, delayed emergency response, frozen pipes, localized outages, heating demand spikes, school and business closures, medical access disruption, visitor travel delays, and short-term interruption of regional services.</p>                                                                                                                                                                                                                                                                                                                                                                          |
| Washington City  | <p><b>Vulnerabilities:</b> Washington City is vulnerable because growing neighborhoods, schools, parks, commercial areas, roads, utility systems, and public facilities can be disrupted by brief snow, freezing temperatures, and black ice even though the city is at lower elevation than the region's mountain communities. Continued growth increases the number of commuters, school routes, and public facilities affected when winter weather reduces road safety or interrupts power and communications.</p> <p><b>Impacts:</b> Winter storms can create dangerous travel on local roads and regional corridors, interrupt schools and city operations, damage landscaping and exposed infrastructure, and increase heating and utility demands. Localized icing or snowfall may also delay emergency response, affect neighborhood access, and create repair and maintenance needs for roads, pipes, and public facilities. Critical facilities and infrastructure potentially impacted include Washington City offices and municipal facilities; Washington City Police Department; Washington City Fire Department facilities; Washington County School District schools and community facilities; public works facilities; culinary water, irrigation, wastewater, stormwater, drainage, storage, pumping, treatment, and distribution infrastructure; Interstate 15, State Route 9, Telegraph Street, Green Spring Drive, Washington Parkway, bridges, culverts, traffic-control devices, evacuation routes, emergency response routes, and major access roads; Washington County Water Conservancy District facilities serving the Washington area; power, communications, fiber, cellular, internet, radio, fuel supply, and utility infrastructure; parks, trail systems, sports fields, commercial centers, public buildings, neighborhoods, developing areas, school routes, fleet vehicles,</p> |

| Plan Participant | Vulnerabilities and Impacts                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
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|                  | <p>maintenance yards, exposed plumbing, irrigation components, utility poles, overhead lines, signs, landscaped areas, and trees vulnerable to black ice, freezing temperatures, light snow, crashes, delayed emergency response, frozen pipes, localized utility outages, school and city service interruption, neighborhood access disruption, increased heating demand, road treatment needs, and temporary impacts to commerce and public services.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| Hurricane        | <p><b>Vulnerabilities:</b> Hurricane is vulnerable because homes, schools, businesses, roads, utilities, and public facilities in the Hurricane Valley can be affected by episodic winter weather, especially where freezing temperatures, brief snow, and black ice affect travel to and from higher terrain. The city's growth, school activity, recreation travel, and dependence on roadway connections increase sensitivity to even short-duration winter events.</p> <p><b>Impacts:</b> Winter storms can create hazardous driving conditions, crashes, delayed emergency response, frozen pipes, localized utility disruption, and temporary interruption of schools, businesses, and public services. Cold temperatures and icy roads may also affect recreation travel, increase heating demand, and create added risks for older adults, medically vulnerable residents, and travelers moving between valley and higher-elevation routes. Critical facilities and infrastructure potentially impacted include Hurricane City Hall and municipal facilities; Hurricane Police Department; Hurricane Valley Fire District facilities; Washington County School District schools and community facilities; public works, water, wastewater, stormwater, drainage, irrigation, storage, pumping, treatment, and distribution infrastructure; Interstate 15 access routes, State Route 9, State Route 7/Southern Parkway, State Route 59, local roads, bridges, culverts, traffic-control devices, evacuation routes, emergency response routes, and higher-terrain access routes; Sand Hollow Reservoir and Quail Creek Reservoir recreation-support, dam, spillway, access, marina, campground, and utility infrastructure; power, communications, fiber, cellular, internet, radio, fuel supply, and utility corridors; parks, trailheads, campgrounds, marinas, commercial areas, tourism businesses, public buildings, schools, neighborhoods, recreation access roads, fleet vehicles, maintenance yards, exposed plumbing and irrigation systems, utility poles, overhead lines, signs, and trees vulnerable to icy roads, black ice, freezing temperatures, brief snow, crashes, delayed emergency response, recreation travel disruption, frozen pipes, power or communications outages, increased heating demand, school and business interruption, visitor access disruption, and road treatment and recovery costs.</p> |

| Plan Participant | Vulnerabilities and Impacts                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
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| Santa Clara      | <p><b>Vulnerabilities:</b> Santa Clara is vulnerable because homes, schools, parks, roads, utility systems, and public facilities in the greater St. George urban area may be affected by freezing temperatures, black ice, and occasional snow or sleet despite the city's lower-elevation setting. Because winter driving conditions are less common, even minor icing can quickly affect road safety, school transportation, and access to community services.</p> <p><b>Impacts:</b> Winter storms can create dangerous local travel conditions, interrupt schools and city functions, damage exposed irrigation or plumbing systems, and increase heating demand and utility stress. Even brief winter weather events may also affect neighborhood access, slow emergency response, and create maintenance burdens for roads, public facilities, and landscaping. Critical facilities and infrastructure potentially impacted include Santa Clara City Hall and municipal facilities; Santa Clara-Ivins Police Department facilities; Santa Clara fire and emergency response facilities; Washington County School District schools and community facilities; public works, water, irrigation, wastewater, stormwater, drainage, storage, pumping, treatment, and distribution systems; Old Highway 91, Santa Clara Drive, Pioneer Parkway, local roads, bridges, culverts, traffic-control devices, evacuation routes, emergency response routes, and neighborhood access roads; Santa Clara River corridor infrastructure; power, communications, fiber, cellular, internet, radio, fuel supply, and utility infrastructure; parks, trails, recreation areas, public buildings, commercial areas, neighborhoods, school routes, fleet vehicles, maintenance yards, exposed plumbing, irrigation systems, landscaped areas, utility poles, overhead lines, signs, and trees vulnerable to freezing temperatures, black ice, brief snow or sleet, crashes, delayed emergency response, frozen pipes, irrigation system damage, localized outages, school and city service interruption, neighborhood access disruption, increased heating demand, and short-term maintenance burdens for roads, public facilities, and landscaping.</p> |
| Ivins            | <p><b>Vulnerabilities:</b> Ivins is vulnerable because homes, roads, parks, public facilities, tourism-related amenities, and utility systems can be affected by episodic winter weather, especially when freezing temperatures, ice, or light snow affect travel to and from higher terrain and exposed desert-edge roads. Although snowfall is less frequent than in higher-elevation communities, the city's growing population, public events, and recreation-related travel can amplify disruption when winter conditions occur.</p> <p><b>Impacts:</b> Winter storms can create icy roads, travel delays, localized utility and communications interruptions, frozen pipes, and temporary disruption to public services, schools, and recreation access. Cold conditions may also increase heating demand and create public health risks for older adults, residents without reliable heating, and people engaged in outdoor activities or travel during sudden weather changes. Critical facilities and infrastructure potentially impacted include Ivins City Hall and municipal facilities; Santa Clara-Ivins Police Department facilities serving Ivins; Ivins fire and emergency response facilities; Washington County School District schools and community</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |

| Plan Participant | Vulnerabilities and Impacts                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
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|                  | <p>facilities; public works, water, wastewater, stormwater, drainage, irrigation, storage, pumping, treatment, and distribution infrastructure; Old Highway 91, Center Street, Snow Canyon Parkway, local access routes, bridges, culverts, traffic-control devices, evacuation routes, emergency response routes, and desert-edge roads; overhead and underground power, communications, fiber, cellular, internet, radio, fuel supply, and utility infrastructure; parks, trailheads, recreation facilities, tourism-related amenities, public buildings, neighborhoods, school routes, fleet vehicles, maintenance yards, exposed plumbing, irrigation systems, utility poles, overhead lines, signs, rooftops, mechanical systems, and trees vulnerable to freezing temperatures, black ice, light snow, travel delays, recreation access disruption, frozen pipes, localized power or communications outages, public service interruption, neighborhood access constraints, increased heating demand, and risks to older adults, residents without reliable heating, and outdoor recreation users during sudden winter weather changes.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| La Verkin        | <p><b>Vulnerabilities:</b> La Verkin is vulnerable because homes, schools, roads, bridges, utilities, and public facilities are located in a corridor setting where freezing temperatures, black ice, and occasional snow can affect travel between lower and higher-elevation portions of the county. The community's transportation connections, bridge crossings, and overhead infrastructure increase sensitivity to winter driving hazards and service disruption during cold or icy events.</p> <p><b>Impacts:</b> Winter storms can create hazardous travel on local roads and corridor routes, delay emergency response, disrupt schools and public services, and damage exposed plumbing, utilities, and outdoor infrastructure. Even brief periods of snow or ice can affect commuter travel, visitor movement, and access to neighboring communities while increasing maintenance and response costs. Critical facilities and infrastructure potentially impacted include La Verkin City offices and municipal facilities; La Verkin Police Department; La Verkin fire and emergency response facilities; Washington County School District schools and community facilities; public works, water, wastewater, stormwater, drainage, storage, pumping, treatment, and utility infrastructure; State Route 9, State Route 17, local roads, bridges, culverts, traffic-control devices, evacuation routes, emergency response routes, and Zion gateway access routes; La Verkin Creek, Ash Creek, Virgin River corridor, and adjacent transportation and utility infrastructure; overhead and underground electric, communications, fiber, cellular, internet, radio, fuel supply, and utility infrastructure; parks, trailheads, visitor-serving businesses, public buildings, neighborhoods, school routes, fleet vehicles, maintenance yards, exposed plumbing, drainage components, utility poles, overhead lines, signs, and trees vulnerable to black ice, freezing temperatures, brief snow, reduced visibility, crashes, bridge or corridor access disruption, delayed emergency response, frozen pipes, power and communications outages, school and public service disruption, visitor travel delays, and increased maintenance and road treatment demands.</p> |

| Plan Participant | Vulnerabilities and Impacts                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
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| Enterprise       | <p><b>Vulnerabilities:</b> Enterprise is highly vulnerable because of its higher-elevation rural setting, dependence on local roads and utility systems, agricultural lands, schools, and homes exposed to snowfall, prolonged cold, and icy travel conditions. As in the winter storms profile, Washington County's higher-elevation communities experience the county's most significant winter storm effects, and Enterprise's limited route redundancy, rural infrastructure, and smaller service base increase sensitivity when snow or ice disrupts access and operations.</p> <p><b>Impacts:</b> Winter storms can create snow-covered and icy roads, delayed emergency response, frozen pipes, localized power outages, disruption to schools and businesses, and hazardous conditions for agricultural operations and livestock care. Recovery may be prolonged where local staffing and equipment are limited, and even short-duration closures or outages can affect a large share of the community's travel, utility service, and continuity of operations. Critical facilities and infrastructure potentially impacted include Enterprise City offices and municipal facilities; Enterprise Police Department; Enterprise fire and emergency response facilities; Washington County School District schools and community facilities; public works, municipal and domestic water systems, wells, wastewater, drainage, stormwater, irrigation, storage, pumping, treatment, and agricultural water infrastructure; State Route 18, local roads, bridges, culverts, traffic-control devices, snow-removal routes, rural access routes, evacuation routes, and emergency response routes; reservoirs, irrigation systems, canals, storage ponds, farms, ranches, barns, sheds, corrals, fencing, fields, livestock water supplies, and agricultural support facilities; power, communications, fiber, cellular, internet, radio, fuel supply, and utility infrastructure; parks, public buildings, maintenance yards, exposed vehicles, equipment, school buses, utility poles, overhead lines, antennas, rooftops, plumbing, and water or sewer components vulnerable to snow accumulation, prolonged cold, black ice, freezing rain, reduced visibility, road closures, delayed emergency response, frozen or burst pipes, heating interruptions, localized power and communications outages, livestock care challenges, agricultural disruption, school and business closures, isolation, and prolonged recovery where local staffing, equipment, and financial resources are limited.</p> |
| Toquerville      | <p><b>Vulnerabilities:</b> Toquerville is vulnerable because growing residential areas, roads, utility systems, and public facilities can be affected by winter weather that creates black ice, occasional snow, and freezing temperatures along local and regional travel routes. Even though snowfall is less frequent than in higher-elevation communities, the town's roads, expanding neighborhoods, and limited route redundancy can make short-duration winter weather events disruptive.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |

| Plan Participant | Vulnerabilities and Impacts                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
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|                  | <p><b>Impacts:</b> Winter storms can create hazardous road conditions, delayed emergency response, school and commuter disruption, frozen pipes, and temporary outages or communications interruption. Cold weather may also increase heating demand and maintenance needs for roads, drainage crossings, and public facilities while creating public safety concerns for residents and travelers. Critical facilities and infrastructure potentially impacted include Toquerville Town Hall and municipal facilities; Toquerville fire and emergency response facilities; public works and utility facilities; Washington County School District schools and community facilities serving the area; culinary water, irrigation, wastewater, stormwater, drainage, storage, pumping, treatment, and distribution infrastructure; State Route 17, Interstate 15 access routes, local roads, bridges, culverts, traffic-control devices, evacuation routes, emergency response routes, and developing neighborhood access roads; Ash Creek and La Verkin Creek watershed drainage infrastructure; power, communications, fiber, cellular, internet, radio, fuel supply, and utility infrastructure; parks, trails, public buildings, visitor-serving facilities, neighborhoods, school routes, fleet vehicles, maintenance yards, exposed plumbing, irrigation components, utility poles, overhead lines, signs, and trees vulnerable to black ice, freezing temperatures, occasional snow, crashes, delayed emergency response, frozen pipes, temporary outages, communications interruption, school and commuter disruption, neighborhood access disruption, increased heating demand, and added maintenance needs for roads, drainage crossings, and public facilities.</p> |
| Leeds            | <p><b>Vulnerabilities:</b> Leeds is vulnerable because homes, Interstate 15 access, local roads, utility systems, and community facilities are exposed to episodic winter weather in a terrain-constrained corridor where black ice, light snow, and reduced visibility can quickly affect travel safety. The town's connection to Interstate 15 and limited local redundancy means even minor winter weather can create outsized transportation and access consequences.</p> <p><b>Impacts:</b> Winter storms can create dangerous local and interstate travel, crashes, utility disruption, frozen pipes, and delayed emergency access. Because Leeds is tied to a major regional corridor, even brief icing or snowfall can affect commuter movement, freight travel, and public safety beyond the town itself while increasing maintenance and incident response demands. Critical facilities and infrastructure potentially impacted include Leeds Town Hall and public works facilities; Leeds fire and emergency response facilities; water, wastewater, stormwater, drainage, storage, pumping, treatment, and utility infrastructure; Interstate 15, Main Street, local roads, bridges, culverts, traffic-control devices, access ramps, evacuation routes, emergency response routes, and corridor transportation infrastructure; Leeds Creek, Quail Creek, and nearby drainage corridor infrastructure; overhead and underground electric, communications, fiber, cellular, internet, radio, fuel supply, and utility infrastructure; parks, public buildings, community facilities, corridor businesses, school routes, fleet vehicles, maintenance yards, exposed plumbing, drainage components, utility poles, overhead lines, signs, and trees</p>            |

| Plan Participant | Vulnerabilities and Impacts                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
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|                  | vulnerable to black ice, light snow, freezing temperatures, reduced visibility, crashes, interstate and local access disruption, delayed emergency response, frozen pipes, power or communications outages, freight and commuter delays, public service interruption, and increased maintenance and incident response demands.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| Virgin           | <p><b>Vulnerabilities:</b> Virgin is vulnerable because homes, lodging, restaurants, SR-9, utility systems, and visitor-serving facilities in the Zion gateway corridor depend on a limited transportation network that can be disrupted by snow, black ice, freezing temperatures, and reduced visibility. Although lower elevations receive less snow than mountain communities, even brief winter weather can affect visitor travel, local access, and emergency response in this small corridor town.</p> <p><b>Impacts:</b> Winter storms can create hazardous travel on SR-9, delay emergency response, interrupt visitor access and local commerce, and cause localized utility outages or plumbing issues during freezing conditions. Because Virgin depends on tourism and limited roadway redundancy, even short-lived winter weather can create outsized economic and operational consequences for residents, businesses, and travelers. Critical facilities and infrastructure potentially impacted include Virgin Town Hall and municipal facilities; Virgin fire and emergency response facilities; public works, water, wastewater, drainage, storage, pumping, treatment, and utility infrastructure; State Route 9, local roads, bridges, culverts, traffic-control devices, evacuation routes, emergency response routes, and Zion gateway access routes; Virgin River corridor and adjacent transportation and utility infrastructure; overhead and underground electric, communications, fiber, cellular, internet, radio, fuel supply, and utility corridors; lodging, restaurants, visitor-serving businesses, parks, trailheads, campgrounds, recreation access points, public buildings, homes, short-term rentals, school routes, fleet vehicles, maintenance yards, exposed plumbing, utility poles, overhead lines, signs, and trees vulnerable to black ice, freezing temperatures, brief snow, reduced visibility, SR-9 travel disruption, crashes, delayed emergency response, frozen pipes, localized power and communications outages, visitor access disruption, business interruption, limited sheltering needs, and increased maintenance and road treatment demands.</p> |
| Springdale       | <p><b>Vulnerabilities:</b> Springdale is highly vulnerable because development is concentrated in a narrow Zion gateway corridor with constrained SR-9 access, steep terrain, high visitor volumes, and dependency on uninterrupted travel and utility service. Even brief snow, black ice, or freezing rain can have outsized consequences because hotels, restaurants, homes, roads, bridges, utilities, and visitor facilities all rely on limited transportation redundancy and year-round park access.</p> <p><b>Impacts:</b> Winter storms can create dangerous or impossible travel on SR-9, delay evacuations and emergency response, interrupt tourism activity and local commerce, and affect utilities, plumbing, and facility operations. Because Springdale serves as a Zion gateway, even minor winter weather can produce</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |

