SUMMIT COUNTY HAZARD MITIGATION PLAN

September 2023

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1.1 Overview

With the 2018 Summit County Hazard Mitigation Plan set to expire in June of 2023, Summit County and its constituents are aiming to adopt a new, updated hazard mitigation plan. As outlined in the Disaster Mitigation Act of 2000 (DMA2K), any local jurisdiction seeking funding from the Federal Emergency Management Agency (FEMA) must maintain an up-to-date disaster mitigation plan. This Plan meets the criteria as set forth by FEMA in the DMA2K and provides the County and its participating jurisdictions with a comprehensive guide for future mitigation efforts to combat the hazards that affect their communities.

Natural, geological, and human-caused hazards pose a variety of risks to the lives, businesses, and properties within Summit County. As such, a Core Planning Committee within Summit County has been established with the goal of developing and implementing the 2023 Summit County Hazard Mitigation Plan. Through cooperative efforts between local, county, state, and federal government agencies, this Plan is designed to minimize the adverse effects of hazardous events on the lives and properties of residents of Summit County.

This 2023 Summit County Hazard Mitigation Plan is a multi-jurisdictional plan which considers the impacts of hazards on incorporated cities and villages and unincorporated townships. Summit County's jurisdictions and townships are listed below in **Tables 1.1 and 1.2**. These areas are also displayed in **Figure 1.3** on the following page. The Plan is designed for a five-year implementation period and describes the methods and procedures utilized in its development, provides the results of community involvement activities such as survey collection, identifies the mitigation activities determined to the be most important to the County, and establishes a timeline for the implementation of the actions.

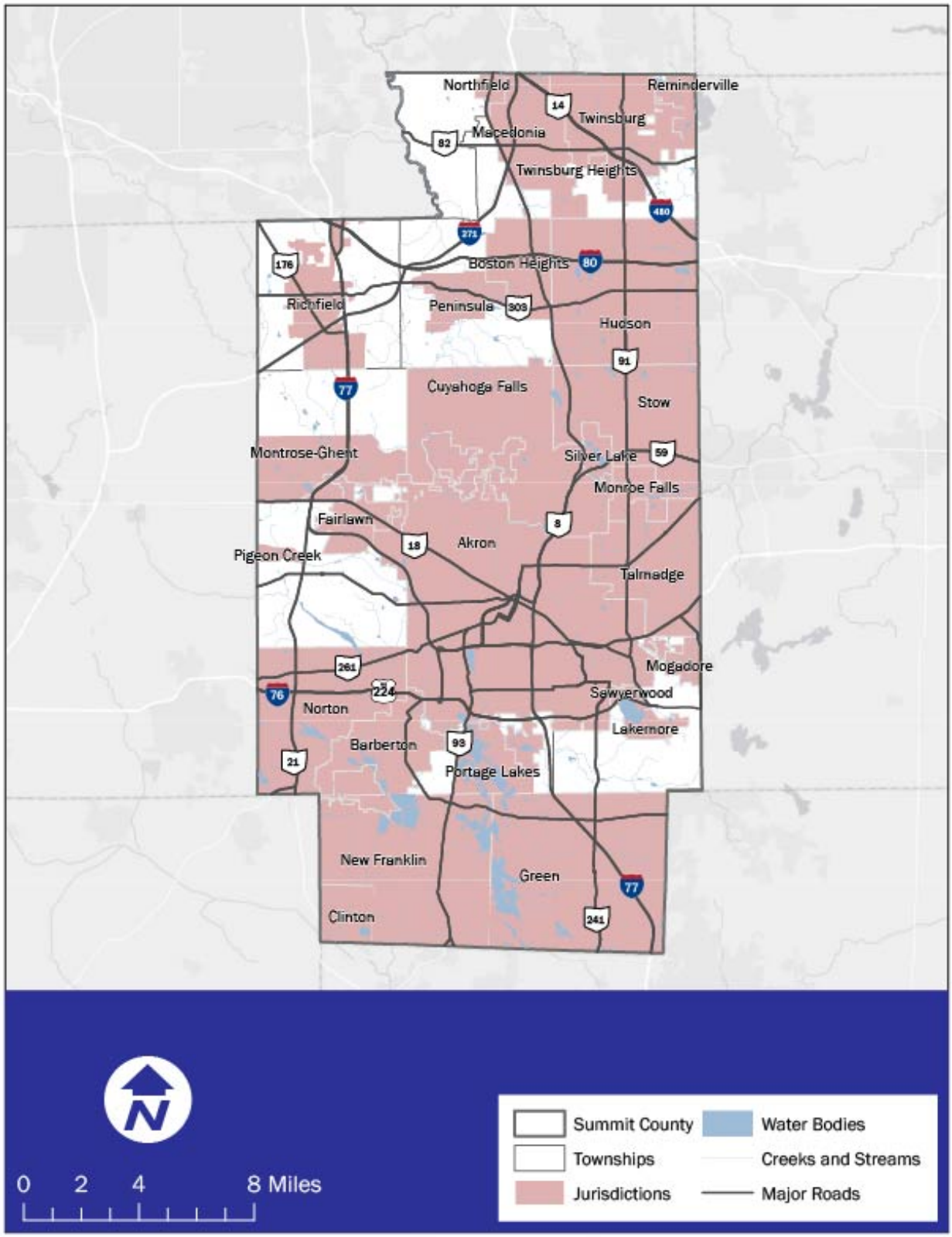
Table 1.1: Summit County Jurisdictions

Jurisdictions	
City of Akron	City of Stow
City of Barberton	City of Tallmadge
City of Cuyahoga Falls	City of Twinsburg
City of Fairlawn	Village of Boston Heights
City of Green	Village of Clinton
City of Hudson	Village of Lakemore
City of Macedonia	Village of Mogadore
City of Munroe Falls	Village of Northfield
City of New Franklin	Village of Peninsula
City of Norton	Village of Richfield
City of Reminderville	Village of Silver Lake

Table 1.2: Summit County Townships

Townships
Bath Township
Boston Township
Copley Township
Coventry Township
Northfield Township
Richfield Township
Sagamore Hills Township
Springfield Township
Twinsburg Township

Figure 1.3: Summit County Jurisdictions Map



This Plan is comprised of six chapters, which detail the methods, analysis, and discussion surrounding the various hazards that threaten Summit County and its jurisdictions. These chapters are as follows:

- This **Introduction** (Chapter 1) provides a discussion about the general purpose and goals that Summit County wishes to achieve throughout the development and implementation of this Plan. This section also includes a summary of the Plan's contents.
- Chapter 2, **History and Demographics**, includes a description of Summit County and each participating jurisdiction, including their history, population, and other general information.
- Chapter 3, **Planning Process**, details the process for the development of this Plan. This section includes details about the process used to develop this Plan, including a description of who participated, how the community was involved, which hazards were included in the Plan and why, as well as how the Plan was developed through public meetings, reviews, and evaluations. This section also details the review and incorporation of existing plans, studies, reports, and technical information.
- Chapter 4 contains the **Hazard Identification and Risk Assessment (HIRA)**. This section provides detailed descriptions and a corresponding analysis for each hazard that could potentially affect Summit County. The nature, location, extent, historical impact, vulnerability, and likelihood of occurrence for each hazard are provided for each hazard. These analyses include the types and numbers of existing and future buildings, infrastructure, and critical facilities located in the identified hazard areas; an estimate of the potential dollar losses to vulnerable structures; and a general description of land uses and development trends within the community.
- Chapter 5, **Hazard Mitigation**, outlines the goals, strategies, and actions for the County. The proposed actions are presented in tables, categorized by the associated hazard and community, and then ranked from highest to lowest priority based on feedback received from County officials and participating jurisdictions and stakeholders. Excluded hazards are also documented in this section, along with the rationale for exclusion from the Plan.
- The final chapter (Chapter 6) of this Plan, **Schedule and Maintenance**, provides a summary of the proposed Plan adoption, integration, and maintenance schedule. This section describes how the County will review and revise its plan to reflect changes in development, progress in local mitigation efforts, and changes in priorities, and resubmit it for approval within five years to continue to be eligible for mitigation project grant funding.

The resulting Summit County Hazard Mitigation Plan will be submitted to the Ohio Emergency Management Agency (Ohio EMA) and subsequently FEMA for their review. Following the agency review, the jurisdictions will then review the Plan for adoption. This hazard mitigation plan serves as a helpful tool for citizens, policymakers, local businesses, and other local stakeholders who all share a public interest in keeping Summit County as safe and resilient as possible. As such, this Plan aims to:

- Minimize property damage, economic loss, injury, and loss of human life – to achieve the Plan's main goal of reducing the impact of natural and manmade hazards on the County's economy and the well-being of its citizens.
- Enhance public awareness and education – to widen the public's understanding of natural and manmade hazards and how they might affect public health and safety, the environment, the local economy, and basic day-to-day operations.
- Coordinate inter-jurisdictional preparedness measures – to encourage and ensure multi-jurisdictional cooperation in County-wide mitigation actions and programs so that they may be implemented efficiently and effectively.

- Provide decision-making tools for interested stakeholders – to formulate a comprehensive, updated analysis of Summit County's vulnerability to hazards so that decision-makers can better prepare for natural and manmade disasters.
- Achieve regulatory compliance – to ensure that the County and its political subdivisions meet state and federal mitigation planning requirements so that they may be eligible to participate in and receive funding from grant programs, policies, and regulations.

1.2 Setting

Summit County is in the northeastern region of Ohio and has a total area of approximately 498 square miles. The County contains 14 cities and eight villages on census designated place, and nine townships (**Tables 1.1 and 1.2**). The City of Akron serves as the County seat. Summit County is bounded by six counties: Cuyahoga County to the northwest, Geauga County to the northeast, Portage County to the east, Stark County to the south, Medina County to the west, and Wayne County to the southwest.

Land use patterns in Summit County are shown in **Figure 1.6**. Land use types include residential, agricultural, industrial, commercial, parks/open space, transportation, public/semipublic land, and vacant. Land cover in Summit County is shown in **Figure 1.7**. Land cover types include barren land, cultivated crops, forested, developed, wetlands, hay and pasture, herbaceous, open water, and shrub and scrub.

1.3 Region Features

Transportation

Summit County contains several major roadways, including several State Routes (SR), five Interstate Highways (I), and one U.S. Highway (US). Major roadways in Summit County include SR-8, SR-21, SR-59, SR-91, SR-93, SR-162, SR-176, SR-241, SR-261, SR-303, SR-532, I-76, I-77, I-80, I-271, I-277, I-480, and US-224.

There are several airports in Summit County: Akron Fulton Regional Airport is a public use airport located in the City of Akron, Kent State Airport is a public use airport located in the City of Stow, Mayfield Airport is a public use airport in the City of Springfield, and Akron-Canton Regional Airport is a public use airport in the City of Green.

The Norfolk Southern Railroad travels through the Cities of Hudson and Macedonia, connecting to the Akron Metro Railroad in the City of Hudson. The Akron Metro Railroad travels from the City of Akron north through the City of Cuyahoga Falls and east through the City of Tallmadge. The Wheeling Company Railroad has four lines in Summit County, three connect in the City of Akron and one is in the City of Barberton. The CSX Transportation Railroad has one line in Summit County which travels from the City of Clinton to the City of Monroe Falls. The Cuyahoga Valley Scenic Railroad travels through the Cuyahoga Valley National Park to the city of Akron.

Summit County has one navigable river. The Cuyahoga River originates at the confluence (meeting of two rivers) of the West and East Branch Cuyahoga rivers in Geauga County. The Cuyahoga River follows a U-shaped course through the City of Akron and empties into Lake Erie. The river is 85 miles long and has a watershed of 813 square miles. The river was once a part of the Ohio River watershed and was a significant transportation route.

Natural Features

Table 1.4, below, Summit County has several parks and nature areas.

Table 1.4: Parks & Nature Areas in Summit County, Ohio

Parks & Nature Areas	
Bike & Hike Trail	Knapp Recreation Area
Akron Zoo	Liberty Park
Bath Nature Preserve	Munroe Falls Metro Park
Cascade Valley Metro Park	Nimisila Campgrounds
Cuyahoga Valley National Park	Nimisila Reservoir Metro Park
Deep Lock Quarry Metro Mark	O'Neil Woods Metro park
F.A. Seiberling Nature Realm	Portage Lakes State Park
Firestone Metro Park	Portage Path Wildlife
Freedom Trail	San Run Metro Park
Furnace Run Metro Park	Silver Creek Metro park
Goodyear Heights Metro Park	Silver Springs Park
Gorge Metro Park	Springfield Bog Metro Park
Hampton Hills Metro Park	Wood Hollow Metro Park

Summit County also has several streams and water bodies which are listed in **Table 1.5** below.

Table 1.5: Summit County Streams and Water Bodies

Water Bodies	
Cuyahoga River	Nautilus Trail
Barberton Reservoir	Nimisila Creek
Bath Pond	Nimisila Reservoir
Boston Run	North Fork Yellow Creek
Chippewa River	Pancake Creek
Comet Lake	Pond Brook
Crystal Lake	Portage Lakes
Dickerson Run	Riding Run
Fell Lake	Robinson Run
Haskell Run	Salt Run
Hower Lake	Silver Lake
Hudson Run	Silver Lake

Water Bodies	
Hudson Springs Park	Springfield Lake
Kirby Lake	Springfield Lake Outlet
Lake Dorothy	Steriner Pond
Lake Forest	Stranford Run
Lake Noah	Summit Lake
Little Cuyahoga River	Tinkers Creek
Long Lake	Tuscarawas River
Loyal Oak Lake	Van Hyning Run
Luna Lake	Willow Lake
Meadowbrook Lake	Woodward Creek
Meadowbrook Lake	Wyoga Lake Park
Mud Lake	Yellow Creek

Figure 1.6: Summit County Land Use Map

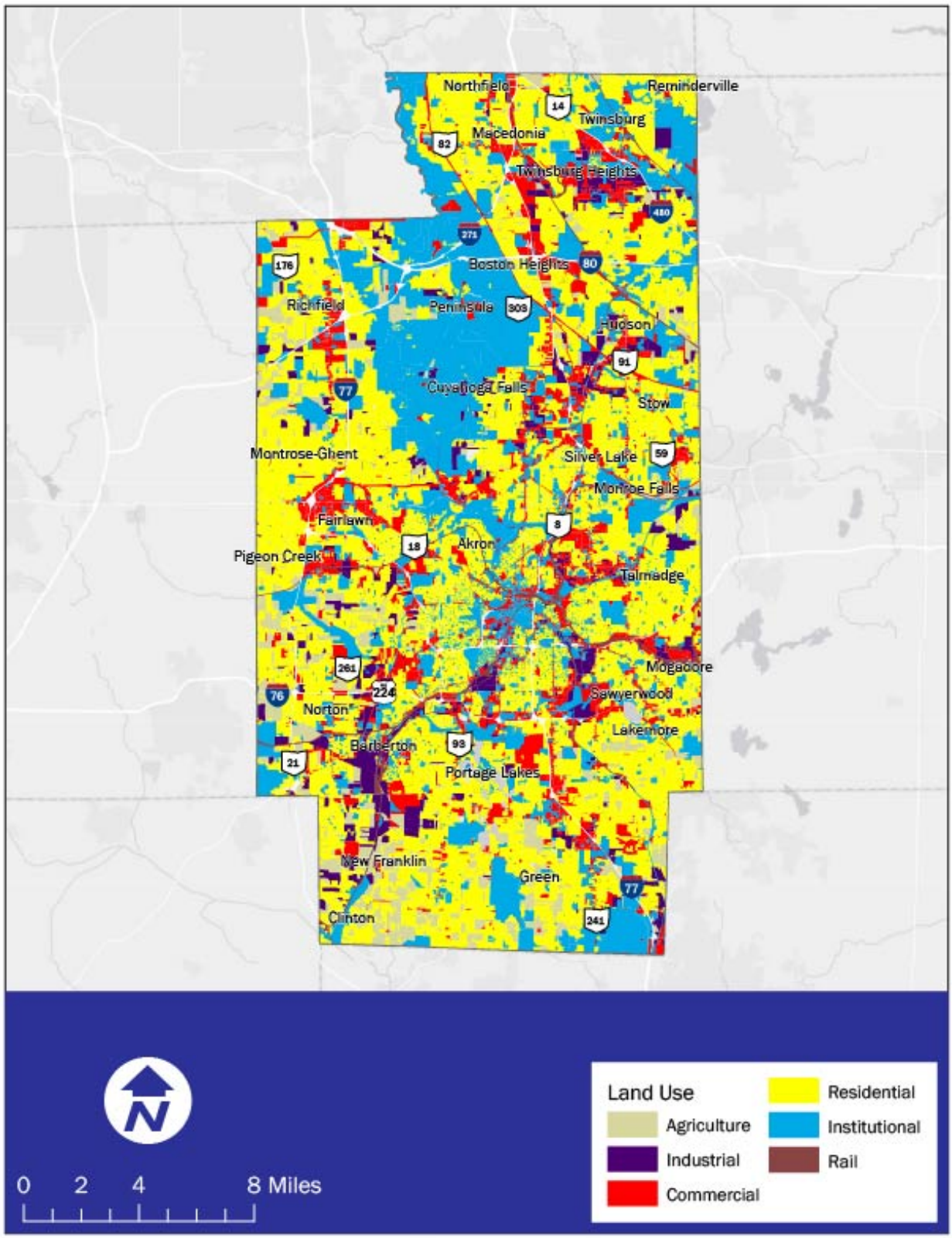
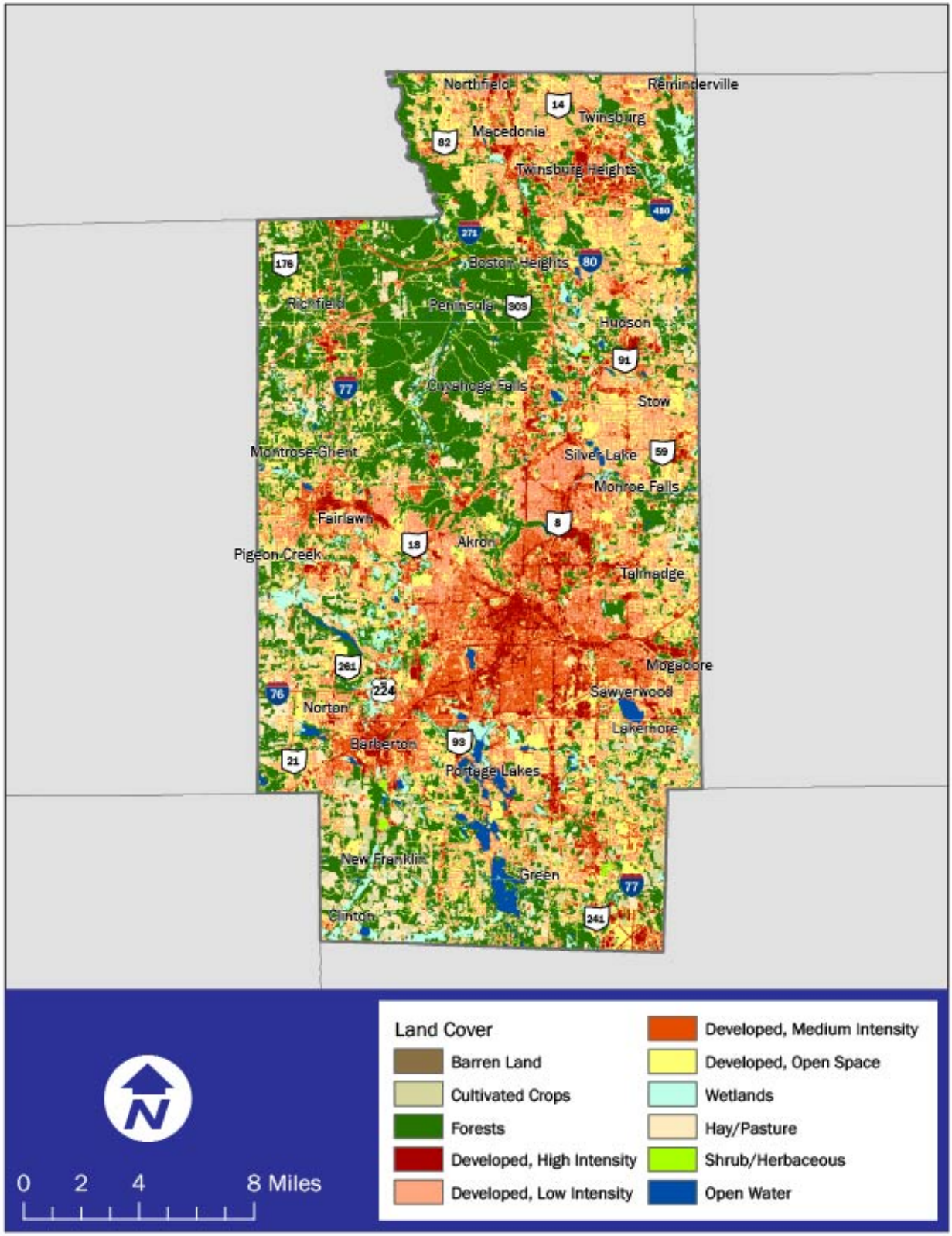


Figure 1.7: Summit County Land Cover Map



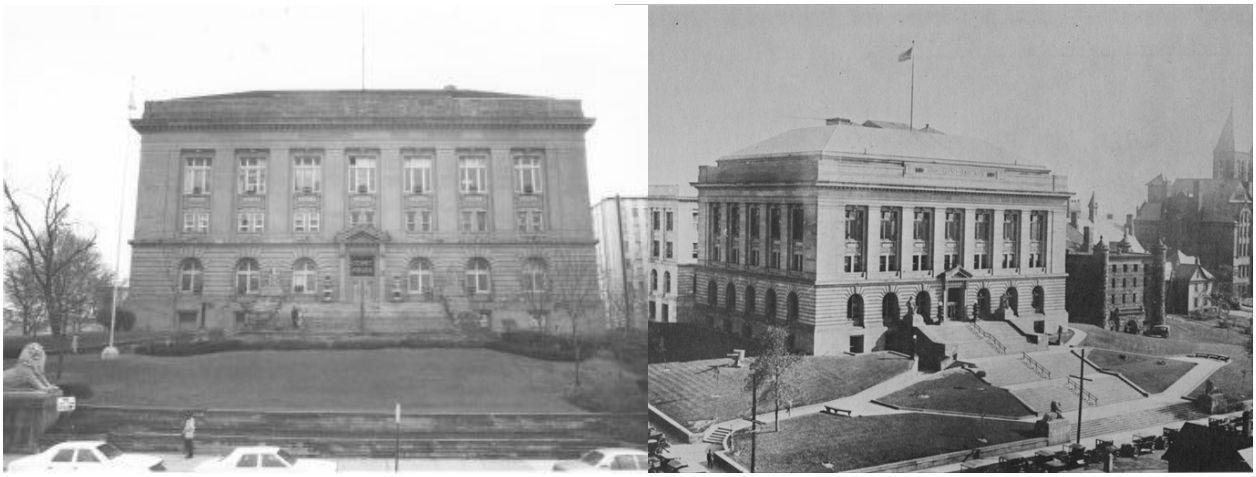
2 | History & Demographics

2.1 History

Summit County is an urban county in northeast Ohio. The county has a total area of 419.38 square miles, of which 412.08 square miles is land and 7.3 square miles is water and ranks as the 59th largest county in the state. The county was formed on March 3, 1840 from portions of Medina, Portage and Stark counties. It was named Summit County because the highest elevation on the Ohio and Erie Canal is located in the county. Summit County is host to the largest portion of the Cuyahoga Valley National Park, the only national park in the state. Until the 1830's, the Cuyahoga Valley region was permanent or transient home to several Native American tribes, including Wyandot, Ottawa, Ojibwe, Munsee, Potawatomi, Miami, and Catawba, and the Iroquois, Shawnee and Lenapé (Delaware) Nations.

The Summit County Courthouse and Annex in Akron is listed in the National Register of Historic Places. The courthouse, shown in **Figure 2.1**, was completed in 1908 and built of locally quarried buff sandstone in a Second Renaissance Revival architectural style designed by Cleveland architect J. Milton Dyer. The courthouse building continues to be in service to this day.

Figure 2.1: Summit County Courthouse



2.2 Communication Outlets

Summit County's primary communication outlets including websites, television, and social media are listed in **Table 2.2**, below:

Table 2.2: Communication Outlets and Social Media

Communication Type	Source
Website	Summit County: www.Summitcountyohio.net Summit County EMA: https://co.summitoh.net/departments/Emergency-Management-Agency Summit County Public Health: www.scph.org Summit County Reworks: www.summitreworks.com The American Red Cross Northern Ohio Region: https://www.redcross.org/local/ohio/northern-ohio.html
Social Media	Summit County Executive: https://www.facebook.com/SummitCountyExecutive; https://twitter.com/SummitExecutive Summit County EMA: https://www.facebook.com/SummitEMA/ Summit County Public Health: https://www.facebook.com/SummitCountyPublicHealth/ Summit County Reworks: https://www.facebook.com/recyclesummitcounty/ City of Akron: https://www.facebook.com/AkronOhio/
News/Newspaper	Summit Daily: https://www.summitdaily.com Summit County-Akron 800MHz Regional Radio System: https://co.summitoh.net/departments/Akron-800MHz-Regional-Radio-System.html#nav-about Consolidated Computer-Aided Dispatch System: https://co.summitoh.net/departments/Consolidated-Computer-Aided-Dispatch-System.html NPR Stations: WKSU 89.7 FM; WCPN 104.9 FM; WKRW 89.3 FM Local Radio Station: WAKR 1590 AM; WARF 1350 AM; WCUE 1150 AM; WHLO 640 AM; WAGX 101.3 FM; WAKS 96.5 FM; WAPS 91.3 FM; WCFI-LP 96.1 FM; WONE-FM 97.5 FM; WZIP 88.1 FM;

2.3 Demographics Overview

This section provides select demographic information to help identify strategies to better serve the county residents during emergency hazard events. The information can be used to understand potential vulnerabilities in subgroups of the population. For example, knowing the number of senior citizens that live alone and that may require additional assistance during an emergency can help assistance organizations anticipate where additional services may be needed.

Table 2.3, below, provides a summary of the total population changes that have occurred in Summit County between the 2010 U.S. Census and the 2021 5-Year American Community Survey (ACS) Estimates based on census data. According to the U.S. Census, Summit County's population decreased by 1,214 people (-0.22 percent) between 2010 and 2021. For comparison, the US population grew 7.2 percent and Ohio's population grew 2.2 percent during that period. Five townships – Bath, Boston, Copley, Richfield, and Twinsburg townships – experienced population growth. Of the townships experiencing population decline, Coventry Township experienced the greatest population decline with a decrease of 628 people (-0.12 percent).

A more detailed description of population, housing, and income demographics for Summit County and each city and village jurisdiction is provided on the following pages.

Table 2.3: County And Township Population Growth Estimates Between 2010 Census and 2021 5-Year ACS Estimates

County/Township	Total Population 2010 Census	Total Population 2021 Estimate	2010-2021	
			Population Change	Percent Change
Summit County	541,781	540,567	-1,214	0.22%
Bath Township	9,702	9,974	+272	0.05%
Boston Township	1,272	1,422	+150	0.03%
Copley Township	17,304	18,259	+955	0.18%
Coventry Township	10,945	10,317	-628	0.12%
Northfield Center Township	5,839	5,631	-208	0.04%
Richfield Township	6,165	6,396	+231	0.04%
Sagamore Hills Township	10,947	10,856	-91	0.02%
Springfield Township	14,644	14,193	-451	0.08%
Twinsburg Township	2,828	3,769	+941	0.17%

Social Vulnerability Score

The Social Vulnerability score is a component of the Federal Emergency Management Agency (FEMA)'s National Risk Index that measures the susceptibility (risk) of social groups to the adverse impacts of natural hazards that may result in disproportionate deaths, injury, loss, or disruption of livelihood. As FEMA explains, the "Social Vulnerability score considers the social, economic, demographic, and housing characteristics of a community that influence its ability to prepare for, respond to, cope with, recover from, and adapt to environmental hazards. The score and rating represent the relative level of a community's social vulnerability compared to all other communities at the same level (e.g., county level). A community's Social Vulnerability score is proportional to a community's risk. A higher Social Vulnerability score results in a higher Risk Index score."

Summit County has a calculated Social Vulnerability score of 0.62 (on scale of 0 to 1), which is considered a medium to high susceptibility to the adverse impacts of natural hazards when compared to the rest of the U.S. For comparison, Ohio's average score is 0.49 and the national average is 0.49 (Table 2.4)

The score is calculated using U.S. Census data for 16 social factors, which research literature suggests contributes to the reduction in a community's ability to prepare for, respond to, and recover from hazards. Thus, making the community more vulnerable. Each county is subdivided into census tracts and each census track is ranked on the 16 social factors. The 16 social factors are organized into four themes. Each census track is ranked separately for each theme and receives an overall ranking. The four themes and social factors are described below:

1. **Socioeconomic Status**: this theme covers socioeconomic status, such as households with income below the 150% poverty level, employment status, housing cost burden, high school diploma status, and if the household has health insurance.
2. **Housing Type & Transportation:** this theme covers the multi-unit structures, mobile homes, crowding within households, households without a vehicle, and group quarters.
3. **Race and Ethnic Minority status:** this theme covers the percentage of Hispanic or Latino (of any race); Black and African American (not Hispanic or Latino); American Indian and Alaska Native (not Hispanic or Latino); Native Hawaiian and Other Pacific Islander (not Hispanic or Latino); Two or More Races (not Hispanic or Latino); Other Races (not Hispanic or Latino).
4. **Household Characteristics:** this theme covers the elderly population (65 & older), children under 17 years of age, civilians with a disability, single-parent households, and the household's English language proficiency.

Table 2.4 Social Vulnerability Score per Theme for Summit County and Ohio

Theme	Summit County	Ohio Average
Socioeconomic Status	0.59	0.49
Housing Type & Transportation	0.74	0.49
Race and Ethnic Minority status	0.93	0.49
Household Characteristics	0.40	0.49

Community Profiles

Summit County

Summit County is located in northeast Ohio, and it is part of the Akron Metropolitan Statistical Area and Cleveland-Akron-Canton Combined Statistical Area. As of the 2021 5-Year ACS Estimates (census), the population was 540,567 making it the fourth most populated county in Ohio. The City of Akron is the largest city and serves as the county seat.

There are 228,283 households of which 27.4 percent have at least one member under 18 years of age, and 4.3 percent have members 65 years and over. In 2021, the largest racial group in Summit County was the white (non-Hispanic) group, which makes up 95.5 percent of the population. Approximately 1.3 percent of the county population speak Spanish at home. In addition, 1.7 percent speak an Asian or Pacific Islander language and 0.9 percent speak other languages.

Table 2.5: Summit County Population by Age Statistics 2021 ACS 5-Year Estimates

Age	Number	Percentage
Total Population	540,567	100%
Under 18 Years	113,964	21.1%
18 to 24 Years	58,918	8.3%
25 to 34 Years	71,830	13.3%
35 to 44 Years	64,508	11.9%
45 to 54 Years	69,752	12.9%
55 to 64 Years	78,361	14.4%
65 Years and Over	97,087	18.0%

Table 2.6: Summit County Population by Race and Ethnicity Statistics 2021 ACS 5-Year Estimates

Race and Ethnicity	Number	Percentage
Total Population	540,567	100%
White	516,464	95.5%
Black or African American	77,076	14.3%
American Indian and Alaska Native	715	0.1%
Asian	20,403	3.8%
Native Hawaiian and Pacific Islander	63	0.0%
Some Other Race (One Race)	3,465	0.6%
Two or More Races	24,103	4.5%
Hispanic or Latino (of any race)	12,712	2.4%

Table 2.7: Summit County Language Spoken at Home Statistics 2021 ACS 5-Year Estimates

Language Statistics	Number	Percentage
Total Population	540,567	100%
English only	475,245	93.0%
Spanish	6,890	1.3%
Asian and Pacific Islander languages	8,544	1.7%
Other languages	4,387	0.9%

Table 2.8: Summit County Housing Statistics 2021 ACS 5-Year Estimates

Housing Statistics	Number	Percentage
Total Housing Units	246,395	100%
Housing Units - Mobile Homes	2,157	0.9%
Occupied Housing Units	228,283	92.6%
Vacant Housing Units	18,112	7.4%

Table 2.9: Summit County Household Statistics 2021 ACS 5-Year Estimates

Household Statistics	Number	Percentage
Total Households	228,283	-
Average Household Size	2.33	-
Households with People Under 18 Years	62,519	27.4%
Households with People 65+ Years	69,970	30.7%
Householder Living Alone 65+ Years	29,773	13.0%
No Vehicle Available	18,119	7.9%
With a broadband Internet subscription	200,832	88.0%

Table 2.10: Summit County Household Income Statistics 2021 ACS 5-Year Estimates

Household Income Statistics	Number of Households
Less than $10,000	6.3%
$10,000 to $14,999	4.2%
$15,000 to $24,999	8.7%
$25,000 to $34,999	8.7%
$35,000 to $49,999	12.2%
$50,000 to $74,999	18.1%
$75,000 to $99,999	13.5%
$100,000 to $149,999	15.0%
$150,000 to $199,999	6.1%
$200,000 or more	6.9%
Median Household Income	$63,111
Mean Household Income	$87,057

City of Akron

Tables 2.11 to 2.16 summarize the Village of Akron's population, housing statistics, and income statistics. For housing units, the city had a vacancy rate of 10.3 percent. There are 83,538 households with an average size of 2.23 people and 26.0 percent have at least one member under 18 years of age. The largest percentage of households (18.6 percent) had an income between $50,000 and $74,999; approximately 17.6 percent of households had an annual income of less than $15,000. Black and African American is the second largest race (30.1 percent).

Table 2.11: City of Akron Population by Age 2021 ACS 5-Year Estimates

Age	Number	Percentage
Total Population	191,483	100%
Under 18 Years	40,914	21.4%
18 to 24 Years	21,712	11.3%
25 to 34 Years	29,032	15.2%
35 to 44 Years	22,258	11.6%
45 to 54 Years	23,294	12.2%
55 to 64 Years	25,687	13.4%
65 Years and Over	28,586	14.9%

Table 2.12: City of Akron Housing Statistics 2021 ACS 5-Year Estimates

Housing Statistics	Number	Percentage
Total Housing Units	93,108	100%
Occupied Housing Units	83,538	89.7%
Housing Units - Mobile Homes	393	0.4%
Vacant Housing Units	9,570	10.3%

Table 2.13: City of Akron Household Statistics 2021 ACS 5-Year Estimates

Household Statistics	Number	Percentage
Total Households	83,538	-
Average Household Size	2.23	-
Households with People Under 18 Years	21,731	26.0%
Households with People 65+ Years	21,886	26.2%
Householder Living Alone 65+ Years	6,933	8.3%
No Vehicle Available	11,393	13.6%
With a broadband Internet subscription	70,870	84.8%

Table 2.14: City of Akron Race and Ethnicity Statistics 2021 ACS 5-Year Estimates

Race and Ethnicity	Number	Percentage
Total Population	191,483	100%
White	110,758	57.8%
Black or African American	57,557	30.1%
American Indian or Alaska Native	357	0.2%
Asian	8,167	4.3%
Native Hawaiian or Pacific Islander	37	0.0%
Some Other Race (One Race)	1,634	0.9%
Two or More Races	12,973	6.8%
Hispanic or Latino (of any race)	6,187	3.2%

Table 2.15: City of Akron Language Spoken at Home Statistics 2021 ACS 5-Year Estimates

Language Statistics	Number	Percentage
Total Population	191,483	100%
English only	165,142	92.0%
Spanish	3,696	2.1%
Asian and Pacific Islander languages	3,688	2.1%
Other languages	1,719	1.0%

Table 2.16: City of Akron Income Statistics 2021 ACS 5-Year Estimates

Household Income Statistics	Percentage of Households
Less than $10,000	10.9%
$10,000 to $14,999	6.7%
$15,000 to $24,999	12.6%
$25,000 to $34,999	11.3%
$35,000 to $49,999	15.3%
$50,000 to $74,999	18.6%
$75,000 to $99,999	11.3%
$100,000 to $149,999	8.9%
$150,000 to $199,999	2.5%
$200,000 or more	2.0%
Median Household Income	$42,129
Mean Household Income	$57,576

City of Barberton

Tables 2.17 to 2.22 summarize the City of Barberton's population, housing statistics, and income statistics. For housing units, the city had a vacancy rate of 9.0 percent. There are 10,768 households with an average size of 2.32 people and 26.8 percent have at least one member under 18 years of age. The largest percentage of households (19.2 percent) had an income between $50,000 and $74,999; approximately 12.7 percent of households had an annual income of less than $15,000. Black and African American is the second largest race (11.4 percent).

Table 2.17: City of Barberton Population by Age 2021 ACS 5-Year Estimates

Age	Number	Percentage
Total Population	25,309	100%
Under 18 Years	5,946	23.5%
18 to 24 Years	1,322	5.3%
25 to 34 Years	3,744	14.8%
35 to 44 Years	2,616	10.3%
45 to 54 Years	2,333	9.2%
55 to 64 Years	4,243	16.7%
65 Years and Over	5,105	20.2%

Table 2.18: City of Barberton Housing Statistics 2021 ACS 5-Year Estimates

Housing Statistics	Number	Percentage
Total Housing Units	11,828	100%
Occupied Housing Units	10,768	91.0%
Housing Units - Mobile Homes	138	1.2%
Vacant Housing Units	1,060	9.0%

Table 2.19: City of Barberton Household Statistics 2021 ACS 5-Year Estimates

Household Statistics	Number	Percentage
Total Households	10,768	-
Average Household Size	2.32	-
Households with People Under 18 Years	2,885	26.8%
Households with People 65+ Years	3,811	35.4%
Householder Living Alone 65+ Years	1,950	18.1%
No Vehicle Available	1,388	6.2%
With a broadband Internet subscription	8,710	80.9%

Table 2.20: City of Barberton Race and Ethnicity Statistics 2021 ACS 5-Year Estimates

Race and Ethnicity	Number	Percentage
Total Population	25,309	100%
White	22,615	89.4%
Black or African American	2,886	11.4%
American Indian or Alaska Native	211	0.8%
Asian	90	0.4%
Native Hawaiian or Pacific Islander	0	0.0%
Some Other Race (One Race)	338	1.3%
Two or More Races	741	2.9%
Hispanic or Latino (of any race)	554	2.2%

Table 2.21: City of Barberton Language Spoken at Home Statistics 2021 ACS 5-Year Estimates

Language Statistics	Number	Percentage
Total Population	25,309	100%
English only	22,747	96.4%
Spanish	361	1.5%
Asian and Pacific Islander languages	57	0.2%
Other languages	37	0.2%

Table 2.22: City of Barberton Income Statistics 2021 ACS 5-Year Estimates

Household Income Statistics	Percentage of Households
Less than $10,000	7.0%
$10,000 to $14,999	5.7%
$15,000 to $24,999	14.7%
$25,000 to $34,999	12.6%
$35,000 to $49,999	15.4%
$50,000 to $74,999	19.2%
$75,000 to $99,999	13.5%
$100,000 to $149,999	8.2%
$150,000 to $199,999	1.4%
$200,000 or more	2.2%
Median Household Income	$45,017
Mean Household Income	$64,533

City of Cuyahoga Falls

Tables 2.23 to 2.28 summarize the City of Cuyahoga Falls' population, housing statistics, and income statistics. For housing units, the city had a vacancy rate of 6.0 percent. There are 23,122 households with an average size of 2.18 people and 24.2 percent have at least one member under 18 years of age. The largest percentage of households (22.1 percent) had an income between $50,000 and $74,999; approximately 8.1 percent of households had an annual income of less than $15,000. Black and African American is the second largest race (4.9 percent).

Table 2.23: City of Cuyahoga Falls Population by Age 2021 ACS 5-Year Estimates

Age	Number	Percentage
Total Population	50,906	100%
Under 18 Years	9,721	19.1%
18 to 24 Years	3,963	7.8%
25 to 34 Years	9,642	18.9%
35 to 44 Years	6,365	12.5%
45 to 54 Years	6,098	12.0%
55 to 64 Years	6,556	12.9%
65 Years and More	8,561	16.8%

Table 2.24: City of Cuyahoga Falls Housing Statistics 2021 ACS 5-Year Estimates

Housing Statistics	Number	Percentage
Total Housing Units	24,606	100%
Occupied Housing Units	23,122	94.0%
Housing Units - Mobile Homes	156	0.6%
Vacant Housing Units	1,484	6.0%

Table 2.25: City of Cuyahoga Falls Household Statistics 2021 ACS 5-Year Estimates

Household Statistics	Number	Percentage
Total Households	23,122	-
Average Household Size	2.18	-
Households with People Under 18 Years	5,584	24.2%
Households with People 65+ Years	6,469	28.0%
Householder Living Alone 65+ Years	3,362	14.6%
No Vehicle Available	1,203	5.2%
With a broadband Internet subscription	20,371	88.1%

Table 2.26: City of Cuyahoga Falls Race and Ethnicity Statistics 2021 ACS 5-Year Estimates

Race and Ethnicity	Number	Percentage
Total Population	50,906	100%
White	43,960	86.4%
Black or African American	2,476	4.9%
American Indian or Alaska Native	27	0.1%
Asian	2,327	4.6%
Native Hawaiian or Pacific Islander	0	0.0%
Some Other Race (One Race)	573	1.1%
Two or More Races	1,543	3.0%
Hispanic or Latino (of any race)	1,151	2.3%

Table 2.27: City of Cuyahoga Falls Language Spoken at Home Statistics 2021 ACS 5-Year Estimates

Language Statistics	Number	Percentage
Total Population	50,906	100%
English only	43,340	90.7%
Spanish	546	1.1%
Asian and Pacific Islander languages	624	1.3%
Other languages	811	1.7%

Table 2.28: City of Cuyahoga Falls Income Statistics 2021 ACS 5-Year Estimates

Household Income Statistics	Percentage of Households
Less than $10,000	4.1%
$10,000 to $14,999	4.0%
$15,000 to $24,999	7.8%
$25,000 to $34,999	9.6%
$35,000 to $49,999	13.7%
$50,000 to $74,999	22.1%
$75,000 to $99,999	15.2%
$100,000 to $149,999	14.6%
$150,000 to $199,999	5.1%
$200,000 or more	3.8%
Median Household Income	$62,294
Mean Household Income	$77,981

City of Fairlawn

Tables 2.29 to 2.34 summarize the City of Fairlawn's population, housing statistics, and income statistics. For housing units, the city had a vacancy rate of 8.2 percent. There are 3,596 households with an average size of 2.04 people and 23.8 percent have at least one member under 18 years of age. The largest percentage of households (21.2 percent) had an income between $75,000 and $99,999; approximately 7.3 households had an annual income of less than $15,000. Black and African American is the second largest race (11.1 percent).

Table 2.29: City of Fairlawn Population by Age 2021 ACS 5-Year Estimates

Age	Number	Percentage
Total Population	7,697	100%
Under 18 Years	1,343	17.4%
18 to 24 Years	797	10.4%
25 to 34 Years	1,272	16.5%
35 to 44 Years	874	11.4%
45 to 54 Years	1,009	13.1%
55 to 64 Years	523	6.8%
65 Years and More	1,879	24.4%

Table 2.30: City of Fairlawn Housing Statistics 2021 ACS 5-Year Estimates

Housing Statistics	Number	Percentage
Total Housing Units	3,917	100%
Occupied Housing Units	3,596	91.8%
Housing Units - Mobile Homes	0	0.0%
Vacant Housing Units	321	8.2%

Table 2.31: City of Fairlawn Household Statistics 2021 ACS 5-Year Estimates

Household Statistics	Number	Percentage
Total Households	3,596	-
Average Household Size	2.04	-
Households with People Under 18 Years	855	23.8%
Households with People 65+ Years	1,183	32.9%
Householder Living Alone 65+ Years	527	14.6%
No Vehicle Available	212	5.9%
With a broadband Internet subscription	3,290	91.5%

Table 2.32: City of Fairlawn Race and Ethnicity Statistics 2021 ACS 5-Year Estimates

Race and Ethnicity	Number	Percentage
Total Population	7,697	100%
White	6,043	78.5%
Black or African American	852	11.1%
American Indian or Alaska Native	0	0.0%
Asian	261	3.4%
Native Hawaiian or Pacific Islander	0	0.0%
Some Other Race (One Race)	78	1.0%
Two or More Races	463	6.0%
Hispanic or Latino (of any race)	166	2.2%

Table 2.33: City of Fairlawn Language Spoken at Home Statistics 2021 ACS 5-Year Estimates

Language Statistics	Number	Percentage
Total Population	7,697	100%
English only	6,700	90.6%
Spanish	127	1.7%
Asian and Pacific Islander languages	176	2.4%
Other languages	63	0.9%

Table 2.34: City of Fairlawn Income Statistics 2021 ACS 5-Year Estimates

Household Income Statistics	Percentage of Households
Less than $10,000	3.3%
$10,000 to $14,999	4.0%
$15,000 to $24,999	6.9%
$25,000 to $34,999	5.4%
$35,000 to $49,999	9.0%
$50,000 to $74,999	19.8%
$75,000 to $99,999	21.2%
$100,000 to $149,999	14.2%
$150,000 to $199,999	5.4%
$200,000 or more	11.0%
Median Household Income	$77,771
Mean Household Income	$106,122

City of Green

Tables 2.35 to 2.40 summarize the City of Green's population, housing statistics, and income statistics. For housing units, the city had a vacancy rate of 6.5 percent. There are 10,685 households with an average size of 2.53 people and 30.4 percent have at least one member under 18 years of age. The largest percentage of households (18.0 percent) had an income between $100,000 and $149,999; approximately 5.7 percent of households had an annual income of less than $15,000. Two or more races are the second largest racial group (3.0 percent).

Table 2.35: City of Green Population by Age 2021 ACS 5-Year Estimates

Age	Number	Percentage
Total Population	27,267	100%
Under 18 Years	6,769	24.8%
18 to 24 Years	1,851	6.8%
25 to 34 Years	3,071	11.3%
35 to 44 Years	3,362	12.3%
45 to 54 Years	3,419	12.5%
55 to 64 Years	3,906	24.8%
65 Years and Over	1,862	6.8%

Table 2.36: City of Green Housing Statistics 2021 ACS 5-Year Estimates

Housing Statistics	Number	Percentage
Total Housing Units	11,429	100%
Occupied Housing Units	10,685	93.5%
Housing Units - Mobile Homes	206	1.8%
Vacant Housing Units	744	6.5%

Table 2.37: City of Green Household Statistics 2021 ACS 5-Year Estimates

Household Statistics	Number	Percentage
Total Households	10,685	-
Average Household Size	2.53	-
Households with People Under 18 Years	3,244	30.4%
Households with People 65+ Years	3,463	32.4%
Householder Living Alone 65+ Years	1,562	14.6%
No Vehicle Available	323	3.0%
With a broadband Internet subscription	9,927	92.9%

Table 2.38: City of Green Race and Ethnicity Statistics 2021 ACS 5-Year Estimates

Race and Ethnicity	Number	Percentage
Total Population	27,267	100%
White	25,373	93.1%
Black or African American	385	1.4%
American Indian or Alaska Native	27	0.1%
Asian	441	1.6%
Native Hawaiian or Pacific Islander	0	0.0%
Some Other Race (One Race)	214	0.8%
Two or More Races	827	3.0%
Hispanic or Latino (of any race)	205	0.8%

Table 2.39: City of Green Language Spoken at Home Statistics 2021 ACS 5-Year Estimates

Language Statistics	Number	Percentage
Total Population	27,267	100%
English only	24,700	95.1%
Spanish	154	0.6%
Asian and Pacific Islander languages	245	0.9%
Other languages	270	1.0%

Table 2.40: City of Green Income Statistics 2021 ACS 5-Year Estimates

Household Income Statistics	Percentage of Households
Less than $10,000	4.6%
$10,000 to $14,999	1.1%
$15,000 to $24,999	5.2%
$25,000 to $34,999	6.3%
$35,000 to $49,999	9.3%
$50,000 to $74,999	17.6%
$75,000 to $99,999	14.7%
$100,000 to $149,999	18.0%
$150,000 to $199,999	11.0%
$200,000 or more	12.3%
Median Household Income	$56,250
Mean Household Income	$80,391

City of Hudson

Tables 2.41 to 2.46 summarize the City of Hudson's population, housing statistics, and income statistics. For housing units, the city had a vacancy rate of 1.6 percent. There are 8,295 households with an average size of 2.74 people and 40.6 percent have at least one member under 18 years of age. The largest percentage of households (31.5 percent) had an income of $200,000 and above; approximately 4.5 percent of households had an annual income of less than $15,000. Asian is the second largest race (4.5 percent).

