



Please Read This Section First!



What Is This Workbook For?

The title is "Local Hazard Mitigation Planning Workbook," but what specifically does that mean? The key words are "hazard mitigation," and this phrase means identifying the conditions that may bring harm to a community, and then taking action to reduce or eliminate the amount of harm that could be caused in the future. Hazards that might bring harm may be natural in origin (such as those from severe weather), they may be technological, or they may be human-caused. A local hazard mitigation plan is a document that is created and adopted by a community and describes the ways that community will be protected from the hazards that may affect it. This workbook provides a great amount of information that will enable a community to create a plan to reduce future damage caused by hazards. Such damage may either be physical harm affecting persons, property, and the natural environment in the community, or it may be something that interferes with the community's economy and quality of life. Maintaining the safety and quality of life of Michigan residents is really what this document is all about.

This workbook can provide information to a wide range of readers. These first two paragraphs are meant to introduce hazard mitigation planning to general readers. To help different types of readers find what they need more effectively, the following sections of this workbook's introduction are addressed specifically to local emergency managers (below), local officials (page 4), and planners (page 5). After these sections (page 6), the introduction continues to describe hazard mitigation planning and how to accomplish it. This organization allows readers the option of skipping over any introductory material that doesn't directly pertain to them.

Introduction for Local Emergency Managers

It is now common knowledge that with the passage of the Disaster Mitigation Act of 2000 (DMA2K), the need to develop hazard mitigation plans for your community is more important than ever. This document has been substantially revised to reflect the many changes that DMA2K (PL 106-390) has brought about for planning activities throughout the State of Michigan. The most noteworthy change may be that federal matching funds are available for your communities to use for the development of local hazard mitigation plans. However, such plans will now be expected to meet specific standards described in Federal Regulations (in 44 CFR 201.6, as published in the Federal Register Volume 67, Number 38, of February 26, 2002). These standards create new expectations for the quality and amount of detail in mitigation plans than would have been realistic before federal funding became available.

Emergency managers may notice that in this book there are many planning elements that previously were not requested of them, but now will be required for their local mitigation plans to receive state and federal approval. In most cases, emergency managers themselves will not have the time to create a plan that meets all the listed requirements. In other cases, the information needed in the plan may require special training or resources (such as the use of Geographic Information Systems) that their office may not currently possess. There are solutions to these difficulties. Mitigation plans can still be developed for your community by partnering with others who have the time and resources, and federal funds are available to offset most of the costs that plan development entails. A plan that is developed with this extra funding, in partnership with others in and around your community, will have its effectiveness greatly increased as a result. Developing a local plan that meets Federal Emergency Management Agency (FEMA) approval will also help to bring even more funds to your community, to help implement the actual hazard mitigation projects that your plan has identified.

The type of funding available for developing hazard mitigation plans is designed to encourage partnerships, because although up to 75% of the total costs of plan development will be covered by the FEMA, the remaining 25% will require contributions from the local community and/or its partners, either through the provision of cash or by counting the value of "in-kind" contributions that have a local (i.e. non-federal) source. The grant programs through which funding for hazard mitigation will be available are the Hazard Mitigation Grant Program (HMGP), the Flood Mitigation Assistance Program (FMAP), and the newly-created Pre-Disaster Mitigation Program (PDMP). These require, or will require (by November 1, 2004) an approved and locally adopted hazard mitigation plan, as a prerequisite for receiving project funds.

The kinds of partnerships that can help your community to develop an approvable hazard mitigation plan will typically include the items listed below. (These can either be authorized to research and develop portions of the plan themselves, or merely contribute to and assist in its development. Many such contributions can be counted toward the 25% "local match" portion of the total planning costs that are required to come from non-federal sources.)