| Plan Participant | Vulnerabilities and Impacts                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
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|                  | <p>major economic and operational disruption for residents, employees, and visitors while increasing snow removal, treatment, and recovery costs. Critical facilities and infrastructure potentially impacted include Springdale Town Hall and municipal facilities; Springdale Police Department and emergency response facilities; public works, water, wastewater, drainage, stormwater, storage, pumping, treatment, and utility infrastructure; State Route 9, Zion Canyon access routes, shuttle-related transportation facilities, local roads, bridges, culverts, traffic-control devices, evacuation routes, emergency response routes, and visitor access corridors; Virgin River corridor and canyon transportation and utility infrastructure; overhead and underground electric, communications, fiber, cellular, internet, radio, fuel supply, and utility infrastructure; hotels, restaurants, lodging areas, employee housing, visitor facilities, short-term rentals, parks, trailheads, public buildings, Zion gateway recreation assets, public gathering areas, fleet vehicles, shuttle stops, maintenance yards, exposed plumbing, utility poles, overhead lines, signs, rooftops, and trees vulnerable to snow, freezing rain, black ice, reduced visibility, SR-9 closure or restriction, shuttle and visitor access disruption, crashes, delayed emergency response, frozen pipes, heating interruption, power and communications outages, lodging and business interruption, visitor sheltering needs, evacuation constraints, and major tourism-related economic impacts.</p>                                                                                                                                                                                                                                                                                                 |
| New Harmony      | <p><b>Vulnerabilities:</b> New Harmony is highly vulnerable because of its higher-elevation rural mountain-valley setting, limited alternate access, homes, roads, water systems, agricultural lands, and community facilities exposed to snow, prolonged cold, and icy travel conditions. Winter storms can affect both local residents and through-travelers, and the town's smaller infrastructure base increases sensitivity when road or utility disruptions occur.</p> <p><b>Impacts:</b> Winter storms can create snow-covered and icy roads, delayed emergency response, disruption to schools and local services, frozen pipes, and localized power or communications outages. Cold conditions may also affect livestock and agricultural operations, increase heating demand, and prolong recovery where road treatment, snow removal, and repair resources are limited. Critical facilities and infrastructure potentially impacted include New Harmony Town Hall and municipal facilities; fire and emergency response facilities; public works, local and domestic water systems, wells, storage, pumping, wastewater, drainage, and utility infrastructure; Interstate 15, State Route 144, local roads, bridges, culverts, traffic-control devices, snow-removal routes, evacuation routes, emergency response routes, and rural access roads; Ash Creek watershed drainage crossings and nearby transportation and utility infrastructure; power, communications, fiber, cellular, internet, radio, fuel supply, and utility corridors; agricultural and open lands, irrigation systems, livestock water supplies, parks, community facilities, public buildings, homes, rural development, barns, sheds, fences, exposed vehicles, equipment, plumbing, utility poles, overhead lines, antennas, and maintenance facilities vulnerable to snow accumulation, prolonged cold, black</p> |

| Plan Participant | Vulnerabilities and Impacts                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
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|                  | ice, reduced visibility, road closures, delayed emergency response, frozen or burst pipes, power and communications outages, heating interruption, livestock and agricultural impacts, school and service disruption, isolation, and prolonged recovery where road treatment, snow removal, and repair resources are limited.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| Rockville        | <p><b>Vulnerabilities:</b> Rockville is vulnerable because of its small residential and historic development pattern along the Virgin River corridor, constrained transportation access, and dependence on limited local utilities and road connections in the Zion gateway area. Even brief snow, black ice, or freezing temperatures can affect the town's narrow road network, visitor movement, and access for emergency services, especially where older buildings and exposed infrastructure are less resilient to cold and freezing conditions.</p> <p><b>Impacts:</b> Winter storms can create hazardous travel, delay emergency response, interrupt access for residents and visitors, and affect roads, bridges, utilities, and plumbing in older structures. Because Rockville is small and transportation options are limited, even a minor winter weather event can disrupt tourism, daily activity, and local services while increasing maintenance and recovery needs. Critical facilities and infrastructure potentially impacted include Rockville Town Hall and municipal facilities; fire and emergency response facilities; public works, water, wastewater, drainage, storage, pumping, treatment, and utility infrastructure; State Route 9, local roads, bridges, culverts, traffic-control devices, evacuation routes, emergency response routes, and Zion gateway access routes; Virgin River corridor and adjacent transportation and utility infrastructure; overhead and underground electric, communications, fiber, cellular, internet, radio, fuel supply, and utility infrastructure; historic buildings, homes, parks, trailheads, visitor-serving facilities, public buildings, public spaces, scenic or historic community resources, older structures, short-term rentals, school routes, fleet vehicles, maintenance yards, exposed plumbing, utility poles, overhead lines, signs, and trees vulnerable to black ice, freezing temperatures, brief snow, reduced visibility, hazardous travel, delayed emergency response, frozen pipes, localized outages, damage to older plumbing or buildings, constrained evacuation or access, visitor disruption, tourism interruption, and increased maintenance and recovery needs.</p> |
| Apple Valley     | <p><b>Vulnerabilities:</b> Apple Valley is vulnerable because dispersed homes, local roads, water systems, utility lines, and community facilities in a rural-residential setting can be affected by freezing temperatures, ice, and occasional winter precipitation. The town's distance from some services, limited roadway redundancy, and modest infrastructure systems increase sensitivity when black ice, road closure, or utility disruption occurs.</p> <p><b>Impacts:</b> Winter storms can create hazardous road conditions, delay emergency response, interrupt access to essential services, freeze plumbing or water infrastructure, and cause localized power or communications outages. Recovery may be challenging if multiple dispersed neighborhoods are affected at once or if road treatment and utility repair require outside support</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |

| Plan Participant | Vulnerabilities and Impacts                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
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|                  | <p>and extended response time. Critical facilities and infrastructure potentially impacted include Apple Valley Town Hall and municipal facilities; fire and emergency response facilities; public works, community water systems, wells, storage, pumping, wastewater, drainage, and utility infrastructure; State Route 59, local roads, bridges, culverts, washes, traffic-control devices, evacuation routes, emergency response routes, and rural access roads; power, communications, fiber, cellular, internet, radio, fuel supply, and utility corridors; parks, community facilities, dispersed residential water systems, public buildings, open-space resources, limited agricultural or livestock support infrastructure, maintenance facilities, rural-residential neighborhoods, school routes, exposed vehicles, equipment, plumbing, utility poles, overhead lines, antennas, signs, and drainage crossings vulnerable to freezing temperatures, black ice, occasional winter precipitation, road closures, delayed emergency access, frozen pipes, water system interruption, localized power or communications outages, service challenges across dispersed neighborhoods, increased heating demand, and extended response or repair timelines requiring outside support.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| Hildale          | <p><b>Vulnerabilities:</b> Hildale is vulnerable because homes, schools, roads, utility and water systems, and public facilities are located in rugged terrain and drainage-sensitive areas where freezing temperatures, ice, and occasional snow can affect travel and service delivery. Limited infrastructure redundancy and constrained access routes increase sensitivity to winter weather, especially where residents rely on local systems with less backup capacity.</p> <p><b>Impacts:</b> Winter storms can create icy roads, delayed emergency response, utility and water service interruptions, frozen pipes, and disruption to schools and public safety operations. In a community with ongoing infrastructure needs, even brief winter weather can increase repair demands, isolate neighborhoods, and require outside technical and financial assistance to restore access and services. Critical facilities and infrastructure potentially impacted include Hildale City Hall and municipal facilities; Hildale Police Department; Hildale fire and emergency response facilities; Water Canyon School and other community facilities; public works, culinary water, wastewater, stormwater, drainage, storage, pumping, treatment, and utility infrastructure; Utah State Route 59, local roads, bridges, culverts, washes, traffic-control devices, community access routes, evacuation routes, and emergency response routes; power, communications, fiber, cellular, internet, radio, fuel supply, and utility corridors; parks, public buildings, residential water systems, public landscapes, drainage-sensitive open areas, homes, older structures, school routes, fleet vehicles, maintenance yards, exposed plumbing, utility poles, overhead lines, antennas, signs, and water or sewer components vulnerable to freezing temperatures, black ice, occasional snow, reduced visibility, road blockage, delayed emergency response, frozen or burst pipes, water and wastewater service interruption, power and communications outages, school and public safety disruption, neighborhood</p> |

| Plan Participant | Vulnerabilities and Impacts                                                                   |
|------------------|-----------------------------------------------------------------------------------------------|
|                  | isolation, increased repair demands, and need for outside technical and financial assistance. |

## Changes in Development

Changes in development include recent and planned development, including population changes and future conditions, which may affect the risks and vulnerabilities of the plan participants. Understanding how development can be impacted by the natural hazards profiled in this plan can help participants make sound development decisions, identify necessary mitigation actions, and reduce risk to both new and existing structures.

Washington County has experienced substantial population growth between the 2020 Census and the July 1, 2025 estimate. Growth may increase exposure when new people, structures, infrastructure, or visitor-serving uses are located within documented hazard-prone areas. Population or construction growth alone does not establish increased vulnerability; the determination must consider development location, hazard extent, design and land-use controls, infrastructure capacity, completed mitigation, and whether expected consequences changed.

Table 175 distinguishes potential effects of future development from observed changes since the previous plan. The available records do not identify development locations, jurisdiction-owned assets outside the planning area, or completed mitigation by participant sufficiently to determine increased, unchanged, or decreased vulnerability. An indeterminate finding is not a finding of unchanged vulnerability.

**Table 175: Vulnerability Changes in Washington County**

| Plan Participant                          | Increased                                                                                                                                                                                                                                                                   | Stayed the Same                                                                                                                          | Decreased                                                                 |
|-------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------|
| <b>All Washington County participants</b> | Potential added exposure to flooding, wildfire, drought, extreme heat, damaging winds, problem soils, earthquakes, and other applicable hazards if development adds people or assets in hazard-prone settings. Participant-specific observed increases are not established. | Indeterminate: available participant-specific development and mitigation records do not establish whether vulnerability stayed the same. | No decrease is established by the available participant-specific records. |

## Capability Assessment

The **capability assessment** defines the resources available to support mitigation. A thorough assessment of current mitigation capabilities helps outline who will be responsible for implementing mitigation actions, what current programs, policies, and funding sources could support action implementation, and

what new capacity building actions could benefit the community. The local capability inventory describes the planning and administrative framework reported in the annex. Dated ordinance, staffing, and implementation records are not available to independently establish each entry's current status; the inventory does not demonstrate NFIP enforcement or completion of individual mitigation actions.

## Washington County Capability Assessment

Table 176 describes the mitigation capabilities for Washington County.

**Table 176: Washington County Capability Assessment**

| Capability                          | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|-------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Plans and Regulations</b>        | General Plan -Amended August 2012, Public Lands portion approved on Nov. 16, 2010<br>Capital Improvement Plan – 2024–2029<br>Washington County supports mitigation through its General Plan, community plans for unincorporated areas, zoning and subdivision regulations, building permitting, transportation planning, and adopted ordinances that guide growth in hazard-prone areas. These tools provide a framework for incorporating hazard information into land use decisions, capital improvements, infrastructure siting, and development review. |
| <b>Administrative and Technical</b> | Administrative and technical capability is provided through county leadership, emergency management, planning and zoning, building services, public works and road functions, GIS <sup>279</sup> and mapping support, coordination with special service districts, and relationships with state and federal partners. The county can convene multiple jurisdictions, maintain hazard information, support project scoping, and coordinate mitigation activities across unincorporated communities and regional service providers.                           |
| <b>Financial</b>                    | Financial capability includes annual budgeting, capital improvement programming, utility and service district investments, grant administration capacity, and the ability to pursue federal and state assistance such as FEMA mitigation programs, state emergency management grants, transportation funds, and other infrastructure and resilience funding sources. County resources are finite, but the county can often combine local funds with outside grants for higher-cost projects.                                                                |
| <b>Education and Outreach</b>       | Washington County has education and outreach capability through emergency notifications, public meetings, website content, social media, coordination with local jurisdictions and fire districts, preparedness campaigns, and public information shared during hazard events. Outreach can support wildfire preparedness, flood awareness, drought conservation,                                                                                                                                                                                           |

<sup>279</sup> GIS = geographic information system

| Capability                              | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
|-----------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                         | earthquake readiness, radon education, and other community risk-reduction measures.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| <b>National Flood Insurance Program</b> | FEMA lists Washington County as an NFIP-participating community (Community 490224). The effective-map field is recorded as 04/02/09; this is not a local ordinance-adoption date. No CRS class is reported in this entry. The status book establishes program status, not local permitting, enforcement, or substantial-improvement/substantial-damage implementation. Participant-specific implementation records and repetitive-loss/severe-repetitive-loss building counts and types are not established by the available evidence; no zero count or finding of compliance is inferred. <sup>280</sup> |

The hazard mitigation plan must describe the opportunities to expand and improve upon the capabilities described in the plan. For Washington County, this includes:

- **Plans and Regulations:** Continue integrating hazard information into county land use decisions, update ordinances as needed to address development in hazard-prone areas, and strengthen links between the mitigation plan, transportation planning, capital improvements, and community plans.
- **Administrative and Technical:** Expand geographic information system (GIS)-based risk analysis, maintain updated inventories of critical facilities and infrastructure, improve coordination with participating jurisdictions, and continue training staff and partners on mitigation project development and implementation.
- **Financial:** Identify local match strategies, pursue additional FEMA and state grants, coordinate regional applications where appropriate, and prioritize mitigation projects in capital planning and annual budgeting.
- **Education and Outreach:** Formalize recurring outreach on high-priority hazards, improve multilingual and accessible risk communication where feasible, and coordinate public messaging with municipalities, utilities, fire districts, and school partners.
- **National Flood Insurance Program:** Maintain floodplain management compliance in applicable areas, support map updates and local ordinance review, and improve coordination with participating communities on repetitive flood risk reduction and public flood awareness.

<sup>280</sup> FEMA, OpenFEMA NFIP Community Status Book, Utah records, retrieved October 10, 2026; dataset refresh August 25, 2026. <https://www.fema.gov/api/open/v1/NfipCommunityStatusBook>. Map dates are FEMA effective-map entries, not evidence of local adoption or implementation.

## St. George Capability Assessment

Table 177 describes the mitigation capabilities for St. George.

