

1.0 INTRODUCTION

Purpose

The purpose of the mitigation plan is to identify risks and vulnerabilities from hazards that affect Ashtabula County, Ohio to reduce losses of life, injuries, and to limit future damages by developing methods to mitigate or eliminate damages associated with various hazards.

Scope

The *Ashtabula County Hazard Mitigation Plan* follows a planning methodology that includes public involvement, a risk assessment for various identified hazards, an inventory of critical facilities and at-risk areas, a mitigation strategy for high-risk hazards, and a method to maintain and update the plan.

Plan Authority

The *Ashtabula County Hazard Mitigation Plan* is “multi-jurisdictional,” meaning that it includes several jurisdictions. Ashtabula County stakeholders prepared this plan per federal requirements outlined in the Disaster Mitigation Act of 2000 (DMA2K), which requires communities to formulate a hazard mitigation plan to be eligible for mitigation funds made available through the Federal Emergency Management Agency (FEMA). Section 322 of the Robert T. Stafford Act requires that all states and local jurisdictions develop and submit plans meeting the criteria outlined in 44 CFR Parts 201 and 206.

When the content of this plan corresponds to a requirement of 44 CFR 201.6 (the local mitigation planning section), it will include a description of the relevant guidance. The following table lists the requirements of 44 CFR 201.6 and identifies the sections of the plan fulfilling the guidance.

44 CFR 201.6 REQUIREMENTS IN THIS PLAN		
<i>Section</i>	<i>Description</i>	<i>Section in Plan</i>
§ 201.6	Local Mitigation Plans. The local mitigation plan is the representation of the jurisdiction's commitment to reduce risks from natural hazards, serving as a guide for decision makers as they commit resources to reducing the effects of natural hazards. Local plans will also serve as the basis for the state to provide technical assistance and to prioritize project funding.	Section 1.0 Introduction
§ 201.6(a)(4)	Multi-jurisdictional plans may be accepted, as appropriate, as long as each jurisdiction has participated in the process and has officially adopted the plan.	Section 1.1 The Planning Process



44 CFR 201.6 REQUIREMENTS IN THIS PLAN		
<i>Section</i>	<i>Description</i>	<i>Section in Plan</i>
§ 201.6(b)(1)	An opportunity for the public to comment on the plan during the drafting stage and prior to plan approval	Section 1.1 The Planning Process Section 4.3 Continued Public Involvement
§ 201.6(b)(2)	An opportunity for neighboring communities, local and regional agencies involved in hazard mitigation activities, and agencies that have the authority to regulate development, as well as businesses, academia and other private and non-profit interests to be involved in the planning process	Section 1.1 The Planning Process
§ 201.6(b)(3)	Review and incorporate, if appropriate, existing plans, studies, reports, and technical information	Section 1.3 Capabilities Section 1.4 Trends & Predictions Section 4.2 Plan Integration
§ 201.6(c)(1)	Documentation of the planning process used to develop the plan, including how it was prepared, who was involved in the process, and how the public was involved	Section 1.1 The Planning Process
§ 201.6(c)(2)	A risk assessment that provides the factual basis for activities proposed in the strategy to reduce losses from identified hazards. Local risk assessments must provide sufficient information to enable the jurisdiction to identify and prioritize appropriate mitigation actions to reduce losses from identified hazards.	Section 2.0 Risk Assessment
§ 201.6(c)(2)(i)	The risk assessment shall include a description of the type, location, and extent of all natural hazards that can affect the jurisdiction. The plan shall include information on previous occurrences of hazard events and on the probability of future hazard events.	Section 2.3 Profile Hazards Section 2.4 Natural Hazards Section 2.5 Technological Hazards Section 2.6 Intentional Human-Caused Hazards
§ 201.6(c)(2)(ii)	The risk assessment shall include a description of the jurisdiction's vulnerability to the hazards described in paragraph (c)(2)(i) of this section. This description shall include an overall summary of each hazard and its impact on the community. All plans approved after October 1, 2008, must also address NFIP insured structures that have been repetitively damaged by floods.	Section 2.4 Natural Hazards Section 2.5 Technological Hazards Section 2.6 Intentional Human-Caused Hazards
§ 201.6(c)(2)(ii)(A)	The plan should describe vulnerability in terms of the types and numbers of existing and future buildings, infrastructure, and critical facilities located in the identified hazard areas;	Section 2.4 Natural Hazards Section 2.5 Technological Hazards Section 2.6 Intentional Human-Caused Hazards
§ 201.6(c)(2)(ii)(B)	The plan should describe vulnerability in terms of an estimate of the potential dollar losses to vulnerable structures identified in paragraph (c)(2)(ii)(A) of this section and a description of the methodology used to prepare the estimate;	Section 2.4 Natural Hazards Section 2.5 Technological Hazards Section 2.6 Intentional Human-Caused Hazards
§ 201.6(c)(2)(ii)(c)	The risk assessment shall provide a general description of land uses and development trends within the community so that mitigation options can be considered in future land use decisions.	Section 1.4 Trends and Predictions
§ 201.6(c)(2)(iii)	For multi-jurisdictional plans, the risk assessment section must assess each jurisdiction's risks where they vary from the risks facing the entire planning area.	Section 2.3 Profile Hazards Section 2.4 Natural Hazards Section 2.5 Technological Hazards Section 2.6 Intentional Human-Caused Hazards
§ 201.6(c)(3)	A mitigation strategy that provides the jurisdiction's blueprint for reducing the potential losses identified in the risk assessment, based on existing authorities, policies, programs and resources, and its ability to expand on and improve these existing tools.	Section 3.0 Mitigation Strategy
§ 201.6(c)(3)(i)	This section shall include a description of mitigation goals to reduce or avoid long-term vulnerabilities to the identified hazards.	Section 3.1 Mitigation Goals

44 CFR 201.6 REQUIREMENTS IN THIS PLAN		
<i>Section</i>	<i>Description</i>	<i>Section in Plan</i>
§ 201.6(c)(3)(ii)	This section shall include a section that identifies and analyzes a comprehensive range of specific mitigation actions and projects being considered to reduce the effects of each hazard, with particular emphasis on new and existing buildings and infrastructure. All plans approved by FEMA after October 1, 2008, must also address the jurisdiction's participation in the NFIP, and continued compliance with NFIP requirements, as appropriate.	Section 3.2 Mitigation Actions
§ 201.6(c)(3)(iii)	This section shall include an action plan describing how the actions identified in paragraph (c)(3)(ii) of this section will be prioritized, implemented, and administered by the local jurisdiction. Prioritization shall include a special emphasis on the extent to which benefits are maximized according to a cost-benefit review of the proposed projects and their associated costs.	Section 3.2 Mitigation Actions
§ 201.6(c)(3)(iv)	For multi-jurisdictional plans, there must be identifiable action items specific to the jurisdiction requesting FEMA approval or credit of the plan.	Section 3.2 Mitigation Actions
§ 201.6(c)(4)(i)	A plan maintenance process that includes a section describing the method and schedule of monitoring, evaluating, and updating the mitigation plan within a five-year cycle.	Section 4.1 Monitoring, Evaluating and Updating the Plan
§ 201.6(c)(4)(ii)	A plan maintenance process that includes a process by which local governments incorporate the requirements of the mitigation plan into other planning mechanisms such as comprehensive or capital improvement plans, when appropriate.	Section 4.2 Implementation through Existing Programs
§ 201.6(c)(4)(iii)	A plan maintenance process that includes discussion on how the community will continue public participation in the plan maintenance process.	Section 4.3 Continued Public Involvement
§ 201.6(c)(5)	Documentation that the plan has been formally adopted by the governing body of the jurisdiction requesting approval of the plan (e.g., City Council, County Commission, Tribal Council). For multi-jurisdictional plans, each jurisdiction requesting approval of the plan must document that it has been formally adopted.	Section 5.0 Appendix 6
§ 201.6(d)(1)	Plans must be submitted to the State Hazard Mitigation Officer (SHMO) for initial review and coordination. The State will then send the plan to the appropriate FEMA Regional Office for formal review and approval. Where the State point of contact for the FMA program is different from the SHMO, the SHMO will be responsible for coordinating the local plan reviews between the FMA point of contact and FEMA.	Section 5.0 Appendix 6
§ 201.6(d)(3)	A local jurisdiction must 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 in order to continue to be eligible for mitigation project grant funding.	Section 3.1 Mitigation Goals Section 3.2 Mitigation Actions Section 5.0 Appendix 2



1.0 INTRODUCTION

1.1 Planning Process

§ 201.6(c)(1)	Documentation of the planning process used to develop the plan, including how it was prepared, who was involved in the process, and how the public was involved.
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Ashtabula County, through the direction of the Ashtabula County Emergency Management Agency (ACEMA) began the process to update this plan in September of 2018; the ACEMA contracted the services of JH Consulting, LLC, of West Virginia, (the consultant) to aid in the process. The consultant met with ACEMA to lay out the process and timeline for the update and determine the agency, department, organization, and jurisdictional representatives who would serve as committee members.

1.1.1 Planning Committee

The following table outlines the committee members that actively participated in the update of this plan.

PLANNING COMMITTEE MEMBERS AND AFFILIATIONS		
<i>Agency/Affiliation</i>	<i>Name</i>	<i>Title</i>
Andover Village	Raymond French Richard Mead	Mayor Administrator
Ashtabula City	Jim Timonere Shawn Gruber	N/A Fire Chief
Ashtabula County		
<ul style="list-style-type: none"> • Commissioners Office 	Kathryn Whittington	Commissioner
<ul style="list-style-type: none"> • Emergency Management 	Mike Fitchet Tim Settles Alicen Limestoll Debbie Riley	Director Deputy Director Planner Administrative Assistant
<ul style="list-style-type: none"> • Engineer's Office 	Justin Cline	N/A
<ul style="list-style-type: none"> • Planning Commission 	Jake Brand Janice Switzer	N/A N/A
Ashtabula County Health Department	Terrell Booker	N/A
Ashtabula Soil & Water Conservation District	Nathan Paskey Suzanne Westlake	N/A N/A
Ashtabula County Township Association	Bob Jackson	N/A
Ashtabula Township Fire Department	Robert Dille Tom Steele	N/A N/A
Conneaut City	Jim Hockaday Michael Colby	N/A Police Department



PLANNING COMMITTEE MEMBERS AND AFFILIATIONS		
<i>Agency/Affiliation</i>	<i>Name</i>	<i>Title</i>
	Steve Lee	Fire Chief
Eastgate Regional Council of Governments	Grant Taylor	Planner
Geneva City	Doug Starkey	City Manager
Geneva-on-the-Lake Village	Mark Mizak	N/A
Jefferson Village		
• General Representation	Terry Finger	N/A
• Police Department	Dave Wassie	Chief of Police
Kent State University-Ashtabula	David Schultz	N/A
North Kingsville Village	Tim Zee	Mayor
Orwell Village	Joseph Varckette	N/A
Pierpont Township	Barbara Culp	N/A
Roaming Shores Village	Carl Reinke Jennie D'Amicone	N/A N/A
Rock Creek Village	Pam Forristal Shaun Buehner	N/A Fire Chief, Morgan Hose
Saybrook Fire Department	John Jyurovat	Fire Chief
Saybrook Township	Norman Jepson	Trustee
Western Reserve Land Conservancy	George Warnock	N/A

The committee came together five times throughout the process. The first meeting was in person at the ACEMA conference room/emergency operations center (EOC) on October 25, 2018. The second meeting took place online via web conference on November 29, 2018. The third meeting was again in person at the ACEMA conference room on February 7, 2019. The next in-person committee meeting took place at the ACEMA conference room on March 14, 2019. The final in-person meeting also took place at the ACEMA conference room on April 23, 2019. All meetings lasted between one and two hours; the ACEMA provided lunch at Meetings 1, 3, and 4. See Appendix 1 for agendas, meeting minutes, etc.

The following table identifies how various groups of stakeholders participated in the planning process.

STAKEHOLDER PARTICIPATION		
<i>Category¹</i>	<i>Representative Agency</i>	<i>Means of Participation</i>
Elected officials and planning committee members	Ashtabula County Commissioners All Cities & Villages Ashtabula County Township Association	Membership on the planning committee (see table above)
Business leaders and large employers	Ashtabula County Planning Commission	Membership on the planning committee (see table above)

¹ Categories taken from FEMA's *Local Mitigation Planning Handbook* (March 2013).



STAKEHOLDER PARTICIPATION		
<i>Category¹</i>	<i>Representative Agency</i>	<i>Means of Participation</i>
Regional, state, and federal agencies	Ashtabula County Health Department	Membership on the planning committee (see table above)
	Neighboring emergency management agencies	Via email dated 2/14/2019
	Eastgate Regional Council of Governments	Membership on the planning committee (see table above)
	Ohio EMA	Attendance at committee meetings #4
Cultural institutions	Western Reserve Land Conservancy	Membership on the planning committee (see table above)
Colleges and universities	Kent State University-Ashtabula	Membership on the planning committee (see table above)
Non-profit organizations	Ashtabula Soil & Water Conservation District	Membership on the planning committee (see table above)
Neighborhood groups	Saybrook Fire Department	Membership on the planning committee (see table above)

The ACEMA did not receive substantial comments from neighboring emergency management agencies (per the February 14th email request). Geauga County officials contacted ACEMA to discuss risks associated with the Mont-Mere Lake Dam in Geauga County (i.e., areas of Ashtabula County may be impacted should the structure fail).

Committee Meeting 1

The first committee meeting gave members the opportunity to familiarize themselves with each other and with the plan; many of the members had served as committee members on previous updates of this plan and some members were new to the process. The consultant explained the requirements of the plan and the steps through which the update would occur. The consultant also laid out the expectations for the committee members for participation in the update.

This first meeting focused mainly on getting reacquainted with the plan and reviewing the projects and goals from the previous update in 2012. The committee members discussed the key items that are important in creating a mitigation strategy; they discussed the problems they face as a county and in their jurisdictions, and they presented ideal solutions that would feed into the overall goals for this updated plan. For further information on the goals and the process by which the committee updated the goals, refer to Section 3.1: Mitigation Goals.

Committee members also discussed the public involvement requirement of the plan; they approved (with minor changes) a survey that the consultant had presented as an example to garner public input. Because of the demographic composition of the county, they requested that the survey also be available in Spanish.



Committee Meeting 2

The second committee meeting was online via a web conference. There were two main agenda items for this meeting: discussion and approval of the goals and discussion of hazards included in the plan. The consultant presented the eight goals that the committee had discussed changing from hazard-driven to comprehensive in the first meeting; they approved them with minor changes to wording. Then, the discussion turned to updating the hazard list for the plan. The committee decided to keep all of the hazards they included in the previous plan updates but expand the definitions of some (such as terrorism to include civil disturbance, CBRNE, and cyberterrorism) and categorize them under the type of hazards they correspond to: natural, technological, and intentionally human-caused.

Committee Meeting 3

The third committee meeting was an in-person meeting. The consultant distributed the current results of the public survey, and the committee discussed the results. The ACEMA provided an overview of the survey distributed at the home show. Based on public feedback, the committee felt as if the hazard list was appropriate and that its initial ideas as to possible projects were valid. The committee then discussed the project list in depth and decided to significantly revise it, effectively right-sizing the project list and removing vague, redundant, or unfeasible projects. To conclude the meeting, the committee began formulating a plan maintenance process.

Committee Meeting 4

The fourth committee meeting was an in-person meeting. The consultant distributed the current results of the public survey, and the committee discussed those results. Based on the survey, the committee identified a new hazard for inclusion in the plan as well as refined project considerations. Following a review of survey results, the committee discussed in-person public involvement. Committee members also worked on updating jurisdictional project lists, which included potential new projects and outlining a process by which to prioritize projects.

Committee Meeting 5

The fifth committee meeting was an in-person meeting. The consultant presented the plan maintenance process developed during Meeting 4, and the committee requested a few minor changes. The consultant then presented the asset inventory by providing a copy of the

existing inventory and defining the categories for inclusion as a “community asset.” Committee members updated the list throughout the meeting and left their revisions with the ACEMA at the conclusion of the meeting. The bulk of the time in Meeting 5 consisted of project prioritization.

1.1.2 Jurisdictional Involvement

All of the jurisdictions within Ashtabula County participated in the update to this plan. All cities, villages, townships, and the county had the opportunity to provide input for the plan in the following ways.

- Attending meetings
- Completing the online capabilities survey
- Updating their mitigation project lists (which could include updating status of existing projects or adding new projects)
- Providing information for the plan to ACEMA or the consultant via phone or email

The following table identifies what activities jurisdictions completed.

ASHTABULA COUNTY HMP JURISDICTIONAL TASKS							
Community		Capabilities Survey	Projects Update	Added New Projects	Attended Planning Meetings	Promoted Public Involvement	Overall Participation Assessment
Ashtabula	County	YES	YES	YES	YES	YES	YES
Andover	Village	YES	YES		YES		YES
Ashtabula	City		YES		YES		YES
Conneaut	City	YES	YES		YES		YES
Geneva	City	YES	YES	YES	YES		YES
Geneva-on-the-Lake	Village		YES		YES		YES
Jefferson	Village		YES	YES	YES		YES
North Kingsville	Village		YES	YES	YES		YES
Orwell	Village	YES	YES		YES		YES
Roaming Shores	Village	YES	YES	YES	YES		YES
Rock Creek	Village		YES		YES		YES

1.1.3 Public Involvement

The committee approached the public involvement component in two ways to garner input for the plan: online and in-person. Online, partners promoted a survey that asked residents about their views on hazards, their support for various mitigation actions, and their level of personal preparedness. The survey was available in English and in Spanish. The committee



and ACEMA began posting the survey at the end of November of 2018; by the end of the year, the survey had reached almost 400 responses. The final count of survey responses at the time the county closed the survey (April 5, 2019) was 531. Appendix 4 contains the summary of responses for the public survey.

The committee utilized the survey data in a number of ways throughout the project. First, as it considered the hazards to include in the plan, members reviewed the hazards that posed concerns to residents. When updating project lists, committee members and participating jurisdictions referenced the types of projects the general public might support based on survey responses.

To garner additional public comment, the ACEMA presented the mitigation planning process at the Ashtabula County Home Show. As residents visited the ACEMA booth, staff discussed the mitigation planning process with them and inquired as to the hazards to which residents had the most concerns. The ACEMA distributed a condensed survey at the home show. ACEMA staff spoke with 11 individuals about whether they had 72-hour kits in their homes, whether they lived in a flood zone, and if they had flood insurance. The results of the home show survey were as follows.