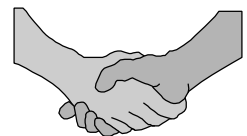
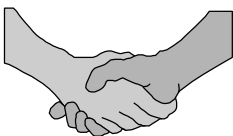
- **Your community's Planning Department** - Not all communities have a planning department, but those that do will want to contact that office and share information with them about emergency management issues and the need for hazard mitigation planning. The planning department is typically in charge of land use, zoning, and development decisions, and it has a staff that regularly develops documents that in their complexity and legal requirements are very comparable to the hazard mitigation plan that this workbook describes. These offices usually already have much information, including local maps, that will be helpful or necessary for developing the hazard mitigation plan, and often they have impressive computer and data resources that will be extremely helpful in the research process that the plan requires.
- **Regional Planning Offices and Councils of Governments** - The State of Michigan is divided into 14 regions for planning purposes, each of which contains an office that collects and analyzes data for its area of the state. Many of these offices regularly produce plans that, like hazard mitigation, need to satisfy specific regulatory requirements as a condition of receiving federal funds. Partnerships with a regional office can help to focus on issues in which hazards and issues cross jurisdictional boundaries, and in which inter-jurisdictional cooperation may be needed to solve existing problems. In addition, much of the state's transportation planning is done in these offices, and overlap between transportation issues and emergency management concerns can frequently be found and explored, to the benefit of the participating communities. In some cases these offices may be willing to provide a portion of the local match requirement of federal grant programs, but they are usually also able to identify other sorts of activities and cost contributions that can help the community to meet such local match requirements. Good record keeping will be essential if the value of "in-kind" services are to be used to meet the local match requirements of federal grants.
- **Local offices that are related to planning activities**; such as an Economic Development office, Planning Commission, Zoning Office, Chamber of Commerce, GIS Departments, Building and Equalization Departments. These may not have staff and resources that are readily available to develop the community's plan, but they can probably each contribute important ideas and information that collectively will greatly assist and enhance any local planning effort.
- **MSU Extension Offices** - These offices are located in every county in Michigan, and many of them have staff and resources that can contribute greatly to developing a local hazard mitigation plan. In some cases, these offices may be able to accept primary responsibility for plan research and development activities.
- **Local Officials** - A Board of Commissioners, City Council, or similar body or official will need to authorize the development of a hazard mitigation plan for your community, and to officially adopt the plan once it has been developed. In addition, there are many other persons who can provide valuable input. There may be watershed councils, environmental groups, or other pertinent organizations in your area. Communities with hazardous materials will usually have active Local Emergency Planning Committees (LEPCs). Fire departments, emergency medical services (EMS), sheriff's and police departments may all have key staff that can provide advice and information. Staff from a community's Department of Public Works and Department of Public Health, and many others, may also be key players in addressing different sorts of hazards that may threaten your community.
- **Other local resources** - There may be nearby universities or colleges that can contribute staff time to hazard analysis, mapping activities, and plan development. In some cases, student interns can be used, and the value of their work may contribute toward the 25% local match requirement of a planning grant. In return, they receive college credit and possibly even a tuition waiver.
- **Michigan State Police Emergency Management Division (MSP-EMD)**; the first place in state government to look for information and assistance on emergency management and hazard mitigation issues. There are two full-time staff members whose primary role is to assist communities in developing local hazard mitigation plans, and there are others in the division who can assist and advise with issues of grant processing, training, hazardous materials, homeland security, and so on. In addition to providing guidance materials like this workbook, MSP-EMD staff can provide direct training in emergency

management and planning topics, advice on plan development, and assistance with developing local partnerships and obtaining community support. In some cases, information and assistance might be available that can directly contribute to the development of a community's hazard mitigation plan.

- Other departments in state government that may also be helpful in providing information include the Department of Environmental Quality, the Department of Natural Resources, the Department of Transportation, and the Department of Consumer and Industry Services. Some federal information sources may also be helpful in researching the plan. FEMA, the Natural Resource Conservation Service (NRCS), National Oceanic and Atmospheric Administration (NOAA), U.S. Army Corps of Engineers, etc.

Local emergency managers have a vital role in the hazard mitigation planning process, even if the main content and text of the plan is developed through partnerships with others. Depending on the circumstances of the community and the specific emergency management position, some emergency managers may play a leading role in every step of the planning process, while others may advise plan writers at key points and review the quality of resulting document to ensure that it is appropriate. The emergency manager must always have at least some involvement in the planning process, however. If there are insufficient resources or time for the emergency manager to develop an approvable mitigation plan alone, the following is a list of what tasks are expected to ensure that the plan gets developed through partnerships with others:

- **Become familiar with local hazard mitigation planning requirements** – by reading this workbook and other guidance materials (from MSP-EMD, FEMA, etc.), attending appropriate workshops and training courses, and contacting MSP-EMD staff as needed to understand planning requirements.
- **Assess what local planning abilities and resources are available** – See the bullet-point list on the previous page. Consider whether sufficient resources exist to allow the community to develop a plan (and apply for funding) on its own, or whether it is necessary (or more economical) to partner with some other organization(s) that will receive funding to develop the plan for the community. If the assistance of others will be needed to develop all or part of your community plan, identify who has the capability and willingness to do so. Assemble a team that can contribute resources, match funds, advice, and expertise.
- **Select a means for completing the hazard mitigation plan in the community** – After assessing local and additional planning resources, determine which is most appropriate for the community to use. This may require discussing the topic with County Commissioners, planning staff, a City Manager, etc.
- **Attend meeting(s) to set up the process for completing the community's plan** – Meetings would involve contacting one or more organizations or agencies that have been determined to be most appropriate to develop or assist with developing the local plan. Typically, the first meeting is introductory, to exchange information about plan requirements, and about planning resources, needs, and capabilities. A second meeting (or other follow-up contact) can then establish or confirm a partnership or working relationship in which an agreement is reached about how that organization or agency will contribute to plan development for the community.
- **Obtain authorization for planning activities from an appropriate community official or body** – Since the final plan will need to be adopted by the community, the planning process must begin with the awareness and approval of those whom it will involve. HMGP grant funding for the planning process will require that planning activities be authorized by an appropriate community official or body. In most cases, such an official or body will have a formal means by which they can signify such authorization.
- **Provide input as needed to those who are developing the mitigation plan** – The emergency manager is typically the most well-informed person in any community about the nature of the hazards that could affect the area, so it is vital to a good plan that the emergency manager provide input for, and review, sections of the plan that deal with such issues. In some cases, emergency managers may take part in writing a portion of the plan themselves, but typically it is expected that they will at least provide initial information to plan writers about the types of hazards known to affect the community. Then they can respond to requests for more specific information about historical occurrences, referring planners to other officials and sources of information, suggesting hazard priorities and mitigation projects, etc.