**Table 177: St. George Capability Assessment**

| Capability                              | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|-----------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Plans and Regulations</b>            | General Plan -June 19, 2025<br>St. George has strong planning and regulatory capability through its adopted General Plan, zoning and subdivision regulations, building and construction codes, development review procedures, and city ordinances that guide growth, infrastructure, and public safety. These tools support hazard mitigation by helping the city evaluate development in flood-prone drainage corridors, erosion areas, hillside and wildfire-interface locations, and other hazard-sensitive areas; coordinate land use with water, transportation, and utility planning; and apply standards that reduce risk as the city continues to grow. |
| <b>Administrative and Technical</b>     | Administrative and technical capability is supported by city leadership; community development, planning and zoning, engineering, and building functions; public works, utilities, and stormwater management; emergency management and public safety coordination; and access to GIS, hazard mapping, consultant support, and regional, state, and federal technical resources. St. George can evaluate hazard information, review site-specific development constraints, maintain and use drainage and flood risk information, scope mitigation projects, and coordinate implementation across departments and partner agencies.                               |
| <b>Financial</b>                        | Financial capability includes annual budgeting, capital improvement planning, utility and stormwater investments, development-related revenues where applicable, and the ability to pursue state and federal grants and other outside funding for drainage, transportation, public safety, water conservation, wildfire risk reduction, and resilience projects. As a fast-growing regional center with significant infrastructure demands, St. George can support mitigation through phased local investment and by combining city funds with external grant resources for larger projects.                                                                    |
| <b>Education and Outreach</b>           | St. George has robust education and outreach capability through city websites and public information, emergency alerts, public meetings, social media, utility and conservation messaging, development and permitting guidance, and coordination with community organizations and regional partners. These outreach tools can support flood safety, storm preparedness, drought and water conservation, wildfire defensible space, extreme heat awareness, and household preparedness for residents, businesses, and visitors.                                                                                                                                  |
| <b>National Flood Insurance Program</b> | FEMA lists St. George as an NFIP-participating community (Community 490177). The effective-map field is recorded as 04/02/09; this is not a local ordinance-adoption date. FEMA reports CRS Class 6, with original entry on                                                                                                                                                                                                                                                                                                                                                                                                                                     |

| Capability | Description                                                                                                                                                                                                                                                                                                                                                                                                                            |
|------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|            | 1994-10-01 and the current class effective 2024-10-01. The status book establishes program status, not local permitting, enforcement, or substantial-improvement/substantial-damage implementation. Participant-specific implementation records and repetitive-loss/severe-repetitive-loss building counts and types are not established by the available evidence; no zero count or finding of compliance is inferred. <sup>281</sup> |

The hazard mitigation plan must describe the opportunities to expand and improve upon the capabilities described in the plan. For St. George, this includes:

- **Plans and Regulations:** Continue integrating hazard data into development review, update ordinances and design standards as needed for drainage corridors, hillside development, wildfire-interface areas, and other hazard-prone locations, and align mitigation priorities with the city's general plan, capital improvement programming, utility planning, and transportation planning.
- **Administrative and Technical:** Expand GIS-based risk analysis, maintain updated inventories of critical facilities, stormwater assets, and other vulnerable infrastructure, improve interdepartmental coordination among planning, engineering, utilities, public works, and emergency management, and continue staff training on mitigation project development, benefit-cost considerations, and hazard-informed planning.
- **Financial:** Develop project-ready mitigation concepts for grant opportunities, identify local match strategies, continue incorporating resilience improvements into capital, drainage, transportation, water, and public safety investments, and prioritize projects that can leverage city funds with state and federal assistance.
- **Education and Outreach:** Expand recurring public communication on flood safety, flash flooding, wildfire defensible space, drought and water conservation, extreme heat, and household preparedness; improve outreach to new residents and businesses; and ensure public messaging remains timely, accessible, and coordinated across city departments and regional partners.
- **National Flood Insurance Program:** Maintain local floodplain management compliance, improve floodplain documentation and public information, continue coordinating on map updates, drainage planning, and erosion hazard management, and identify opportunities to reduce repetitive flood risk and improve resilience in mapped flood hazard areas and along drainage corridors.

<sup>281</sup> FEMA, OpenFEMA NFIP Community Status Book, Utah records, retrieved October 10, 2026; dataset refresh August 25, 2026. <https://www.fema.gov/api/open/v1/NfipCommunityStatusBook>. Map dates are FEMA effective-map entries, not evidence of local adoption or implementation.

## Washington City Capability Assessment

Table 68 describes the mitigation capabilities for Washington City.

**Table 178: Washington City Capability Assessment**

| Capability                              | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
|-----------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Plans and Regulations</b>            | General Plan – July 14, 1997<br>Washington City has planning and regulatory capability through its general plan, zoning and subdivision ordinances, building permitting, development review, and infrastructure planning. These mechanisms allow the city to guide growth, apply construction standards, and consider hazard exposure in land use and capital improvement decisions.                                                                                                                                                                                                                    |
| <b>Administrative and Technical</b>     | Administrative and technical capability is supported by city leadership, planning and zoning, building and engineering functions, public works, emergency response coordination, and access to GIS, consultant, county, and state technical support. The city can review development proposals, manage infrastructure needs, and coordinate mitigation projects with regional partners.                                                                                                                                                                                                                 |
| <b>Financial</b>                        | Financial capability includes annual budgeting, impact fees or development-related financing where applicable, capital improvement planning, utility revenues, and the ability to pursue state and federal grant funding for drainage, transportation, public safety, and other mitigation-related projects. Local funds may not be sufficient for all needs, so outside funding remains important.                                                                                                                                                                                                     |
| <b>Education and Outreach</b>           | Washington City has education and outreach capability through city meetings, website and social media communications, emergency alerts, utility and conservation messaging, and coordination with community partners. Outreach can help residents understand flood, wildfire, heat, drought, and other local risks and support household preparedness.                                                                                                                                                                                                                                                  |
| <b>National Flood Insurance Program</b> | FEMA lists Washington City as an NFIP-participating community (Community 490182). The effective-map field is recorded as 04/02/09; this is not a local ordinance-adoption date. No CRS class is reported in this entry. The status book establishes program status, not local permitting, enforcement, or substantial-improvement/substantial-damage implementation. Participant-specific implementation records and repetitive-loss/severe-repetitive-loss building counts and types are not established by the available evidence; no zero count or finding of compliance is inferred. <sup>282</sup> |

<sup>282</sup> FEMA, OpenFEMA NFIP Community Status Book, Utah records, retrieved October 10, 2026; dataset refresh August 25, 2026. <https://www.fema.gov/api/open/v1/NfipCommunityStatusBook>. Map dates are FEMA effective-map entries, not evidence of local adoption or implementation.

The hazard mitigation plan must describe the opportunities to expand and improve upon the capabilities described in the plan. For Washington City, this includes:

- **Plans and Regulations:** Continue integrating hazard data into development review, update ordinances as growth expands into risk-prone areas, and align mitigation priorities with the city's general plan and capital improvements.
- **Administrative and Technical:** Improve asset inventories, drainage and infrastructure risk assessments, and coordination between planning, public works, emergency response, and regional partners on mitigation implementation.
- **Financial:** Develop project-ready mitigation concepts for grant opportunities, identify local match strategies, and continue including resilience improvements in routine infrastructure and utility investments.
- **Education and Outreach:** Expand recurring outreach on flood safety, wildfire defensible space, water conservation, and heat preparedness, and ensure public messaging is timely and accessible.
- **National Flood Insurance Program:** Maintain ordinance compliance, improve floodplain recordkeeping and public information, and continue coordinating on map updates, drainage planning, and repetitive flood risk reduction.

## Hurricane Capability Assessment

Table 179 describes the mitigation capabilities for Hurricane.

**Table 179: Hurricane Capability Assessment**

| Capability                          | Description                                                                                                                                                                                                                                                                                                                                                                                                                               |
|-------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Plans and Regulations</b>        | General Plan – March 30, 2025<br>Hurricane has planning and regulatory capability through its general plan, zoning and subdivision regulations, building permitting, development review, and infrastructure planning. Because the city continues to grow and includes areas influenced by river corridors, alluvial fans, steep terrain, and wildland-urban interface conditions, these tools are important for guiding safe development. |
| <b>Administrative and Technical</b> | Administrative and technical capability includes city leadership, planning and building staff, public works, utility functions, emergency response coordination, and access to county, state, engineering, and GIS support. The city can support project scoping, development review, drainage and infrastructure planning, and mitigation coordination with regional partners.                                                           |
| <b>Financial</b>                    | Financial capability includes local budgeting, utility and capital project financing, development-related revenues where applicable, and the ability to seek outside funding for flood control, transportation, public safety, and other mitigation projects. Major infrastructure and hazard-reduction needs may require phased implementation and grant support.                                                                        |

| Capability                              | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
|-----------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Education and Outreach</b>           | Hurricane has education and outreach capability through city communications, emergency messaging, public meetings, social media, and partnerships with local agencies and community organizations. Outreach can address flash flooding, wildfire, drought, heat, and preparedness for both residents and visitors.                                                                                                                                                                                                                                                                                   |
| <b>National Flood Insurance Program</b> | FEMA lists Hurricane as an NFIP-participating community (Community 490172). The effective-map field is recorded as 04/02/09; this is not a local ordinance-adoption date. No CRS class is reported in this entry. The status book establishes program status, not local permitting, enforcement, or substantial-improvement/substantial-damage implementation. Participant-specific implementation records and repetitive-loss/severe-repetitive-loss building counts and types are not established by the available evidence; no zero count or finding of compliance is inferred. <sup>283284</sup> |

The hazard mitigation plan must describe the opportunities to expand and improve upon the capabilities described in the plan. For Hurricane, this includes:

- **Plans and Regulations:** Continue using land use and development regulations to reduce exposure in flood-prone, erosion-prone, and wildfire-prone areas, and strengthen integration with transportation and utility planning.
- **Administrative and Technical:** Improve drainage, slope, and infrastructure risk assessments, maintain updated critical asset data, and continue staff coordination and training for project development and hazard-informed decision-making.
- **Financial:** Prioritize shovel-ready mitigation projects for grant opportunities, identify local match options, and continue incorporating resilience improvements into routine capital and utility investments.
- **Education and Outreach:** Expand public communication on flash flooding, evacuation awareness, wildfire defensible space, and household preparedness, especially in growing neighborhoods and visitor-serving areas.
- **National Flood Insurance Program:** Maintain local compliance, improve floodplain documentation and public awareness, and coordinate on map interpretation, drainage planning, and flood mitigation project opportunities.

<sup>283</sup> CFR = Code of Federal Regulations

<sup>284</sup> FEMA, OpenFEMA NFIP Community Status Book, Utah records, retrieved October 10, 2026; dataset refresh August 25, 2026. <https://www.fema.gov/api/open/v1/NfipCommunityStatusBook>. Map dates are FEMA effective-map entries, not evidence of local adoption or implementation.

## Santa Clara Capability Assessment

Table 180 describes the mitigation capabilities for Santa Clara.

**Table 180: Santa Clara Capability Assessment**

| Capability                              | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
|-----------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Plans and Regulations</b>            | General Plan – November 12, 2025<br>Santa Clara has planning and regulatory capability through its general plan, zoning and subdivision ordinances, building permitting, development review, and coordination of infrastructure and utility planning. These tools help the city guide continued growth, manage development near flood- and wildfire-prone areas, and incorporate hazard considerations into land use and capital improvement decisions.                                                                                                                                               |
| <b>Administrative and Technical</b>     | Administrative and technical capability is supported by city leadership, planning and zoning functions, building and engineering review, public works, emergency response coordination, and access to county, consultant, GIS, and state technical support. Santa Clara can review development proposals, identify infrastructure needs, coordinate mitigation activities, and work with regional partners on project development and implementation.                                                                                                                                                 |
| <b>Financial</b>                        | Financial capability includes annual budgeting, capital improvement planning, utility revenues, development-related financing where applicable, and the ability to pursue state and federal grants for drainage, transportation, public safety, defensible space, and other mitigation-related projects. Like many growing communities, Santa Clara may need to combine local funding with outside grant support to implement larger resilience projects.                                                                                                                                             |
| <b>Education and Outreach</b>           | Santa Clara has education and outreach capability through city meetings, website and social media communications, emergency alerts, utility and conservation messaging, and coordination with community partners. Outreach can help residents understand local risks related to flash flooding, wildfire, drought, extreme heat, radon, and household preparedness.                                                                                                                                                                                                                                   |
| <b>National Flood Insurance Program</b> | FEMA lists Santa Clara as an NFIP-participating community (Community 490178). The effective-map field is recorded as 04/02/09; this is not a local ordinance-adoption date. FEMA reports CRS Class 10, with original entry on 1995-10-01 and the current class effective 2023-04-01. Class 10 provides no CRS premium discount. The status book establishes program status, not local permitting, enforcement, or substantial-improvement/substantial-damage implementation. Participant-specific implementation records and repetitive-loss/severe-repetitive-loss building counts and types are not |

| Capability | Description                                                                                               |
|------------|-----------------------------------------------------------------------------------------------------------|
|            | established by the available evidence; no zero count or finding of compliance is inferred. <sup>285</sup> |

The hazard mitigation plan must describe the opportunities to expand and improve upon the capabilities described in the plan. For Santa Clara, this includes:

- **Plans and Regulations:** Continue integrating hazard data into development review, update ordinances as needed to address growth in hazard-prone areas, and align mitigation priorities with the city's general plan and capital improvement programming.
- **Administrative and Technical:** Improve asset inventories, drainage and wildfire risk assessments, and coordination among planning, public works, emergency response, and regional partners on mitigation implementation.
- **Financial:** Develop project-ready mitigation concepts for grant opportunities, identify local match strategies, and continue incorporating resilience improvements into routine infrastructure, drainage, and utility investments.
- **Education and Outreach:** Expand recurring public communication on flood safety, wildfire defensible space, water conservation, extreme heat, and household preparedness, and ensure messaging is timely and accessible.
- **National Flood Insurance Program:** Maintain ordinance compliance, improve floodplain documentation and public information, and continue coordinating on map updates, drainage planning, and repetitive flood risk reduction where applicable.

## Ivins Capability Assessment

Table 181 describes the mitigation capabilities for Ivins.

**Table 181: Ivins Capability Assessment**

| Capability                   | Description                                                                                                                                                                                                                                                                                                                                                                                                                                        |
|------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Plans and Regulations</b> | General Plan – November 2024<br>Ivins has planning and regulatory capability through its general plan, zoning and subdivision ordinances, building permitting, development review, and infrastructure planning. These tools help the city manage continued growth, guide development near steep slopes and drainage corridors, and incorporate hazard considerations into land use decisions, utilities, transportation, and capital improvements. |

<sup>285</sup> FEMA, OpenFEMA NFIP Community Status Book, Utah records, retrieved October 10, 2026; dataset refresh August 25, 2026. <https://www.fema.gov/api/open/v1/NfipCommunityStatusBook>. Map dates are FEMA effective-map entries, not evidence of local adoption or implementation.

| Capability                              | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
|-----------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Administrative and Technical</b>     | Administrative and technical capability is supported by city leadership, planning and zoning, building and engineering review, public works, emergency response coordination, and access to county, consultant, GIS, and state technical support. Ivins can review development proposals, identify infrastructure and service needs, coordinate mitigation projects, and work with regional partners on project planning and implementation.                                                                                                                                                  |
| <b>Financial</b>                        | Financial capability includes annual budgeting, capital improvement planning, utility revenues, development-related financing where applicable, and the ability to pursue state and federal grants for drainage, transportation, public safety, defensible space, and other mitigation-related projects. As a growing community, Ivins may need to combine local resources with outside grant support to implement larger resilience and infrastructure improvements.                                                                                                                         |
| <b>Education and Outreach</b>           | Ivins has education and outreach capability through city meetings, website and social media communications, emergency alerts, utility and conservation messaging, and coordination with community partners. Outreach can help residents understand local risks related to flash flooding, wildfire, drought, extreme heat, radon, and household preparedness.                                                                                                                                                                                                                                 |
| <b>National Flood Insurance Program</b> | FEMA lists Ivins as an NFIP-participating community (Community 490173). The effective-map field is recorded as 04/02/09; this is not a local ordinance-adoption date. No CRS class is reported in this entry. The status book establishes program status, not local permitting, enforcement, or substantial-improvement/substantial-damage implementation. Participant-specific implementation records and repetitive-loss/severe-repetitive-loss building counts and types are not established by the available evidence; no zero count or finding of compliance is inferred. <sup>286</sup> |

The hazard mitigation plan must describe the opportunities to expand and improve upon the capabilities described in the plan. For Ivins, this includes:

- **Plans and Regulations:** Continue integrating hazard data into development review, update ordinances as needed to address growth in hazard-prone areas, and align mitigation priorities with the city's general plan, transportation planning, and capital improvement programming.
- **Administrative and Technical:** Improve asset inventories, drainage and wildfire risk assessments, and coordination among planning, public works, emergency response, and regional partners on mitigation implementation.

<sup>286</sup> FEMA, OpenFEMA NFIP Community Status Book, Utah records, retrieved October 10, 2026; dataset refresh August 25, 2026. <https://www.fema.gov/api/open/v1/NfipCommunityStatusBook>. Map dates are FEMA effective-map entries, not evidence of local adoption or implementation.