Home Community	72-hour Kit at Home?	Live in a Flood Zone?	Flood Insurance?
Pierpont	No	Don't know	No
Ashtabula	No	No	No
Jefferson	No	No	No
Jefferson	Yes	Don't know	No
Geneva	No	Yes	Don't know
Geneva	No	Don't know	No insurance
Austinburg	Don't know	Don't know	Don't know
Williamsfield	Yes	No	Don't know
Richmond	No	Don't know	No
Geneva	No	No	Yes
Ashtabula	No	Don't know	No

From the respondents that lived in Ashtabula County, the EMA asked whether respondents would support the following types of mitigation projects. The numerals indicate the number of respondents that indicated they would support the initiative.

- Buying out properties, relocating or elevating houses prone to flooding: 1
- Upgrading water and sewer systems: 6
- Installing generators in critical facilities: 10
- Promoting the collection and reuse of rainwater (rain garden/green roofs): 9
- Adopting building codes to go above and beyond basic requirements: 2



- Building shelters for tornadoes and severe weather: 5
- Supporting educational campaigns to prepare people for hazards: 10

To solicit public comment on the completed draft, the ACEMA posted the full draft on its website and publicized its availability. The ACEMA regularly maintains a copy of the county's current mitigation plan on its website. When the county completed the final draft of the 2019 update, the updated document replaced the existing (i.e., 2012) version on the website. At the time of that change, ACEMA staff posted a social media update inviting followers to review the updated plan and to submit comments via email directly to the agency.

1.1.4 Previous Versions

This section contains descriptions of the processes used to update previous versions of the plan (i.e., 2005 and 2012).

First Update (2012)

At the direction of the Ashtabula County Emergency Management Agency (ACEMA), Ashtabula County and its municipalities conducted the first update to their multi-jurisdictional all-hazards mitigation plan in a continuing effort to identify probable hazard risks, profile future hazard events, estimate damage and losses as a result of future hazard events, and advocate mitigation projects to reduce the effects of the identified hazards on the communities within the county. The plan's aim is to create safer, more disaster-resistant communities. The following plans and studies were integrated into this plan; the *Ashtabula County-Countywide All Natural Hazards Mitigation Plan* (2005), *Ashtabula County Emergency Operations Plan* (2012), *Ashtabula County Hazmat Response Plan* (2010), and the *Ashtabula County Bioterrorism Plan* (2003).

The planning process utilized by Ashtabula County is in accordance with Part 201.6 of Section 322 of the Robert T. Stafford Disaster Relief and Emergency Assistance Act, as enacted by Section 104 of the Disaster Mitigation Act (DMA) of 2000 (Public Law 106-390). Several resources were used during the development of the plan, including the US Department of Homeland Security's (USDHS) Federal Emergency Management Agency (FEMA) *Mitigation Planning How-To Series*, the governing regulations found in Title 44 – Emergency Management of the Code of Federal Regulations (CFR), and documents provided by Ohio Emergency

Management Agency (OEMA). The planning process utilized to update the plan included the following steps, which will be described in greater detail throughout the plan:

- Step 1: Establishment of a Core Planning Committee (CPC),
- Step 2: Conducting an update to the Hazard Risk Assessment (HRA),
- Step 3: Development of an update to the Action Plan (AP), and
- Step 4: Re-adopting and implementing the updated plan.

To guide the completion of the plan update at the local level, a multi-jurisdictional CPC was established to examine the community's risks and vulnerabilities to natural and technological hazards. This committee was comprised of key officials representing state, county, municipal, and private entities with a stake in mitigation, and included the following.

The planning process to complete the first five-year update of the plan was similar to the process used to originally develop the document. The update process was completed between October, 2011 and January, 2012. It was facilitated through a stakeholders meeting. The stakeholders meeting was a session with the CPC. The ACEMA again utilized the services of a planning consultant (JH Consulting, LLC of West Virginia) to guide the update process. The consultant provided an objective perspective to ensure that the CPC was achieving the goals that the Mitigation Core Group had intended to achieve in 2005.

A CPC meeting was held during the updating process. The CPC meeting was held on November 17, 2011 at the ACEMA facility. The ACEMA invited members of the CPC to this meeting via memorandum. The primary topics of discussion were updating the hazard list, discussing any emergencies that had occurred since 2005, updating the asset inventory list, and addressing any new development trends that may have occurred since 2005.

This meeting provided the public the opportunity to comment on the existing mitigation plan, as well as the proposed revisions to the document. The meeting was poorly attended by the general public.

Many of the same resources used for research during the original development of the plan were again utilized to update the plan. The consultant compiled all project documents and forwarded them to the ACEMA for draft distribution to CPC members. As such, the CPC could comment on the plan as it was being developed. Further, this allowed participating jurisdictions an on-going opportunity to comment on the plan, which expedited the adoption process.

During the initial stages of the updating process the ACEMA published an advertisement in the local newspaper inviting the public to the review the original plan at the Ashtabula County

Emergency Operations Center (EOC) during regular business hours. A Public Comment Form was developed and distributed by the ACEMA to any member of public that visited the EOC to review the original plan, allowing them to comment on improvements that could be made to the original plan during the update. Surrounding jurisdiction's EMA Directors were notified in person of the update process, during separate meetings held on September 29 and November 2, 2011, by the ACEMA Director.

Following the compilation of the updated/revised plan, the ACEMA published an advertisement in the local newspaper inviting the public to review the revised Ashtabula County Multi-Jurisdictional All-Hazards Mitigation Plan at the Ashtabula County EOC during regular business hours, Public Comment Forms were distributed for the revised/updated plan as well. Copies of the updated/revised plan were also made available for the public online at the ACEMA website, this also allowed neighboring communities, local and regional agencies involved in hazard mitigation activities, businesses representatives, academia, nonprofit organizations, and other interested parties a chance to view and comment on the plan. Following FEMA approval and the formal adoption of the plan, the ACEMA notified neighboring county emergency managers of the plan's completion via a letter.

The updated Ashtabula County Multi-Jurisdictional All-Hazards Mitigation Plan was developed as a multi-jurisdictional plan; therefore, to meet the requirements of Section 322 the final plan was re-adopted by formal resolution by each of the municipalities as well as the county to implement the plan in their jurisdiction. This process was aided by the on-going participation of the jurisdictions during the update process. Further, the ACEMA provided technical assistance to any governing body requesting it during the adoption process. To ensure that jurisdictions only needed to sign a single resolution, the adoption process was started once state and federal approval had been conditionally granted.

Original Plan Development (2005)

The approach undertaken in the creation of the original Mitigation Plan for the county can be described as both comprehensive and collaborative. The comprehensive approach includes following the interim final rule guidelines enacted under the DMA2K and FEMA suggested guidelines for the creation of a mitigation plan. Any additional items that Ashtabula County and the Core Group chose to address as part of the comprehensive analysis of their community were addressed as well.

The collaborative portion of creating the plan included working with the different agencies within Ashtabula County and coordinating with all participating jurisdictions. The

County could not have a comprehensive plan without the coordination of several other agencies. Information was collected from numerous agencies such as the ACEMA. Ashtabula County has 10 incorporated areas within its borders. All 10 incorporated communities chose to participate in this planning effort. There were four Core Group meetings, and one community meeting for public comment on the Draft Mitigation Plan.

The process to create the Mitigation Plan started with the creation of a “Mitigation Core Group” (Core Group) of decision makers and implementers. In order to lead the planning efforts effectively and on a countywide basis, other representatives were added. The Core Group included individuals from the following departments and agencies.

- Ashtabula County Emergency Management Agency (ACEMA)
- Ohio State University (OSU) Extension
- Ashtabula Soil and Water Conservation District (SWCD)
- Ashtabula County Commissioner’s Office
- Ashtabula Township Fire Department
- City of Ashtabula
- City of Conneaut
- City of Geneva
- Village of Andover
- Village of Geneva-on-the-Lake
- Village of Jefferson Police Department
- Village of North Kingsville Police Department
- Village of Orwell
- Village of Roaming Shores
- Village of Rock Creek

The Hazard Risk Assessment (HRA) phase of the original mitigation plan was completed using a variety of research techniques. Federal Emergency Management Agency (FEMA) GeoHazards, National Climatic Data Center (NCDC), and other Internet sites were searched for historical hazard event records. After identifying the areas in which the hazards were most prominent, they were profiled and positioned into a base map of the county. This Geographic Information System (GIS)-based map contains several themes with information regarding the individual hazards. Assets (i.e., structures, utilities etc.) were inventoried and loss estimates were calculated for each of the inventoried assets with respect to the hazards profiled on the GIS-based maps.

Following the completion of the HRA, the Mitigation Core Group used information such as hazard profiles and loss estimates to formulate mitigation goals, objectives, and strategies. The baseline mitigation strategies were presented to the public at the public review sessions to ensure fair participation from all sectors of the county. However, the public meetings, which



were publicized in the local newspaper, were not well attended.

The Core Group and the designated leaders of the group made sure that every community that participated in this planning effort was aware of their responsibilities as well as how they could represent their community the best. Some suggestions that were incorporated into the initial invitation to participate in the natural hazard mitigation planning effort included:

- Participate in the Core Group planning meetings representing your community's interests,
- Supply any historic information (background) on natural disasters for your community to the Core Group,
- Review and comment on the Draft Mitigation Plan,
- Review and select mitigation activities developed by the Core Group for your community to implement, and
- Be an advocate for Final Adoption of the Mitigation Plan by your community.

The incorporated jurisdictions of the County, as well as other agencies that work within the County, were notified of the mitigation planning process. The Ashtabula County Emergency Management Agency (ACEMA) created a master list of jurisdictions they felt necessary to participate in this planning effort. The comprehensive list was reviewed to ensure that all the appropriate agencies as well as jurisdictions would be invited to participate in this effort. A Core Group representing a wide array of political subdivisions, as well as agency and private businesses, was notified of the mitigation planning process.

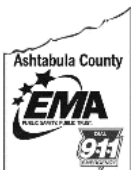
Prior to commencing this planning process, in addition to contacting the Core Group, Ashtabula County notified adjacent counties as well as the general public regarding this mitigation planning process. The ACEMA sent letters to adjacent counties with contact information for learning more about the planning effort. Ashtabula County also issued a press release dated May 13, 2005 inviting concerned citizens in all jurisdictions of the County. The ACEMA Director was the contact source and his contact information was provided.

A final and critical step in the Public Involvement program was submittal of the plan to communities for review and adoption. Each community was asked to review the plan and formally adopt it. Because the approval represented an official action by their elected officials, communities notified citizens through postings of the meeting agenda at their respective government centers when the plan was to be discussed and formally adopted. Copies of the plan were also made available at each community's governmental centers. As noted above, the

plan was provided to communities in advance of the public meeting in case local officials had questions or wanted to learn more about the plan in advance of their taking action. The few questions that were raised in advance of the meetings to approve the plan were addressed by ACEMA staff.

Upon incorporation of all comments into the Draft Mitigation Plan, the Final Mitigation Plan will be prepared and submitted to Ashtabula County in hard copy and digital form. Each incorporated jurisdiction, as well as any township choosing to adopt this Mitigation Plan as a separate entity from the County, will also receive a digital copy of the plan.

Each community that participates in this planning effort is responsible for administering the various aspects of the Mitigation Plan including how the plan will be implemented within their particular community. Implementation of the Mitigation Plan is crucial. The Core Group must strategize effectively to put the Mitigation Plan into action. Ashtabula County must follow up to translate the goals and objectives, developed during the planning process, into action steps. It is recommended that a monitoring program be included in the Mitigation Plan.



1.0 INTRODUCTION

1.2 Description of the Planning Area

The description of the planning area contextualizes the remainder of this document. It provides background information on the areas impacted by various hazards and serves as a foundation for mitigation decisions.

1.2.1 Ashtabula County Details

This first sub-section provides demographics and other details for Ashtabula County. It includes unincorporated areas as well as municipal areas.

Geography

Ashtabula County, located in the northeastern-most corner of Ohio, is one of 88 counties in the state. Lake Erie borders Ashtabula County to the north. Other contiguous borders include Erie and Crawford Counties (PA) to the east, Trumbull County, OH to the south, Geauga County, OH to the west, and Lake County, OH to the northwest. Metropolitan cities located within proximity to Ashtabula County include Youngstown, OH (37 miles); Cleveland, OH (53 miles) and Pittsburgh, PA (90 miles).

The county was established on June 7 of 1807 and named for the Ashtabula River meaning “river of many fish.” Ashtabula County is the largest county by area in Ohio. The county has a total area of 1,368 square miles; approximately 709 square miles is a land area, and 666 square miles are water. Ashtabula County sits at a general elevation of 689 feet above sea level, with its lowest elevation at 574 feet. Its highest elevation is 1,191 feet at Owens Hill, just west of Andover.

Ashtabula County has four major drainage basins: the Ashtabula River, Conneaut Creek/River, Grand River Watershed, and Pymatuning River. The major streams that drain into the Ashtabula River are the East and West Branches. Larger streams that drain into the Grand River watershed include Mill, Rock and Tree Brothers Creeks. Shenango and Mosquito Creeks are the larger streams that drain into the Pymatuning River.




- The **Ashtabula River** lies in extreme northeast Ohio, flowing into Lake Erie’s central basin at the City of Ashtabula. Its drainage basin covers an area of 137 square miles,

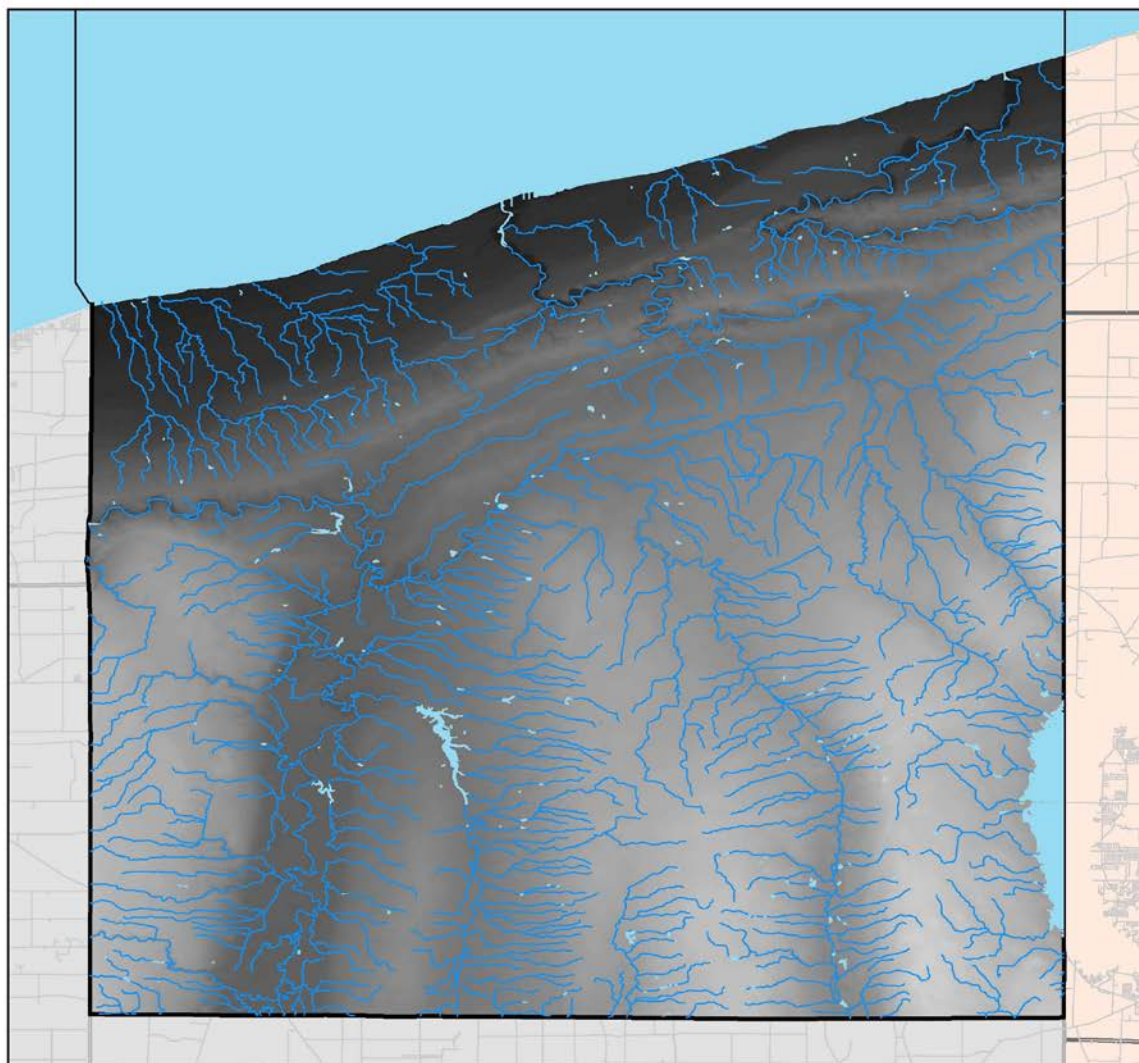
with 8.9 square miles located in western Pennsylvania. Major tributaries include Fields Brook, Hubbard Run, and Ashtabula Creek. The City of Ashtabula is the only significant urban area in the watershed. The remaining portions of the drainage basin are predominantly rural and agricultural.

- The **Conneaut Watershed** is in northeast Ashtabula County; it begins as a creek in Conneaut from Lake Erie and turns into a river as it flows eastward into Pennsylvania. It consists of 195 square miles.
- The **Grand River Watershed** starts in southeastern Geauga County and flows through Trumbull and Ashtabula Counties before circling back around into Lake County to drain into Lake Erie near Fairport Harbor. The watershed occupies the western half of Ashtabula County. It is 98 miles long and drains 712 square miles.
- The **Pymatuning/Shenango Watershed** consists of 1,065 square miles in Trumbull and Ashtabula Counties (in Ohio) and in Mercer, Lawrence and Crawford Counties (in Pennsylvania). In Ashtabula County, Pymatuning Creek begins west of Andover and flows south to Pymatuning Reservoir, where it joins the Shenango River.

Ashtabula County is composed of two eco-region types. The northern shoreline is the Erie Lake Plain. That eco-region is a nearly level coastal strip of lacustrine deposits punctuated by beach ridges and swales. Its lake-modified climate sets it apart from other nearby eco-regions, and its annual growing season is often several weeks longer than inland areas. Urban-industrial sites, ports, fruit and vegetable farms, and nurseries have developed on the plain. Mosquito Creek/Pymatuning Lowlands comprise the remainder of the county. Poor drainage, wetlands, low-gradient streams, and moisture tolerant woodlands characterize this eco-region. It is nearly flat and underlain by clay till and fine lacustrine deposits. Originally, beech forests were common in this area, but today dairy farms and woodlots are more predominant.