Introduction for Local Officials

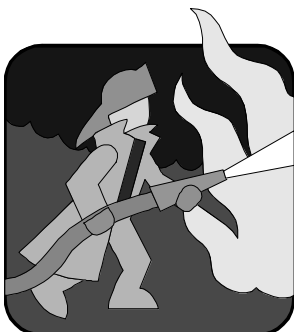
This workbook gives detailed information and instructions to planners and emergency managers about how to assess the extent of a community's vulnerability to hazards, and how to create an effective plan to reduce that vulnerability. You may have heard about "hazard mitigation planning" from your community's emergency manager, from local or regional planners, at a professional conference or workshop, or in the media. It is important that hazard mitigation be authorized and supported in your community. There are many hazards that have a history of harming people and property, and disrupting business and life in Michigan, but a well-implemented plan can do much to reduce or eliminate these problems in your community.

More than \$60,000,000 in hazard mitigation projects have been funded in Michigan since 1994, using federal grant support. After November 1, 2004, however, communities will need an approved hazard mitigation plan in place to remain eligible for continued federal funding of this type. The Federal Emergency Management Agency (FEMA) has determined that it makes sense for it to fund hazard mitigation projects—it estimates that every dollar spent on mitigation saves about two dollars in future costs for disaster response, clean-up activities, restoring vital services, repairing structures and environmental damage. Now that the benefits of hazard mitigation are clear, and awareness of it builds (along with demand for hazard mitigation funds), your community should immediately begin developing a hazard mitigation plan so as to gain an advantage in the competition for these funds, as well as to reduce the many harms that a disaster may bring. The goal is for your community to avoid injury and loss of life, property damage, breakdown in vital services like transportation and infrastructure, economic slumps, diminished tourist activity, liability issues, and damage to a place's reputation. To avoid these negative impacts, communities should identify immediately the things that might go wrong now and in the future, and create a disaster or emergency situation from which it may be difficult to recover.

For the greatest benefit, hazard mitigation can be incorporated into a community's master planning process. Truly sustainable development and stability requires a consideration of long-term community vulnerabilities to hazards such as:

- Natural hazards – including severe weather events, extreme temperatures, drought, wildfires, flooding, lightning, hail, tornadoes, shoreline storm surges and erosion. There are strategies for ALL of these hazards to reduce property damage, service interruptions, injuries and loss of life.
- Technological hazards – including infrastructure failures, hazardous material incidents, large-scale transportation accidents, dam failures, nuclear accidents, structural fires and major industrial accidents, and hazards from oil and gas wells and pipelines.
- Human-related hazards – including terrorism, public health emergencies, civil disturbances, energy shortages, nuclear attack and homeland security issues.

Even if it seems at first that your community may not have any spare resources to devote to creating a hazard mitigation plan, there are probably many ways to overcome such an obstacle. Three-quarters of the funding for hazard mitigation can be provided by FEMA, and the remainder can usually be contributed by local staff, businesses, and other stakeholders without any requirement that hard cash be used! The FEMA grant programs that fund community mitigation plan development will accept the value of contributed "in-kind" services to make up the remaining 25% of the total costs of planning. In most cases, numerous ways can be found for any community to find the local match portion of the planning costs without using hard cash.



Introduction for Planners

The topic of hazard mitigation fits naturally into the planning process since so many hazards can be created or prevented through development decisions within a community. Hazard mitigation considerations extend some of the normal criteria that are used in community planning decisions. It is routine for many planners to examine land conditions for the presence of wetlands and steep slopes when calculating development capacity, and to generally try to avoid adjacent land uses that are in conflict. The emergency management profession has found that there are numerous additional calculations that can be made when a more varied and long-term perspective is taken toward potentially hazardous conditions. Emergency managers approach these issues from the starting point of identifying and dealing with the many things that have harmed the people, property, and quality of life in Michigan's communities, and from there have explored the possible ways to reduce or prevent such harm from occurring in the future. The result has been to identify many ways in which coordination between the two professions can help to advance the goals of both, resulting in safer communities and more sustainable development patterns statewide.

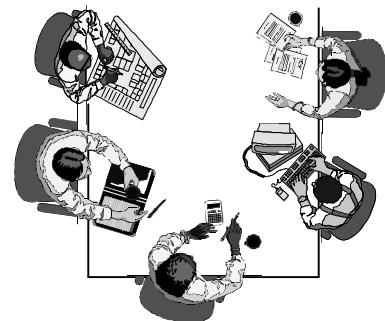
This workbook offers a comprehensive overview of the topics and strategies involved in creating a hazard mitigation plan for any community. There are two broad approaches for formatting such a plan. The first is to create a stand-alone document that identifies a community's areas of vulnerability and presents strategies to reduce or eliminate that vulnerability. The second is to incorporate hazard mitigation considerations into the community's comprehensive plan. This second approach has many advantages for building awareness of hazards and increasing the likelihood of implementing the community's hazard mitigation strategies.