Table 2.41: City of Hudson Population by Age 2021 ACS 5-Year Estimates

Age	Number	Percentage
Total Population	23,001	100%
Under 18 Years	6,349	27.6%
18 to 24 Years	942	4.1%
25 to 34 Years	1,559	6.8%
35 to 44 Years	3,084	13.4%
45 to 54 Years	3,560	15.5%
55 to 64 Years	3,319	14.5%
65 Years and Over	4,188	18.2%

Table 2.42: City of Hudson Housing Statistics 2021 ACS 5-Year Estimates

Housing Statistics	Number	Percentage
Total Housing Units	8,429	100%
Occupied Housing Units	8,295	98.4%
Housing Units - Mobile Homes	0	0.0%
Vacant Housing Units	134	1.6%

Table 2.43: City of Hudson Household Statistics 2021 ACS 5-Year Estimates

Household Statistics	Number	Percentage
Total Households	8,295	-
Average Household Size	2.74	-
Households with People Under 18 Years	3,366	40.6%
Households with People 65+ Years	2,688	32.4%
Householder Living Alone 65+ Years	840	10.2%
No Vehicle Available	316	3.8%
With a broadband Internet subscription	7,736	93.3%

Table 2.44: City of Hudson Race and Ethnicity Statistics 2021 ACS 5-Year Estimates

Race and Ethnicity	Number	Percentage
Total Population	23,001	100%
White	21,062	91.6%
Black or African American	172	0.7%
American Indian or Alaska Native	24	0.1%
Asian	1,026	4.5%
Native Hawaiian or Pacific Islander	0	0.0%
Some Other Race (One Race)	119	0.5%
Two or More Races	598	2.6%
Hispanic or Latino (of any race)	469	2.0%

Table 2.45: City of Hudson Language Spoken at Home Statistics 2021 ACS 5-Year Estimates

Language Statistics	Number	Percentage
Total Population	23,001	100%
English only	19,916	93.1%
Spanish	150	0.7%
Asian and Pacific Islander languages	623	2.9%
Other languages	217	1.0%

Table 2.46: City of Hudson Income Statistics 2021 ACS 5-Year Estimates

Household Income Statistics	Percentage of Households
Less than $10,000	2.6%
$10,000 to $14,999	1.9%
$15,000 to $24,999	2.8%
$25,000 to $34,999	2.2%
$35,000 to $49,999	4.2%
$50,000 to $74,999	9.6%
$75,000 to $99,999	9.6%
$100,000 to $149,999	19.9%
$150,000 to $199,999	15.8%
$200,000 or more	31.5%
Median Household Income	$143,143
Mean Household Income	$185,591

City of Macedonia

Tables 2.47 to 2.52 summarize the City of Macedonia Village's population, housing statistics, and income statistics. For housing units, the city had a vacancy rate of 3.0 percent. There are 4,733 households with an average size of 2.55 people and 30.9 percent have at least one member under 18 years of age. The largest percentage of households (20.5 percent) had an income between $100,000 and $149,999; approximately 3.7 percent of households had an annual income of less than $15,000. Black and African American is the second largest race (9.8 percent).

Table 2.47: City of Macedonia Population by Age 2021 ACS 5-Year Estimates

Age	Number	Percentage
Total Population	12,083	100%
Under 18 Years	2,428	20.1%
18 to 24 Years	944	7.8%
25 to 34 Years	1,225	10.2%
35 to 44 Years	1,551	12.8%
45 to 54 Years	1,639	13.6%
55 to 64 Years	1,754	14.5%
65 Years and More	2,542	21.0%

Table 2.48: City of Macedonia Housing Statistics 2021 ACS 5-Year Estimates

Housing Statistics	Number	Percentage
Total Housing Units	4,878	100%
Occupied Housing Units	4,733	97.0%
Housing Units - Mobile Homes	34	0.7%
Vacant Housing Units	145	3.0%

Table 2.49: City of Macedonia Household Statistics 2021 ACS 5-Year Estimates

Household Statistics	Number	Percentage
Total Households	4,733	-
Average Household Size	2.55	-
Households with People Under 18 Years	1,463	30.9%
Households with People 65+ Years	1,834	38.7%
Householder Living Alone 65+ Years	684	14.4%
No Vehicle Available	160	3.4%
With a broadband Internet subscription	4,133	87.3%

Table 2.50: City of Macedonia Race and Ethnicity Statistics 2021 ACS 5-Year Estimates

Race and Ethnicity	Number	Percentage
Total Population	12,083	100%
White	9,851	81.5%
Black or African American	1,186	9.8%
American Indian or Alaska Native	26	0.2%
Asian	688	5.7%
Native Hawaiian or Pacific Islander	0	0.0%
Other (one race)	13	0.1%
Two or More Races	319	2.6%
Hispanic or Latino (of any race)	130	1.1%

Table 2.51: City of Macedonia Language Spoken at Home Statistics 2021 ACS 5-Year Estimates

Language Statistics	Number	Percentage
Total Population	12,083	100%
English only	10,772	92.3%
Spanish	22	0.2%
Asian and Pacific Islander languages	427	3.7%
Other languages	46	0.4%

Table 2.52: City of Macedonia Income Statistics 2021 ACS 5-Year Estimates

Household Income Statistics	Percentage of Households
Less than $10,000	1.9%
$10,000 to $14,999	1.8%
$15,000 to $24,999	3.8%
$25,000 to $34,999	7.9%
$35,000 to $49,999	5.8%
$50,000 to $74,999	17.5%
$75,000 to $99,999	14.2%
$100,000 to $149,999	20.5%
$150,000 to $199,999	14.6%
$200,000 or more	12.0%
Median Household Income	$97,897
Mean Household Income	$123,947

City of Munroe Falls

Tables 2.53 to 2.58 summarize the City of Munroe Falls's population, housing statistics, and income statistics. For housing units, the city had a vacancy rate of 4.7 percent. There are 2,158 households with an average size of 2.34 people and 22.1 percent have at least one member under 18 years of age. The largest percentage of households (23.1 percent) had an income between $50,000 and $74,999; approximately 3.8 percent of households had an annual income of less than $15,000. Asian is the second largest race (4.6 percent).

Table 2.53: City of Munroe Falls Population by Age 2021 ACS 5-Year Estimates

Age	Number	Percentage
Total Population	5,051	100%
Under 18 Years	905	17.9%
18 to 24 Years	203	4.0%
25 to 34 Years	707	14.0%
35 to 44 Years	524	10.4%
45 to 54 Years	491	9.7%
55 to 64 Years	835	16.5%
65 Years and More	1,386	27.4%

Table 2.54: City of Munroe Falls Housing Statistics 2021 ACS 5-Year Estimates

Housing Statistics	Number	Percentage
Total Housing Units	2,265	100%
Occupied Housing Units	2,158	95.3%
Occupied Housing Units - Mobile Homes*	0	0.0%
Vacant Housing Units	107	4.7%

Table 2.55: City of Munroe Falls Household Statistics 2021 ACS 5-Year Estimates

Household Statistics	Number	Percentage
Total Households	2,158	-
Average Household Size	2.34	-
Households with People Under 18 Years	477	22.1%
Households with People 65+ Years	1,063	49.3%
Householder Living Alone 65+ Years	511	23.7%
No Vehicle Available	230	10.7%
With a broadband Internet subscription	1,820	84.3%

Table 2.56: City of Munroe Falls Race and Ethnicity Statistics 2021 ACS 5-Year Estimates

Race and Ethnicity	Number	Percentage
Total Population	5,051	100%
White	4,540	89.9%
Black or African American	55	1.1%
American Indian or Alaska Native	0	0.0%
Asian	230	4.6%
Native Hawaiian or Pacific Islander	0	0.0%
Other (one race)	18	0.4%
Two or More Races	208	4.1%
Hispanic or Latino (of any race)	71	1.4%

Table 2.57: City of Munroe Falls Language Spoken at Home Statistics 2021 ACS 5-Year Estimates

Language Statistics	Number	Percentage
Total Population	5,051	100%
English only	4,521	93.5%
Spanish	11	0.2%
Asian and Pacific Islander languages	18	0.4%
Other languages	22	0.5%

Table 2.58: City of Munroe Falls Income Statistics 2021 ACS 5-Year Estimates

Household Income Statistics	Percentage of Households
Less than $10,000	1.5%
$10,000 to $14,999	2.3%
$15,000 to $24,999	9.8%
$25,000 to $34,999	8.3%
$35,000 to $49,999	9.4%
$50,000 to $74,999	23.1%
$75,000 to $99,999	15.0%
$100,000 to $149,999	19.2%
$150,000 to $199,999	5.0%
$200,000 or more	6.4%
Median Household Income	66,344
Mean Household Income	82,977

City of New Franklin

Tables 2.59 to 2.64 summarize the City of New Franklin's population, housing statistics, and income statistics. For housing units, the city had a vacancy rate of 6.2 percent. There are 5,614 households with an average size of 2.46 people and 25.6 percent have at least one member under 18 years of age. The largest percentage of households (21.5 percent) had an income between $100,000 and $149,999; approximately 3.7 percent of households had an annual income of less than $15,000. Two or more races are the second largest racial group (3.6 percent).

Table 2.59: City of New Franklin Population by Age 2021 ACS 5-Year Estimates

Age	Number	Percentage
Total Population	13,913	100%
Under 18 Years	2,529	18.2%
18 to 24 Years	750	5.4%
25 to 34 Years	1,744	12.6%
35 to 44 Years	1,376	9.9%
45 to 54 Years	1,994	14.4%
55 to 64 Years	2,549	18.3%
65 Years and More	2,971	21.4%

Table 2.60: City of New Franklin Housing Statistics 2021 ACS 5-Year Estimates

Housing Statistics	Number	Percentage
Total Housing Units	5,984	100%
Occupied Housing Units	5,614	93.8%
Occupied Housing Units - Mobile Homes*	167	2.8%
Vacant Housing Units	370	6.2%

Table 2.61: City of New Franklin Household Statistics 2021 ACS 5-Year Estimates

Household Statistics	Number	Percentage
Total Households	5,614	-
Average Household Size	2.46	-
Households with People Under 18 Years	1,438	25.6%
Households with People 65+ Years	1,983	35.3%
Householder Living Alone 65+ Years	441	7.8%
No Vehicle Available	123	2.2%
With a broadband Internet subscription	5,012	89.3%

Table 2.62: City of New Franklin Race and Ethnicity Statistics 2021 ACS 5-Year Estimates

Race and Ethnicity	Number	Percentage
Total Population	13,913	100%
White	13,234	95.1%
Black or African American	120	0.9%
American Indian or Alaska Native	0	0.0%
Asian	0	0.0%
Native Hawaiian or Pacific Islander	0	0.0%
Other (one race)	53	0.4%
Two or More Races	506	3.6%
Hispanic or Latino (of any race)	67	0.5%

Table 2.63: City of New Franklin Language Spoken at Home Statistics 2021 ACS 5-Year Estimates

Language Statistics	Number	Percentage
Total Population	13,913	100%
English only	12,976	98.5%
Spanish	15	0.1%
Asian and Pacific Islander languages	0	0.0%
Other languages	9	0.1%

Table 2.64: City of New Franklin Income Statistics 2021 ACS 5-Year Estimates

Household Income Statistics	Percentage of Households
Less than $10,000	1.9%
$10,000 to $14,999	1.8%
$15,000 to $24,999	4.4%
$25,000 to $34,999	6.3%
$35,000 to $49,999	13.0%
$50,000 to $74,999	18.7%
$75,000 to $99,999	17.3%
$100,000 to $149,999	21.5%
$150,000 to $199,999	10.3%
$200,000 or more	4.7%
Median Household Income	$80,357
Mean Household Income	$91,438

City of Norton

Tables 2.65 to 2.70 summarize the City of Norton's population, housing statistics, and income statistics. For housing units, the city had a vacancy rate of 6.6 percent. There are 4,713 households with an average size of 2.48 people and 25.5 percent have at least one member under 18 years of age. The largest percentage of households (22.9 percent) had an income between $100,000 and $149,999; approximately 6.1 percent of households had an annual income of less than $15,000. Black and African American is the second largest race (3.0 percent).

Table 2.65: City of Norton Population by Age 2021 ACS 5-Year Estimates

Age	Number	Percentage
Total Population	11,697	100%
Under 18 Years	2,280	19.5%
18 to 24 Years	926	7.9%
25 to 34 Years	1202.00	10.3%
35 to 44 Years	1,445	12.3%
45 to 54 Years	1,754	15.0%
55 to 64 Years	1,679	14.4%
65 Years and More	2,411	20.6%

Table 2.66: City of Norton Housing Statistics 2021 ACS 5-Year Estimates

Housing Statistics	Number	Percentage
Total Housing Units	5,045	100%
Occupied Housing Units	4,713	93.4%
Occupied Housing Units - Mobile Homes	76	1.5%
Vacant Housing Units	332	6.6%

Table 2.67: City of Norton Household Statistics 2021 ACS 5-Year Estimates

Household Statistics	Number	Percentage
Total Households	4,713	-
Average Household Size	2.48	-
Households with People Under 18 Years	1,201	25.5%
Households with People 65+ Years	1,642	34.8%
Householder Living Alone 65+ Years	560	11.8%
No Vehicle Available	239	5.1%
With a broadband Internet subscription	4,190	88.9%

Table 2.68: City of Norton Race and Ethnicity Statistics 2021 ACS 5-Year Estimates

Race and Ethnicity	Number	Percentage
Total Population	11,697	100%
White	10,843	92.7%
Black or African American	350	3.0%
American Indian or Alaska Native	3	0.0%
Asian	86	0.7%
Native Hawaiian or Pacific Islander	17	0.1%
Other (one race)	85	0.7%
Two or More Races	313	2.7%
Hispanic or Latino (of any race)	251	2.1%

Table 2.69: City of Norton Language Spoken at Home Statistics 2021 ACS 5-Year Estimates

Language Statistics	Number	Percentage
Total Population	11,697	100%
English only	10,797	96.5%
Spanish	182	1.6%
Asian and Pacific Islander languages	0	0.0%
Other languages	43	0.4%

Table 2.70: City of Norton Income Statistics 2021 ACS 5-Year Estimates

Household Income Statistics	Percentage of Households
Less than $10,000	3.7%
$10,000 to $14,999	2.4%
$15,000 to $24,999	5.9%
$25,000 to $34,999	7.3%
$35,000 to $49,999	10.9%
$50,000 to $74,999	19.1%
$75,000 to $99,999	15.4%
$100,000 to $149,999	22.9%
$150,000 to $199,999	7.3%
$200,000 or more	5.2%
Median Household Income	$76,513
Mean Household Income	$90,849

City of Reminderville

Tables 2.71 to 2.76 summarize the City of Reminderville's population, housing statistics, and income statistics. For housing units, the village had a vacancy rate of 4.0 percent. There are 2,196 households with an average size of 2.37 people and 31.8 percent have at least one member under 18 years of age. The largest percentage of households (27.1 percent) had an income between $100,000 and $149,999; approximately 4.2 percent of households had an annual income of less than $15,000. Asian is the second largest race (16.4 percent).

Table 2.71: City of Reminderville Population by Age 2021 ACS 5-Year Estimates

Age	Number	Percentage
Total Population	5,202	100%
Under 18 Years	1,192	22.9%
18 to 24 Years	86	1.7%
25 to 34 Years	734	14.1%
35 to 44 Years	1,090	21.0%
45 to 54 Years	660	12.7%
55 to 64 Years	621	12.0%
65 Years and More	819	15.7%

Table 2.72: City of Reminderville Housing Statistics 2021 ACS 5-Year Estimates

Housing Statistics	Number	Percentage
Total Housing Units	2,288	100%
Occupied Housing Units	2,196	96.0%
Occupied Housing Units - Mobile Homes	0	0%
Vacant Housing Units	92	4.0%

Table 2.73: City of Reminderville Household Statistics 2021 ACS 5-Year Estimates

Household Statistics	Number	Percentage
Total Households	2,196	-
Average Household Size	2.37	-
Households with People Under 18 Years	698	31.8%
Households with People 65+ Years	656	29.9%
Householder Living Alone 65+ Years	330	15.1%
No Vehicle Available	36	1.6%
With a broadband Internet subscription	2126	96.8%

Table 2.74: City of Reminderville Race and Ethnicity Statistics 2021 ACS 5-Year Estimates

Race and Ethnicity	Number	Percentage
Total Population	5,202	100%
White	3,852	74.0%
Black or African American	360	6.9%
American Indian or Alaska Native	0	0.0%
Asian	854	16.4%
Native Hawaiian or Pacific Islander	0	0.0%
Other (one race)	7	0.1%
Two or More Races	129	2.5%
Hispanic or Latino (of any race)	218	4.2%

Table 2.75: City of Reminderville Language Spoken at Home Statistics 2021 ACS 5-Year Estimates

Language Statistics	Number	Percentage
Total Population	5202	100%
English only	3,764	79.8%
Spanish	205	4.3%
Asian and Pacific Islander languages	241	5.1%
Other languages	0	0.0%

Table 2.76: City of Reminderville Income Statistics 2021 ACS 5-Year Estimates

Household Income Statistics	Percentage of Households
Less than $10,000	0.0%
$10,000 to $14,999	4.2%
$15,000 to $24,999	3.2%
$25,000 to $34,999	2.6%
$35,000 to $49,999	8.6%
$50,000 to $74,999	13.5%
$75,000 to $99,999	18.8%
$100,000 to $149,999	27.1%
$150,000 to $199,999	10.2%
$200,000 or more	11.8%
Median Household Income	$98,967
Mean Household Income	$115,430

City of Stow

Tables 2.77 to 2.82 summarize the City of Stow's population, housing statistics, and income statistics. For housing units, the city had a vacancy rate of 6.7 percent. There are 14,346 households with an average size of 2.38 people and 28.9 percent have at least one member under 18 years of age. The largest percentage of households (19.4percent) had an income between $50,000 and $74,999; approximately 7.0 percent of households had an annual income of less than $15,000. Black and African American is the second largest race (3.7 percent).

Table 2.77: City of Stow Population by Age 2021 ACS 5-Year Estimates

Age	Number	Percentage
Total Population	34,556	100%
Under 18 Years	7,057	20.4%
18 to 24 Years	3,424	9.9%
25 to 34 Years	4,381	12.7%
35 to 44 Years	4,301	12.5%
45 to 54 Years	4,548	13.2%
55 to 64 Years	4,740	13.7%
65 Years and More	6,105	17.7%

Table 2.78: City of Stow Housing Statistics 2021 ACS 5-Year Estimates

Housing Statistics	Number	Percentage
Total Housing Units	15,384	100%
Occupied Housing Units	14,346	93.3%
Occupied Housing Units - Mobile Homes	60	0.4%
Vacant Housing Units	1,038	6.7%

Table 2.79: City of Stow Household Statistics 2021 ACS 5-Year Estimates

Household Statistics	Number	Percentage
Total Households	14,346	-
Average Household Size	2.38	-
Households with People Under 18 Years	4,150	28.9%
Households with People 65+ Years	4,078	28.4%
Householder Living Alone 65+ Years	1,536	10.7%
No Vehicle Available	691	4.8%
With a broadband Internet subscription	13,314	92.8%

Table 2.80: City of Stow Race and Ethnicity Statistics 2021 ACS 5-Year Estimates

Race and Ethnicity	Number	Percentage
Total Population	34,556	100%
White	30,760	89.0%
Black or African American	1,292	3.7%
American Indian or Alaska Native	52	0.2%
Asian	1,140	3.3%
Native Hawaiian or Pacific Islander	0	0.0%
Other (one race)	54	0.2%
Two or More Races	1,258	3.6%
Hispanic or Latino (of any race)	257	0.7%

Table 2.81: City of Stow Language Spoken at Home Statistics 2021 ACS 5-Year Estimates

Language Statistics	Number	Percentage
Total Population	34,556	100%
English only	30,866	94.4%
Spanish	179	0.5%
Asian and Pacific Islander languages	598	1.8%
Other languages	659	2.0%

Table 2.82: City of Stow Income Statistics 2021 ACS 5-Year Estimates

Household Income Statistics	Percentage of Households
Less than $10,000	3.5%
$10,000 to $14,999	3.5%
$15,000 to $24,999	4.0%
$25,000 to $34,999	6.8%
$35,000 to $49,999	10.3%
$50,000 to $74,999	19.4%
$75,000 to $99,999	16.2%
$100,000 to $149,999	19.1%
$150,000 to $199,999	7.7%
$200,000 or more	9.4%
Median Household Income	$80,523
Mean Household Income	$98,410

City of Tallmadge

Tables 2.83 to 2.88 summarize the City of Tallmadge's population, housing statistics, and income statistics. For housing units, the city had a vacancy rate of 2.9 percent. There are 7,443 households with an average size of 2.45 people and 24.2 percent have at least one member under 18 years of age. The largest percentage of households (25.0 percent) had an income between $100,000 and $149,999; approximately 5.8 percent of households had an annual income of less than $15,000. Black and African American is the second largest race (4.8 percent).

Table 2.83: City of Tallmadge Population by Age 2021 ACS 5-Year Estimates

Age	Number	Percentage
Total Population	18,029	100%
Under 18 Years	3,313	18.4%
18 to 24 Years	1,191	6.6%
25 to 34 Years	2,056	11.5%
35 to 44 Years	2,034	11.3%
45 to 54 Years	2,095	11.6%
55 to 64 Years	3,186	17.7%
65 Years and More	4,154	23.0%

Table 2.84: City of Tallmadge Housing Statistics 2021 ACS 5-Year Estimates

Housing Statistics	Number	Percentage
Total Housing Units	7,443	100%
Occupied Housing Units	7,227	97.1%
Occupied Housing Units - Mobile Homes	70	0.9%
Vacant Housing Units	216	2.9%

Table 2.85: City of Tallmadge Household Statistics 2021 ACS 5-Year Estimates

Household Statistics	Number	Percentage
Total Households	7,227	-
Average Household Size	2.45	-
Households with People Under 18 Years	1,748	24.2%
Households with People 65+ Years	2,676	37.0%
Householder Living Alone 65+ Years	1,006	13.9%
No Vehicle Available	250	3.5%
With a broadband Internet subscription	6,457	89.3%

Table 2.86: City of Tallmadge Race and Ethnicity Statistics 2021 ACS 5-Year Estimates

Race and Ethnicity	Number	Percentage
Total Population	18,029	100%
White	15,971	88.6%
Black or African American	873	4.8%
American Indian or Alaska Native	0	0.0%
Asian	756	4.2%
Native Hawaiian or Pacific Islander	0	0.0%
Other (one race)	25	0.1%
Two or More Races	404	2.2%
Hispanic or Latino (of any race)	93	0.5%

Table 2.87: City of Tallmadge Language Spoken at Home Statistics 2021 ACS 5-Year Estimates

Language Statistics	Number	Percentage
Total Population	18,029	100%
English only	16,197	94.4%
Spanish	67	0.4%
Asian and Pacific Islander languages	62	0.4%
Other languages	67	0.4%

Table 2.88: City of Tallmadge Income Statistics 2021 ACS 5-Year Estimates

Household Income Statistics	Percentage of Households
Less than $10,000	3.5%
$10,000 to $14,999	2.3%
$15,000 to $24,999	6.0%
$25,000 to $34,999	6.9%
$35,000 to $49,999	11.2%
$50,000 to $74,999	16.4%
$75,000 to $99,999	16.7%
$100,000 to $149,999	25.0%
$150,000 to $199,999	7.4%
$200,000 or more	4.6%
Median Household Income	$78,919
Mean Household Income	$88,311

City of Twinsburg

Tables 2.89 to 2.94 summarize the City of Twinsburg's population, housing statistics, and income statistics. For housing units, the city had a vacancy rate of 2.7 percent. There are 7,858 households with an average size of 2.43 people and 33.8 percent have at least one member under 18 years of age. The largest percentage of households (23.1 percent) had an income between $75,000 and $99,999; approximately 9.3 percent of households had an annual income of less than $15,000. Two or more races are the second largest racial group (2.3 percent).

Table 2.89: City of Twinsburg Population by Age 2021 ACS 5-Year Estimates

Age	Number	Percentage
Total Population	19,220	100%
Under 18 Years	4,494	23.4%
18 to 24 Years	1,189	6.2%
25 to 34 Years	1,805	9.4%
35 to 44 Years	2,422	12.6%
45 to 54 Years	2,902	15.1%
55 to 64 Years	2,767	14.4%
65 Years and More	3,641	18.9%

Table 2.90: City of Twinsburg Housing Statistics 2021 ACS 5-Year Estimates

Housing Statistics	Number	Percentage
Total Housing Units	8,075	100%
Occupied Housing Units	7,858	97.3%
Occupied Housing Units - Mobile Homes	0	0.0%
Vacant Housing Units	217	2.7%

Table 2.91: City of Twinsburg Household Statistics 2021 ACS 5-Year Estimates

Household Statistics	Number	Percentage
Total Households	7,858	-
Average Household Size	2.43	-
Households with People Under 18 Years	2,653	33.8%
Households with People 65+ Years	2,523	32.1%
Householder Living Alone 65+ Years	1,163	14.8%
No Vehicle Available	341	4.3%
With a broadband Internet subscription	7,204	91.7%

Table 2.92: City of Twinsburg Race and Ethnicity Statistics 2021 ACS 5-Year Estimates

Race and Ethnicity	Number	Percentage
Total Population	19,220	100%
White	13,859	72.1%
Black or African American	3,394	17.7%
American Indian or Alaska Native	21	0.1%
Asian	1,124	5.8%
Native Hawaiian or Pacific Islander	0	0.0%
Other (one race)	177	0.9%
Two or More Races	645	3.4%
Hispanic or Latino (of any race)	645	3.4%

Table 2.93: City of Twinsburg Language Spoken at Home Statistics 2021 ACS 5-Year Estimates

Language Statistics	Number	Percentage
Total Population	19,220	100%
English only	16,827	92.6%
Spanish	170	0.9%
Asian and Pacific Islander languages	225	1.2%
Other languages	79	0.4%

Table 2.94: City of Twinsburg Income Statistics 2021 ACS 5-Year Estimates

Household Income Statistics	Percentage of Households
Less than $10,000	1.6%
$10,000 to $14,999	7.7%
$15,000 to $24,999	4.1%
$25,000 to $34,999	9.8%
$35,000 to $49,999	3.9%
$50,000 to $74,999	18.5%
$75,000 to $99,999	23.3%
$100,000 to $149,999	21.6%
$150,000 to $199,999	1.7%
$200,000 or more	7.7%
Median Household Income	$79,758
Mean Household Income	$85,577

Village of Boston Heights

Tables 2.95 to 2.100 summarize the Village of Boston Heights' population, housing statistics, and income statistics. For housing units, the village had a vacancy rate of 5.0 percent. There are 513 households with an average size of 2.45 people and 22.8 percent have at least one member under 18 years of age. The largest percentage of households (24.2 percent) had an income between of $200,000 or above; approximately 1.9 percent of households had an annual income of less than $15,000. Asian is the second largest race (2.9 percent).

Table 2.95: Village of Boston Heights Population by Age 2021 ACS 5-Year Estimates

Age	Number	Percentage
Total Population	1257	100.0%
Under 18 Years	235	18.7%
18 to 24 Years	88	7.0%
25 to 34 Years	85	6.8%
35 to 44 Years	148	11.8%
45 to 54 Years	198	15.7%
55 to 64 Years	260	20.6%
65 Years and Over	243	19.3%

Table 2.96: Village of Boston Heights Housing Statistics 2021 ACS 5-Year Estimates

Housing Statistics	Number	Percentage
Total Housing Units	540	100%
Occupied Housing Units	513	95.0%
Housing Units - Mobile Homes	0	0.0%
Vacant Housing Units	27	5.0%

Table 2.97: Village of Boston Heights Household Statistics 2021 ACS 5-Year Estimates

Household Statistics	Number	Percentage
Total Households	513	-
Average Household Size	2.45	-
Households with People Under 18 Years	117	22.8%
Households with People 65+ Years	159	31.0%
Householder Living Alone 65+ Years	25	4.8%
No Vehicle Available	0	0.0%
With a broadband Internet subscription	492	95.9%

Table 2.98: Village of Boston Heights Race and Ethnicity Statistics 2021 ACS 5-Year Estimates

Race and Ethnicity	Number	Percentage
Total Population	1,257	100%
White	1,182	94.0%
Black or African American	12	1.0%
American Indian or Alaska Native	0	0.0%
Asian	36	2.9%
Native Hawaiian or Pacific Islander	0	0.0%
Some Other Race (One Race)	0	0.0%
Two or More Races	27	2.1%
Hispanic or Latino (of any race)	9	0.7%

Table 2.99: Village of Boston Heights Language Spoken at Home Statistics 2021 ACS 5-Year Estimates

Language Statistics	Number	Percentage
Total Population	1,257	100%
English only	1,113	93.8%
Spanish	6	0.5%
Asian and Pacific Islander languages	13	1.1%
Other languages	15	1.3%

Table 2.100: Village of Boston Heights Income Statistics 2021 ACS 5-Year Estimates

Household Income Statistics	Percentage of Households
Less than $10,000	1.9%
$10,000 to $14,999	0.0%
$15,000 to $24,999	1.2%
$25,000 to $34,999	8.8%
$35,000 to $49,999	10.1%
$50,000 to $74,999	8.2%
$75,000 to $99,999	16.2%
$100,000 to $149,999	18.1%
$150,000 to $199,999	11.3%
$200,000 or more	24.2%
Median Household Income	$101,927
Mean Household Income	$189,198

Village of Clinton

Tables 2.101 to 2.106 summarize the Village of Clinton's population, housing statistics, and income statistics. For housing units, the village had a vacancy rate of 7.1 percent. There are 497 households with an average size of 2.46 people and 21.3 percent have at least one member under 18 years of age. The largest percentage of households (22.9 percent) had an income between $50,000 and $74,999; approximately 4.46 percent of households had an annual income of less than $15,000. People that identify as other race are the second largest racial group (1.4 percent).

Table 2.101: Village of Clinton Population by Age 2021 ACS 5-Year Estimates

Age	Number	Percentage
Total Population	1222	100%
Under 18 Years	196	16.0%
18 to 24 Years	105	8.6%
25 to 34 Years	120	9.8%
35 to 44 Years	145	11.8%
45 to 54 Years	209	17.1%
55 to 64 Years	251	20.5%
65 Years and Over	196	16.0%

Table 2.102: Village of Clinton Housing Statistics 2021 ACS 5-Year Estimates

Housing Statistics	Number	Percentage
Total Housing Units	535	100%
Occupied Housing Units	497	92.9%
Housing Units - Mobile Homes	0	0.0%
Vacant Housing Units	38	7.1%

Table 2.103: Village of Clinton Household Statistics 2021 ACS 5-Year Estimates

Household Statistics	Number	Percentage
Total Households	497	-
Average Household Size	2.46	-
Households with People Under 18 Years	106	21.3%
Households with People 65+ Years	170	34.2%
Householder Living Alone 65+ Years	70	14.1%
No Vehicle Available	4	0.8%
With a broadband Internet subscription	465	93.6%

Table 2.104: Village of Clinton Race and Ethnicity Statistics 2021 ACS 5-Year Estimates

Race and Ethnicity	Number	Percentage
Total Population	1,222	100%
White	1,205	98.6%
Black or African American	0	0.0%
American Indian or Alaska Native	0	0.0%
Asian	0	0.0%
Native Hawaiian or Pacific Islander	0	0.0%
Some Other Race (One Race)	0	0.0%
Two or More Races	17	1.4%
Hispanic or Latino (of any race)	0	0.0%

Table 2.105: Village of Clinton Language Spoken at Home Statistics 2021 ACS 5-Year Estimates

Language Statistics	Number	Percentage
Total Population	1,222	100%
English only	1,163	98.9%
Spanish	6	0.5%
Asian and Pacific Islander languages	0	0.0%
Other languages	7	0.6%

Table 2.106: Village of Clinton Income Statistics 2021 ACS 5-Year Estimates

Household Income Statistics	Percentage of Households
Less than $10,000	2.6%
$10,000 to $14,999	1.8%
$15,000 to $24,999	5.6%
$25,000 to $34,999	8.7%
$35,000 to $49,999	8.5%
$50,000 to $74,999	22.9%
$75,000 to $99,999	15.9%
$100,000 to $149,999	17.9%
$150,000 to $199,999	9.1%
$200,000 or more	7.0%
Median Household Income	$74,955
Mean Household Income	$96,093

Village of Lakemore

Tables 2.107 to 2.112 summarize the Village of Lakemore's population, housing statistics, and income statistics. For housing units, the village had a vacancy rate of 14.9 percent. There are 1,309 households with an average size of 2.24 people and 26.1 percent have at least one member under 18 years of age. The largest percentage of households (25.1 percent) had an income between $35,000 and $49,999; approximately 9.5 percent of households had an annual income of less than $15,000. People that identify as other race are the second largest racial group (5.2 percent).

Table 2.107: Village of Lakemore Population by Age 2021 ACS 5-Year Estimates

Age	Number	Percentage
Total Population	2,944	100.0%
Under 18 Years	582	19.8%
18 to 24 Years	151	5.1%
25 to 34 Years	217	7.4%
35 to 44 Years	346	11.8%
45 to 54 Years	424	14.4%
55 to 64 Years	499	17.0%
65 Years and Over	725	24.6%

Table 2.108: Village of Lakemore Housing Statistics 2021 ACS 5-Year Estimates

Housing Statistics	Number	Percentage
Total Housing Units	1,539	100%
Occupied Housing Units	1,309	85.1%
Housing Units - Mobile Homes	0	0.0%
Vacant Housing Units	230	14.9%

Table 2.109: Village of Boston Heights Household Statistics 2021 ACS 5-Year Estimates

Household Statistics	Number	Percentage
Total Households	1,309	-
Average Household Size	2.24	-
Households with People Under 18 Years	341	26.1%
Households with People 65+ Years	521	39.8%
Householder Living Alone 65+ Years	223	17.0%
No Vehicle Available	45	3.4%
With a broadband Internet subscription	1175	89.8%

Table 2.110: Village of Lakemore Race and Ethnicity Statistics 2021 ACS 5-Year Estimates

Race and Ethnicity	Number	Percentage
Total Population	2,944	100%
White	2,546	86.5%
Black or African American	138	4.7%
American Indian or Alaska Native	12	0.4%
Asian	96	3.3%
Native Hawaiian or Pacific Islander	0	0.0%
Some Other Race (One Race)	0	0.0%
Two or More Races	152	5.2%
Hispanic or Latino (of any race)	110	3.7%

Table 2.111: Village of Lakemore Language Spoken at Home Statistics 2021 ACS 5-Year Estimates

Language Statistics	Number	Percentage
Total Population	2,944	100%
English only	2,781	95.9%
Spanish	0	0.0%
Asian and Pacific Islander languages	96	3.3%
Other languages	0	0.0%

Table 2.112: Village of Lakemore Income Statistics 2021 ACS 5-Year Estimates

Household Income Statistics	Percentage of Households
Less than $10,000	5.3%
$10,000 to $14,999	4.2%
$15,000 to $24,999	6.6%
$25,000 to $34,999	6.0%
$35,000 to $49,999	25.1%
$50,000 to $74,999	21.2%
$75,000 to $99,999	20.2%
$100,000 to $149,999	8.9%
$150,000 to $199,999	1.1%
$200,000 or more	1.4%
Median Household Income	$51,825
Mean Household Income	$60,490

Village of Mogadore

Tables 2.113 to 2.118 summarize the Village of Mogadore's population, housing statistics, and income statistics. For housing units, the village had a vacancy rate of 0.8 percent. There are 1,042 households with an average size of 2.67 people and 31.7 percent have at least one member under 18 years of age. The largest percentage of households (27.4 percent) had an income between $75,000 and $99,999; approximately 0.8 percent of households had an annual income of less than $15,000. Hispanics or Latinos are the second largest ethnicity (3.0 percent).

Table 2.113: Village of Mogadore Population by Age 2021 ACS 5-Year Estimates

Age	Number	Percentage
Total Population	2794	100.0%
Under 18 Years	662	23.7%
18 to 24 Years	287	10.3%
25 to 34 Years	389	13.9%
35 to 44 Years	395	14.1%
45 to 54 Years	333	11.9%
55 to 64 Years	269	9.6%
65 Years and Over	459	16.4%

Table 2.114: Village of Mogadore Housing Statistics 2021 ACS 5-Year Estimates

Housing Statistics	Number	Percentage
Total Housing Units	1,050	100%
Occupied Housing Units	1,042	99.2%
Housing Units - Mobile Homes	0	0.0%
Vacant Housing Units	8	0.8%

Table 2.115: Village of Mogadore Household Statistics 2021 ACS 5-Year Estimates

Household Statistics	Number	Percentage
Total Households	1,042	-
Average Household Size	2.67	-
Households with People Under 18 Years	330	31.7%
Households with People 65+ Years	319	30.6%
Householder Living Alone 65+ Years	96	9.3%
No Vehicle Available	22	2.1%
With a broadband Internet subscription	934	89.6%

Table 2.116: Village of Mogadore Race and Ethnicity Statistics 2021 ACS 5-Year Estimates

Race and Ethnicity	Number	Percentage
Total Population	2,794	100%
White	2,740	98.1%
Black or African American	0	0.0%
American Indian or Alaska Native	0	0.0%
Asian	0	0.0%
Native Hawaiian or Pacific Islander	0	0.0%
Some Other Race (One Race)	36	1.3%
Two or More Races	18	0.6%
Hispanic or Latino (of any race)	84	3.0%

Table 2.117: Village of Mogadore Language Spoken at Home Statistics 2021 ACS 5-Year Estimates

Language Statistics	Number	Percentage
Total Population	2,794	100%
English only	2,663	100%
Spanish	0	0.0%
Asian and Pacific Islander languages	0	0.0%
Other languages	0	0.0%

Table 2.118: Village of Mogadore Income Statistics 2021 ACS 5-Year Estimates

Household Income Statistics	Percentage of Households
Less than $10,000	0.0%
$10,000 to $14,999	0.8%
$15,000 to $24,999	6.3%
$25,000 to $34,999	8.4%
$35,000 to $49,999	7.6%
$50,000 to $74,999	22.7%
$75,000 to $99,999	27.4%
$100,000 to $149,999	20.7%
$150,000 to $199,999	3.9%
$200,000 or more	2.1%
Median Household Income	76,086
Mean Household Income	80,806

Village of Northfield

Tables 2.119 to 2.124 summarize the Village of Northfield's population, housing statistics, and income statistics. For housing units, the village had a vacancy rate of 4.4 percent. There are 1,400 households with an average size of 2.54 people and 32.4 percent have at least one member under 18 years of age. The largest percentage of households (24.9 percent) had an income between $50,000 and $74,999; approximately 7.1 percent of households had an annual income of less than $15,000. Black and African American is the second largest race (11.7 percent).

Table 2.119: Village of Northfield Population by Age 2021 ACS 5-Year Estimates

Age	Number	Percentage
Total Population	3550	100.0%
Under 18 Years	842	23.7%
18 to 24 Years	130	3.7%
25 to 34 Years	517	14.6%
35 to 44 Years	562	15.8%
45 to 54 Years	478	13.4%
55 to 64 Years	483	13.6%
65 Years and Over	538	15.2%

Table 2.120: Village of Northfield Housing Statistics 2021 ACS 5-Year Estimates

Housing Statistics	Number	Percentage
Total Housing Units	1,465	100%
Occupied Housing Units	1,400	95.6%
Housing Units - Mobile Homes	15	1.0%
Vacant Housing Units	65	4.4%

Table 2.121: Village of Northfield Household Statistics 2021 ACS 5-Year Estimates

Household Statistics	Number	Percentage
Total Households	1,400	-
Average Household Size	2.54	-
Households with People Under 18 Years	454	32.4%
Households with People 65+ Years	401	28.6%
Householder Living Alone 65+ Years	150	10.7%
No Vehicle Available	42	3.0%
With a broadband Internet subscription	1213	86.6%

Table 2.122: Village of Northfield Race and Ethnicity Statistics 2021 ACS 5-Year Estimates

Race and Ethnicity	Number	Percentage
Total Population	3,550	100%
White	2,702	76.1%
Black or African American	417	11.7%
American Indian or Alaska Native	33	0.9%
Asian	315	8.9%
Native Hawaiian or Pacific Islander	0	0.0%
Some Other Race (One Race)	0	0.0%
Two or More Races	83	2.3%
Hispanic or Latino (of any race)	51	1.4%

Table 2.123: Village of Northfield Language Spoken at Home Statistics 2021 ACS 5-Year Estimates

Language Statistics	Number	Percentage
Total Population	3,550	100%
English only	2,987	89.5%
Spanish	56	1.7%
Asian and Pacific Islander languages	27	0.8%
Other languages	0	0.0%

Table 2.124: Village of Northfield Income Statistics 2021 ACS 5-Year Estimates

Household Income Statistics	Percentage of Households
Less than $10,000	4.0%
$10,000 to $14,999	3.1%
$15,000 to $24,999	6.9%
$25,000 to $34,999	9.4%
$35,000 to $49,999	15.4%
$50,000 to $74,999	24.9%
$75,000 to $99,999	15.2%
$100,000 to $149,999	14.6%
$150,000 to $199,999	6.6%
$200,000 or more	0.0%
Median Household Income	$64,909
Mean Household Income	$69,548

Village of Silver Lake

Tables 2.125 to 2.130 summarize the Village of Silver Lake's population, housing statistics, and income statistics. For housing units, the village had a vacancy rate of 10.9 percent. There are 960 households with an average size of 2.67 people and 25.3 percent have at least one member under 18 years of age. The largest percentage of households (24.2 percent) had an income of $200,000 and above; approximately 3.2 percent of households had an annual income of less than $15,000. People that identify as two or more races are the second largest race (4.4 percent).

Table 2.125: Village of Silver Lake Population by Age 2021 ACS 5-Year Estimates

Age	Number	Percentage
Total Population	2,569	100.0%
Under 18 Years	496	19.3%
18 to 24 Years	168	6.5%
25 to 34 Years	140	5.5%
35 to 44 Years	278	10.8%
45 to 54 Years	305	11.8%
55 to 64 Years	520	20.3%
65 Years and Over	662	25.8%

Table 2.126: Village of Silver Lake Housing Statistics 2021 ACS 5-Year Estimates

Housing Statistics	Number	Percentage
Total Housing Units	1,077	100%
Occupied Housing Units	960	89.1%
Housing Units - Mobile Homes	0	0.0%
Vacant Housing Units	117	10.9%

Table 2.127: Village of Silver Lake Household Statistics 2021 ACS 5-Year Estimates

Household Statistics	Number	Percentage
Total Households	960	-
Average Household Size	2.67	-
Households with People Under 18 Years	243	25.3%
Households with People 65+ Years	430	44.8%
Householder Living Alone 65+ Years	109	11.3%
No Vehicle Available	13	1.4%
With a broadband Internet subscription	907	94.5%

Table 2.128: Village of Silver Lake Race and Ethnicity Statistics 2021 ACS 5-Year Estimates

Race and Ethnicity	Number	Percentage
Total Population	2,569	100%
White	2,381	92.7%
Black or African American	67	2.6%
American Indian or Alaska Native	0	0.0%
Asian	7	0.3%
Native Hawaiian or Pacific Islander	0	0.0%
Some Other Race (One Race)	0	0.0%
Two or More Races	114	4.4%
Hispanic or Latino (of any race)	7	0.3%

Table 2.129: Village of Silver Lake Language Spoken at Home Statistics 2021 ACS 5-Year Estimates

Language Statistics	Number	Percentage
Total Population	2,569	100%
English only	2,467	98.1%
Spanish	6	0.2%
Asian and Pacific Islander languages	4	0.2%
Other languages	5	0.2%

Table 2.130: Village of Silver Lake Income Statistics 2021 ACS 5-Year Estimates

Household Income Statistics	Percentage of Households
Less than $10,000	2.1%
$10,000 to $14,999	1.1%
$15,000 to $24,999	3.1%
$25,000 to $34,999	3.5%
$35,000 to $49,999	8.2%
$50,000 to $74,999	10.4%
$75,000 to $99,999	11.1%
$100,000 to $149,999	22.4%
$150,000 to $199,999	13.8%
$200,000 or more	24.2%
Median Household Income	$124,286
Mean Household Income	$162,046

3 | Planning Process

3.1 Methodology

The Planning Process chapter describes the steps involved in the development of the 2023 Summit County Hazard Mitigation Plan, including details about who participated, how community involvement was organized and promoted throughout the community, what hazards were included in the Plan and why, as well as how stakeholder involvement played a critical role in the planning process. This chapter also explains how the Core Planning Committee was formed and how member feedback contributed to the updating of the County's Hazard Mitigation Plan.

3.2 Existing Plans & Regulations

Summit County and the State of Ohio maintain several plans and tools that were pertinent to reference in the development of the 2023 Hazard Mitigation Plan, including:

- 2018 Summit County Natural Hazards Mitigation Plan
- 2019 State of Ohio Hazard Mitigation Plan (SOHMP)
- Summit County Subdivision Regulations
- Zoning Regulations for all Townships

3.3 Summit County Authority to Adopt Plan

The Summit County Board of Commissioners are elected at large for four-year terms. The board members are the budgeting, appropriating, taxing, and purchasing authority. The Summit County Planning Commission was established by the Summit County Board of Commissioners in conformance with Section 713.21 of the Ohio Revised Code. The authority to adopt plans comes from statutory law and from Chapter 307 of the Ohio Revised Code. **Table 3.1** lists the existing authorities and regulations in place in Summit County and its municipalities.

Table 3.1: Existing Authorities and Regulations in Summit County's Municipalities

Community	Planning Commission	Comprehensive Plan	Floodplain Regulation	Building Codes*	Zoning Codes	Capital Budget	Public Works Budget
Summit County	Yes	Yes	Yes	Yes	Yes	Yes	Limited in-kind wages only
City of Akron	No	Yes	Yes	Yes	Yes	Yes	Limited in-kind wages only
City of Barberton	Yes	Yes	Yes	Yes	Yes	Yes	Limited in-kind wages only
City of Cuyahoga Falls	Yes	Yes	Yes	Yes	Yes	Yes	Limited in-kind wages only

Community	Planning Commission	Comprehensive Plan	Floodplain Regulation	Building Codes*	Zoning Codes	Capital Budget	Public Works Budget
City of Fairlawn	Yes	Yes	Yes	Yes	Yes	Yes	Limited in-kind wages only
City of Green	Yes	Yes	Yes	Yes	Yes	Yes	Limited in-kind wages only
City of Hudson	Yes	Yes	Yes	Yes	Yes	Yes	Limited in-kind wages only
City of Macedonia	Yes	Yes	Yes	Yes	Yes	Yes	Limited in-kind wages only
City of Munroe Falls	Yes	Yes	Yes	Yes	Yes	(None)	Limited in-kind wages only
City of New Franklin	Yes	Yes	Yes	Yes	Yes	Yes	Limited in-kind wages only
City of Norton	Yes	Yes	Yes	Yes	Yes	Yes	Limited in-kind wages only
City of Reminderville	Yes	Yes	Yes	Yes	No	Yes	Limited in-kind wages only
City of Stow	Yes	Yes	Yes	Yes	Yes	Yes	Limited in-kind wages only
City of Tallmadge	Yes	Yes	Yes	Yes	Yes	Yes	Limited in-kind wages only

Community	Planning Commission	Comprehensive Plan	Floodplain Regulation	Building Codes*	Zoning Codes	Capital Budget	Public Works Budget
City of Twinsburg	Yes	Yes	Yes	Yes	Yes	Yes	Limited in-kind wages only
Village of Boston Heights	Yes	Yes	Yes	Yes	Yes	(none)	Limited in-kind wages only
Village of Clinton	Yes	Yes	Yes	Yes	Yes	(none)	Limited in-kind wages only
Village of Lakemore	Yes	No	Yes	Yes	Yes	(none)	Limited in-kind wages only
Village of Mogadore	Yes	No	Yes	Yes	Yes	(none)	Limited in-kind wages only
Village of Northfield	Yes	Yes	No	Yes	Yes	(none)	Limited in-kind wages only
Village of Peninsula	Yes	Yes	Yes	Yes	Yes	(none)	Limited in-kind wages only
Village of Richfield	Yes	Yes	Yes	Yes	Yes	(none)	Limited in-kind wages only
Village of Silver Lake	Yes	No	Yes	Yes	Yes	(none)	Limited in-kind wages only

* All jurisdictions within the state now follow the State Building Code (Ohio Administrative Code 4101:1)

3.4 Notification Process

Core Planning Committee members were invited to participate at the beginning of the planning process through a Kickoff Meeting announcement. Prior to each additional meeting, members of the Core

Planning Committee were invited to participate via an email notification. Representatives from the following entities were invited to participate in the planning process. Additionally, **Table 3.2** lists the participating jurisdictions and representatives and how they participated.