Ashtabula County's topography is flat and open to sloping gently with considerable inland wetland forest, which offers limited protection against tornadoes or strong straight-line winds off of Lake Erie. Ashtabula County is part of the Southeastern Lake Erie Snowbelt and receives frequent lake effect snow during the winter. The land use in Ashtabula County is comprised of mines (0.2%), cropland (31.59%), forest (38.64%), open water (1.68%), pasture (4.3%), urban area (6.86%), and wetlands (17%).

<p>Legend</p> <p>— Rivers & Streams</p> <p>□ Ashtabula County</p>	 <p>0 1 2 4 6 8 Miles</p>	<p>ASHTABULA COUNTY HAZARD MITIGATION PLAN</p> <p>Rivers & Topography</p> <p>Data Source(s): ODNR, U.S. Census Bureau</p>
<p><small>DISCLAIMER: Data is meant for use as reference only. Some sources may be intended to be used at national or regional scales and are thus used beyond their original intent for demonstrative purposes.</small></p>  		



Demographics

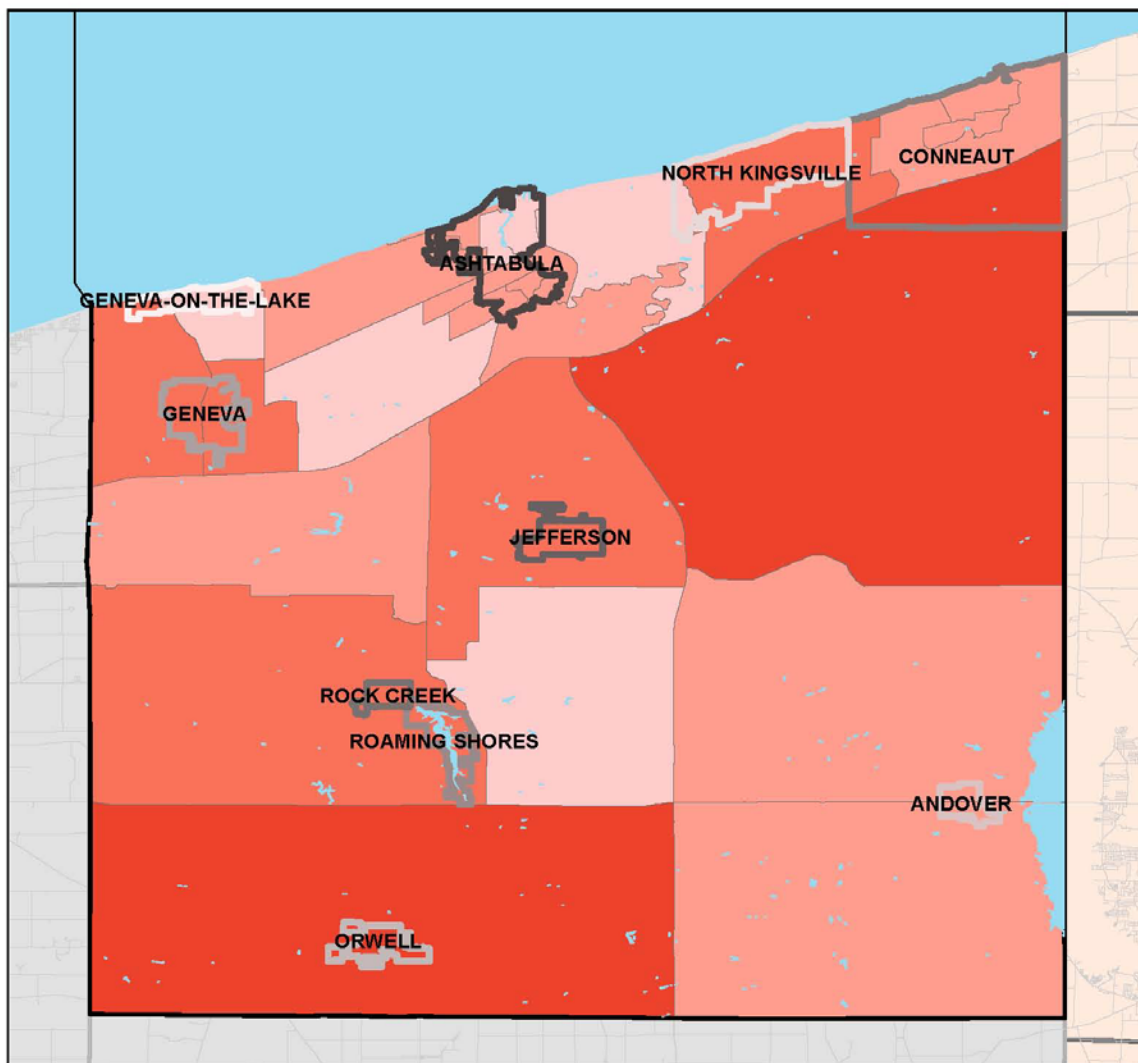
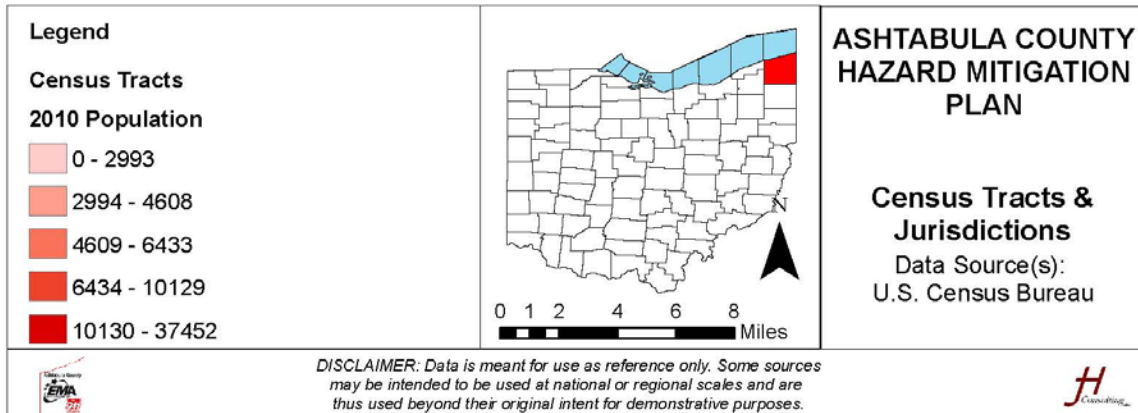
The following table presents general demographics for Ashtabula County and the municipalities therein.



ASHTABULA COUNTY DEMOGRAPHICS ¹											
	Ashtabula County (Total)	Geneva	Conneaut	Ashtabula	Andover	Geneva-on-the-Lake	Jefferson (County Seat)	North Kingsville	Orwell	Roaming Shores	Rock Creek
Population estimates (2017)	97,807	5,975	12,642	18,144	1,054	1,405	3,530	2,847	1,616	1,478	383
White alone	93.20%	96.90%	89.40%	84.00%	93.35%	92.38%	96.60%	92.06%	98.45%	99.66%	99.47%
Black or African American	3.80%	0.20%	8.40%	10.00%	0.00%	0.00%	0.79%	2.56%	1.17%	0.00%	0.00%
American Indian and Alaska Native	0.30%	0.00%	0.10%	0.30%	0.00%	5.12%	0.00%	0.00%	0.00%	0.00%	0.00%
Asian	0.50%	0.00%	0.10%	0.20%	8.28%	0.71%	0.56%	4.32%	0.37%	0.00%	0.00%
Native Hawaiian and other Pacific Islander	0.04%	0.00%	0.00%	0.10%	0.00%	0.49%	0.00%	0.00%	0.00%	0.00%	0.00%
Two or More Races	2.20%	2.70%	1.80%	4.50%	6.35%	1.28%	1.30%	0.84%	0.00%	0.33%	0.52%
Hispanic or Latino	4.20%	8.30%	2.40%	9.20%	3.60%	4.05%	1.67%	4.07%	0.99%	0.13%	0.00%
Veterans, 2013-2017	8,141	580	1,012	1,409	114	127	239	257	125	124	40
Foreign born persons	1.40%	0.40%	0.60%	2.40%	0.66%	3.70%	2.26%	2.63%	0.86%	1.42%	0.00%
Housing units (2017)	46,152	2,717	5,664	9,221	496	1,242	1,456	1,363	689	840	190
Median household income (in 2017 dollars)	\$43,017	\$38,043	\$39,293	\$29,421	\$24,219	\$35,667	\$50,323	\$59,776	\$39,837	\$78,938	\$53,750
Persons in poverty	19.30%	20.60%	19.10%	33.70%	19.60%	11.30%	21.70%	6.90%	19%	6.80%	8.60%
Population per square mile (2017)	139.3	1,443.20	479.6	2,344.20	769.43	616.2	1,400.80	319.5	820.3	648.2	430.3
Land area in square miles (2010)	701.93	4.14	26.36	7.74	1.37	2.28	2.52	8.91	1.97	2.82	0.89

¹ Retrieved from <https://www.census.gov/quickfacts/fact/table/ashtabulacountyohio,US/PST045218>





Population density represents people per square mile. Because Ashtabula County's boundaries are set and the population is decreasing, population density is also decreasing. The population density within the incorporated areas of Ashtabula County is much higher than in the rural areas. Over half of the population lives in the incorporated areas of the county, in only 8.4% of the land area. This statistic confirms the highest concentration (density) of the population is in the cities and villages.

Transportation

Ashtabula County's transportation infrastructure consists of highways, railways, and air and water elements. The county contains approximately 29 miles of interstate highways, 86 miles of U.S. highways, 250 miles of state highways, and 1,318 miles of county highways. The arterial routes throughout the county include Interstate 90, US Routes 6, 20, 322, and State Routes 2 and 84, which traverse the county east-west. State Routes 7, 11, 45, 193 and 534 run north-south. Many sections of these roadways are four-lane, divided highways. Other components of Ashtabula County's highway infrastructure include State Routes 167, 307, and 531 which travel east and west, and State Route 46 which travels north and south. The transportation infrastructure is sufficient to meet the needs of most of the county's current population, though there are villages and municipalities with limited access.








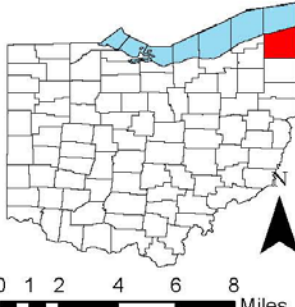


Rail lines are also a part of the county's transportation infrastructure. Two CSX lines traverse the county. One CSX line enters southern Ashtabula County from Trumbull County, passing west of Andover and east of Jefferson while running largely parallel with State Route 11 on its way to Ashtabula Harbor. The other CSX line crosses the northern portion of the county on its way from Erie, Pennsylvania to Cleveland, Ohio. It passes through several municipalities including Conneaut, North Kingsville, Ashtabula, and Geneva. There is also a Norfolk Southern line that parallels this northern CSX line, and it passes through or near the same municipalities. Two short line railroads also operate in the county. The Bessemer and Lake Erie (B&LE) enters Ashtabula County from Erie, Pennsylvania, and circles to Conneaut Harbor before re-entering Erie County, Pennsylvania. The Ashtabula Carson & Jefferson (AC&J) runs north from Jefferson Village, ties into a CSX line, and continues toward Ashtabula Harbor.

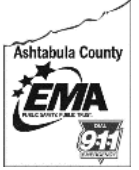
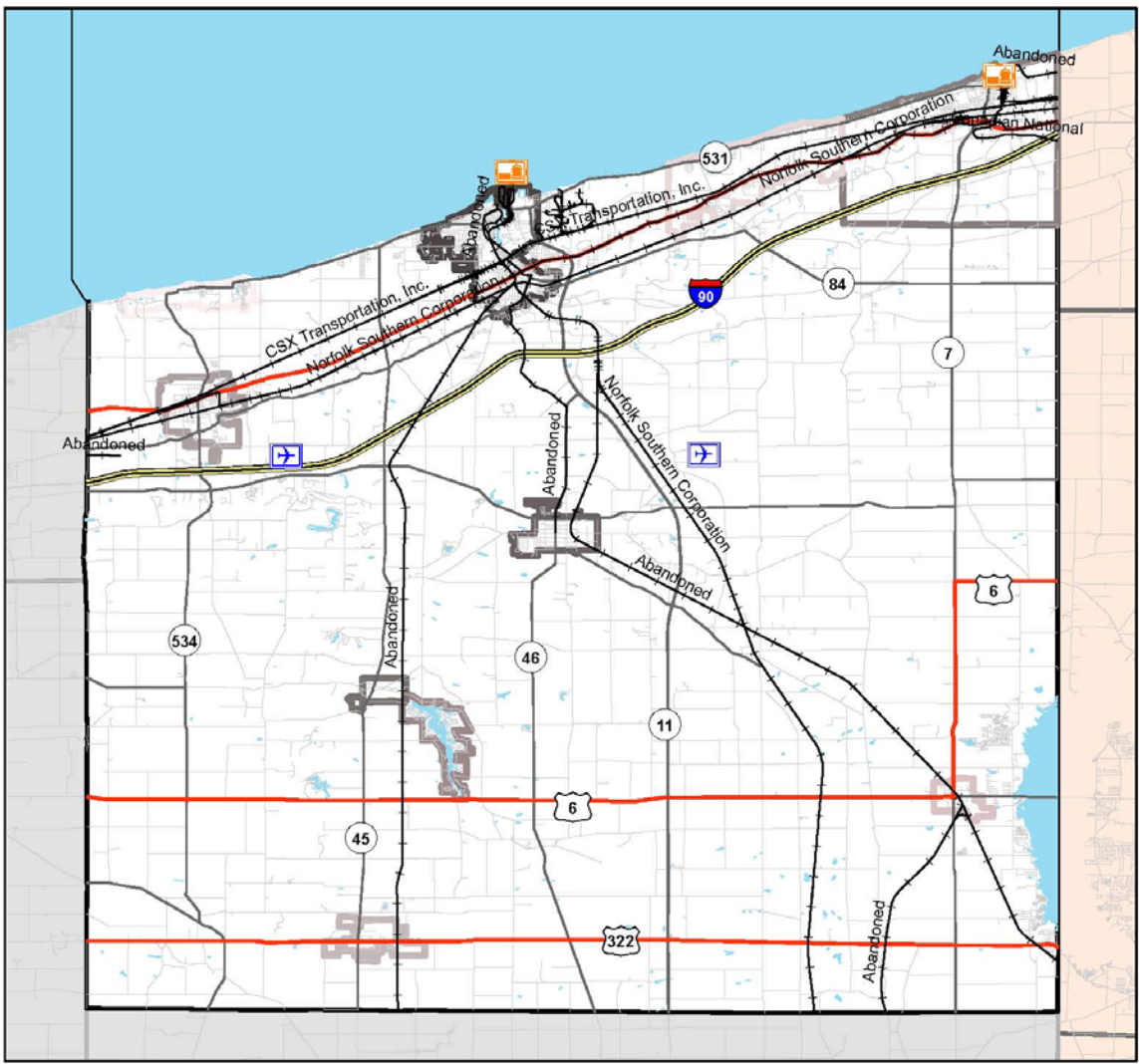
Four airports that provide international service are within a short distance from Ashtabula County: Erie International Airport (ERI), Cleveland Hopkins International Airport (CLE), Akron Fulton International Airport (AKR), and Pittsburgh International Airport (PIT). Two regional airports are also close to Ashtabula County (i.e., Youngstown-Warren Regional Airport [YNG] and Akron-Canton Regional Airport [CAK]) which provide general and commercial aviation.

The Northeast Ohio Regional Airport is approximately four miles northeast of the Village of Jefferson. There are several small public and private airstrips throughout the county.

There are two deep-water ports along Ashtabula County's coastline: Ashtabula Harbor in City of Ashtabula and Conneaut Harbor in the City of Conneaut. Lake boats and large vessels have access to docks in the Ashtabula Harbor via Kinder Morgan, R.W. Sidley, and Norfolk Southern. Commodities transported through the Port of Ashtabula include exported coal, iron ore, sand, gravel, stone, and imported limestone (Ashtabula Port Authority, 2013). The Conneaut Marina is the home of hundreds of boats, with dockage space for boats up to 30' in length. The Conneaut Port Authority promotes economic development at the site (Conneaut Port Authority, 2019).

The Ashtabula County Transportation System (ACTS) operates three bus routes: the Harbor Blue Line, Harbor Green Line, and the Uptown Red Line. The system operates between 7 a.m. and 5 p.m. from Monday to Saturday.

<p>Legend</p> <ul style="list-style-type: none">  Airports  Ports  Railroads  Interstate 90  U.S. Routes  State Routes  Roadways 		<p>ASHTABULA COUNTY HAZARD MITIGATION PLAN</p> <p>Transportation System</p> <p>Data Source(s): ODOT, U.S. Census Bureau</p>
<p><small>DISCLAIMER: Data is meant for use as reference only. Some sources may be intended to be used at national or regional scales and are thus used beyond their original intent for demonstrative purposes.</small></p>  		



Economy

Ashtabula County has a diverse employment sector. According to 2016 information from the Ohio Department of Development (<https://development.ohio.gov/files/research/C1005.pdf>), the largest areas of employment are manufacturing (with an average employment of 7,091 and average wages of \$340,856,986) and education and health services (with an average employment of 5,608 and average wages of \$193,242,159). Total employment is currently 41,700 persons (with an estimated 2,600 persons unemployed). The county's unemployment rate is approximately 5.9%. Between 2011 and 2016, the total number of private sector establishments declined by 3.7%. The largest decreases occurred in the information (-12.0%) and construction (-7.0%) sectors. The leisure and hospitality sector saw an increase of 1.6% while the natural resources and mining sector saw a jump of 10.3%.

Ashtabula County contains a sizeable agricultural economy. Approximately 1,099 farms are active, with total cash receipts of \$82,256,000. Significantly, though, the average per farm is \$74,846 (Ohio Department of Development, n.d.). Dairy production, cattle, and grain commodities contribute to the local agriculture economy. Vineyards, nurseries, tree farms, orchards, and specialty agricultural production also contribute. The unique microclimate produced by Lake Erie allows the orchard and vineyard crops to retain a longer growing season. From this specialty agricultural production, the local economy has benefited through increased tourism due to festivals and special events held at wineries and farmers markets. The major employers of the county include Ashtabula Area City Schools; Ashtabula County Government; the Ashtabula County Medical Center; Cristal Global; CW Ohio; General Aluminum Manufacturing Company; Kennametal, Inc.; Masco/KraftMain Cabinetry; Molded Fiber Glass Companies; Premix, Inc.; and University Hospitals (Ohio Department of Development, n.d.).