Planners will recognize that many of the steps involved in hazard mitigation planning are very similar to those involved in any other plan development process. Some additional information about the community may need to be collected to begin to analyze its risks and vulnerabilities, but most of the starting analysis is simpler than transportation planning or even economic development decisions. Once problems and needs have been identified, the process that follows (selecting objectives, obtaining public input, and implementing the plan) will be one that is familiar to planners. Hazard mitigation concerns may, however, affect the consideration that goes into other types of planning decisions in your community in the future—those relating to transportation, recreation, urban design, zoning, infrastructure, environmental, land use, capital improvement, and economic development issues.

At first, the objective of many planners may be to estimate the sort of tasks and resource commitment that their community's hazard mitigation plan may require. This workbook should provide enough detail to allow for such estimates to be made when applying for grant funds or otherwise working out a budget.

Some parts of the process will require community input and the involvement of other agencies and local officials. This will usually occur just after the initial hazard analysis has been produced, and also after a draft mitigation plan has been produced, so as to obtain additional information allowing the plan to adequately represent the actual needs of the community. The hazard analysis and draft plan should also be submitted to the Emergency Management Division of the Michigan State Police (MSP-EMD), to help ensure that the final plan will be approved by FEMA in the end.

It is intention of this workbook's authors that planners will find many useful techniques for analyzing hazards, and be able to implement some of them to reduce future hazard impacts on their communities. If there are any questions or suggestions, please contact Mike Sobocinski of the Michigan State Police, Emergency Management Division at (517) 336-2053 or at sobocinm@michigan.gov.



Purpose of this Workbook

- Assist planners, local officials, zoning administrators and consultants in developing local multi-hazard mitigation plans. Since hazard mitigation is inherently a local government function, and since virtually all communities in Michigan are vulnerable to multiple hazards, it is especially important that local jurisdictions undertake and sustain a **multi-hazard mitigation planning effort within their communities**.
- Provide a comprehensive process to develop and implement a successful community-wide, ongoing, multi-hazard mitigation planning program. This applies not only to counties and those municipalities that have their own emergency management program, but also to townships, villages, tribes, and special purpose districts as well.
- While it is recognized that many communities will plan simply to “qualify” for various project funding sources, there are certainly many other benefits to be derived from a pro-active mitigation planning effort, not the least of which are **protection of public health and safety, preservation of essential services, prevention of property damage, preservation of the community's economic base, protection of natural and environmental resources, and maintaining or improving an area's quality of life**.
- This workbook is not a “cookbook.” It focuses on the **process** of developing local hazard mitigation plans. Since each community is unique in its geographic, social, and economic makeup, a fill-in-the-blank document simply would not work as well as a document that focuses on the plan development process.

“Why should my community develop a hazard mitigation plan?”

Here is an outline of reasons for creating a local hazard mitigation plan:

To save lives and protect property

To preserve and protect an area's environment and economy

To preserve and maintain an area's essential services and quality of life

To provide information to citizens, businesses, and officials (including future emergency managers), for

- Planning
- Economic development
- Project development decisions
- Emergency management awareness and assistance

Political and legal concerns:

- Keeping the infrastructure and economy running as smoothly as possible
- Reducing liability
- Building partnerships and community support
- Saving money (taxpayer dollars, private investments and property)

Local control issues:

Project ideas come from thoughtful local input and community consensus, not relatively quick post-disaster decisions by state or federal analysts

Project implementation and funding. Funding is more likely for projects that:

- Are part of an effective plan
- Demonstrate community involvement and support
- Use partnerships

Federal funding sources for hazard mitigation will soon require an approved hazard mitigation plan for any community that wishes to apply for project funds.

The following real-life situations illustrate why it is important for communities as a whole to address hazard mitigation planning while analyzing and implementing policies and projects:

- The Street Department extends or improves streets into the floodplain, while the Planning and Zoning Department is discouraging development there.
- The Public Works Department straightens ditches and lines them with concrete to make them more efficient, while the Parks Department or neighborhood groups are promoting greenways and natural vegetative approaches to bank stabilization.
- The Economic Development Authority is actively promoting development of a new riverfront residential and commercial development in the floodplain, while the Parks Department and Planning and Zoning

Department are working “behind the scenes” on the development of a community riverfront park in the same location that would facilitate the establishment of a canoeing and kayaking livery.