- **Financial:** Develop project-ready mitigation concepts for grant opportunities, identify local match strategies, and continue incorporating resilience improvements into routine infrastructure, drainage, and utility investments.
- **Education and Outreach:** Expand recurring public communication on flood safety, wildfire defensible space, water conservation, extreme heat, and household preparedness, and ensure messaging is timely and accessible.
- **National Flood Insurance Program:** Maintain floodplain management compliance where applicable, improve documentation and public information, and continue coordinating on map updates, drainage planning, and flood risk reduction opportunities.

## La Verkin Capability Assessment

Table 182 describes the mitigation capabilities for La Verkin.

**Table 182: La Verkin Capability Assessment**

| Capability                          | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
|-------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Plans and Regulations</b>        | General Plan – 2018<br>La Verkin has planning and regulatory capability through its general plan, zoning and subdivision regulations, building permitting, development review, and capital facilities and utility planning. These tools are important for guiding growth in a community influenced by drainage corridors, steep terrain, geologic constraints, and wildfire exposure, and they provide a framework for incorporating hazard considerations into land use, infrastructure, and development decisions.         |
| <b>Administrative and Technical</b> | Administrative and technical capability is supported by city leadership, planning and zoning, building and engineering review, public works, utility operations, emergency response coordination, and access to county, consultant, GIS, and state technical support. La Verkin can review development proposals, evaluate local drainage and infrastructure needs, coordinate mitigation priorities, and work with regional partners on project planning, hazard information, and implementation.                           |
| <b>Financial</b>                    | Financial capability includes annual budgeting, capital facilities planning, utility revenues, development-related financing where applicable, and the ability to pursue state and federal grants for drainage, transportation, public safety, water system improvements, and other mitigation-related projects. As a smaller but growing community, La Verkin may need to phase higher-cost projects and combine local resources with outside grant support to implement larger resilience and infrastructure improvements. |
| <b>Education and Outreach</b>       | La Verkin has education and outreach capability through city meetings, website and social media communications, emergency alerts, newsletters and public notices, utility and conservation messaging, and coordination with community partners. Outreach can help residents understand local                                                                                                                                                                                                                                 |

| Capability                              | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
|-----------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                         | risks related to flash flooding, wildfire, drought, extreme heat, geologic hazards, and household preparedness.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| <b>National Flood Insurance Program</b> | FEMA lists La Verkin as an NFIP-participating community (Community 490174). The effective-map field is recorded as 04/02/09; this is not a local ordinance-adoption date. No CRS class is reported in this entry. The status book establishes program status, not local permitting, enforcement, or substantial-improvement/substantial-damage implementation. Participant-specific implementation records and repetitive-loss/severe-repetitive-loss building counts and types are not established by the available evidence; no zero count or finding of compliance is inferred. <sup>287</sup> |

The hazard mitigation plan must describe the opportunities to expand and improve upon the capabilities described in the plan. For La Verkin, this includes:

- **Plans and Regulations:** Continue integrating hazard data into development review, update ordinances and design standards as needed for drainage corridors, steep slopes, geologic hazard areas, and wildfire-prone locations, and align mitigation priorities with the city's general plan, capital facilities planning, utility planning, and transportation decisions.
- **Administrative and Technical:** Expand GIS-based risk analysis, maintain updated inventories of critical facilities, drainage assets, transportation links, and other vulnerable infrastructure, improve coordination among planning, public works, utilities, emergency response, and regional partners, and continue staff training on mitigation project development and hazard-informed planning.
- **Financial:** Develop project-ready mitigation concepts for grant opportunities, identify local match strategies, continue incorporating resilience improvements into drainage, transportation, water system, and public safety investments, and prioritize projects that can combine city resources with state and federal funding.
- **Education and Outreach:** Expand recurring public communication on flash flooding, wildfire defensible space, drought and water conservation, extreme heat, geologic hazards, and household preparedness; improve outreach to new residents and businesses; and ensure public messaging remains timely, accessible, and coordinated across city departments and partner agencies.
- **National Flood Insurance Program:** Maintain local floodplain management compliance, improve floodplain documentation and public information, continue coordinating on map updates, drainage planning, and erosion hazard management, and identify opportunities to reduce repetitive flood risk and improve resilience in mapped flood hazard areas and along drainage corridors.

<sup>287</sup> FEMA, OpenFEMA NFIP Community Status Book, Utah records, retrieved October 10, 2026; dataset refresh August 25, 2026. <https://www.fema.gov/api/open/v1/NfipCommunityStatusBook>. Map dates are FEMA effective-map entries, not evidence of local adoption or implementation.

## Enterprise Capability Assessment

Table 183 describes the mitigation capabilities for Enterprise.

**Table 183: Enterprise Capability Assessment**

| Capability                          | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|-------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Plans and Regulations</b>        | General Plan – November 16, 2023; contains current local plan and ordinances guide land use, subdivision, and development review<br><br>Enterprise has planning and regulatory capability through its general plan, zoning and subdivision ordinances, building and zoning review, and city ordinances that guide growth, land use, and infrastructure decisions. These tools are important in a rural community with agricultural land, open space, wildfire exposure, drainage concerns, and weather-related risks, and they provide a framework for incorporating hazard considerations into future development and community investment decisions. |
| <b>Administrative and Technical</b> | Administrative and technical capability is supported by city leadership, planning commission and zoning functions, building and public works coordination, utility operations, emergency response and fire protection coordination, and access to county, consultant, GIS, and state technical resources. Enterprise can review development proposals, identify local infrastructure and service needs, coordinate mitigation priorities, and work with regional and state partners on project planning, wildfire preparedness, and hazard-informed decision-making.                                                                                   |
| <b>Financial</b>                    | Financial capability includes annual budgeting, utility and service revenues, capital improvement needs planning, and the ability to pursue state and federal grants and other outside funding for wildfire mitigation, drainage, transportation, public safety, water system improvements, and resilience projects. As a smaller rural community, Enterprise may need to phase larger projects over time and combine local resources with outside assistance to implement higher-cost mitigation and infrastructure improvements.                                                                                                                     |
| <b>Education and Outreach</b>       | Enterprise has education and outreach capability through city meetings, website and public notices, emergency alerts, wildfire preparedness messaging, utility and conservation communication, and coordination with local fire, county, and community partners. Outreach can help residents understand local risks related to wildfire, drought, winter weather, wind, flooding, and household preparedness in a rural setting.                                                                                                                                                                                                                       |

| Capability                              | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
|-----------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>National Flood Insurance Program</b> | FEMA lists Enterprise as an NFIP-participating community (Community 490169). The effective-map field is recorded as 04/02/09; this is not a local ordinance-adoption date. No CRS class is reported in this entry. The status book establishes program status, not local permitting, enforcement, or substantial-improvement/substantial-damage implementation. Participant-specific implementation records and repetitive-loss/severe-repetitive-loss building counts and types are not established by the available evidence; no zero count or finding of compliance is inferred. <sup>288</sup> |

The hazard mitigation plan must describe the opportunities to expand and improve upon the capabilities described in the plan. For Enterprise, this includes:

- **Plans and Regulations:** Continue integrating hazard data into development review, update ordinances and design standards as needed for wildfire-prone areas, drainage concerns, agricultural-residential interfaces, and other hazard-sensitive locations, and align mitigation priorities with the city's general plan, capital improvement needs, utility planning, and future growth decisions.
- **Administrative and Technical:** Expand GIS-based risk analysis, maintain updated inventories of critical facilities, water and utility assets, road access, and other vulnerable infrastructure, improve coordination among planning, public works, fire protection, emergency response, and regional partners, and continue staff training on mitigation project development and hazard-informed planning.
- **Financial:** Develop project-ready mitigation concepts for grant opportunities, identify local match strategies, continue incorporating resilience improvements into wildfire mitigation, drainage, transportation, water system, and public safety investments, and prioritize projects that can combine local resources with state and federal funding.
- **Education and Outreach:** Expand recurring public communication on wildfire defensible space, drought and water conservation, winter weather, wind, flooding, and household preparedness; improve outreach to rural residents, agricultural landowners, and businesses; and ensure public messaging remains timely, accessible, and coordinated across city departments and partner agencies.
- **National Flood Insurance Program:** Maintain local floodplain management compliance where applicable, improve floodplain documentation and public information, continue coordinating on map updates, drainage planning, and erosion hazard awareness, and identify opportunities to reduce flood risk and improve resilience in mapped flood hazard areas and along drainageways.

<sup>288</sup> FEMA, OpenFEMA NFIP Community Status Book, Utah records, retrieved October 10, 2026; dataset refresh August 25, 2026. <https://www.fema.gov/api/open/v1/NfipCommunityStatusBook>. Map dates are FEMA effective-map entries, not evidence of local adoption or implementation.

## Toquerville Capability Assessment

Table 184 describes the mitigation capabilities for Toquerville.

**Table 184: Toquerville Capability Assessment**

| Capability                              | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
|-----------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Plans and Regulations</b>            | General Plan - 2023<br>Toquerville has planning and regulatory capability through its general plan, zoning and subdivision regulations, development review procedures, building-related regulations, and adopted city ordinances that guide growth, infrastructure, and land use decisions. These tools are especially important in a community shaped by drainage corridors, steep terrain, flood and erosion concerns, wildfire exposure, and continued residential growth, and they provide a framework for incorporating hazard considerations into development, utilities, transportation, and capital improvement planning. |
| <b>Administrative and Technical</b>     | Administrative and technical capability is supported by city leadership, planning and zoning administration, development review, public works and utility functions, emergency response coordination, and access to county, consultant, GIS, engineering, and state technical resources. Toquerville can review development proposals, evaluate drainage and infrastructure constraints, coordinate mitigation priorities, and work with regional partners on project planning, hazard information, and implementation.                                                                                                           |
| <b>Financial</b>                        | Financial capability includes annual budgeting, capital facilities and infrastructure planning, utility revenues, development-related financing where applicable, and the ability to pursue state and federal grants and other outside funding for drainage, transportation, wildfire mitigation, public safety, water system improvements, and resilience projects. As a smaller but growing community, Toquerville may need to phase larger projects over time and combine local resources with outside grant support to implement higher-cost mitigation and infrastructure improvements.                                      |
| <b>Education and Outreach</b>           | Toquerville has education and outreach capability through city meetings, website and public information, emergency alerts, social media, utility and conservation messaging, and coordination with local and regional partners. Outreach can help residents understand local risks related to flash flooding, erosion, wildfire, drought, extreme heat, and household preparedness in a rapidly changing rural-residential setting.                                                                                                                                                                                               |
| <b>National Flood Insurance Program</b> | FEMA lists Toquerville as an NFIP-participating community (Community 490180). The effective-map field is recorded as 04/02/09; this is not a local ordinance-adoption date. No CRS class is reported in this entry. The status book establishes program status, not local permitting, enforcement, or substantial-improvement/substantial-damage implementation. Participant-specific implementation records and repetitive-loss/severe-repetitive-loss                                                                                                                                                                           |

| Capability | Description                                                                                                                                 |
|------------|---------------------------------------------------------------------------------------------------------------------------------------------|
|            | building counts and types are not established by the available evidence; no zero count or finding of compliance is inferred. <sup>289</sup> |

The hazard mitigation plan must describe the opportunities to expand and improve upon the capabilities described in the plan. For Toquerville, this includes:

- **Plans and Regulations:** Continue integrating hazard data into development review, update ordinances and design standards as needed for drainage corridors, erosion-prone areas, steep slopes, wildfire-prone locations, and other hazard-sensitive areas, and align mitigation priorities with the city's general plan, utility planning, transportation planning, and capital improvement decisions.
- **Administrative and Technical:** Expand GIS-based risk analysis, maintain updated inventories of critical facilities, drainage assets, roads, utilities, and other vulnerable infrastructure, improve coordination among planning, public works, utilities, emergency response, and regional partners, and continue staff training on mitigation project development and hazard-informed planning.
- **Financial:** Develop project-ready mitigation concepts for grant opportunities, identify local match strategies, continue incorporating resilience improvements into drainage, transportation, wildfire mitigation, water system, and public safety investments, and prioritize projects that can combine local resources with state and federal funding.
- **Education and Outreach:** Expand recurring public communication on flash flooding, erosion, wildfire defensible space, drought and water conservation, extreme heat, and household preparedness; improve outreach to new residents and property owners; and ensure public messaging remains timely, accessible, and coordinated across city departments and partner agencies.
- **National Flood Insurance Program:** Maintain local floodplain management compliance, improve floodplain documentation and public information, continue coordinating on map updates, drainage planning, and erosion hazard management, and identify opportunities to reduce repetitive flood risk and improve resilience in mapped flood hazard areas and along drainage corridors.

## Leeds Capability Assessment

Table 185 describes the mitigation capabilities for Leeds.

Table 185: Leeds Capability Assessment

| Capability            | Description                      |
|-----------------------|----------------------------------|
| Plans and Regulations | General Plan – November 30, 2022 |

<sup>289</sup> FEMA, OpenFEMA NFIP Community Status Book, Utah records, retrieved October 10, 2026; dataset refresh August 25, 2026. <https://www.fema.gov/api/open/v1/NfipCommunityStatusBook>. Map dates are FEMA effective-map entries, not evidence of local adoption or implementation.

| Capability                              | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
|-----------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                         | Leeds has planning and regulatory capability through its adopted General Plan, land use and zoning ordinances, subdivision and development review procedures, building-related requirements, and town standards for design and infrastructure. These tools are important in a small community shaped by Interstate 15, drainage corridors, steep slopes and geologic constraints, wildfire exposure, and continued development pressure, and they provide a framework for incorporating hazard considerations into land use, transportation, utility, and capital improvement decisions.      |
| <b>Administrative and Technical</b>     | Administrative and technical capability is supported by town leadership, planning commission and land use administration, building and development review, public works and utility coordination, emergency response coordination, and access to county, consultant, engineering, GIS, and state technical resources. Leeds can review development proposals, identify local drainage and infrastructure needs, evaluate hazard-sensitive sites, and coordinate mitigation priorities with regional partners and service providers.                                                           |
| <b>Financial</b>                        | Financial capability includes annual budgeting, utility and service revenues, development-related financing where applicable, capital improvement planning, and the ability to pursue state and federal grants and other outside funding for drainage, transportation, wildfire mitigation, public safety, water system improvements, and resilience projects. As a smaller community, Leeds may need to phase larger projects over time and combine local resources with outside assistance to implement higher-cost mitigation and infrastructure improvements.                             |
| <b>Education and Outreach</b>           | Leeds has education and outreach capability through town meetings, website and public notices, emergency alerts, social media and community communication, utility and conservation messaging, and coordination with county, fire, and community partners. Outreach can help residents understand local risks related to flash flooding, wildfire, drought, wind, geologic hazards, and household preparedness in a small rural-residential setting.                                                                                                                                          |
| <b>National Flood Insurance Program</b> | FEMA lists Leeds as an NFIP-participating community (Community 490175). The effective-map field is recorded as 04/02/09; this is not a local ordinance-adoption date. No CRS class is reported in this entry. The status book establishes program status, not local permitting, enforcement, or substantial-improvement/substantial-damage implementation. Participant-specific implementation records and repetitive-loss/severe-repetitive-loss building counts and types are not established by the available evidence; no zero count or finding of compliance is inferred. <sup>290</sup> |

<sup>290</sup> FEMA, OpenFEMA NFIP Community Status Book, Utah records, retrieved October 10, 2026; dataset refresh August 25, 2026. <https://www.fema.gov/api/open/v1/NfipCommunityStatusBook>. Map dates are FEMA effective-map entries, not evidence of local adoption or implementation.

The hazard mitigation plan must describe the opportunities to expand and improve upon the capabilities described in the plan. For Leeds, this includes:

- **Plans and Regulations:** Continue integrating hazard data into development review, update ordinances and design standards as needed for drainage corridors, steep slopes, geologic hazard areas, wildfire-prone locations, and development near key transportation corridors, and align mitigation priorities with the town's general plan, utility planning, transportation planning, and capital improvement decisions.
- **Administrative and Technical:** Expand GIS-based risk analysis, maintain updated inventories of critical facilities, drainage assets, road access, utility systems, and other vulnerable infrastructure, improve coordination among planning, public works, emergency response, and regional partners, and continue staff training on mitigation project development and hazard-informed planning.
- **Financial:** Develop project-ready mitigation concepts for grant opportunities, identify local match strategies, continue incorporating resilience improvements into drainage, transportation, wildfire mitigation, water system, and public safety investments, and prioritize projects that can combine local resources with state and federal funding.
- **Education and Outreach:** Expand recurring public communication on flash flooding, wildfire defensible space, drought and water conservation, wind, geologic hazards, and household preparedness; improve outreach to new residents and property owners; and ensure public messaging remains timely, accessible, and coordinated across town departments and partner agencies.
- **National Flood Insurance Program:** Maintain local floodplain management compliance where applicable, improve floodplain documentation and public information, continue coordinating on map updates, drainage planning, and erosion hazard awareness, and identify opportunities to reduce flood risk and improve resilience in mapped flood hazard areas and along local drainageways.