Ashtabula County is the home of several tourist attractions, including one of the county's greatest assets, its location along the Lake Erie shoreline. Many cultural, environmental, and recreational attractions also exist in the county, including its 16 covered bridges, several wineries, and 38 places of listing on the National Register of Historic Places (National Park Service, 2019).

Education

The education system in Ashtabula County consists of 33 public schools at which 13,918 students attend and 765 teachers instruct, as well as two non-public schools at which another 470 students attend. There is currently one four-year public college branch (Kent State University at Ashtabula) in the City of Ashtabula with a reported enrollment of 2,496 students

(Ohio Department of Development, n.d.; Wikipedia, 2019, https://en.wikipedia.org/wiki/Kent_State_University_at_Ashabula).


Healthcare

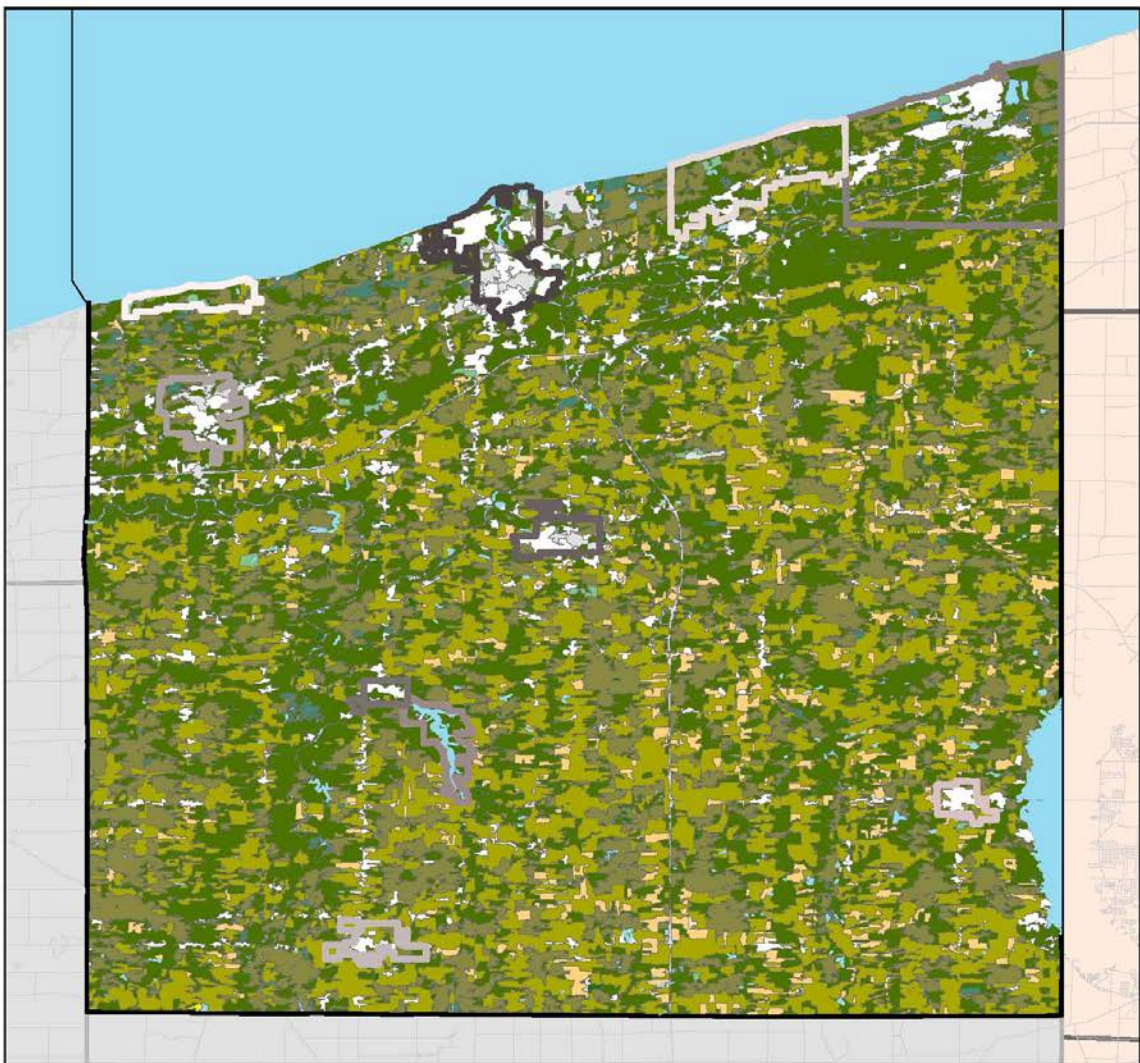
Several health care facilities serve Ashtabula County. Currently, there are three registered hospitals with 299 available beds, five licensed residential care facilities with 315 available beds, and 13 licensed nursing homes with 1,096 available beds (Ohio Department of Development, n.d.). The Ashtabula County Health Department is a public health agency that serves most of the communities and townships in the county. Ashtabula City and Conneaut City also maintain public health departments.

Land Cover / Climate

The majority of Ashtabula County’s land cover is wooded or forested; approximately 41.44% of the total land cover is forested followed by cultivated cropland at 25.04% (Ohio Department of Development, n.d.). Approximately 1,099 individual farms operate in Ashtabula County with an average size of 151 acres per farm.



<p>Legend</p> <p>Land Cover</p> <ul style="list-style-type: none"> Bare/Mines Commercial/Industrial/Transportation Crop Deciduous Forest Evergreen Forest Herbaceous Wetlands Open Water Pasture Residential Urban/Recreational Grasses Woody Wetlands 		<p>ASHTABULA COUNTY HAZARD MITIGATION PLAN</p> <p>Land Cover (2016)</p> <p>Data Source(s): ODOT</p>
<p><small>DISCLAIMER: Data is meant for use as reference only. Some sources may be intended to be used at national or regional scales and are thus used beyond their original intent for demonstrative purposes.</small></p>		



Ashtabula County has a continental-type climate, predominantly influenced by air from the west and north. There is considerable variation in seasonal temperatures, with none of the temperatures being considered severe. The climate of Ashtabula County is seasonal, with wet, stormy springs, warm summers, colorful falls, and cold, snowy winters. A key feature of the Ashtabula County area is a unique micro-climate created by Lake Erie and a geological ridge to the south of the lake. The average temperature in January is 18°F, and the July average temperature is 81°F. Precipitation occurs throughout the year, with an annual average of 42" of rain and 84" of snow (Bestplaces.net, 2019, <https://www.bestplaces.net/climate/county/ohio/ashtabula>). The county receives lake effect snow as a part of the Southeastern Lake Erie Snowbelt.

1.2.2. Municipalities

This section provides demographics and other general details for each of the participating municipalities.

Village of Andover

Andover Village, incorporated in 1883, is in the southeastern portion of the county. It encompasses a land area of 1.37 square miles (Wikipedia, 2019, https://en.wikipedia.org/wiki/Andover,_Ohio). It lies along State Route 7 and U.S. Route 6. Andover is the closest village to the Ohio side of Pymatuning State Park, and the settlement supports a regional tourism industry. The village is home to the Pymatuning Valley Primary Elementary School.

According to Census data, the Village of Andover has a population of 1,145 (2010) with a population density of 835.77 people per square mile. The village contains 469 housing units with an average of 2.44 persons per household with an estimated median income of \$24,219 (U.S. Census Bureau, 2010).

City of Ashtabula

The City of Ashtabula is located in the north-central portion of the county along the shore of Lake Erie. The Ashtabula River runs through the city to one of the county's two deepwater ports. The city's major transportation routes include U.S. Route 20 (east-west), State Route (SR) 11 (north-south), and SR 531, which runs largely along the lakeshore.

There are six elementary schools, two junior high schools, two high schools, and nine private schools within the city. The Ashtabula Lift Bridge (also known as the West Fifth Street Bridge) is a Strauss bascule bridge that spans the Ashtabula River in Ashtabula Harbor. Built in 1925, it is one of only two of its type that remains in service in the state of Ohio.

According to 2018 estimates, the City of Ashtabula has a population of 18,144 with a population density of 2,344.19 people per square mile. The city contains 9,221 housing units with an average of 2.37 persons per household and an estimated median income of \$29,421 U.S. Census Bureau, American FactFinder, 2018, <https://www.census.gov/quickfacts/fact/table/ashtabulacityohio,US/PST045218>).

City of Conneaut

The City of Conneaut is located in the northeastern portion of Ashtabula County along the lakeshore and contains one of the county’s two deepwater ports. Along with its harbor, the major transportation infrastructure includes Interstate 90, U.S. Route 20, SR 7, and SR 531. The city was incorporated in 1834 and has a total land area of 26.36 square miles (U.S. Census Bureau, American FactFinder, 2018, <https://www.census.gov/quickfacts/fact/table/conneautcityohio,US/PST045218>). The city sits along an old Native American trail, later used by early westbound pioneers. The word “Conneaut” comes from the Seneca language, and has a disputed meaning.

Conneaut is a mixture of urban areas and rural farmland. The city has over seven miles of shoreline along Lake Erie with beaches, boating facilities, and a summer tourist trade. The city includes an international shipping port and three railroads. Major industries include CSP of Ohio, General Aluminum, and CW Ohio. There are six public elementary schools, one middle school, and one high school, along with two private schools within the city. Conneaut is also home to the Lake Erie Correctional Institution Education Program. According to 2018 estimates, Conneaut has a population of 12,642 and a population density of 479.59 people per square mile. The city contains 5,664 housing units with an average of 2.33 persons per household and an estimated median income of \$39,293.

City of Geneva

The City of Geneva is in the northwestern portion of the county and encompasses a land area of 4.14 square miles with U.S. Route 20 and SR 534 intersecting within its limits. The area which would become Geneva was originally settled in 1805, and it incorporated as a city in 1958. Its name derives from Geneva, New York. Geneva State Park is north of the city, near



Lake Erie. The park covers 698 acres with picnic groves, campsites, and a large beach bordering the lake, boat ramps and a full-service marina with 382 slips. There are two elementary schools, one middle school and one high school within Geneva. Within commuting distance of the city are several colleges and universities, including Cleveland State University, Lakeland Community College, Cuyahoga Community College, Kent State University, University of Akron, and Lake Erie College.

According to 2018 estimates, the city has a population of 5,975 with a population density of 1,443.24 people per square mile. The city contains 2,717 housing units with an average of 2.23 persons per household with an estimated median income of \$38,043.

Village of Geneva-on-the-Lake

Geneva-on-the-Lake Village sits in the northwestern portion of the county along Lake Erie and encompasses a land area of 2.26 square miles (Wikipedia, 2019, https://en.wikipedia.org/wiki/Geneva-on-the-Lake,_Ohio). It lies along state routes 531 and 534 to the north of Geneva City.

Geneva on the Lake Village has a population of 1,288 with a population density of 734 people per square mile. The village contains 1,242 housing units and an estimated median income of \$35,667 (U.S. Census Bureau, 2010).

Village of Jefferson

Jefferson Village is the county seat of Ashtabula County. It sits in the north-central portion of the county and encompasses a land area of 2.52 square miles (Wikipedia, 2019, https://en.wikipedia.org/wiki/Jefferson,_Ohio). State Routes 46,167 and 307 provide access to the village. Rail lines north and south into Jefferson, provide additional means of shipping. State Route 11 offers a convenient connection to deep-water ports on Lake Erie. The Village of Jefferson incorporated on July 5, 1836.

There are one elementary school and one middle/ high school in the village. Jefferson is home to several buildings on the National Registry of Historic Places: Lawyers Row, Old Court House, Joshua Giddings Law Office, County Commissioners Offices, Jefferson Village Hall, Railroad Depot and various Century Homes in the Village. According to Census data, Jefferson has a population of 3,120 (2010) with a population density of 1,238.10 people per square mile. The village contains 1,456 housing units, and its residents have an estimated median income of \$50,323.

Village of North Kingsville

North Kingsville Village sits in the northeastern portion of the county to the west of Conneaut City and encompasses a land area of 8.89 square miles (Wikipedia, 2019, https://en.wikipedia.org/wiki/North_Kingsville,_Ohio). The village's northern border is Lake Erie. It lies along SR 531, SR193, and U.S. Route 20.

There is one elementary school within the village. According to 2010 Census data, North Kingsville has a population of 2,923 and a population density of 328.80 people per square mile. The city contains 1,363 housing units; its estimated median income is \$59,776.

Village of Orwell

Orwell Village is situated in the southwestern portion of the county and encompasses 1.97 square miles (Wikipedia, 2019, https://en.wikipedia.org/wiki/Orwell,_Ohio). It lies along SR 45 and U.S. Route 322.

Orwell incorporated in 1817. There is one K-12 school in the village. According to Census data, Orwell has a population of 1,660 (2010) with a population density of 842.64 people per square mile. The village contains 689 housing units and an estimated median income of \$39,837.

Village of Roaming Shores

Roaming Shores Village is in the southwestern portion of the county and encompasses a land area of 2.10 square miles (Wikipedia, 2019, https://en.wikipedia.org/wiki/Roaming_Shores,_Ohio). It lies along U.S. Route 6 with restricted access. The Village of Roaming Shores incorporated in 1979 to support a public utility. The village is a unique and thriving private lakefront community where most of the residents serve as a member of the Association (as stipulated in property deeds). While the Village Government and the Association have clear and distinct roles, they serve nearly the same constituents. The Association was originally the sole governing body of the community. The modern village receives government services from multiple providers: two fire departments, two high-achieving school systems, and two post offices. The 550-acre Lake Roaming Rock of Roaming Shores is the largest private body of water in Ohio.

Census data lists Roaming Shores with a population of 1,508 (2010), which reflects a population density of 718.10 people per square mile. The village contains 840 housing units; the estimated median income is \$78,938.

Village of Rock Creek

Rock Creek Village is in the southwestern portion of the county and encompasses a land area of 0.89 square miles (Wikipedia, 2019, https://en.wikipedia.org/wiki/Rock_Creek,_Ohio). It lies along SR 45. The village incorporated in 1849. There is one elementary school within the corporate limits. According to 2010 Census data, Rock Creek has a population of 529 with a population density of 594.38 people per square mile. The city contains 190 housing units and an estimated median income of \$53,750.

1.2.3 Asset Inventory

§201.6(c)(2)(ii)	[The risk assessment shall include a] description of the jurisdiction's vulnerability of the hazards described in paragraph (c)(2)(i) of this section. This description shall include an overall summary of each hazard and its impact on the community.
§201.6(c)(2)(ii)(A)	The plan should describe vulnerability in terms of the types and numbers of existing and future buildings, infrastructure, and critical facilities located in the identified hazard areas.

This plan identifies potentially-vulnerable community assets such as critical facilities, critical infrastructure, historic properties, commercial/industrial facilities, etc. “Assets” contribute directly to the quality of life in the community as well as ensure its continued operation

Methodology

The assets on the inventory are types of facilities recommended for consideration in the *Local Hazard Mitigation Planning Handbook* (FEMA, 2013). The following list is the most current version of the initial asset inventory included in Ashtabula County’s original hazard mitigation plan. Thus, the methodology used to generate this version was simply via emergency management agency review and comment. This plan categorizes “assets” under the following headings (FEMA, 2013).

- **People:** Areas of greater population density as well as populations with unique vulnerabilities or diminished response and recovery capabilities. Examples include areas of concentrated populations, areas catering to tourist (i.e., visiting) populations, facilities housing or serving functional and access needs populations and facilities that provide health or social services.
- **Economy:** Important economic drivers specific to the community. Examples include major employers and commercial centers.



- Built Environment:** Existing structures, infrastructure systems, critical facilities, and cultural resources. The following table includes examples of built environment categories.

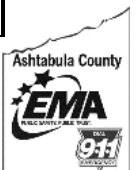
"BUILT ENVIRONMENT" ASSETS			
<i>Existing Structures</i>	<i>Infrastructure</i>	<i>Critical Facilities</i>	<i>Cultural Resources</i>
<ul style="list-style-type: none"> • Commercial buildings • Industrial buildings • Single & multi-family residential buildings 	<ul style="list-style-type: none"> • Water & wastewater • Power utilities • Transportation (roads, railways, waterways) • Communications systems/centers • Energy pipelines & storage 	<ul style="list-style-type: none"> • Hospitals & medical facilities • Police & fire stations • Emergency operations centers • Evacuation shelters • Schools • Airport/heliports <li style="text-align: center;">HIGH POTENTIAL LOSS FACILITIES • Nuclear power plants • Dams • Military & civil defense installations • Locations housing hazardous materials 	<ul style="list-style-type: none"> • Historic assets • Museums • Unique geologic sites • Concert halls • Parks • Stadia

- Natural Environment:** Resources that are important to community identity and quality of life in the community, as well as those that support the local economy through agriculture, tourism, and recreation. Examples include areas that can provide protective functions that reduce the magnitude of hazard events and critical habitat areas and other environmental features that are important to protect.

Asset Inventory

The following table lists Ashtabula County's community assets, and the following map shows their locations graphically. Hazard profiles in 2.0 Risk Assessment reference the facilities from the table located in various hazard susceptibility areas.