Summit County

- Summit County EMA
- Summit County Engineer
- Summit County Health Department
- Summit County Sheriff
- Summit Soil and Water Conservation District
- Summit County Metro Parks

City and Village Members

- City of Akron
- City of Barberton
- City of Cuyahoga Falls
- City of Fairlawn
- City of Green
- City of Hudson
- City of Macedonia
- City of Munroe Falls
- City of New Franklin
- City of Norton
- City of Reminderville
- City Stow
- City of Tallmadge
- City of Twinsburg
- Village of Boston Heights
- Village of Clinton
- Village of Lakemore
- Village of Mogadore
- Village of Northfield
- Village of Peninsula
- Village of Richfield
- Village of Silver Lake

Township Members

- Bath Township
- Boston Township
- Copley Township
- Coventry Township
- Northfield Township
- Richfield Township
- Sagamore Hills Township
- Springfield Township
- Twinsburg Township

Local Schools and Universities

- Akron Public Schools
- The University of Akron

Other Organizations

- Akron-Canton Airport
- Akron Metropolitan Area Transportation Study
- American Red Cross
- Cleveland Clinic
- Dominion Energy
- Medina County EMA
- Portage County
- Wayne County EMA
- Akron Childrens
- AHM Advisors

Table 3.2: Participating Jurisdictions

Community/Organization	Surveys Completed			Meetings Attended		
	Goals & Hazard Priorities	Previous Mitigation Actions	New Mitigation Actions	1	2	Other
County						
Summit County	✓	✓	✓	✓	✓	
Summit County EMA	✓	✓		✓	✓	
Summit County Metro Parks			✓		✓	
Summit County Engineer	✓	✓	✓	✓	✓	
Summit County Public Health	✓	✓	✓	✓	✓	
Summit County Sheriff	✓	✓	✓	✓	✓	
Summit County SWCD	✓	✓	✓	✓	✓	
Jurisdictions						
City of Akron	✓	✓	✓	✓	✓	
City of Barberton	✓	✓	✓	✓	✓	
City of Cuyahoga Falls	✓	✓	✓		✓	
City of Fairlawn	✓	✓	✓	✓	✓	
City of Green	✓	✓	✓		✓	
City of Hudson	✓	✓	✓	✓	✓	
City of Macedonia	✓	✓	✓	✓		
City of Munroe Falls	✓	✓	✓	✓		
City of New Franklin	✓	✓	✓	✓	✓	
City of Norton	✓	✓	✓		✓	
City of Reminderville	✓	✓	✓	✓		
City Stow	✓	✓	✓	✓	✓	
City of Tallmadge	✓	✓	✓	✓	✓	
City of Twinsburg	✓	✓	✓	✓	✓	
Village of Boston Heights	✓	✓	✓	✓	✓	
Village of Clinton	✓	✓	✓	✓	✓	
Village of Lakemore		✓	✓		✓	

Community/Organization	Surveys Completed			Meetings Attended		
	Goals & Hazard Priorities	Previous Mitigation Actions	New Mitigation Actions	1	2	Other
Village of Mogadore	✓	✓	✓	✓		
Village of Northfield	✓	✓	✓	✓		
Village of Peninsula		✓	✓			✓
Village of Richfield	✓	✓	✓	✓	✓	
Village of Silver Lake	✓	✓	✓	✓		✓
Other						
Akron-Canton Airport	✓			✓		
Akron Children			✓		✓	
Akron Schools	✓		✓	✓	✓	
Akron Metro Area Transportation	✓					
American Red Cross	✓		✓	✓	✓	
Cleveland Clinic	✓		✓	✓		
Dominion Energy	✓			✓		
Bath Township	✓	✓	✓	✓	✓	
Boston Township		✓				✓
Copley Township	✓	✓	✓	✓	✓	
Coventry Township		✓		✓		
Northfield Center Township	✓	✓	✓	✓		
Richfield Township	✓	✓	✓			
Sagamore Hills Township	✓		✓	✓	✓	
Twinsburg Township		✓	✓	✓		
Medina County EMA	✓			✓	✓	
Portage County	✓			✓		
Wayne County EMA	✓	✓				✓
The University of Akron	✓	✓	✓	✓	✓	

*If representatives were unable to attend the virtual Core Planning Committee meetings, they participated via "Other" formats, including online surveys, as documented in **Appendix G**.

3.5 Meetings

The following section details the meetings that took place during the planning process. Documentation of each meeting, including newspaper postings, email announcements and attachments, meeting materials, and completed surveys, can be found in **Appendix G**.

Core Planning Committee Kick-off

A Kickoff Announcement was emailed to stakeholders on November 3, 2022, inviting them to participate in the 2023 Summit County Hazard Mitigation Plan update process as part of the Core Planning Committee. All kickoff materials were made available on the project's website (http://www.burtonplanning.com/Summit-hmp).

The Announcement outlined the following details regarding the planning process:

- Goals of the Hazard Mitigation Plan.
- A summary of who is involved in the planning process.
- Federal requirements of the hazard mitigation planning process.
- An overview of the hazard mitigation planning process.
- The proposed schedule for the Summit County Plan update.
- The role of the Core Planning Committee in the update process.
- Contact information for both Summit County EMA and Burton Planning Services.
- Dates, times, and Microsoft Teams links of upcoming Core Planning and Public Meetings.

Core Planning Meeting and Public Meeting 1

The first meetings were open to both the core planning members and the public. They were held both virtually and in-person on Thursday, January 19, 2023 at 9:00 A.M at the Twinsburg Community Center and at 2:00 P.M at the Green Community Hall. The meetings began with a brief introduction from a Burton Planning Services (BPS) representative. This introduction included a description of the in-person and virtual engagement process, including multiple options for participants to sign into the meeting. Participants that attended virtually were reminded multiple times throughout the course of the meeting to sign in using the online survey, via the chat function, or by sending an email to the County EMA or BPS. Participants that attended in-person used the sign-in sheets for attendance. The introduction also informed attendees that they could ask questions using the chat feature, or by unmuting themselves and asking their questions at any time throughout the meeting.

A BPS representative then guided the attendees through a presentation which detailed the hazard mitigation planning process, including requirements of the planning process, potential hazards that could be addressed, benefits of hazard mitigation planning, and potential types of projects that could be federally funded because of the hazard mitigation plan. BPS also described the role that the Core Planning Committee would serve in the development of the 2023 Summit County Hazard Mitigation Plan.

A total of 33 people attended the morning meeting, including the EMA Director of Summit County and the EMA Director of Portage County. Representatives from the City of Akron, City of Hudson, City of Macedonia, City of Munroe Falls, City of Reminderville, City of Twinsburg, Village of Northfield, Summit County Engineer's office, Akron Schools, and Akron-Canton airport attended the morning meeting. Several township representatives were also in attendance.

A total of 26 people attended the afternoon meeting, including four members of the public, including an American Red Cross volunteer, the Senior Emergency Management Manager of Cleveland Clinic, the Watershed Coordinator of Summit SWCD, and the Director of External Affairs for Dominion Energy. Representatives from the City of Akron, City of Barberton, City of New Franklin, City of Tallmadge,

Village of Boston Heights, Village of Clinton, Village of Mogadore, Copley Township, and Summit County attended the afternoon meeting. The Emergency Management Specialist from Medina County also attended the meeting. Two representatives from BPS and the Director of the Summit County EMA remained on the meeting link for the duration of the one-hour meeting in order to ensure anyone who joined would have the opportunity to participate.

Following the completion of the presentation, a BPS representative, guided the attendees through three surveys, detailed below. Each participant was provided multiple methods of completing the survey, including a physical hard copy of the survey, a fillable PDF that could be completed on their computer, or an online version. Links to survey locations were provided throughout the meeting. Public input was requested using social media.

Goals Survey

The purpose of this survey was to reflect on the goals included in the 2018 Natural Hazards Mitigation Plan to determine if they were still relevant to the 2023 Plan. Each attendee reviewed the previous goals and determined if they were still applicable, provided comments or edits to the goals that needed changed, and generated new goals to potentially be included in the Plan.

Discussion on the Goals Survey centered around the relevance of the goals. Attendees indicated a preference for adding a goal related to water treatment and water delivery systems. Other attendees mentioned the relevance of invasive species to the Plan.

Hazard Priority Survey

The purpose of this survey was to review all hazards that could be included in the 2023 Hazard Mitigation Plan and prioritize them. As such, attendees were asked to rate each hazard on a scale of zero to five, with five meaning the hazard poses the greatest possible threat to the County or their community and zero meaning the hazard should not be included in the 2023 Plan. Attendees rated hazards that were included in the 2018 Natural Hazards Mitigation Plan, as well as all potential hazards that could be included in the 2023 Plan.

Following the completion of this survey, BPS guided a discussion on which hazards were deemed to be most important and which hazards attendees did not think needed to be included. As mentioned above, attendees emphasized invasive species during this part of the meeting.

Previous Mitigation Actions Status Survey

The purpose of the Previous Mitigation Actions Status Survey was to have attendees review the mitigation actions that were included in the 2018 Natural Hazards Mitigation Plan, reflect on the status of each action, and determine if that action should be included in the 2023 Hazard Mitigation Plan.

Core Planning Meeting and Public Meeting 2

The first meetings were open to both the core planning members and the public. They were in-person on Thursday, May 18, 2023 at 9:00 A.M at the Twinsburg Community Center and at 2:00 P.M at the Green Community Hall. The first meeting at 9:00 A.M lasted 1.5 hours and the second meeting at 2:00 P.M lasted two hours. The meetings began with a brief introduction from a Burton Planning Services (BPS) representative. This introduction included a description of the in-person and virtual engagement process, including multiple options for participants to sign into the meeting. The introduction also informed attendees that they could ask questions using the chat feature, or by unmuting themselves and asking their questions at any time throughout the meeting.

A BPS representative then guided the attendees through a brief presentation which detailed the progress of the hazard mitigation planning process. Following the completion of the presentation, a BPS representative guided the attendees through the hazard mitigation action scoring matrix, detailed below. Each participant was provided multiple methods of completing the survey, a fillable PDF that

could be completed on their computer, an online version, or hard copy. Links to survey locations were provided throughout the meeting. Hard copies would be provided upon request.

A total of 16 people attended the morning meeting, including the representatives from the Cities of Hudson, Reminderville, Stow, and Twinsburg, the Villages of Lakemore and Northfield, Bath, Sagamore Hills, and Twinsburg Townships, the Northeast Ohio Regional Sewer, the University of Akron, Summit County Public Health, and the director and planner from Summit County EMA.

A total of 22 people attended the afternoon meeting, including representatives from the Cities of Barberton, Cuyahoga Falls, Green, Fairlawn, New Franklin, Norton, and Tallmadge, the Villages of Boston Heights, Clinton, and Richfield, Copley Township, Akron Childrens, Akron Public Schools, OHM Advisors, Summit County Sheriff's Department, the EMA specialist from Medina County, the University of Akron, Summit County Metro Parks, the Summit Soil and Water Conservation District, and the Red Cross.

Hazard Mitigation Action Scoring Matrix

The purpose of this survey was to reflect on the hazard mitigation actions included in the 2018 Natural Hazards Mitigation Plan to determine if they were still relevant to the 2023 Plan. New mitigation actions were developed for the 2023 Plan, and these actions were presented to the Core Planning Committee. Participants were asked to score the actions based on their priority for their jurisdiction. Participants were also told that the wording for the mitigation actions may be altered to better align with the needs of their communities. The remainder of the meeting functioned as a working session, where participants were able to ask questions as they completed their surveys. Once complete, participants were allowed to leave the meeting.

4 | Risk Assessments

4.1 Dam/Levee Failure

Description

FEMA defines a dam as "any artificial barrier of at least a minimum size, including appurtenant works, that impounds or diverts water or liquid-borne solids on a temporary or long-term basis." Dam failure occurs when that impounded water is suddenly released in an uncontrollable manner. A dam/levee failure can result in the uncontrolled release of floodwaters downstream of a facility, resulting in a flood wave that can cause significant damage to buildings and infrastructure downstream. The unexpected nature of dam collapse also increases the likelihood of loss of life in the impacted area due to reduced warning times.

Dam infrastructure can be affected by natural hazards, such as floods; man-made threats, such as sabotage; and an imbalance between a dams age and amount of resources invested towards dam maintenance, such as dam settlement and cracking, or movement of the dam's foundation. Dam failures can be caused by seepage, structural failure, or water overtopping the reservoir. A majority of dams in the U.S. are privately owned but regulated by the State or Federal government.

The National Flood Insurance Program (NFIP) defines a levee as "a man-made structure, usually an earthen embankment, designed and constructed in accordance with the sound engineering practice to contain, control, or divert the flow of water so as to reduce risk from temporary flooding." Levees are built parallel to waterways in order to reduce the risk of flood damage to neighboring infrastructure. Levee failure can occur from improper maintenance, erosion, seepage, subsidence, and when the man-made structure fails.

Common dam-related terms include:

- **Spillway**: A structure that is part of a dam or found beside a dam which allows the controlled release of water from a reservoir.
- **Outlet works:** Used to regulate or release water flow from a dam. An outlet works is a device which consists of one or more pipes or tunnels which move water through the dam.
- **Auxiliary spillway**: Also known as an emergency spillway, the auxiliary spillway is a secondary spillway only designed to operate during periods of increased water inflow or high reservoir levels.
- **Structural failure**: Caused by foundation defects such as settlement and slope instability or earthquakes.
- **Mechanical failure**: Dam failure due to malfunctioning gates, conduits, or valves.
- **Hydraulic failure**: Occurs when water overtops the dam, usually causes by inadequate spillway design, blockages in spillways, or dam crest settlement.
- **Levee System:** A flood protection system which consists of a levee or other structures, such as closure or drainage devices.

Normally, water passes through a dam via the main spillway or outlet works. During periods of increased water inflow or high reservoir levels, water should pass through an auxiliary spillway. Dam failure or partial failures are typically caused by structural, mechanical, or hydraulic failures, rather than during extreme storm events.

According to the U.S. Army Corps of Engineers (USACE), dams can be classified by their hazard potential. The three hazard potential classes are:

- **High Hazard Potential**: During the event of a dam failure loss of life is probable, which is the primary attribute for assigning this designation to a dam. Economic losses, environmental damages, and lifeline impacts are also likely, but are not required for this designation.
- **Significant Hazard Potential**: No loss of life is expected during a dam failure, but economic losses, environmental damages, and lifeline impacts are likely.
- **Low Hazard Potential**: No loss of life is expected during a dam failure and no lifeline impacts are expected. Environmental damages and economic losses are expected to be limited to the dam owner's property.

Location

Dam properties of High to Low hazard potential are listed in **Table 4.1.1.** The status of each dam's Emergency Action Plan as of April 12, 2023 is indicated in the table (Source: USACE). Dam locations can be seen in **Figure 4.1.2**.

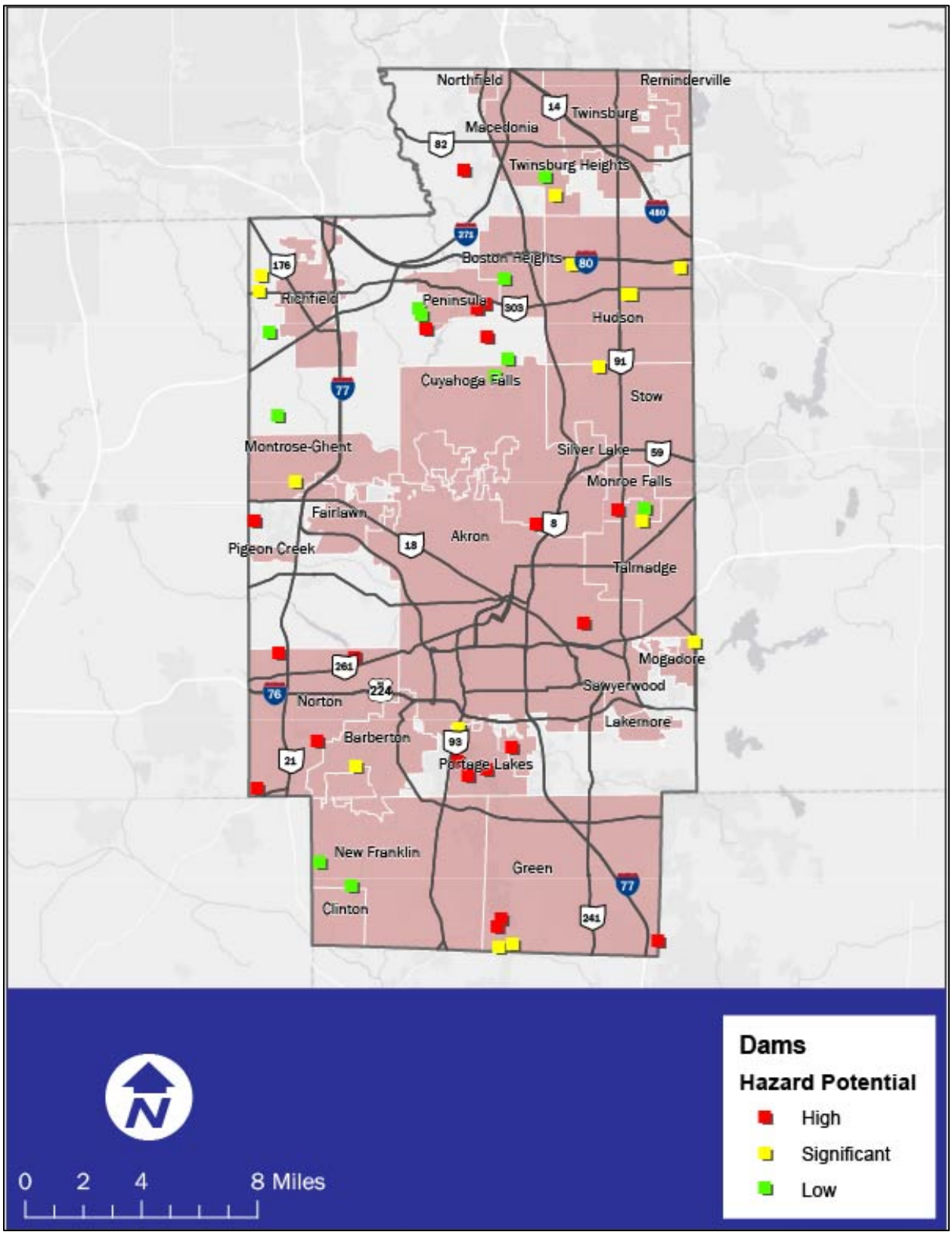
Table 4.1.1: Dam Properties in Summit County, Ohio

Hazard Potential	Dam Name	Owner Type	Distance to Nearest City (Miles)	Primary Dam Type	Dam Types	Condition	EAP
High	Charbonneau Lake Dam	Private	8.5	Earth	Earth	Satisfactory	Yes
High	Comet Lake Dam	Private	0.4	Earth	Earth	Poor	Yes
High	East Reservoir Dam	State	0.5	Earth	Earth	Satisfactory	Yes
High	Gorge Plant Dam	Public Utility	1.8	Concrete	Concrete	Poor	Yes
High	Lake Butler Dam	Private	0.6	Earth	Earth	Satisfactory	Yes
High	Lake Dorothy Dam	Private	0.1	Earth	Roller-Compacted Concrete, Earth	Fair	Yes
High	Lake Litchfield Dam	Private	1.7	Earth	Earth	Satisfactory	Yes
High	Loyal Oak Lake Dam	Private	4.5	Earth	Earth	Satisfactory	Yes
High	Nimisila Reservoir Dam	State	6.4	Earth	Earth	Poor	Yes
High	North Reservoir Dam	State	1.1	Earth	Earth	Poor	Yes
High	Reservoir Park Upground	Local Government	0.1	Earth	Earth, Concrete	Fair	No
High	Silver Creek Lake Dam	Local Government	1.1	Earth	Earth	Satisfactory	Yes

Hazard Potential	Dam Name	Owner Type	Distance to Nearest City (Miles)	Primary Dam Type	Dam Types	Condition	EAP
High	Steeplechase Lake Dam	Private	1.5	Earth	Earth	Satisfactory	Yes
High	Swan Lake Dam	Private	0.15	Earth	Earth	Poor	No
High	Sylvan Dam	Federal		Earth	Earth	Not Available	Yes
High	Tuscarawas River Diversion Dam	State	1.1	Earth	Earth	Satisfactory	Yes
High	Virginia Kendall Dam (Tract # 119-53)	Federal		Earth	Earth	Not Available	Yes
High	West Reservoir Dam	State	0.4	Earth	Earth	Satisfactory	Yes
High	Wolf Creek Dam	Local Government	0.2	Concrete	Concrete	Poor	Yes
High	Zimber Ditch Detention Basin B	Local Government	1.3	Concrete	Gravity, Concrete	Satisfactory	Yes
Significant	Camp Hilaka Lake Dam	Private	2.7	Earth	Earth	Satisfactory	Yes
Significant	Camp Julia Crowell Lake Dam	Private	2.3	Earth	Earth	Poor	Yes
Significant	City of Hudson Lower Lake Dam	Local Government	0.5	Earth	Earth	Poor	Yes
Significant	City of Hudson Upper Lake Dam	Local Government	0.5	Earth	Earth	Satisfactory	Yes
Significant	Columbia Lake Dam	Private	3.6	Concrete	Concrete	Poor	Yes
Significant	Crouse Pond Dam	Local Government	4.2	Earth	Earth	Poor	Yes
Significant	Crystal Lake Dam	Private	1	Earth	Earth	Fair	Yes
Significant	Hills Pond Dam	Local Government	5.7	Concrete	Concrete	Fair	No
Significant	Hudson Springs Lake Dam	Local Government	1.7	Earth	Earth	Satisfactory	Yes
Significant	Lake Forest Dam	Private	1.5	Earth	Earth	Satisfactory	Yes
Significant	Lake Forest Estates Dam	Private	2.65	Earth	Earth	Poor	No

Hazard Potential	Dam Name	Owner Type	Distance to Nearest City (Miles)	Primary Dam Type	Dam Types	Condition	EAP
Significant	Lake Noah Dam	Private	1.5	Earth	Earth	Satisfactory	Yes
Significant	Long Lake Dam	State	5.1	Concrete	Concrete	Satisfactory	No
Significant	Lower Carter Lake Dam	Private		Earth	Earth	Satisfactory	Yes
Significant	Meadowbrook Lake Dam	Local Government	0.8	Earth	Earth	Poor	Yes
Low	Armington Dam No. 1	Federal		Earth	Earth	Not Available	Not Required
Low	Bell Lake Dam	Private	3	Earth	Earth	Poor	No
Low	Bilinovich Recreation Area Lake Dam	Private	2.5	Earth	Earth	Poor	Yes
Low	Gund Pond No. 1 Dam	Private	1.5	Earth	Earth	Poor	No
Low	Gund Pond No. 2 Dam	Private	1.3	Earth	Earth	Poor	No
Low	Kirby Lake Dam	Private	2.1	Earth	Earth	Fair	Yes
Low	Loomis Lake Dam	Private	1.5	Earth	Earth	Not Rated	Yes
Low	Munroe Falls Park Lake Dam	Local Government	0.5	Earth	Earth	Fair	Yes
Low	Pancake Lake Dam	Private	1.63	Earth	Earth	Fair	No
Low	Villa Lago Dam	Private	0.1	Earth	Earth	Poor	Yes
Low	Von Gunten Pond Dam	Private	3	Earth	Earth	Poor	No

Figure 4.1.2: Dam Locations in Summit County, Ohio



Extent

The Hazard Priority dam classification system considers the effects of dam failure or mismanagement during both normal and flood flow conditions, as well as worst-case-scenario situations. Dam classification may decrease with physical modifications to the dam or by eliminating downstream infrastructure. The classifications are justifiable, reasonable, and consistent with the federal guidelines for dam safety. The hazard potential classification may change depending on anticipated consequences of a dam failure, such as new development below a dam or within the dam breach floodplain. Hazard potential classification may decrease with physical modifications to the dam or by eliminating downstream infrastructure.

Sudden failure of High Hazard dams could result in one of the following outcomes, depending on environmental conditions.

- Loss of human life.
- All items listed below for failure of Significant Hazard potential dams.

Sudden failures of Significant Hazard dams could result in at least one of the following conditions:

- Disruption of a public water supply or wastewater treatment facility, release of health hazardous industrial or commercial waste, or other health hazards.
- Flooding of residential, commercial, industrial, or publicly owned structures.
- Flooding of high-value property.
- Damage or disruption to major roads including, but not limited to, interstate and state highways and the only access to residential or other critical areas such as hospitals, nursing homes, or correction facilities as determined by the chief.
- Damage or disruption to railroads or public utilities.
- Damage to downstream dams or levees. Damage to dams or levees can include, but is not limited to, overtopping of the structure. At the request of the dam owner, the chief may exempt dams from the criterion of this paragraph if the dam owner owns the potential affected property.
- Damage or disruption to local roads including, but not limited to, roads not otherwise listed as major roads.
- Damage to agricultural crops and livestock.

Sudden failures of Low Hazard dams could result in property losses restricted mainly to the dam and rural lands, and the loss of human life is not probable.

History

There have been no reported dam failures in Summit County. However, dam failures are not new to the State of Ohio, and the potential for a disaster grows as dams age.

Probability

Dam failures are unlikely but not impossible. All dams, especially High and Significant hazard potential dams, should have an Emergency Action Plan (EAP) in place. In addition, aging dam infrastructure coupled with climate change could result in more frequent dam failures. The Climate Change section in Future Trends discusses climate change further.

Vulnerability Assessment

Infrastructure Impact

Failures of High or Significant hazard potential dams could flood roadways, including major routes and local roads. Utility infrastructure (wastewater, drinking water, and commercial and industrial waste lines) may be disrupted or destroyed.

Population Impact

The local population could be impacted by loss of utilities, including the local water supply. Health hazards may also be released into the flood waters during a dam failure which may cause indirect harm to the local population. The local population could be impacted economically as well.

For social vulnerability, dam failure is not in the National Risk Index as it is not a natural disaster. However, natural disasters like flooding can occur due to or as a result of dam failure. The risk index for flooding in Summit County is 95.0 ("very high"), as such the risk for dam failure would also be relatively low. People that are most vulnerable to dam failure are those who live within the dam inundation areas. The index indicates an expected annual loss of $7.0 million due to flood events with 1.5 events occurring per year.

Property Damage

At least one residential or commercial property is likely to face structural collapse during a High or Significant hazard potential dam failure. Dam failure has the potential to damage high value properties. Residential, commercial, industrial, and/or high value properties may be damaged by a High or Significant hazard potential dam failure, as well as publicly owned properties. Properties that are owned by the dam owner may be exempt from the property damage calculation.

Loss of Life

Loss of life is probable during a High Hazard potential dam failure. Loss of life during a Significant or Low hazard potential dam failure is not expected.

Economic Losses

Economic losses can include damages from flooding crops, flooding livestock, damaged goods, and the flooding of vital roadways.

Emergency Action Plans (EAPs) have been completed for some of the dams in the County (**Table 4.1.1**); however, the data is subjected to agreements where it cannot be published publicly. The Ohio Department of Natural Resources (ODNR) holds record of these EAPs.

Future Trends

Land Use and Development Trends

Development that has occurred in areas that will flood after a dam failure should be prepared for rapid flooding. Land use plans can limit development in these areas to prevent the increase of a dam hazard potential. To better understand where development should be limited, dam failure inundation maps should be completed for as many dams as possible.

Climate Change

Climate change may increase the frequency and/or the severity of the impacts from a dam failure event. Climate change is having an uneven effect on precipitation (rain and snow) in the U.S. – some areas are experiencing increased precipitation and flooding, while others suffer from drought. If Summit County experiences effects of climate change related to heavy rainfall, more frequent and severe flooding could occur, which could lead to or be caused by dam failure. Aging dam infrastructure coupled with climate change could result in more frequent dam failures. According to the 2018

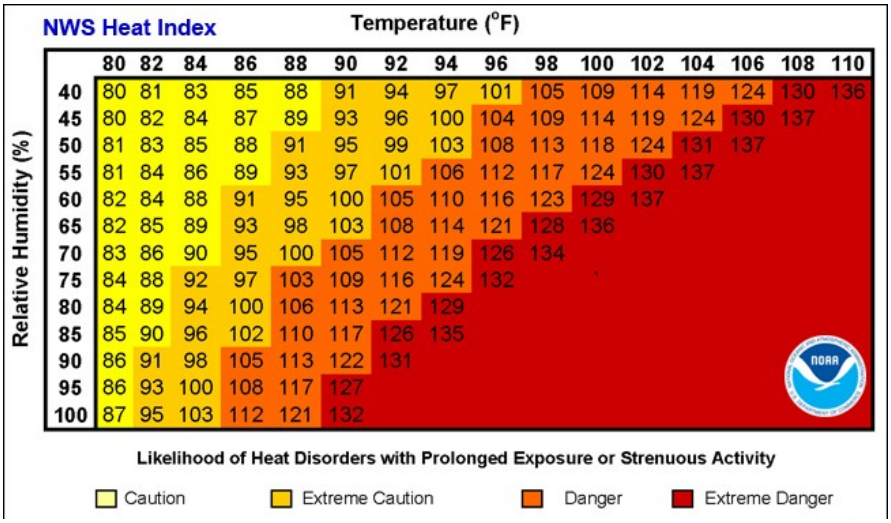
National Climate Assessment, dams and levees can fail after moderate or extreme rainfall. If Summit County experience the effects of climate change related to more frequent droughts, dams and levees can be compromised as a result of the ground cracking due to drying, reduced soil strength, erosion, and subsidence. As drought or precipitation frequency and intensity increase with climate change, the probability and severity of dam failure may increase as well, especially if this infrastructure is not maintained, upgraded, or, if necessary, redesigned.

4.2 Drought and Extreme Heat

Description

According to the Federal Emergency Management Agency (FEMA), extreme heat is a period of high heat and humidity with temperatures above 90 degrees for at least two to three days. In extreme heat the human body works extra hard to maintain a normal temperature, which can lead to death. Extreme heat is responsible for the highest number of annual deaths among all weather-related hazards. Humid conditions, which add to the discomfort of high temperatures, occur when a high-pressure weather system traps hazy, moist air near the ground. Extreme heat may also contribute to the formation of a drought if moisture and precipitation are lacking. The National Weather Service's Heat Index Chart is provided in **Figure 4.2.1**.

Figure 4.2.1: Heat Index Chart (Source: National Weather Service)



Extreme heat events are often accompanied by drought conditions when the events are prolonged. A drought is a shortage in precipitation over an extended period of time. Droughts are common throughout all climatic zones and can range in length from a couple weeks to multiple years or decades in some areas. In 2002, Summit County experienced its longest drought, which lasted 16 weeks.

According to the National Oceanic and Atmospheric Administration (NOAA), there are three common types of droughts: Meteorological, Agricultural, and Hydrological. Meteorological drought severity is calculated by the amount of the rainfall deficit (compared to annual averages) and the length of the dry period. Agricultural drought is based on the effects to agriculture by factors such as rainfall and soil water deficits or diminished groundwater/reservoir levels needed for irrigation. Hydrological drought is based on the effects of rainfall shortages on the water supply, such as stream flow, reservoir and lake levels, and groundwater table decline.

Location

Drought and extreme heat are countywide hazards that can affect all locations and jurisdictions in Summit County. More specifically, these hazards typically occur at a regional scale. Droughts most commonly occur in Ohio from spring through autumn; however, they may occur at any time throughout the year.

Extent

Due to the regional nature of droughts and extreme heat events, effects may be noticed throughout the County in both the urbanized and rural areas. All jurisdictions within the County may be affected in

a single drought event. In Summit County, droughts are often linked to prolonged periods of above average temperatures and little to no precipitation.

Initial effects of drought can be noticed within a short period, as soil may dry out and plants may wither and die. When drought conditions persist over several weeks, months, or years, effects may be more pronounced with reductions in water levels of wells, lakes, reservoirs, streams, and rivers. Water supply issues for agriculture, commercial/industrial activities, and private consumption may arise if drought conditions persist over a long term.

The extent of the drought is determined by the Palmer Drought Severity Index (PDSI), shown below in **Table 4.2.2**. In this way, the Index can be utilized as a tool to help define disaster areas and indicate the availability of irrigation water supplies, reservoir levels, range conditions, amount of stock water, and potential for forest fires. The Palmer Drought Severity Index depicts prolonged (in months or years) abnormal dryness or wetness and is slow to respond, changing little from week to week. It also reflects long-term moisture runoff, recharge, and deep percolation, as well as evapotranspiration.

Table 4.2.2: Palmer Drought Severity Index Classifications and Federal Drought Categories

Palmer Drought Severity Index	Category	Description
-1.0 to -1.9	D0	Abnormally Dry
-2.0 to -2.9	D1	Moderate Drought
-3.0 to -3.9	D2	Severe Drought
-4.0 to -4.9	D3	Extreme Drought
-5.0 or less	D4	Exceptional Drought

The Palmer Drought Severity Index is a standardized index with values typically falling between -4.0 and +4.0, although extreme conditions can be greater in value (includes federal drought categories). Negative values indicate drought conditions while positive values represent wet conditions. Values around zero represent near normal conditions.

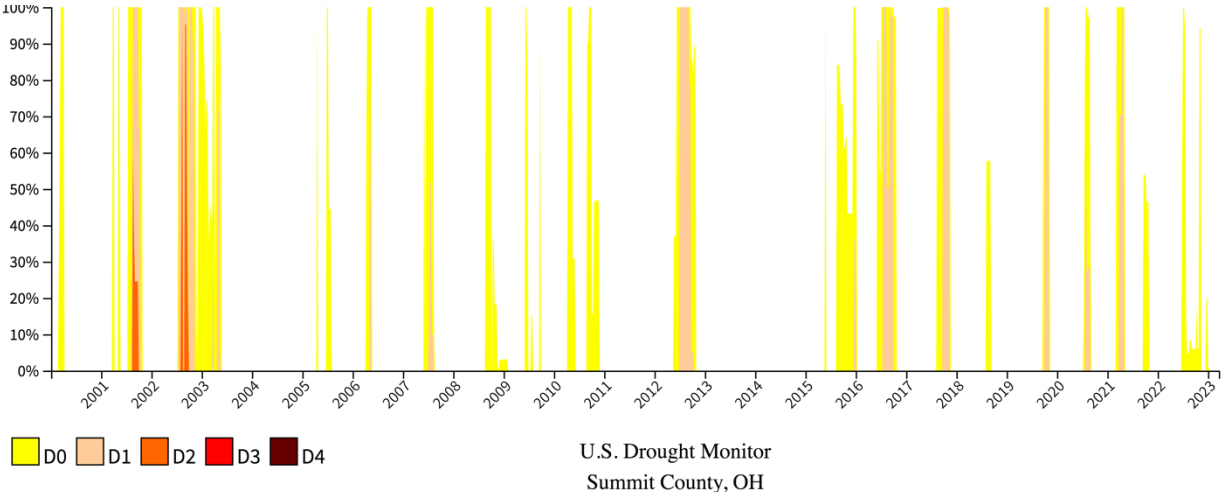
Abnormally dry (D0) and moderate drought (D1) conditions occur frequently and typically do not adversely affect agricultural activities unless conditions are sustained in nature. Severe and extreme drought (D2 & D3, respectively) conditions begin to impact agricultural crops, leading to potential economic losses. These more severe events also may impact drinking water resources, especially if the source is a lake or reservoir. Sustained severe droughts may alter the ability of the soil to absorb water, leading to potential flash flooding when rainfall resumes.

History

Drought

U.S. Drought Monitor (USDM) describes severe drought as a time when crops suffer, the numbers of wildfires are high and the soil is dry, cracked and pulling away from foundations. In an extreme drought, yields are minimal, livestock are stressed, and lawns go dormant. Data shows that Summit County has experienced two severe droughts and 11 moderate droughts since 2000. **Figure 4.2.3** depicts the drought monitor history for Summit County from 2000 through 2023. The most extensive periods of moderate drought specific to Summit County are provided in **Table 4.2.4** (Source: U.S. Drought Monitor).

Figure 4.2.3: Drought in Summit County from 2000 to 2023



D0 = Abnormally Dry, D1 = Moderate Drought, D2 = Severe Drought, D3 = Extreme Drought, D4= Exceptional Drought

Table 4.2.4: Periods of Moderate Drought in Summit County, Ohio, 2000-2023

Start Date	End Date	# Of Consecutive Weeks
4/1/21	4/29/21	5
7/30/20	8/27/20	5
10/10/19	10/31/19	4
9/28/17	11/9/17	7
7/21/16	9/29/16	11
12/24/15	12/31/15	2
7/5/12	10/11/12	15
7/12/07	8/9/07	5
5/1/03	5/15/03	3
7/25/02	11/7/02	16
8/16/01	10/11/01	9

- **Severe Drought (D2), August - September 2002:** In July 2002 Summit County was experiencing a moderate drought. During the week of 08/06/2002 40.9-percent of Summit County was experiencing severe drought conditions. By 09/03/2002 95-percent of the county was in a severe drought, which lasted two weeks. Summit County was abnormally dry or in a moderate drought till the week of 05/27/2003.
- **Severe Drought (D2), August – September 2001:** Abnormally dry conditions persisted in northern Ohio in August 2001 through September 2001. During the week of 08/14/2001 47.8-percent of Summit County was in a moderate drought. A week later, 100-percent of the county was experiencing a moderate drought and 59.7-percent was experiencing severe drought conditions. The severe drought lasted for 6 weeks through the end of September 2001.

Extreme Heat

There have been 2 heat events in Summit County since January 1, 1995. These events were not responsible for any deaths or injuries. Described below are the two events. All events are listed individually in **Appendix A**.

- **Heat Event, July 1 through July 31, 1999:** As drought conditions persisted in Northern Ohio, Summit County experienced higher than normal temperatures. Temperatures reached the middle 90s and lasted for several days at a time. It was the tenth warmest July on record according to all major reporting stations in northern Ohio. There was a reported $1.5 million in crop damage due to the drought of 1999 for Summit County and approximately $200 million for all of northern Ohio.
- **Heat Event, June 6 through 12, 1999:** Temperatures peaked from the lower to mid-90s with record highs in Findlay, Cleveland, Youngstown, and Mansfield. Northern Ohio experienced drought conditions that persisted through September 1999. Only 1.19 inches of rain fell in the City of Akron from late May through most of June. It was the 5th driest June on record. Crop losses were unknown.

Probability

Summit County has experienced droughts in the past, and the potential exists for the County to experience droughts in the future. Seasons of drought and extreme heat have the potential to occur during any particular year when necessary conditions are met, and according to the Midwest Chapter of the Fourth National Climate Assessment, the frequency of major heat waves in the Midwest has increased over the last six decades. In addition, it is predicted that as the climate gets warmer, there will be an associated increase in the number and severity of summer droughts and extreme heat events. The Climate Change section in Future Trends discusses climate change further.

Vulnerability Assessment

Drought projections suggest that some regions of the U.S. will become drier and that most will have more extreme variations in precipitation. Even if current drought patterns remained unchanged, warmer temperatures will amplify drought effects. Drought and warmer temperatures may increase risks of large-scale insect outbreaks and wildfires, in addition to accelerating tree and shrub death, changing habitats and ecosystems in favor of drought-tolerant species. Forest and rangeland managers can mitigate some of these impacts and build resiliency in forests through appropriate management actions.

Infrastructure Impact

Drought does not have a significant impact on infrastructure or structures. The greatest impacts of drought are on agricultural interests, as crops may fail, and livestock may not have sufficient water resources.

Population Impact

Although there is no history of population impact, extreme heat can have an impact on the population of the entire county. Groups who live in areas with minimal tree cover or urban areas may experience higher temperatures relative to outlying areas due to the urban heat island affects. Groups that particularly vulnerable to extreme heat, such as older adults and people with chronic health conditions may experience illness or injury, such as heat cramps, heat exhaustion, and heat stroke.

For social vulnerability, the National Risk Index does not have a rating for drought, but it does have a rating for “Heat Wave” for a score of 13.25 (“relatively moderate”), due to the history of minimal population impacts in the County. The index indicates an expected annual loss of $380,000 due to heat wave events with 0.2 events occurring per year.

Property Damage

During extreme heat events, utility failure may occur due to overuse of electricity for cooling. Property damage is a possibility due to extreme heat. Vehicles are at risk of breaking down from excessive heat, as heat can reduce battery life and reduce the efficiency of the cooling system resulting in overheated engines. Extreme heat can also cause a home to dry out and prematurely age. Excessive heat in combination with lack of rainfall (drought) can cause soil to shrink and crack, which puts stress on a home's foundation that can be costly to fix. Drought and warmer temperatures may increase risks of large-scale insect outbreaks and wildfires. Drought and warmer temperatures may also accelerate tree and shrub death, changing habitats and ecosystems in favor of drought-tolerant species.

Loss of Life

Loss of life is possible during extreme heat events, especially for young children, the elderly, and individuals with respiratory conditions.

Economic Losses

Economic losses are a threat from extreme heat and droughts to Summit County. Crops and livestock may be compromised during prolonged extreme heat events. Human productivity can also be affected when working conditions become too hot. According to the 2017 Census of Agriculture developed by the U.S. Department of Agriculture (USDA), top crop items based on acreage for Summit County include soybeans for beans, corn for grain, forage-land used for all hay and haylage, and wheat for grain. Based on data from the U.S. Department of Agriculture, Summit County's crop yields may have been impacted from previous drought events. Corn, hay, soybeans, and wheat all had an increase in acreage between the 2012 and 2017 Census of Agriculture, however hay & haylage and soybeans had a decrease in crop yield per acre by 10-percent and 14-percent respectfully. Corn and wheat had an increase in crop yield per acre by 18-percent and three percent respectfully. (Figure 4.2.5).

Table 4.2.5: Summit County Crop Yields 2012 - 2017

Commodity	2012		2017	
	Acres	Crop Yield	Acres	Crop Yield
Corn, Grain	2,222	199,218 bushels	2,756	301,002 bushels
Hay & Haylage	2,767	5,144 tons	3,129	5,294 tons
Soybeans	1,885	72,600 bushels	2,183	73,934 bushels
Wheat	188	8.820 bushels	440	21,360 bushels

Future Trends

Land Use and Development Trends

Drought and extreme heat are most likely to impact agriculture land uses and land uses that house or serve vulnerable populations, such as schools, daycares, hospitals, and nursing homes.

Climate Change

Climate change may increase the frequency and/or the severity of the impacts from drought and extreme heat events. As the climate gets warmer, there will be an associated increase in the number and severity of droughts and extreme heat events. Warmer global temperatures may be associated with a prolonged growing season, but this trend may also increase the risk of crop stress due to excessive heat and crop damage due to increased pests and disease. The longer growing season may help some crops but crops like corn and soybean will be negatively affected by the severe heat in the summer, which will decrease these crops' yields. Additionally, increased frequency and severity may negatively impact infrastructure. For example, dams and levees may be compromised after a

prolonged drought if drying, reduction of soil strength, erosion, subsidence, or ground cracking occurs. Climate change is expected to increase the occurrence and duration of heat waves in the coming decades.

4.3 Earthquakes

Description

Earthquakes are sudden and rapid movements of the Earth's crust and are caused by the abrupt shifting of rocks deep underneath the earth's surface. These movements vary in length and may last from a few seconds to several minutes.

The seismicity, or seismic activity, of an area refers to the frequency, type, and size of earthquakes experienced over time. Earthquakes are measured using observations from seismometers. The Moment Magnitude Scale (MMS), which was developed in the 1970s, is the most common scale on which earthquakes larger than approximately 5.0 in magnitude are reported for the entire world. Earthquakes smaller than magnitude 5.0, which are more numerous, are reported by national seismological observatories and measured most commonly on the local magnitude scale – also referred to as the Richter Scale. These two scales are numerically similar over their range of validity. Earthquakes of magnitude 3.0 or lower are often almost imperceptible or weak, while earthquakes of magnitude 7.0 or greater can potentially cause serious damage over larger areas.

Damage from an earthquake also depends on the earthquake's depth in the Earth's crust. The shallower an earthquake's epicenter, the more damage to structures it will cause. Alternatively, an earthquake can also be measured by its intensity. The Modified Mercalli Intensity Scale (MMI) ranges in value I to XII, in roman numerals (**Table 4.3.1**).

Earthquakes can happen anywhere without warning; they are low-probability, high-consequence events. Most major earthquakes in the U.S. have occurred in California as well as in Alaska, Hawaii, Oregon, Puerto Rico, Washington, and the entire Mississippi River Valley. There have been recorded earthquakes throughout the U.S., and the Ohio River Valley has experienced earthquakes exceeding the 3.0 magnitude within the last 25 years.

Location

Earthquakes are countywide hazards and can affect all areas and jurisdictions within Summit County. According to the Ohio Department of Natural Resources (ODNR), Ohio is located on the periphery of the New Madrid Seismic Zone, an area in and around Missouri that was the site of the largest earthquake sequence to occur in the country in the 1800s. Additionally, seismic activity is concentrated in the western Ohio region known as the *western Ohio seismic zone* (also referred to as the *Fort Wayne (Anna) seismogenic zone*), where more than 40 earthquakes have been felt since 1875. Summit County does not fall in the western Ohio seismic zone, but it does fall in the New Madrid Seismic Zone.

The Akron Magnetic Boundary runs through the north and center of Summit County. This fault line was discovered around 1990 and is associated with several small earthquakes in the area, which mostly range between magnitude 2.0 and 3.0 (**Figure 4.3.2**).

Extent

Earthquakes pose a risk to life and property depending on the severity. To monitor earthquakes, the State of Ohio and the ODNR Division of Geological Survey coordinates a 21-station network (**Figure 4.3.3**) of seismograph stations throughout the state in order to continuously record earthquake activity. The Ohio Seismic Network (OhioSeis) stations are distributed across the state but are concentrated in the most seismically active areas or in areas that provide optimal conditions for detecting earthquakes. While the seismic network cannot predict earthquakes or provide an alert prior to an event, it can provide insight into earthquake risks in the state so that intelligent decisions about building and facility design and construction, insurance coverage, and other planning decisions can be made by individuals, business and industry, and governmental agencies.

According to the ODNR, there are no Ohio Seismic Network 21 monitoring stations in Summit County or its neighboring counties.

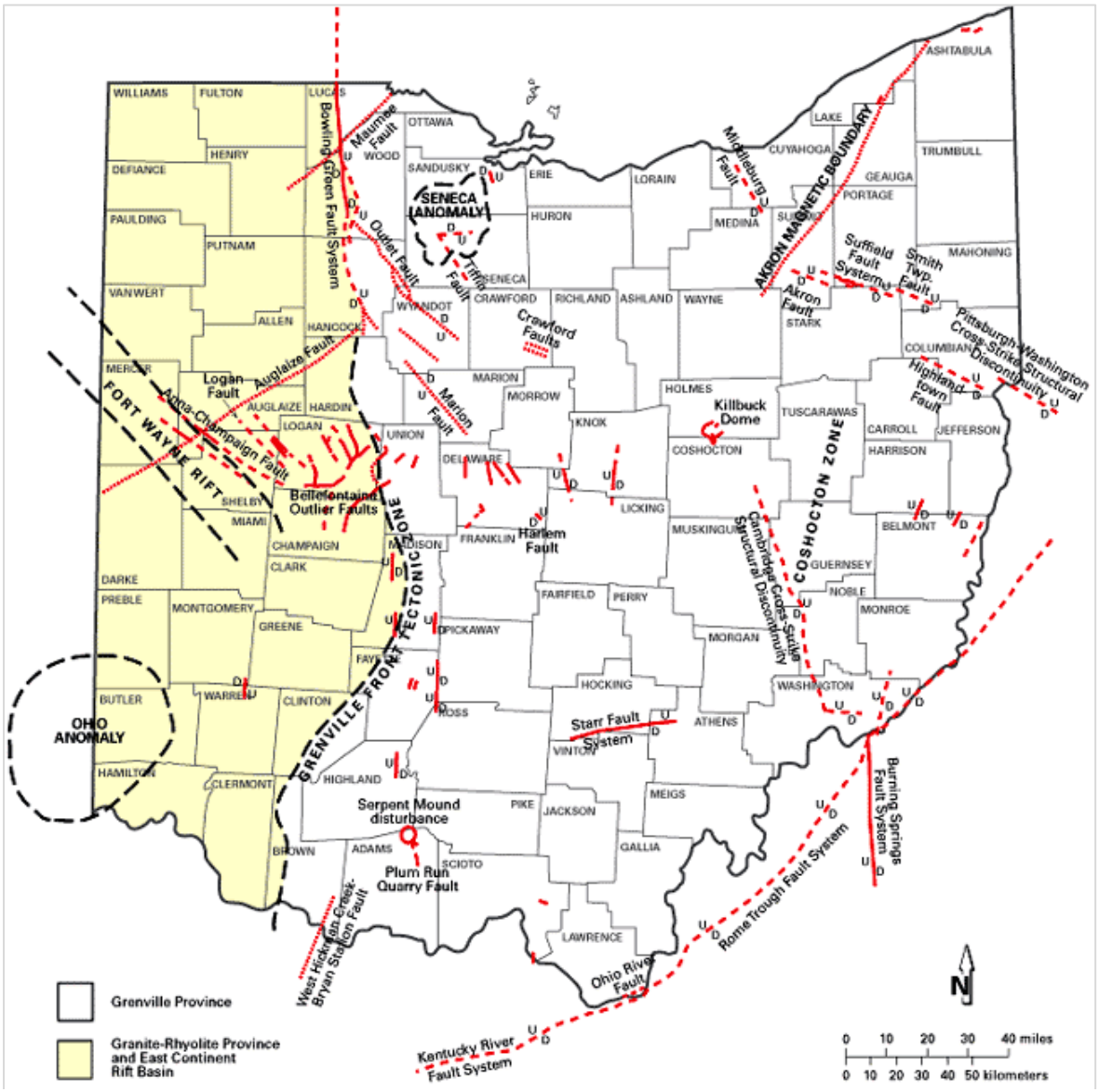
Earthquakes can yield a variety of different outcomes. With the ground shaking associated with earthquake events, buildings have a high potential to be impacted. If soil liquefaction, or the mixing of sand and soil with groundwater occurs, buildings can sink into the ground. Earthquakes also have the potential to rupture dams or levees along a river, resulting in flooding and even tsunamis (see Dam Failure section). Earthquakes can cause landslides or avalanches in high-risk areas and can cause mines to subside. Furthermore, earthquakes that break gas and power lines can result in fires.