## Virgin Capability Assessment

Table 186 describes the mitigation capabilities for Virgin.

**Table 186: Virgin Capability Assessment**

| Capability                   | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Plans and Regulations</b> | General Plan update in progress as of June 2025<br>Virgin has planning and regulatory capability through its general plan update, zoning and subdivision regulations, development review procedures, building-related requirements, and town ordinances that guide growth, tourism-related development, land use, and infrastructure decisions. These tools are especially important in a gateway community influenced by the Zion corridor, SR-9 access, drainage and flash flood hazards, steep terrain, wildfire exposure, and visitor-serving land uses, and they provide a framework for incorporating hazard considerations into |

| Capability                              | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|-----------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                         | future development, utilities, transportation, and capital improvement planning.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| <b>Administrative and Technical</b>     | Administrative and technical capability is supported by town leadership, planning and zoning administration, development review, utility and public works coordination, emergency response coordination, and access to county, consultant, GIS, engineering, and state technical resources. Virgin can review development proposals, evaluate drainage and infrastructure constraints, coordinate mitigation priorities, and work with regional partners on project planning, hazard information, visitor access and evacuation considerations, and implementation.                                                                 |
| <b>Financial</b>                        | Financial capability includes annual budgeting, utility and service revenues, development-related financing where applicable, capital improvement planning, and the ability to pursue state and federal grants and other outside funding for drainage, transportation, wildfire mitigation, public safety, water system improvements, and resilience projects. As a small gateway community with infrastructure demands tied to residents and visitors, Virgin may need to phase larger projects over time and combine local resources with outside assistance to implement higher-cost mitigation and infrastructure improvements. |
| <b>Education and Outreach</b>           | Virgin has education and outreach capability through town meetings, website and public information, emergency alerts, social media, visitor-oriented communication, utility and conservation messaging, and coordination with county, tourism, and community partners. Outreach can help residents, businesses, and visitors understand local risks related to flash flooding, wildfire, drought, extreme heat, evacuation constraints, and household and visitor preparedness in a high-traffic gateway setting.                                                                                                                   |
| <b>National Flood Insurance Program</b> | FEMA lists Virgin as an NFIP-participating community (Community 490181). The effective-map field is recorded as 04/02/09(M); this is not a local ordinance-adoption date. No CRS class is reported in this entry. The status book establishes program status, not local permitting, enforcement, or substantial-improvement/substantial-damage implementation. Participant-specific implementation records and repetitive-loss/severe-repetitive-loss building counts and types are not established by the available evidence; no zero count or finding of compliance is inferred. <sup>291</sup>                                   |

The hazard mitigation plan must describe the opportunities to expand and improve upon the capabilities described in the plan. For Virgin, this includes:

- **Plans and Regulations:** Continue integrating hazard data into development review, update ordinances and design standards as needed for flash flood-prone drainage corridors, steep terrain,

<sup>291</sup> FEMA, OpenFEMA NFIP Community Status Book, Utah records, retrieved October 10, 2026; dataset refresh August 25, 2026. <https://www.fema.gov/api/open/v1/NfipCommunityStatusBook>. Map dates are FEMA effective-map entries, not evidence of local adoption or implementation.

wildfire-prone areas, and visitor-serving development, and align mitigation priorities with the town's general plan update, utility planning, transportation planning, and capital improvement decisions.

- **Administrative and Technical:** Expand GIS-based risk analysis, maintain updated inventories of critical facilities, drainage assets, roadway access, utility systems, and other vulnerable infrastructure, improve coordination among planning, public works, emergency response, and regional partners, and continue staff training on mitigation project development, visitor access and evacuation planning, and hazard-informed decision-making.
- **Financial:** Develop project-ready mitigation concepts for grant opportunities, identify local match strategies, continue incorporating resilience improvements into drainage, transportation, wildfire mitigation, water system, and public safety investments, and prioritize projects that can combine local resources with state and federal funding.
- **Education and Outreach:** Expand recurring public communication on flash flooding, wildfire defensible space, drought and water conservation, extreme heat, evacuation awareness, and household and visitor preparedness; improve outreach to residents, businesses, and visitors; and ensure public messaging remains timely, accessible, and coordinated across town departments and partner agencies.
- **National Flood Insurance Program:** Maintain local floodplain management compliance, improve floodplain documentation and public information, continue coordinating on map updates, drainage planning, and flood risk reduction along flash flood-prone corridors, and identify opportunities to reduce repetitive flood risk and improve resilience in mapped flood hazard areas.

## Springdale Capability Assessment

Table 187 describes the mitigation capabilities for Springdale.

**Table 187: Springdale Capability Assessment**

| Capability                          | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|-------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Plans and Regulations</b>        | General Plan – July 13, 2022<br>Springdale has strong planning and regulatory capability through its General Plan, land use and zoning ordinances, subdivision and development review procedures, design standards, building-related requirements, and supporting plans that guide future growth, transportation, utilities, and community character. These tools are especially important in a gateway community adjacent to Zion National Park, where visitor traffic, the Virgin River corridor, steep terrain, flood hazards, wildfire exposure, and constrained transportation access all influence land use and infrastructure decisions. |
| <b>Administrative and Technical</b> | Administrative and technical capability is supported by town leadership, community development and planning staff, development review, public works and utility coordination, emergency response coordination, and                                                                                                                                                                                                                                                                                                                                                                                                                              |

| Capability                              | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|-----------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                         | access to county, consultant, GIS, engineering, and state and federal technical resources. Springdale can evaluate development proposals, manage floodplain and site constraints, coordinate transportation and visitor access issues, maintain hazard information, and work with regional partners on mitigation planning and implementation.                                                                                                                                                                                                                                                                         |
| <b>Financial</b>                        | Financial capability includes annual budgeting, utility and service revenues, capital improvement planning, tourism-supported local revenues where applicable, and the ability to pursue state and federal grants and other outside funding for drainage, transportation, wildfire mitigation, public safety, water system improvements, and resilience projects. As a small gateway community with significant infrastructure demands tied to residents and visitors, Springdale may need to phase larger projects and combine local funds with external assistance to implement higher-cost mitigation improvements. |
| <b>Education and Outreach</b>           | Springdale has education and outreach capability through town meetings, website and public information, emergency alerts, community and visitor communications, utility and conservation messaging, and coordination with Zion National Park, tourism partners, county agencies, and community organizations. Outreach can help residents, employees, businesses, and visitors understand local risks related to flash flooding, wildfire, drought, extreme heat, transportation disruptions, and household and visitor preparedness.                                                                                  |
| <b>National Flood Insurance Program</b> | FEMA lists Springdale as an NFIP-participating community (Community 490179). The effective-map field is recorded as 04/02/09; this is not a local ordinance-adoption date. No CRS class is reported in this entry. The status book establishes program status, not local permitting, enforcement, or substantial-improvement/substantial-damage implementation. Participant-specific implementation records and repetitive-loss/severe-repetitive-loss building counts and types are not established by the available evidence; no zero count or finding of compliance is inferred. <sup>292</sup>                     |

The hazard mitigation plan must describe the opportunities to expand and improve upon the capabilities described in the plan. For Springdale, this includes:

- **Plans and Regulations:** Continue integrating hazard data into development review, update ordinances and design standards as needed for development along the Virgin River corridor, steep terrain, wildfire-prone areas, and visitor-serving land uses, and align mitigation priorities with the town's general plan, transportation planning, utility planning, and capital improvement decisions.
- **Administrative and Technical:** Expand GIS-based risk analysis, maintain updated inventories of critical facilities, river corridor assets, transportation access points, utilities, and other vulnerable

<sup>292</sup> FEMA, OpenFEMA NFIP Community Status Book, Utah records, retrieved October 10, 2026; dataset refresh August 25, 2026. <https://www.fema.gov/api/open/v1/NfipCommunityStatusBook>. Map dates are FEMA effective-map entries, not evidence of local adoption or implementation.

infrastructure, improve coordination among planning, public works, emergency response, Zion-area partners, and regional agencies, and continue staff training on mitigation project development, visitor access and evacuation planning, and hazard-informed decision-making.

- **Financial:** Develop project-ready mitigation concepts for grant opportunities, identify local match strategies, continue incorporating resilience improvements into drainage, transportation, wildfire mitigation, water system, and public safety investments, and prioritize projects that can combine local resources with state and federal funding.
- **Education and Outreach:** Expand recurring public communication on flash flooding, wildfire defensible space, drought and water conservation, extreme heat, evacuation awareness, transportation disruptions, and household and visitor preparedness; improve outreach to residents, employees, businesses, and visitors; and ensure public messaging remains timely, accessible, and coordinated across town departments and partner agencies.
- **National Flood Insurance Program:** Maintain local floodplain management compliance, improve floodplain documentation and public information, continue coordinating on map updates, drainage planning, and flood risk reduction along the Virgin River corridor and other flood-prone areas, and identify opportunities to reduce repetitive flood risk and improve resilience in mapped flood hazard areas.

## New Harmony Capability Assessment

Table 188 describes the mitigation capabilities for New Harmony.

**Table 188: New Harmony Capability Assessment**

| Capability                          | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
|-------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Plans and Regulations</b>        | New Harmony Valley General Plan – part of Washington County General Plan; local zoning and planning commission and town ordinances in place<br><br>New Harmony has planning and regulatory capability through the New Harmony Valley general planning framework, local zoning and planning commission functions, town ordinances, development review, and coordination with Washington County regulations and regional planning tools. These capabilities are important in a rural mountain-valley community with agricultural and residential land uses, cold-season weather, wildfire exposure, drainage and flood concerns, and limited transportation access, and they provide a framework for incorporating hazard considerations into future land use, infrastructure, and community development decisions. |
| <b>Administrative and Technical</b> | Administrative and technical capability is supported by town leadership, planning commission functions, road and street maintenance, local water system operations, parks and cemetery management, coordination with the Washington County Sheriff's Office and Harmony Valley Fire Department, and access to county, consultant, GIS, engineering, and state technical resources. New Harmony can review local development and infrastructure                                                                                                                                                                                                                                                                                                                                                                    |

| Capability                              | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|-----------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                         | needs, coordinate mitigation priorities, maintain awareness of hazard conditions, and work with regional partners on project planning and implementation.                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| <b>Financial</b>                        | Financial capability includes annual budgeting, local utility and service revenues, maintenance of town roads and water infrastructure, and the ability to pursue state and federal grants and other outside funding for wildfire mitigation, drainage and road improvements, water system resilience, public safety, and other mitigation-related projects. As a small rural community, New Harmony may need to phase larger projects over time and combine local resources with grant support and partner agency assistance to implement higher-cost improvements.                                |
| <b>Education and Outreach</b>           | New Harmony has education and outreach capability through town council and planning commission meetings, public notices, community communication, emergency alerts, and coordination with local fire protection, county agencies, and community partners. Outreach can help residents understand local risks related to wildfire, drought, winter storms, flooding, wind, and household preparedness in a rural mountain-valley setting.                                                                                                                                                            |
| <b>National Flood Insurance Program</b> | FEMA lists New Harmony as an NFIP-participating community (Community 490004). The effective-map field is recorded as 04/02/09; this is not a local ordinance-adoption date. No CRS class is reported in this entry. The status book establishes program status, not local permitting, enforcement, or substantial-improvement/substantial-damage implementation. Participant-specific implementation records and repetitive-loss/severe-repetitive-loss building counts and types are not established by the available evidence; no zero count or finding of compliance is inferred. <sup>293</sup> |

The hazard mitigation plan must describe the opportunities to expand and improve upon the capabilities described in the plan. For New Harmony, this includes:

- **Plans and Regulations:** Continue integrating hazard data into local development review and community planning, update ordinances and design standards as needed for wildfire-prone areas, drainage corridors, winter weather exposure, and other hazard-sensitive locations, and align mitigation priorities with the New Harmony Valley planning framework, local infrastructure planning, and coordination with Washington County.
- **Administrative and Technical:** Expand GIS-based risk analysis and local hazard awareness, maintain updated inventories of critical facilities, roads, water system assets, and other vulnerable infrastructure, improve coordination among town leadership, fire protection, county agencies, and

<sup>293</sup> FEMA, OpenFEMA NFIP Community Status Book, Utah records, retrieved October 10, 2026; dataset refresh August 25, 2026. <https://www.fema.gov/api/open/v1/NfipCommunityStatusBook>. Map dates are FEMA effective-map entries, not evidence of local adoption or implementation.

service providers, and continue training on mitigation project development and hazard-informed planning.

- **Financial:** Develop project-ready mitigation concepts for grant opportunities, identify local match strategies, continue incorporating resilience improvements into road maintenance, water system investments, wildfire mitigation, and public safety needs, and prioritize projects that can combine local resources with state, federal, and partner agency funding.
- **Education and Outreach:** Expand recurring public communication on wildfire defensible space, drought and water conservation, winter weather preparedness, flooding, wind, and household preparedness; improve outreach to residents in more isolated areas; and ensure public messaging remains timely, accessible, and coordinated with local fire protection and county partners.
- **National Flood Insurance Program:** Improve local floodplain and drainage documentation, continue coordinating with Washington County and the State of Utah on flood hazard mapping, technical guidance, and development review where applicable, and identify opportunities to reduce flood risk and strengthen floodplain management capacity despite limited local staffing and resources.

## Rockville Capability Assessment

Table 189 describes the mitigation capabilities for Rockville.

**Table 189: Rockville Capability Assessment**

| Capability                          | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
|-------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Plans and Regulations</b>        | General Plan – adopted August 14, 1997, and updated November 2020<br>Rockville has planning and regulatory capability through its General Plan, land use code, zoning and subdivision regulations, flood damage prevention ordinance, grading and excavation standards, and local review processes that guide growth and preserve community character. These tools are especially important in a small historic, agricultural, and residential community along the Virgin River corridor where floodplain conditions, sensitive lands, steep terrain, wildfire exposure, and gateway traffic associated with Zion National Park all influence land use and infrastructure decisions. |
| <b>Administrative and Technical</b> | Administrative and technical capability is supported by town leadership, planning commission and land use administration, building and development review, coordination with public works and utility functions, emergency response coordination, and access to county, consultant, GIS, engineering, and state technical resources. Rockville can review development proposals, evaluate floodplain and sensitive land constraints, coordinate mitigation priorities, and work with regional partners on project planning, historic resource protection, evacuation access, and implementation.                                                                                     |

| Capability                              | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
|-----------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Financial</b>                        | Financial capability includes annual budgeting, modest local service and infrastructure funding, development-related financing where applicable, and the ability to pursue state and federal grants and other outside assistance for flood mitigation, transportation, historic preservation, public safety, water system improvements, and resilience projects. As a very small community with limited fiscal capacity, Rockville may need to phase larger projects over time and rely on partnerships and grant support to implement higher-cost mitigation improvements.                       |
| <b>Education and Outreach</b>           | Rockville has education and outreach capability through town meetings, website and public notices, emergency alerts, community communication, and coordination with county agencies, nearby jurisdictions, and community organizations. Outreach can help residents, property owners, and visitors understand local risks related to flooding along the Virgin River, flash flooding, wildfire, evacuation constraints, drought, and household and visitor preparedness while also supporting awareness of the town's historic and environmental sensitivities.                                   |
| <b>National Flood Insurance Program</b> | FEMA lists Rockville as an NFIP-participating community (Community 490176). The effective-map field is recorded as 04/02/09; this is not a local ordinance-adoption date. No CRS class is reported in this entry. The status book establishes program status, not local permitting, enforcement, or substantial-improvement/substantial-damage implementation. Participant-specific implementation records and repetitive-loss/severe-repetitive-loss building counts and types are not established by the available evidence; no zero count or finding of compliance is inferred. <sup>294</sup> |

The hazard mitigation plan must describe the opportunities to expand and improve upon the capabilities described in the plan. For Rockville, this includes:

- **Plans and Regulations:** Continue integrating hazard data into development review, update ordinances and design standards as needed for development along the Virgin River corridor, floodplain areas, steep terrain, wildfire-prone areas, and historic or sensitive land uses, and align mitigation priorities with the town's general plan, transportation access planning, utility needs, and preservation goals.
- **Administrative and Technical:** Expand GIS-based risk analysis, maintain updated inventories of critical facilities, river corridor assets, transportation and evacuation access points, historic resources, utilities, and other vulnerable infrastructure, improve coordination among planning, emergency response, county partners, and nearby jurisdictions, and continue staff training on mitigation project development and hazard-informed decision-making.