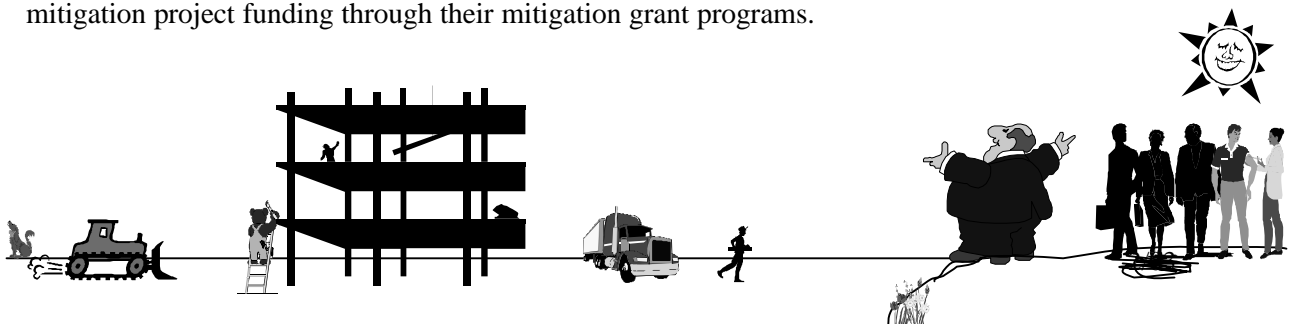
- The City Council opts not to participate in the National Flood Insurance Program because it is deemed to be “anti-development,” even though the emergency manager warns that many residents and businesses are vulnerable to flooding and will not be covered for any flood-related losses unless the community joins the program.
- The Planning Commission approves the development of high-density residential housing immediately adjacent to a plant that manufactures and stores a poisonous and highly toxic compound used in heavy industrial operations. The Fire Department is aware of this situation, but does not feel it is in a position to advise against the perceived wishes of the community.
- The County Board of Commissioners approves a new large residential development in a rural, woodland area, even though adequate fire protection service is not readily available from the volunteer fire departments in the surrounding areas.
- A community beautification program results in the planting of several hundred new trees in public places throughout the city. However, it is later determined that the species of tree planted is highly susceptible to ice, snow and wind damage, and therefore may contribute to future disaster debris problems.

A good community hazard mitigation planning effort could have addressed most (if not all) of these problems so that, if nothing else, the involved parties would have been aware of the potential ramifications associated with their actions. Obviously, that does not guarantee that the actions taken would contribute to a lessening of community hazard vulnerability. However, the planning effort would have increased the likelihood that all involved parties would have been aware of (and hopefully sensitive to) each other’s position as illustrated in the above situations. (If that kind of cooperation and coordinated decision-making could be achieved on a wide scale at the local level, it would be a huge step forward in reducing hazard vulnerability within Michigan).

Planning can help build that level of coordination and cooperation within a community. The objective of hazard mitigation planning is to produce an environment that results in the coordination of activities that will not only reduce a community’s level of hazard vulnerability, but also meet other community needs as well. In fact, one of the true benefits of mitigation planning is that vulnerability reduction can be achieved, in conjunction with other community goals and objectives, at little or no additional cost to the community. This “multi-objective” approach (which is certainly not unique to hazard mitigation planning) can greatly increase the likelihood of success and sustainability of the hazard mitigation planning effort within the community.

Mitigation opportunities are available both prior to and following disasters. While the post-disaster period presents a ready window for achieving mitigation objectives, pre-disaster mitigation planning assures that:

- Opportunities are not lost in the hasty effort to rebuild and recover from the disaster. There are fewer constraints on time and resources to develop a hazard mitigation plan prior to a disaster. After a disaster, the demands on systems and people are far greater.
- Public involvement occurs prior to a disaster, alleviating controversial issues that often arise after a disaster.
- A community can capitalize on mitigation opportunities after a disaster, rather than missing them while developing the required plan.
- Hazard Mitigation Grant Programs (see Appendix C), which are used to fund mitigation measures identified within the plan, can be used in a more timely manner because eligible activities have already been identified.
- A local hazard mitigation plan will soon be required by FEMA for a community to be eligible for hazard mitigation project funding through their mitigation grant programs.



“Why plan for multiple hazards?”

This workbook is designed to assist local jurisdictions in developing a multi-hazard mitigation plan for their community. It is important for communities to plan for all types of hazards to which they are vulnerable. It is simply not good public policy to plan for mitigating only a single hazard, when in reality all Michigan communities are vulnerable to a multiplicity of hazards. For that reason, mitigation planning is best approached from a comprehensive, multi-hazard perspective. This workbook supports that effort by providing information, guidance and sample planning formats that can address a variety of common hazards in Michigan. The planning format is very similar to that used in the development of the Michigan Hazard Mitigation Plan, which outlines and guides state-level hazard mitigation efforts.

“What are the planning options?”

By using this workbook, a community can develop a “stand-alone” mitigation plan, or it can opt to integrate the resulting mitigation planning strategies into the larger community Comprehensive (Master, General Development, Land Use, etc.) Plan that is in place in most counties and many local municipalities. Both planning options can result in an effective reduction in community vulnerability, if properly developed and diligently implemented. However, integrating mitigation concepts and strategies into the Comprehensive Plan will, in the long run, result in a greater and more permanent “institutionalization” of hazard mitigation concepts into the community’s development pattern, processes, and practices. Comprehensive Plans address many aspects of the community’s physical, social and economic environment. As a result, the opportunities for effectuating desirable change and improvement to the community’s development pattern and community support systems is greatly enhanced. In other words, mitigation can “touch” (influence) every future decision made in these important areas. In addition, since development control and guidance mechanisms such as zoning and capital improvements planning are predicated, to some degree, by the community’s intended or desired development pattern (as articulated in the Comprehensive Plan), mitigation strategies, concepts and initiatives stand a much greater chance of being considered for implementation if they are part of the larger community Comprehensive Plan. For that reason, it is recommended that hazard mitigation planning be undertaken as an integral component of the community’s overall comprehensive planning efforts. However, this workbook will support whichever planning method a community chooses.