Table 4.3.1: Modified Mercalli Intensity Scale

Modified Mercalli Intensity Scale		Magnitude
I	Detected only by sensitive instruments.	1.5
II	Felt by few persons at rest, especially on upper floors; delicately suspended objects may swing.	2
III	Felt noticeably indoors, but not always recognized as earthquake; standing autos rock slightly, vibrations like passing truck.	2.5
IV	Felt indoors by many, outdoors by few, at night some awaken; dishes, windows, doors disturbed; standing autos rock noticeably.	3
V	Felt by most people; some breakage of dishes, windows, and plaster; disturbance of tall objects.	3.5
VI	Felt by all, many frightened and run outdoors; falling plaster and chimneys, damage small.	4
VII	Everybody runs outdoors; damage to buildings varies depending on quality of construction; noticed by drivers of autos.	4.5
VIII	Panel walls thrown out of frames; walls, monuments, chimneys fall; sand and mud ejected; drivers of autos disturbed.	5
IX	Buildings shifted off foundations, cracked, thrown out of plumb; ground cracked; underground pipes broken.	5.5
X	Most masonry and frame structures destroyed; ground cracked, rails bent, landslides.	6
XI	Few structures remain standing; bridges destroyed, fissures in ground, pipes broken, landslides, rails bent.	6.5
XII	Damage total; waves seen on ground surface, lines of sight and level distorted, objects thrown up into air.	7 7.5 8

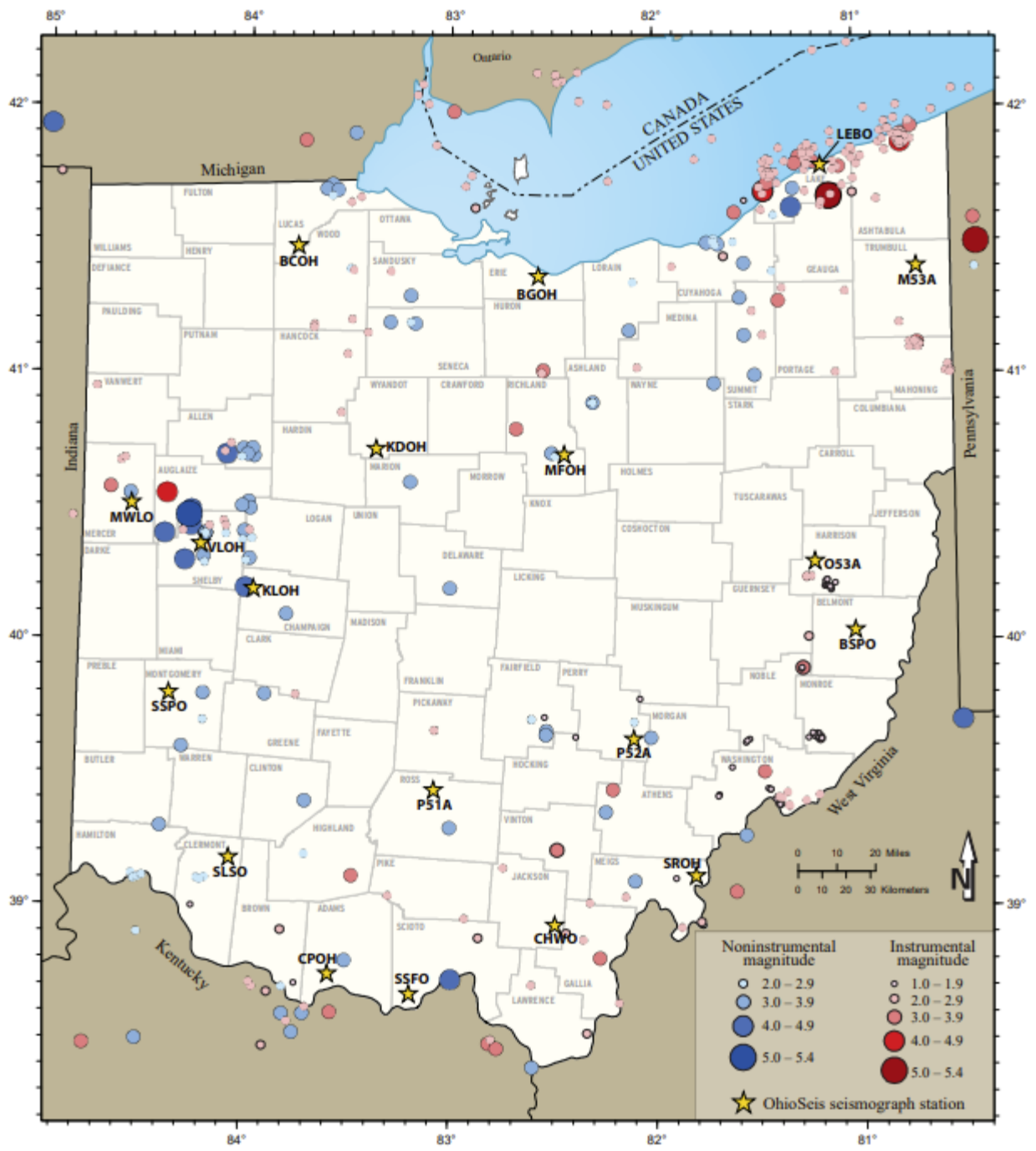
Source: ODNR

Figure 4.3.2 Ohio Faults and Seismic Zones



Source: ODNR

Figure 4.3.3: Earthquake Epicenters and Seismic Monitoring Stations in Ohio



Source: ODNR

History

More than 300 earthquakes of 2.0 magnitude or greater with epicenters in Ohio have occurred since 1776. Most of these events have been small, in the 2.0 to 3.0 magnitude range, while 15 earthquakes have caused minor-to-moderate damage and no recorded deaths. There have been three 3.0 magnitude earthquakes in Summit County, with no known damages.

Figure 4.3.4, below, displays epicenters of all historical earthquakes with a magnitude greater than 1.0. Locations and magnitudes of non-instrumental earthquakes correspond to felt area or maximum epicentral Modified Mercalli Intensities and may be in error by a considerable distance.

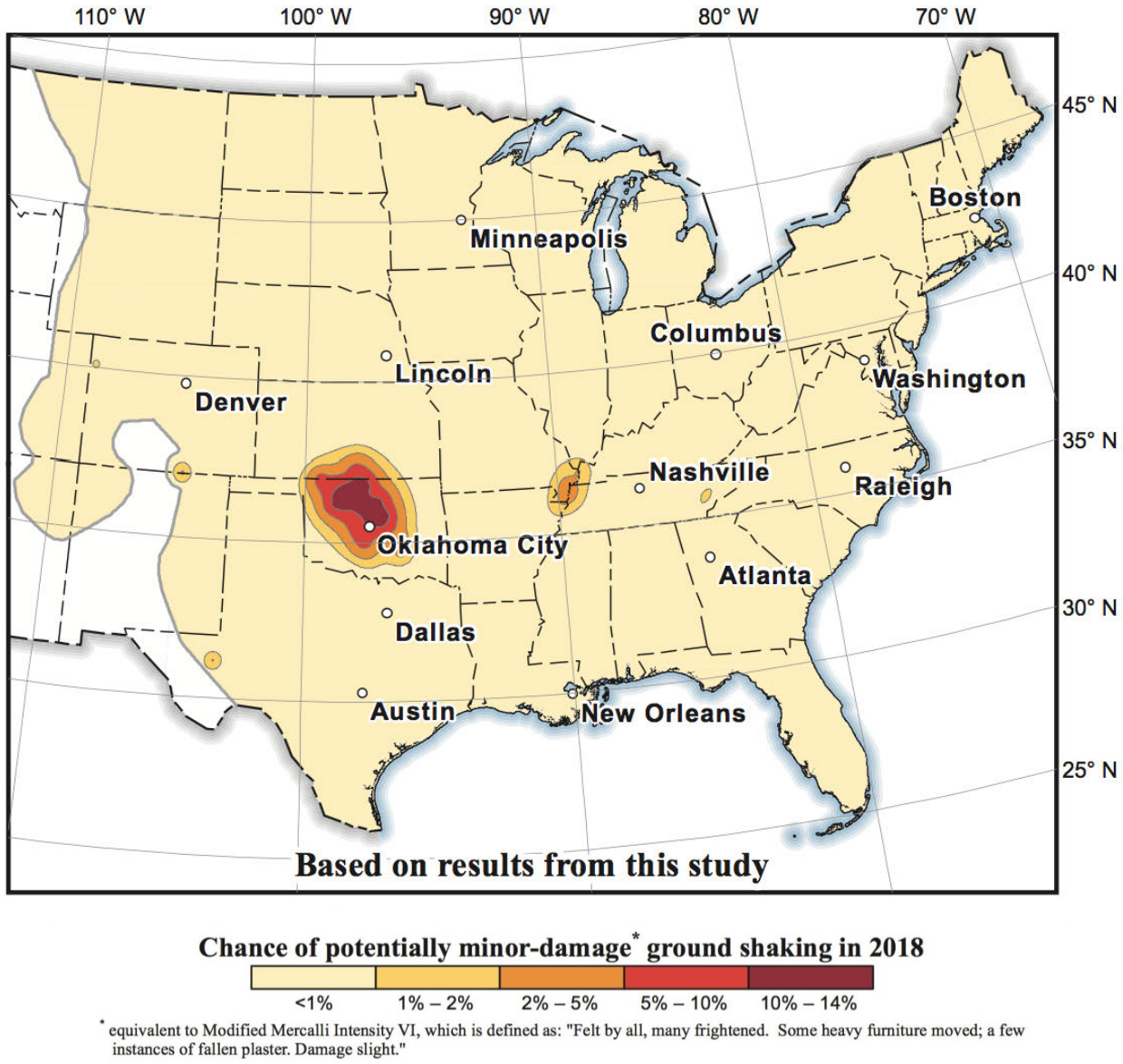
Probability

The USGS has both long-term and short-term probabilistic seismic hazard forecasts. In the 2018 one-year probabilistic seismic hazard forecast, the United States Geological Survey estimated that there is a less than one percent chance of potentially minor-damage ground shaking in 2018 for Summit County (**Figure 4.3.4**). There have been no changes or updates to this probability score.

The USGS also prepared national seismic hazard maps (NSHMP) for the United States. These time-independent maps are shown for two percent and ten percent probability of earthquake ground-shaking exceedance levels at specified probabilities over a 50-year time period at several hundred thousand sites across the United States. The map (**Figure 4.3.5)** identifies that Summit County has a six percent to ten percent of peak ground acceleration for 2-percent probability of exceedance in 50 years.

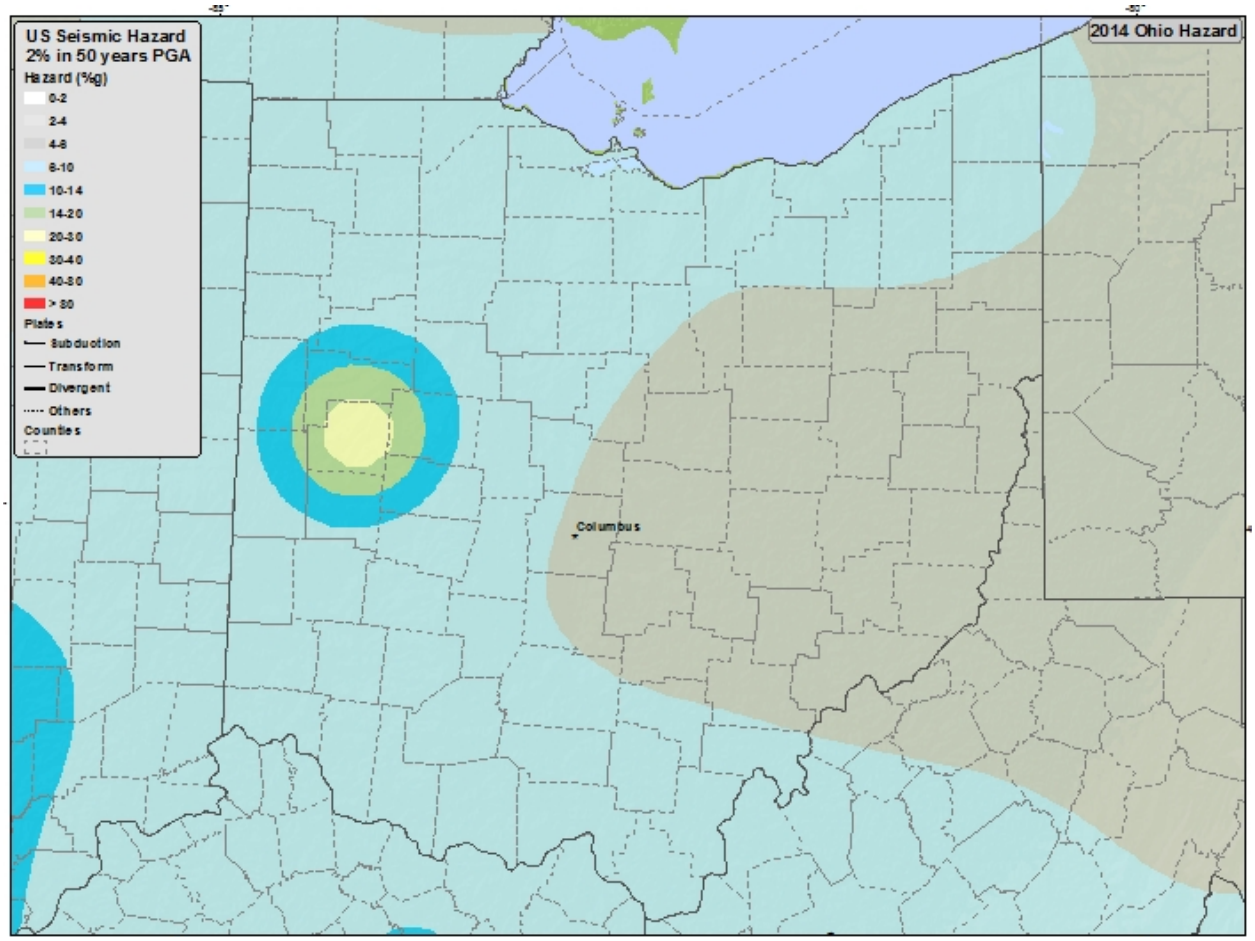
Furthermore, the ODNR indicates that the brief historic record of Ohio earthquakes suggests a risk of moderately damaging earthquakes in the western, northeastern, and southeastern parts of the State.

Figure 4.3.4: Chance of Potentially Minor-Damage Ground Shaking in 2018



Source: USGS

Figure 4.3.5: 2014 Seismic Hazard Map of the State of Ohio



Source: USGS

Vulnerability Assessment

Infrastructure Impact

Since there are no recent earthquake events with recorded damages, exact damages to infrastructure are unknown. Buildings, roadways, and gas and power lines have the potential to be affected. Since the probability of an earthquake occurring in Summit County is less than one percent, there is a low risk of impact to infrastructure as a result.

Population Impact

There is a low risk of earthquakes occurring in Summit County. Accordingly, there is low risk of impact to the population. If an earthquake would occur within the County, the population could be impacted by loss of homes, loss of utilities, as well as potential reduction of air quality.

For social vulnerability, the National Risk Index indicates that the population in Summit County has a score of 75.2 (“relatively low”) for earthquakes. Earthquakes are unlikely to occur in Summit County; therefore, the population is unlikely to be affected by earthquakes. Socially vulnerable populations may be more affected by earthquakes if they live in older housing units or apartment complexes that do not have adequate earthquake-resilient infrastructure. The index indicates an expected annual loss of $650,000 due to earthquakes with a less than 0.021 percent chance of an event occurring per year.

Property Damage

With any earthquake event, there is potential for property damage to occur, as ground shaking can lead to damaged buildings. Due to the non-site-specific nature of this hazard, **Table 4.3.2** lists all structures within Summit County as having potential impacts from earthquakes. It also provides values for two worst-case scenarios valued at one percent damage and five percent damage.

Loss of Life

Summit County has no recorded earthquake events that have resulted in loss of life; however, in the event that an earthquake occurs, there is potential for loss of life. If there are more people and structures in an earthquake prone location, there is likely to be more of an impact. Loss of life can be mitigated by educating the public on proper protection in the event of an earthquake. For example, the USGS resources on preparing for an Earthquake hazard (USGS Resources for Earthquake Preparedness) as well as the Ready Campaign (Ready.gov) are national public service campaigns designed to educate and empower the American people to prepare for, respond to, and mitigate disasters.

Economic Losses

Earthquakes have the potential to damage infrastructure, resulting in economic burden of clean up and repairs. Potential economic losses and damages associated with Summit County for earthquakes according to FEMA's National Risk Index are recorded in **Table 4.3.2** below. This table summarizes the population from 2020, building value, expected annual losses (EAL) for buildings, and expected annual losses (EAL) for the population for the top 20 vulnerable census tracts in Summit County. Compared with other hazards, earthquakes are relatively unlikely to occur in Summit County, meaning there is low risk of economic loss as a result of an earthquake.

Table 4.3.2: Structure and Population Vulnerability from Earthquakes

Census Tract	Population (2020)	Building Value ($)	Expected Annual Loss –Building	Expected Annual Loss – Population
503800	3,783	$ 1,319,877,495	$ 9,236	0.01%
506800	2,196	$ 1,281,995,599	$ 11,193	0.01%
508000	5,345	$ 952,727,765	$ 1,956	0.00%
508301	1,368	$ 913,857,326	$ 8,245	0.01%
508399	4,351	$ 799,898,062	$ 2,741	0.00%
508800	5,362	$ 677,419,714	$ 2,669	0.01%
508900	4,291	$ 2,414,595,464	$ 24,758	0.05%
510200	3,992	$ 661,800,058	$ 2,770	0.01%
510301	5,110	$ 775,238,687	$ 5,829	0.01%
510500	4,065	$ 522,986,795	$ 2,234	0.01%
530104	7,599	$ 1,216,049,865	$ 3,456	0.01%
530603	4,617	$ 1,167,817,613	$ 9,050	0.01%
530901	4,699	$ 1,156,620,225	$ 6,608	0.01%
531801	4,772	$ 1,045,894,532	$ 3,472	0.01%
532004	3,782	$ 921,259,364	$ 4,241	0.01%
532701	8,077	$ 3,800,483,927	$ 14,800	0.01%

Census Tract	Population (2020)	Building Value ($)	Expected Annual Loss –Building	Expected Annual Loss – Population
532902	10,091	$ 2,654,645,953	$ 14,411	0.02%
533400	5,973	$ 1,206,330,523	$ 7,116	0.02%
533501	9,186	$ 2,078,427,241	$ 10,896	0.02%
534000	7,304	$ 2,058,411,490	$ 11,963	0.02%
Total	**105,963**	**$ 27,626,337,698**	**$ 157,642**	**0.24%**

Future Trends

Land Use and Development Trends

While incidence and likelihood of earthquakes is low in Summit County, all communities are at low risk. By planning for and managing land use to accomplish social, ecological, and economic sustainability, communities can reduce the negative impacts caused by earthquakes. This can be accomplished through comprehensive land-use plans and supportive federal and state policies. As such, enforcement of stricter building codes that ensure that all new developments are built up to code can reduce risk. Infrastructure (constructed facilities and lifelines) should be designed and constructed to resist earthquake shaking following the current state-of-the-art engineering and technology practices.

Climate Change

Climate change has no known effect on the probability or extent of earthquakes.

4.4 Flood

Description

FEMA describes a flood as "a general and temporary condition of partial or complete inundation of normally dry land areas from the overflow of inland or tidal waters [and] the unusual and rapid accumulation or runoff of surface waters from any source." Floods are typically riverine, coastal, or shallow. Flash floods are floods that occur quickly, even occurring without visible signs of precipitation.

Urban flooding is a type of flood that can occur in areas of development that have a high level of impervious surfaces such as concrete. The level of development and the level of stormwater management practices impact the severity of urban flooding.

Common flood-related terms include:

- **100-Year Flood:** A flood that has a one percent chance to occur each year. The 100-year floodplain can be seen in **Figure 4.x.1: Flood Hazard Map**. The elevation of the water from the 100-year flood is called the Base Flood. Mitigation strategies should be based on the base flood elevation.
- **Floodplain:** An area that has the potential to flood from any source.
- **Floodway:** Sometimes referred to as a regulatory floodway. FEMA defines a floodway as "the channel of a river or other watercourse and the adjacent land areas that must be reserved in order to discharge the Base Flood without cumulatively increasing the water surface elevation more than a designated height."
- **Flash flood:** Flash floods are typically caused by heavy rainfall over a short period of time. These floods are particularly dangerous because they can occur in minutes and can sometimes occur even without rainfall such as when an ice jam breaks or dissolves. Areas impacted by wildfires are particularly susceptible to flash floods. Flash floods can occur just about anywhere with enough rainfall and are not restricted to the 100-year floodplain. Development/restriction to drainage or increased impervious surfaces can contribute to flash flood frequency.

Location

Flooding can occur throughout Summit County. Flash flooding is more likely to occur in developed areas or along lakes and rivers. **Figure 4.4.1** shows the location of the 100-year floodplain. Floods can and do occur outside the FEMA defined 100-year flood zone. Sometimes very small watersheds are not included in the FEMA analyses, but floods can occur in these smaller watersheds, as well.

Extent

Summit County currently has 95 flood insurance maps (see **Appendix F**). The most recent update is from April 2016.

Summit County and 21 communities within the County, including the Cities of Akron, Barberton, Cuyahoga Falls, Fairlawn, Green, Hudson, Macedonia, Munroe Falls, New Franklin, Norton, Reminderville, Stow, Tallmadge, and Twinsburg participate in the National Flood Insurance Program (NFIP) **(Table 4.4.2)**. The Villages of Boston Heights, Clinton, Lakemore, Mogadore, Peninsula, Silver Lake, and Richfield participate in the NFIP. The Village of Mogadore is in both Summit and Portage County. The Village of Northfield falls outside of the FEMA designated 100-year floodplain and does not participate in the NFIP.

Figure 4.4.1: 100-Year Flood Zone in Summit County, Ohio

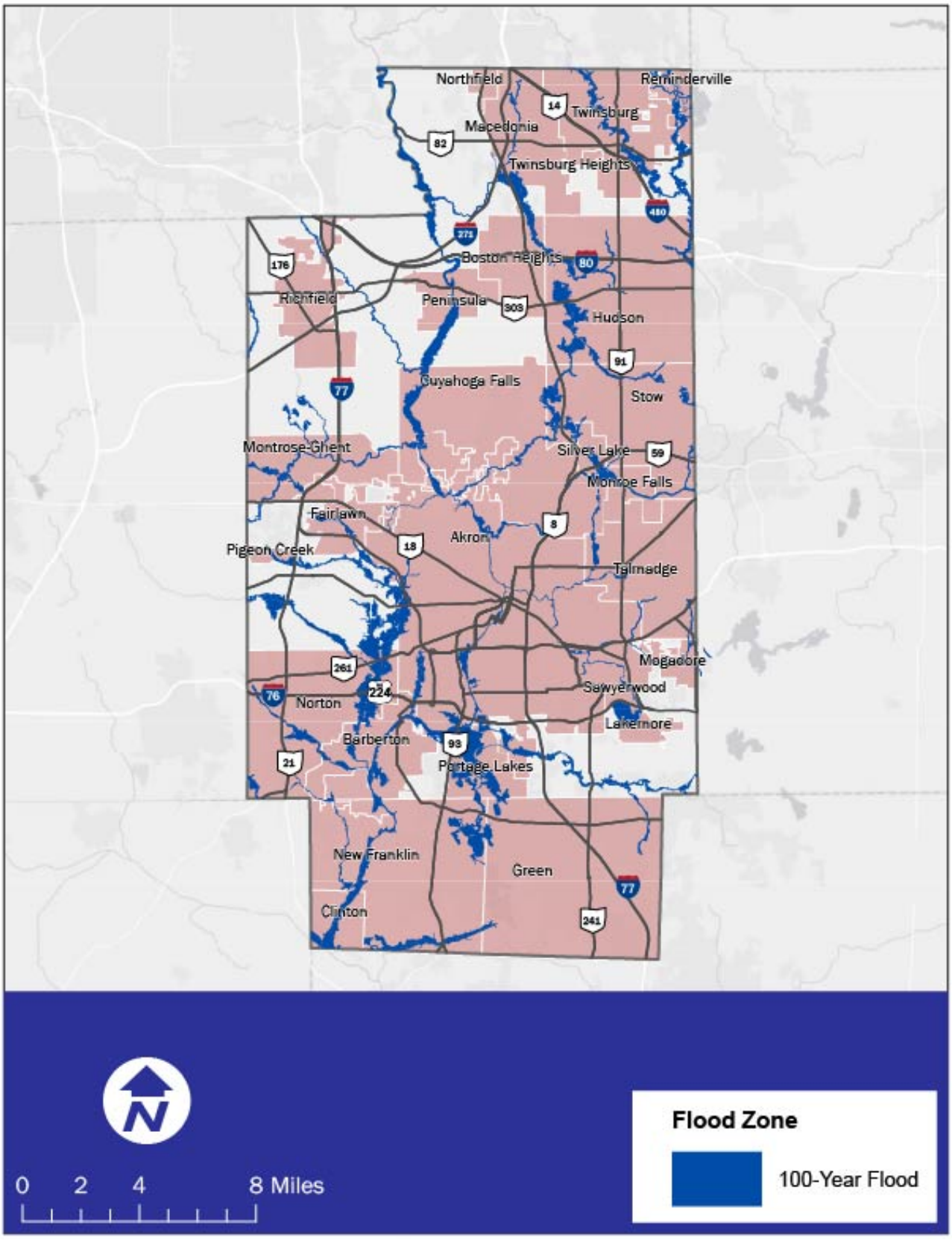


Table 4.4.2 National Flood Insurance Program Participation for Summit County, Ohio

CID	Community Name	County	Init FHBM Identified	Init FRIM Identified	Curr Eff Map Date	Reg-Emer Date	Participating in NFIP
390523B	City of Akron	Summit County	03/15/74	02/18/81	04/19/16	02/18/81	Yes
390524B	City of Barberton	Summit County	05/24/74	01/16/81	04/19/16	01/16/81	Yes
390749B	Village of Boston Heights	Summit County	07/25/75	02/18/81	04/19/16	02/18/81	Yes
390525B	Village of Clinton	Summit County	02/08/74	07/02/80	04/19/16	07/02/80	Yes
390526B	City of Cuyahoga Falls	Summit County	02/01/74	02/18/81	04/19/16	02/18/81	Yes
390657B	City of Fairlawn	Summit County	03/29/74	01/16/81	04/19/16	01/16/81	Yes
390927B	City of Green	Summit County		07/20/09	04/19/16	05/29/02	Yes
390660B	City of Hudson	Summit County	03/29/74	09/30/80	04/19/16	09/30/80	Yes
390527B	Village of Lakemore	Summit County	05/28/76	07/20/09	04/19/16(M)	05/25/78	Yes
390750B	City of Macedonia	Summit County	04/18/75	02/04/81	04/19/16	02/04/81	Yes
390843B	City of Munroe Falls	Summit County	10/13/78	05/16/94	04/19/16	05/16/94	Yes
390993B	City of New Franklin	Summit County		07/20/09	04/19/16	11/14/08	Yes
390529B	City of Norton	Summit County	03/15/74	01/16/81	04/19/16	01/16/81	Yes
390530B	Village of Peninsula	Summit County	03/22/74	03/02/79	04/19/16(M)	03/02/79	Yes
390855B	City of Reminderville	Summit County	05/18/79	05/17/90	04/19/16	05/17/90	Yes
390083B	Village of Richfield	Summit County		07/20/09	04/19/16	12/7/09	Yes
390531B	Village of Silver Lake	Summit County	02/08/74	03/16/81	04/19/16	03/16/81	Yes
390532B	City of Stow	Summit County	03/01/74	07/17/78	04/19/16	07/17/78	Yes

CID	Community Name	County	Init FHBM Identified	Init FRIM Identified	Curr Eff Map Date	Reg-Emer Date	Participating in NFIP
390781B	Summit County *	Summit County	04/07/78	04/15/81	04/19/16	04/15/81	Yes
390533B	City of Tallmadge	Summit County	08/15/75	04/15/81	04/19/16	04/15/81	Yes
390534B	City of Twinsburg	Summit County	03/15/74	02/04/81	04/19/16	02/04/81	Yes
390528B	Village of Mogadore	Summit County And Portage County	02/08/74	04/02/82	04/19/16(M)	09/03/79	Yes

Repetitive Loss

There are 64 repetitive loss and 11 severe repetitive loss properties in or near Summit County, Ohio, detailed in **Table 4.4.3**. FEMA defines a repetitive loss property as an insurable building for which two or more claims of more than $1,000 were paid by the National Flood Insurance Program (NFIP) within any rolling ten-year period since 1978. FEMA defines a severe repetitive loss property as a single family property that is covered under flood insurance by the NFIP and has incurred flood-related damage for which four or more separate claims payments have been paid under flood insurance coverage, with the amount of each claim payment exceeding $5,000 and with cumulative amount of such claims payments exceeding $20,000; or for which at least two separate claims payments have been made with the cumulative amount of such claims exceeding the reported value of the property.

Table 4.4.3: Repetitive Loss Properties in Summit County, Ohio

Community Name	Occupancy	Total Losses	Severe Repetitive Loss
City of Akron	Non-Residential	4	No
City of Akron	Residential	20	No
City of Barberton	Business	4	Yes
City of Barberton	Residential	9	Yes
City of Barberton	Business	13	No
City of Barberton	Non-Residential	2	No
City of Barberton	Residential	68	No
City of Barberton	Unknown	2	No
Village of Clinton	Residential	9	No
City of Fairlawn	Residential	2	No
City of Hudson	Residential	2	No
City of Munroe Falls	Residential	9	Yes
City of Norton	Business	6	No
City of Norton	Residential	3	No

Community Name	Occupancy	Total Losses	Severe Repetitive Loss
Summit County	Non-Residential	5	Yes
Summit County	Residential	22	Yes

History

There have been 54 floods or flash floods in Summit County between January 1995 and December 2022. These events have caused $180,320,000 in property damages and $100,000 in crop damage. There have been two major disaster declarations related to flooding covering Summit County since 1995, one of which resulted in three deaths when two young men drowned in their apartment complex garage and one gentleman was electrocuted in his flooded basement. There have also been five flood events that caused property damage since the 2018 Summit County Hazard Mitigation Plan, four of which were on June 17, 2019 and one on May 25, 2020. One flood event that effected Summit County on February 28, 2011 resulted in a loss of life in Huron County Ohio. The two major disaster declarations, floods that caused damage since the 2018 Summit County Hazard Mitigation Plan, and flood that resulted in loss of life are described below:

Flooding in the Village of Peninsula on May 25, 2020:

A thunderstorm produced 2.25 inches of rain in 30 minutes, overwhelming storm drains. Flooding started 10 minutes after the downpour on Morris Drive, Woodland Drive, I-271 underpass and Riverview Drive. There was minor damage, equaling $15,000, reported to Riverview Drive. There were no deaths or injuries reported.

Flooding in the Summit County on June 17, 2019:

A stationary front brought heavy rainfall throughout Summit County. The City of Akron and City of Barberton reported over five inches of rain on June 17, 2019. The month of June was wet, so the grounds were saturated, and rivers were full already, causing several flash floods. Many basements were filled with up to six feet of water in the City of Barberton and several roads were over washed. Pigeon Creek in the City of Akron was as inundated as projected for a 100-year flood. Hundreds of homes and businesses reported damage due to the floods. Summit County reported $4,255,000 in property damage. There were no deaths or injuries reported.

Flooding in Summit County of February 28, 2011:

A low-pressure front moved across northeast Ohio bringing heavy rain. The combination of heavy rain and snow melt rose the Cuyahoga River water levels, reaching a moderate flood state at Old Portage. Temperatures continued to rise into the 40s, causing the snow to melt further and widespread flooding and some flash floods. A woman lost her life when her car was swept away by flood waters near the City of Norwalk in Huron County. Dozens of roads were closed, and hundreds of people had to be evacuated from their homes. Northern Ohio estimated damage at $30 million. Summit County reported $300,000 in property damage. No additional deaths or injuries were reported.

Major Disaster Declaration, May 18, 2004 to June 21, 2004 (DR-1519-OH):

Heavy rain producing thunderstorms caused flooding throughout Summit County. Over 200 homes in the City of Cuyahoga Falls and the City of Stow were damaged when the Cuyahoga River overflowed. Heavy rains continued in Summit County through May 22, 2004 flooding several more jurisdictions within Summit County. A dam on Hudson Run was damaged by flooding waters and several roads were washed out due to flooding rivers. A major disaster declaration was declared for 27 counties in Ohio, with approximately $19 million being offered for individual assistance and $10.6 million offered for public assistance. Summit County reported $3,866,666 in in property damage. There were no deaths or injuries reported.

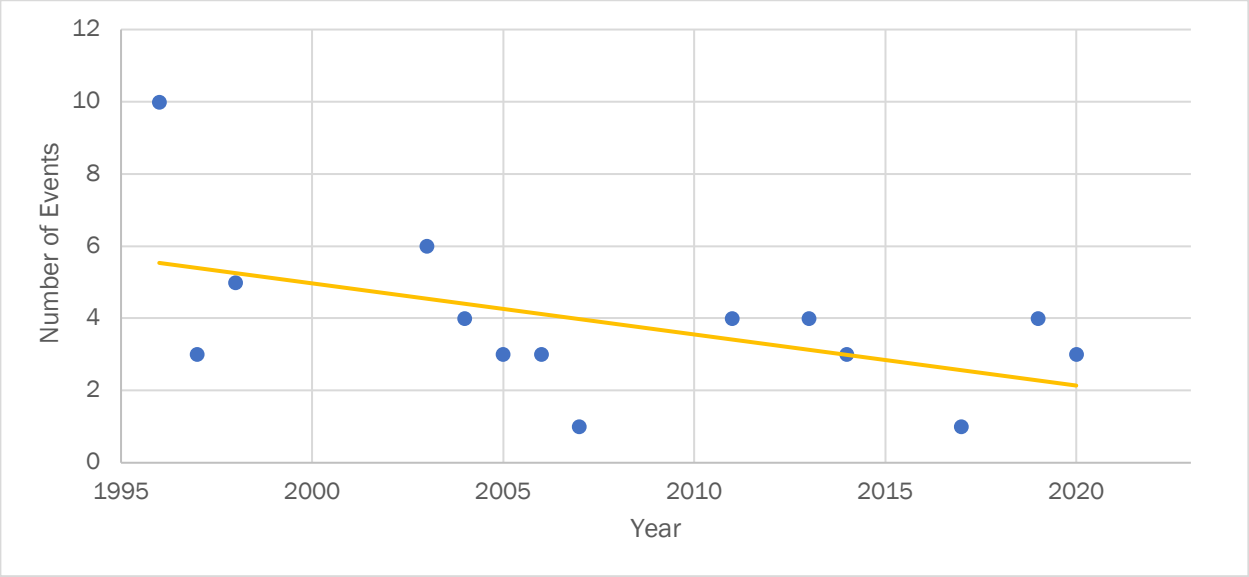
Major Disaster Declaration, July 21, 2003 to August 25, 2003 (DR-1484-OH):

Heavy thunderstorms brought extensive rainfall to Summit County on July 21 – 27, 2003 causing multiple floods and flash floods. Rainfall rates were measured at two inches per hour during the evening hours and several spotters measured seven to ten inches of rain fall throughout Summit County. The continuous rainfall flooded creeks and streams, washing out roads and filling garages. Three bridges leading to an apartment complex in the City of Akron were washed out, trapping over 200 residents until July 22, 2003 when a temporary road could be built. Two young men drowned in their apartment complex garage and one young man was electrocuted in his basement due to the flood waters. A major disaster declaration was declared on August 1, 2003 for 15 counties, three were offered individual assistance only, three were offered public assistance only, and nine were offered both public and individual assistance. Summit County was offered both types of assistance and had a reported $111,250,000 in property damage. It was estimated that about 1,000 buildings sustained flood damage. There were no injuries reported.

Probability

Figure 4.4.2 Between 1995 and 2022, Summit County has experienced 54 flooding events, including both floods and flash floods. Annually, this amounts to approximately two floods or flash floods. The yellow trendline of flood occurrences per year is decreasing, which may suggest that Summit County can expect a similar frequency of flood events each year or less. In addition, according to the State of Ohio Hazard Mitigation Plan (SOHMP), increased precipitation and variability by climate change will also increase the likelihood and intensity of flood events. The Climate Change section in Future Trends discusses climate change further.

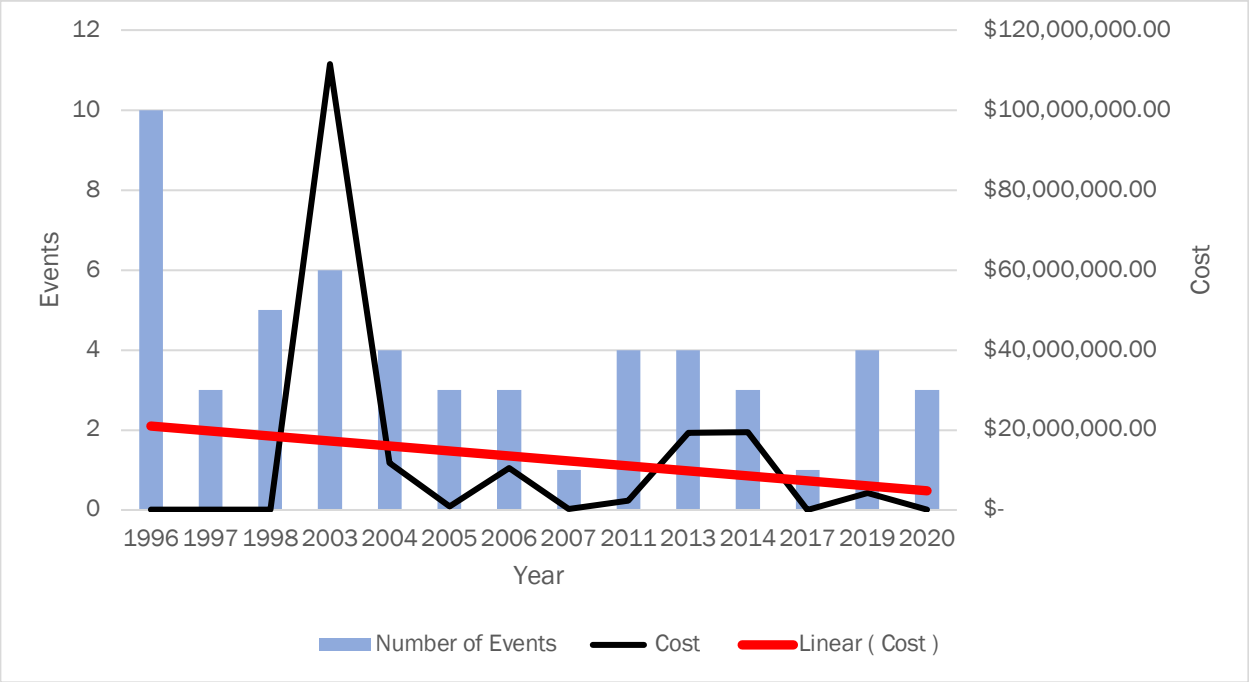
Figure 4.4.2 Probability of Flooding



Data Source: NOAA

Figure 4.4.3 shows both the trend of flood events and affiliated cost over time since January 1995. Between 1995 and 2022, floods or flash flood evens have resulted in $180,320,000 in property damage and $100,000 in crop damage (Source: NCEI). Annually, this amounts to approximately $6,682,222 in property and crop damages. The trendline (show in red) indicates a gradual decline in property and crop damage costs; however, the trendline may be skewed due to the ten significant 1996 floods.

Figure 4.4.3 Probability and Cost of Flooding



Data Source: NOAA

Vulnerability Assessment

Infrastructure Impact

Floods can impact roadways, including interstates and state routes, by blocking them due to high water, filling them with debris or washing away the road altogether.

Population Impact

Floods and flash floods have caused damages to occupied homes and businesses in the past. During flood events, shelter and temporary housing may need to be provided to those impacted by flooding.

For social vulnerability, in the National Risk Index, "riverine flooding" had a score of 20.42 ("Relatively High"). People that are most vulnerable to flooding are those who live within the 100-year floodplain in structures that are not elevated about the base flood elevation. The index indicates an expected annual loss of $7.3 million due to flood events with 1.5 events occurring per year.

Property Damage

Floods have the potential to damage infrastructure, resulting in economic burden of clean up and repairs. Potential economic losses and damages associated with Summit County for riverine flooding according to FEMA's National Risk Index are recorded in **Table 4.4.4** below. This table summarizes the population from 2020, building value, expected annual losses (EAL) for buildings, and expected annual losses (EAL) for the population for the top 20 vulnerable census tracts in Summit County. Compared with other hazards, riverine flooding has an average rating of relatively moderate for the top 20 census tracts, meaning there is moderate risk of economic loss as a result of a flood in Summit County.

Table 4.4.4 Structure and Population Vulnerability from Flooding

Census Tract	Population (2020)	Building Value ($)	Expected Annual Loss –Building	Expected Annual Loss – Population
503800	3,783	$ 1,319,877,495	$ 0	0.00%
506800	2,196	$ 1,281,995,599	$ 84,953	0.02%
508000	5,345	$ 952,727,765	$ 131,199	0.25%
508301	1,368	$ 913,857,326	$ 167,898	0.01%
508399	4,351	$ 799,898,062	$ 277,676	0.66%
508800	5,362	$ 677,419,714	$ 71,399	0.03%
508900	4,291	$ 2,414,595,464	$ 0	0.00%
510200	3,992	$ 661,800,058	$ 274,931	0.08%
510301	5,110	$ 775,238,687	$ 651,776	0.58%
510500	4,065	$ 522,986,795	$ 248,931	0.51%
530104	7,599	$ 1,216,049,865	$ 137,161	0.33%
530603	4,617	$ 1,167,817,613	$ 252,872	0.57%
530901	4,699	$ 1,156,620,225	$ 81,130	0.08%
531801	4,772	$ 1,045,894,532	$ 185,345	0.28%
532004	3,782	$ 921,259,364	$ 703,455	0.22%
532701	8,077	$ 3,800,483,927	$ 161,835	0.06%
532902	10,091	$ 2,654,645,953	$ 77,383	0.23%
533400	5,973	$ 1,206,330,523	$ 276,059	0.45%
533501	9,186	$ 2,078,427,241	$71,717	0.09%
534000	7,304	$ 2,058,411,490	$ 247,038	0.30%
Total	**105,963**	**$ 27,626,337,698**	**$ 4,102,760**	**4.73%**

Loss of Life

There are four reported deaths from flood events in Summit County during the flooding July 21, 2003. During this flood event two young men drowned when their apartment complex garage filled with water and one gentleman was electrocuted when his basement filled with flood waters. A flood event that effects Summit County resulted in a loss of life in Huron County when flood waters swept a woman and her car away. Loss of life is possible in future floods or flash floods.

Economic Losses

Floods can halt economic activity, block roadways, and destroy agricultural crops. Businesses may need to shut down their operations due to flood water damage or road closures. Crop losses are also possible during floods or flashfloods.

Future Trends

Land Use and Development Trends

Any development that occurs in flood zones will be at risk. Development in these areas should be limited. Flash flooding is more likely to occur in areas with a high percentage of impervious surfaces.

Future land use practices should limit the percentage of impervious surfaces. Chapter 5 contains mitigation actions that address these issues.

Climate Change

According to the International Panel on Climate Change, climate change has impacted human and natural systems. For example, infrastructure and stormwater systems in the Midwest are threatened by increased precipitation frequency and intensity induced by climate change (NCA 2018). According to the SOHMP, increased precipitation and variability by climate change will also increase the likelihood and intensity of flood events, which will mostly occur during the summer and fall months. These events will mainly occur late summer to early winter, increasing the likelihood of cool season flood events in the late autumn and early winter. Additionally, heavy precipitation events and precipitation are projected to increase during winter and spring, causing flooding, sewer overflow, inundated roadways, delayed growing season and crop damage, and infrastructure damage. Emergency action plans, green infrastructure, and anticipating extreme events are important steps to prepare for climate change.

4.5 Landslide and Mine Subsidence

Description

The Ohio Department of Natural Resources (ODNR) defines a landslide as "a variety of downslope movements of earth materials. Some slides are rapid, occurring in seconds, whereas others may take hours, weeks, or even longer to develop." Landslides are commonly triggered by human-induced vibrations, over-steepened slopes, increased weight on a slope, and removal of vegetation on areas with landslide-prone slopes. Landslides can also be caused by heavy precipitation.

Subsidence is the motion of the earth's surface as it shifts downward relative to a benchmark (often sea level) of the surrounding terrain. In Ohio, the two primary causes are abandoned underground mines (AUMs) and karst. Karst is a topographic feature formed when carbonate rock, such as limestone, dolomite, and gypsum, is eroded by water draining or moving from these areas. Karsts are commonly represented as caves. For the purposes of this Plan, there are no known karsts in Brown County, so karst subsidence will not be assessed further.

According to the Ohio Administrative Code 3901-1-48, mine subsidence is loss caused by the collapse or lateral or vertical movement of structures resulting from the caving in of underground mines including coal mines, clay mines, limestone mines, and salt mines. Mine subsidence does not include loss caused by earthquakes, landslides, volcanic eruptions, or collapse of strip mines, storm and sewer drains, or rapid transit tunnels. Several factors determine the potential for mines to collapse including depth, mining technique used, types of rock and/or soils, and the development on the ground surface. Additionally, abandoned underground coal mines in Ohio have the potential to discharge acidic water which, if discharged into creeks or streams, can alter the chemical composition of the water habitat and cause considerable harm to sensitive aquatic life.

Location

Figure 4.5.1 shows the location of abandoned underground mines in Ohio and which counties have the option or are required to obtain mine subsidence insurance. The majority of abandoned underground mines can be found in Region 3 or in adjacent counties, such as Summit County. **Figure 4.5.2** shows the location of areas at risk for landslides. Summit County is in Region 2 and has high or moderate incidence of landslides.

