

**WASHINGTON COUNTY
MULTI-JURISDICTIONAL HAZARD
MITIGATION PLAN**

RELEASED 2016

INTRODUCTION

This section will present an introduction to the Hazard Mitigation Plan as well as define the authority, scope and purpose of the plan.

Plan Introduction

The *Washington County Multi-Jurisdictional Hazard Mitigation Plan* is a multi-jurisdictional plan that details natural hazards that threaten Washington County and its various municipalities. The plan fulfills the requirements set forth by the Mitigation Act of 2000 (DMA, 2000). This Act requires counties to formulate a hazard mitigation plan in order to be eligible for mitigation funds made available by the Federal Emergency Management Agency (FEMA).

Plan Authority

This multi-jurisdictional hazard mitigation plan has been completed in accordance with Section 322 of the Robert T. Stafford Disaster Relief and Emergency Assistance Act, as enacted by Section 104 of the Disaster Mitigation Act of 2000. The guidelines for the completion of this plan appear in the Code of Federal Regulations under Title 44: Emergency Services, Part 201.6. Specific reference is made to the Local Mitigation Planning Handbook (USDHS/FEMA, 2013). The Ohio Emergency Management Agency (EMA) further monitored the original planning as well as subsequent updating processes. The Washington County Emergency Management Agency acted as the coordinating agency for the completion of this plan at the local level.

Plan Scope

The Washington County Multi-Jurisdictional Hazard Mitigation Plan includes all unincorporated areas of Washington County as well as the incorporated areas of all municipalities within the County. The plan addresses natural hazards identified by FEMA, Ohio EMA and the Washington County mitigation planning team. All hazards that have or can affect the residents of Washington County have been analyzed. Hazard mitigation objectives, goals and projects are discussed, as are project lead agencies and potential funding sources.

Plan Purpose

The purpose of the Washington County Multi-Jurisdictional Hazard Mitigation Plan is to identify and evaluate all natural hazards that can and may affect Washington County and to describe mitigation strategies to address these hazards.

1.1 THE PLANNING PROCESS

§201.6(b) and 201.6(c)(1)

An open public involvement process is essential to the development of an effective plan. In order to develop a more comprehensive approach to reducing the effects of natural disasters, the planning process shall include:

- (1) An opportunity for the public to comment on the plan during the drafting stage and prior to plan approval;
- (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; and
- (3) Review and incorporation, if appropriate, of existing plans, studies, reports, and technical information.

[The plan shall document] 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.

This plan was developed 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 of 2000. Several resources were used during the development of the plan, including the United States Department of Homeland Security / Federal Emergency Management Agency’s (FEMA) *Local Mitigation Planning Handbook* (USDHS/FEMA, 2013), the governing regulations in the Code of Federal Regulations, and documents provided by the Ohio Emergency Management Agency.

To guide the completion of the plan at the local level, a multi-jurisdictional core planning team was established. The final core planning committee that guided the 2016 update process included the following.



ORGANIZATION	REPRESENTATIVE
City of Belpre	Ron Cross, Safety Service Director
City of Marietta	Bill Dauber, Assistant Safety Service Director
Marietta Fire Department	C.W. Durham, Chief
Marietta Police Department	Rod Hupp, Chief
Muskingum Watershed Conservancy District	John Watkins, Conservation Engineer
Ohio DOT	Bob Zwick, Transportation Engineer
Ohio DOT	Debra Fought, Deputy Director
Ohio EMA	Lorie Haukedahl, Disaster Service Consultant
Ohio EMA	Darren Price, Southeast Region Supervisor
OSU Extension – Washington County	Darlene Lukshin, Program Specialist
South East Ohio Building Department	Connie Hoblitzell, Floodplain & Zoning Administrator
Village of Beverly	Jim Ullman, Councilman
Village of Lowell	Steven Weber, Mayor
Village of Lower Salem	Mark Greathouse, Councilman
Village of Lower Salem	Angela Greathouse, Mayor
Village of Macksburg	Jerry Williams, Mayor
Village of Macksburg	Tina Williams, Councilwoman
Village of Matamoras	Patty Martin, Clerk
Warren Township	Jeffrey Knowlton, Trustee
Washington Conservation District	Kathy Davis, Water Specialist
Washington County Commission	Ron Feathers, Commissioner
Washington County Commission	David White, Commissioner
Washington County Commission	Rick Walters, Commissioner
Washington County EMA	Jeff Lauer, Director
Washington County EMA	Shelly Stormes, Administrative Assistant
Washington County EMA	Lori Price, Volunteer
Washington County Fire Chiefs Assoc.	Mark Wile, President
Washington County Sherriff's Office	Richard Hays, 911 Coordinator
Washington State Community College	Don Madison, Maintenance Supervisor