“What about public involvement?”

Since hazard mitigation benefits the entire community, it pays to get as many citizens as possible involved in planning, designing and implementing hazard mitigation strategies. Public involvement builds support and ensures a strong constituency base for future mitigation activities. It is also helpful to coordinate with adjacent communities since hazards do not neatly follow jurisdictional or funding lines.

The value of public involvement lies in sharing responsibility with those who will strongly influence the success or failure of the mitigation effort. Involving a broad cross-section of interested individuals and organizations is a way of collecting good ideas and suggestions and ensuring that the community will view hazard mitigation as relevant to their needs. Furthermore, strength in numbers will increase the chances for lasting accomplishments. The involvement of local business persons may lead to additional funding or assistance that otherwise would not have been available for mitigation projects. A new section has been added to this workbook describing activities related to public involvement.

Organization of the Workbook

Although this workbook outlines a systematic planning process, this is intended to be a “flexible framework” that can be adjusted to fit the needs of different communities. Here is a brief overview of what this workbook covers.

A hazard mitigation plan is a written explanation of how a community will reduce or eliminate harm caused by hazards. Hazard mitigation plans propose specific actions a community will use to reduce harm from hazards. Proposed actions are based on good information and community involvement. Creating a plan therefore involves a research process and a political process. These processes involve many overlapping steps, and this workbook will summarize each of the steps that make up the overall planning process.

The research process will be called a HAZARD ANALYSIS and will:

- Identify persons, property, and important features in an area
- Identify hazards affecting an area
- Identify the extent of risk to vulnerable areas from identified hazards

The political process will be called MITIGATION PLANNING and will

- Identify hazard mitigation goals and objectives for emergency management programs
- Suggest strategies to achieve mitigation goals and objectives
- Evaluate strategies using locally chosen criteria
- Select feasible strategies based on evaluation criteria
- Propose specific action steps that will achieve desired objectives
- Prepare the plan
- Implement the plan
- Monitor the plan

Several **appendices** are included to provide detailed information and examples.

- Appendix A provides workbook users with a sample format for a local hazard mitigation plan.
- Appendix B contains detailed techniques for a local hazard analysis.
- Appendix C contains information on grant programs for which hazard mitigation planning is required: the Hazard Mitigation Grant Program (HMGP), the Flood Mitigation Assistance Program (FMAP), and the Pre-Disaster Mitigation Program (PDMP). In addition, this section provides some information on the Community Rating System (CRS) of the National Flood Insurance Program (NFIP), in which hazard mitigation plans can earn participating communities an insurance discount.
- Appendix D discusses how to integrate hazard mitigation planning and community comprehensive planning.

Here are the steps which this instructional booklet recommends to create a functional hazard mitigation plan for your community.

- Preliminary steps: Obtain public involvement and prepare the community for planning
- STEP 1: Identify hazards and risks
- STEP 1a: Develop a community profile
- STEP 1b: Identify hazards that affect the community
- STEP 1c: Estimate risks from hazards
- STEP 1d: Assess vulnerabilities and establish mitigation priorities based on them
- STEP 2: Define community goals and objectives
- STEP 3: Identify alternatives for solving problems
- STEP 4: Select criteria to evaluate alternatives
- STEP 5: Select feasible mitigation strategies
- STEP 6: Prepare a draft plan and get community feedback
- STEP 7: Revise draft plan and adopt a final plan
- STEP 8: Implement the adopted hazard mitigation plan
- STEP 9: Monitor plan implementation and effectiveness, and periodically revise plan

Each of these steps has a separate section describing it in this booklet. In many cases, there are tasks that help to accomplish more than one of these steps at a time. As one step is completed, it is common that part of the work needed to accomplish the next step will already have been accomplished. Breaking the entire mitigation planning process into steps like this has merely been done to make the process easier to learn about and complete. As new information is gained, however, it may be appropriate to temporarily revisit an earlier step in the process.

Questions?? Comments??