Figure. 4.5.1 Abandon Mine Locations and Insurance Availability

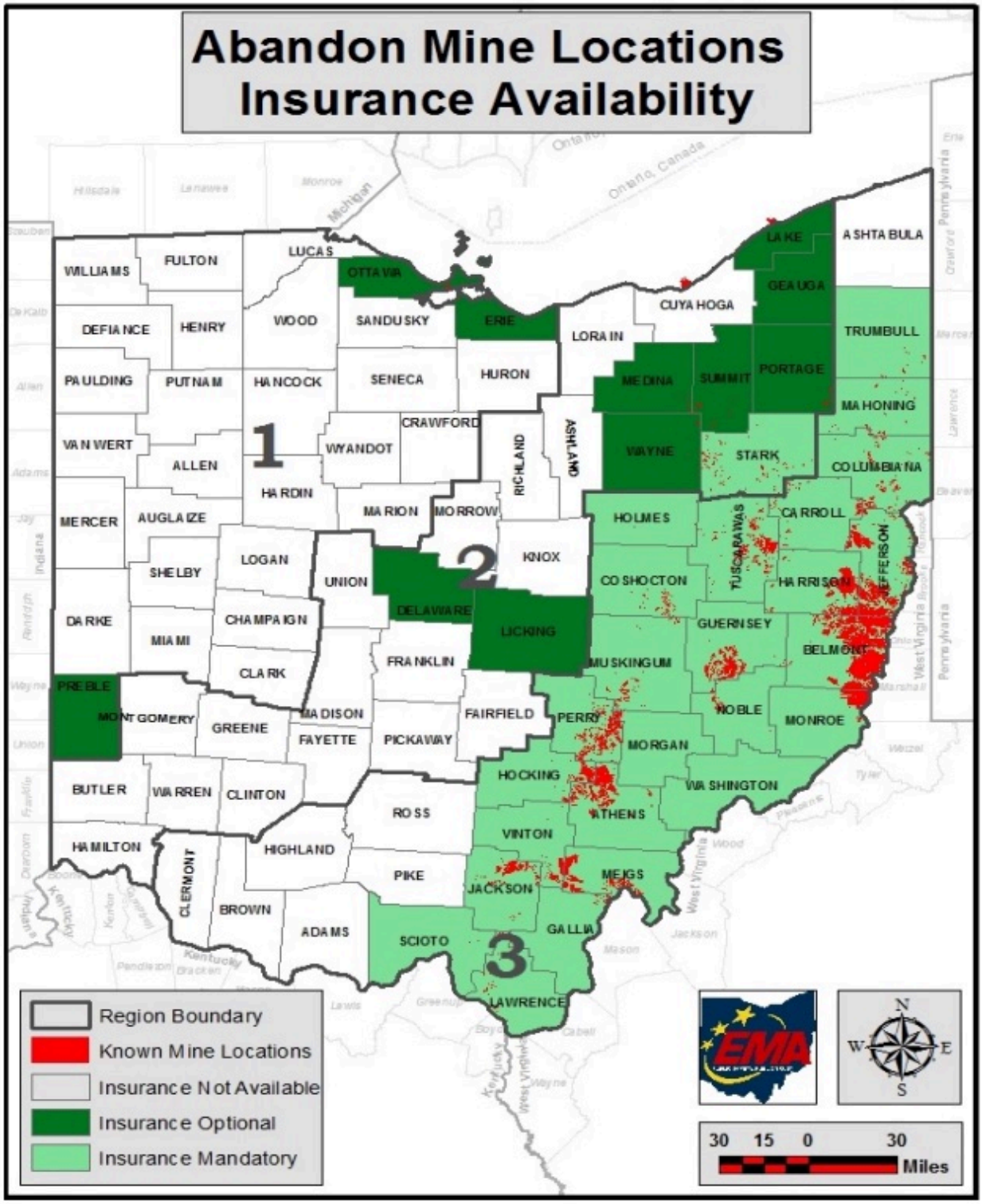
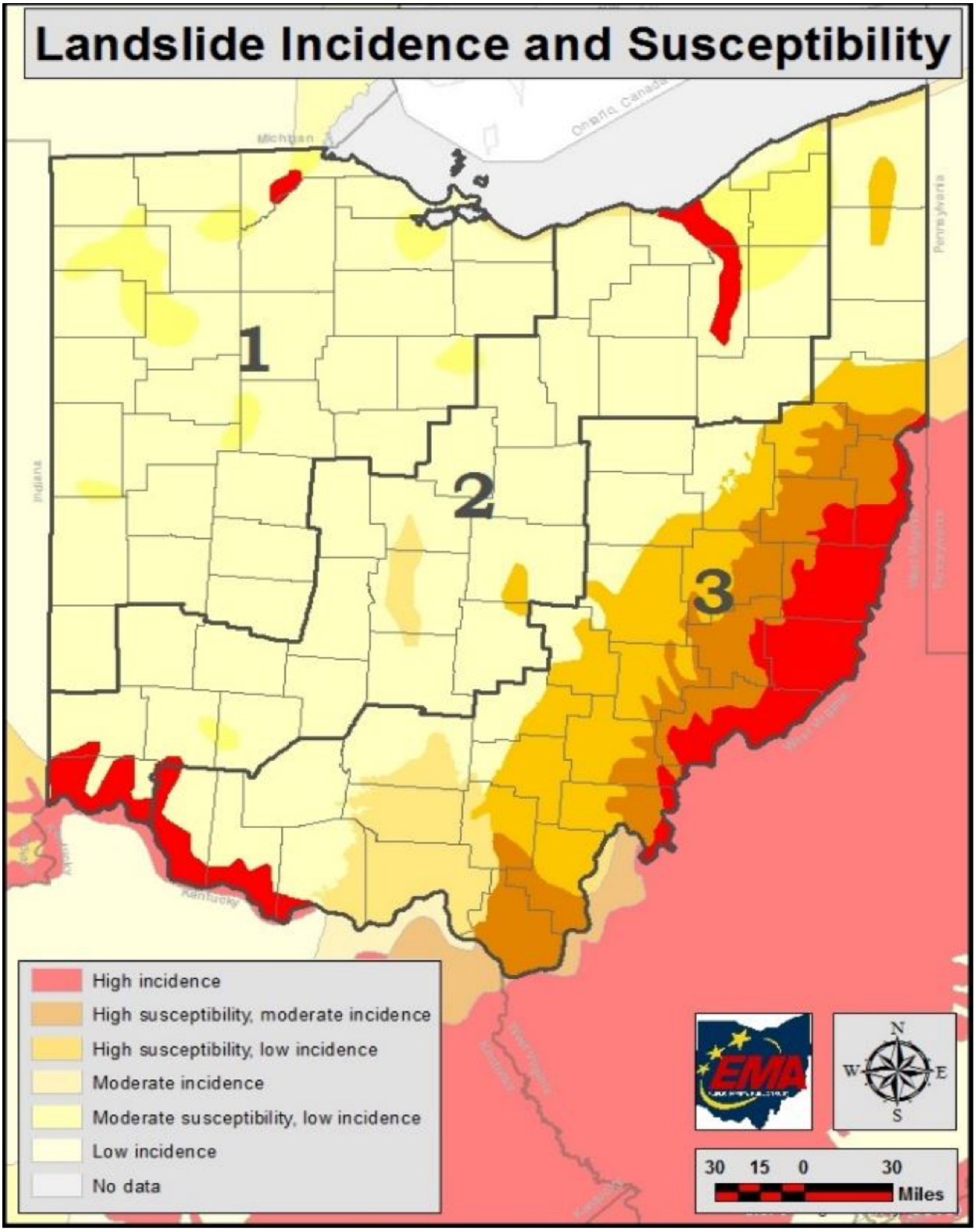


Figure 4.5.2: Landslide Incidence and Susceptibility Map



Extent

According to ODNR Division of Geologic Survey, Summit County is home to six bedrock formations: the Logan and Cuyahoga Formations Undivided, Allegheny and Pottsville Groups Undifferentiated, Berea Sandstone and Bedford Shale Undivided, Ohio Shale, Cuyahoga Formation, and Allegheny and Pottsville Groups Undivided. These formations include a mix of shale, siltstone, sandstone, conglomerate, limestone, flint, underlay, coal

There are three major types of landslides:

1. Rotational slump, or a mass of weak rock or sediment moving as a block unit along a slope. These are the largest types of landslides found in Ohio.
2. Earthflow, or a mass of rock or sediment flowing downslope. These are the most common landslides in Ohio.
3. Rock fall, or a rapid downslope movement of large blocks of bedrock. Most rockfalls in Ohio involve sandstone or limestone that has been weakened by surface water.

According to the Ohio Mine Subsidence Insurance Underwriting Association, mine subsidence is caused by the collapse of underground mines causing damage or movement to a property and/or structure located above. Mine Subsidence insurance is required by 26 counties and optional for 11 counties in Ohio State. Insurance for the mandatory counties has an annual premium of $1.00 and $5.00 for optional counties. Summit County residents have the option of adding mine subsidence insurance. According to the ODNR there are 36 abandoned underground mines in Summit County. The most common mines in Summit County are coal mines, but iron ore was also mined.

Table 4.5.3 shows the insurance claims, claim payments, and policies. Though no claims have been paid out in Summit County since 2017, policies holders have increased each year. From 2020 to 2021 there was an increase in 3,740 policies, equaling a 14.4 percent increase.

Table 4.5.3 Landslide and Rockfall Sites

Year	Open Claims	Closed Claims	Claim Payments	Policies
2021	3	0	$0	29,722
2020	1	2	$0	25,982
2019	0	1	$0	25,737
2018	0	0	$0	24,665
2017	0	2	$0	22,801
Average	**0.8**	**1**	$0	**25,781**

History

According to the Summit County Engineer's office Boston Mills Road and Valley View Road have had several active landslides. The landslides on Boston Mills Road will cost upwards of $40 million. A recent project completed by the engineer's office is described below:

Landslide in the Village of Peninsula, November 2020 to November 2021: A portion of the Akron-Peninsula Road between SR 303 and Truxell by the old Brandywine golf course was closed in November 2020. The Summit County Engineer's Office advised the Village of Peninsula of the roadway's integrity was jeopardized due to an embankment slide where the Cuyahoga River comes near the road. The portion of the road was closed for a year and $1.0 million from the Ohio Public Works Commission Emergency Program were used to stabilize the road and riverbank.

Mine Subsidence in the City of Tallmadge, 1998: A sewer line collapsed on West Avenue near Brittain Road in the City of Tallmadge. A coal shaft was discovered 10 feet below the surface. The ODNR took over the stabilizing. There is no information on the property damage.

Mine Subsidence in the City of Cuyahoga Fall, 1988: At the Barney's Busy Corners six-way intersection a sewer collapsed revealing an abandoned mine 10 feet below the surface. There is no information on the property damage.

Table 4.5.4 shows the most up to date probability of occurrences of landslides and rockslides in Summit County. "Tier" refers to the probability of an event occurring at a given site, with Tier 1 being low probability and Tier 4 being very high probability.

Since incidents of landslides and rockslides often go unreported, individual sites are an accurate way to discuss both past problem areas and future probability of events. The most common tier in the County is Tier 1, with 91 Tier 1 sites out of a total of 107 sites.

Table 4.5.4 Landslide and Rockfall Sites

Tier	Landslides	Rockslides	Total
Tier 1	26	65	91
Tier 2	8	10	8
Tier 3	0	0	0
Tier 4	0	0	0
Total	**32**	**75**	**107**

Figures 4.5.5 and 4.5.6 show that Summit County has moderate occurrences of landslides and rock falls as compared to other counties within Ohio with 32 total landslides and 72 rock fall sites as of June 18, 2019. These events are only reported on roadways, and do not constitute a countywide assessment on their own.

Figure 4.5.5: State of Ohio Total Geohazards Landslide Inventory

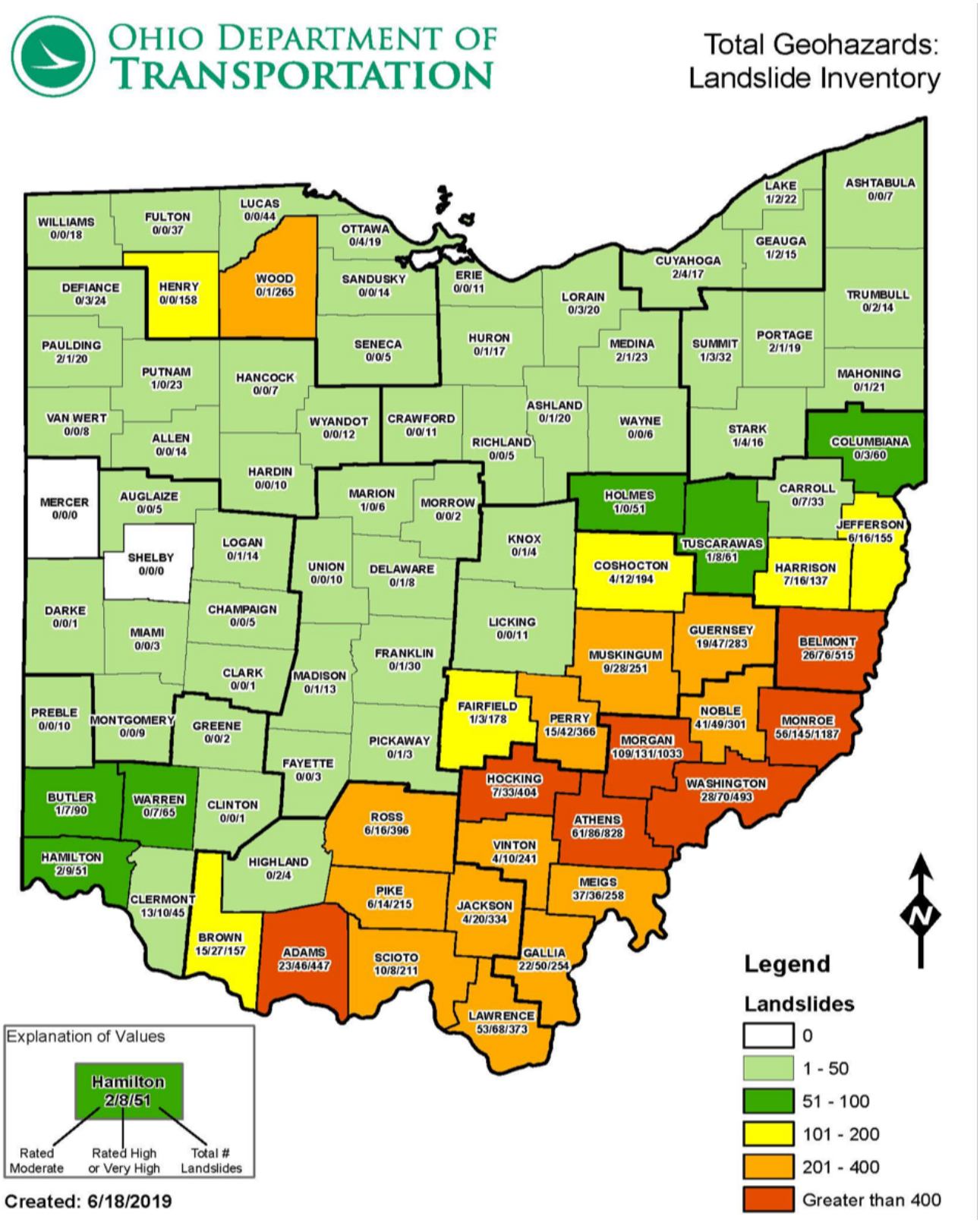
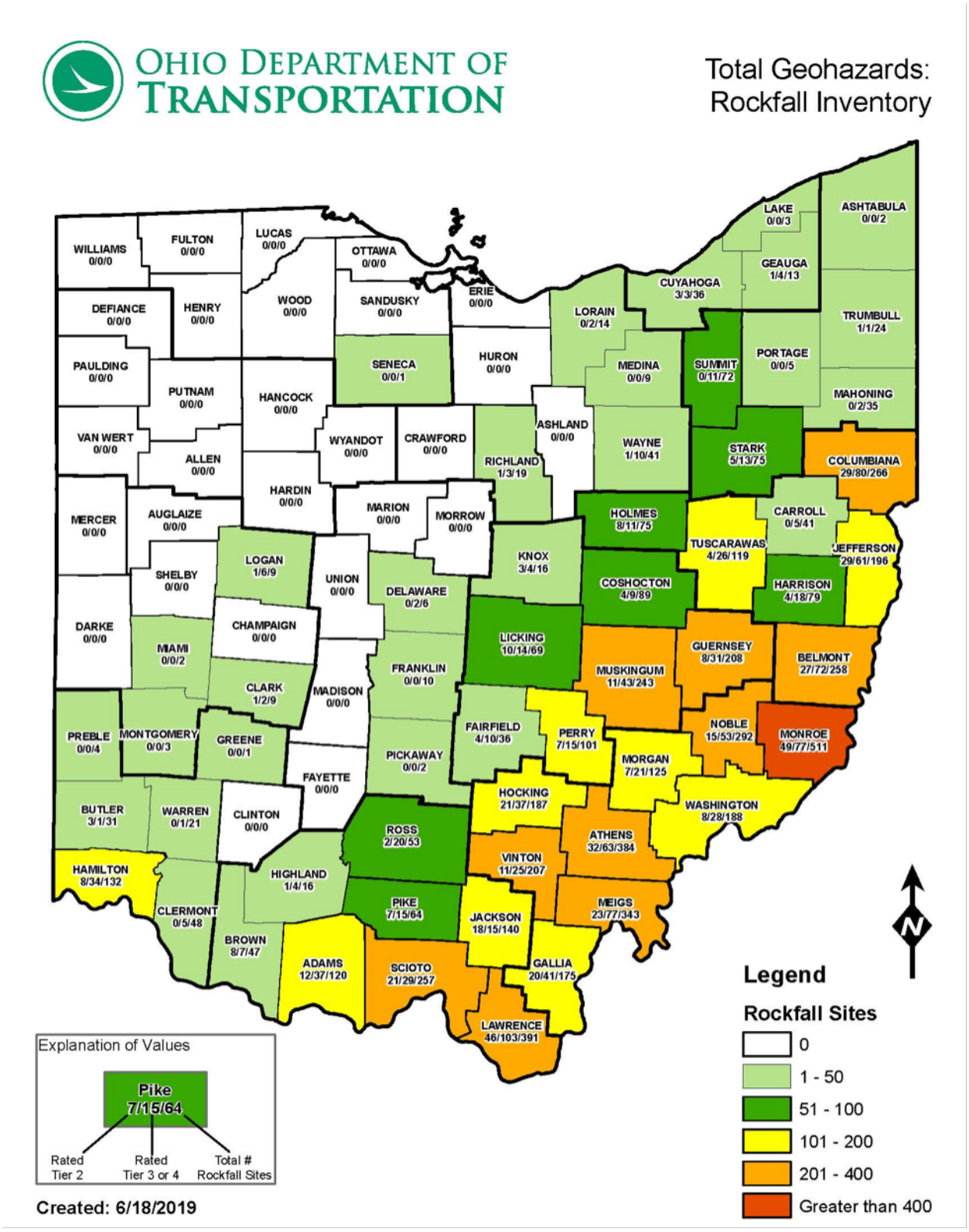


Figure 4.5.6: State of Ohio Total Geohazards Rockfall Inventory



Probability

According to the ODNR, Summit County falls within an area of moderate to high risk for slope failure. Landslides should be considered a likely event. Summit County's high risk for slope failure is due to the Cuyahoga Valley (lake deposits) which is marked red on **Figure 4.5.2**. The area is characterized by glacial sediments that are easily eroded by wave action and include till, lake clays, and silt. The 1870 Ohio Mine Law required a mine be registered if it had more than 10 employees and mined more than 200,000 tons of coals. This leaves an undocumented number of smaller mines that closed prior to 1870. There are a known 6,000 underground mines in Ohio. On February 08, 2022 the federal government granted the State of Ohio $46.4 million to reclaim abandoned coal mines. Though there are few mine collapses in Summit County documented, mine subsidence should be considered a likely event.

Vulnerability Risk Assessment

Infrastructure Impact

Landslides can block or damage roadways, and damage existing utility infrastructure. Mine subsidence can occur under existing roadways or utility infrastructure causing anything from minor damage to complete destruction.

Population Impact

Landslides and mine subsidence can cause injury or death if a person is struck by or trapped under falling earthen material. Mine subsidence can cause sinkholes under occupied structures which could lead to injuries.

For social vulnerability, mine subsidence is not listed in the National Risk Index, but landslide is listed with a score of 90.8 ("relatively moderate"). In general, the Summit County population is more exposed to these hazards because they live in hilly areas that are more susceptible to landslides. The index indicates an expected annual loss of $180,000 due to landslides with zero events occurring per year.

Property Damage

Properties caught in the path of a landslide can be destroyed or severely damaged. Properties, including their structures, can be destroyed by mine subsidence.

Additionally, there are currently 64 state-owned and state-leased critical facilities located within Summit County, as determined by ODNR. Of those 64, 37 of these facilities are located within an area of high incidence of landslide and have a value of approximately $178,272,585.

Loss of Life

Loss of life is possible during sudden mine subsidence or landslides. However, there are no known fatalities in Summit County due to mine subsidence or landslides.

Economic Losses

Landslides and mine subsidence can block or destroy sections of roadways vital to shipping. Stores, storage facilities, and other structures that are important to economic activity can also be severely damaged or destroyed. It can also be quite expensive to repair sinkholes when they occur.

Future Trends

Land Use and Development Trends

Uses that serve vulnerable populations, such as schools and hospitals, should not be placed in areas that are in high-risk zones for landslides. Development should be limited to areas with minimal slope to reduce potential losses during landslides. Development should also consider low-impact techniques to reduce the likelihood of runoff from precipitation and therefore reduce the risk of landslides.

Climate Change

According to the Midwest chapter of the Fourth National Climate Assessment, the likelihood of precipitation has increased nine percent, and the amount of rain falling during heavy precipitation events has increased by 30 percent on average between 1901 to 1960. Extreme precipitation could increase the likelihood of landslides in areas with steep slopes. Flooding caused by heavy precipitation could also increase the rate of runoff for acid mine drainage along rivers and streams.

4.6 Non-Natural Hazards

Description

FEMA does not define non-natural hazards, however it does define natural hazards as "environmental phenomena that have the potential to impact societies and the human environment. These should not be confused with other types of hazards, such as manmade hazards, For example, a flood resulting from changes in river flows is a natural hazard, whereas flooding due to a dam failure is considered a manmade hazard."

There are 18 natural hazards, according to FEMA:

Table 4.6.1: FEMA Natural Hazards

Natural Hazards			
Avalanche	Earthquake	Landslide	Tsunami
Coastal	Hail	Lightning	Volcanic Activity
Flooding	Heat Wave	Riverine Flooding	Wildfire
Cold Wave	Hurricane	Strong Wind	Winter Weather
Drought	Ice Storm	Tornado	

Hazards listed in this plan that are not listed in **Table 4.6.1** can be considered non-natural hazards. While Dam Failure has a separate risk assessment, the following hazards will be considered for this risk assessment:

- **Civil Disturbance and Terrorism** are situations or events where individuals or groups of persons act in a disruptive or violent way, including riots, active shooters, or domestic extremism. Peaceful protests are not considered civil disturbances, however local law enforcement should have a plan in place for crowd control and traffic control during a peaceful protest.
- **Cyber-Attacks** are attempts by hackers to damage or disrupt a computer network or system, including threatening to steal or delete government data.
- **Hazardous Materials Incident** occurs when hazards materials leak or spill during transportation or storage.
- **Infectious Disease** is defined by the National Institute of Health as a disease that is caused by the invasion of a host by agents whose activities harm the host's tissues and can be transmitted to other individuals.
- **Transportation Incidents** include traffic pileups, train derailments, and plane or helicopter crashes.
- **Utility and Energy Interruption** includes widespread interruptions in gas, electric, water, telephone, and internet services.
- **Water Contamination** or water pollution occurs when harmful substances, often chemicals or microorganisms, contaminate a stream, river, lake, or aquifer.

Location

Non-natural hazards can occur anywhere in the County and are not location specific.

Extent

Non-natural hazards can range from small scale single occurrences to Countywide events. For example, utility interruption can occur in one neighborhood area or throughout entire jurisdictions.

History

- **Civil Disturbance and Terrorism:** there are no known recent terrorism events in Summit County, Ohio. In April 2023, there were protests in the City of Akron following a police-involved shooting, which included the use of tear gas by police on non-violent protestors.
- **Cyber-Attacks:** at least one cyber-attack occurred in 2018 when the City of Akron's website was taken down by a hacker.
- **Hazardous Materials Incident:** there have been 704 reported hazardous materials spills in Summit County since May 2017.
- **Infectious Disease:** the most recent infectious disease event in Summit County was the Covid-19 pandemic, which began in January 2020. The train derailment in East Palestine, Ohio had no known, direct impacts on Summit County.
- **Transportation Incidents:** outside of car crashes and other traffic incidents, there are no known recent transportation incidents that had wide-spread impacts on Summit County.
- **Utility and Energy Interruption:** while small scale utility interruptions are common, there are no known wide-spread utility failures or interruptions in Summit County.
- **Water Contamination:** the ODNR, EPA, and Summit County monitor water quality in the area. There are no known widespread water contamination incidents in Summit County.

Probability

- **Civil Disturbance and Terrorism** do not occur at regular intervals and are difficult or impossible to predict in advance. According to the U.S. Government Accountability Office (GAO), domestic terrorism events have sharply increased between 2019 and 2021.
- **Cyber-Attacks** are becoming increasingly likely. In June 2021, National Public Radio reported that seven ransomware attacks occurred every hour in the United States.
- **Hazardous Materials Incidents** do not occur at regular intervals. There have been 704 reported hazardous materials spills in Summit County since May 2017. This amounts to about 117 events every year.
- **Infectious Diseases** do not occur at regular intervals and can occur at any time. These events should be considered somewhat likely.
- **Transportation Incidents** occur every day, however large-scale events do not occur frequently and are somewhat likely.
- **Utility and Energy Interruptions** occur regularly in Summit County. On May 11, 2023, for example, 1,703 customers were without power.
- **Water Contamination** is not a common occurrence and there are no known water contamination events in Summit County.

Vulnerability Assessment

Infrastructure Impact

- **Civil Disturbance and Terrorism** have little to no impacts on infrastructure, unless the infrastructure itself is the target of a terrorism event.
- **Cyber-Attacks** have little to no impact on infrastructure, unless the infrastructure itself is the target of the cyber-attack.
- **Hazardous Materials Incident** can block roadways and contaminate water sources.
- **Infectious Diseases** have no direct impacts on infrastructure.
- **Transportation Incidents** will likely block roadways and may directly damage utility infrastructure as well.
- **Utility and Energy Interruption** may lead to indirect damages to infrastructure. Downed powerlines may block roadways. Internet and electricity outages may halt repairs and maintenance on infrastructure.
- **Water Contamination** will cause direct damages to water infrastructure.

Population Impact

- **Civil Disturbance and Terrorism** events will have direct impacts on the population. This can include death and injury, closure of community lifelines, and loss of services. It is important to note that peaceful protests are not considered civil disturbances.
- **Cyber-Attacks** can target individuals as well as governments, including having their private data stolen.
- **Hazardous Materials Incidents** can have direct impacts on the population by causing loss of life and injury, water and air pollution, and roadway closures. Depending on the severity of the hazardous material, there may be long term health effects on impacted residents.
- **Infectious Diseases** will have direct impacts on residents by causing disease. Infectious diseases are contagious.
- **Transportation Incidents** impact the population by blocking roadways, halting traffic, and potentially causing deaths or injuries.
- **Utility and Energy Interruption** can impact all residents in the County.
- **Water Contamination** can impact all residents in the County by limiting access to potable water.

Property Damage

- **Civil Disturbance and Terrorism** are unlikely to cause direct damages to property. During active shooter events, minor damage may occur to the property.
- **Cyber-Attacks** are unlikely to cause property damage.
- **Hazardous Materials Incidents** may cause direct damage to property. These damages will vary depending on the type and amount of the hazardous material in the area.
- **Infectious Diseases** are unlikely to cause property damage.

- **Transportation Incidents** may cause property damage if the incident occurs near a property. Indirect damage may occur if a utility pole falls, gas or other liquids leak onto a property, or through similar events.
- **Utility and Energy Interruption** are unlikely to cause direct property damage.
- **Water Contamination** is unlikely to cause direct property damage.

Loss of Life

- **Civil Disturbance and Terrorism** events are likely to cause injuries and death, especially during an active shooter event.
- **Cyber-Attacks** are unlikely to cause injuries or loss of life. If hospitals are attacked and services are halted, this may lead to indirect injuries or loss of life.
- **Hazardous Materials Incidents** may cause both short-term and long-term injuries as well as loss of life, depending on the type and amount of the hazardous material. Pollution and water contamination may cause indirect injuries or loss of life.
- **Infectious Diseases** are likely to cause loss of life and may cause both short- and long-term injuries.
- **Transportation Incidents** are likely to cause loss of life and injuries, even in small scale traffic incidents.
- **Utility and Energy Interruptions** are unlikely to cause injuries or loss of life. Loss of power may cause indirect injuries or loss of life if hospitals or other vital services cannot function properly. Fatal traffic incidents may increase if traffic signals lose power and police cannot direct traffic.
- **Water Contamination** may cause loss of life as well as long- and short-term side effects, depending on the contaminant.

Economic Losses

- **Civil Disturbance and Terrorism** may cause economic losses. During a long-term civil disturbance, businesses may be looted or need to close. Terrorism events, like active shooters, may also cause direct damage to a business. Repeated domestic extremism may cause businesses to close locations. Investors may be unwilling to consider an area that has repeated incidents.
- **Cyber-Attacks** may cause economic losses if a business is targeted directly. Individuals, government offices, and businesses may have to pay for their stolen data.
- **Hazardous Materials Incidents** can cause entire areas to close during clean up and quarantine, which can lead to economic losses.
- **Infectious Diseases** may lead to a quarantine, which can lead to long-term business closures and halt economic activity.
- **Transportation Incidents** may close areas, depending on their severity. Widespread economic losses are unlikely because of transportation incidents.
- **Utility and Energy Interruptions** can lead to direct economic losses. Food and frozen goods may thaw or spoil, businesses may have to close, and internet services outages can halt online economic activity.
- **Water Contamination** can halt food service activity. Manufacturing and business operations that rely on clean water could also halt.

Climate Change

- **Civil Disturbance and Terrorism** are unlikely to be affected by climate change. Although security concerns linked to climate change include climate-related natural disasters, impacts on food, water, and energy supplies, increased competition over natural resources, loss of livelihoods, and forced migration and displacement.
- **Cyber-Attacks** are not directly connected to climate change.
- **Hazardous Materials Incidents** can increase in frequency in correlation with increased frequency of extreme precipitation, drought, or other natural events that affect infrastructure.
- **Infectious Diseases** can become more frequent with climate change. Climate change affects the geographic distribution of vector-borne diseases and the pests that carry them.
- **Transportation Incidents** are more likely due severe weather, flooding, droughts, and increased average temperatures as a result of climate change, according to the National Climate Assessment. Although warmer winters could extend the construction season and reduce winter road maintenance and ice-related vehicle accidents, climate change is expected to increase the overall cost of maintaining, repairing, and replacing transportation infrastructure. More frequent severe weather and flooding events could lead to regular road closures due to standing water or damaged infrastructure. In addition, extreme heat and droughts may affect travel and recreation along rivers.
- **Utility and Energy Interruptions** can increase due to climate change. Increased frequency and intensity of severe summer and winter storms, flooding, and tornadoes can result in an increased frequency of damaged utility infrastructure. During drought, extreme cold, or extreme heat events, increased use of heating or cooling resources may overload utility infrastructure.
- **Water Contamination** and the spread of pathogens can become more common due to increased precipitation, air temperature, and water temperature as a result of climate change.

4.7 Severe Summer Weather

Description

Severe summer weather events may include severe thunderstorms and thunderstorm winds, hail, and lightning. High winds, tornadoes, and flooding may also be related to severe summer storms, and due to the potential threat of these events, they are each discussed in separate risk assessments. While tropical storms and hurricanes are also forms of severe storms, Summit County does not have any record of such events affecting the County; therefore, the County has not deemed tropical storms and hurricanes to be a threat, and these specific types of weather will not be addressed further.

According to the National Weather Service (NWS), a severe thunderstorm is a thunderstorm that produces a tornado, has winds of at least 58 MPH, and/or hail at least one inch in diameter. A Severe Thunderstorm Watch is issued by the NWS if conditions are favorable for the development of severe thunderstorms. A watch is usually in place for four to eight hours, during which time people should be prepared to move to a safe place if threatening weather approaches.

A Severe Thunderstorm Warning is issued if either the WSR-88D radar indicates a severe thunderstorm or if a spotter reports a storm producing hail or winds meeting the criteria outlined in the description above. The WSR-88D radar is an advanced Weather Surveillance Doppler Radar utilized by the NWS to generate a radar image. The NWS recommends that people in the affected area seek safe shelter immediately, as severe thunderstorms have the potential to produce tornadoes with little-to-no advance warning. Lightning frequency is not a criterion for issuing a severe thunderstorm warning. The warnings are usually issued for one hour and can be issued without a Severe Thunderstorm Watch already in effect. The National Weather Service Forecast Office in Cleveland, Ohio is responsible for issuing Severe Thunderstorm Watches and Warnings for Summit County.

Lightning is caused by a rapid discharge of electrical energy that has built up in the atmosphere between clouds, the air, or the ground. Lightning strikes can be either direct or indirect. A direct strike is when lightning strikes a building or a specific zone, which can result in fusion points melting holes of varying sizes at the point of impact of materials with high resistivity. An indirect lightning strike is when lightning causes power surges that disrupt electrical equipment.

Severe summer weather can also create strong winds – often called “straight-line” winds – to differentiate thunderstorm winds from tornadic winds. These winds, which have the potential to cause damage, are caused by an outflow generated by a thunderstorm downdraft.

Hail is a type of frozen precipitation that occurs when thunderstorm updrafts carry raindrops upward into extremely cold atmospheric zones where they freeze before falling to the ground. The resulting hailstones can fall at speeds greater than 100 MPH and range in size from smaller than 0.50 inches (the size of a pea) to 4.5 inches (the size of a softball) (Source: National Weather Service).

The NWS can issue various types of wind advisories and warnings. A **wind advisory** is issued when sustained winds of 31 to 39 MPH are reached for an hour or more and/or if there are wind gusts of 46 to 57 MPH for any duration. A **High Wind Watch** indicates that sustained, strong winds are possible and outdoor items should be secured. People should modify plans, so they are not caught outside. Additionally, a **High Wind Warning** indicates that sustained, strong winds (40 MPH or greater) with even stronger gusts (greater than 58 MPH) are happening. People should seek shelter, and those driving should keep both hands on the wheel and slow down. An **extreme wind warning** is issued for surface winds of 115 MPH or greater associated with non-convective, downslope, derecho (not associated with a tornado), or sustained hurricane winds that are expected to occur within one hour.

Location

Severe summer weather is a countywide hazard, and all of Summit County is susceptible to severe summer weather.

Extent

Severe summer weather events have the potential to create large-scale damage in Summit County. Specifically, lightning is responsible for approximately 20 deaths annually across the United States, as well as hundreds of injuries (Source: NOAA). Winds associated with severe summer storms have the potential to cause damage by bringing down tree limbs and generating widespread power outages. Additionally, hail can result in property damage. Severe summer storms can lead to flooding, downed trees and power lines, and other dangerous conditions.

History

According to the National Centers for Environmental Information (NCEI), there have been 326 high-, strong-, or thunderstorm wind events, two heavy rain events, two heat events, seven lightning events, and 206 hail events recorded in Summit County from January 1995 to July 2022. These events resulted in $336.7 million in property damage and $179,480 in crop damage. There were two deaths caused by strong wind events in Summit County, one in Lorain County, and one . Another three deaths were reported in the State of Ohio and several more in other States due to the windstorm associated with Tropical Depression Ike on September 14-28, 2008. There were 14 injuries caused by the events in Summit County, three in Sandusky County, two in Trumbull County, two in Portage County, two in Cuyahoga County, and one in Marion County. Of the injuries in Summit County, nine occurred in Boston Township when a campsite was struck by lightning on June 24, 2004, two during a strong wind event on April 6, 1999 when trees fell onto two vans, one during a strong wind event on April 15, 2018 when 70 mile an hour winds damaged a roof of a large warehouse in the City of Twinsburg, one when lightning struck a home in the City of Barberton on April 15, 1996, and one when a tree fell on a car during a strong wind event on July 21, 1998 in the Village of Northfield. The injury in Marion County occurred during a strong wind event on June 10, 2020 when the face of a building fell on a car. The injury in Cuyahoga County occurred on June 25, 2013 when a sign fell off the Valley View bridge onto a moving vehicle. All severe storm events from 1995 to 2022 are summarized in **Table 4.7.1**, below:

Table 4.7.1: Thunderstorm-Related Events in Summit County since 1996

Severe Storm Event Type	Number of Events	Injuries	Deaths	Property Damage	Crop Damages
Strong Wind	326	4	2	$39,168,000	$135,000
Heavy Rain	2	0	0	$0	$34,480
Hail	206	1	0	$297,322,000	$10,000
Lightning	7	9	0	$215,000	$0
Heat	2	0	0	$0	$0
Total:	**543**	**14**	**2**	**$336,705,000**	**$179,480**

Summit County has not had any disaster declarations for severe storms since the previous hazard mitigation plan. However, the County has been subject to 543 severe storm events since January 1995 that have caused a record amount of property damage, for instance the hail event on June 8, 2007 resulted in $288 million in damage across the county. Several of the most damaging events and/or events that resulted in deaths and/or injuries are described in more detail below.

Strong Wind Event throughout Summit County, June 10, 2020:

The remnants of Tropical Storm Cristóbal extended a warm front across the Ohio Valley on June 10, 2020. A squall line formed over northern Ohio producing gusts up to 80 miles per hour in the Lake Erie Islands. The storm caused tree damage in the City of Akron area including the Cities Barberton

and Fairlawn and $1,000 in property damage. There were no deaths or injuries reported in Summit County, but one man was injured in Marion County when the face of a building fell on his vehicle.

Strong Wind Event throughout Summit County, April 15, 2018:

A low-pressure system moved north across the Tennessee Valley bringing strong winds and precipitation to Ohio on April 15, 2018. A brief tornado formed in Coventry Township and wind gusts estimated around 70 miles per hour damaged a roof in the City of Twinsburg. There were no deaths, but one injury was reported in the City of Twinsburg when a roof was damaged. Summit County had $100,000 in property damage due to the storm.

Strong Wind Event throughout Summit County, November 5, 2017:

A strong cold front moved across the Ohio Valley pushing the current warm/humid air up, resulting in severe thunderstorms and strong winds. Wind gusts were estimated to be 100 miles per hour in Summit County, downing thousands of trees and utility poles. The City of Twinsburg was hit the hardest with hundreds of homes losing siding and roofing. There were up to 25,000 people without power and it took five days for the power to be fully restored. There was $7.6 million in property damage. No deaths or injuries were reported.

Strong Wind and Hail Events throughout Summit County, June 25, 2013:

Two hail events and one strong wind event were recorded on June 25, 2013 in Summit County. Quarter-inch hail fell in Village of Lakemore and the City of Norton, downing power lines and damaging property. At least 10,000 residents in northeast Ohio were without power. Summit County had $62,000 in property damage. There were no deaths or injuries reported in Summit County, however one man was injured in Cuyahoga County when a sign fell off the Valley View bridge onto his moving vehicle.

Windstorm associated with Tropical Depression Ike throughout Summit County, September 14 – October 24, 2008 (DR-1805-OH):

A low-pressure system, remnant of Hurricane Ike, caused high winds throughout the State of Ohio, with the highest sustained wind measured at 54 miles per hour and the highest wind gust at 74 miles per hour. Wind gusts of 55 miles per hour were recorded at the Akron-Canton Airport. The winds caused extensive damage to utilities, properties, and crops. Thousands of trees fell on roofs and utility pools. Residents of Summit County were out of power for several days. Summit County had $2 million in property damage and the local government agencies spent $1.5 million in cleanup. A Major Disaster Declaration was issued for 33 counties, including Summit County. A total of $38.8 million in grants were obligated for emergency and permanent work. There were three deaths and several injuries reported. Two motorists were killed when a tree fell on them in southwest Ohio, and a woman was killed when a tree fell onto her home in Hamilton County. Several more deaths were reported in Arkansas, Indiana, Missouri, and Tennessee.

Hail Event throughout Summit County, June 8, 2007:

A strong cold front brought a severe thunderstorm to Summit County on June 8, 2007. Hail the size of softballs were reported in some areas, up to 4.75 inches. The damage was unprecedented, with nearly 51,100 insurance claims filed and property damage was recorded at $288 million dollars in Summit County. There was extensive damage to vehicles and homes in the City of Akron and the surrounding areas. There were no deaths or reported injuries.

Strong Wind, Hail, and Lightning Event throughout Summit County, June 24, 2004:

Strong winds, hail, and lightning were recorded on June 24, 2004 in the City of Green, Boston Township, and the City of Stow. Strong winds with gusts up to 57 miles an hour downed trees in the City of Green causing $15,000 in property damage. Hail the size of a penny fell in the City of Stow. No

damage was reported from the hail. Lightning stuck a campground in Boston Township injuring nine young children, aged 11 to 14. No deaths or other injuries were reported by these events.

Strong Wind Event throughout Summit County, March 9, 2002:

A fast-moving cold front moved across northeast Ohio on March 9, 2022 bringing damaging winds and causing multiple fatalities and injuries. The wind gusts ranged from 51 miles per hour at the Ashtabula County Airport to 100 miles per hour in Wood County. Gusts were measured at 62 miles an hour at the Akron-Canton Airport in Summit County. There was one fatality in Summit County when a 63-year-old male was struck by a falling tree and one fatality in Lorain County when a 41-year-old male was struck by a falling tree. There were three people injured in Sandusky County when their mobile homes were destroyed, two people injured in Trumbell County when their emergency truck was blown over, two people were struck by a falling tree in Portage county, and one woman in Cuyahoga County was seriously injured by flying glass and debris. There was widespread power outages and Summit County had $300,000 in property damage.

Strong Wind Event throughout Summit County, October 10, 1996:

A low-pressure system moved south into Ohio from Ontario bring gusts up to 79 miles an hour. The strong caused the death of a 45-year-old male when he was struck by a falling tree at the Raintree Country club in Summit County. In Mahoning County, a vehicle was struck by a construction barrel injuring the driver. Several buildings lost shingles and sidings. A building under construction in Summit County had a wall collapse. In Summit County property damage was reported at $2 million and crop damage at $100,000.

Strong Wind Event throughout Summit County, July 21, 1998:

During a strong wind event in Summit County a tree fell onto two vans in the City of Cuyahoga Falls, injuring two people. One person was bought to an area hospital. There was $25,000 in property damage reported. No deaths or other injuries were reported.

Strong Wind Event throughout Summit County, July 21, 1998:

Two separate strong wind events were recorded throughout Summit County on July 21, 1998. The wind gusts were measured at 60 miles an hour causing extensive tree and property damage. There was $60,000 in property damage from the two events. There were no deaths, but one injury reported when wind caused a tree to fall on a woman's vehicle in the Village of Northfield.

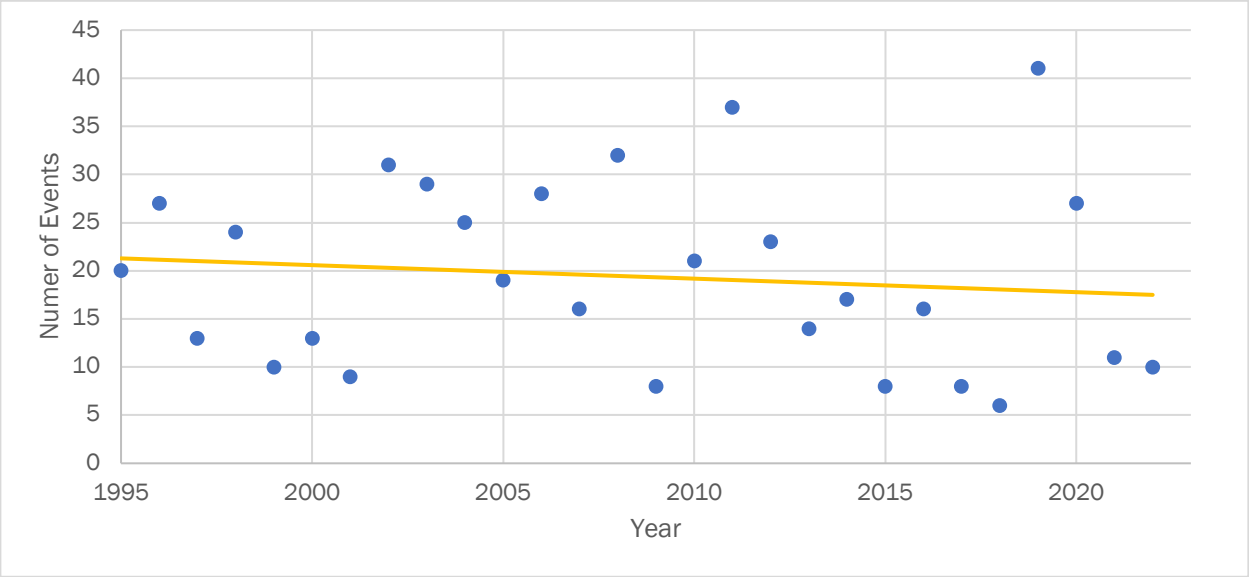
Strong wind and Lightning Event throughout Summit County, April 15, 1996:

A strong wind event with wind gusts exceeding 60 miles an hour caused $20,000 in property damage in the northern half of Summit County. Before the storm started a woman was injured when her home was struck by lightning. There were no deaths or other injuries reported.

Probability

According to the NCEI, there have been 543 severe summer storm events reported in Summit County from January 1995 to July 2022 with total losses reaching at least $336.7 million in property damage and $179,480 in crop damage. This amounts to around eighteen (20) severe storm events annually with average annual damages of $2,477,202.96. **Figure 4.7.2** below shows the trend in number of thunderstorm events per year since 1995. The yellow trend line has a negative slope, which indicates that the number of severe summer storms has increased over the last 27 years. Years prior to 1995 are excluded from the probability calculation due to missing and/or unreliable data reporting. In addition, preliminary research suggests that the frequency and intensity of severe thunderstorms could increase as the climate changes, according to the National Climate Assessment. The Climate Change section in Future Trends discusses climate change further.

Figure 4.7.2: Severe Summer Storm Probability



Vulnerability Assessment

Infrastructure Impact

Above-ground infrastructure is at risk for storm damage by wind and falling debris. For infrastructure, high winds and hail are the most damaging part of a severe storm. Thunderstorm winds can strip bark from trees and detach limbs. If large branches fall, they can damage buildings and supporting above-ground infrastructure. In the most severe storms with high winds, large trees can be uprooted and have the potential to fall on buildings including houses, which can cause harm or death.

Utilities are at risk for damage by severe summer storms, as well. Electrical lines are spread throughout the County connecting homes, businesses, and other facilities. Severe storms are likely to down tree limbs and generate other debris that can affect above-ground electrical lines causing power outages. Downed power lines that are still live are extremely hazardous and can cause death by electrocution.

Population Impact

Summer storms are random in nature and affect the entire area of the County. Everyone within the County should be prepared during a storm event. Populations residing in mobile home parks are particularly vulnerable and should seek out shelters.

For social vulnerability, according to the National Risk Index, hail, lightning, and strong wind had scores of 32.04 (“relatively high”), 18.60 (“relatively moderate”), 14.66 (“relatively moderate”) for Summit County. This information indicates that severe summer storms are exposing the population of Summit County to some risk from storm events. The index indicates an expected annual loss of $4.9 million due to hail events, $320,000 due to lightning events, and $500,000 due to strong wind events, with 4.7, 51.3, and 1.2 events occurring per year, respectively.

Property Damage

As described above, these events have caused an average of $336,705,000 in property damages and $179,480 in crop damage annually. Due to the non-site-specific nature of this hazard, **Table 4.7.3** lists all structures within Summit County as having potential impacts from severe storms.

Loss of Life

There were two deaths, one on March 9, 2002 one on October 30, 1996, both from strong wind events. There were also three deaths in the State of Ohio due to one of the 543 severe summer storm events on record with the NCEI. There is always potential for injuries and fatalities during severe summer weather.

Economic Losses

Severe Summer Weather has the potential to damage infrastructure, resulting in economic burden of clean up and repairs. Potential economic losses and damages associated with Summit County for hail, strong wind events, and lightning are recorded in **Table 4.7.3** below. This table summarizes the population from 2020, building value, expected annual losses (EAL) for buildings, and expected annual losses (EAL) for population in Summit County. The top 20 most vulnerable census tracts according to FEMA's National Risk Index are used for the calculations. EAL for buildings and population combine the totals from hail, strong wind events, and lightning. Compared with other hazards, severe summer weather has a rating of relatively low index rating, meaning that economic loss due to severe summer weather is relatively low for Summit County.

Table 4.7.3: Structure and Population Vulnerability from Severe Storms

Census Tract	Population (2020)	Building Value ($)	Expected Annual Loss –Building	Expected Annual Loss – Population
503800	3,783	$ 1,319,877,495	$ 104,528	0.06%
506800	2,196	$ 1,281,995,599	$ 101,497	0.03%
508000	5,345	$ 952,727,765	$ 74,167	0.07%
508301	1,368	$ 913,857,326	$ 72,342	0.02%
508399	4,351	$ 799,898,062	$ 63,325	0.06%
508800	5,362	$ 677,419,714	$ 53,624	0.07%
508900	4,291	$ 2,414,595,464	$ 191,143	0.06%
510200	3,992	$ 661,800,058	$ 52,407	0.06%
510301	5,110	$ 775,238,687	$ 61,393	0.08%
510500	4,065	$ 522,986,795	$ 41,417	0.06%
530104	7,599	$ 1,216,049,865	$ 85,797	0.11%
530603	4,617	$ 1,167,817,613	$ 82,358	0.06%
530901	4,699	$ 1,156,620,225	$ 91,592	0.07%
531801	4,772	$ 1,045,894,532	$ 82,827	0.07%
532004	3,782	$ 921,259,364	$ 72,956	0.06%
532701	8,077	$ 3,800,483,927	$ 268,073	0.11%
532902	10,091	$ 2,654,645,953	$ 187,224	0.13%
533400	5,973	$ 1,206,330,523	$ 95,500	0.08%
533501	9,186	$ 2,078,427,241	$ 164,537	0.13%
534000	7,304	$ 2,058,411,490	$ 145,175	0.10%
Total	**105,963**	**$ 27,626,337,698**	**$ 2,091,882**	**1.47%**

Future Trends

Land Use and Development Trends

Severe summer storms can occur anywhere. Any development that has occurred since the previous plan, and any future development, has the potential to be impacted by severe summer storms.

Climate Change

Preliminary research suggests that the frequency and intensity of severe thunderstorms could increase as the climate changes, according to the National Climate Assessment. A warming climate may also increase the number of days with conditions conducive to a severe thunderstorm. Future modeling techniques could reveal additional information about the correlation between atmospheric changes and severe thunderstorm formation and intensity.

4.8 Tornadoes

Description

FEMA defines a tornado as "a violently rotating column of air extending from a thunderstorm to the ground." Tornadoes can generate wind speeds greater than 250 MPH. Tornado paths can be as large as one mile wide and 50 miles long. Nationally, there is an average of 800 tornadoes reported annually across all 50 states.

In general, the midsection of the United States experiences a higher rate of tornadoes than other parts of the country because of the recurrent collision of moist, warm air moving north from the Gulf of Mexico with colder fronts moving east from the Rocky Mountains. Supercells, which form from rotating thunderstorms, are the most destructive variety of tornado.