1.1.1 Current Update Process

As noted in the introduction, the Washington County Emergency Management Agency (WCEMA) served as the coordinating agency for this update. To that end, the WCEMA sought support for the planning effort, identifying resources needed to update the plan (including serving as the primary point of contact interfacing with the county's consultant working on the project), and re-engaging governmental organizations and other technical expertise available in the county. The Washington County EMA was assisted significantly in this effort by the Ohio State University Extension's Washington County Office.

To update the plan, the core planning committee was assembled through invitations to various agencies and officials. The list of invitees is found below. Membership in the committee varied considerably and included representatives from the organizations below. Those who attended are documented in the sign in sheets found in Appendix 2.

County Organizations

Washington County Board of Commissioners
Washington County Emergency Management Agency
Washington County Sherriff's Office
Washington County Planning Commission

Municipal Jurisdictions

Belpre, City of
Beverly, Village of
Lowell, Village of
Lower Salem, Village of
Macksburg, Village of
Marietta, City of
Matamoras, Village of
Warren Township

State Organizations

Ohio Department of Transportation
Ohio Emergency Management Agency
OSU Extension – Washington County



Academia

Marietta College
Washington State Community College

Business and Industry

American Electric Power Company (AEP)
America Styrenics
Eramet Marietta, Inc.
Globe Metallurgical
Good River Distribution, LLC
KRATON Polymers, LLC
Marietta Health System
Pioneer Pipe
RJF International Corp
Solvay Advanced Polymers
Thermo Fisher Scientific, Inc.

Private and Non-Profit Interests

Muskingum Watershed Conservancy District
Noble County SWCD (Duck Creek), Marietta, OH
South East Ohio Building Department
Washington County Fire Chief's Association
Washington County Soil and Water Conservation District
Wolf Creek Watershed Partners

All separate municipal jurisdictions (five villages and two cities) were invited to participate in the update. As noted in the membership list above (and as per copies of the sign-in sheets in Appendix 2) many did choose to do so. Those that were not able to attend the meetings, or were unable to attend more than the first, provided input via communicating with the Washington EMA and through contact with the consultant. The representatives of the various municipalities were able to provide updates on mitigation project status for their jurisdictions as well as edit the asset inventory. Those that did not attend the meetings provided projects updates and asset inventory edits via email, copies of which can be found



in Appendix 2. Following federal approval pending adoption, the county and participating municipalities intend to formally adopt this plan by resolution.

The counties immediately adjacent to Washington County were invited to participate in the review of the update hazard mitigation plan while still in the draft format. These invitations were sent to Athens, Morgan, Noble and Monroe counties in Ohio, and Tyler, Wood, and Pleasants counties in West Virginia. The invitation to review the draft update can be found in Appendix 2.

A number of existing plans and reports were reviewed to (a) identify any obvious inconsistencies between other development and mitigation efforts, (b) as baseline information for such sections as Analyzing Development Trends, and (c) to support discussions surrounding mitigation projects. Those documents included the following.

DOCUMENT TYPE	DOCUMENT CITATION	HOW INCORPORATED INTO PLAN
Plan	Zandy & Associates. (2005) <i>Washington County Multi-Jurisdictional Hazard Mitigation Plan</i> .	Used as a basis for past plans, HIRA, vulnerability analysis and mitigation strategy.
Plan	Edwards & Kelcey. <i>Washington County Comprehensive Plan</i> .	Used to identify targeted development areas
Plan	City of Marietta. (2003). <i>Pioneering the Future, Marietta City Comprehensive Plan</i> . Online.	Used to identify targeted development areas, validate city administrative capabilities
Plan	Ohio EMA. (2011). <i>State of Ohio Hazard Mitigation Plan</i> . Online. http://ema.ohio.gov/Mitigation_OhioPlan.aspx	Referenced for HIRA and mitigation strategy guidance.
Report	USDHS FEMA. (2014). <i>Disaster Declarations for Ohio</i> . Online. www.fema.gov/disasters/grid/state-tribal-government	Used as data on types of significant hazards incidents to have occurred in Washington County
Report	Ohio DSWR Dam Safety. (2013). <i>Ohio dam information</i> . State Government: Columbus, OH.	Used to create list of names and locations of dams in Washington County
Report	ODNR. (2014). <i>Earthquakes/OhioSEIS</i> . Online. geosurvey.ohiodnr.gov/earthquakes-ohioseis/ohioseis-home	Used to determine locations of any earthquakes that occurred in (or might have impacted) Washington County
Technical Information	USACE. (2014). <i>National inventory of dams</i> . Online. geo.usace.army.mil/pgis	Used to validate list of names and locations of dams in Washington County
Technical Information	USDHS FEMA. (March, 2013). <i>Local mitigation planning handbook</i> . Federal Government: Washington, D.C.	Used as general guidance on revised mitigation planning process