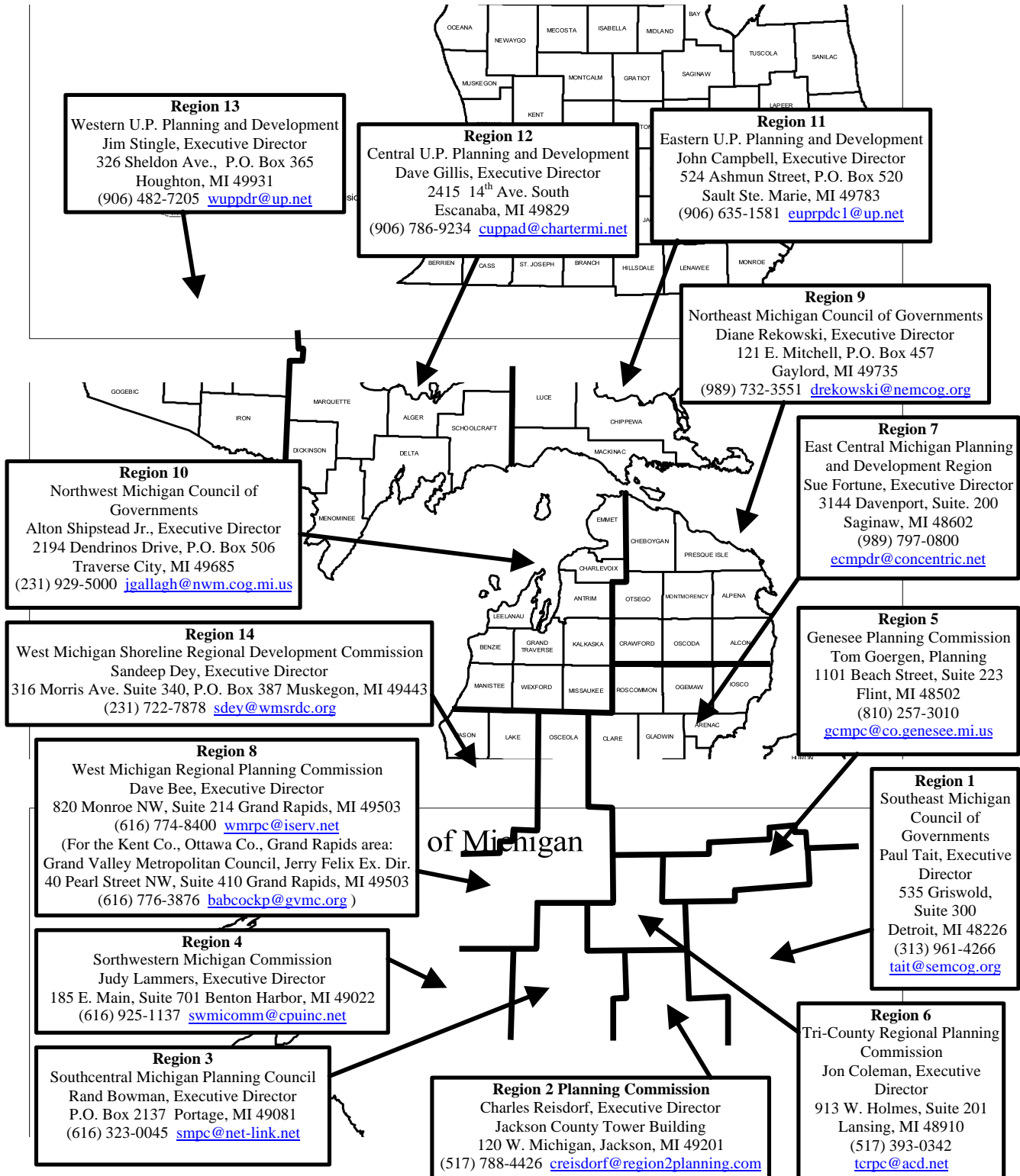
Don't hesitate to call us!



If you need further information, consultation, or wish to offer comments, please contact Mike Sobocinski of the Michigan State Police, Emergency Management Division at (517) 336-2053 or at sobocinm@michigan.gov.

COORDINATION WITH PLANNING OFFICES

The State of Michigan is divided into 14 regions for analysis and planning purposes. Below is the contact information for the official planning offices for each of these regions. These organizations can be of great assistance in providing data, local contact information, and technical assistance with planning. For communities with the desire and ability to contract out for planning services, many of these organizations can also develop part or all of your community's hazard mitigation plan. These offices have all been contacted and informed about hazard mitigation planning. Your city or county may also have a planning office of its own that should be involved in any planning activities for your community. (See Appendix D for information on integrating hazard mitigation planning into community comprehensive planning.)



Acknowledgements

This workbook has seen substantial revisions in recent years, as statewide efforts to develop hazard mitigation plans continue to progress. The original workbook (dated March 1999) contained a combination of new and previously developed material. Much of the initial material, and the sample plan format, was taken from EMD Publication 905, "Hazard Mitigation Grant Program (HMGP) Applicant Workbook." That document was first published in 1992 to provide guidance to state agencies and local governments on how to plan for, apply for and manage HMGP funds subsequent to a Presidential Major Disaster Declaration.

A considerable amount of information has also been derived from two FEMA publications: - DAP 12, "Post-Disaster Hazard Mitigation Planning Guidance for State and Local Governments," (1992 edition); and "The National Flood Insurance Program/Community Rating System Example Plans," (July 1996 edition). Both documents contain a wealth of mitigation planning guidance, some of which is summarized and included in this document.

In addition, FEMA conducted a workshop in 2002 for state hazard mitigation planners, providing instructions for interpreting the Disaster Mitigation Act (DMA) of 2000 as it relates to plan development. At this workshop, new guidance materials were distributed, and many elements from them have been adapted into the text of this workbook. FEMA's new series of "How-To Guides" have also been very useful, including FEMA 386-1 "Getting Started," FEMA 386-2 "Understanding Your Risks," and FEMA 386-7 "Integrating Human-Caused Hazards Into Mitigation Planning."