Tornado Warnings are issued by the Charleston, WV. Forecast Office when a tornado is indicated by the WSR-88D radar or sighted in person by spotters. The WSR-88D radar is an advanced Weather Surveillance Doppler Radar utilized by the NWS to generate a radar image. Once a warning has been issued, people in the warning area should seek shelter immediately. Warnings will include the location of the tornado, as well as what communities will be in its path. A tornado warning can be issued without a tornado watch, and they are typically issued for 30 minutes at a time. If the thunderstorm responsible for the formation of the tornado is also producing large volumes of rain, the tornado warning may be combined with a Flash Flood Warning. The NWS Office will follow up any Tornado Warnings with Severe Weather Statements to provide up-to-date information on the tornado and inform the public when the warning is no longer in effect (Source: NWS).

Location

Tornadoes can occur anywhere in Summit County. All areas and jurisdictions should be considered at risk for a tornado.

Extent

Tornadoes are measured by damage scale for their winds with greater damage equating greater wind speed. The original Fujita Tornado Damage Scale (F-scale) was developed in 1971 without much consideration to a structure's integrity or condition as it relates to the wind speed required to damage it. The Enhanced Fujita-scale (EF-Scale) took effect on February 1, 2007. This scale starts with the original F-scale's F0 through F5 ratings and classifies tornado damage across 28 different types of damage indicators. These indicators mostly involve building/structure type and are assessed at eight damage levels from 1 through 8. Therefore, construction types and their relative strengths and weaknesses are incorporated into the EF classification given to a particular tornado. The most intense damage within the tornado path will generally determine the EF scale given the tornado. **Table 4.8.1** lists the classifications under the EF- and F-scale. It should be noted that the wind speeds listed in this table are estimates based on damage rather than measurements.

There are no plans by the National Oceanic Atmospheric Administration (NOAA) or the National Weather Service to re-evaluate the historical tornado data using the enhanced scale. Therefore, this Plan and subsequent plans will reference both scales until a complete switchover is deemed necessary.

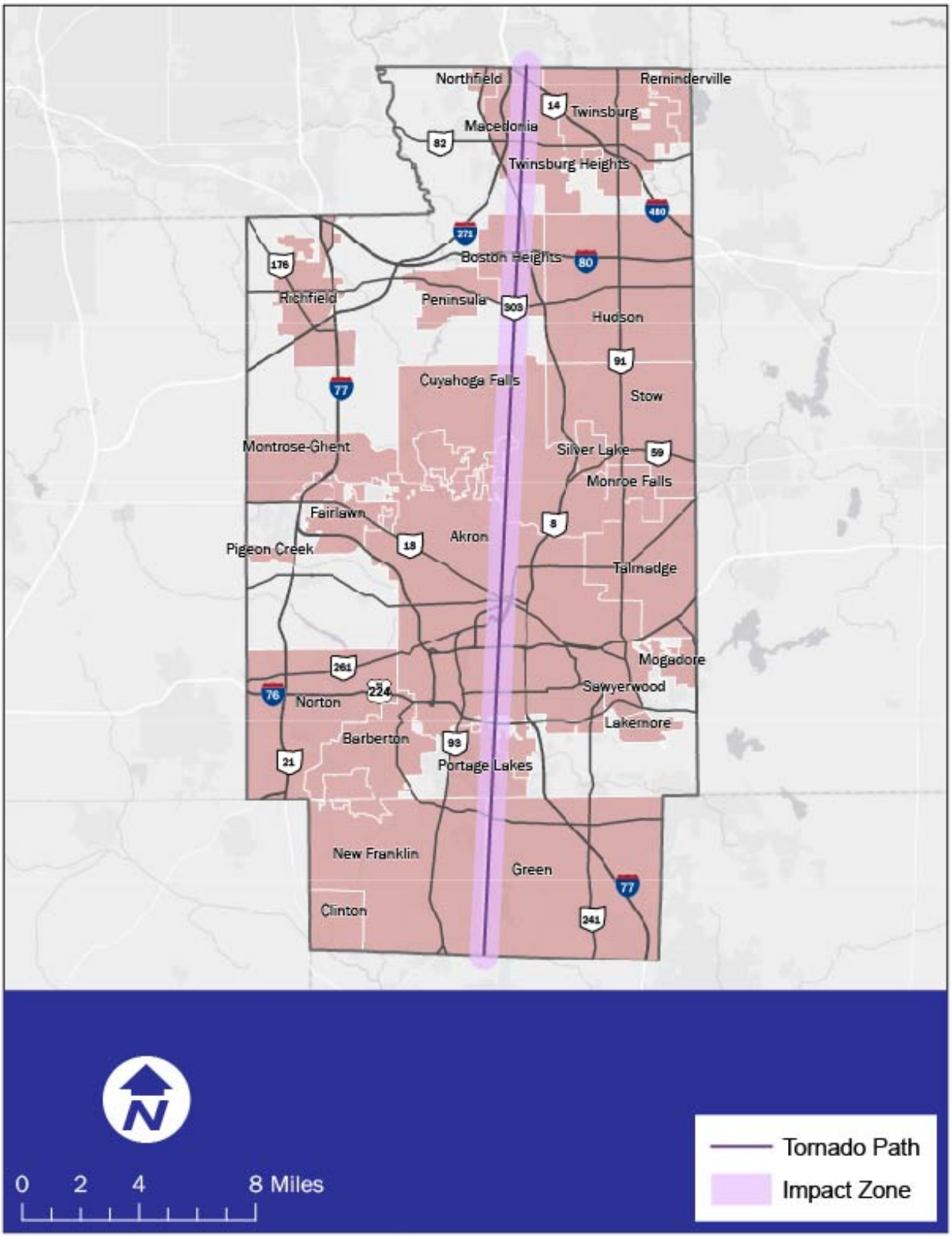
Figure 4.8.1 simulates an extremely destructive, worst-case scenario EF5 tornado and its impacts on Summit County assets and infrastructure. The worst-case scenario is simulated by running the EF5 tornado on a straight path through the most populated areas of the County. This theoretical scenario is performed to determine maximum potential damage within the County. The damages associated with this theoretical scenario are used to identify the County's potential vulnerability to tornadoes (**Table 4.8.3**).

Table 4.8.1 Fujita and Enhanced Fujita Scale Classifications

Fujita Scale 3-Second Wind Gust (MPH)		Damage Levels	Enhanced Fujita Scale 3-Second Wind Gust (MPH)	
F0	45-78	Light Damage: Tree branches down.	EF-0	65-85
F1	79-117	Moderate damage: Roof damage.	EF-1	86-110
F2	118-161	Considerable damage: Houses damaged.	EF-2	111-135
F3	162-209	Severe damage: Buildings damaged.	EF-3	136-165
F4	210-261	Devastating damage: Structures leveled.	EF-4	166-200
F5	262-317	Incredible damage: Whole towns destroyed.	EF-5	Over 200

Source: SOHMP

Figure 4.8.2: Worst Case Tornado Scenario



History

There have been ten tornado events in Summit County between January 1995 and January 2023 resulting in a total of $12,612,000 in property damage. There were no deaths or injuries reported during these events. Average annual damages from 1995 to 2022 are approximately $700,000 in property damage. The three tornado events in Summit County from 1995 to 2022 that caused the most damage are listed and described below.

An F2 in the City of Macedonia on November 10, 2022:

A small F0/F1 tornado touched down in the City of Macedonia near the intersection of Valley View Drive (SR-631) and Aurora Road and moved northeast. The tornado gradually strengthened and reached F2 intensity as it crossed SR-14 and moved into the City of Twinsburg. After a track of just over three miles the tornado weakened to F1 intensity and crossed into Cuyahoga County.

Extensive damage was done in the cities of Macedonia and Twinsburg. In the City of Macedonia, 60 homes were damaged including two that were destroyed, and 15 others were damaged enough to be declared uninhabitable. The most severe damage in the County occurred in the Glenwood Preserve neighborhood on the north side of the City of Twinsburg. Extensive damage was done on Andover Drive and Deeplake Circle where several homes were leveled and a total of 45 homes damaged. Damage estimates in the City of Twinsburg alone were well over $5 million. The damage path was continuous and about 100 yards in width. Dozens of cars were damaged or destroyed and hundreds of trees and power poles downed in Summit County. This event caused a total of $10,200,000 in property damage.

An EF1 Tornado in the City of Barberton on April 7, 2020:

An EF1 tornado began at a baseball diamond complex along Yonkers Road, about a quarter mile northwest of Newton Park in the City of Barberton. As the tornado moved southeastward through the City of Barberton, softwood trees were uprooted between Morgan Street and West Summit Street, just west of Orchard Ave, and along Grandview Ave, just northwest of the intersection with 5th Street NE. Farther to the southeast in Barberton, the tornado uprooted several hardwood trees which then fell onto and damaged three homes along Wisteria Drive.

As the tornado progressed through the Portage Lakes area, at least 200 trees were lost in the Bramblewood Estates, between Quail Ridge Circle and OH-619. Nearby, softwood and hardwood trees were either snapped or uprooted at and near Turkeyfoot Lake Golf Links. The tornado then entered Green, where hardwood trees were uprooted along Arlington Road and along Golden Wood Way, where a tree fell onto a garage and caused extensive damage to the home. Farther to the southeast, the tornado snapped multiple softwood trees at a cemetery along Thursby Road and peeled away portions of a barn's roof along Thursby Road, just south of Greensburg Road. Soon thereafter, the tornado dissipated at the intersection of Thursby Road and Discovery Road. No fatalities or injuries occurred. This event caused $500,000 in property damage.

A Tornado in Summit County on May 29, 1995:

A tornado touched down just north of the intersection of Hametown Road and Copley Road and moved east to Copley Center. Several businesses were damaged including a plastics manufacturer where an office building and warehouse suffered roof and structural damage. Several trucks were overturned. A lumber and home center just outside of Copley Center suffered significant damage. About 20 homes suffered minor to moderate damage. Numerous trees were downed. This event caused $1,500,000 in property damage.

Probability

There have been ten tornado events in Summit County between January 1995 and January 2023 resulting in a total of $12,612,000 in property damage. Average annual damages amount to about $700,000.

The annual rate for tornadoes in Summit County has been about one tornado every two years since 1995. However, when conditions are right, there may be multiple tornadoes in one year or one storm.

Although it is difficult to predict future tornado activity, a study completed in 2018 on spatial trends of tornadoes saw an eastward shift in tornado frequency. Two other studies (2015 and 2016) showed an increase in tornado frequency in the eastern United States and a decrease in tornado activity in central United States. The study published in 2016 on spatial redistribution of tornado activity stated that there is a documented increase in hazardous conductive weather (HCW) in the lower Ohio valley regions. The studies do note that the number of tornadoes produced from a single storm are increasing. For instance, in 2020 there were 20 documented tornadoes in Ohio, seven from one storm and five from another.

Vulnerability Assessment

Infrastructure Impact

Above-ground infrastructure can be damaged by tornadoes. Debris caught in tornadoes as well as fallen trees can cause damage to buildings and infrastructure. Debris can lead to closure. Above ground utility infrastructure can be damaged or destroyed, which can cause service outages.

Population Impact

Tornadoes are random in nature and have the potential to occur anywhere in the County. Everyone within the County should be prepared for a tornado. Residents in mobile home parks are particularly vulnerable and should have a plan in place.

For social vulnerability, according to the National Risk Index, tornadoes and strong winds have a score of 90.2 (“relatively moderate”) and 84.9 (“relatively moderate”) in Summit County. Tornadoes that have occurred in Summit County are typically weaker tornadoes, rated EF-2 or lower. The index indicates an expected annual loss of $7.0 million due to tornadoes and $1.2 million due to strong wind, with 0.2 and 1.5 events occurring per year, respectively.

Property Damage

Tornadoes can cause significant damage to buildings and properties. There have been four tornadoes in Perry County which have caused more than $1.1 million in property damages. Annually, this amounts to $40,925 in damages.

Loss of Life

While there have been no reported deaths or injuries because of tornadoes in Summit County since 1995, loss of life and injuries are always possible during tornadoes.

Economic Losses

Tornadoes can cause major damage to structures and roads. Higher severity tornadoes have the potential to destroy structures. Debris also has the potential to cause damage to structures by breaking windows, damaging walls, or falling directly onto buildings and above-ground infrastructure. Potential economic losses and damages associated with Summit County for tornadoes are recorded in **Table 4.8.3** below.

This table summarizes the population from 2020, building value, expected annual losses (EAL) for buildings, and expected annual losses (EAL) for population in Summit County. The top 20 most vulnerable census tracts according to FEMA’s National Risk Index are used for the calculations. Compared with other hazards, tornadoes have a relatively moderate index rating, meaning that economic and population loss due to tornadoes is moderate for Summit County. Damage to utilities and roadways may also cause economic damage due to business closures, destruction of goods that require electricity, and the halt of economic activity.

Table 4.8.3: Structure and Population Vulnerability from Tornadoes

Census Tract	Population (2020)	Building Value ($)	Expected Annual Loss –Building	Expected Annual Loss – Population
503800	3,783	$ 1,319,877,495	$ 53,018	0.16%
506800	2,196	$ 1,281,995,599	$ 51,496	0.09%
508000	5,345	$ 952,727,765	$ 38,070	0.23%
508301	1,368	$ 913,857,326	$ 36,708	0.06%
508399	4,351	$ 799,898,062	$ 32,131	0.18%
508800	5,362	$ 677,419,714	$ 27,211	0.23%
508900	4,291	$ 2,414,595,464	$ 96,991	0.18%
510200	3,992	$ 661,800,058	$ 26,584	0.17%
510301	5,110	$ 775,238,687	$ 31,140	0.22%
510500	4,065	$ 522,986,795	$ 21,008	0.17%
530104	7,599	$ 1,216,049,865	$ 47,185	0.35%
530603	4,617	$ 1,167,817,613	$ 45,316	0.21%
530901	4,699	$ 1,156,620,225	$ 46,460	0.20%
531801	4,772	$ 1,045,894,532	$ 42,012	0.20%
532004	3,782	$ 921,259,364	$ 37,006	0.16%
532701	8,077	$ 3,800,483,927	$ 147,466	0.37%
532902	10,091	$ 2,654,645,953	$ 103,005	0.46%
533400	5,973	$ 1,206,330,523	$ 48,458	0.25%
533501	9,186	$ 2,078,427,241	$ 83,488	0.39%
534000	7,304	$ 2,058,411,490	$ 79,874	0.33%
Total	**105,963**	**$ 27,626,337,698**	**$ 1,094,628**	**4.62%**

Future Trends

Land Use and Development Trends

Tornadoes can occur anywhere. Any development that has occurred since that previous plan and any future development has the potential to be impacted by tornadoes. While the location of development will not be impacted by tornadoes, shelters should be installed in high occupancy buildings, parks, fairs and festivals, mobile home parks, and similar developments.

Climate Change

While rainfall, heat, and drought have clear links to climate change, the link between climate change and tornadoes is not yet fully understood. Tornado records in the United States are often only available starting during the 1950s. This limited data set makes it difficult to compare trends over long periods of time. Additionally, tornado reporting was not fully standardized until 2007, when the Enhanced Fujita Scale was released.

However, some short trends have been identified, although not yet linked directly to climate change. The number of days with tornadoes in the United States has fallen, but tornado outbreaks, or the number of tornadoes in one day, have increased. The density and strength of tornadoes has also

increased. Finally, tornado distribution has shifted eastwards, which includes a move towards Ohio (Center for Climate and Energy Solutions).

According to the Fourth National Climate Assessment, severe storms are brief and cover small areas, thus the effects of climate change are difficult to measure. It is known that tornado activity has become more variable, with a decrease in the number of days per year with tornados but an increase in the number of tornadoes that occur on these days. In general, there is some indication that the frequency and intensity of thunderstorms will increase in a warmer climate. However, the effect on tornadoes is unclear.

4.9 Wildfire

Description

A wildfire is an uncontrolled fire that burns in a natural area of combustible vegetation such as a forest, grassland, or prairie, and typically occurs in rural areas. Non-wilderness fires are uncontrolled burning in residential or commercial development that are out of the scope of this plan, however, it is important to note that non-wilderness fires often accidentally cause wildfires. They can happen at any time or anywhere and more than half of the wildfires recorded have been started due to human activity. While wildfires can be caused by human activity or a natural phenomenon such as lighting, it is often the weather conditions that determine how much a wildfire grows.

Location

According to the State of Ohio Hazard Mitigation Plan (SOHMP), Summit County is not within the ODNR Division of Forestry's Expanded Forest Fire Protection Area. However, Stark County, south of Summit County, is partially within the ODNR Division of Forestry's Expanded Forest Fire Protection Area. Counties within this region tend to have abundant forested lands and grasslands and, as such, represent the area of highest wildfire risk and hazard in Ohio. The Ohio Wildfire Hazard Level is included in **Figure 4.9.1**. This assessment identifies wildfire risk level by township and classifies all townships in Summit County as low risk for wildfires or has not been assessed.

Extent

Several factors can contribute to the escalation of risk of wildfires, including the prevalence of forests and agricultural lands and their close proximity to homes, residences, and structures, as well as the distance between fire and emergency management services. In these cases, presence of fire near structures causes fire departments to shift focus away from fire suppression and towards structure protection.

According to the SOHMP, 99.9 percent of wildfires in Ohio are caused by human action or accident. As such, many wildfires in Ohio burn in proximity to homes and structures. From 1997 to 2017, the main causes of wildfires in Ohio included debris burning, incendiary (arson), equipment, smoking, campfires, children (playing with matches), lightning, and railroad.

History

The SOHMP identifies 30 total fire events from January 1, 2007 to December 31, 2017, which averaged to three events annually. These events burned a total of 218 acres averaging 7.27 acres per event.

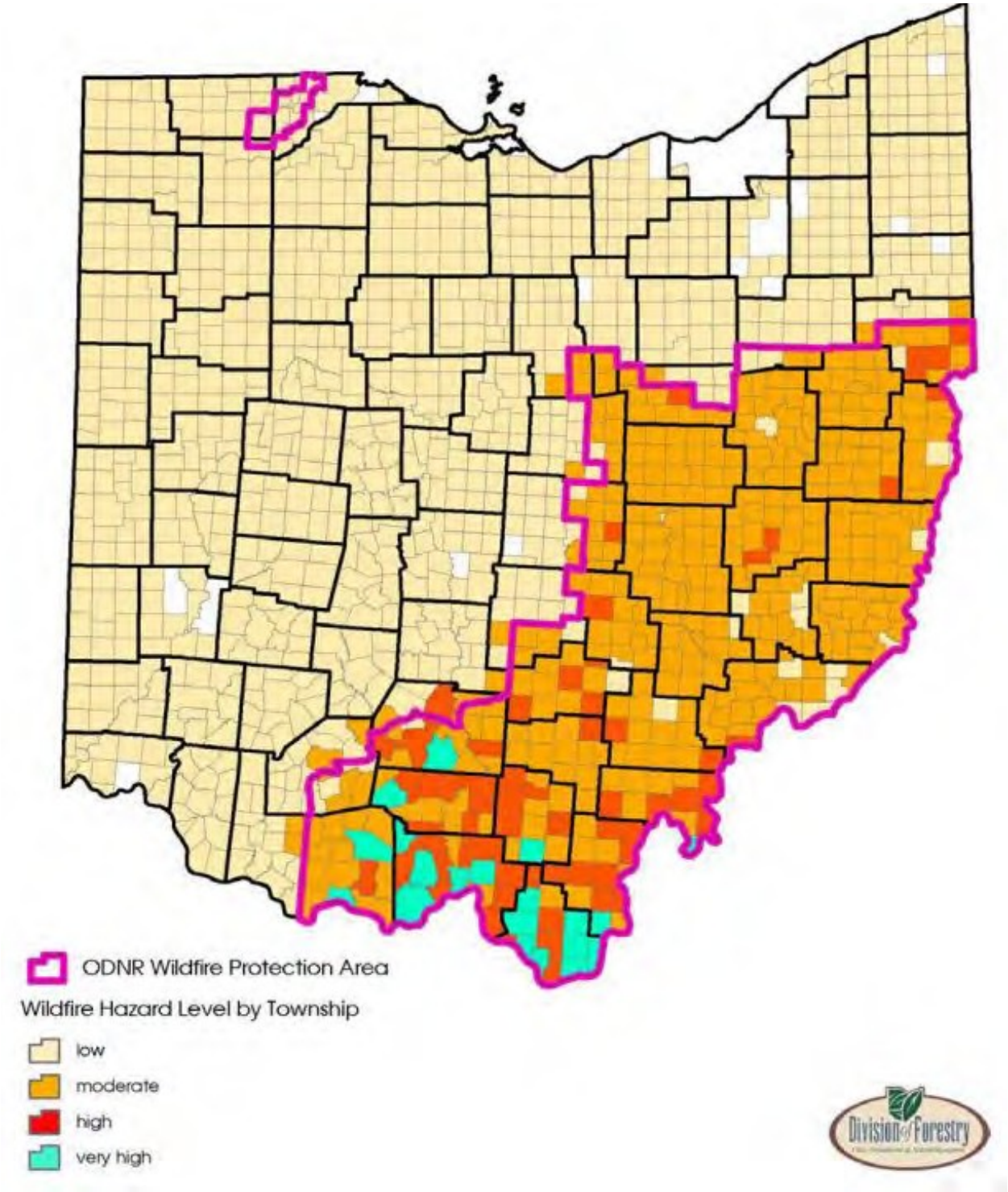
Estimating the monetary losses associated with wildfires is difficult because most of these events occur in open land or fields with monetary losses often not being recorded. This lack of data may result in inconsistencies if an analysis was done based on reported monetary loss. As such, acres burned per fire event is a more consistent method of analysis for this hazard.

Of the 30 events, 24 fires (80 percent) burned less than ten acres; six events (20 percent) burned between ten and 100 acres; and zero events (zero percent) burned more than 100 acres.

Probability

According to the State of Ohio Hazard Mitigation Plan, there is a 100 percent probability that a wildfire will occur within any county in any given year. Since 30 total fire events occurred in Summit County between January 1, 2007 to December 31, 2017, an average of three fire events are estimated to occur annually in the County. In addition, according to the U.S. EPA, the average total area burned by wildfires has increased since the 1980s, and the record-breaking fires tend to occur during record-breaking warm years. The Climate Change section in Future Trends discusses climate change further.

Figure 4.9.1: Ohio Wildfire Hazard Level



Source: ODNR Ohio Division of Forestry

Vulnerability Assessment

Infrastructure Impact

There is low risk that wildfires in Summit County will impact infrastructure. Wildfires will most likely impact the County through minor property and crop damage.

Population Impact

Figure 4.9.1 shows the Ohio Wildfire Hazard Level, which indicates wildfire hazard level by township. On average, there is a low risk of wildfires occurring in Summit County. Accordingly, there is a low risk of impact to the population. If a wildfire would occur within the County, the population could be impacted by loss of homes and crops.

For social vulnerability, according to the National Risk Index, wildfires have a score of 64.1 ("very low") in Summit County, which is the second lowest non-zero score of all of the hazards. The lowest risk score is for hurricanes. The wildfires that have occurred in Summit County have only had some impacts to properties and crops. The index indicates an expected annual loss of $120,000 due to wildfires with a less than 0.001 percent change of a wildfire event occurring per year.

Property Damage

As there were 30 recorded wildfire events in Summit County's history, it is assumed that the County has experienced some property and crop damage as a result of wildfires. Occasionally, in the event of a wildfire, fire engines belonging to local fire departments can be damaged while suppressing wildfires, although there are no reports of this in Summit County.

Additionally, there are currently 64 state-owned and state-leased critical facilities located within Summit County, as determined by ODNR. All 64 of these facilities are located within a low wildfire risk area or an area that has not been evaluated and have a value of approximately $198,041,224.

Loss of Life

Summit County has no recorded wildfire events resulting in loss of life, so it is unlikely that loss of life will result from wildfires. However, with any wildfire event, there is potential for loss of life. Advanced evacuation warnings can reduce the likelihood of death as a result of wildfires.

Economic Losses

Wildfires have the potential to damage agricultural crops and tree plantations, which can result in economic losses. According to the SOHMP, there are 64 state-owned or state-leased community lifelines (critical facilities) within regions of moderate wildfire hazard exposure and no community lifelines are within regions of high wildfire exposure. These structures are valued at $198,041,224.

Future Trends

Land Use and Development Trends

Communities should monitor areas that are especially susceptible to wildfires and avoid development in such areas. New developments in these areas should implement fire protective measures.

Climate Change

According to the U.S. EPA and National Climate Assessment, the national average total area burned by wildfires has increased since the 1980s, and the record-breaking fires tend to occur during record-breaking warm years. Combustion from wildfires also releases carbon dioxide into the atmosphere, contributing to climate change and negatively impacting human health. If climate change increases the frequency and intensity of drought in the region, then the risk of wildfire can also increase.

4.10 Winter Weather and Extreme Cold

Description

Severe winter weather includes winter storms, heavy snow, and extreme cold. Winter storms including blizzards are events that have heavy snow, sleet, ice, freezing rain, or high winds as their primary type of precipitation. While the precipitation itself is typically not dangerous, frozen roads and exposure to cold can cause death and injury.

A winter storm forms under the correct combination of three causes:

1. Below freezing temperatures in the clouds and near the ground, which are necessary to make snow and ice.
2. Lift, which raises the moist air from the clouds and causes precipitation. Warm air colliding with cold air and being forced to rise over the cold is an example of lift.
3. Moisture is needed to form clouds and precipitation. Air blowing across a body of water is a common source of moisture.

Winter storms are categorized by their type: blizzards, ice storms, lake effect storms, and snow squalls. Extreme cold events often accompany winter storms, bringing low temperatures and higher risks of frostbite and hypothermia.

- **Blizzards** are winter storms that are a combination of blowing snow and wind which lead to very low visibility. Heavy snowfalls and severe cold often accompany blizzards, but this is not required. Ground blizzards occur when strong winds pick up snow that has already fallen.
- **Ice Storms** occur when at least a quarter inch of ice accumulates on exposed surfaces. Roads and sidewalks can become dangerously slick, and trees and powerlines can easily break under the weight of accumulated ice.
- **Lake Effect Storms** are cold, dry air masses that move over the Great Lakes regions and drop the moisture as snow in the northeastern portion of Ohio near the Great Lakes area.
- **Snow Squalls** are brief, intense snow showers accompanied by strong winds. Impacts may be significant.
- **Extreme Cold Events** occur when temperatures drop below normal for the given area and they generally coincide with winter storms or are the lasting effect of a winter storm.

Location

Winter storms are typically large events that impact large areas at once. Winter storms will impact the entire County and have the potential to impact multiple counties.

Extent

The State of Ohio Hazard Mitigation Plan 2019 lists winter storms as one of the three highest threat hazards in Ohio. The average annual snowfall in Summit County is 48.2 inches according to NOAA, significantly higher than the state average of about 27 inches. Snowfall typically occurs between November and April with January being the coldest month on average.

History

There have been at least 37 winter storm events, and another 41 winter weather events including heavy snow, extreme cold, wind chill, ice storm, and lake-effect snow, in Summit County since January 1995. These events caused $24,444,000 in property damage and had one indirect death, 32 direct injuries, and 11 indirect injuries according to The National Centers for Environmental Information (NCEI).

There has been one emergency declaration, one event with an indirect death and many injuries, one event with 29 injuries, and one event resulting in $4.0 million in property damage related to severe winter weather covering Summit County reported by several federal sources as described below:

Lake-Effect Snow on November 11-13, 2019:

On November 10, a cold front moved eastward across the Ohio Valley, an arctic air mass brought by a high-pressure system moved south into the central United States behind the cold front, and a low-pressure system from the Tennessee Valley developed along the cold front moving towards Pennsylvania. The combination of systems first caused precipitation which turned into snow on the evening of November 11, 2019. The northwest winds and arctic temperatures moved across Lake Erie, creating a Lake-Effect snow lasting till November 13, 2019. The heavy snow and wind reduced visibility causing multiple accidents in Summit County. There was a 16-vehicle accident on the Ohio Turnpike, causing one death. There was a 95-vehile accident on State Route 8 in the City of Hudson, causing five injuries. There was $1.2 million dollars in property damage.

Winter Weather on March 5, 2019:

An arctic air mass moved over Ohio, bringing heavy snow showers, and decreasing visibility on State Route 8 in Summit County. The heavy snow accumulated over a quick quarter inch in the City of Hudson, City of Stow, and Village of Boston Heights. The reduced visibility caused a large multi-car accident with over 100 vehicles involved. Approximately 90-percent of the vehicles involved in the accident had to be towed from the freeway. There were 29 injuries, three of which were considered seriously injured. There was $1.5 million dollars in property damage. No deaths were reported.

Winter Storm on March 7, 2008:

A winter storm started on March 7, 2008 and lasted through the evening of March 8, 2008. The snowstorm was caused by a low-pressure system from the Gulf States that moved north through to New England, bringing heavy snow accumulation and mixed precipitation. There were reported 24.2 inches of snow in the Village of Richfield, 17.1 inches at the Akron-Canton Airport, 19.0 inches in the City of Twinsburg, and 12.5 inches in the City of Green. The winter storm caused $4.0 million in property damage in Summit County. There were no direct or indirect deaths reported and no injuries.

Winter Storm on January 5-6, 2008:

A low-pressure system from Missouri moved over eastern Ohio January 5-6, 2008. The low-pressure system brought freezing rain, damaging thousands of trees and causing widespread power outages. Ice accumulation ranged from a quarter of an inch to three-quarters of an inch. The Ice storm affected many counties with reported damages ranging from $1 million to $10 million in property damage. Electric companies reported over one million customers lost power. The ice storm caused $2.4 million dollars in property damage in Summit County. There were no direct or indirect deaths reported. There were no injuries reported.

Emergency Declaration on January 26, 1978 (EM-3055-OH):

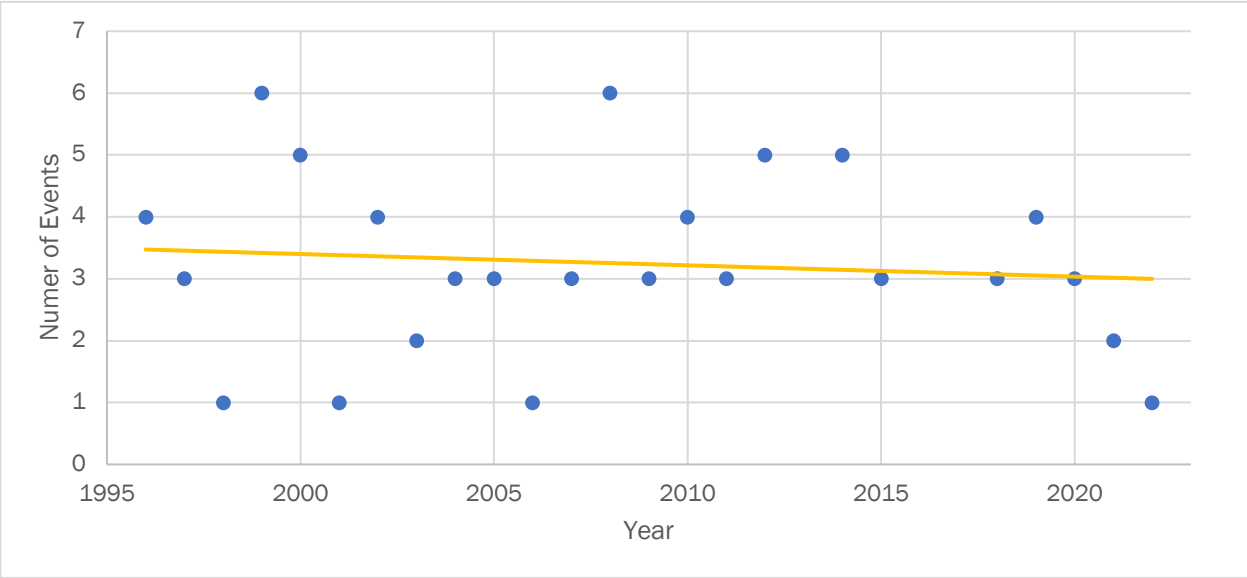
A southern winter storm from the Gulf of Mexico intensified as it moved north through Tennessee and Kentucky, entering Ohio on January 26, 1978. Described as the worst winter storm in Ohio History, the blizzard affected 88 counties including Summit County. The severe winter storm pulled cold air from the west and wind gust exceeded 50 miles an hour, 75 miles per hour in the City of Akron. The strong winds combined with heavy snow resulted in blizzard conditions with temperatures dropping thirty degrees in just two hours. Many means of transportation were shut down till the following Monday due to the enormous snowdrifts. The snowdrifts ranged from 15 to 25 feet. There was a total of 51 deaths reported, making it the deadliest winter storms in Ohio. Dozens of roofs collapsed from the weight of the snowdrifts. The blizzard caused over $100 million in property damage and $73 million in agricultural losses.

Probability

According to the NCEI, there have been a total of 79 winter storm and winter weather events reported in Summit County from January of 1995 to January 2022, with total losses amounting to $24,444,000 in property. This amounts to approximately three winter storm events annually with average annual damages of $905,333. In addition, according to the Fourth National Climate Assessment, due to the warming climate, extreme winter weather will be less severe and less frequent in Ohio, and heavy snowfall will manifest as heavy rainfall in future years. The Climate Change section in Future Trends discusses climate change further.

Figure 4.10.1 shows the trend of severe winter weather events over time between January 1995 and January 2022. The trend line slightly decreases over the 27 years, illustrating a slight decline of winter weather activity in Summit County. Years 1998 and 2008 both recorded six (6) events, the highest in the last 27 years followed by five (5) events recorded in 2000, 2012, and 2014.

Figure 4.10.1: Severe Winter Weather Probability



Vulnerability Assessment

Infrastructure Impact

Winter storms can cause damage to overhead utilities. Wires can collapse under the weight of accumulated snow and ice leading to disruption in communication and power supply for days. Debris can block roadways or damage property as tree limbs can also collapse under the weight of accumulated snow and ice. Water pipes can be frozen under extreme low temperatures that may accompany severe winter storms. Roads and sidewalks can be blocked by the accumulation of snow, as well as being iced over. Bridges and overpasses are particularly dangerous because they freeze before other surfaces.

Population Impact

All residents of Summit County are expected to be impacted by severe winter storms. Infants, older adults, sick people, and pets are more vulnerable to injuries and health conditions related to exposure to heavy snow, ice, and lasting extreme cold temperatures. It is advisable to equip vulnerable populations with indoor easy-to-read thermometers and heating devices in locations where they are highly visible.

For social vulnerability, according to the National Risk Index, winter weather has a score of 34.46 ("relatively high") in Summit County, which is the highest score of all the hazards. There have been numerous winter weather events in Summit County, with a few resulting in an emergency declaration. The index indicates an expected annual loss of $870,000 due to winter weather with five winter weather events occurring per year.

Property Damage

Property can be damaged by accumulated snow and ice, debris, and falling trees and utility poles. Extreme low temperatures can also freeze the water in pipes which could cause them to explode. All buildings in the County are exposed and vulnerable to winter storms. The State of Ohio Hazard Mitigation Plan 2019 estimates annual potential losses due to damage caused by winter storms in Summit County to be $1,029,598.

Property owners should weatherproof their homes and buildings and conduct regular inspections to eliminate impacts from extreme weather conditions. The Federal Emergency Management Agency (FEMA) suggests that individuals with damaged property should contact their insurance company and take photos of any damage. If individuals are uninsured or underinsured, they should seek assistance by visiting www.DisasterAssistance.gov.

Loss of Life

There are is one reported indirect death from a Lake Effect Snowstorm on November 11-13, 2019 in Summit county. The young woman was in a 16-vehicle on the Ohio Turnpike on November 12, 2019. Likely causes of death are from iced-over and dangerous roads which lead to vehicular accidents, frostbite or hypothermia from prolonged exposure to cold, heart attacks from heavy snow shoveling, and carbon monoxide poisoning due to toxic fumes from heating sources.

A few ways to prepare and protect from extreme winter weather conditions include, but are not limited to, staying indoors and dressing warmly, staying off roads, avoid driving if already in a vehicle, equipping vehicles with an emergency supply kit, preparing for power outages and using heating devices intended for indoor use only, staying updated about emergency information and alerts, seeking medical assistance on signs of hypothermia or frostbite, and checking on neighbors.

Economic Losses

Economic losses can occur from businesses shutting down for potentially long periods of time. Economic activity can be completely halted during winter storms including transportation of goods and people. Electricity outages may lead to spoiled goods. Since winter storms occur during the winter season, damages to crops are unlikely but possible. Damaged buildings and pipes, fallen trees and power lines, and costs to repair damages and remove snow further impact the economy of cities and towns. Table 4.10.2 shows the potential economic impacts if all structures within Summit County were damaged.

This table summarizes the population from 2020, building value, expected annual losses (EAL) for buildings, and expected annual losses (EAL) for population in Summit County. The top 20 most vulnerable census tracts according to FEMA's National Risk Index are used for the calculations. EAL for buildings and population combine the totals from cold-wave, ice-storm, and winter weather. Compared with other hazards, winter weather has a relatively low index rating, meaning that economic and population loss due to winter weather is low for Summit County.

Table 4.10.2: Structure and Population Vulnerability from Winter Weather

Census Tract	Population (2020)	Building Value ($)	Expected Annual Loss –Building	Expected Annual Loss – Population
503800	3,783	$ 1,319,877,495	$ 12,938	0.03%
506800	2,196	$ 1,281,995,599	$ 12,566	0.02%
508000	5,345	$ 952,727,765	$ 9,476	0.04%
508301	1,368	$ 913,857,326	$ 8,958	0.01%
508399	4,351	$ 799,898,062	$ 7,841	0.03%
508800	5,362	$ 677,419,714	$ 6,640	0.04%
508900	4,291	$ 2,414,595,464	$ 23,668	0.03%
510200	3,992	$ 661,800,058	$ 6,484	0.03%
510301	5,110	$ 775,238,687	$ 7,599	0.04%
510500	4,065	$ 522,986,795	$ 5,126	0.03%
530104	7,599	$ 1,216,049,865	$ 13,066	0.05%
530603	4,617	$ 1,167,817,613	$ 12,548	0.03%
530901	4,699	$ 1,156,620,225	$ 11,337	0.03%
531801	4,772	$ 1,045,894,532	$ 10,252	0.03%
532004	3,782	$ 921,259,364	$ 9,030	0.03%
532701	8,077	$ 3,800,483,927	$ 40,834	0.06%
532902	10,091	$ 2,654,645,953	$ 28,521	0.07%
533400	5,973	$ 1,206,330,523	$ 11,825	0.04%
533501	9,186	$ 2,078,427,241	$ 20,373	0.06%
534000	7,304	$ 2,058,411,490	$ 22,117	0.05%
Total	**105,963**	**$ 27,626,337,698**	**$ 281,201**	**0.74%**

Future Trend

Land Use and Development Trends

Winter storms can occur anywhere bringing an entire community or region to a standstill, including commuter and emergency transportation and medical services. Any development that has occurred since the adoption of the previous plan, and any future development, has the potential to be impacted by winter storms. All land uses are equally impacted by severe winter weather.

Building design and construction is also impacted by the amount of snowfall. Areas that receive high snowfall should have buildings designed to withstand the weight of the snow in order to avoid sagging, cracking, and collapsing roofs. On the other hand, snow is a natural insulator, and snow accumulated on rooftops helps hold heat in buildings and, consequently, reduces heating costs.

It is important to maintain consistency between emergency planning, financial plans and budgets, and development planning. Zoning codes should ensure that there is adequate greenspace in existing and new developments to foster drainage and offers space to pile cleared snow. Locating emergency facilities, and partnering with emergency organizations during the planning process, will help develop improved contingency responses in cases where emergency transportation and services are cut off during an extreme weather event.

Climate Change

According to the Midwest chapter of the Fourth National Climate Assessment, the average Midwest air temperature increased by more than 1.5 degrees Fahrenheit between 1900 and 2010. In recent years, however, warming has increased three times as quickly between 1980 and 2010. By the end of 2030, Ohio's climate may trend towards the climate of Southern Illinois. By 2100, Ohio might feel like Arkansas or Texas. As a result, the warming climate suggests that extreme winter weather will be less severe and less frequent in Ohio, and heavy snowfall will manifest as heavy rainfall in future years.

5 | Hazard Mitigation Strategy

2.1 Hazard Mitigation Strategy

Hazard Priorities

Potential hazards, including natural, geological, and human-caused hazards, were rated by members of the Core Planning Committee, which included representatives from each jurisdiction in Summit County. Each potential hazard was rated on a scale of zero to five, with zero indicating the hazard should not be studied and five indicating the most significant threat to the representative's jurisdiction. A priority score was developed for each hazard by averaging the representatives' ratings. The hazards were then ranked by their priority score, where the highest priority score was given a hazard rank of one. The resulting hazard rank and associated priority score for each hazard are shown in **Table 5.1**.

Table 5.1: Hazard Priorities

Hazard	Priority Score	Hazard Rank
Tornadoes	3.54	1
Non-natural	3.49	2
Flood	3.17	3
Winter Weather and Extreme Cold	2.68	4
Drought and Extreme Heat	2.61	5
Dam/Levee Failure	2.19	6
Landslide and Mine Subsidence	1.94	7
Earthquakes	1.56	8
Wildfire	1.41	9

Hazards Not Assessed

Below is a discussion covering hazards that were not included in this Plan update, as compared to the hazards included in the SOHMP and in Summit County's previous 2018 HMP.

Coastal Erosion

Coastal erosion is hazard that is not applicable to Summit County due to the County's inland location, so it was not assessed.

Hurricanes/Tropical Storms

Hurricanes/tropical storms are hazards that are not directly applicable to Summit County due to the County's inland location, so they were not assessed; however, if remnants of hurricanes or tropical storms were experienced as thunderstorms, thunderstorm winds, or high/severe winds, those events were included in the severe summer storms and/or tornado assessments.

Seiche/Coastal Flooding

Seiche/coastal flooding is hazard that is not applicable to Summit County due to the County's inland location, so it was not assessed.

Invasive Species

Invasive species was considered for this Plan update. However, the Summit County EMA determined that it was not a priority for this Plan update.

3.1 Hazard Mitigation Goals

Developing achievable goals forms the foundation for all mitigation actions and activities that will aid Summit County in attaining the overall mission of the Core Planning Committee. As such, the Core Planning Committee and participating jurisdictions assessed the goals of the 2018 Hazard Mitigation Plan and updated them for this Plan update. Goals were established and reviewed based upon their relationship to the hazard priorities and potential adverse impact of those hazards upon the community. The goals, as well as the hazards assessed for this Plan, informed the development of actions that the County and participating jurisdictions can take to mitigate the impacts of the hazards. The goals of the Summit County Hazard Mitigation Plan are as follows:

- Goal 1: Increase public information and awareness about hazards that affect Summit County.
- Goal 2: Expand awareness about tornadoes.
- Goal 3: Expand awareness and minimize the effects from non-natural hazards.
- Goal 4: Expand awareness about the effects from flooding.
- Goal 5: Expand awareness and minimize the effects from winter weather and extreme cold.
- Goal 6: Expand awareness and minimize the effects from drought and extreme heat.
- Goal 7: Decrease dam/levee hazard levels.
- Goal 8: Expand awareness about the effects from landslides and mine subsidence.
- Goal 9: Expand awareness and minimize the effects from earthquakes.
- Goals 10: Decrease wildfire hazard levels.

4.1 Hazard Mitigation Actions & Priorities

Members of the Core Planning Committee completed a Previous Mitigation Action Status survey, which indicated the status of mitigation actions included in the 2018 Hazard Mitigation Plan. This survey asked representatives to indicate whether the mitigation actions from the previous plan were completed, deleted, deferred, unchanged, or ongoing. It also asked the representative if the mitigation action should be included in this Plan update. The final results are included in **Appendix B**. In addition, new mitigation actions were developed and considered for inclusion in this Plan update that address gaps in the previous plan or new issues that have arisen since the 2017 Plan.

All new and old mitigation actions were reviewed and rated by members of the Core Planning Committee and local jurisdictions based on five criteria: cost-effectiveness, technical feasibility, environmentally soundness, immediate need, and total risk reduction. For each action, each of the five criteria were rated on a scale of one to five (low to high). All the surveys were collected and the individual criteria for each mitigation action were averaged and then added together to develop a single raw score for each individual mitigation action. The raw score for each action was used in combination with the rankings of the associated hazard, as determined by the Hazard Priority Survey (**Table 5.1**), to develop a score for each mitigation action. The action scores were then ranked to indicate the priority of each specific action. The action with the highest action score was given an action priority of one, indicating that action was the highest priority. Hazard Mitigation Action priorities are organized by hazard in **Table 5.2**. The information used to develop the priorities from the jurisdictions surveys and comments can be found in **Appendix G**, along with all completed surveys that were used to prioritize the hazards and develop the goals.

Mitigation projects will only be implemented if the benefits outweigh the associated cost of the proposed project. The Core Planning Committee, in coordination with the Summit County EMA, performed a general assessment of each action that would require FEMA funding as part of the planning process. A detailed cost-benefit analysis of each mitigation action will be required during the project planning phase in order to determine the economic feasibility of each action. Projects will also

be evaluated for social and environmental impact-related feasibility, as well as technical feasibility and any other criteria that evaluate project effectiveness. This evaluation of each project will be performed during the pre-application phase of a grant request. Project implementation will be subject to the availability of FEMA grants and other funding sources, as well as local resources.

Projects that are determined to be infeasible during this review process will be re-evaluated by members of the Core Planning Committee for re-scheduling or deletion.