1.1.2 Committee Involvement

The core planning committee met in the Washington County EOC on three occasions during the update of the plan. These meeting dates included:

- March 16, 2016
- April 28, 2016
- May 25, 2016

The agenda for the first planning committee meeting included introducing the committee to the Hazard Mitigation Plan update process. The committee also reviewed the hazards that were included in the current plan and discussed past occurrences of these hazards. The second meeting gave committee members the opportunity to review the projects in the current iteration of the plan and comment on their status/feasibility. It was during this meeting that members could also propose new projects for addition to the updated plan. The third and final meeting updated the committee on the status of the project and introduced them to the project prioritization matrix. Committee members used the knowledge gained from prior meetings, as well as their personal knowledge and beliefs, to prioritize future mitigation projects. Sign in sheets for these meetings are included in Appendix 2. Committee members received the final draft plan for review and comments prior to the final submission of the update to Ohio EMA and FEMA.

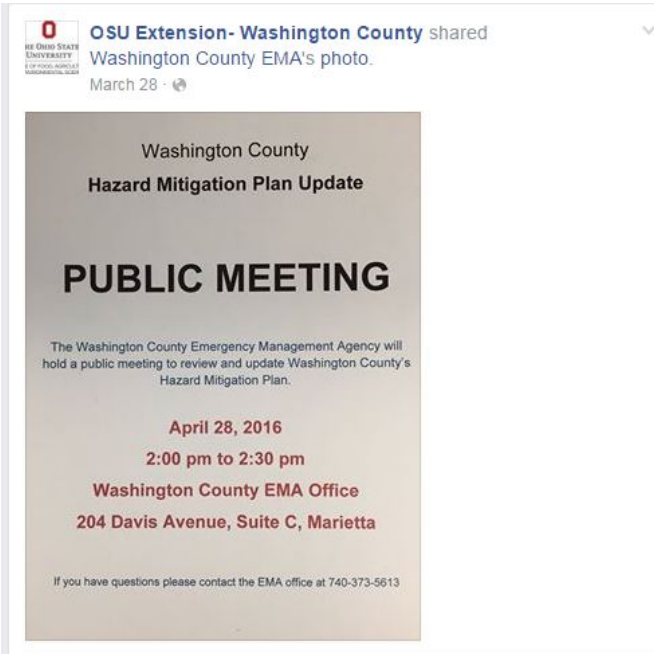
Members of the planning committee were also asked to complete tasks between meetings in addition to their participation in the meeting. These tasks included updating jurisdictional project lists, editing asset inventories and compiling data on historic hazard events for inclusion in the risk assessment.

During the entire process the Washington County EMA and the OSU Extension Office were instrumental in engaging the members of the core committee. The OSU Extension Office also made significant effort to engage community leaders outside of the committee meetings by attending various meetings throughout the county to present the hazard mitigation process and encourage participation in the survey. She attended meetings of Township Trustees around the county, and attended a Washington County Chamber of Commerce meeting to present on the hazard mitigation update process. A sign in sheet for the meeting, and the materials presented, can be found in Appendix 2.



1.1.3 Engaging the Public

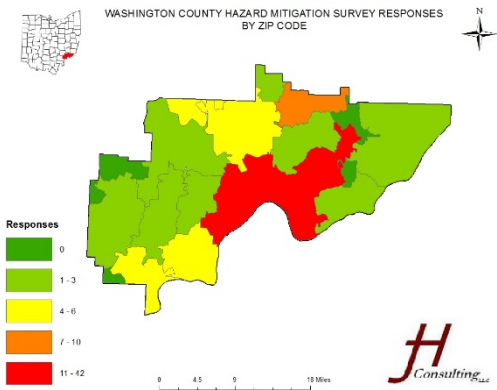
The Washington County EMA coordinated several opportunities for the public to participate in the planning process. The March and April core committee meetings were followed by public meetings that were advertised in several ways including postings, newspaper announcement and social media. An example of the social media posting is on the right. One member of the public did attend the third core committee meeting. This citizen interacted with the core committee in reference to the general planning process and to the project prioritization



process. She found a number of the proposed and existing projects to be excellent projects based on the criteria and identified two projects that excelled in all six criteria.