Several elements of the plan format used in the Michigan Hazard Mitigation Plan were included in the sample plan format in this document. That is important because it will help to promote consistency between the State's hazard mitigation plan (which addresses statewide mitigation issues) and local hazard mitigation plans (which address jurisdiction or region-specific issues).

The Illinois Emergency Management Agency's "Model Hazard Mitigation Plan Workbook" (August 1996 edition) and the Wisconsin Department of Natural Resource's "Community Flood Mitigation Planning Guidebook" (November 1995 edition) also provided background information and format guidance that were edited for use in the original edition of this workbook. That edition also included references to the amendment to EMD Publication 201, titled "Hazard Analysis Guidance Tool for Michigan Communities."

For the second edition of this document (dated June 2001), such references were replaced with re-edited versions of the pertinent material from EMD Publication 201. This was done to place the most important planning materials into this single book and make the guidance materials easier to use. The June 2001 edition of this book also included newly-researched information that originally appeared in the instructional materials for EMD's training course entitled "Plan Writing Workshop."

This new, third edition (dated February 2003) continues to expand the amount of detail on the important topics of hazard analysis and plan development. It has incorporated relevant information from FEMA, various Michigan State Agencies, numerous internet sites, and information submitted by local emergency managers and planners.

Special thanks must also go to the Michigan Department of Environmental Quality, Land and Water Management Division for their assistance in reviewing the original draft document. Their comments and suggestions have helped to produce a document that is concise, readable and (hopefully) easy to use.

Federal Regulations for Local Hazard Mitigation Plans

* NOTE: The dates within this text read November 1, 2003 but this date was changed to November 1, 2004 in subsequent regulations published in the October 1, 2002 Federal Register (Vol. 67 No. 190). However, communities must have an approved mitigation plan by November 1, 2003 to be eligible for FY04 PDMP project funds.

Sec. 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.

(a) Plan requirement.

(1) For disasters declared after November 1, 2003*, a local government must have a mitigation plan approved pursuant to this section in order to receive HMGP project grants. Until November 1, 2003*, local mitigation plans may be developed concurrent with the implementation of the project grant.

(2) Regional Directors may grant an exception to the plan requirement in extraordinary circumstances, such as in a small and impoverished community, when justification is provided. In these cases, a plan will be completed within 12 months of the award of the project grant. If a plan is not provided within this timeframe, the project grant will be terminated, and any costs incurred after notice of grant's termination will not be reimbursed by FEMA.

(3) Multi-jurisdictional plans (e.g. watershed plans) may be accepted, as appropriate, as long as each jurisdiction has participated in the process and has officially adopted the plan. State-wide plans will not be accepted as multi-jurisdictional plans.

(b) Planning process. 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.

(c) Plan content. The plan shall include the following:

(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.

(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. The risk assessment shall include:

(i) 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.

(ii) 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. The plan should describe vulnerability in terms of:

(A) The types and numbers of existing and future buildings, infrastructure, and critical facilities located in the identified hazard areas;

(B) An estimate of the potential dollar losses to vulnerable structures identified in paragraph (c)(2)(i)(A) of this section and a description of the methodology used to prepare the estimate;

(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.

(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.

(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. This section shall include:

(i) A description of mitigation goals to reduce or avoid long-term vulnerabilities to the identified hazards.

(ii) 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.

(iii) An action plan describing how the actions identified in paragraph (c)(2)(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.

(iv) For multi-jurisdictional plans, there must be identifiable action items specific to the jurisdiction requesting FEMA approval or credit of the plan.

(4) A plan maintenance process that includes:

(i) A section describing the method and schedule of monitoring, evaluating, and updating the mitigation plan within a five-year cycle.

(ii) 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.

(iii) Discussion on how the community will continue public participation in the plan maintenance process.

(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 Commissioner, Tribal Council). For multi-jurisdictional plans, each jurisdiction requesting approval of the plan must document that it has been formally adopted.

(d) Plan review.

(1) Plans must be submitted to the State Hazard Mitigation Officer for initial review and coordination. The State will then send the plan to the appropriate FEMA Regional Office for formal review and approval.

(2) The Regional review will be completed within 45 days after receipt from the State, whenever possible.

(3) Plans must be reviewed, revised if appropriate, and resubmitted for approval within five years in order to continue to be eligible for HMGP project grant funding.

(4) Managing States that have been approved under the criteria established by FEMA pursuant to 42 U.S.C. 5170c(c) will be delegated approval authority for local mitigation plans, and the review will be based on the criteria in this part. Managing States will review the plans within 45 days of receipt of the plans, whenever possible, and provide a copy of the approved plans to the Regional Office.

* NOTE: The dates within this text read November 1, 2003 but this was changed to November 1, 2004 in subsequent regulations published in the October 1, 2002 Federal Register (Vol. 67 No. 190). (Communities must have an approved mitigation plan by November 1, 2003 to be eligible for FY04 PDMP project funds. More information about these regulations appears throughout this workbook.)