Table 5.2: Mitigation Actions Priority Table by Hazard

#	Mitigation Action	Community	Hazard Priority	Action Priority	Lead Agency	Funding Source	Start/End	Status
Dam/Levee Failure								
1	Create inundation maps for all High Hazard Potential Dams (HHPDs) in the County.	Akron, Barberton, Cuyahoga Falls, Fairlawn, Green, Hudson, Macedonia, Munroe Falls, New Franklin, Norton, Reminderville, Stow, Tallmadge, Boston Heights, Twinsburg, Boston Heights, Clinton, Lakemore, Mogadore, Peninsula, Silver Lake, Bath TWP, Copley TWP, Northfield TWP, Richfield TWP, Richfield TWP, Sagamore Hills TWP	7	125	County Engineers Office	Existing Budget	3/2018 - 3/2029	Previous
2	Ensure that all HHPDs have an emergency action plan (EAP).	Akron, Barberton, Cuyahoga Falls, Fairlawn, Green, Hudson, Macedonia, Munroe Falls, New Franklin, Norton, Reminderville, Stow, Tallmadge, Boston Heights, Twinsburg, Boston Heights, Clinton, Lakemore, Mogadore, Peninsula, Silver Lake, Bath TWP, Copley TWP, Northfield TWP, Richfield TWP, Richfield TWP, Sagamore Hills TWP	7	124	County Engineers Office, County EMA	Existing Budget	3/2018 - 3/2029	Previous
3	Rehabilitate HHPDs throughout the County as needed.	Akron, Barberton, Cuyahoga Falls, Fairlawn, Green, Hudson, Macedonia, Munroe Falls, New Franklin, Norton, Reminderville, Stow, Tallmadge, Boston Heights, Twinsburg, Boston Heights, Clinton, Lakemore, Mogadore, Peninsula, Silver Lake, Bath TWP, Copley TWP, Northfield TWP, Richfield TWP, Richfield TWP, Sagamore Hills TWP	7	128	County Engineers Office	Existing Budget	3/2018 - 3/2029	Previous

#	Mitigation Action	Community	Hazard Priority	Action Priority	Lead Agency	Funding Source	Start/End	Status
4	Identify hazards that could impact each of the HHPDs in the County and provide annual updates.	Akron, Barberton, Cuyahoga Falls, Fairlawn, Green, Hudson, Macedonia, Munroe Falls, New Franklin, Norton, Reminderville, Stow, Tallmadge, Boston Heights, Twinsburg, Boston Heights, Clinton, Lakemore, Mogadore, Peninsula, Silver Lake, Bath TWP, Copley TWP, Northfield TWP, Richfield TWP, Richfield TWP, Sagamore Hills TWP	7	126	County Engineers Office	Existing Budget	3/2018 - 3/2029	Previous
5	Create a committee with dam owners, government employees, and residents and business owners in the inundation zone of HHPDs. Work with this committee during any planning or work as it related to HHPDs.	Akron, Barberton, Cuyahoga Falls, Fairlawn, Green, Hudson, Macedonia, Munroe Falls, New Franklin, Norton, Reminderville, Stow, Tallmadge, Boston Heights, Twinsburg, Boston Heights, Clinton, Lakemore, Mogadore, Peninsula, Silver Lake, Bath TWP, Copley TWP, Northfield TWP, Richfield TWP, Richfield TWP, Sagamore Hills TWP	7	127	County Commissioners, County EMA, Mayors of Jurisdictions	Existing Budget	3/2024 - 3/2029	New
6	Design and construction work to rehabilitate and modify the Wolf Creek Dam. Modifications include filling the hollow voids in the Ambursen-type dam with concrete to convert it to a gravity-type dam and provide at least an additional 50-years of useful life to the structure. Gate house and access safety improvements will also be completed. The improvements will enable the dam to meet all current ODNR dam regulations and design specifications and thereby mitigate potential future flooding due to dam failure.	Akron, Barberton, Cuyahoga Falls, Fairlawn, Green, Hudson, Macedonia, Munroe Falls, New Franklin, Norton, Reminderville, Stow, Tallmadge, Boston Heights, Twinsburg, Boston Heights, Clinton, Lakemore, Mogadore, Peninsula, Silver Lake, Bath TWP, Copley TWP, Northfield TWP, Richfield TWP, Richfield TWP, Sagamore Hills TWP	7	129	County Engineers Office	Existing Budget	3/2024 - 3/2029	New

#	Mitigation Action	Community	Hazard Priority	Action Priority	Lead Agency	Funding Source	Start/End	Status
7	Bring dam up to a Class one rating will allow habitation of downstream house and prevent potential catastrophic damage to State Route 303.	Akron, Barberton, Cuyahoga Falls, Fairlawn, Green, Hudson, Macedonia, Munroe Falls, New Franklin, Norton, Reminderville, Stow, Tallmadge, Boston Heights, Twinsburg, Boston Heights, Clinton, Lakemore, Mogadore, Peninsula, Silver Lake, Bath TWP, Copley TWP, Northfield TWP, Richfield TWP, Richfield TWP, Sagamore Hills TWP	7	131	County Engineers Office	Existing Budget	3/2024 - 3/2029	New
8	Hilaka Concrete Dam Spillway Rehabilitation.	Akron, Barberton, Cuyahoga Falls, Fairlawn, Green, Hudson, Macedonia, Munroe Falls, New Franklin, Norton, Reminderville, Stow, Tallmadge, Boston Heights, Twinsburg, Boston Heights, Clinton, Lakemore, Mogadore, Peninsula, Silver Lake, Bath TWP, Copley TWP, Northfield TWP, Richfield TWP, Richfield TWP, Sagamore Hills TWP	7	132	County Engineers Office, USACE	(USACE) Flood Control Program	3/2024 - 3/2029	New
9	Repair / Replacement of deteriorated concrete spillway and dam - Richfield Joint Recreation District	Akron, Barberton, Cuyahoga Falls, Fairlawn, Green, Hudson, Macedonia, Munroe Falls, New Franklin, Norton, Reminderville, Stow, Tallmadge, Boston Heights, Twinsburg, Boston Heights, Clinton, Lakemore, Mogadore, Peninsula, Silver Lake, Bath TWP, Copley TWP, Northfield TWP, Richfield TWP, Richfield TWP, Sagamore Hills TWP	7	130	County Engineers Office, USACE	(USACE) Flood Control Program	3/2024 - 3/2029	New
Drought & Extreme Heat								
12	Regularly check for leaks in the water supply to minimize losses.	Akron, Barberton, Cuyahoga Falls, Fairlawn, Green, Hudson, Macedonia, Munroe Falls, New Franklin, Norton, Reminderville, Stow, Tallmadge, Boston Heights, Twinsburg, Boston Heights, Clinton, Lakemore, Mogadore, Peninsula, Silver Lake, Bath TWP, Copley TWP, Northfield TWP, Richfield TWP, Richfield TWP, Sagamore Hills TWP	6	114	County Commissioners, County EMA	Existing Budget	3/2024 - 3/2029	New

#	Mitigation Action	Community	Hazard Priority	Action Priority	Lead Agency	Funding Source	Start/End	Status
13	Incorporate drought tolerant or natural landscaping (xeriscaping) practices into landscaping ordinances to reduce dependence on irrigation.	Akron, Barberton, Cuyahoga Falls, Fairlawn, Green, Hudson, Macedonia, Munroe Falls, New Franklin, Norton, Reminderville, Stow, Tallmadge, Boston Heights, Twinsburg, Boston Heights, Clinton, Lakemore, Mogadore, Peninsula, Silver Lake, Bath TWP, Copley TWP, Northfield TWP, Richfield TWP, Richfield TWP, Sagamore Hills TWP	6	121	County Commissioners, County EMA	Existing Budget	3/2024 - 3/2029	New
14	Install low-flow water fixtures in community lifelines and government offices to reduce water consumption.	Akron, Barberton, Cuyahoga Falls, Fairlawn, Green, Hudson, Macedonia, Munroe Falls, New Franklin, Norton, Reminderville, Stow, Tallmadge, Boston Heights, Twinsburg, Boston Heights, Clinton, Lakemore, Mogadore, Peninsula, Silver Lake, Bath TWP, Copley TWP, Northfield TWP, Richfield TWP, Richfield TWP, Sagamore Hills TWP	6	119	County Commissioners, County EMA, Mayors of Jurisdictions	Existing Budget	3/2024 - 3/2029	New
15	Ensure all emergency and homeless shelters have heating and air conditioning.	Akron, Barberton, Cuyahoga Falls, Fairlawn, Green, Hudson, Macedonia, Munroe Falls, New Franklin, Norton, Reminderville, Stow, Tallmadge, Boston Heights, Twinsburg, Boston Heights, Clinton, Lakemore, Mogadore, Peninsula, Silver Lake, Bath TWP, Copley TWP, Northfield TWP, Richfield TWP, Richfield TWP, Sagamore Hills TWP	6	115	County Commissioners, County EMA	Existing Budget	3/2024 - 3/2029	New
16	Ensure all community lifelines have heating and air conditioning.	Akron, Barberton, Cuyahoga Falls, Fairlawn, Green, Hudson, Macedonia, Munroe Falls, New Franklin, Norton, Reminderville, Stow, Tallmadge, Boston Heights, Twinsburg, Boston Heights, Clinton, Lakemore, Mogadore, Peninsula, Silver Lake, Bath TWP, Copley TWP, Northfield TWP, Richfield TWP, Richfield TWP, Sagamore Hills TWP	6	118	County Commissioners, County EMA, Mayors of Jurisdictions	Existing Budget	3/2024 - 3/2029	New

#	Mitigation Action	Community	Hazard Priority	Action Priority	Lead Agency	Funding Source	Start/End	Status
17	Increase the minimum number of trees/plantings and reduce the amount of permitted impervious surfaces in new developments.	Akron, Barberton, Cuyahoga Falls, Fairlawn, Green, Hudson, Macedonia, Munroe Falls, New Franklin, Norton, Reminderville, Stow, Tallmadge, Boston Heights, Twinsburg, Boston Heights, Clinton, Lakemore, Mogadore, Peninsula, Silver Lake, Bath TWP, Copley TWP, Northfield TWP, Richfield TWP, Richfield TWP, Sagamore Hills TWP	6	120	County Commissioners, County EMA, Mayors of Jurisdictions	Existing Budget	3/2024 - 3/2029	New
18	Encourage, incentivize, or require the use of green roofs to reduce the impacts of urban heat islands.	Akron, Barberton, Cuyahoga Falls, Fairlawn, Green, Hudson, Macedonia, Munroe Falls, New Franklin, Norton, Reminderville, Stow, Tallmadge, Boston Heights, Twinsburg, Boston Heights, Clinton, Lakemore, Mogadore, Peninsula, Silver Lake, Bath TWP, Copley TWP, Northfield TWP, Richfield TWP, Richfield TWP, Sagamore Hills TWP	6	123	County Commissioners, County EMA, Mayors of Jurisdictions	Existing Budget	3/2018 - 3/2029	Previous
19	Identify at risk populations to extreme heat and cold, such as children, the elderly, and the homeless, and ensure they have access to heating and cooling shelters.	Akron, Barberton, Cuyahoga Falls, Fairlawn, Green, Hudson, Macedonia, Munroe Falls, New Franklin, Norton, Reminderville, Stow, Tallmadge, Boston Heights, Twinsburg, Boston Heights, Clinton, Lakemore, Mogadore, Peninsula, Silver Lake, Bath TWP, Copley TWP, Northfield TWP, Richfield TWP, Richfield TWP, Sagamore Hills TWP	6	122	County Commissioners, County EMA, Mayors of Jurisdictions	Existing Budget	3/2018 - 3/2029	Previous
Earthquake								
20	Partner with a university, state or federal agency, or other research group to perform a study on the Akron Magnetic Boundary or Akron Aftershock Zone.	Akron, Barberton, Cuyahoga Falls, Fairlawn, Green, Hudson, Macedonia, Munroe Falls, New Franklin, Norton, Reminderville, Stow, Tallmadge, Boston Heights, Twinsburg, Boston Heights, Clinton, Lakemore, Mogadore, Peninsula, Silver Lake, Bath TWP, Copley TWP, Northfield TWP, Richfield TWP, Richfield TWP, Sagamore Hills TWP	9	144	University of Akron, County Commissioners, County EMA	(EMPG) Special Project Grants	3/2024 - 3/2029	New

#	Mitigation Action	Community	Hazard Priority	Action Priority	Lead Agency	Funding Source	Start/End	Status
21	Partner with a university, state or federal agency, or other research group to perform a study on the increased risk of earthquakes in Summit County due to nearby drilling or gas extraction.	Akron, Barberton, Cuyahoga Falls, Fairlawn, Green, Hudson, Macedonia, Munroe Falls, New Franklin, Norton, Reminderville, Stow, Tallmadge, Boston Heights, Twinsburg, Boston Heights, Clinton, Lakemore, Mogadore, Peninsula, Silver Lake, Bath TWP, Copley TWP, Northfield TWP, Richfield TWP, Richfield TWP, Sagamore Hills TWP	9	145	University of Akron, County Commissioners, County EMA	(EMPG) Special Project Grants	3/2024 - 3/2029	New
Flood								
22	Purchase and retrofit, demolish, or relocate flood prone properties throughout the County.	Akron, Barberton, Cuyahoga Falls, Fairlawn, Green, Hudson, Macedonia, Munroe Falls, New Franklin, Norton, Reminderville, Stow, Tallmadge, Boston Heights, Twinsburg, Boston Heights, Clinton, Lakemore, Mogadore, Peninsula, Silver Lake, Bath TWP, Copley TWP, Northfield TWP, Richfield TWP, Richfield TWP, Sagamore Hills TWP	4	77	County Commissioners, County EMA, Majors of Jurisdictions	Existing Budget	3/2018 - 3/2029	Previous
23	Protect natural systems along waterways by limiting development, creating parkland, adding pedestrian and bicycle paths, and creating preservation zones.	Akron, Barberton, Cuyahoga Falls, Fairlawn, Green, Hudson, Macedonia, Munroe Falls, New Franklin, Norton, Reminderville, Stow, Tallmadge, Boston Heights, Twinsburg, Boston Heights, Clinton, Lakemore, Mogadore, Peninsula, Silver Lake, Bath TWP, Copley TWP, Northfield TWP, Richfield TWP, Richfield TWP, Sagamore Hills TWP	4	59	County Commissioners, County Engineers Office, County EMA, Majors of Jurisdictions	Existing Budget	3/2018 - 3/2029	Previous
24	Participate in the National Flood Insurance Program (NFIP) where appropriate.	Akron, Barberton, Cuyahoga Falls, Fairlawn, Green, Hudson, Macedonia, Munroe Falls, New Franklin, Norton, Reminderville, Stow, Tallmadge, Boston Heights, Twinsburg, Boston Heights, Clinton, Lakemore, Mogadore, Peninsula, Silver Lake, Bath TWP, Copley TWP, Northfield TWP, Richfield TWP, Richfield TWP, Sagamore Hills TWP	4	73	County Commissioners, County EMA, Majors of Jurisdictions	Existing Budget	3/2018 - 3/2029	Previous

#	Mitigation Action	Community	Hazard Priority	Action Priority	Lead Agency	Funding Source	Start/End	Status
25	Develop a floodplain management plan for all jurisdictions and update it regularly.	Akron, Barberton, Cuyahoga Falls, Fairlawn, Green, Hudson, Macedonia, Munroe Falls, New Franklin, Norton, Reminderville, Stow, Tallmadge, Boston Heights, Twinsburg, Boston Heights, Clinton, Lakemore, Mogadore, Peninsula, Silver Lake, Bath TWP, Copley TWP, Northfield TWP, Richfield TWP, Richfield TWP, Sagamore Hills TWP	4	70	County Commissioners, County EMA, Majors of Jurisdictions	Existing Budget	3/2018 - 3/2029	Previous
26	Establish a "green infrastructure" program to link, manage, and expand existing parks, preserves, greenways, etc.	Akron, Barberton, Cuyahoga Falls, Fairlawn, Green, Hudson, Macedonia, Munroe Falls, New Franklin, Norton, Reminderville, Stow, Tallmadge, Boston Heights, Twinsburg, Boston Heights, Clinton, Lakemore, Mogadore, Peninsula, Silver Lake, Bath TWP, Copley TWP, Northfield TWP, Richfield TWP, Richfield TWP, Sagamore Hills TWP	4	74	County Commissioners, County EMA, Majors of Jurisdictions	Existing Budget	3/2018 - 3/2029	Previous
27	Develop a stormwater committee at the County and Jurisdictional level that meets regularly to discuss stormwater issues and provide updates for the next hazard mitigation plan update.	Akron, Barberton, Cuyahoga Falls, Fairlawn, Green, Hudson, Macedonia, Munroe Falls, New Franklin, Norton, Reminderville, Stow, Tallmadge, Boston Heights, Twinsburg, Boston Heights, Clinton, Lakemore, Mogadore, Peninsula, Silver Lake, Bath TWP, Copley TWP, Northfield TWP, Richfield TWP, Richfield TWP, Sagamore Hills TWP	4	61	County Commissioners, County EMA, Majors of Jurisdictions	Existing Budget	3/2018 - 3/2029	Previous
28	Form or participate in an existing regional watershed council.	Akron, Barberton, Cuyahoga Falls, Fairlawn, Green, Hudson, Macedonia, Munroe Falls, New Franklin, Norton, Reminderville, Stow, Tallmadge, Boston Heights, Twinsburg, Boston Heights, Clinton, Lakemore, Mogadore, Peninsula, Silver Lake, Bath TWP, Copley TWP, Northfield TWP, Richfield TWP, Richfield TWP, Sagamore Hills TWP	4	58	County Commissioners, County EMA, Majors of Jurisdictions	Existing Budget	3/2018 - 3/2029	Previous

#	Mitigation Action	Community	Hazard Priority	Action Priority	Lead Agency	Funding Source	Start/End	Status
29	Prohibit development in FEMA identified floodplains.	Akron, Barberton, Cuyahoga Falls, Fairlawn, Green, Hudson, Macedonia, Munroe Falls, New Franklin, Norton, Reminderville, Stow, Tallmadge, Boston Heights, Twinsburg, Boston Heights, Clinton, Lakemore, Mogadore, Peninsula, Silver Lake, Bath TWP, Copley TWP, Northfield TWP, Richfield TWP, Richfield TWP, Sagamore Hills TWP	4	56	County Commissioners, County EMA, Majors of Jurisdictions	Existing Budget	3/2018 - 3/2029	Previous
30	Mandate or encourage the use of pervious pavement in new development.	Akron, Barberton, Cuyahoga Falls, Fairlawn, Green, Hudson, Macedonia, Munroe Falls, New Franklin, Norton, Reminderville, Stow, Tallmadge, Boston Heights, Twinsburg, Boston Heights, Clinton, Lakemore, Mogadore, Peninsula, Silver Lake, Bath TWP, Copley TWP, Northfield TWP, Richfield TWP, Richfield TWP, Sagamore Hills TWP	4	92	County Commissioners, County EMA, Majors of Jurisdictions	Existing Budget	3/2024 - 3/2029	New
31	Conduct a verification study of FEMA's repetitive loss inventory and developing an associated tracking database.	Akron, Barberton, Cuyahoga Falls, Fairlawn, Green, Hudson, Macedonia, Munroe Falls, New Franklin, Norton, Reminderville, Stow, Tallmadge, Boston Heights, Twinsburg, Boston Heights, Clinton, Lakemore, Mogadore, Peninsula, Silver Lake, Bath TWP, Copley TWP, Northfield TWP, Richfield TWP, Richfield TWP, Sagamore Hills TWP	4	84	County Commissioners, County EMA, County Engineers Office	Existing Budget	3/2024 - 3/2029	New
32	Improvements to the Mud Brook storm water management area. Specific address and estimated costs to be supplied at a later time as planning continues on this project.	Akron, Barberton, Cuyahoga Falls, Fairlawn, Green, Hudson, Macedonia, Munroe Falls, New Franklin, Norton, Reminderville, Stow, Tallmadge, Boston Heights, Twinsburg, Boston Heights, Clinton, Lakemore, Mogadore, Peninsula, Silver Lake, Bath TWP, Copley TWP, Northfield TWP, Richfield TWP, Richfield TWP, Sagamore Hills TWP	4	95	County Commissioners, County EMA, County Engineers Office	Existing Budget	3/2024 - 3/2029	New

#	Mitigation Action	Community	Hazard Priority	Action Priority	Lead Agency	Funding Source	Start/End	Status
33	Add (2) regional detention ponds down stream of Clipper Cove Culvert at Pirates Tr. & Windjammer Ct. to reduce peak flow at Clipper Cove Culvert.	Akron, Barberton, Cuyahoga Falls, Fairlawn, Green, Hudson, Macedonia, Munroe Falls, New Franklin, Norton, Reminderville, Stow, Tallmadge, Boston Heights, Twinsburg, Boston Heights, Clinton, Lakemore, Mogadore, Peninsula, Silver Lake, Bath TWP, Copley TWP, Northfield TWP, Richfield TWP, Richfield TWP, Sagamore Hills TWP	4	78	County Commissioners, County EMA, County Engineers Office	Existing Budget	3/2024 - 3/2029	New
34	Add (6) regional detention ponds upstream of Clipper Cove at Herrington, Maryland St., Illinois Ave., Georgia St., Maryland St. to reduce peak flow at Clipper Cove Culvert.	Akron, Barberton, Cuyahoga Falls, Fairlawn, Green, Hudson, Macedonia, Munroe Falls, New Franklin, Norton, Reminderville, Stow, Tallmadge, Boston Heights, Twinsburg, Boston Heights, Clinton, Lakemore, Mogadore, Peninsula, Silver Lake, Bath TWP, Copley TWP, Northfield TWP, Richfield TWP, Richfield TWP, Sagamore Hills TWP	4	78	County Commissioners, County EMA, County Engineers Office	Existing Budget	3/2024 - 3/2029	New
35	By creating the basin City will be able to store excess water from Wolf Creek reducing the amount of water flooding streets and homes downstream. Thereby reducing health and safety risks for property owners and future rescue workers. In addition, the project will reduce the need to provide emergency rescue services, flood insurance, and federal disaster assistance in the future. Wolf Creek and Pigeon Creek Confluence.	Akron, Barberton, Cuyahoga Falls, Fairlawn, Green, Hudson, Macedonia, Munroe Falls, New Franklin, Norton, Reminderville, Stow, Tallmadge, Boston Heights, Twinsburg, Boston Heights, Clinton, Lakemore, Mogadore, Peninsula, Silver Lake, Bath TWP, Copley TWP, Northfield TWP, Richfield TWP, Richfield TWP, Sagamore Hills TWP	4	68	County Commissioners, County EMA, County Engineers Office	Existing Budget	3/2024 - 3/2029	New

#	Mitigation Action	Community	Hazard Priority	Action Priority	Lead Agency	Funding Source	Start/End	Status
36	Crow Berkshire inflow and infiltration Study. The City of Macedonia is experiencing flooding problems in the Crow Berkshire area as identified in the various sub-watersheds. This study will assist the City in identifying the Inflow and Infiltration and potential cross connection problems with proposed solutions.	Akron, Barberton, Cuyahoga Falls, Fairlawn, Green, Hudson, Macedonia, Munroe Falls, New Franklin, Norton, Reminderville, Stow, Tallmadge, Boston Heights, Twinsburg, Boston Heights, Clinton, Lakemore, Mogadore, Peninsula, Silver Lake, Bath TWP, Copley TWP, Northfield TWP, Richfield TWP, Richfield TWP, Sagamore Hills TWP	4	71	County Commissioners, County EMA, County Engineers Office	Existing Budget	3/2024 - 3/2029	New
37	Currently Kelsey Ditch has become very shallow due to silting in of its channel. This shallow stream channel has caused severe flooding. Clearing and re-grading of this stream channel should eliminate flooding issues in several neighborhoods throughout the Kelsey Ditch watershed.	Akron, Barberton, Cuyahoga Falls, Fairlawn, Green, Hudson, Macedonia, Munroe Falls, New Franklin, Norton, Reminderville, Stow, Tallmadge, Boston Heights, Twinsburg, Boston Heights, Clinton, Lakemore, Mogadore, Peninsula, Silver Lake, Bath TWP, Copley TWP, Northfield TWP, Richfield TWP, Richfield TWP, Sagamore Hills TWP	4	90	County Commissioners, County EMA, County Engineers Office	Existing Budget	3/2024 - 3/2029	New
38	Divert Storm Water runoff coming from Bainbridge Township Walmart to the City of Reminderville into Aurora Lake via properly size storm sewer.	Akron, Barberton, Cuyahoga Falls, Fairlawn, Green, Hudson, Macedonia, Munroe Falls, New Franklin, Norton, Reminderville, Stow, Tallmadge, Boston Heights, Twinsburg, Boston Heights, Clinton, Lakemore, Mogadore, Peninsula, Silver Lake, Bath TWP, Copley TWP, Northfield TWP, Richfield TWP, Richfield TWP, Sagamore Hills TWP	4	75	County Commissioners, County EMA, County Engineers Office	Existing Budget	3/2024 - 3/2029	New
39	Hudson Run, on City's west side experiences moderate flooding for two apartment complexes and eight residences. The city is examining obtaining vacant floodplain property for additional flood improvements. Also, low lying residential property subject to repetitive flooding.	Akron, Barberton, Cuyahoga Falls, Fairlawn, Green, Hudson, Macedonia, Munroe Falls, New Franklin, Norton, Reminderville, Stow, Tallmadge, Boston Heights, Twinsburg, Boston Heights, Clinton, Lakemore, Mogadore, Peninsula, Silver Lake, Bath TWP, Copley TWP, Northfield TWP, Richfield TWP, Richfield TWP, Sagamore Hills TWP	4	65	County Commissioners, County EMA, County Engineers Office	Existing Budget	3/2024 - 3/2029	New

#	Mitigation Action	Community	Hazard Priority	Action Priority	Lead Agency	Funding Source	Start/End	Status
40	Increasing the retention ponds storage capacity will reduce flooding downstream for residents. Thereby reducing health and safety risks for property owners on Robinson Avenue.	Akron, Barberton, Cuyahoga Falls, Fairlawn, Green, Hudson, Macedonia, Munroe Falls, New Franklin, Norton, Reminderville, Stow, Tallmadge, Boston Heights, Twinsburg, Boston Heights, Clinton, Lakemore, Mogadore, Peninsula, Silver Lake, Bath TWP, Copley TWP, Northfield TWP, Richfield TWP, Richfield TWP, Sagamore Hills TWP	4	81	County Commissioners, County EMA, County Engineers Office	Existing Budget	3/2024 - 3/2029	New
41	Maca Ditch, currently the existing culvert is undersized that runs under Eastwood Ave. Due to installing a properly sized culvert the over topping of the roadway and flooding issues of several neighborhoods should be eliminated.	Akron, Barberton, Cuyahoga Falls, Fairlawn, Green, Hudson, Macedonia, Munroe Falls, New Franklin, Norton, Reminderville, Stow, Tallmadge, Boston Heights, Twinsburg, Boston Heights, Clinton, Lakemore, Mogadore, Peninsula, Silver Lake, Bath TWP, Copley TWP, Northfield TWP, Richfield TWP, Richfield TWP, Sagamore Hills TWP	4	71	County Commissioners, County EMA, County Engineers Office	Existing Budget	3/2024 - 3/2029	New
42	Mud Run, on the City's NE side has experienced significant flooding over the past six years. Flooding affects an industrial section of the City. Barberton's Harter Park, north of the industrial area, has a large open area adjacent to Mud Run with a potential for floodwater storage.	Akron, Barberton, Cuyahoga Falls, Fairlawn, Green, Hudson, Macedonia, Munroe Falls, New Franklin, Norton, Reminderville, Stow, Tallmadge, Boston Heights, Twinsburg, Boston Heights, Clinton, Lakemore, Mogadore, Peninsula, Silver Lake, Bath TWP, Copley TWP, Northfield TWP, Richfield TWP, Richfield TWP, Sagamore Hills TWP	4	88	County Commissioners, County EMA, County Engineers Office	Existing Budget	3/2024 - 3/2029	New
43	Reinforcement of berms along the Ohio Canal.	Akron, Barberton, Cuyahoga Falls, Fairlawn, Green, Hudson, Macedonia, Munroe Falls, New Franklin, Norton, Reminderville, Stow, Tallmadge, Boston Heights, Twinsburg, Boston Heights, Clinton, Lakemore, Mogadore, Peninsula, Silver Lake, Bath TWP, Copley TWP, Northfield TWP, Richfield TWP, Richfield TWP, Sagamore Hills TWP	4	91	County Commissioners, County EMA, County Engineers Office	Existing Budget	3/2024 - 3/2029	New

#	Mitigation Action	Community	Hazard Priority	Action Priority	Lead Agency	Funding Source	Start/End	Status
44	Remove existing house in City of Stow to allow for emergency overflow of storm system during 100-year rain events.	Akron, Barberton, Cuyahoga Falls, Fairlawn, Green, Hudson, Macedonia, Munroe Falls, New Franklin, Norton, Reminderville, Stow, Tallmadge, Boston Heights, Twinsburg, Boston Heights, Clinton, Lakemore, Mogadore, Peninsula, Silver Lake, Bath TWP, Copley TWP, Northfield TWP, Richfield TWP, Richfield TWP, Sagamore Hills TWP	4	93	County Commissioners, County EMA, County Engineers Office	Existing Budget	3/2024 - 3/2029	New
45	Repair of storm sewer outlets causing erosion to protect nearby structures and utilities.	Akron, Barberton, Cuyahoga Falls, Fairlawn, Green, Hudson, Macedonia, Munroe Falls, New Franklin, Norton, Reminderville, Stow, Tallmadge, Boston Heights, Twinsburg, Boston Heights, Clinton, Lakemore, Mogadore, Peninsula, Silver Lake, Bath TWP, Copley TWP, Northfield TWP, Richfield TWP, Richfield TWP, Sagamore Hills TWP	4	69	County Commissioners, County EMA, County Engineers Office	Existing Budget	3/2018 - 3/2029	Previous
46	Residential construction in the South Barberton area prior to the July 2016 FEMA FIRM Map Revision was not in a 100 yr. Flood Zone. A number of post- 1990 residences, now in the flood zone, include basements that are subject to flooding. First floor elevations are generally above the Base Flood Elevation.	Akron, Barberton, Cuyahoga Falls, Fairlawn, Green, Hudson, Macedonia, Munroe Falls, New Franklin, Norton, Reminderville, Stow, Tallmadge, Boston Heights, Twinsburg, Boston Heights, Clinton, Lakemore, Mogadore, Peninsula, Silver Lake, Bath TWP, Copley TWP, Northfield TWP, Richfield TWP, Richfield TWP, Sagamore Hills TWP	4	85	County Commissioners, County EMA, County Engineers Office	Existing Budget	3/2018 - 3/2029	Previous
47	Restoration and maintenance of drainage ditch that collects water from the Giant Eagle Plaza and Conservatory Dr. areas and drains to South Barberton.	Akron, Barberton, Cuyahoga Falls, Fairlawn, Green, Hudson, Macedonia, Munroe Falls, New Franklin, Norton, Reminderville, Stow, Tallmadge, Boston Heights, Twinsburg, Boston Heights, Clinton, Lakemore, Mogadore, Peninsula, Silver Lake, Bath TWP, Copley TWP, Northfield TWP, Richfield TWP, Richfield TWP, Sagamore Hills TWP	4	89	County Commissioners, County EMA, County Engineers Office	Existing Budget	3/2018 - 3/2029	Previous

#	Mitigation Action	Community	Hazard Priority	Action Priority	Lead Agency	Funding Source	Start/End	Status
48	South Main Street experiences flooding approximately between Nimisila Road and Center Road. Numerous factors contribute to the flooding; aging/failing infrastructure, high groundwater, and inadequate stormwater management. The project will replace over 3,000' of failing and hydraulically inadequate storm sewer. Potentially storm water detention will be evaluated using an existing series of ponds and potential property acquisition.	Akron, Barberton, Cuyahoga Falls, Fairlawn, Green, Hudson, Macedonia, Munroe Falls, New Franklin, Norton, Reminderville, Stow, Tallmadge, Boston Heights, Twinsburg, Boston Heights, Clinton, Lakemore, Mogadore, Peninsula, Silver Lake, Bath TWP, Copley TWP, Northfield TWP, Richfield TWP, Richfield TWP, Sagamore Hills TWP	4	76	County Commissioners, County EMA, County Engineers Office	Existing Budget	3/2018 - 3/2029	Previous
49	Stabilization and restoration of the Cuyahoga River where erosion of the bank is occurring near the Cascade Valley Park ballfields.	Akron, Barberton, Cuyahoga Falls, Fairlawn, Green, Hudson, Macedonia, Munroe Falls, New Franklin, Norton, Reminderville, Stow, Tallmadge, Boston Heights, Twinsburg, Boston Heights, Clinton, Lakemore, Mogadore, Peninsula, Silver Lake, Bath TWP, Copley TWP, Northfield TWP, Richfield TWP, Richfield TWP, Sagamore Hills TWP	4	81	County Commissioners, County EMA, County Engineers Office	Existing Budget	3/2018 - 3/2029	Previous
50	Stabilization and restoration of the Little Cuyahoga River where erosion of the bank is occurring near Cascade Village.	Akron, Barberton, Cuyahoga Falls, Fairlawn, Green, Hudson, Macedonia, Munroe Falls, New Franklin, Norton, Reminderville, Stow, Tallmadge, Boston Heights, Twinsburg, Boston Heights, Clinton, Lakemore, Mogadore, Peninsula, Silver Lake, Bath TWP, Copley TWP, Northfield TWP, Richfield TWP, Richfield TWP, Sagamore Hills TWP	4	83	County Commissioners, County EMA, County Engineers Office	Existing Budget	3/2018 - 3/2029	Previous

#	Mitigation Action	Community	Hazard Priority	Action Priority	Lead Agency	Funding Source	Start/End	Status
51	Study of Parcels upstream of Pigeon Creek, Schocolog Run, Wolf Creek and Ditch 38 to determine which would be most advantageous to purchase to control flood waters.	Akron, Barberton, Cuyahoga Falls, Fairlawn, Green, Hudson, Macedonia, Munroe Falls, New Franklin, Norton, Reminderville, Stow, Tallmadge, Boston Heights, Twinsburg, Boston Heights, Clinton, Lakemore, Mogadore, Peninsula, Silver Lake, Bath TWP, Copley TWP, Northfield TWP, Richfield TWP, Richfield TWP, Sagamore Hills TWP	4	62	County Commissioners, County EMA, County Engineers Office	Existing Budget	3/2018 - 3/2029	Previous
52	Summit County Engineer's Surface Water Management District, relative design, implementation, and maintenance of prioritized township stormwater projects to protect life, property, and the environment from flooding.	Akron, Barberton, Cuyahoga Falls, Fairlawn, Green, Hudson, Macedonia, Munroe Falls, New Franklin, Norton, Reminderville, Stow, Tallmadge, Boston Heights, Twinsburg, Boston Heights, Clinton, Lakemore, Mogadore, Peninsula, Silver Lake, Bath TWP, Copley TWP, Northfield TWP, Richfield TWP, Richfield TWP, Sagamore Hills TWP	4	62	County Commissioners, County EMA, County Engineers Office	Existing Budget	3/2018 - 3/2029	Previous
53	The profile grade of Kepler Road will be re-aligned to raise the roadway above flood elevation to avoid road closure during rain events. A series of shallow culverts will maintain flow under the roadway.	Akron, Barberton, Cuyahoga Falls, Fairlawn, Green, Hudson, Macedonia, Munroe Falls, New Franklin, Norton, Reminderville, Stow, Tallmadge, Boston Heights, Twinsburg, Boston Heights, Clinton, Lakemore, Mogadore, Peninsula, Silver Lake, Bath TWP, Copley TWP, Northfield TWP, Richfield TWP, Richfield TWP, Sagamore Hills TWP	4	85	County Commissioners, County EMA, County Engineers Office	Existing Budget	3/2018 - 3/2029	Previous
54	The Sanctuary proposal along Wye Road and unnamed stream enters Yellow Creek will prevent flooding and achieve water quality improvements by processing all the runoff from the project area through a to bio-infiltration system designed to accommodate up to the 10-Year storm.	Akron, Barberton, Cuyahoga Falls, Fairlawn, Green, Hudson, Macedonia, Munroe Falls, New Franklin, Norton, Reminderville, Stow, Tallmadge, Boston Heights, Twinsburg, Boston Heights, Clinton, Lakemore, Mogadore, Peninsula, Silver Lake, Bath TWP, Copley TWP, Northfield TWP, Richfield TWP, Richfield TWP, Sagamore Hills TWP	4	64	County Commissioners, County EMA, County Engineers Office	Existing Budget	3/2018 - 3/2029	Previous

#	Mitigation Action	Community	Hazard Priority	Action Priority	Lead Agency	Funding Source	Start/End	Status
55	The Village of Lakemore hopes to install a storm sewer for flood-prone properties. Installing lines or replacing failing lines is necessary as many properties are at elevations below the lake.	Akron, Barberton, Cuyahoga Falls, Fairlawn, Green, Hudson, Macedonia, Munroe Falls, New Franklin, Norton, Reminderville, Stow, Tallmadge, Boston Heights, Twinsburg, Boston Heights, Clinton, Lakemore, Mogadore, Peninsula, Silver Lake, Bath TWP, Copley TWP, Northfield TWP, Richfield TWP, Richfield TWP, Sagamore Hills TWP	4	60	County Commissioners, County EMA, County Engineers Office	Existing Budget	3/2018 - 3/2029	Previous
56	This project would be in conjunction with the City of New Franklin and ODNR. The project consists of the purchase and installation of permanent pumps to remove flood waters on S. Main St. stemming from major rain events and legacy issues with the Nimisila Reservoir embankment along S. Main St. The roadway becomes impassable at times and poses a risk to homes location in New Franklin.	Akron, Barberton, Cuyahoga Falls, Fairlawn, Green, Hudson, Macedonia, Munroe Falls, New Franklin, Norton, Reminderville, Stow, Tallmadge, Boston Heights, Twinsburg, Boston Heights, Clinton, Lakemore, Mogadore, Peninsula, Silver Lake, Bath TWP, Copley TWP, Northfield TWP, Richfield TWP, Richfield TWP, Sagamore Hills TWP	4	57	County Commissioners, County EMA, County Engineers Office	Existing Budget	3/2018 - 3/2029	Previous
57	To raise 260 feet of roadway 18 inches to eliminate flooding of the roadway and preventing residents from traveling to and from their home during heavy rains. Underground utility service boxes will need to be raised, which include electric, phone, and cable. Two catch basins, 3 water service lines, 2 light poles, 1 manhole, and 1 fire hydrant will also have to be raised. 200 feet of Sidewalk, 3 driveway aprons and 8 street trees will have to be replaced.	Akron, Barberton, Cuyahoga Falls, Fairlawn, Green, Hudson, Macedonia, Munroe Falls, New Franklin, Norton, Reminderville, Stow, Tallmadge, Boston Heights, Twinsburg, Boston Heights, Clinton, Lakemore, Mogadore, Peninsula, Silver Lake, Bath TWP, Copley TWP, Northfield TWP, Richfield TWP, Richfield TWP, Sagamore Hills TWP	4	67	County Commissioners, County EMA, County Engineers Office	Existing Budget	3/2018 - 3/2029	Previous

#	Mitigation Action	Community	Hazard Priority	Action Priority	Lead Agency	Funding Source	Start/End	Status
58	Construct detention facility near Atterbury Blvd. (BRPA010)	Akron, Barberton, Cuyahoga Falls, Fairlawn, Green, Hudson, Macedonia, Munroe Falls, New Franklin, Norton, Reminderville, Stow, Tallmadge, Boston Heights, Twinsburg, Boston Heights, Clinton, Lakemore, Mogadore, Peninsula, Silver Lake, Bath TWP, Copley TWP, Northfield TWP, Richfield TWP, Richfield TWP, Sagamore Hills TWP	4	94	NEORSD	Existing Budget	3/2018 - 3/2029	Previous
59	Increased detention upstream of downtown Hudson, stabilization of stream channel, replacement of infrastructure (BRPA14)	Akron, Barberton, Cuyahoga Falls, Fairlawn, Green, Hudson, Macedonia, Munroe Falls, New Franklin, Norton, Reminderville, Stow, Tallmadge, Boston Heights, Twinsburg, Boston Heights, Clinton, Lakemore, Mogadore, Peninsula, Silver Lake, Bath TWP, Copley TWP, Northfield TWP, Richfield TWP, Richfield TWP, Sagamore Hills TWP	4	96	County Commissioners, County EMA, County Engineers Office	Existing Budget	3/2018 - 3/2029	Previous
60	Dam removal and stream restoration Pine Lake area (BRPA09)	Akron, Barberton, Cuyahoga Falls, Fairlawn, Green, Hudson, Macedonia, Munroe Falls, New Franklin, Norton, Reminderville, Stow, Tallmadge, Boston Heights, Twinsburg, Boston Heights, Clinton, Lakemore, Mogadore, Peninsula, Silver Lake, Bath TWP, Copley TWP, Northfield TWP, Richfield TWP, Richfield TWP, Sagamore Hills TWP	4	97	NEORSD	Existing Budget	3/2018 - 3/2029	Previous
61	Construct additional detention, stream stabilization. Brandywine Drive area (BRPA11)	Akron, Barberton, Cuyahoga Falls, Fairlawn, Green, Hudson, Macedonia, Munroe Falls, New Franklin, Norton, Reminderville, Stow, Tallmadge, Boston Heights, Twinsburg, Boston Heights, Clinton, Lakemore, Mogadore, Peninsula, Silver Lake, Bath TWP, Copley TWP, Northfield TWP, Richfield TWP, Richfield TWP, Sagamore Hills TWP	4	97	NEORSD, County Commissioners, County EMA, County Engineers Office	Existing Budget	3/2018 - 3/2029	Previous

#	Mitigation Action	Community	Hazard Priority	Action Priority	Lead Agency	Funding Source	Start/End	Status
62	Relief sewer construction, stream restoration / floodplain creation (BRPA15)	Akron, Barberton, Cuyahoga Falls, Fairlawn, Green, Hudson, Macedonia, Munroe Falls, New Franklin, Norton, Reminderville, Stow, Tallmadge, Boston Heights, Twinsburg, Boston Heights, Clinton, Lakemore, Mogadore, Peninsula, Silver Lake, Bath TWP, Copley TWP, Northfield TWP, Richfield TWP, Richfield TWP, Sagamore Hills TWP	4	97	County Commissioners, County EMA, County Engineers Office	Existing Budget	3/2018 - 3/2029	Previous
63	Increase detention through upgrades of existing detention facilities and creation of new detention, storm sewer replacement. Flood reduction Ravenna Rd. (BRPA16)	Akron, Barberton, Cuyahoga Falls, Fairlawn, Green, Hudson, Macedonia, Munroe Falls, New Franklin, Norton, Reminderville, Stow, Tallmadge, Boston Heights, Twinsburg, Boston Heights, Clinton, Lakemore, Mogadore, Peninsula, Silver Lake, Bath TWP, Copley TWP, Northfield TWP, Richfield TWP, Richfield TWP, Sagamore Hills TWP	4	97	NEORSD	Existing Budget	3/2018 - 3/2029	Previous
64	Acquisition and demolition of 3 homes, flood warning system Middleton - E. Hines Rd. (BRPA12)	Akron, Barberton, Cuyahoga Falls, Fairlawn, Green, Hudson, Macedonia, Munroe Falls, New Franklin, Norton, Reminderville, Stow, Tallmadge, Boston Heights, Twinsburg, Boston Heights, Clinton, Lakemore, Mogadore, Peninsula, Silver Lake, Bath TWP, Copley TWP, Northfield TWP, Richfield TWP, Richfield TWP, Sagamore Hills TWP	4	97	NEORSD	Existing Budget	3/2018 - 3/2029	Previous
65	Increase floodplain storage, install relief sewer, stabilize stream channel Valley View Rd. area (ICPA01)	Akron, Barberton, Cuyahoga Falls, Fairlawn, Green, Hudson, Macedonia, Munroe Falls, New Franklin, Norton, Reminderville, Stow, Tallmadge, Boston Heights, Twinsburg, Boston Heights, Clinton, Lakemore, Mogadore, Peninsula, Silver Lake, Bath TWP, Copley TWP, Northfield TWP, Richfield TWP, Richfield TWP, Sagamore Hills TWP	4	66	NEORSD	Existing Budget	3/2018 - 3/2029	Previous

#	Mitigation Action	Community	Hazard Priority	Action Priority	Lead Agency	Funding Source	Start/End	Status
66	Acquisition and demolition of 4 homes, streambank stabilization (BRPA05)	Akron, Barberton, Cuyahoga Falls, Fairlawn, Green, Hudson, Macedonia, Munroe Falls, New Franklin, Norton, Reminderville, Stow, Tallmadge, Boston Heights, Twinsburg, Boston Heights, Clinton, Lakemore, Mogadore, Peninsula, Silver Lake, Bath TWP, Copley TWP, Northfield TWP, Richfield TWP, Richfield TWP, Sagamore Hills TWP	4	85	NEORSD	Existing Budget	3/2018 - 3/2029	Previous
67	Acquisition and demolition of 5 homes, floodplain creation, culvert crossing replacement/ upsizing Bedford /Ledge Rd. area (ICPA02)	Akron, Barberton, Cuyahoga Falls, Fairlawn, Green, Hudson, Macedonia, Munroe Falls, New Franklin, Norton, Reminderville, Stow, Tallmadge, Boston Heights, Twinsburg, Boston Heights, Clinton, Lakemore, Mogadore, Peninsula, Silver Lake, Bath TWP, Copley TWP, Northfield TWP, Richfield TWP, Richfield TWP, Sagamore Hills TWP	4	80	NEORSD	Existing Budget	3/2018 - 3/2029	Previous
68	Replacement of private culvert with open channel, upsize of public crossing culvert, reduction of flooding on Summersweet Trail (CUPA01)	Akron, Barberton, Cuyahoga Falls, Fairlawn, Green, Hudson, Macedonia, Munroe Falls, New Franklin, Norton, Reminderville, Stow, Tallmadge, Boston Heights, Twinsburg, Boston Heights, Clinton, Lakemore, Mogadore, Peninsula, Silver Lake, Bath TWP, Copley TWP, Northfield TWP, Richfield TWP, Richfield TWP, Sagamore Hills TWP	4	97	NEORSD	Existing Budget	3/2018 - 3/2029	Previous
69	Upsizing of public and private culverts, floodplain creation and stream restoration Chaffee Rd. (CUPA02)	Akron, Barberton, Cuyahoga Falls, Fairlawn, Green, Hudson, Macedonia, Munroe Falls, New Franklin, Norton, Reminderville, Stow, Tallmadge, Boston Heights, Twinsburg, Boston Heights, Clinton, Lakemore, Mogadore, Peninsula, Silver Lake, Bath TWP, Copley TWP, Northfield TWP, Richfield TWP, Richfield TWP, Sagamore Hills TWP	4	97	NEORSD	Existing Budget	3/2018 - 3/2029	Previous

#	Mitigation Action	Community	Hazard Priority	Action Priority	Lead Agency	Funding Source	Start/End	Status
70	Acquisition and demolition of 1 home, stream daylighting, stream restoration. Cranberry Trail area(CUPA05)	Akron, Barberton, Cuyahoga Falls, Fairlawn, Green, Hudson, Macedonia, Munroe Falls, New Franklin, Norton, Reminderville, Stow, Tallmadge, Boston Heights, Twinsburg, Boston Heights, Clinton, Lakemore, Mogadore, Peninsula, Silver Lake, Bath TWP, Copley TWP, Northfield TWP, Richfield TWP, Richfield TWP, Sagamore Hills TWP	4	97	NEORSD	Existing Budget	3/2018 - 3/2029	Previous
71	Upsize crossing Troubadour Dr. (SCPA03)	Akron, Barberton, Cuyahoga Falls, Fairlawn, Green, Hudson, Macedonia, Munroe Falls, New Franklin, Norton, Reminderville, Stow, Tallmadge, Boston Heights, Twinsburg, Boston Heights, Clinton, Lakemore, Mogadore, Peninsula, Silver Lake, Bath TWP, Copley TWP, Northfield TWP, Richfield TWP, Richfield TWP, Sagamore Hills TWP	4	97	NEORSD	Existing Budget	3/2018 - 3/2029	Previous
Landslide and Mine Subsidence								
72	Reclaim areas disturbed by mining operations and address problems including mine openings, landslide, highwalls, erosion and subsidence.	Akron, Barberton, Cuyahoga Falls, Fairlawn, Green, Hudson, Macedonia, Munroe Falls, New Franklin, Norton, Reminderville, Stow, Tallmadge, Boston Heights, Twinsburg, Boston Heights, Clinton, Lakemore, Mogadore, Peninsula, Silver Lake, Bath TWP, Copley TWP, Northfield TWP, Richfield TWP, Richfield TWP, Sagamore Hills TWP	8	139	County Commissioners, County EMA, Mayors of Jurisdictions	Existing Budget	3/2018 - 3/2029	Previous
73	Repair and stabilization of slopes and protection and repair of structures and utilities affected by landslides.	Akron, Barberton, Cuyahoga Falls, Fairlawn, Green, Hudson, Macedonia, Munroe Falls, New Franklin, Norton, Reminderville, Stow, Tallmadge, Boston Heights, Twinsburg, Boston Heights, Clinton, Lakemore, Mogadore, Peninsula, Silver Lake, Bath TWP, Copley TWP, Northfield TWP, Richfield TWP, Richfield TWP, Sagamore Hills TWP	8	140	County Engineers Office	Existing Budget	3/2018 - 3/2029	Previous

#	Mitigation Action	Community	Hazard Priority	Action Priority	Lead Agency	Funding Source	Start/End	Status
74	Several abandoned coal mines, seven known, are located throughout the western part of the City of Tallmadge. The potential for mine subsidence could cause damage to personal and private property within the City, as it has twice in the past. This project would allow for mapping of the mine structures, allowing for a true map of where the mines are which would lead to the creation of a mitigation plan including mine stabilization, filling, zoning restrictions etc. that would limit the potential for damage to persons or property.	Akron, Barberton, Cuyahoga Falls, Fairlawn, Green, Hudson, Macedonia, Munroe Falls, New Franklin, Norton, Reminderville, Stow, Tallmadge, Boston Heights, Twinsburg, Boston Heights, Clinton, Lakemore, Mogadore, Peninsula, Silver Lake, Bath TWP, Copley TWP, Northfield TWP, Richfield TWP, Richfield TWP, Sagamore Hills TWP	8	133	County Engineers Office	PDM, Existing Budget	3/2018 - 3/2029	Previous
75	The City of New Franklin has abandoned mines throughout the City. Lockhart Park has an abandoned mine entrance that appears to have experience settlement over the years. The project will reclaim areas disturbed by coal mining operations. Types of problems addressed include: mine openings, landslides, highwalls, erosion and subsidence.	Akron, Barberton, Cuyahoga Falls, Fairlawn, Green, Hudson, Macedonia, Munroe Falls, New Franklin, Norton, Reminderville, Stow, Tallmadge, Boston Heights, Twinsburg, Boston Heights, Clinton, Lakemore, Mogadore, Peninsula, Silver Lake, Bath TWP, Copley TWP, Northfield TWP, Richfield TWP, Richfield TWP, Sagamore Hills TWP	8	134	County Engineers Office	PDM, Existing Budget	3/2018 - 3/2029	Previous

#	Mitigation Action	Community	Hazard Priority	Action Priority	Lead Agency	Funding Source	Start/End	Status
76	We have a list of 30 landslides we monitor on a periodic basis. The landslide areas can be classified as small (less than $150,000 to repair) medium (less than $2 million to repair) and large (up to $10 million to repair). Some of the sites have had the slides repaired in the past but once an area shows a tendency to move, it remains an active site to be monitored.	Akron, Barberton, Cuyahoga Falls, Fairlawn, Green, Hudson, Macedonia, Munroe Falls, New Franklin, Norton, Reminderville, Stow, Tallmadge, Boston Heights, Twinsburg, Boston Heights, Clinton, Lakemore, Mogadore, Peninsula, Silver Lake, Bath TWP, Copley TWP, Northfield TWP, Richfield TWP, Richfield TWP, Sagamore Hills TWP	8	138	County Engineers Office	PDM, Existing Budget	3/2018 - 3/2029	Previous
77	Use GIS to identify and map landslide hazard areas.	Akron, Barberton, Cuyahoga Falls, Fairlawn, Green, Hudson, Macedonia, Munroe Falls, New Franklin, Norton, Reminderville, Stow, Tallmadge, Boston Heights, Twinsburg, Boston Heights, Clinton, Lakemore, Mogadore, Peninsula, Silver Lake, Bath TWP, Copley TWP, Northfield TWP, Richfield TWP, Richfield TWP, Sagamore Hills TWP	8	137	County Engineers Office	PDM, Existing Budget	3/2018 - 3/2029	Previous
78	Relocate community lifelines located within identified landslide hazard areas.	Akron, Barberton, Cuyahoga Falls, Fairlawn, Green, Hudson, Macedonia, Munroe Falls, New Franklin, Norton, Reminderville, Stow, Tallmadge, Boston Heights, Twinsburg, Boston Heights, Clinton, Lakemore, Mogadore, Peninsula, Silver Lake, Bath TWP, Copley TWP, Northfield TWP, Richfield TWP, Richfield TWP, Sagamore Hills TWP	8	141	County Commissioners, County EMA, Mayors of Jurisdictions	Existing Budget	3/2018 - 3/2029	Previous
79	Identify and map the locations of abandoned underground mines.	Akron, Barberton, Cuyahoga Falls, Fairlawn, Green, Hudson, Macedonia, Munroe Falls, New Franklin, Norton, Reminderville, Stow, Tallmadge, Boston Heights, Twinsburg, Boston Heights, Clinton, Lakemore, Mogadore, Peninsula, Silver Lake, Bath TWP, Copley TWP, Northfield TWP, Richfield TWP, Richfield TWP, Sagamore Hills TWP	8	142	County Commissioners, County EMA, County Engineers Office	Existing Budget	3/2018 - 3/2029	Previous