ASHTABULA COUNTY ASSET INVENTORY			
<i>Name or Description</i>	<i>Address</i>	<i>City</i>	<i>Asset Type</i>
A. Schulman, Inc.	110 North Eagle Street	Geneva	Economy
Andover FD	257 West Main Street	Andover	Built Environment: Critical Facility
Andover PO	255 East Main Street	Andover	Built Environment: Existing Structure



ASHTABULA COUNTY ASSET INVENTORY			
<i>Name or Description</i>	<i>Address</i>	<i>City</i>	<i>Asset Type</i>
Andover Public Library	142 West Main Street	Andover	Built Environment: Existing Structure
Andover Retirement Village Community	486 South Main Street	Andover	People
Andover Township Hall	410 East Main Street	Andover	Built Environment: Existing Structure
Andover Village Hall & PD	134 Maple Street	Andover	Built Environment: Critical Facility
Arthur Lewis Steel	185 Water Street	Geneva	Economy
Ashtabula Christian ES	N/A	Ashtabula	People
Ashtabula City FD/EMS	4326 Main Avenue	Ashtabula	Built Environment: Critical Facility
Ashtabula City Hall	4717 Main Avenue	Ashtabula	Built Environment: Existing Structure
Ashtabula City Justice Center	110 West 44th Street	Ashtabula	Built Environment: Critical Facility
Ashtabula County Airport	2382 Airport Road		Built Environment: Critical Facility
Ashtabula County District Library	335 West 44th Street	Ashtabula	Built Environment: Existing Structure
Ashtabula County Medical Center	2420 Lake Avenue	Ashtabula	Built Environment: Critical Facility
Ashtabula County Outdoor Club	2180 Outdoor Club Drive, Box 642	Ashtabula	Built Environment: Cultural Resource
Ashtabula County Senior Center	4632 Main Avenue	Ashtabula	People
Ashtabula County Sheriff's Dept.	25 West Jefferson Street	Jefferson	Built Environment: Critical Facility
Ashtabula Harbor Commercial District	1200 5th Street	Ashtabula	Built Environment: Cultural Resource
Ashtabula Harbor Light	Harbor Lat: 41.91855 Long: -80.79586	Ashtabula	Built Environment: Cultural Resource
Ashtabula Montessori ES	N/A	Ashtabula	People
Ashtabula PO	4307 Station Avenue	Ashtabula	Built Environment: Existing Structure
Ashtabula PO	718 Lake Avenue	Ashtabula	Built Environment: Existing Structure
Ashtabula Public Works	501 West 24th Street	Ashtabula	Built Environment: Infrastructure
Ashtabula Township Bldg.	2718 North Ridge East	Ashtabula	Built Environment: Existing Structure
Ashtabula Township FD/EMS	2718 North Ridge Road East	Ashtabula	Built Environment: Critical Facility
Ashtabula Traffic	110 West 44 th Street	Ashtabula	Built Environment: Existing Structure
Ashtabula WWTP	303 Woodland Avenue	Ashtabula	Built Environment: Infrastructure
A TECH (Ashtabula County Technical and Career Campus)	1565 State Route 167	Jefferson	People
Austinburg ES	3030 State Route 307	Austinburg	People
Austinburg Nursing & Rehabilitation	2026 State Route 45	Austinburg	People

ASHTABULA COUNTY ASSET INVENTORY			
<i>Name or Description</i>	<i>Address</i>	<i>City</i>	<i>Asset Type</i>
Austinburg PO	2773 State Route 307	Austinburg	Built Environment: Existing Structure
Austinburg Town Hall	2794 State Route 307	Austinburg	Built Environment: Existing Structure
Austinburg Township FD	2800 State Route 307	Austinburg	Built Environment: Critical Facility
Blakeslee Log Cabin	441 Seven Hills Road	Ashtabula	Built Environment: Cultural Resource
Boice Fort and Village Site	N/A	Wayne	Built Environment: Cultural Resource
Camp Beaumont	2429 State Route 45	Rock Creek	Built Environment: Cultural Resource
Camp Whitewood Lake Dam	7983 South Wiswell Road	Windsor	Built Environment: Infrastructure
Camplands Water Company LLC	217 W Main Street	Andover	Built Environment: Infrastructure
Carrington Park	2217 West Avenue	Ashtabula	People
Cascade Ohio Inc.	1209 Maple Avenue	Conneaut	Economy
Cherry Valley Town Hall	134 Maple Street	Andover	Built Environment: Existing Structure
Chestnut-Lakeshore ES	755 Chestnut Street	Conneaut	People
Cleveland Hotel	230 State Street	Conneaut	Built Environment: Cultural Resource
Community Care Ambulance Network	115 East 24th Street	Ashtabula	Built Environment: Critical Facility
Congregational Church of Austinburg	2870 State Route 307	Austinburg	Built Environment: Cultural Resource
Conneaut City Hall, FD/EMS and PD	294 Main Street	Conneaut	Built Environment: Critical Facility
Conneaut City Sewage Treatment	1206 Broad Street Extension	Conneaut	Built Environment: Infrastructure
Conneaut Harbor West Breakwater Light	West Breakwater in Harbor	Conneaut	Built Environment: Cultural Resource
Conneaut HS	381 Mill Street	Conneaut	People
Conneaut Light Station Keeper's Dwelling	1059 Harbor Street	Conneaut	Built Environment: Cultural Resource
Conneaut PO	268 State Street	Conneaut	Built Environment: Existing Structure
Conneaut Public Library	304 Buffalo Street	Conneaut	Built Environment: Existing Structure
Cork ES	314 State Route 534	Geneva	People
Country Club Center III	925 East 25th Street	Ashtabula	People
David Cummins Octagon House	301 Liberty Street	Conneaut	Built Environment: Cultural Resource
Dominion East Ohio Natural Gas	7001 Center Road	Ashtabula	Economy
Dorset PO	2477 State Route 193	Dorset	Built Environment: Existing Structure
Dorset Township FD	2405 State Route 193	Dorset	Built Environment: Critical Facility

ASHTABULA COUNTY ASSET INVENTORY			
<i>Name or Description</i>	<i>Address</i>	<i>City</i>	<i>Asset Type</i>
Eagle Cliff Hotel	5254 Lake Road East	Geneva-on-the-Lake	Built Environment: Cultural Resource
Eagle Pointe Skilled Nursing & Rehabilitation	87 Staley Road	Orwell	People
Edgewood HS	2428 Blake Road	Ashtabula	People
Gateway ES/Conneaut MS	229 Gateway Avenue	Conneaut	People
General Aluminum Mfg.	1370 Chamberlain Road	Conneaut	Economy
Geneva City Hall, FD and PD	44 North Forest Street	Geneva	Built Environment: Critical Facility
Geneva HS	1301 South Ridge East	Geneva	People
Geneva MS	839 Sherman Street	Geneva	People
Geneva Platt R. Spencer ES	755 Austin Road	Geneva	People
Geneva PO	1041 South Broadway	Geneva	Built Environment: Existing Structure
Geneva Public Library	860 Sherman Street	Geneva	Built Environment: Existing Structure
Geneva Senior Center	62 West Main Street	Geneva	People
Geneva Shores Skilled Nursing & Rehabilitation	60 West Street	Geneva	People
Geneva Township Hall	256 North Cedar Street	Geneva	Built Environment: Existing Structure
Geneva Village Retirement Community	1140 South Broadway	Geneva	People
Geneva-on-the-Lake Sewage Treatment	4946 South Spencer	Geneva-on-the-Lake	Built Environment: Infrastructure
Geneva-on-the-Lake Village FD/EMS	4931 South Warner Drive	Geneva-on-the-Lake	Built Environment: Critical Facility
Geneva-on-the-Lake Village Hall and PD	4964 South Spencer	Geneva-on-the-Lake	Built Environment: Critical Facility
Glenbeigh Outpatient Center	2863 State Route 45	Rock Creek	Built Environment: Critical Facility
Grand River Academy ES	3042 College Street	Austinburg	People
Grand Valley ES/MS/HS	111 Grand Valley Avenue West	Orwell	People
Grand Valley Public Library	1 North School Street	Orwell	Built Environment: Existing Structure
Harbor-Topky Memorial Library	1633 Walnut Boulevard	Ashtabula	Built Environment: Existing Structure
Harpersfield Covered Bridge	1122 Harpersfield Road	Harpersfield	Built Environment: Cultural Resource
Harpersfield Twp FD Stn #1	5430 State Route 534	Harpersfield	Built Environment: Critical Facility
Harpersfield Twp FD Stn #2	5636 Cold Cork Springs Road	Harpersfield	Built Environment: Critical Facility
Hartsgrove Township FD	5321 State Route 534	Rome	Built Environment: Critical Facility
Harwood Block	246, 250, 256 Main Street	Conneaut	Built Environment: Cultural Resource
Henderson Memorial Public Library	54 East Jefferson Street	Jefferson	Built Environment: Existing Structure

ASHTABULA COUNTY ASSET INVENTORY			
<i>Name or Description</i>	<i>Address</i>	<i>City</i>	<i>Asset Type</i>
Holiday Camplands Lake Dam	Holiday Camplands	Andover	Built Environment: Infrastructure
Honeywell Smart Energy	436 North Eagle Street	Geneva	Economy
Hotel Ashtabula	4726 Main Avenue	Ashtabula	Built Environment: Cultural Resource
Huron/Michigan/Ontario Primary Schools	2300 Wade Avenue	Ashtabula	People
Jefferson Area ES/JHS/HS	204 West Mulberry Street	Jefferson	People
Jefferson Geriatric & Rehabilitation Center	222 East Beech Street	Jefferson	People
Jefferson PO	37 West Jefferson Street	Jefferson	Built Environment: Existing Structure
Jefferson Rescue District	11 South Market Street	Jefferson	Built Environment: Critical Facility
Jefferson Town Hall	27 East Jefferson Street	Jefferson	Built Environment: Existing Structure
Jefferson Village FD	98 East Jefferson Street	Jefferson	Built Environment: Critical Facility
Jefferson Village PD	86 East Jefferson Street	Jefferson	Built Environment: Critical Facility
Kennametal Inc.	180 Penniman Road	Orwell	Economy
Kilpi Hall	1025 Buffalo Street	Conneaut	Built Environment: Cultural Resource
Kingsville ES	5875 State Route 193	Kingsville	People
Kingsville PO	3110 West Main Street	Kingsville	Built Environment: Existing Structure
Kingsville Public Library	6006 Academy Street	Kingsville	Built Environment: Existing Structure
Kingsville Township FD/EMS	3130 Main Street	Kingsville	Built Environment: Critical Facility
Lake Erie Correctional Facility	501 Thompson Road	Conneaut	Built Environment: High Potential Loss
Lake Pointe Rehabilitation & Nursing	22 Parrish Road	Conneaut	People
Lake Shore & Mich. Southern RR Depot	342 Depot Street	Conneaut	Built Environment: Cultural Resource
Lake Shore & Mich. Southern RR Station	147 East Jefferson Street	Jefferson	Built Environment: Cultural Resource
Lakeside HS/JHS	6600 Sanborn Road	Ashtabula	People
Lakeside Intermediate School	401 West 44th Street	Ashtabula	People
Masco/KraftMaid Cabinetry	150 Grand Valley Avenue	Orwell	Economy
Molded Fiber Glass Companies	2925 MFG Place	Ashtabula	Economy
Morgan Hose FD	3033 East Water Street	Rock Creek	Built Environment: Critical Facility
Mother of Sorrows Church	1500 West 6th Street	Ashtabula	Built Environment: Cultural Resource
Naji Lake Dam	N/A	Windsor Township	Built Environment: Infrastructure
New Lyme Institute	929 Brownville Road	New Lyme	Built Environment: Cultural Resource

ASHTABULA COUNTY ASSET INVENTORY			
<i>Name or Description</i>	<i>Address</i>	<i>City</i>	<i>Asset Type</i>
New Lyme Town Hall	1123 Dodgeville Road	New Lyme	Built Environment: Cultural Resource
North Kingsville FD/EMS Stn #1	6571 Church Street	North Kingsville	Built Environment: Critical Facility
North Kingsville FD/EMS Stn #2	7676 Poore Road	North Kingsville	Built Environment: Critical Facility
North Kingsville PD	3541 East Center Street	North Kingsville	Built Environment: Existing Structure
North Kingsville PO	2716 East Center Street	North Kingsville	Built Environment: Existing Structure
Northwest Ambulance District	1480 South Broadway	Geneva	Built Environment: Critical Facility
Ohio American Water Co.	2905 North Bend Road	Ashtabula	Built Environment: Infrastructure
Orwell PO	47 South Maple Street	Orwell	Built Environment: Existing Structure
Orwell Village FD and PD	78 East Main Street	Orwell	Built Environment: Critical Facility
Pierpont FD/EMS	6006 Marcy Road	Pierpont	Built Environment: Critical Facility
Pierpont PO	62 State Route 7 South	Pierpont	Built Environment: Existing Structure
Pine Grove Healthcare Center	840 Sherman Street	Geneva	Built Environment: Critical Facility
Plymouth Twp. FD/EMS	1001 Plymouth Brick Road West	Ashtabula	Built Environment: Critical Facility
Premix Inc.	3365 East Center Street	North Kingsville	Economy
Pymatuning Area Ambulance Service	153 Station Street	Andover	Built Environment: Critical Facility
Pymatuning PS/MS/HS	5571 Rt. 6 West	Andover	People
Rae-Ann Geneva	839 West Main Street	Geneva	People
Ridgeview ES	3456 Liberty Street	Ashtabula	People
Roaming Rock Shores Lake Dam	2500 Hayford Road	Roaming Shores	Built Environment: Infrastructure
Roaming Shores Association Clubhouse	15 Rome Rock Creek Boulevard	Roaming Shores	Built Environment: Existing Structure
Roaming Shores PD & Village Hall	2500 Hayford Road	Roaming Shores	Built Environment: Critical Facility
Roaming Shores WWTP	2595 Rome Rock Creek Road	Roaming Shores	Built Environment: Infrastructure
Rock Creek ES	3134 North Main Street	Rock Creek	People
Rock Creek PO	3046 East Water Street	Rock Creek	Built Environment: Existing Structure
Rock Creek Public Library	2988 High Street	Rock Creek	Built Environment: Existing Structure
Rock Creek School	2987 High Street	Rock Creek	People
Rock Creek Village PWS/WWTP	2600 Stiles Avenue	Rock Creek	Built Environment: Infrastructure
Rome Rock Association HQ	1875 US Route 6	Roaming Shores	Built Environment: Existing Structure













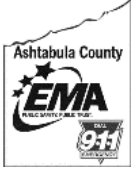
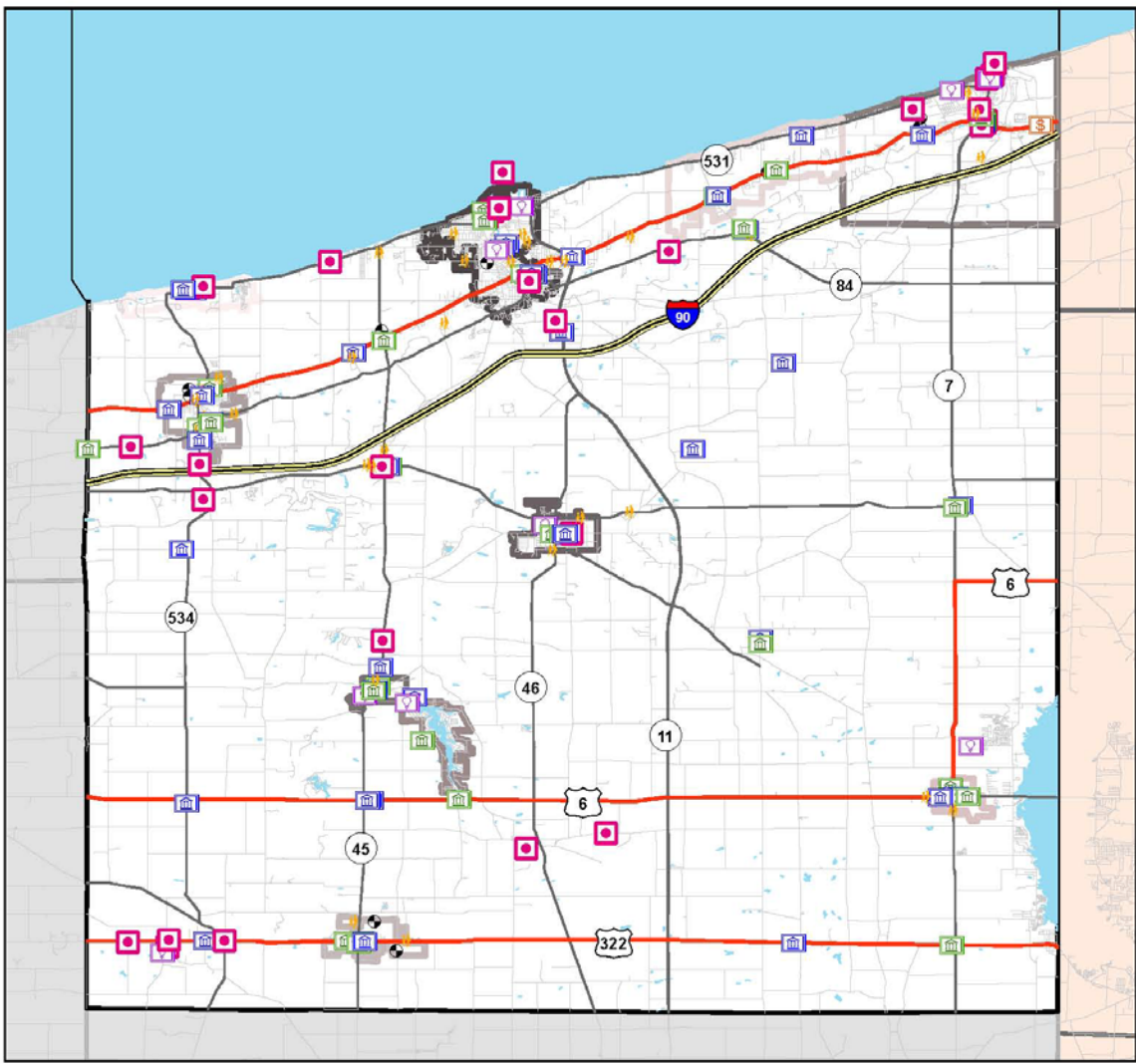
ASHTABULA COUNTY ASSET INVENTORY			
<i>Name or Description</i>	<i>Address</i>	<i>City</i>	<i>Asset Type</i>
Rome Township FD	3162 US Route 6 East	Rome	Built Environment: Critical Facility
Sanctuary of Geneva Ltd. Partnership	200 Commerce Place	Geneva	People
Saybrook ES	7911 Depot Road	Ashtabula	People
Saybrook Fire Dept./EMS	5714 North Ridge Road West	Ashtabula	Built Environment: Critical Facility
Saybrook Landing	2300 Center Road	Ashtabula	People
Saybrook Township Administrative Office	7247 Center Road	Ashtabula	Built Environment: Existing Structure
Shandy Hall	6333 South Ridge Road	Geneva	Built Environment: Cultural Resource
Sheffield Fire Dept./EMS	3636 Sheffield Monroe Road	Kingsville	Built Environment: Critical Facility
South Central Ambulance District	3100 US Route 6	Rome	Built Environment: Critical Facility
SPIRE Institute	1822 South Broadway	Geneva	Built Environment: Cultural Resource
Sts John & Paul ES	2150 Columbus Avenue	Ashtabula	People
Sts John & Paul JHS/HS	541 West 34th Street	Ashtabula	People
Thomas Jefferson Primary School	2630 West 13th Street	Ashtabula	People
Unionville PO	6887 South Ridge Road	Unionville	Built Environment: Existing Structure
University Hospital Conneaut Medical Ctr.	158 West Main Road	Conneaut	Built Environment: Critical Facility
University Hospital Geneva Medical Ctr.	870 West Main Street	Geneva	Built Environment: Critical Facility
Villa at the Lake, A Randall Residence	48 Parrish Road	Conneaut	Built Environment: Cultural Resource
Village of Jefferson Sewage Treatment	225 North Elm Street	Jefferson	Built Environment: Infrastructure
Village of Orwell	176 West Main Street	Orwell	Built Environment: Existing Structure
Wallace Braden JHS	3436 Edgewood Drive	Ashtabula	People
Walnut Beach	Lake Avenue & West 1 st Street	Ashtabula	Built Environment: Cultural Resource
Water Treatment Facility	770 Lake Road	Conneaut	Built Environment: Infrastructure
Wayne Township FD	3787 State Route 322	Williamsfield	Built Environment: Critical Facility
West Fifth Street Bridge	SR 531 over Ashtabula River	Ashtabula	Built Environment: Cultural Resource
Williamsfield PO	5911 US Route 322	Williamsfield	Built Environment: Existing Structure
Windsor Corners District	US Route 322 & State Route 534	Windsor	Built Environment: Cultural Resource
Windsor Mills Christ Church Episcopal	Wisell Rd & US Route 322	Windsor Mills	Built Environment: Cultural Resource
Windsor Mills Fort & Village Site	US Route 322	Windsor Mills	Built Environment: Cultural Resource



ASHTABULA COUNTY ASSET INVENTORY			
<i>Name or Description</i>	<i>Address</i>	<i>City</i>	<i>Asset Type</i>
Windsor Township FD/EMS	5388 State Route 322 West	Windsor	Built Environment: Critical Facility
Wiswell Road Covered Bridge	7696 Warner Hollow Road	Windsor	Built Environment: Cultural Resource



<p>Legend</p> <ul style="list-style-type: none">  Built Environment: Critical Facility  Built Environment: Cultural Resource  Built Environment: Existing Structure  Built Environment: High Potential Loss  Built Environment: Infrastructure  Economy  People 	 <p>0 1 2 4 6 8 Miles</p>	<p>ASHTABULA COUNTY HAZARD MITIGATION PLAN</p> <p>Asset Inventory</p> <p>Data Source(s): AC Planning Committee</p>
<p><i>DISCLAIMER: Data is meant for use as reference only. Some sources may be intended to be used at national or regional scales and are thus used beyond their original intent for demonstrative purposes.</i></p>  		



1.0 INTRODUCTION

1.3 Capabilities

§201.6(b)(3)	Review and incorporation, if appropriate, of existing plans, studies, reports, and technical information.
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This section examines the existing capabilities of Ashtabula County and the participating jurisdictions. Specifically, this section looks at those capabilities that can support the implementation of hazard mitigation efforts. The county’s consultant supported an online survey of jurisdictional representatives to complete a “capabilities assessment.” Representatives answered questions about the following plans, codes, and ordinances from the perspectives of their home jurisdictions. The following table summarizes jurisdictional capabilities. The bullet list below the table provides definitions and context for the outlined capabilities.