<sup>294</sup> FEMA, OpenFEMA NFIP Community Status Book, Utah records, retrieved October 10, 2026; dataset refresh August 25, 2026. <https://www.fema.gov/api/open/v1/NfipCommunityStatusBook>. Map dates are FEMA effective-map entries, not evidence of local adoption or implementation.

- **Financial:** Develop project-ready mitigation concepts for grant opportunities, identify local match strategies, continue incorporating resilience improvements into flood mitigation, transportation access, water system, public safety, and historic resource protection investments, and prioritize projects that can combine local resources with state and federal funding.
- **Education and Outreach:** Expand recurring public communication on flooding along the Virgin River, flash flooding, wildfire defensible space, drought and water conservation, evacuation awareness, and household and visitor preparedness; improve outreach to residents, property owners, and visitors; and ensure public messaging remains timely, accessible, and coordinated with county and regional partners.
- **National Flood Insurance Program:** Maintain local floodplain management compliance, improve floodplain documentation and public information, continue coordinating on map updates, ordinance administration, and flood risk reduction along the Virgin River corridor, and identify opportunities to reduce repetitive flood risk and improve resilience in mapped flood hazard areas.

## Apple Valley Capability Assessment

Table 190 describes the mitigation capabilities for Apple Valley.

**Table 190: Apple Valley Capability Assessment**

| Capability                          | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
|-------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Plans and Regulations</b>        | General Plan – 2022<br>Apple Valley has planning and regulatory capability through its adopted General Plan, land use and subdivision regulations, development review procedures, building permit requirements, and town ordinances that guide growth, infrastructure, and community character. These tools are important in a rural-residential community with dispersed development, drainage and flood concerns, wildfire exposure, transportation access constraints, and ongoing growth pressures, and they provide a framework for incorporating hazard considerations into land use, utilities, and capital improvement decisions. |
| <b>Administrative and Technical</b> | Administrative and technical capability is supported by town leadership, planning commission and land use administration, building and code enforcement functions, utility and water system coordination, fire department and emergency response coordination, and access to county, consultant, GIS, engineering, and state technical resources. Apple Valley can review development proposals, evaluate infrastructure and service needs, identify hazard-sensitive sites, and coordinate mitigation priorities with regional partners and service providers.                                                                           |
| <b>Financial</b>                    | Financial capability includes annual budgeting, utility and water system revenues, development-related financing where applicable, capital facilities planning, and the ability to pursue state and federal grants and other outside funding for drainage, transportation, wildfire mitigation, public                                                                                                                                                                                                                                                                                                                                    |

| Capability                              | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
|-----------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                         | safety, water system improvements, and resilience projects. As a small but growing community with dispersed infrastructure needs, Apple Valley may need to phase larger projects over time and combine local resources with outside assistance to implement higher-cost mitigation improvements.                                                                                                                                                                                                                                                                                                     |
| <b>Education and Outreach</b>           | Apple Valley has education and outreach capability through town meetings, website and public information, text alerts and emergency messaging, utility and conservation communication, and coordination with community partners and service providers. Outreach can help residents understand local risks related to flash flooding, wildfire, drought, extreme heat, transportation disruptions, and household preparedness in a rural-residential setting.                                                                                                                                         |
| <b>National Flood Insurance Program</b> | FEMA lists Apple Valley as an NFIP-participating community (Community 490026). The effective-map field is recorded as 04/02/09; this is not a local ordinance-adoption date. No CRS class is reported in this entry. The status book establishes program status, not local permitting, enforcement, or substantial-improvement/substantial-damage implementation. Participant-specific implementation records and repetitive-loss/severe-repetitive-loss building counts and types are not established by the available evidence; no zero count or finding of compliance is inferred. <sup>295</sup> |

The hazard mitigation plan must describe the opportunities to expand and improve upon the capabilities described in the plan. For Apple Valley, this includes:

- **Plans and Regulations:** Continue integrating hazard data into development review, update ordinances and design standards as needed for drainage corridors, flood-prone areas, wildfire-prone locations, and dispersed rural-residential development, and align mitigation priorities with the town's general plan, utility planning, transportation access planning, and capital improvement decisions.
- **Administrative and Technical:** Expand GIS-based risk analysis, maintain updated inventories of critical facilities, water and utility assets, roads, and other vulnerable infrastructure, improve coordination among planning, code enforcement, utilities, fire protection, emergency response, and regional partners, and continue staff training on mitigation project development and hazard-informed planning.
- **Financial:** Develop project-ready mitigation concepts for grant opportunities, identify local match strategies, continue incorporating resilience improvements into drainage, transportation access, wildfire mitigation, water system, and public safety investments, and prioritize projects that can combine local resources with state and federal funding.
- **Education and Outreach:** Expand recurring public communication on flash flooding, wildfire defensible space, drought and water conservation, extreme heat, transportation disruptions, and

<sup>295</sup> FEMA, OpenFEMA NFIP Community Status Book, Utah records, retrieved October 10, 2026; dataset refresh August 25, 2026. <https://www.fema.gov/api/open/v1/NfipCommunityStatusBook>. Map dates are FEMA effective-map entries, not evidence of local adoption or implementation.

household preparedness; improve outreach to residents in more dispersed neighborhoods; and ensure public messaging remains timely, accessible, and coordinated with community partners and service providers.

- **National Flood Insurance Program:** Improve local floodplain and drainage documentation, continue coordinating with Washington County, FEMA, and the State of Utah on flood hazard mapping, technical guidance, and development review where applicable, and identify opportunities to reduce flood risk and strengthen floodplain management capacity despite limited local staffing and resources.

## Hildale Capability Assessment

Table 191 describes the mitigation capabilities for Hildale.

**Table 191: Hildale Capability Assessment**

| Capability                          | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
|-------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Plans and Regulations</b>        | General Plan – 2021<br>Hildale has planning and regulatory capability through its adopted General Plan, planning and zoning functions, land use and development regulations, building-related requirements, and city ordinances that guide growth, infrastructure, and community development. These tools are important in a community shaped by rugged terrain, drainage and flood concerns, wildfire exposure, utility and water system needs, and ongoing change in land use and governance, and they provide a framework for incorporating hazard considerations into development, public infrastructure, and long-range planning decisions. |
| <b>Administrative and Technical</b> | Administrative and technical capability is supported by city leadership, planning and zoning administration, building and development review, public works and utility coordination, police and fire services, and access to county, consultant, GIS, engineering, and state technical resources. Hildale can review development proposals, identify infrastructure and service needs, coordinate mitigation priorities, and work with regional partners and utility providers on project planning, hazard information, and implementation.                                                                                                      |
| <b>Financial</b>                    | Financial capability includes annual budgeting, utility and service revenues, water system and infrastructure planning, development-related financing where applicable, and the ability to pursue state and federal grants and other outside funding for drainage, transportation, public safety, utility improvements, and resilience projects. As a small community with significant infrastructure needs, Hildale may need to phase larger projects over time and combine local resources with outside assistance and partner support to implement higher-cost mitigation improvements.                                                       |

| Capability                              | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|-----------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Education and Outreach</b>           | Hildale has education and outreach capability through city meetings, website and public notices, text alerts, public safety communication, utility messaging, and coordination with community partners and service providers. Outreach can help residents understand local risks related to flash flooding, wildfire, drought, extreme heat, infrastructure disruptions, and household preparedness in a rural-desert setting with growing community needs.                                                                                                                                     |
| <b>National Flood Insurance Program</b> | FEMA lists Hildale as an NFIP-participating community (Community 490171). The effective-map field is recorded as 04/02/09; this is not a local ordinance-adoption date. No CRS class is reported in this entry. The status book establishes program status, not local permitting, enforcement, or substantial-improvement/substantial-damage implementation. Participant-specific implementation records and repetitive-loss/severe-repetitive-loss building counts and types are not established by the available evidence; no zero count or finding of compliance is inferred. <sup>296</sup> |

The hazard mitigation plan must describe the opportunities to expand and improve upon the capabilities described in the plan. For Hildale, this includes:

- **Plans and Regulations:** Continue integrating hazard data into development review, update ordinances and design standards as needed for drainage corridors, flood-prone areas, wildfire-prone locations, rugged terrain, and infrastructure expansion areas, and align mitigation priorities with the city's general plan, utility planning, and capital improvement decisions.
- **Administrative and Technical:** Expand GIS-based risk analysis, maintain updated inventories of critical facilities, utility and water system assets, roads, drainage infrastructure, and other vulnerable infrastructure, improve coordination among planning, public works, utilities, police, fire, and regional partners, and continue staff training on mitigation project development and hazard-informed planning.
- **Financial:** Develop project-ready mitigation concepts for grant opportunities, identify local match strategies, continue incorporating resilience improvements into drainage, transportation, public safety, utility, and water system investments, and prioritize projects that can combine local resources with state, federal, and partner funding.
- **Education and Outreach:** Expand recurring public communication on flash flooding, wildfire defensible space, drought and water conservation, extreme heat, infrastructure disruptions, and household preparedness; improve outreach to residents across the community; and ensure public messaging remains timely, accessible, and coordinated with public safety and utility partners.
- **National Flood Insurance Program:** Maintain local floodplain management compliance, improve floodplain documentation and public information, continue coordinating on map updates, ordinance

<sup>296</sup> FEMA, OpenFEMA NFIP Community Status Book, Utah records, retrieved October 10, 2026; dataset refresh August 25, 2026. <https://www.fema.gov/api/open/v1/NfipCommunityStatusBook>. Map dates are FEMA effective-map entries, not evidence of local adoption or implementation.

administration, and flood risk reduction in drainage-sensitive areas, and identify opportunities to strengthen local floodplain management capacity and reduce repetitive flood risk.

## Status of Previous Mitigation Actions

Washington County and its communities have participated in previous iterations of the multi-jurisdictional hazard mitigation plan and identified strategies to mitigate natural hazard risks. Describing the status of previous mitigation actions helps demonstrate the ongoing progress made to reduce risk and the communities' commitment to mitigation. At the same time, it serves as an opportunity to evaluate whether an incomplete action is still worth pursuing. The following table preserves prior actions and distinguishes current strategy concepts from implementation status. Dated project records or participant findings are not available to establish completion, continued implementation, or removal.

Table 71 describes progress made on the mitigation actions identified for communities in Washington County in the 2022–2027 hazard mitigation plan.

**Table 192: Status of 2022–2027 Mitigation Actions for Washington County**

| Action Identifier     | Action                                                                                                                                                                                                                   | Status and Explanation                                                                                                                                                                                               |
|-----------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>WAS-2022-DR-01</b> | Assess county owned facilities and replace unused turf landscaping with drought tolerant vegetation                                                                                                                      | Status Unknown / Unable to Verify. Implementation status is not established by dated project or participant records. The corresponding risk-reduction concept is included in the current strategy through FCA-DR-03. |
| <b>WAS-2022-EH-01</b> | Develop & publish a list of public facilities which could be used as daytime cooling centers. List would be posted to the County EM <sup>297</sup> Facebook page during severe heat events.                              | Status Unknown / Unable to Verify. Implementation status is not established by dated project or participant records. The corresponding risk-reduction concept is included in the current strategy through FCA-EH-03. |
| <b>WAS-2022-WI-01</b> | Develop a toolkit with wildfire mitigation information and practices. Distribute to unincorporated communities, encouraging the use of a wildfire committee or council. Assist council in facilitating fuels mitigation. | Status Unknown / Unable to Verify. Implementation status is not established by dated project or participant records. The corresponding risk-reduction concept is included in the current strategy through FCA-WI-04. |
| <b>WAS-2022-FL-01</b> | Assess detention basins and river crossings near Dammeron Valley and                                                                                                                                                     | Status Unknown / Unable to Verify. Implementation status is not established by dated project or participant records. The                                                                                             |

<sup>297</sup> EM = Emergency Management

| Action Identifier     | Action                                                                                                                                                                                             | Status and Explanation                                                                                                                                                                                               |
|-----------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                       | Gunlock for capacity. Where needed, repair or expand infrastructure.                                                                                                                               | corresponding risk-reduction concept is included in the current strategy through FCA-FL-06.                                                                                                                          |
| <b>WAS-2022-LS-01</b> | Prepare and distribute a pamphlet regarding landslide and rockfall risks. Start a public education campaign communicating landslide and rockfall risks to new property owners at the time of sale. | Status Unknown / Unable to Verify. Implementation status is not established by dated project or participant records. The corresponding risk-reduction concept is included in the current strategy through FCA-LS-04. |
| <b>WAS-2022-LS-02</b> | Inventory bank stability and landslide risks on the Virgin River. Where identified, implement bank stabilization measures.                                                                         | Status Unknown / Unable to Verify. Implementation status is not established by dated project or participant records. The corresponding risk-reduction concept is included in the current strategy through FCA-LS-05. |
| <b>WAS-2022-EQ-01</b> | Complete an assessment of Enterprise Elementary to determine the extent of URM and identify structural or nonstructural retrofit needs.                                                            | Status Unknown / Unable to Verify. Implementation status is not established by dated project or participant records. The corresponding risk-reduction concept is included in the current strategy through FCA-EQ-01. |
| <b>WAS-2022-EQ-02</b> | Complete an assessment of Dixie High School ROTC <sup>298</sup> building to determine the extent of URM and identify structural or nonstructural retrofit needs.                                   | Status Unknown / Unable to Verify. Implementation status is not established by dated project or participant records. The corresponding risk-reduction concept is included in the current strategy through FCA-EQ-01. |
| <b>WAS-2022-EQ-03</b> | Complete an assessment of Springdale School to determine the extent of URM and identify structural or nonstructural retrofit needs.                                                                | Status Unknown / Unable to Verify. Implementation status is not established by dated project or participant records. The corresponding risk-reduction concept is included in the current strategy through FCA-EQ-01. |
| <b>WAS-2022-EQ-04</b> | Inventory County owned buildings built or have portions of the structure constructed before seismic code implementation.                                                                           | Status Unknown / Unable to Verify. Implementation status is not established by dated project or participant records. The corresponding risk-reduction concept is included in the current strategy through FCA-EQ-01. |

<sup>298</sup> ROTC = Reserve Officers' Training Corps

| Action Identifier | Action                                                                                                                                                                    | Status and Explanation                                                                                                                                                                                                                     |
|-------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| WAS-2022-EQ-05    | Using inventory results, implement needed seismic retrofits to secure County facilities.                                                                                  | Status Unknown / Unable to Verify. Implementation status is not established by dated project or participant records. The corresponding risk-reduction concept is included in the current strategy through FCA-EQ-01, FCA-EQ-02.            |
| WAS-2022-EQ-06    | Continue County and regional training, equipment, and education for emergency responders during earthquake events. Engage in regular trainings and equipment maintenance. | Status Unknown / Unable to Verify. Implementation status is not established by dated project or participant records. The corresponding risk-reduction concept is included in the current strategy through FCA-EQ-01, FCA-EQ-02, FCA-EQ-03. |
| WAS-2022-EQ-07    | Provide earthquake preparedness and response public outreach on the County emergency management Facebook Page annually.                                                   | Status Unknown / Unable to Verify. Implementation status is not established by dated project or participant records. The corresponding risk-reduction concept is included in the current strategy through FCA-EQ-03.                       |
| WAS-2022-RN-01    | Develop a public education campaign for radon testing and mitigation in homes. Post information to the County emergency management Facebook page annually.                | Status Unknown / Unable to Verify. Implementation status is not established by dated project or participant records. The corresponding risk-reduction concept is included in the current strategy through FCA-RN-01.                       |
| WAS-2022-PS-01    | Adopt a Geologic Hazard Ordinance.                                                                                                                                        | Status Unknown / Unable to Verify. Implementation status is not established by dated project or participant records. The corresponding risk-reduction concept is included in the current strategy through FCA-PS-04.                       |

## Mitigation Goals

The Washington County participants adopted the Five County AOG Region mitigation goals identified in the base plan, as follows:

- Goal 1: Protect Life and Property.** Reduce long-term risk to people and public, private, residential, agricultural, and commercial property through appropriate structural and nonstructural mitigation measures.  
**Objective:** Apply structural and nonstructural measures that reduce injury, loss of life, property damage, and disruption.