#	Mitigation Action	Community	Hazard Priority	Action Priority	Lead Agency	Funding Source	Start/End	Status
80	Relocate community lifelines located above abandoned underground mines.	Akron, Barberton, Cuyahoga Falls, Fairlawn, Green, Hudson, Macedonia, Munroe Falls, New Franklin, Norton, Reminderville, Stow, Tallmadge, Boston Heights, Twinsburg, Boston Heights, Clinton, Lakemore, Mogadore, Peninsula, Silver Lake, Bath TWP, Copley TWP, Northfield TWP, Richfield TWP, Richfield TWP, Sagamore Hills TWP	8	135	County Commissioners, County EMA, Mayors of Jurisdictions	Existing Budget	3/2018 - 3/2029	Previous
81	Utilize soil stabilization strategies, such as planting soil-stabilization vegetation on steep, publicly owned slopes.	Akron, Barberton, Cuyahoga Falls, Fairlawn, Green, Hudson, Macedonia, Munroe Falls, New Franklin, Norton, Reminderville, Stow, Tallmadge, Boston Heights, Twinsburg, Boston Heights, Clinton, Lakemore, Mogadore, Peninsula, Silver Lake, Bath TWP, Copley TWP, Northfield TWP, Richfield TWP, Richfield TWP, Sagamore Hills TWP	8	136	County Commissioners, County EMA, County Engineers Office	Existing Budget	3/2018 - 3/2029	Previous
82	Define and identify steep slope areas and regulate development in these areas.	Akron, Barberton, Cuyahoga Falls, Fairlawn, Green, Hudson, Macedonia, Munroe Falls, New Franklin, Norton, Reminderville, Stow, Tallmadge, Boston Heights, Twinsburg, Boston Heights, Clinton, Lakemore, Mogadore, Peninsula, Silver Lake, Bath TWP, Copley TWP, Northfield TWP, Richfield TWP, Richfield TWP, Sagamore Hills TWP	8	142	County Commissioners, County EMA, County Engineers Office	Existing Budget	3/2018 - 3/2029	Previous
Multiple Hazards								
83	Adopt and enforce the International Building Code (IBC) for all building types.	Akron, Barberton, Cuyahoga Falls, Fairlawn, Green, Hudson, Macedonia, Munroe Falls, New Franklin, Norton, Reminderville, Stow, Tallmadge, Boston Heights, Twinsburg, Boston Heights, Clinton, Lakemore, Mogadore, Peninsula, Silver Lake, Bath TWP, Copley TWP, Northfield TWP, Richfield TWP, Richfield TWP, Sagamore Hills TWP	1	4	County Commissioners, County EMA, County Engineers Office	Existing Budget	3/2018 - 3/2029	Previous

#	Mitigation Action	Community	Hazard Priority	Action Priority	Lead Agency	Funding Source	Start/End	Status
84	Participate in FEMA's Community Rating System (CRS)	Akron, Barberton, Cuyahoga Falls, Fairlawn, Green, Hudson, Macedonia, Munroe Falls, New Franklin, Norton, Reminderville, Stow, Tallmadge, Boston Heights, Twinsburg, Boston Heights, Clinton, Lakemore, Mogadore, Peninsula, Silver Lake, Bath TWP, Copley TWP, Northfield TWP, Richfield TWP, Richfield TWP, Sagamore Hills TWP	1	10	County Commissioners, County EMA, County Engineers Office	Existing Budget	3/2018 - 3/2029	Previous
85	Mail education pamphlets/brochures about the risks of various hazards.	Akron, Barberton, Cuyahoga Falls, Fairlawn, Green, Hudson, Macedonia, Munroe Falls, New Franklin, Norton, Reminderville, Stow, Tallmadge, Boston Heights, Twinsburg, Boston Heights, Clinton, Lakemore, Mogadore, Peninsula, Silver Lake, Bath TWP, Copley TWP, Northfield TWP, Richfield TWP, Richfield TWP, Sagamore Hills TWP	1	9	County Commissioners, County EMA, Mayors of Jurisdictions	Staff Time	3/2018 - 3/2029	Previous
86	Identify high risk populations, as related to natural hazards. Examples include the elderly and the homeless.	Akron, Barberton, Cuyahoga Falls, Fairlawn, Green, Hudson, Macedonia, Munroe Falls, New Franklin, Norton, Reminderville, Stow, Tallmadge, Boston Heights, Twinsburg, Boston Heights, Clinton, Lakemore, Mogadore, Peninsula, Silver Lake, Bath TWP, Copley TWP, Northfield TWP, Richfield TWP, Richfield TWP, Sagamore Hills TWP	1	5	County Commissioners, County EMA, Mayors of Jurisdictions	Staff Time	3/2018 - 3/2029	Previous
87	Reduce the strictness of lawn maintenance ordinances to reduce the use of fertilizers (water contamination), to reduce water use (drought), and to strengthen natural systems (floods).	Akron, Barberton, Cuyahoga Falls, Fairlawn, Green, Hudson, Macedonia, Munroe Falls, New Franklin, Norton, Reminderville, Stow, Tallmadge, Boston Heights, Twinsburg, Boston Heights, Clinton, Lakemore, Mogadore, Peninsula, Silver Lake, Bath TWP, Copley TWP, Northfield TWP, Richfield TWP, Richfield TWP, Sagamore Hills TWP	1	14	County Commissioners, County EMA, Mayors of Jurisdictions	Staff Time	3/2018 - 3/2029	Previous

#	Mitigation Action	Community	Hazard Priority	Action Priority	Lead Agency	Funding Source	Start/End	Status
88	Change parking minimums to parking maximums for new development to reduce the urban heat island effect and the chance of flash floods.	Akron, Barberton, Cuyahoga Falls, Fairlawn, Green, Hudson, Macedonia, Munroe Falls, New Franklin, Norton, Reminderville, Stow, Tallmadge, Boston Heights, Twinsburg, Boston Heights, Clinton, Lakemore, Mogadore, Peninsula, Silver Lake, Bath TWP, Copley TWP, Northfield TWP, Richfield TWP, Richfield TWP, Sagamore Hills TWP	1	11	County Commissioners, County EMA, Mayors of Jurisdictions	Staff Time	3/2018 - 3/2029	Previous
89	Utilize impact fees for large-scale new development to fund mitigation actions. Impact fees offset the impact the new development has on roadways, utility services, and natural systems.	Akron, Barberton, Cuyahoga Falls, Fairlawn, Green, Hudson, Macedonia, Munroe Falls, New Franklin, Norton, Reminderville, Stow, Tallmadge, Boston Heights, Twinsburg, Boston Heights, Clinton, Lakemore, Mogadore, Peninsula, Silver Lake, Bath TWP, Copley TWP, Northfield TWP, Richfield TWP, Richfield TWP, Sagamore Hills TWP	1	8	County Commissioners, County EMA, Mayors of Jurisdictions	Staff Time	3/2018 - 3/2029	Previous
90	Install new underground stormwater system to prevent flooding and icy conditions on Houghton Road between State Route 8 and Boardman Ave.	Akron, Barberton, Cuyahoga Falls, Fairlawn, Green, Hudson, Macedonia, Munroe Falls, New Franklin, Norton, Reminderville, Stow, Tallmadge, Boston Heights, Twinsburg, Boston Heights, Clinton, Lakemore, Mogadore, Peninsula, Silver Lake, Bath TWP, Copley TWP, Northfield TWP, Richfield TWP, Richfield TWP, Sagamore Hills TWP	1	7	County Commissioners, County EMA, Count Engineers Office	Existing Budget	3/2018 - 3/2029	Previous
91	Acquisition/Demolition and culver removal and replacement at two driveways that are shared by five property owners. These properties sit within the FWMA 100-year floodplain.	Akron, Barberton, Cuyahoga Falls, Fairlawn, Green, Hudson, Macedonia, Munroe Falls, New Franklin, Norton, Reminderville, Stow, Tallmadge, Boston Heights, Twinsburg, Boston Heights, Clinton, Lakemore, Mogadore, Peninsula, Silver Lake, Bath TWP, Copley TWP, Northfield TWP, Richfield TWP, Richfield TWP, Sagamore Hills TWP	1	15	County Commissioners, County EMA, Count Engineers Office	Existing Budget	3/2018 - 3/2029	Previous

#	Mitigation Action	Community	Hazard Priority	Action Priority	Lead Agency	Funding Source	Start/End	Status
92	Construction of the Brittain Road Reservoir Replacement project to replace an existing water reservoir.	Akron, Barberton, Cuyahoga Falls, Fairlawn, Green, Hudson, Macedonia, Munroe Falls, New Franklin, Norton, Reminderville, Stow, Tallmadge, Boston Heights, Twinsburg, Boston Heights, Clinton, Lakemore, Mogadore, Peninsula, Silver Lake, Bath TWP, Copley TWP, Northfield TWP, Richfield TWP, Richfield TWP, Sagamore Hills TWP	1	15	County Commissioners, County EMA, Count Engineers Office	Existing Budget	3/2018 - 3/2029	Previous
93	Implement Area-wide Automatic Vehicle Location (AVL) System and Software. Each entity or jurisdiction would have their own account but would utilize the same system/software throughout the region for coordinated responses and allow the Emergency Operations Center (EOC) location and data access to all jurisdictions responding to the incident.	Akron, Barberton, Cuyahoga Falls, Fairlawn, Green, Hudson, Macedonia, Munroe Falls, New Franklin, Norton, Reminderville, Stow, Tallmadge, Boston Heights, Twinsburg, Boston Heights, Clinton, Lakemore, Mogadore, Peninsula, Silver Lake, Bath TWP, Copley TWP, Northfield TWP, Richfield TWP, Richfield TWP, Sagamore Hills TWP	1	2	County Commissioners, County EMA, Mayors of Jurisdictions	Staff Time	3/2018 - 3/2029	Previous
94	Replace ex. four (4) - 42" culvert pipes under Clipper Cove to a 16' x 4' Box Culvert with full size headwalls.	Akron, Barberton, Cuyahoga Falls, Fairlawn, Green, Hudson, Macedonia, Munroe Falls, New Franklin, Norton, Reminderville, Stow, Tallmadge, Boston Heights, Twinsburg, Boston Heights, Clinton, Lakemore, Mogadore, Peninsula, Silver Lake, Bath TWP, Copley TWP, Northfield TWP, Richfield TWP, Richfield TWP, Sagamore Hills TWP	1	1	Count Engineers Office	Existing Budget	3/2018 - 3/2029	Previous
95	Stabilization and restoration of the Little Cuyahoga River where erosion of the bank is occurring near Lock 18, upstream of the Rack 26 overflow to protect electric utility structures, the Little Cuyahoga Interceptor sewer and the Towpath Trail.	Akron, Barberton, Cuyahoga Falls, Fairlawn, Green, Hudson, Macedonia, Munroe Falls, New Franklin, Norton, Reminderville, Stow, Tallmadge, Boston Heights, Twinsburg, Boston Heights, Clinton, Lakemore, Mogadore, Peninsula, Silver Lake, Bath TWP, Copley TWP, Northfield TWP, Richfield TWP, Richfield TWP, Sagamore Hills TWP	1	12	Count Engineers Office, USACE	USACE Flood Control Program	3/2018 - 3/2029	Previous

#	Mitigation Action	Community	Hazard Priority	Action Priority	Lead Agency	Funding Source	Start/End	Status
96	Tallmadge Lions Park has nearly 2,000 – 3,000 park visitors daily. This facility will provide the community and/or park visitors with an emergency safe shelter. The construction of a new Multi-Use Community Safe Shelter will serve as a center to provide shelter for the community the event of a 'natural' disaster. The facility is otherwise intended to be used for community activities.	Akron, Barberton, Cuyahoga Falls, Fairlawn, Green, Hudson, Macedonia, Munroe Falls, New Franklin, Norton, Reminderville, Stow, Tallmadge, Boston Heights, Twinsburg, Boston Heights, Clinton, Lakemore, Mogadore, Peninsula, Silver Lake, Bath TWP, Copley TWP, Northfield TWP, Richfield TWP, Richfield TWP, Sagamore Hills TWP	1	13	County Commissioners, County EMA, Mayors of Jurisdictions	Existing Budget	3/2018 - 3/2029	Previous
97	The Village would like to replace the generator at the sanitary sewer lift station to ensure the lift station is always pumping to force main.	Akron, Barberton, Cuyahoga Falls, Fairlawn, Green, Hudson, Macedonia, Munroe Falls, New Franklin, Norton, Reminderville, Stow, Tallmadge, Boston Heights, Twinsburg, Boston Heights, Clinton, Lakemore, Mogadore, Peninsula, Silver Lake, Bath TWP, Copley TWP, Northfield TWP, Richfield TWP, Richfield TWP, Sagamore Hills TWP	1	6	County Commissioners, County EMA, Mayors of Jurisdictions	Staff Time	3/2018 - 3/2029	Previous
98	This proposal is to construct a multi-use shelter on property that connects both the City's outdoor athletic facility and the County's fairgrounds. The shelter would be designed for multi-use to allow for greater utilization of the facility and the monies being spent while offering safe sheltering locations for hundreds of City and County event goers.	Akron, Barberton, Cuyahoga Falls, Fairlawn, Green, Hudson, Macedonia, Munroe Falls, New Franklin, Norton, Reminderville, Stow, Tallmadge, Boston Heights, Twinsburg, Boston Heights, Clinton, Lakemore, Mogadore, Peninsula, Silver Lake, Bath TWP, Copley TWP, Northfield TWP, Richfield TWP, Richfield TWP, Sagamore Hills TWP	1	17	County Commissioners, County EMA, Mayors of Jurisdictions	Existing Budget	3/2018 - 3/2029	Previous

#	Mitigation Action	Community	Hazard Priority	Action Priority	Lead Agency	Funding Source	Start/End	Status
99	Work with all jurisdictions on strengthening abilities to fill in gaps and implement mitigation efforts.	Akron, Barberton, Cuyahoga Falls, Fairlawn, Green, Hudson, Macedonia, Munroe Falls, New Franklin, Norton, Reminderville, Stow, Tallmadge, Boston Heights, Twinsburg, Boston Heights, Clinton, Lakemore, Mogadore, Peninsula, Silver Lake, Bath TWP, Copley TWP, Northfield TWP, Richfield TWP, Richfield TWP, Sagamore Hills TWP	1	3	County Commissioners, County EMA, Mayors of Jurisdictions	Staff Time	3/2018 - 3/2029	Previous
Non-Natural Hazards								
100	Work with law enforcement agencies to initiate a community policing program. This program encourages police officers to build relationships with community members and work closely with community organizations and leaders.	Akron, Barberton, Cuyahoga Falls, Fairlawn, Green, Hudson, Macedonia, Munroe Falls, New Franklin, Norton, Reminderville, Stow, Tallmadge, Boston Heights, Twinsburg, Boston Heights, Clinton, Lakemore, Mogadore, Peninsula, Silver Lake, Bath TWP, Copley TWP, Northfield TWP, Richfield TWP, Richfield TWP, Sagamore Hills TWP	3	30	County Commissioners, County EMA, Mayors of Jurisdictions, Police Departments of Jurisdictions	Staff Time	3/2024 - 3/2029	New
101	Implement a law enforcement training program that focuses on de-escalation techniques, culture awareness, and communication techniques.	Akron, Barberton, Cuyahoga Falls, Fairlawn, Green, Hudson, Macedonia, Munroe Falls, New Franklin, Norton, Reminderville, Stow, Tallmadge, Boston Heights, Twinsburg, Boston Heights, Clinton, Lakemore, Mogadore, Peninsula, Silver Lake, Bath TWP, Copley TWP, Northfield TWP, Richfield TWP, Richfield TWP, Sagamore Hills TWP	3	27	County Commissioners, County EMA, Mayors of Jurisdictions, Police Departments of Jurisdictions	Staff Time	3/2024 - 3/2029	New
102	Establish police advisory boards made up of community members who work closely with law enforcement.	Akron, Barberton, Cuyahoga Falls, Fairlawn, Green, Hudson, Macedonia, Munroe Falls, New Franklin, Norton, Reminderville, Stow, Tallmadge, Boston Heights, Twinsburg, Boston Heights, Clinton, Lakemore, Mogadore, Peninsula, Silver Lake, Bath TWP, Copley TWP, Northfield TWP, Richfield TWP, Richfield TWP, Sagamore Hills TWP	3	53	County Commissioners, County EMA, Mayors of Jurisdictions, Police Departments of Jurisdictions	Staff Time	3/2024 - 3/2029	New

#	Mitigation Action	Community	Hazard Priority	Action Priority	Lead Agency	Funding Source	Start/End	Status
103	Conduct after-action reviews following a civil disturbance event to evaluate the effectiveness and appropriateness of the response.	Akron, Barberton, Cuyahoga Falls, Fairlawn, Green, Hudson, Macedonia, Munroe Falls, New Franklin, Norton, Reminderville, Stow, Tallmadge, Boston Heights, Twinsburg, Boston Heights, Clinton, Lakemore, Mogadore, Peninsula, Silver Lake, Bath TWP, Copley TWP, Northfield TWP, Richfield TWP, Richfield TWP, Sagamore Hills TWP	3	35	County Commissioners, County EMA, Mayors of Jurisdictions, Police Departments of Jurisdictions	Staff Time	3/2018 - 3/2029	Previous
104	Conduct jurisdiction and countywide threat assessments to identify potential targets of domestic terrorism.	Akron, Barberton, Cuyahoga Falls, Fairlawn, Green, Hudson, Macedonia, Munroe Falls, New Franklin, Norton, Reminderville, Stow, Tallmadge, Boston Heights, Twinsburg, Boston Heights, Clinton, Lakemore, Mogadore, Peninsula, Silver Lake, Bath TWP, Copley TWP, Northfield TWP, Richfield TWP, Richfield TWP, Sagamore Hills TWP	3	31	County Commissioners, County EMA, Mayors of Jurisdictions, Police Departments of Jurisdictions	SHSP, Staff Time	3/2018 - 3/2029	Previous
105	Develop emergency response plans for the potential targets identified in the threat assessments.	Akron, Barberton, Cuyahoga Falls, Fairlawn, Green, Hudson, Macedonia, Munroe Falls, New Franklin, Norton, Reminderville, Stow, Tallmadge, Boston Heights, Twinsburg, Boston Heights, Clinton, Lakemore, Mogadore, Peninsula, Silver Lake, Bath TWP, Copley TWP, Northfield TWP, Richfield TWP, Richfield TWP, Sagamore Hills TWP	3	34	County Commissioners, County EMA, Mayors of Jurisdictions, Police Departments of Jurisdictions	SHSP, Staff Time	3/2018 - 3/2029	Previous
106	Coordinate with state and federal agencies to provide domestic terrorism response training to local law enforcing.	Akron, Barberton, Cuyahoga Falls, Fairlawn, Green, Hudson, Macedonia, Munroe Falls, New Franklin, Norton, Reminderville, Stow, Tallmadge, Boston Heights, Twinsburg, Boston Heights, Clinton, Lakemore, Mogadore, Peninsula, Silver Lake, Bath TWP, Copley TWP, Northfield TWP, Richfield TWP, Richfield TWP, Sagamore Hills TWP	3	36	County Commissioners, County EMA, Mayors of Jurisdictions, Police Departments of Jurisdictions	SHSP, Staff Time	3/2018 - 3/2029	Previous

#	Mitigation Action	Community	Hazard Priority	Action Priority	Lead Agency	Funding Source	Start/End	Status
107	Creating a redundant communication pathway to our Police Department and City Hall.	Akron, Barberton, Cuyahoga Falls, Fairlawn, Green, Hudson, Macedonia, Munroe Falls, New Franklin, Norton, Reminderville, Stow, Tallmadge, Boston Heights, Twinsburg, Boston Heights, Clinton, Lakemore, Mogadore, Peninsula, Silver Lake, Bath TWP, Copley TWP, Northfield TWP, Richfield TWP, Richfield TWP, Sagamore Hills TWP	3	25	County Commissioners, County EMA, Mayors of Jurisdictions, Police Departments of Jurisdictions	Staff Time	3/2024 - 3/2029	New
108	Hire a Countywide cybersecurity professional to identify potential threats and mitigation actions.	Akron, Barberton, Cuyahoga Falls, Fairlawn, Green, Hudson, Macedonia, Munroe Falls, New Franklin, Norton, Reminderville, Stow, Tallmadge, Boston Heights, Twinsburg, Boston Heights, Clinton, Lakemore, Mogadore, Peninsula, Silver Lake, Bath TWP, Copley TWP, Northfield TWP, Richfield TWP, Richfield TWP, Sagamore Hills TWP	3	37	County Commissioners, County EMA	Staff Time	3/2024 - 3/2029	New
109	Ensure data is regularly backed up (at least every month) and securely stored.	Akron, Barberton, Cuyahoga Falls, Fairlawn, Green, Hudson, Macedonia, Munroe Falls, New Franklin, Norton, Reminderville, Stow, Tallmadge, Boston Heights, Twinsburg, Boston Heights, Clinton, Lakemore, Mogadore, Peninsula, Silver Lake, Bath TWP, Copley TWP, Northfield TWP, Richfield TWP, Richfield TWP, Sagamore Hills TWP	3	22	County Commissioners, County EMA	Staff Time	3/2024 - 3/2029	New
110	Encrypt sensitive data.	Akron, Barberton, Cuyahoga Falls, Fairlawn, Green, Hudson, Macedonia, Munroe Falls, New Franklin, Norton, Reminderville, Stow, Tallmadge, Boston Heights, Twinsburg, Boston Heights, Clinton, Lakemore, Mogadore, Peninsula, Silver Lake, Bath TWP, Copley TWP, Northfield TWP, Richfield TWP, Richfield TWP, Sagamore Hills TWP	3	24	County Commissioners, County EMA	Staff Time	3/2018 - 3/2029	Previous

#	Mitigation Action	Community	Hazard Priority	Action Priority	Lead Agency	Funding Source	Start/End	Status
111	Conduct annual cybersecurity training to government employees.	Akron, Barberton, Cuyahoga Falls, Fairlawn, Green, Hudson, Macedonia, Munroe Falls, New Franklin, Norton, Reminderville, Stow, Tallmadge, Boston Heights, Twinsburg, Boston Heights, Clinton, Lakemore, Mogadore, Peninsula, Silver Lake, Bath TWP, Copley TWP, Northfield TWP, Richfield TWP, Richfield TWP, Sagamore Hills TWP	3	32	County Commissioners, County EMA	Staff Time	3/2018 - 3/2029	Previous
112	Ensure that software is regularly updated to reduce vulnerabilities.	Akron, Barberton, Cuyahoga Falls, Fairlawn, Green, Hudson, Macedonia, Munroe Falls, New Franklin, Norton, Reminderville, Stow, Tallmadge, Boston Heights, Twinsburg, Boston Heights, Clinton, Lakemore, Mogadore, Peninsula, Silver Lake, Bath TWP, Copley TWP, Northfield TWP, Richfield TWP, Richfield TWP, Sagamore Hills TWP	3	26	County Commissioners, County EMA	Staff Time	3/2018 - 3/2029	Previous
113	Complete a commodity flow study for the County.	Akron, Barberton, Cuyahoga Falls, Fairlawn, Green, Hudson, Macedonia, Munroe Falls, New Franklin, Norton, Reminderville, Stow, Tallmadge, Boston Heights, Twinsburg, Boston Heights, Clinton, Lakemore, Mogadore, Peninsula, Silver Lake, Bath TWP, Copley TWP, Northfield TWP, Richfield TWP, Richfield TWP, Sagamore Hills TWP	3	43	County Commissioners, County EMA	Staff Time	3/2018 - 3/2029	Previous
114	Conduct and report regular inspections of hazardous materials facilities.	Akron, Barberton, Cuyahoga Falls, Fairlawn, Green, Hudson, Macedonia, Munroe Falls, New Franklin, Norton, Reminderville, Stow, Tallmadge, Boston Heights, Twinsburg, Boston Heights, Clinton, Lakemore, Mogadore, Peninsula, Silver Lake, Bath TWP, Copley TWP, Northfield TWP, Richfield TWP, Richfield TWP, Sagamore Hills TWP	3	39	County Commissioners, County EMA	Staff Time	3/2018 - 3/2029	Previous

#	Mitigation Action	Community	Hazard Priority	Action Priority	Lead Agency	Funding Source	Start/End	Status
115	Record and regularly update ongoing spill prevention measures at hazardous materials facilities.	Akron, Barberton, Cuyahoga Falls, Fairlawn, Green, Hudson, Macedonia, Munroe Falls, New Franklin, Norton, Reminderville, Stow, Tallmadge, Boston Heights, Twinsburg, Boston Heights, Clinton, Lakemore, Mogadore, Peninsula, Silver Lake, Bath TWP, Copley TWP, Northfield TWP, Richfield TWP, Richfield TWP, Sagamore Hills TWP	3	33	County Commissioners, County EMA	Staff Time	3/2018 - 3/2029	Previous
116	Increase the number of vaccination sites and testing centers throughout the County.	Akron, Barberton, Cuyahoga Falls, Fairlawn, Green, Hudson, Macedonia, Munroe Falls, New Franklin, Norton, Reminderville, Stow, Tallmadge, Boston Heights, Twinsburg, Boston Heights, Clinton, Lakemore, Mogadore, Peninsula, Silver Lake, Bath TWP, Copley TWP, Northfield TWP, Richfield TWP, Richfield TWP, Sagamore Hills TWP	3	51	County Commissioners, County EMA, Mayors of Jurisdictions	Staff Time	3/2018 - 3/2029	Previous
117	Enhance disease surveillance and tracking to quickly identify and halt potential outbreaks.	Akron, Barberton, Cuyahoga Falls, Fairlawn, Green, Hudson, Macedonia, Munroe Falls, New Franklin, Norton, Reminderville, Stow, Tallmadge, Boston Heights, Twinsburg, Boston Heights, Clinton, Lakemore, Mogadore, Peninsula, Silver Lake, Bath TWP, Copley TWP, Northfield TWP, Richfield TWP, Richfield TWP, Sagamore Hills TWP	3	40	County Commissioners, County EMA, Mayors of Jurisdictions	Staff Time	3/2018 - 3/2029	Previous
118	Work with public health officials to create a countywide infectious disease response plan.	Akron, Barberton, Cuyahoga Falls, Fairlawn, Green, Hudson, Macedonia, Munroe Falls, New Franklin, Norton, Reminderville, Stow, Tallmadge, Boston Heights, Twinsburg, Boston Heights, Clinton, Lakemore, Mogadore, Peninsula, Silver Lake, Bath TWP, Copley TWP, Northfield TWP, Richfield TWP, Richfield TWP, Sagamore Hills TWP	3	28	County Commissioners, County EMA, Mayors of Jurisdictions	Staff Time	3/2018 - 3/2029	Previous

#	Mitigation Action	Community	Hazard Priority	Action Priority	Lead Agency	Funding Source	Start/End	Status
119	Utilizes new technology and scientific and medical discoveries to meet the ever growing, ever changing needs of the communities. Partner with public safety and the public health and medical partners to ensure that Summit County is prepared and is protected from bioterrorism, as well as other disasters.	Akron, Barberton, Cuyahoga Falls, Fairlawn, Green, Hudson, Macedonia, Munroe Falls, New Franklin, Norton, Reminderville, Stow, Tallmadge, Boston Heights, Twinsburg, Boston Heights, Clinton, Lakemore, Mogadore, Peninsula, Silver Lake, Bath TWP, Copley TWP, Northfield TWP, Richfield TWP, Richfield TWP, Sagamore Hills TWP	3	38	County Commissioners, County EMA	Staff Time	3/2018 - 3/2029	Previous
120	Draft and implement an Active Transportation Plan and include elements for bicycle and pedestrian safety.	Akron, Barberton, Cuyahoga Falls, Fairlawn, Green, Hudson, Macedonia, Munroe Falls, New Franklin, Norton, Reminderville, Stow, Tallmadge, Boston Heights, Twinsburg, Boston Heights, Clinton, Lakemore, Mogadore, Peninsula, Silver Lake, Bath TWP, Copley TWP, Northfield TWP, Richfield TWP, Richfield TWP, Sagamore Hills TWP	3	52	County Engineers Office	Existing Budget	3/2018 - 3/2029	Previous
121	Identify high risk streets and install traffic calming elements such as wider sidewalks, street trees, bike lanes, round abouts, chicanes, etc. along those streets.	Akron, Barberton, Cuyahoga Falls, Fairlawn, Green, Hudson, Macedonia, Munroe Falls, New Franklin, Norton, Reminderville, Stow, Tallmadge, Boston Heights, Twinsburg, Boston Heights, Clinton, Lakemore, Mogadore, Peninsula, Silver Lake, Bath TWP, Copley TWP, Northfield TWP, Richfield TWP, Richfield TWP, Sagamore Hills TWP	3	55	County Engineers Office	Existing Budget	3/2018 - 3/2029	Previous
122	Perform road diets on major roadways.	Akron, Barberton, Cuyahoga Falls, Fairlawn, Green, Hudson, Macedonia, Munroe Falls, New Franklin, Norton, Reminderville, Stow, Tallmadge, Boston Heights, Twinsburg, Boston Heights, Clinton, Lakemore, Mogadore, Peninsula, Silver Lake, Bath TWP, Copley TWP, Northfield TWP, Richfield TWP, Richfield TWP, Sagamore Hills TWP	3	54	County Engineers Office	Existing Budget	3/2018 - 3/2029	Previous

#	Mitigation Action	Community	Hazard Priority	Action Priority	Lead Agency	Funding Source	Start/End	Status
123	Create an EOP specifically for utility failure.	Akron, Barberton, Cuyahoga Falls, Fairlawn, Green, Hudson, Macedonia, Munroe Falls, New Franklin, Norton, Reminderville, Stow, Tallmadge, Boston Heights, Twinsburg, Boston Heights, Clinton, Lakemore, Mogadore, Peninsula, Silver Lake, Bath TWP, Copley TWP, Northfield TWP, Richfield TWP, Richfield TWP, Sagamore Hills TWP	3	41	County EMA	Staff Time	3/2018 - 3/2029	Previous
124	Create an EOP with a section dedicated to utility failure.	Akron, Barberton, Cuyahoga Falls, Fairlawn, Green, Hudson, Macedonia, Munroe Falls, New Franklin, Norton, Reminderville, Stow, Tallmadge, Boston Heights, Twinsburg, Boston Heights, Clinton, Lakemore, Mogadore, Peninsula, Silver Lake, Bath TWP, Copley TWP, Northfield TWP, Richfield TWP, Richfield TWP, Sagamore Hills TWP	3	42	County EMA	Staff Time	3/2018 - 3/2029	Previous
125	Ensure that infrastructure is regularly maintained and record maintenance operations.	Akron, Barberton, Cuyahoga Falls, Fairlawn, Green, Hudson, Macedonia, Munroe Falls, New Franklin, Norton, Reminderville, Stow, Tallmadge, Boston Heights, Twinsburg, Boston Heights, Clinton, Lakemore, Mogadore, Peninsula, Silver Lake, Bath TWP, Copley TWP, Northfield TWP, Richfield TWP, Richfield TWP, Sagamore Hills TWP	3	46	County EMA, County Engineers Office	Staff Time	3/2018 - 3/2029	Previous
126	Install backup generators and secondary water supplies in community lifelines.	Akron, Barberton, Cuyahoga Falls, Fairlawn, Green, Hudson, Macedonia, Munroe Falls, New Franklin, Norton, Reminderville, Stow, Tallmadge, Boston Heights, Twinsburg, Boston Heights, Clinton, Lakemore, Mogadore, Peninsula, Silver Lake, Bath TWP, Copley TWP, Northfield TWP, Richfield TWP, Richfield TWP, Sagamore Hills TWP	3	50	County Commissioners, County EMA	Staff Time	3/2018 - 3/2029	Previous

#	Mitigation Action	Community	Hazard Priority	Action Priority	Lead Agency	Funding Source	Start/End	Status
127	Ensure that local law enforcement is trained on traffic management in the event of widespread electric failure.	Akron, Barberton, Cuyahoga Falls, Fairlawn, Green, Hudson, Macedonia, Munroe Falls, New Franklin, Norton, Reminderville, Stow, Tallmadge, Boston Heights, Twinsburg, Boston Heights, Clinton, Lakemore, Mogadore, Peninsula, Silver Lake, Bath TWP, Copley TWP, Northfield TWP, Richfield TWP, Richfield TWP, Sagamore Hills TWP	3	23	County Commissioners, County EMA, Mayors of Jurisdictions, Police Departments of Jurisdictions	Staff Time	3/2018 - 3/2029	Previous
128	Improving emergency generation capacity of the city for critical infrastructure buildings, including running redundant electrical lines.	Akron, Barberton, Cuyahoga Falls, Fairlawn, Green, Hudson, Macedonia, Munroe Falls, New Franklin, Norton, Reminderville, Stow, Tallmadge, Boston Heights, Twinsburg, Boston Heights, Clinton, Lakemore, Mogadore, Peninsula, Silver Lake, Bath TWP, Copley TWP, Northfield TWP, Richfield TWP, Richfield TWP, Sagamore Hills TWP	3	48	County Commissioners, County EMA, Mayors of Jurisdictions, County Engineers Office	Existing Budget	3/2018 - 3/2029	Previous
129	Emergency power, upgrades to pump station controls and telemetry to allow adjustment of the booster pump operation and monitoring of station status.	Akron, Barberton, Cuyahoga Falls, Fairlawn, Green, Hudson, Macedonia, Munroe Falls, New Franklin, Norton, Reminderville, Stow, Tallmadge, Boston Heights, Twinsburg, Boston Heights, Clinton, Lakemore, Mogadore, Peninsula, Silver Lake, Bath TWP, Copley TWP, Northfield TWP, Richfield TWP, Richfield TWP, Sagamore Hills TWP	3	49	County Commissioners, County EMA, Mayors of Jurisdictions, County Engineers Office	Existing Budget	3/2018 - 3/2029	Previous
130	Install and activate emergency generator at Municipal Service Garage which houses equipment and staff that would be utilized in a disaster situation.	Akron, Barberton, Cuyahoga Falls, Fairlawn, Green, Hudson, Macedonia, Munroe Falls, New Franklin, Norton, Reminderville, Stow, Tallmadge, Boston Heights, Twinsburg, Boston Heights, Clinton, Lakemore, Mogadore, Peninsula, Silver Lake, Bath TWP, Copley TWP, Northfield TWP, Richfield TWP, Richfield TWP, Sagamore Hills TWP	3	47	County Commissioners, County EMA, Mayors of Jurisdictions, County Engineers Office	Existing Budget	3/2018 - 3/2029	Previous

#	Mitigation Action	Community	Hazard Priority	Action Priority	Lead Agency	Funding Source	Start/End	Status
131	Perform regular water quality monitoring.	Akron, Barberton, Cuyahoga Falls, Fairlawn, Green, Hudson, Macedonia, Munroe Falls, New Franklin, Norton, Reminderville, Stow, Tallmadge, Boston Heights, Twinsburg, Boston Heights, Clinton, Lakemore, Mogadore, Peninsula, Silver Lake, Bath TWP, Copley TWP, Northfield TWP, Richfield TWP, Richfield TWP, Sagamore Hills TWP	3	45	County Commissioners, County EMA, Mayors of Jurisdictions, County Engineers Office	Existing Budget	3/2018 - 3/2029	Previous
132	Identify risks to water quality and water supplies in a countywide Commodity Flow Study (see Hazardous Materials).	Akron, Barberton, Cuyahoga Falls, Fairlawn, Green, Hudson, Macedonia, Munroe Falls, New Franklin, Norton, Reminderville, Stow, Tallmadge, Boston Heights, Twinsburg, Boston Heights, Clinton, Lakemore, Mogadore, Peninsula, Silver Lake, Bath TWP, Copley TWP, Northfield TWP, Richfield TWP, Richfield TWP, Sagamore Hills TWP	3	29	County Commissioners, County EMA, Mayors of Jurisdictions, County Engineers Office	Existing Budget	3/2018 - 3/2029	Previous
133	The new line would help with redundancy in the distribution system should the only line serving the North side of town have an issue. The addition of the replacement of the cement asbestos line and river crossing would also improve the water quality, the volume of water along South River for firefighting and the removal of the cement asbestos water main.	Akron, Barberton, Cuyahoga Falls, Fairlawn, Green, Hudson, Macedonia, Munroe Falls, New Franklin, Norton, Reminderville, Stow, Tallmadge, Boston Heights, Twinsburg, Boston Heights, Clinton, Lakemore, Mogadore, Peninsula, Silver Lake, Bath TWP, Copley TWP, Northfield TWP, Richfield TWP, Richfield TWP, Sagamore Hills TWP	3	44	County Commissioners, County EMA, Mayors of Jurisdictions, County Engineers Office	Existing Budget	3/2018 - 3/2029	Previous
Tornado								
134	The siren would be located at the intersection of S. Cleveland Massillon Road and Main Street. This early warning system will protect critical facilities and mitigate loss of life.	Akron, Barberton, Cuyahoga Falls, Fairlawn, Green, Hudson, Macedonia, Munroe Falls, New Franklin, Norton, Reminderville, Stow, Tallmadge, Boston Heights, Twinsburg, Boston Heights, Clinton, Lakemore, Mogadore, Peninsula, Silver Lake, Bath TWP, Copley TWP, Northfield TWP, Richfield TWP, Richfield TWP, Sagamore Hills TWP	2	20	County Commissioners, County EMA, Mayors of Jurisdictions	Existing Budget	3/2018 - 3/2029	Previous

#	Mitigation Action	Community	Hazard Priority	Action Priority	Lead Agency	Funding Source	Start/End	Status
135	Install emergency shelters in community lifelines, particularly in those that cater to at risk communities such as children or the elderly.	Akron, Barberton, Cuyahoga Falls, Fairlawn, Green, Hudson, Macedonia, Munroe Falls, New Franklin, Norton, Reminderville, Stow, Tallmadge, Boston Heights, Twinsburg, Boston Heights, Clinton, Lakemore, Mogadore, Peninsula, Silver Lake, Bath TWP, Copley TWP, Northfield TWP, Richfield TWP, Richfield TWP, Sagamore Hills TWP	2	21	County Commissioners, County EMA, Mayors of Jurisdictions	Existing Budget	3/2018 - 3/2029	Previous
136	Install lightning protection devices, such as lightning rods, on community lifelines.	Akron, Barberton, Cuyahoga Falls, Fairlawn, Green, Hudson, Macedonia, Munroe Falls, New Franklin, Norton, Reminderville, Stow, Tallmadge, Boston Heights, Twinsburg, Boston Heights, Clinton, Lakemore, Mogadore, Peninsula, Silver Lake, Bath TWP, Copley TWP, Northfield TWP, Richfield TWP, Richfield TWP, Sagamore Hills TWP	2	18	County Commissioners, County EMA, Mayors of Jurisdictions	Existing Budget	3/2018 - 3/2029	Previous
137	Require emergency shelters in mobile home parks.	Akron, Barberton, Cuyahoga Falls, Fairlawn, Green, Hudson, Macedonia, Munroe Falls, New Franklin, Norton, Reminderville, Stow, Tallmadge, Boston Heights, Twinsburg, Boston Heights, Clinton, Lakemore, Mogadore, Peninsula, Silver Lake, Bath TWP, Copley TWP, Northfield TWP, Richfield TWP, Richfield TWP, Sagamore Hills TWP	2	19	County Commissioners, County EMA, Mayors of Jurisdictions	Existing Budget	3/2018 - 3/2029	Previous
134	The siren would be located at the intersection of S. Cleveland Massillon Road and Main Street. This early warning system will protect critical facilities and mitigate loss of life.	Akron, Barberton, Cuyahoga Falls, Fairlawn, Green, Hudson, Macedonia, Munroe Falls, New Franklin, Norton, Reminderville, Stow, Tallmadge, Boston Heights, Twinsburg, Boston Heights, Clinton, Lakemore, Mogadore, Peninsula, Silver Lake, Bath TWP, Copley TWP, Northfield TWP, Richfield TWP, Richfield TWP, Sagamore Hills TWP	2	20	County Commissioners, County EMA, Mayors of Jurisdictions	Existing Budget	3/2018 - 3/2029	Previous

#	Mitigation Action	Community	Hazard Priority	Action Priority	Lead Agency	Funding Source	Start/End	Status
Wildfire								
138	Develop of vegetation management plan, including slash and clean-up days.	Akron, Barberton, Cuyahoga Falls, Fairlawn, Green, Hudson, Macedonia, Munroe Falls, New Franklin, Norton, Reminderville, Stow, Tallmadge, Boston Heights, Twinsburg, Boston Heights, Clinton, Lakemore, Mogadore, Peninsula, Silver Lake, Bath TWP, Copley TWP, Northfield TWP, Richfield TWP, Richfield TWP, Sagamore Hills TWP	10	148	County Engineers Office, ODNR	Existing Budget	3/2018 - 3/2029	Previous
139	Map wildfires in the County as they are reported, including small scale fires reported to the OEMA.	Akron, Barberton, Cuyahoga Falls, Fairlawn, Green, Hudson, Macedonia, Munroe Falls, New Franklin, Norton, Reminderville, Stow, Tallmadge, Boston Heights, Twinsburg, Boston Heights, Clinton, Lakemore, Mogadore, Peninsula, Silver Lake, Bath TWP, Copley TWP, Northfield TWP, Richfield TWP, Richfield TWP, Sagamore Hills TWP	10	147	County Commissioners, County EMA, Mayors	Existing Budget	3/2018 - 3/2029	Previous
140	Ensure community lifelines have smoke detectors, sprinkler systems, and fire extinguishers.	Akron, Barberton, Cuyahoga Falls, Fairlawn, Green, Hudson, Macedonia, Munroe Falls, New Franklin, Norton, Reminderville, Stow, Tallmadge, Boston Heights, Twinsburg, Boston Heights, Clinton, Lakemore, Mogadore, Peninsula, Silver Lake, Bath TWP, Copley TWP, Northfield TWP, Richfield TWP, Richfield TWP, Sagamore Hills TWP	10	146	County Engineers Office	Existing Budget	3/2018 - 3/2029	Previous
Winter Weather and Extreme Cold								
141	Install living fences (tree lines, tall bushes, etc.) along roadways to limit snow blow.	Akron, Barberton, Cuyahoga Falls, Fairlawn, Green, Hudson, Macedonia, Munroe Falls, New Franklin, Norton, Reminderville, Stow, Tallmadge, Boston Heights, Twinsburg, Boston Heights, Clinton, Lakemore, Mogadore, Peninsula, Silver Lake, Bath TWP, Copley TWP, Northfield TWP, Richfield TWP, Richfield TWP, Sagamore Hills TWP	5	113	Winter Weather		3/2018 - 3/2029	Previous

#	Mitigation Action	Community	Hazard Priority	Action Priority	Lead Agency	Funding Source	Start/End	Status
142	Remove snow and ice from community lifelines regularly during the winter season.	Akron, Barberton, Cuyahoga Falls, Fairlawn, Green, Hudson, Macedonia, Munroe Falls, New Franklin, Norton, Reminderville, Stow, Tallmadge, Boston Heights, Twinsburg, Boston Heights, Clinton, Lakemore, Mogadore, Peninsula, Silver Lake, Bath TWP, Copley TWP, Northfield TWP, Richfield TWP, Richfield TWP, Sagamore Hills TWP	5	109	County Commissioners, County Engineers Office, County EMA	Existing Budget	3/2018 - 3/2029	Previous
143	Educate the public on the dangers of shoveling snow for at risk populations, particularly the elderly.	Akron, Barberton, Cuyahoga Falls, Fairlawn, Green, Hudson, Macedonia, Munroe Falls, New Franklin, Norton, Reminderville, Stow, Tallmadge, Boston Heights, Twinsburg, Boston Heights, Clinton, Lakemore, Mogadore, Peninsula, Silver Lake, Bath TWP, Copley TWP, Northfield TWP, Richfield TWP, Richfield TWP, Sagamore Hills TWP	5	112	County Commissioners, County Engineers Office, County EMA, Mayors of Jurisdictions	Existing Budget	3/2018 - 3/2029	Previous
144	Ensure emergency and homeless shelters have heating systems and blankets.	Akron, Barberton, Cuyahoga Falls, Fairlawn, Green, Hudson, Macedonia, Munroe Falls, New Franklin, Norton, Reminderville, Stow, Tallmadge, Boston Heights, Twinsburg, Boston Heights, Clinton, Lakemore, Mogadore, Peninsula, Silver Lake, Bath TWP, Copley TWP, Northfield TWP, Richfield TWP, Richfield TWP, Sagamore Hills TWP	5	106	County Commissioners, County Engineers Office, County EMA, Mayors of Jurisdictions	Existing Budget	3/2018 - 3/2029	Previous
145	Create a snow-shoveling program for at-risk populations.	Akron, Barberton, Cuyahoga Falls, Fairlawn, Green, Hudson, Macedonia, Munroe Falls, New Franklin, Norton, Reminderville, Stow, Tallmadge, Boston Heights, Twinsburg, Boston Heights, Clinton, Lakemore, Mogadore, Peninsula, Silver Lake, Bath TWP, Copley TWP, Northfield TWP, Richfield TWP, Richfield TWP, Sagamore Hills TWP	5	111	County Commissioners, County Engineers Office, County EMA, Mayors of Jurisdictions	Existing Budget	3/2018 - 3/2029	Previous

#	Mitigation Action	Community	Hazard Priority	Action Priority	Lead Agency	Funding Source	Start/End	Status
146	Create a robust snow removal program to ensure evacuation routes, delivery routes, school routes, etc. are quickly cleared after heavy snowfall.	Akron, Barberton, Cuyahoga Falls, Fairlawn, Green, Hudson, Macedonia, Munroe Falls, New Franklin, Norton, Reminderville, Stow, Tallmadge, Boston Heights, Twinsburg, Boston Heights, Clinton, Lakemore, Mogadore, Peninsula, Silver Lake, Bath TWP, Copley TWP, Northfield TWP, Richfield TWP, Richfield TWP, Sagamore Hills TWP	5	110	County Commissioners, County Engineers Office, County EMA, Mayors of Jurisdictions	Existing Budget	3/2018 - 3/2029	Previous
147	Purchase smaller snow removal vehicles that can assist other emergency vehicles, such as ambulances.	Akron, Barberton, Cuyahoga Falls, Fairlawn, Green, Hudson, Macedonia, Munroe Falls, New Franklin, Norton, Reminderville, Stow, Tallmadge, Boston Heights, Twinsburg, Boston Heights, Clinton, Lakemore, Mogadore, Peninsula, Silver Lake, Bath TWP, Copley TWP, Northfield TWP, Richfield TWP, Richfield TWP, Sagamore Hills TWP	5	108	County Commissioners, County Engineers Office, County EMA, Mayors of Jurisdictions	Existing Budget	3/2018 - 3/2029	Previous
148	Coordinate with utility providers to ensure that water, electric, gas, and internet services will not be negatively impacted by winter storms or will be quickly repaired. Examples include frozen pipelines and ice buildup on overhead electricity lines.	Akron, Barberton, Cuyahoga Falls, Fairlawn, Green, Hudson, Macedonia, Munroe Falls, New Franklin, Norton, Reminderville, Stow, Tallmadge, Boston Heights, Twinsburg, Boston Heights, Clinton, Lakemore, Mogadore, Peninsula, Silver Lake, Bath TWP, Copley TWP, Northfield TWP, Richfield TWP, Richfield TWP, Sagamore Hills TWP	5	107	County Commissioners, County Engineers Office, County EMA, Mayors of Jurisdictions	Existing Budget	3/2018 - 3/2029	Previous
145	Create a snow-shoveling program for at-risk populations.	Akron, Barberton, Cuyahoga Falls, Fairlawn, Green, Hudson, Macedonia, Munroe Falls, New Franklin, Norton, Reminderville, Stow, Tallmadge, Boston Heights, Twinsburg, Boston Heights, Clinton, Lakemore, Mogadore, Peninsula, Silver Lake, Bath TWP, Copley TWP, Northfield TWP, Richfield TWP, Richfield TWP, Sagamore Hills TWP	5	111	County Commissioners, County Engineers Office, County EMA, Mayors of Jurisdictions	Existing Budget	3/2018 - 3/2029	Previous