The public was also given the opportunity to comment on the existing version of the Hazard Mitigation Plan. Copies of the plan, as well as comment forms, were placed at libraries in Washington County and citizens were encouraged to provide feedback. Examples of notices advising the public of where to find the plan for comment are found in Appendix 2. Citizens were also able to read the plan and comment on the county website. The same process was used to solicit comments from the public on the updated version of the plan. Examples of these notices can be found in Appendix 2.

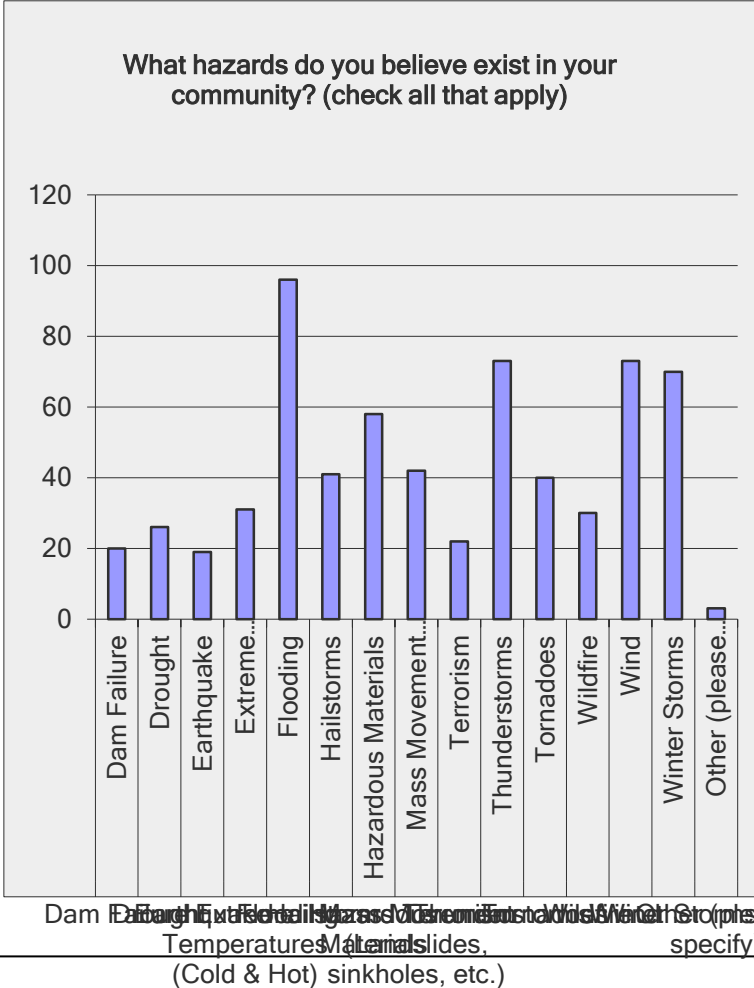
In an attempt to further public participation in the planning process, Washington County EMA directed the consultant to develop and administer an online survey for residents of the county. This survey was developed using the “Survey Monkey” platform (www.surveymonkey.com) and distributed through social media. An example of a Facebook post announcing the survey can be found to the left. The survey was available two and a half months and was regularly re-promoted using social media. In that time, 106 residents of Washington County replied to various questions



regarding their opinions on hazards that threaten the community, their preparedness level at home, and general demographic questions. The map presented above shows the breakdown of respondents by zip code provided (n=93).ⁱ Other demographics include an average respondent age of 51, and a gender breakdown of 59% female and 41% male.

Respondents overwhelmingly responded that flooding was a major hazard within Washington County. When asked to identify which hazards they believe exist in the community, 96 selected flooding (90.6% of respondents). The chart below shows the responses for each hazard type included in the survey. When asked to select the three hazards that pose the largest risk for the community, flooding was again a predominant response. Sixty respondents ranked it the largest risk and twenty-two other respondents ranked it either second or third. Finally, when asked to recall which hazards have occurred within the community in the last ten years, 90.6% of respondents recalled a flooding event. In the view of the public, flooding is an existing threat that is the most serious threat and the one that has occurred in the past. These results are reinforced in the risk assessment findings.