- Goal 2: Protect Critical Facilities, Infrastructure, and Community Lifelines.** Reduce risk to critical facilities, infrastructure systems, and community lifelines and improve continuity or rapid restoration of essential functions.  
**Objective:** Protect and improve the reliability, redundancy, and rapid restoration of critical facilities, infrastructure, and community lifelines.
- Goal 3: Strengthen Public Education and Risk Communication.** Improve residents' and visitors' understanding of hazards and practical risk-reduction measures.  
**Objective:** Provide clear, accessible, and recurring hazard information that supports informed risk-reduction decisions and protective actions.
- Goal 4: Strengthen Partnerships and Coordination.** Coordinate mitigation planning and implementation among participating jurisdictions and relevant public, private, nonprofit, and community partners.  
**Objective:** Strengthen coordination, information sharing, and shared implementation among jurisdictions and partner organizations.
- Goal 5: Strengthen the Resilience of Emergency Services.** Reduce pre-disaster risk to emergency facilities, personnel, equipment, communications, access routes, and supporting systems.  
**Objective:** Improve the continuity, safety, and operational resilience of emergency facilities, personnel, equipment, communications, and access.
- Goal 6: Protect and Use Natural Systems.** Protect, restore, and manage natural systems where those measures reduce natural hazard risk and provide compatible community benefits.  
**Objective:** Use compatible natural-resource and nature-based measures to reduce hazard impacts while supporting community and environmental benefits.

## 2027–2032 Mitigation Action Plan for Washington County

Participating jurisdictions within Washington County reviewed the regional mitigation action catalog and selected the actions most appropriate to their identified risks, vulnerabilities, capabilities, and development trends. Table 193 identifies the actions selected by each jurisdiction. The selected actions address the hazards prioritized in the county and community risk assessments and support achievement of the regional mitigation goals. Each participant has at least one action for each hazard identified as applicable in Table 160. The complete action descriptions, hazards addressed, vulnerabilities reduced, goals, responsible positions or agencies, potential partners and funding sources, implementation timeframes, estimated costs, and priorities are provided under the corresponding Action ID in Section 6.2, which is incorporated into this annex by reference. Jurisdictions will implement only those shared actions for which they are listed in Table 193.

Table 193: Washington County Jurisdiction Action Selection Matrix

| Mitigation Action | Action Description                                                                                                                | Jurisdictions                                                                                                                                                                               |
|-------------------|-----------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| FCA-DF-01         | Update dam-failure warning, evacuation, and public-information procedures for inundation areas.                                   | Washington County; St. George; Washington City; Hurricane; Santa Clara; Ivins; La Verkin; Enterprise; Toquerville; Leeds; Virgin; Springdale; New Harmony; Rockville; Apple Valley; Hildale |
| FCA-DR-01         | Prepare or update a drought-response and water-shortage plan with staged triggers and conservation measures.                      | Washington County; St. George; Washington City; Hurricane; Santa Clara; Ivins; La Verkin; Enterprise; Toquerville; Leeds; Virgin; Springdale; New Harmony; Rockville; Apple Valley; Hildale |
| FCA-DR-03         | Reduce water demand through leak detection, efficient fixtures, irrigation upgrades, turf replacement, and waterwise landscaping. | Washington County                                                                                                                                                                           |
| FCA-DW-01         | Assess and retrofit vulnerable buildings, roofs, signs, rooftop equipment, communications, and utilities for wind loads.          | Washington County; St. George; Washington City; Hurricane; Santa Clara; Ivins; La Verkin; Enterprise; Toquerville; Leeds; Virgin; Springdale; New Harmony; Rockville; Apple Valley; Hildale |
| FCA-EH-02         | Develop a heat-response protocol using forecast triggers, facility hours, transportation options, and targeted notifications.     | Washington County; St. George; Washington City; Hurricane; Santa Clara; Ivins; La Verkin; Enterprise; Toquerville; Leeds; Virgin; Springdale; New Harmony; Rockville; Apple Valley; Hildale |
| FCA-EH-03         | Develop and publish a current list of public cooling locations and operating procedures for activation during severe heat events. | Washington County                                                                                                                                                                           |
| FCA-EQ-01         | Inventory and evaluate unreinforced masonry, older public buildings, schools, and critical facilities for retrofit.               | Washington County; St. George; Washington City; Hurricane; Santa Clara; Ivins; La Verkin; Enterprise; Toquerville; Leeds; Virgin; Springdale; New Harmony; Rockville; Apple Valley; Hildale |
| FCA-EQ-02         | Apply seismic codes, flexible utility connections, and equipment anchorage during construction and replacement.                   | Washington County                                                                                                                                                                           |

| Mitigation Action | Action Description                                                                                                                                                            | Jurisdictions                                                                                                                                                                               |
|-------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| FCA-EQ-03         | Provide recurring earthquake-risk and nonstructural-mitigation outreach.                                                                                                      | Washington County                                                                                                                                                                           |
| FCA-FL-01         | Prepare or update stormwater and drainage master plans and inventory culverts, bridges, washes, and detention facilities.                                                     | Washington County; St. George; Washington City; Hurricane; Santa Clara; Ivins; La Verkin; Enterprise; Toquerville; Leeds; Virgin; Springdale; New Harmony; Rockville; Apple Valley; Hildale |
| FCA-FL-06         | Assess detention basins and river or wash crossings at identified priority locations; repair, expand, or replace deficient infrastructure based on findings.                  | Washington County                                                                                                                                                                           |
| FCA-HA-01         | Evaluate hail exposure and use impact-resistant roofing, glazing, and equipment protection during replacement or construction.                                                | Washington County; St. George; Washington City; Hurricane; Santa Clara; Ivins; La Verkin; Enterprise; Toquerville; Leeds; Virgin; Springdale; New Harmony; Rockville; Apple Valley; Hildale |
| FCA-LS-01         | Map, monitor, and evaluate landslide, rockfall, and debris-flow areas affecting development and infrastructure.                                                               | Washington County; St. George; Washington City; Hurricane; Santa Clara; Ivins; La Verkin; Enterprise; Toquerville; Leeds; Virgin; Springdale; New Harmony; Rockville; Apple Valley; Hildale |
| FCA-LS-04         | Prepare and distribute landslide and rockfall risk information for residents, developers, real-estate professionals, and new property owners in mapped hazard areas.          | Washington County                                                                                                                                                                           |
| FCA-LS-05         | Inventory riverbank and slope stability at priority locations and implement bank stabilization or slope treatments where instability threatens infrastructure or development. | Virgin; Washington County                                                                                                                                                                   |
| FCA-PS-01         | Require subsurface geotechnical investigation and foundation recommendations where problem soils may affect structures.                                                       | Washington County; St. George; Washington City; Hurricane; Santa Clara; Ivins; La Verkin; Enterprise; Toquerville; Leeds; Virgin; Springdale; New Harmony; Rockville; Apple Valley; Hildale |
| FCA-PS-04         | Adopt or update a geologic-hazards ordinance establishing mapping, investigation, disclosure, review,                                                                         | Washington County                                                                                                                                                                           |

| Mitigation Action | Action Description                                                                                                                                                                                     | Jurisdictions                                                                                                                                                                               |
|-------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                   | and mitigation requirements for development in identified hazard areas.                                                                                                                                |                                                                                                                                                                                             |
| <b>FCA-RN-01</b>  | Provide recurring radon-risk, testing, and mitigation information through public and partner channels.                                                                                                 | Washington County; St. George; Washington City; Hurricane; Santa Clara; Ivins; La Verkin; Enterprise; Toquerville; Leeds; Virgin; Springdale; New Harmony; Rockville; Apple Valley; Hildale |
| <b>FCA-TL-01</b>  | Install lightning and surge protection, grounding, backup power, and communications safeguards at critical facilities.                                                                                 | Washington County; St. George; Washington City; Hurricane; Santa Clara; Ivins; La Verkin; Enterprise; Toquerville; Leeds; Virgin; Springdale; New Harmony; Rockville; Apple Valley; Hildale |
| <b>FCA-TO-01</b>  | Maintain tornado and severe-thunderstorm alerts, shelter guidance, and protective-action messaging.                                                                                                    | Washington County; St. George; Washington City; Hurricane; Santa Clara; Ivins; La Verkin; Enterprise; Toquerville; Leeds; Virgin; Springdale; New Harmony; Rockville; Apple Valley; Hildale |
| <b>FCA-WI-01</b>  | Adopt or update Wildland-Urban Interface standards for defensible space, access, water supply, and ignition-resistant construction.                                                                    | Washington County; St. George; Washington City; Hurricane; Santa Clara; Ivins; La Verkin; Enterprise; Toquerville; Leeds; Virgin; Springdale; New Harmony; Rockville; Apple Valley; Hildale |
| <b>FCA-WI-04</b>  | Develop and distribute a locally tailored wildfire mitigation toolkit for unincorporated communities and neighborhoods, including guidance for local committees, defensible space, and fuels projects. | Washington County                                                                                                                                                                           |
| <b>FCA-WS-01</b>  | Prioritize snow and ice control routes serving critical facilities, schools, and isolated communities.                                                                                                 | Washington County; St. George; Washington City; Hurricane; Santa Clara; Ivins; La Verkin; Enterprise; Toquerville; Leeds; Virgin; Springdale; New Harmony; Rockville; Apple Valley; Hildale |

## Action Selection and Analysis

Participants considered the comprehensive range of regulatory, structural and infrastructure, natural-systems, education and awareness, and capability-building alternatives documented in Section 6.2 of the base plan. Selections were screened against participant-specific risk and vulnerability findings, existing and future development, available capabilities, technical feasibility, cost and anticipated benefits, administrative and legal feasibility, public and political support, environmental effects, funding potential,

and implementation timeframe. The regional prioritization process based on STAPLEE (social, technical, administrative, political, legal, economic, and environmental) criteria and planning-level cost-benefit review in Section 6.2 govern these selections. Actions designated High are pursued first when feasible; Moderate and Low actions remain part of the strategy and may advance as funding, partnerships, technical information, or implementation opportunities become available.

## Plan Integration

**Plan integration** is the process of incorporating information from the hazard mitigation plan into other planning mechanisms or the governance structures that manage long-term community development and decision-making, including budgets, comprehensive plans, economic development strategies, and other long-range planning documents. Plan integration helps promote mitigation project implementation by incorporating data and actions across programs and day-to-day operations.

During planning team meetings, Washington County participants identified opportunities for integrating hazard mitigation into other local planning mechanisms, including comprehensive plans, capital improvement programs, infrastructure investment decisions, zoning regulations, emergency management activities, and public education efforts. Participants agreed that embedding mitigation objectives into existing local decision-making processes can improve long-term implementation and resilience outcomes.

## Integration of the Prior Plan (2022–2027)

Table 73 summarizes what the available records establish about prior-plan integration; the existence of a planning mechanism does not establish that the prior plan was incorporated.

**Table 194: Washington County Integration of the 2022–2027 Plan**

| Plan Participant  | Description                                                                                                                                                                                                                                                                                                                                                                |
|-------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Washington County | Washington County has planning and administrative mechanisms described in its capability assessment that can incorporate hazard information. The available records do not document how the prior mitigation plan wTable 71s incorporated into specific plans, ordinances, budgets, or projects; actual integration is not inferred from the existence of those mechanisms. |
| St. George        | St. George has planning and administrative mechanisms described in its capability assessment that can incorporate hazard information. The available records do not document how the prior mitigation plan wTable 71s incorporated into specific plans, ordinances, budgets, or projects; actual integration is not inferred from the existence of those mechanisms.        |
| Washington City   | Washington City has planning and administrative mechanisms described in its capability assessment that can incorporate hazard information. The available records do not document how the prior mitigation plan wTable 71s                                                                                                                                                  |

| Plan Participant   | Description                                                                                                                                                                                                                                                                                                                                                          |
|--------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                    | incorporated into specific plans, ordinances, budgets, or projects; actual integration is not inferred from the existence of those mechanisms.                                                                                                                                                                                                                       |
| <b>Hurricane</b>   | Hurricane has planning and administrative mechanisms described in its capability assessment that can incorporate hazard information. The available records do not document how the prior mitigation plan wTable 71s incorporated into specific plans, ordinances, budgets, or projects; actual integration is not inferred from the existence of those mechanisms.   |
| <b>Santa Clara</b> | Santa Clara has planning and administrative mechanisms described in its capability assessment that can incorporate hazard information. The available records do not document how the prior mitigation plan wTable 71s incorporated into specific plans, ordinances, budgets, or projects; actual integration is not inferred from the existence of those mechanisms. |
| <b>Ivins</b>       | Ivins has planning and administrative mechanisms described in its capability assessment that can incorporate hazard information. The available records do not document how the prior mitigation plan wTable 71s incorporated into specific plans, ordinances, budgets, or projects; actual integration is not inferred from the existence of those mechanisms.       |
| <b>La Verkin</b>   | La Verkin has planning and administrative mechanisms described in its capability assessment that can incorporate hazard information. The available records do not document how the prior mitigation plan wTable 71s incorporated into specific plans, ordinances, budgets, or projects; actual integration is not inferred from the existence of those mechanisms.   |
| <b>Enterprise</b>  | Enterprise has planning and administrative mechanisms described in its capability assessment that can incorporate hazard information. The available records do not document how the prior mitigation plan wTable 71s incorporated into specific plans, ordinances, budgets, or projects; actual integration is not inferred from the existence of those mechanisms.  |
| <b>Toquerville</b> | Toquerville has planning and administrative mechanisms described in its capability assessment that can incorporate hazard information. The available records do not document how the prior mitigation plan wTable 71s incorporated into specific plans, ordinances, budgets, or projects; actual integration is not inferred from the existence of those mechanisms. |
| <b>Leeds</b>       | Leeds has planning and administrative mechanisms described in its capability assessment that can incorporate hazard information. The available records do not document how the prior mitigation plan wTable 71s incorporated into specific plans, ordinances, budgets, or projects; actual integration is not inferred from the existence of those mechanisms.       |
| <b>Virgin</b>      | Virgin has planning and administrative mechanisms described in its capability assessment that can incorporate hazard information. The available records do not document how the prior mitigation plan wTable 71s incorporated into specific plans, ordinances, budgets, or projects; actual integration is not inferred from the existence of those mechanisms.      |

| Plan Participant    | Description                                                                                                                                                                                                                                                                                                                                                           |
|---------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Springdale</b>   | Springdale has planning and administrative mechanisms described in its capability assessment that can incorporate hazard information. The available records do not document how the prior mitigation plan wTable 71s incorporated into specific plans, ordinances, budgets, or projects; actual integration is not inferred from the existence of those mechanisms.   |
| <b>New Harmony</b>  | New Harmony has planning and administrative mechanisms described in its capability assessment that can incorporate hazard information. The available records do not document how the prior mitigation plan wTable 71s incorporated into specific plans, ordinances, budgets, or projects; actual integration is not inferred from the existence of those mechanisms.  |
| <b>Rockville</b>    | Rockville has planning and administrative mechanisms described in its capability assessment that can incorporate hazard information. The available records do not document how the prior mitigation plan wTable 71s incorporated into specific plans, ordinances, budgets, or projects; actual integration is not inferred from the existence of those mechanisms.    |
| <b>Apple Valley</b> | Apple Valley has planning and administrative mechanisms described in its capability assessment that can incorporate hazard information. The available records do not document how the prior mitigation plan wTable 71s incorporated into specific plans, ordinances, budgets, or projects; actual integration is not inferred from the existence of those mechanisms. |
| <b>Hildale</b>      | Hildale has planning and administrative mechanisms described in its capability assessment that can incorporate hazard information. The available records do not document how the prior mitigation plan wTable 71s incorporated into specific plans, ordinances, budgets, or projects; actual integration is not inferred from the existence of those mechanisms.      |

## Integration of the Current Plan (2027–2032)

The plan participants identified opportunities to integrate the 2027–2032 plan into other planning mechanisms, as documented in Table 195.