JURISDICTIONAL CAPABILITIES							
<i>Jurisdiction</i>	Comprehensive Plan	Building Codes	Subdivision or Land Use Ordinance	Zoning Ordinance	Participates in the NFIP	Capital Budget Funds for Mitigation Projects	Public Works Budget for Mitigation projects
Ashtabula County	YES	YES	YES	YES	YES	NO	NO ¹
Andover Village	NO	YES	YES	YES	NO	NO	NO
Ashtabula City	YES	YES	YES	YES	YES	N/A	N/A
Conneaut City	YES	YES	YES	YES	YES	YES	YES ²
Geneva City	YES	YES	YES	YES	YES	NO	NO
Geneva-on-the-Lake Village	NO	YES ³	YES	YES	YES	N/A	N/A
Jefferson Village	NO	YES	YES	YES	YES	N/A	N/A
North Kingsville Village	NO	YES ³	NO	YES	YES	N/A	N/A
Orwell Village	YES	YES	YES	YES	NO	NO	NO
Roaming Shores Village	YES	YES	YES	YES	YES	NO	NO
Rock Creek Village	NO	N/A	N/A	YES	YES	N/A	N/A

N/A - No answer / Skipped question

¹ Willing to consider it in future budgets
² Limited to in-kind services
³ Assisted by Ashtabula County



1.3.1 Existing Plans and Ordinances

Ashtabula County itself and the municipalities therein have a number of capabilities that can support mitigation efforts including comprehensive plans, building codes, subdivision and land use ordinances, zoning ordinances, and floodplain regulations. In summary, Ashtabula County and the municipalities therein appear to have a “high” planning and regulatory capability.

Comprehensive Plans

Comprehensive plans promote sound land use and regional cooperation among local governments to address planning issues. These plans serve as the official policy guide for influencing the location, type, and extent of future development by establishing the basic decision-making and review processes on zoning matters, subdivision and land development, land uses, public facilities, and housing needs over time.

Several jurisdictions in Ashtabula County maintain comprehensive plans of some sort. For example, Conneaut’s plan is a traditional “comprehensive plan,” updated in 2017, that discusses strengthening the city’s economy, conserving and managing greenspace, maintaining and upgrading public utilities, etc. In Ashtabula (City), there is a comprehensive plan for revitalization in the area surrounding the lift bridge. Ashtabula County also maintains a traditional comprehensive plan, and that document includes information for the villages that do not maintain a jurisdiction-specific document.

Building Codes

Building codes regulate construction standards for new construction and substantially renovated buildings. Standards can be adopted that require resistant or resilient building design practices to address hazard impacts common to a given community. All jurisdictions (though Rock Creek did not specifically indicate the presence of codes) utilize building codes. Some jurisdictions, like Ashtabula City, Conneaut, and Geneva, maintain municipal codes. In other jurisdictions, like Geneva-on-the-Lake and North Kingsville, the village receives support from the county building department regarding building codes.

Subdivision and Land Use Development Ordinances

Subdivision and land development ordinances (SALDOs) regulate the development of housing, commercial, industrial or other uses, including associated public infrastructure, as land is subdivided into buildable lots for sale or future development. Within these ordinances, guidelines on how to divide land, the placement and size of roads and the location of

infrastructure can reduce exposure of development to hazard events. All of the jurisdictions in the county, except for North Kingsville and Rock Creek, maintain SALDOs. In some instances, subdivision considerations are a part of the village's zoning ordinance.

Zoning Ordinances

Zoning ordinances allow for local communities to regulate the use of land in order to protect the interests and safety of the general public. Zoning ordinances can address unique conditions or concerns within a given community. They may be used to create buffers between structures and high-risk areas, limit the type or density of development and/or require land development to consider specific hazard vulnerabilities. All of the jurisdictions in Ashtabula County have zoning ordinances.

National Flood Insurance Program (NFIP) Participation and Floodplain Management Ordinances

Through administration of floodplain ordinances, local governments can ensure that all new construction or substantial improvements to existing structures located in the floodplain are flood-proofed, dry-floodproofed, or built above anticipated flood elevations. Floodplain ordinances may also prohibit development in certain areas altogether. The NFIP establishes minimum ordinance requirements in order for that community to participate in the program. However, a community is permitted and encouraged to adopt standards which exceed NFIP requirements.

FEMA's *Community Status Book* indicates that nine of 11 jurisdictions in Ashtabula County participate in the NFIP. Participants manage their participation in the program in similar ways. They maintain access to copies of flood insurance rate maps (FIRMs) by directing residents to websites or to the appropriate local officials (e.g., county GIS department, zoning coordinator, building inspector, etc.) for information. Participants support requests for map updates by forwarding information to the appropriate department (usually the county GIS department). Geneva indicated that it provides technical assistance with local floodplain determinations through on-site reviews with the city engineer. Currently, no jurisdictions in Ashtabula County participate in the Community Rating System (CRS).

Ashtabula County received correspondence from FEMA in April 2019 with revised flood insurance study (FIS) materials for Ashtabula County and all of the participating jurisdictions in this plan. The project included updated flood insurance rate maps (FIRMs) as well as updated

information on coastal flood hazard areas. The new maps become effective on August 28, 2019.

1.3.2 Capability Assessment

All jurisdictions in the county (i.e., the county, municipalities, and townships) had an opportunity to complete a “capability self-assessment” via an online survey. Representative members of seven jurisdictions completed a self-assessment for their jurisdiction. In response to the survey questionnaire, local officials classified each of the capabilities as high, moderate, or limited.

Administrative and Technical Capability

Administrative capability is an adequacy of departmental and personnel resources for the implementation of mitigation-related activities. Technical capability relates to an adequacy of knowledge and technical expertise of local government employees or the ability to contract outside resources for this expertise to effectively execute mitigation activities.

Fiscal Capability

The decision and capacity to implement mitigation-related activities is often strongly dependent on the presence of local financial resources. While some mitigation actions are less costly than others, it is important that money is available locally to implement policies and projects. Financial resources are particularly important if communities are trying to take advantage of state or federal mitigation grant funding opportunities that require local-match contributions. Federal programs which may provide financial support for mitigation activities include, but are not limited to:

- Community Development Block Grant (CDBG),
- Disaster Housing Program,
- Emergency Conservation Program,
- Emergency Management Performance Grants (EMPG),
- Emergency Watershed Protection Program,
- Hazard Mitigation Grant Program (HMGP),
- Flood Mitigation Assistance Program,
- Non-Insured Crop Disaster Assistance Program,
- Pre-Disaster Mitigation Program,
- Repetitive Flood Claims Program (RFC),
- Section 108 Loan Guarantee Programs,
- Severe Repetitive Loss (SRL) Program, and
- Weatherization Assistance Program.



State programs that may support mitigation include (but are not limited to):

- Ohio Department of Development (job ready sites and CDBG funds for economic development),
- Ohio Department of Natural Resources (land and water conservation efforts),
- Ohio Environmental Protection Agency (loans and capital improvements), and
- Ohio Emergency Management Agency (funds to support emergency preparedness, response, and overall resilience).

Political Capability

One of the most difficult capabilities to evaluate involves the political will of a jurisdiction to enact meaningful policies and projects designed to mitigate hazard events. The adoption of hazard mitigation measures may be seen as an impediment to growth and economic development. In many cases, mitigation may not generate interest among local officials when compared with competing priorities. Therefore, the local political climate must be considered when designing mitigation strategies, as it could be the most difficult hurdle to overcome in accomplishing the adoption or implementation of specific actions.

The following table summarizes the results of the self-assessment survey as a percentage of the responses received.

CAPABILITY SELF-ASSESSMENT			
<i>Capability</i>	<i>High</i>	<i>Moderate</i>	<i>Limited</i>
Administrative & Technical	0.0%	42.9%	57.1%
Fiscal	0.0%	14.3%	85.7%
Political	14.3%	57.1%	28.6%

The 2019 self-assessment also included four questions to gauge community receptiveness to several types of mitigation strategies. The following table details the results.

SELF-ASSESSMENT: PROJECT CONSIDERATIONS					
<i>Sample Mitigation Strategy</i>	<i>Very Willing</i>	<i>Willing</i>	<i>Neutral</i>	<i>Unwilling</i>	<i>Very Much Unwilling</i>
XYZ community guides development away from known hazard areas.	0.0%	57.1%	42.9%	0.0%	0.0%



XYZ community restricts public investments or capital improvements within hazard areas.	0.0%	42.9%	57.1%	0.0%	0.0%
XYZ community enforces local development standards (e.g., building codes, floodplain management ordinances, etc.) that go beyond minimum state or federal requirements.	0.0%	42.9%	57.1%	0.0%	0.0%
XYZ community offers financial incentives (e.g., through property tax credits) to individuals and businesses that employ resilient construction techniques (e.g., voluntarily elevate structures, employ landscape designs that establish buffers, install green infrastructure elements, etc.).	0.0%	28.6%	71.4%	0.0%	0.0%

1.3.3 Studies, Reports, and Technical Information

The research conducted for the development of this plan included data from federal, state, and higher education studies, reports and technical information. Specific sources relative to individual hazards appear in Appendix 5: Citations. Ashtabula County’s consultant reviewed a number of existing plans and reports to (a) identify any obvious inconsistencies between other development and mitigation efforts, (b) as baseline information for such sections as trends and predictions, and (c) to support discussions surrounding mitigation projects. Those documents included the following.

REFERENCED DOCUMENTS		
<i>Document Type</i>	<i>Document Citation</i>	<i>How Incorporated into Plan</i>
Technical Information	USDHS FEMA. (2013). <i>Mitigation Ideas</i> . Federal Government: Washington, DC	Used as general guidance for stakeholders and jurisdictions on mitigation ideas
Technical Information	USDHS FEMA. (2016). <i>National Mitigation Framework</i> . Federal Government: Washington, DC	Used as general guidance on mitigation planning.
Technical Information	USDHS FEMA. (2005). <i>Integrating Historic Property and Cultural Resource Considerations into Hazard Mitigation Planning</i> . Federal Government: Washington, D.C.	Used as general guidance for incorporating historical property and cultural protection.
Technical Information	USDHS FEMA. (2013). <i>Local mitigation planning handbook</i> . Federal Government: Washington, D.C.	Used as general guidance on revised mitigation planning process
Technical Information	USDHS FEMA. (2013). <i>Integrating Hazard Mitigation Into Local Planning</i> . Federal Government: Washington, D.C.	Used as general guidance on existing plan integration for hazard mitigation
Technical Information	USEPA. (2018). <i>Storm smart cities: Integrating green infrastructure into local hazard mitigation plans</i> . Federal Government: Philadelphia, PA.	Outlines ways low-impact development and green infrastructure can support mitigation planning.
Plan	State of Ohio (2014). <i>Enhanced Hazard Mitigation Plan</i> . State Government: Columbus, OH	Used as general guidance on existing plan integration for hazard mitigation
Plan	Ashtabula County EMA (2018). <i>Emergency Operations Plan</i> . Local Government: Jefferson, OH.	Used as general guidance on existing plan integration for hazard mitigation



1.0 INTRODUCTION

1.4 Trends and Predictions

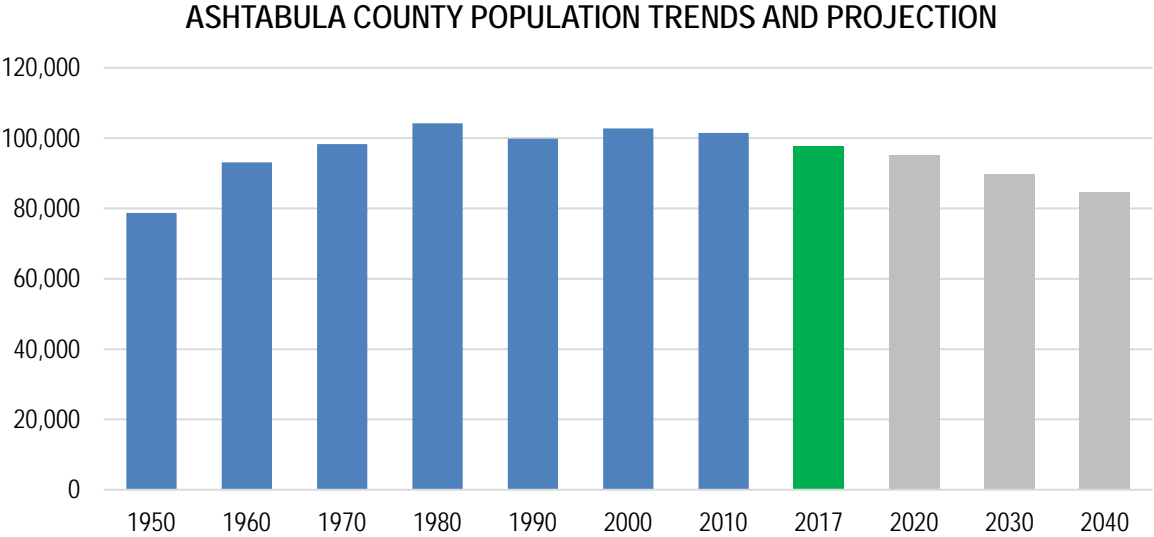
§ 201.6(c)(2)(ii)(c) Providing a general description of land uses and development trends within the community so that mitigation options can be considered in future land use decisions.

This section examines various demographic and other development trends in Ashtabula County to contextualize future risk to the hazards identified later in this plan.

Population

Hazard Mitigation Relevance: People are some of the most important assets in a community. Understanding population trends and concentrations assists in describing current and future vulnerability, as well as in the design of outreach and to target preparedness, response, and mitigation actions. Also, understanding where people reside or visit in a community informs the appropriate locations for mitigation projects (FEMA, 2013).

Ashtabula County’s population has fluctuated since the mid-1900s. As the graphic below indicates, the population grew steadily (per decennial Census data) between 1950 and 1980, and then decreased in 1990 before largely leveling off until 2010. Recent population estimates show a decline in population that may continue through 2040.



Source: Ashtabula County Profile prepared by the Ohio Development Services Agency, Office of Research, <https://development.ohio.gov/files/research/C1005.pdf>



The following table assigns figures to the bars on the above graph.

ASHTABULA COUNTY POPULATION CHANGE, 1950-2040											
<i>Jurisdiction</i>	<i>1950</i>	<i>1960</i>	<i>1970</i>	<i>1980</i>	<i>1990</i>	<i>2000</i>	<i>2010</i>	<i>2017</i>	<i>2020</i>	<i>2030</i>	<i>2040</i>
Ashtabula County	78,695	93,067	98,237	104,215	99,821	102,728	101,497	97,807	95,160	89,760	84,510

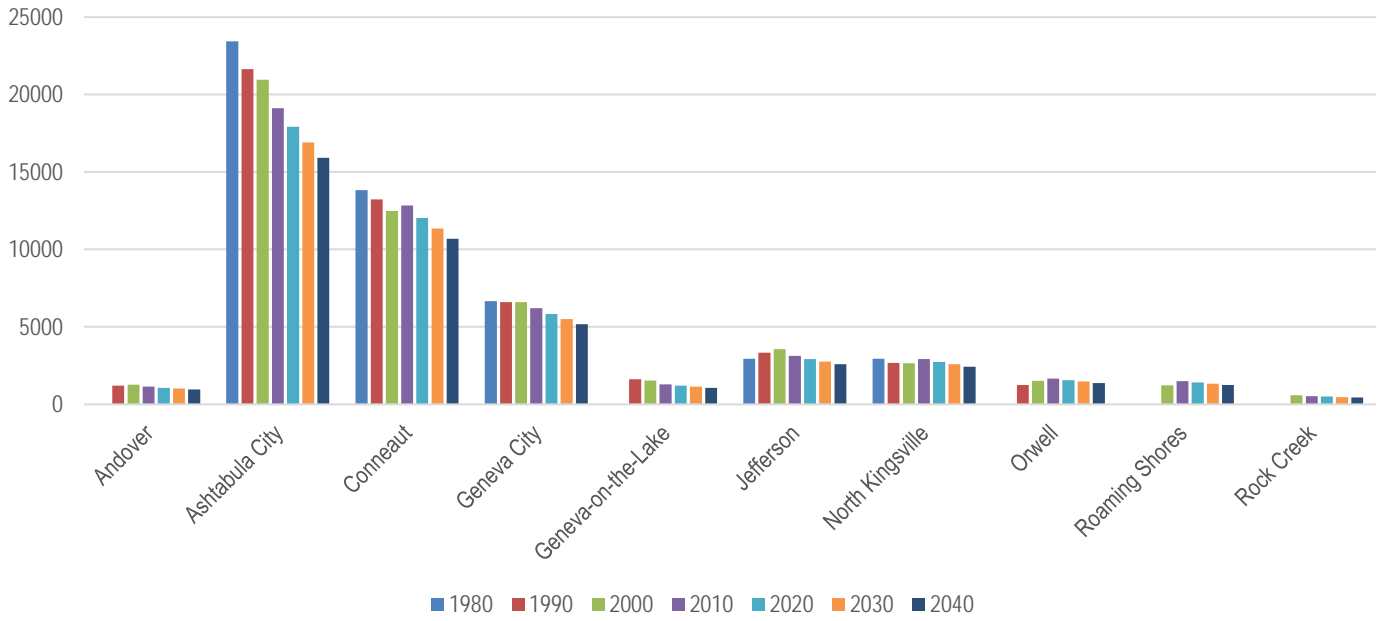
It is also helpful to consider population trends in the population clusters throughout Ashtabula County. The Ohio Development Services Agency identifies the following as the “largest places” (2018) in Ashtabula County.