Respondents were also asked to rate the ability of their community to handle recent

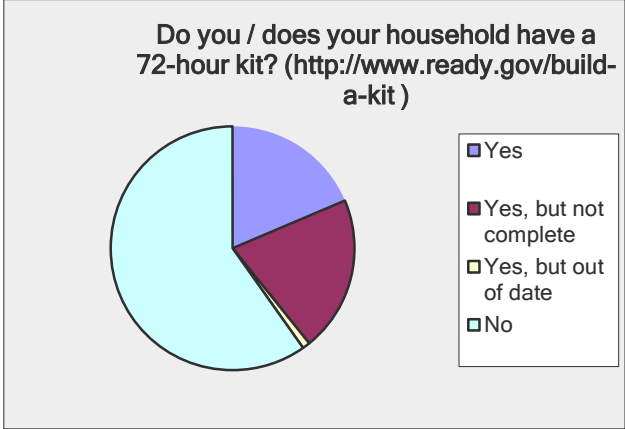


hazard events, as well as recall if they received a warning of the event and how they received that warning. Over 88% of respondents believe that the community's ability is average or better. Just over 70% of respondents stated that they received some sort of information or warning message from local public officials or emergency management officials. Television was the most frequent way of receiving this information/warning, with just over half of respondents relating that they received the message through that medium.



A significant finding from this question is that just under half (43.2%) reported receiving the message through a social media outlet.

Survey respondents were also asked about their own/their household's preparedness level. A question about the status of their 72-hour kit (as defined at www.reedy.gov/build-a-kit) found that over half (59.8%) did not have any type of kit assembled. Of the remaining, 18.6% have a fully assembled kit while 20.6% have an incomplete kit and 1 respondent has a kit that is out of date. The pie chart to the right breaks this down visually.



Of respondents, 62 (60.8%) stated that they would be willing to spend money on mitigation activities for their home. The same number reported that they have already performed some type of improvement to their property to reduce their risk. The most popular activity is the maintenance/removal of trees, with 75% of respondents (47 of 62) responding that they have done this. Just behind that, at 74% (46 of 62) is the repair or replacement of the roof of their home. Full results of the survey can be found in Appendix 1.

1.1.4 Research Conducted

Assessing Risk

The research conducted for the risk assessment phase of this update included data from federal, state, higher education, and mass media sources. The research aim was primarily to validate and describe the hazards included for consideration in this plan. Specific sources relative to individual hazards are listed in the appropriate hazard profile contained in Section 2.0.

It is significant to note the planning committee's involvement in the risk assessment process. Committee members guided the inclusion of hazards in the plan. For instance, rather than separate such hazards as hail, high wind, thunderstorms, strong winds, and winter weather, the group opted to consolidate those risks into a "severe weather" hazard. Committee members provided insight as to historical occurrences in their jurisdictions of the included risks. Finally, committee members helped to significantly revise the asset inventory listings for each jurisdiction (as discussed in 1.2.2 above).



Mitigation Plan Development and Update

As noted in 1.2.2 above, the planning committee was intimately involved in updating the mitigation plan. The primary purpose of the first committee meeting was to review the existing hazard list; the second meeting was used to compare the applicability of the project list with updated risk data and to change the project list accordingly. (The project list under consideration was the list from the previous federally-approved version of this plan [2005].)

The county's consultant guided committee members through the process of re-prioritizing mitigation projects. The prioritized list was then presented as an overall mitigation strategy for Washington County (i.e., each project is listed with a timeframe, potential cost and funding source, and coordinating agency).

1.1.5 Implementing the Plan and Monitoring Progress

Washington County's stakeholders realized that the plan must remain viable in order to appropriately guide mitigation in the county. To that end, plan implementation (i.e., the mitigation strategy and project prioritization) are presented in Section 3.0: Action Plan. The monitoring process is presented in Section 4.0: Plan Maintenance Process.

1.1.6 Plan Maintenance and Continued Public Participation

See Section 4.0 Plan Maintenance Process for a detailed discussion of monitoring and evaluative efforts.

ⁱ Not all survey respondents provided their zip code. Some zip codes provided did not match with the database used for mapping. Map represents 87% of respondents.