**Table 195: Washington County Integration of the 2027–2032 Plan**

| Plan Participant         | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
|--------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Washington County</b> | During annual plan monitoring, Washington County will review its selected actions with the responsible planning, engineering, public works, utility, building, floodplain, emergency management, finance, or administrative functions identified in Section 6.2. When the General Plan, zoning or subdivision regulations, building or floodplain procedures, capital improvement program, annual budget, utility or transportation plans, emergency operations materials, development reviews, or public outreach materials are prepared or amended, the responsible local function will |

| Plan Participant       | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
|------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                        | evaluate and incorporate applicable hazard information and mitigation actions. Washington County will document the mechanism reviewed, decision made, responsible function, and implementation status in the annual maintenance record.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| <b>St. George</b>      | During annual plan monitoring, St. George will review its selected actions with the responsible planning, engineering, public works, utility, building, floodplain, emergency management, finance, or administrative functions identified in Section 6.2. When the General Plan, zoning or subdivision regulations, building or floodplain procedures, capital improvement program, annual budget, utility or transportation plans, emergency operations materials, development reviews, or public outreach materials are prepared or amended, the responsible local function will evaluate and incorporate applicable hazard information and mitigation actions. St. George will document the mechanism reviewed, decision made, responsible function, and implementation status in the annual maintenance record.           |
| <b>Washington City</b> | During annual plan monitoring, Washington City will review its selected actions with the responsible planning, engineering, public works, utility, building, floodplain, emergency management, finance, or administrative functions identified in Section 6.2. When the General Plan, zoning or subdivision regulations, building or floodplain procedures, capital improvement program, annual budget, utility or transportation plans, emergency operations materials, development reviews, or public outreach materials are prepared or amended, the responsible local function will evaluate and incorporate applicable hazard information and mitigation actions. Washington City will document the mechanism reviewed, decision made, responsible function, and implementation status in the annual maintenance record. |
| <b>Hurricane</b>       | During annual plan monitoring, Hurricane will review its selected actions with the responsible planning, engineering, public works, utility, building, floodplain, emergency management, finance, or administrative functions identified in Section 6.2. When the General Plan, zoning or subdivision regulations, building or floodplain procedures, capital improvement program, annual budget, utility or transportation plans, emergency operations materials, development reviews, or public outreach materials are prepared or amended, the responsible local function will evaluate and incorporate applicable hazard information and mitigation actions. Hurricane will document the mechanism reviewed, decision made, responsible function, and implementation status in the annual maintenance record.             |
| <b>Santa Clara</b>     | During annual plan monitoring, Santa Clara will review its selected actions with the responsible planning, engineering, public works, utility, building, floodplain, emergency management, finance, or administrative functions identified in Section 6.2. When the General Plan, zoning or subdivision regulations, building or floodplain procedures, capital improvement program, annual budget, utility or transportation plans, emergency operations                                                                                                                                                                                                                                                                                                                                                                     |

| Plan Participant   | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|--------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                    | materials, development reviews, or public outreach materials are prepared or amended, the responsible local function will evaluate and incorporate applicable hazard information and mitigation actions. Santa Clara will document the mechanism reviewed, decision made, responsible function, and implementation status in the annual maintenance record.                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| <b>Ivins</b>       | During annual plan monitoring, Ivins will review its selected actions with the responsible planning, engineering, public works, utility, building, floodplain, emergency management, finance, or administrative functions identified in Section 6.2. When the General Plan, zoning or subdivision regulations, building or floodplain procedures, capital improvement program, annual budget, utility or transportation plans, emergency operations materials, development reviews, or public outreach materials are prepared or amended, the responsible local function will evaluate and incorporate applicable hazard information and mitigation actions. Ivins will document the mechanism reviewed, decision made, responsible function, and implementation status in the annual maintenance record.           |
| <b>La Verkin</b>   | During annual plan monitoring, La Verkin will review its selected actions with the responsible planning, engineering, public works, utility, building, floodplain, emergency management, finance, or administrative functions identified in Section 6.2. When the General Plan, zoning or subdivision regulations, building or floodplain procedures, capital improvement program, annual budget, utility or transportation plans, emergency operations materials, development reviews, or public outreach materials are prepared or amended, the responsible local function will evaluate and incorporate applicable hazard information and mitigation actions. La Verkin will document the mechanism reviewed, decision made, responsible function, and implementation status in the annual maintenance record.   |
| <b>Enterprise</b>  | During annual plan monitoring, Enterprise will review its selected actions with the responsible planning, engineering, public works, utility, building, floodplain, emergency management, finance, or administrative functions identified in Section 6.2. When the General Plan, zoning or subdivision regulations, building or floodplain procedures, capital improvement program, annual budget, utility or transportation plans, emergency operations materials, development reviews, or public outreach materials are prepared or amended, the responsible local function will evaluate and incorporate applicable hazard information and mitigation actions. Enterprise will document the mechanism reviewed, decision made, responsible function, and implementation status in the annual maintenance record. |
| <b>Toquerville</b> | During annual plan monitoring, Toquerville will review its selected actions with the responsible planning, engineering, public works, utility, building, floodplain, emergency management, finance, or administrative functions identified in Section 6.2. When the General Plan, zoning or subdivision regulations, building or floodplain procedures, capital improvement program, annual budget, utility or transportation plans, emergency operations                                                                                                                                                                                                                                                                                                                                                           |

| Plan Participant   | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|--------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                    | materials, development reviews, or public outreach materials are prepared or amended, the responsible local function will evaluate and incorporate applicable hazard information and mitigation actions. Toquerville will document the mechanism reviewed, decision made, responsible function, and implementation status in the annual maintenance record.                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| <b>Leeds</b>       | During annual plan monitoring, Leeds will review its selected actions with the responsible planning, engineering, public works, utility, building, floodplain, emergency management, finance, or administrative functions identified in Section 6.2. When the General Plan, zoning or subdivision regulations, building or floodplain procedures, capital improvement program, annual budget, utility or transportation plans, emergency operations materials, development reviews, or public outreach materials are prepared or amended, the responsible local function will evaluate and incorporate applicable hazard information and mitigation actions. Leeds will document the mechanism reviewed, decision made, responsible function, and implementation status in the annual maintenance record.           |
| <b>Virgin</b>      | During annual plan monitoring, Virgin will review its selected actions with the responsible planning, engineering, public works, utility, building, floodplain, emergency management, finance, or administrative functions identified in Section 6.2. When the General Plan, zoning or subdivision regulations, building or floodplain procedures, capital improvement program, annual budget, utility or transportation plans, emergency operations materials, development reviews, or public outreach materials are prepared or amended, the responsible local function will evaluate and incorporate applicable hazard information and mitigation actions. Virgin will document the mechanism reviewed, decision made, responsible function, and implementation status in the annual maintenance record.         |
| <b>Springdale</b>  | During annual plan monitoring, Springdale will review its selected actions with the responsible planning, engineering, public works, utility, building, floodplain, emergency management, finance, or administrative functions identified in Section 6.2. When the General Plan, zoning or subdivision regulations, building or floodplain procedures, capital improvement program, annual budget, utility or transportation plans, emergency operations materials, development reviews, or public outreach materials are prepared or amended, the responsible local function will evaluate and incorporate applicable hazard information and mitigation actions. Springdale will document the mechanism reviewed, decision made, responsible function, and implementation status in the annual maintenance record. |
| <b>New Harmony</b> | During annual plan monitoring, New Harmony will review its selected actions with the responsible planning, engineering, public works, utility, building, floodplain, emergency management, finance, or administrative functions identified in Section 6.2. When the General Plan, zoning or subdivision regulations, building or floodplain procedures, capital improvement program, annual budget, utility or transportation plans, emergency operations                                                                                                                                                                                                                                                                                                                                                           |

| Plan Participant    | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
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|                     | materials, development reviews, or public outreach materials are prepared or amended, the responsible local function will evaluate and incorporate applicable hazard information and mitigation actions. New Harmony will document the mechanism reviewed, decision made, responsible function, and implementation status in the annual maintenance record.                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| <b>Rockville</b>    | During annual plan monitoring, Rockville will review its selected actions with the responsible planning, engineering, public works, utility, building, floodplain, emergency management, finance, or administrative functions identified in Section 6.2. When the General Plan, zoning or subdivision regulations, building or floodplain procedures, capital improvement program, annual budget, utility or transportation plans, emergency operations materials, development reviews, or public outreach materials are prepared or amended, the responsible local function will evaluate and incorporate applicable hazard information and mitigation actions. Rockville will document the mechanism reviewed, decision made, responsible function, and implementation status in the annual maintenance record.       |
| <b>Apple Valley</b> | During annual plan monitoring, Apple Valley will review its selected actions with the responsible planning, engineering, public works, utility, building, floodplain, emergency management, finance, or administrative functions identified in Section 6.2. When the General Plan, zoning or subdivision regulations, building or floodplain procedures, capital improvement program, annual budget, utility or transportation plans, emergency operations materials, development reviews, or public outreach materials are prepared or amended, the responsible local function will evaluate and incorporate applicable hazard information and mitigation actions. Apple Valley will document the mechanism reviewed, decision made, responsible function, and implementation status in the annual maintenance record. |
| <b>Hildale</b>      | During annual plan monitoring, Hildale will review its selected actions with the responsible planning, engineering, public works, utility, building, floodplain, emergency management, finance, or administrative functions identified in Section 6.2. When the General Plan, zoning or subdivision regulations, building or floodplain procedures, capital improvement program, annual budget, utility or transportation plans, emergency operations materials, development reviews, or public outreach materials are prepared or amended, the responsible local function will evaluate and incorporate applicable hazard information and mitigation actions. Hildale will document the mechanism reviewed, decision made, responsible function, and implementation status in the annual maintenance record.           |

## Continued Public Involvement

The plan participants are committed to implementing the plan maintenance process outlined in the base plan. At the same time, they have evaluated their own opportunities to ensure the public has an

opportunity to be involved in the plan maintenance and update process. Table 75 shows the continued public involvement approach for each plan participant.

**Table 196: Continued Public Involvement Approach for Washington County**

| Plan Participant         | Approach                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
|--------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Washington County</b> | At least annually during plan monitoring and whenever a material plan amendment or five-year update is proposed, Washington County will use official notices, public meetings, its website or other established communication channels, and coordination with Washington County and Five County AOG to share implementation updates, provide access to proposed changes and draft materials, advertise opportunities for review, and accept public comments. The jurisdiction's designated plan-maintenance representative will compile comments and document how comments were considered. |
| <b>St. George</b>        | At least annually during plan monitoring and whenever a material plan amendment or five-year update is proposed, St. George will use official notices, public meetings, its website or other established communication channels, and coordination with Washington County and Five County AOG to share implementation updates, provide access to proposed changes and draft materials, advertise opportunities for review, and accept public comments. The jurisdiction's designated plan-maintenance representative will compile comments and document how comments were considered.        |
| <b>Washington City</b>   | At least annually during plan monitoring and whenever a material plan amendment or five-year update is proposed, Washington City will use official notices, public meetings, its website or other established communication channels, and coordination with Washington County and Five County AOG to share implementation updates, provide access to proposed changes and draft materials, advertise opportunities for review, and accept public comments. The jurisdiction's designated plan-maintenance representative will compile comments and document how comments were considered.   |
| <b>Hurricane</b>         | At least annually during plan monitoring and whenever a material plan amendment or five-year update is proposed, Hurricane will use official notices, public meetings, its website or other established communication channels, and coordination with Washington County and Five County AOG to share implementation updates, provide access to proposed changes and draft materials, advertise opportunities for review, and accept public comments. The jurisdiction's designated plan-maintenance representative will compile comments and document how comments were considered.         |
| <b>Santa Clara</b>       | At least annually during plan monitoring and whenever a material plan amendment or five-year update is proposed, Santa Clara will use official notices, public meetings, its website or other established communication channels, and coordination with Washington County and Five County AOG to share implementation updates, provide access to proposed changes and draft materials, advertise opportunities for review, and accept public comments.                                                                                                                                      |

| Plan Participant   | Approach                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
|--------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                    | The jurisdiction's designated plan-maintenance representative will compile comments and document how comments were considered.                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| <b>Ivins</b>       | At least annually during plan monitoring and whenever a material plan amendment or five-year update is proposed, Ivins will use official notices, public meetings, its website or other established communication channels, and coordination with Washington County and Five County AOG to share implementation updates, provide access to proposed changes and draft materials, advertise opportunities for review, and accept public comments. The jurisdiction's designated plan-maintenance representative will compile comments and document how comments were considered.       |
| <b>La Verkin</b>   | At least annually during plan monitoring and whenever a material plan amendment or five-year update is proposed, La Verkin will use official notices, public meetings, its website or other established communication channels, and coordination with Washington County and Five County AOG to share implementation updates, provide access to proposed changes and draft materials, advertise opportunities for review, and accept public comments. The jurisdiction's designated plan-maintenance representative will compile comments and document how comments were considered.   |
| <b>Enterprise</b>  | At least annually during plan monitoring and whenever a material plan amendment or five-year update is proposed, Enterprise will use official notices, public meetings, its website or other established communication channels, and coordination with Washington County and Five County AOG to share implementation updates, provide access to proposed changes and draft materials, advertise opportunities for review, and accept public comments. The jurisdiction's designated plan-maintenance representative will compile comments and document how comments were considered.  |
| <b>Toquerville</b> | At least annually during plan monitoring and whenever a material plan amendment or five-year update is proposed, Toquerville will use official notices, public meetings, its website or other established communication channels, and coordination with Washington County and Five County AOG to share implementation updates, provide access to proposed changes and draft materials, advertise opportunities for review, and accept public comments. The jurisdiction's designated plan-maintenance representative will compile comments and document how comments were considered. |
| <b>Leeds</b>       | At least annually during plan monitoring and whenever a material plan amendment or five-year update is proposed, Leeds will use official notices, public meetings, its website or other established communication channels, and coordination with Washington County and Five County AOG to share implementation updates, provide access to proposed changes and draft materials, advertise opportunities for review, and accept public comments. The jurisdiction's designated plan-maintenance representative will compile comments and document how comments were considered.       |

| Plan Participant    | Approach                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
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| <b>Virgin</b>       | At least annually during plan monitoring and whenever a material plan amendment or five-year update is proposed, Virgin will use official notices, public meetings, its website or other established communication channels, and coordination with Washington County and Five County AOG to share implementation updates, provide access to proposed changes and draft materials, advertise opportunities for review, and accept public comments. The jurisdiction's designated plan-maintenance representative will compile comments and document how comments were considered.       |
| <b>Springdale</b>   | At least annually during plan monitoring and whenever a material plan amendment or five-year update is proposed, Springdale will use official notices, public meetings, its website or other established communication channels, and coordination with Washington County and Five County AOG to share implementation updates, provide access to proposed changes and draft materials, advertise opportunities for review, and accept public comments. The jurisdiction's designated plan-maintenance representative will compile comments and document how comments were considered.   |
| <b>New Harmony</b>  | At least annually during plan monitoring and whenever a material plan amendment or five-year update is proposed, New Harmony will use official notices, public meetings, its website or other established communication channels, and coordination with Washington County and Five County AOG to share implementation updates, provide access to proposed changes and draft materials, advertise opportunities for review, and accept public comments. The jurisdiction's designated plan-maintenance representative will compile comments and document how comments were considered.  |
| <b>Rockville</b>    | At least annually during plan monitoring and whenever a material plan amendment or five-year update is proposed, Rockville will use official notices, public meetings, its website or other established communication channels, and coordination with Washington County and Five County AOG to share implementation updates, provide access to proposed changes and draft materials, advertise opportunities for review, and accept public comments. The jurisdiction's designated plan-maintenance representative will compile comments and document how comments were considered.    |
| <b>Apple Valley</b> | At least annually during plan monitoring and whenever a material plan amendment or five-year update is proposed, Apple Valley will use official notices, public meetings, its website or other established communication channels, and coordination with Washington County and Five County AOG to share implementation updates, provide access to proposed changes and draft materials, advertise opportunities for review, and accept public comments. The jurisdiction's designated plan-maintenance representative will compile comments and document how comments were considered. |
| <b>Hildale</b>      | At least annually during plan monitoring and whenever a material plan amendment or five-year update is proposed, Hildale will use official notices, public meetings, its website or other established communication channels, and coordination with Washington County and Five County AOG to share                                                                                                                                                                                                                                                                                     |

| Plan Participant | Approach                                                                                                                                                                                                                                                                       |
|------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                  | implementation updates, provide access to proposed changes and draft materials, advertise opportunities for review, and accept public comments. The jurisdiction's designated plan-maintenance representative will compile comments and document how comments were considered. |

## Conclusion

Washington County and its participating municipalities share exposure to the regional hazards profiled in the base plan, but consequences vary by terrain, development pattern, visitation, infrastructure, and local capability. This annex documents participant-specific hazard applicability, vulnerabilities and impacts, capabilities and opportunities for improvement, prior-action status, current action selections, plan integration, and continued public involvement. Dated implementation records are not sufficient to establish action completion, actual development-related vulnerability changes, or all participant-specific NFIP administration findings.