POPULATION CHANGE, LARGEST PLACES			
<i>Place</i>	<i>2010 Pop.</i>	<i>Est. 2017</i>	<i>% Change</i>
Ashtabula City	19,124	18,144	-5.12%
Conneaut City	12,841	12,642	-1.55%
Geneva City	6,215	5,975	-3.86%
Saybrook Twp. UB	6,012	5,811	-3.34%
Ashtabula Twp. UB	5,685	5,434	-4.42%
Geneva Twp. UB	3,595	3,507	-2.45%
Jefferson Village	3,120	3,003	-3.75%
North Kingsville Village	2,923	2,810	-3.87%
Harpersfield Twp.	2,695	2,610	-3.15%
Monroe Twp.	2,381	2,301	-3.36%

As shown in the above table, the 2017 estimated populations of all 10 places decline from the 2010 Census estimate, which suggests that there is not a single area within the county where population is increasing rapidly, yet offset by more extreme decreases in other areas of the county. As such, for the following graphic, the populations of all villages consist of 2010 estimates decreased by the same percentages as show for the entire county in 2020 (-6.24%), 2030 (-5.67%), and 2040 (-5.85%).



POPULATION CHANGE BY MUNICIPALITY, 1980-2040



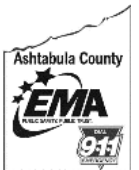
Sources:

- 1980 Census: https://www2.census.gov/prod2/decennial/documents/1980/1980censusofpopu8011uns_bw.pdf
- 1990 Census: <https://www2.census.gov/library/publications/decennial/1990/cp-1/cp-1-37.pdf?#>
- 2000 & 2010 Census: https://factfinder.census.gov/faces/nav/jsf/pages/community_facts.xhtml

Residential construction has remained largely steady in Ashtabula County. According to the Ohio Development Services Agency, residential construction averaged 87.2 units annually between 2013 and 2017. The following table presents the residential construction data.

RESIDENTIAL CONSTRUCTION 2013-2017					
<i>Criterion</i>	2013	2014	2015	2016	2017
Total Units	63	91	88	92	102
Total Valuation (000)	\$9,374	\$14,862	\$14,051	\$15,026	\$16,442
Single-Unit Buildings	57	71	68	74	80
Avg. Cost per Single Unit Building	\$159,188	\$185,801	\$183,061	\$183,468	\$183,407
Multi-Unit Buildings	6	20	20	18	22
Avg. Cost per Multi-Unit Bldg.	\$50,000	\$83,500	\$80,150	\$80,522	\$80,421

Understanding trends associated with populations corresponding with various social vulnerability indicators can inform hazard mitigation decision-making. For instance, in areas with a low median household income, households may not be able to afford mitigation measures on their own. Populations living under the poverty line may have difficulty recovering; thus, a



community can lessen the indirect losses those families incur by strengthening capabilities to support those populations (e.g., assisting with access to FEMA and other governmental agencies accepting requests for disaster assistance, considering all options for structural mitigation projects to protect areas where clusters of those populations live, etc.). Phillips, Thomas, Fothergill, and Blinn-Pike (2010) provide a series of social vulnerability indicators. The following indicators¹ correspond to data that are available to the Ashtabula County planning committee.

- **Age:** Senior citizens are reluctant to secure aid after a disaster out of concern they may lose their independence. (Proxy Data per Census: Under 18, 65+)
- **Class:** Lower income families and households tend to live in housing that suffers disproportionately during disasters. (Proxy Data per Census: Median household income, Poverty %)
- **Gender:** Women tend to be the ones most likely to secure relief aid for the family, yet they are under-represented and under-used in recovery efforts. (Proxy Data per Census: Female population)
- **Literacy:** Few options exist to inform and prepare people with low reading levels. (Proxy Data per Census: No diploma)
- **Race & Ethnicity:** Warning messages tend to be issued in the dominant language with an expectation that people will take the recommended action immediately. Research indicates that culture influences how people may receive and interpret warnings and how they may respond. (Proxy Data per Census: White, Black/African American, Two or more races, Language other than English spoken in home)

The following table presents these indicators and the corresponding demographics.

¹ Definitions are quotes from the Phillips et al. text. See p. 3 of the first edition.

SOCIAL VULNERABILITY INDICATORS, 2000-2017, BY JURISDICTION																									
Jurisdiction ²	AGE										CLASS										GENDER				
	Under 18					65+					Median Household Income					Poverty %					Female Population				
	2000	%	2010	%	2017	2000	%	2010	%	2017	2000	%	2010	%	2017	2000	%	2010	%	2017	2000	%	2010	%	2017
Ashtabula County (-4.5%)	26865	-10.6	24007	-7.7	22150	15051	5.5	15877	9.6	17406	35607	18.3	42139	2.1	43017	12.1	22.9	15.7	26.1	19.8	52660	-3.5	50804	-3.3	49113
Andover (-16.9%)	317	-17.4	262	-19.1	212	276	-11	245	24.1	304	31250	10.4	34500	-30	24219	10.7	25.7	14.4	36.1	19.6	674	-7.3	625	-13	541
Ashtabula City (-12.3%)	5780	-12.6	5050	-8.9	4603	3149	-11	2806	2.4	2872	27354	8.2	29605	-0.6	29421	21.4	29.8	30.5	10.5	33.7	11142	-10	10019	-3.0	9716
Conneaut (1.8%)	3141	-17.4	2594	-13.4	2247	2142	-5.8	2018	6.2	2143	31717	20.6	38250	2.7	39293	13.0	33.3	19.5	-2.1	19.1	6428	-9.0	5851	-6.8	5455
Geneva City (-8.6%)	1576	-12.4	1381	-9.7	1247	1158	-4.6	1105	6.2	1174	35048	14.0	39939	-4.7	38043	9.4	39.7	15.6	32.1	20.6	3424	-7.2	3179	-1.7	3126
Geneva-on-the-Lake (-9.1%)	411	-39.4	249	2.8	256	198	10.1	178	39.9	249	29583	-16	24888	43.3	35667	19.1	39.7	31.7	-64	11.3	774	-18	635	20.8	767
Jefferson (-1.2%)	902	-22.2	702	29.2	907	610	4.4	637	0.6	641	36883	14.8	42333	18.9	50323	5.8	56.1	13.2	64.4	21.7	1927	-12	1697	12.1	1902
North Kingsville (7.1%)	652	2.9	671	-6.3	629	340	36.5	464	-2.4	453	44279	16.8	51707	15.6	59776	7.0	0.0	7.0	-1.4	6.9	1354	10.6	1497	-2.8	1455
Orwell (6.4%)	405	7.4	435	-17.2	360	208	10.6	230	25.2	288	33214	17.3	38947	2.3	39837	10.9	46.8	20.5	-7.3	19.0	807	6.2	857	-1.2	847
Roaming Shores (19.3%)	287	30.7	375	4.0	390	143	42.7	204	23.0	251	57431	32.5	76090	3.7	78938	1.0	67.7	3.1	119.4	6.8	591	26.1	745	-0.8	739
Rock Creek (-34.4%)	190	-24.2	144	-59.0	59	52	15.4	60	10.0	66	35536	6.0	37679	42.7	53750	9.6	24.4	12.7	-32.3	8.6	307	-15	262	-31	180
Jurisdiction	LITERACY					RACE & ETHNICITY																			
	No Diploma					White					Black/African American					Two or More Races					Other than English				
	2000	%	2010	%	2017	2000	%	2010	%	2017	2000	%	2010	%	2017	2000	%	2010	%	2017	2000	%	2010	%	2017
Ashtabula County	10071	-24	7626	-11	6773	96635	-2.7	94041	-2.6	91628	3247	10.4	3586	0.6	3607	1402	53.1	2146	6.0	2275	4920	-4.8	4684	30.9	6132
Andover	184	-42	107	-46	58	1216	-10	1093	-10	984	39	-18	32	-100	0	10	60.0	16	319	67	22	-68	7	229	23
Ashtabula City	2082	-19	1693	-2.4	1653	17753	-12	15674	-1.5	15439	2053	-17	1711	7.7	1842	474	102	959	-14	830	1426	-22	1107	9.3	1210
Conneaut	1293	-11	1147	-7.1	1065	12027	-4.2	11527	-1.5	11359	140	592	969	10.3	1069	201	12.9	227	0.4	228	348	60.6	559	-56	247
Geneva City	622	-17	518	-4.4	495	6255	-6.3	5859	-0.2	5846	76	35.5	103	-85	15	117	-11	104	56.7	163	400	-28	287	62.4	466
Geneva-on-the-Lake	225	-31	156	-42	90	1486	-17	1235	5.1	1298	9	-67	3	-100	0	24	29.2	31	-42	18	53	-17	44	68.2	74
Jefferson	213	11.3	237	-13	207	3471	-13	3029	12.6	3410	51	-35	33	-15	28	28	39.3	39	17.9	46	94	-50	47	121	104
North Kingsville	248	-53	116	76.7	205	2593	8.8	2820	-7.1	2621	10	100	20	265	73	23	43.5	33	-27	24	110	-26	82	-1.2	81
Orwell	160	-15	136	-6.6	127	1458	7.8	1572	1.2	1591	19	15.8	22	-14	19	26	100	52	-100	0	58	-52	28	0.0	28
Roaming Shores	77	41.6	109	-43	62	1207	23.2	1487	-0.9	1473	20	-60	8	-100	0	8	12.5	9	-44	5	41	-32	28	10.7	31
Rock Creek	41	39.0	57	-28	41	568	-9.2	516	-26	381	10	-20	8	-100	0	5	-20	4	-50	2	11	72.7	19	-100	0

NOTE: The "%" column under each indicator and proxy figure represents the percent change between the columns to either side.

² The percentages next to the jurisdiction name represent the percent change of the jurisdiction's population between 2000 and 2017 for comparison.



Economic and Business Development

Hazard Mitigation Relevance: Describing economic and business development trends helps to assess dependencies between economic sectors and the infrastructure needed to support them (FEMA, 2013).

The Office of Research within Ohio’s Development Services Agency noted changes in the number of establishments and employment between 2011 and 2016. The following table presents that data.

ESTABLISHMENTS, EMPLOYMENT, AND WAGES BY SECTOR, 2011 AND 2016 COMPARISON								
Sector	Number of Establishments		Average Employment		Total Wages		Average Weekly Wage	
	Since 2011 (%)	2016	Since 2011 (%)	2016	Since 2011 (%)	2016 (\$)	Since 2011 (%)	2016 (\$)
Private Sector	-3.7	1,872	1.2	25,777	10.2	896,013,849	8.8	668
Goods-Producing	-3.5	356	9.7	8,253	12.5	392,771,385	2.6	915
Natural Resources & Mining	10.3	32	32.3	176	39.4	4,777,372	5.4	523
Construction	-7.0	174	7.6	987	4.1	47,137,027	-3.3	919
Manufacturing	-2.6	150	9.5	7,091	13.5	340,856,986	3.6	924
Service-Producing	-3.6	1,516	-2.3	17,524	8.4	503,242,464	10.8	552
Trade, Transportation & Utilities	-4.4	457	-6.6	4,907	0.4	148,641,624	7.4	582
Information	-12.0	22	-21.3	262	-2.5	10,783,079	23.9	792
Financial Services	-0.6	163	-1.7	715	13.4	27,024,206	15.4	727
Professional & Business Services	0.0	217	-16.1	1,809	8.2	61,048,713	29.0	649
Education & Health Services	-6.3	224	1.3	5,608	12.0	193,242,159	10.7	663
Leisure & Hospitality	1.6	255	11.4	3,226	29.2	44,077,985	15.9	263
Other Services	-9.2	178	-3.7	993	1.4	18,314,795	5.3	355
Federal Government	N/A	N/A	-2.0	192	-2.9	10,407,709	-1.0	1,040
State Government	N/A	N/A	-10.6	287	-6.7	14,809,249	4.3	991
Local Government	N/A	N/A	-7.5	3,882	-2.6	145,648,195	5.4	722

Local organizations offer a variety of economic development incentives. For instance, the City of Ashtabula offers a community reinvestment area tax incentive, access to a city revolving loan fund, etc. Conneaut City identified (through strategic planning) a need to strengthen collaboration for local area economic development. The city, through a partnership with the Conneaut Port Authority and Conneaut Foundation, has since hired a firm to support the city on economic development matters (Haytcher, 2019).

Transportation

Hazard Mitigation Relevance: The transportation infrastructure is a key community asset, particularly in the response and recovery phases. Ensuring open arterial routes helps with emergency response, the movement of life saving (or sustaining) supplies, etc. Identifying key transportation assets and understanding their potential vulnerabilities can inform projects designed to support their continuity in emergency situations.



The *ATB 534 Corridor Study* (McCormick Taylor, 2012) identifies an eight-mile long area in four communities: Geneva City, Geneva-on-the-Lake Village, Harpersfield Township, and Geneva Township. The study examines State Route 534. The route is largely tourist-oriented, and local officials expect this trend to continue along with expansion of the winery industry in Northeast Ohio. The corridor study includes several initiatives aimed at achieving a balance between mobility, economic viability, and quality of life. The graphic to the right depicts the areas largely targeted for this development.

The *Ashtabula County Coordinated Transportation Plan* seeks to improve access to transportation for senior citizens, people with disabilities, and low income populations by coordinating the resources of public transit, private taxi, etc. The plan references trends that constrain the provision of transportation throughout the county. First, the overall population of the county is decreasing, while the senior citizens target population is increasing. Further, ridership for all public transit and private taxi providers will likely rise along with the elderly population. Finally, available funds are decreasing, which could impact the availability of routes, etc.



Land Use

Hazard Mitigation Relevance: Land use descriptions inform discussions of risk and vulnerability. For example, flooding may exist as a high risk, but may not correlate with high vulnerability in open or unpopulated forested areas. Further, understanding land use may identify valuable areas where natural features can provide protective functions that reduce the magnitude of hazard events (FEMA, 2013). Looking forward, *proposed* land uses can inform discussions about the types of assets that future hazard occurrences could impact.

Like many communities, Ashtabula County seeks to develop available land for residential, commercial, industrial, infrastructure, and recreation purposes in a responsible manner. The county’s 2003 comprehensive plan identifies areas of development from the 1990s that created sprawl-like conditions (though not as prevalent as the sprawl one might see in more urbanized areas). That plan recommended encouragement through zoning to identify areas suitable for higher density development (i.e., support development in areas “already zoned for



development” [p. 60]). That plan discouraged rezoning vacant land without planned or available infrastructure and other services to support development. As local officials consider development and re-zoning, an area’s hazard susceptibility could be an important data point when determining a course of action.

Other land use issues noted in the 2003 comprehensive plan included encouragement of cluster-type residential development in appropriate areas to support both development and preservation of the county’s rural character. The plan also supported re-development of vacant commercial space as opposed to converting new areas into commercial areas. Similarly, the county contains areas designated as industrial parks, where infrastructure exists (or extension to the area is practical), and the comprehensive plan encourages development in those pre-designated areas. Existing industrial parks include the following.

- AGTEC Industrial Park (Orwell Village)
- Andover Industrial Park (Andover Village)
- Ashtabula City Industrial Park (Ashtabula City)
- Coffee Creek Industrial Park (Austinburg Township)
- Eagle Industrial Park (Geneva City)
- East Conneaut Industrial Park (Conneaut)
- North Bend Industrial Park (Saybrook Township)
- Reliance Business Park (Ashtabula City)
- Roaming Shores Industrial Park (Roaming Shores Village)
- Sidley Industrial Park (Austinburg Township)

Other areas of consideration (broadly applicable to all of Ashtabula County) include infrastructure and recreation development. Infrastructure, including potable water and sewage collection, has not developed as rapidly as the population and services sectors in some areas of the county. This lack of balance strains the existing infrastructure that is in place, and could shorten the life cycle of the equipment associated with that infrastructure or lead to periodic outages. One area of infrastructure development that often overlaps with hazard mitigation initiatives is stormwater management; the 2003 comprehensive plan identifies stormwater management as an action area.

The comprehensive plan also acknowledges limited recreational land use compared with the total land area of the county and further supports development of recreational opportunities. In many cases, recreational development does not impede hazard mitigation. In fact,




recreational development can support hazard mitigation through creation of additional green space or maintenance of green space. Low-impact development and green infrastructure initiatives can enhance the aesthetics and functionality of park and recreation areas (see https://www.epa.gov/sites/production/files/2018-04/documents/storm_smart_cities_508_final_document_3_26_18.pdf). The comprehensive plan identifies the following opportunities for future recreational development:

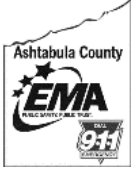
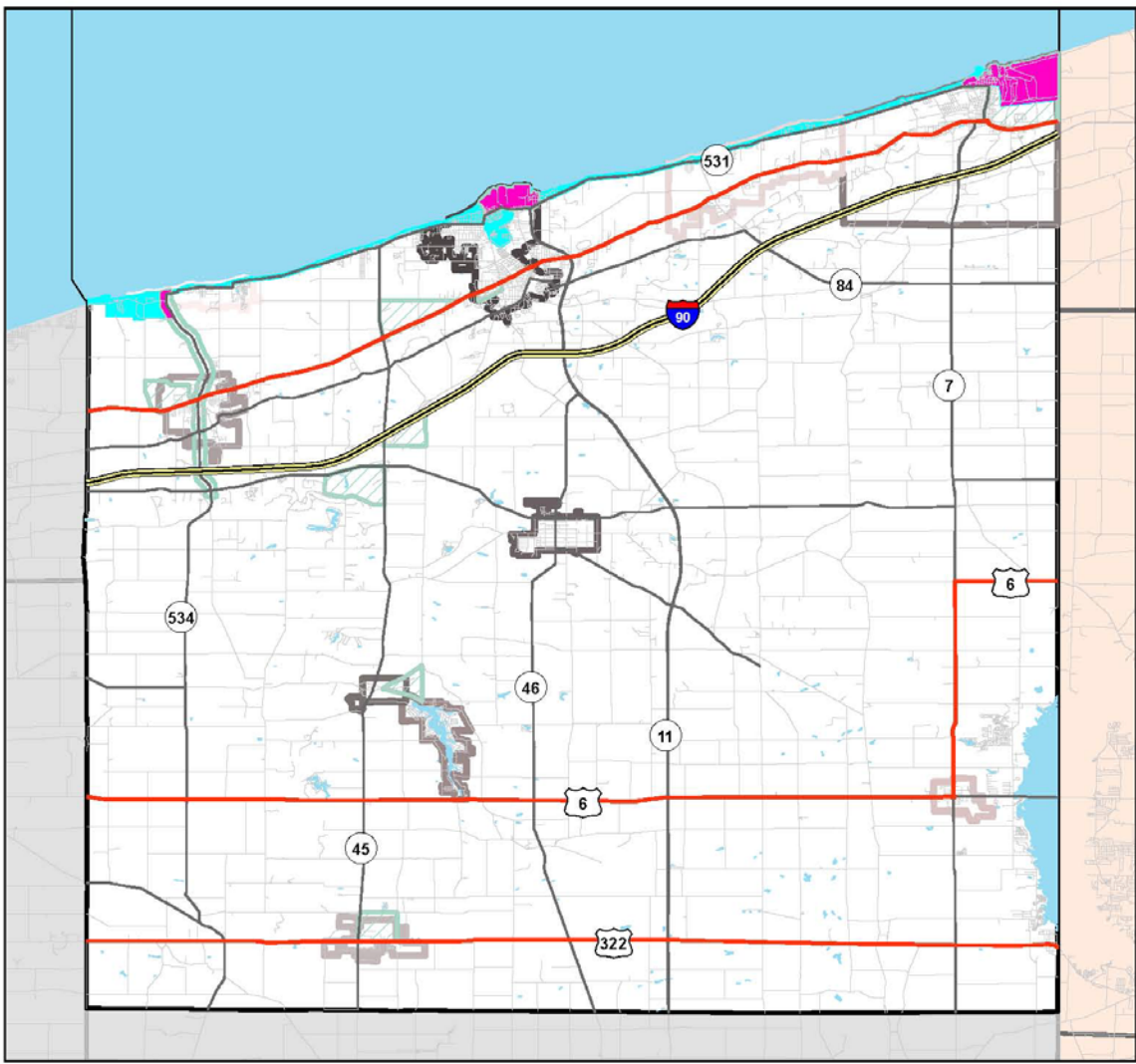
- all publicly-owned land,
- all former railroad rights-of-way,
- paper streets and utility easements for future trails,
- established public parks,
- areas developed for the purpose of wetland remediation,
- river and stream corridors,
- road shoulders and sidewalks, and
- the Ashtabula Gulf.







The 2012 coastal management plan also discusses land uses in depth, particularly in Lake Erie coastal communities. That document identifies erosion issues, particularly along State Route 531, which has led the Ohio Department of Transportation to fund work to stabilize the shoreline and protect the roadway. The coastal management plan also discusses the effects of climate change on the Great Lakes and associated coastal areas. The plan notes climate change impacts such as changes in precipitation patterns and intensity, increases in evaporation, changes in runoff and soil moisture, loss of lake and river ice, and rising water temperatures. Much media attention focuses on rising water levels in ocean coastal areas, but Ashtabula County may see a decreasing water level within Lake Erie. Water levels could drop between four and five feet by the end of the 21st century.

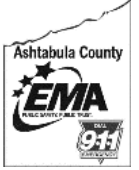
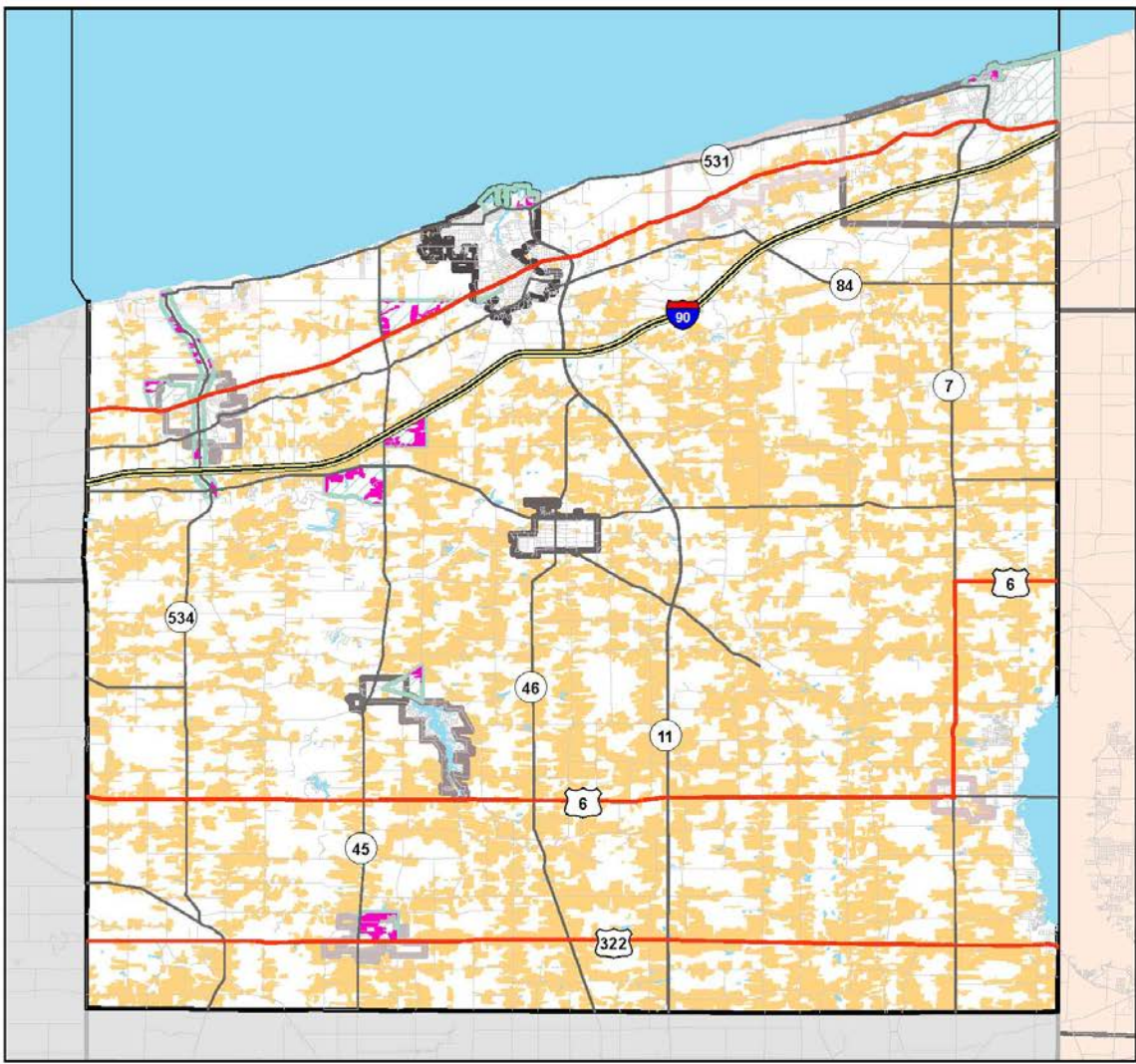
Planned Development and Hazard Areas









When planning for new development, this plan suggests that it is vital to consider areas where new development avoids damages from future hazardous events. In Ashtabula County, local officials plan to development transportation, commercial, and residential areas. The following map identifies areas targeted for development cross referenced with various risk areas per the risk assessment in Section 2.0.

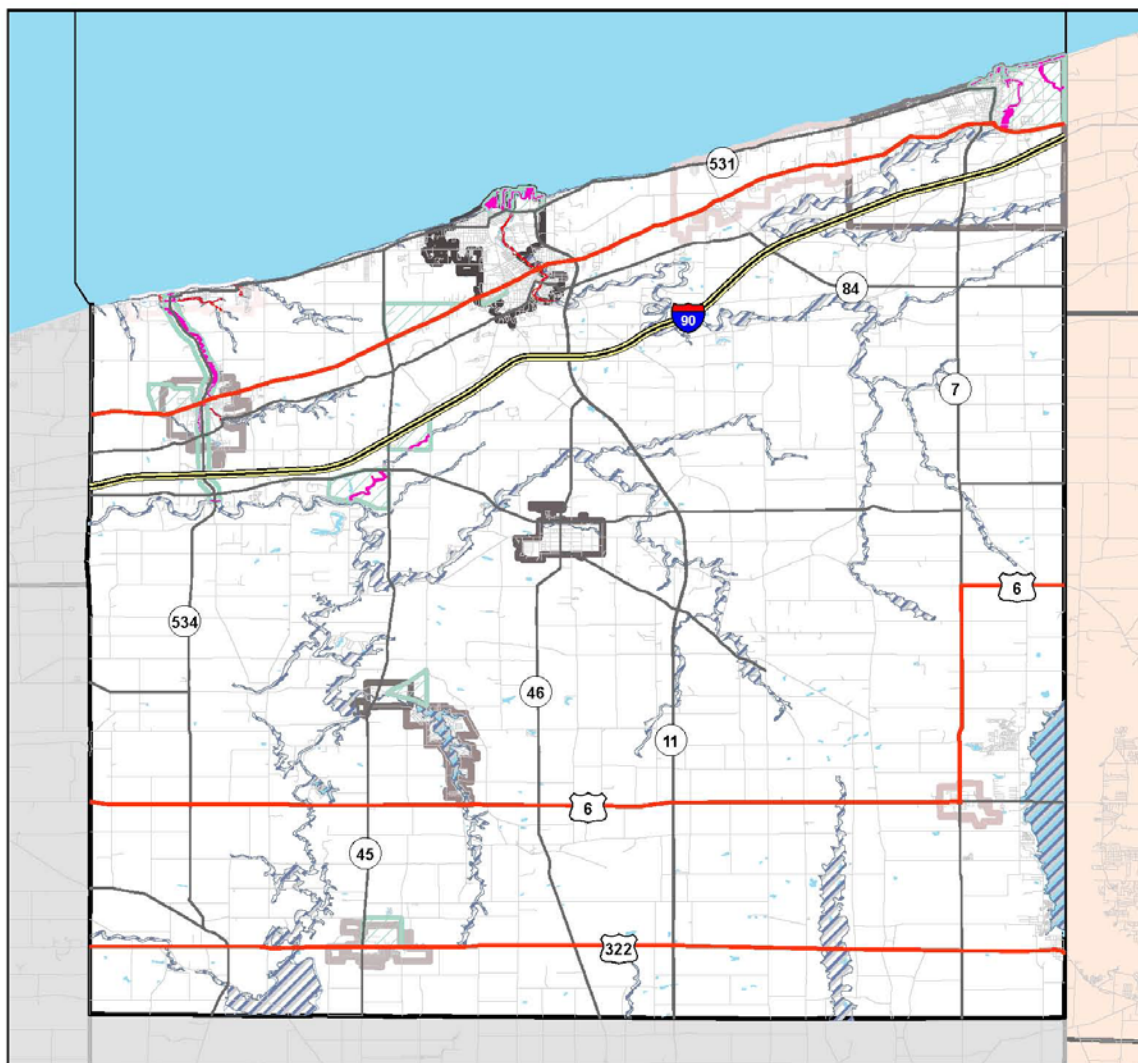
<p>Legend</p> <ul style="list-style-type: none">Coastal Erosion-Development OverlayTargeted Development AreasCoastal Erosion Risk Areas		<p>ASHTABULA COUNTY HAZARD MITIGATION PLAN</p> <p>Development Trends</p> <p>Data Source(s): ODOT</p>
<p><small>DISCLAIMER: Data is meant for use as reference only. Some sources may be intended to be used at national or regional scales and are thus used beyond their original intent for demonstrative purposes.</small></p>  		






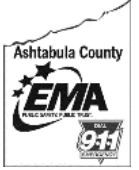
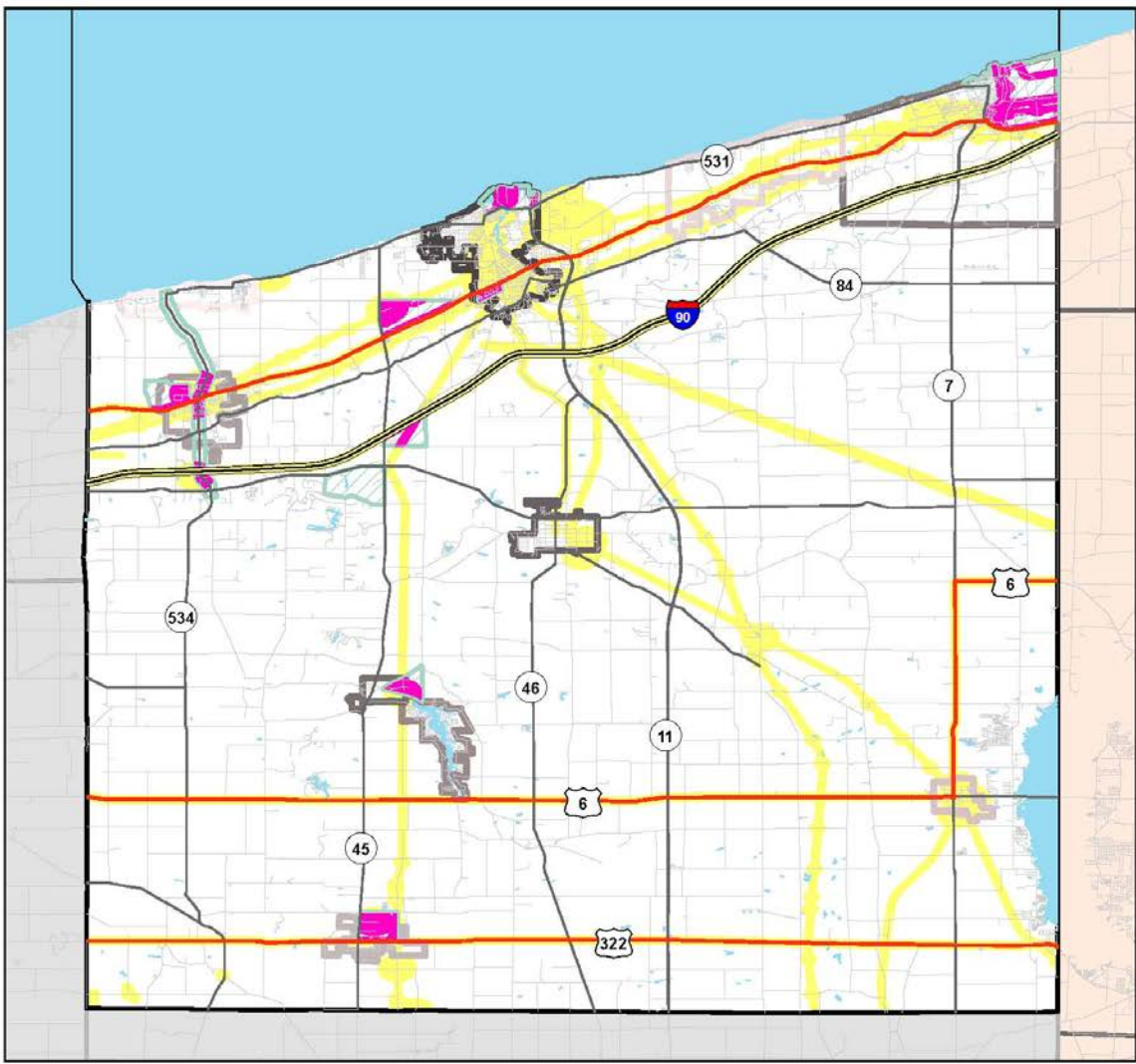
<p>Legend</p> <ul style="list-style-type: none"> Drought-Development Overlay Targeted Development Areas Drought Risk Areas		<p>ASHTABULA COUNTY HAZARD MITIGATION PLAN</p> <p>Development Trends</p> <p>Data Source(s): ODNR, ODOT</p>
<p><small>DISCLAIMER: Data is meant for use as reference only. Some sources may be intended to be used at national or regional scales and are thus used beyond their original intent for demonstrative purposes.</small></p>  		




<p>Legend</p> <ul style="list-style-type: none">  Flooding-Development Overlay  Targeted Development Areas  Floodway  100-yr Floodplain  Other Flood Hazard Areas 	 <p>0 1 2 4 6 8 Miles</p>	<p>ASHTABULA COUNTY HAZARD MITIGATION PLAN</p> <p>Development Trends</p> <p>Data Source(s): FEMA</p>
<p><small>DISCLAIMER: Data is meant for use as reference only. Some sources may be intended to be used at national or regional scales and are thus used beyond their original intent for demonstrative purposes.</small></p>  		



<p>Legend</p> <ul style="list-style-type: none"> Hazmat-Development Overlay Targeted Development Areas Hazmat Risk Areas 		<p>ASHTABULA COUNTY HAZARD MITIGATION PLAN</p> <p>Development Trends</p> <p>Data Source(s): ODOT, U.S. Census Bureau, U.S. EPA, PHMSA</p>
<p style="text-align: center;"><small>DISCLAIMER: Data is meant for use as reference only. Some sources may be intended to be used at national or regional scales and are thus used beyond their original intent for demonstrative purposes.</small></p> <div style="display: flex; justify-content: space-between; align-items: center;">   </div>		



<p>Legend</p> <ul style="list-style-type: none">Wildfire-Development OverlayTargeted Development AreasWildfire Risk Areas		<p>ASHTABULA COUNTY HAZARD MITIGATION PLAN</p> <p>Development Trends</p> <p>Data Source(s): ODNR, ODOT</p>
<p><small>DISCLAIMER: Data is meant for use as reference only. Some sources may be intended to be used at national or regional scales and are thus used beyond their original intent for demonstrative purposes.</small></p> 