

Franklin County Hazard Mitigation Plan

June 2013



Certification of Review

This Hazard Mitigation Plan has been reviewed by the Franklin County Emergency Management Agency. The County Emergency Management Coordinator hereby certifies the review.

Date	Signature

Promulgation

This plan is promulgated as the Franklin County Hazard Mitigation Plan. This plan is designed to comply with all legal requirements and serve as a guide and starting point for mitigating risk within Franklin County.

This plan supersedes all previous plans

Promulgated the ___ Day of _____ 2013

Commission Chairman

Vice Chairman

Commissioner

Chief Clerk/Administrator

Emergency Management Coordinator

SUMMARY

Franklin County, Pennsylvania officials and public servants recognize that natural and human-caused hazards pose a significant threat to varying degrees of magnitude and frequency, to the safety and economic stability of the County, its' municipalities and its residents. Often, the potential reality of hazards within the County is not fully understood or realized until a major disaster occurs, and then significant resources are required to respond and recover from the damages. County officials also understand that responding to hazards on a post-incident basis can result in increased costs, in terms of both financial and human losses. Accordingly, Franklin County Department of Emergency Services has prepared the Franklin County Multi-Hazard Mitigation Plan (FCMHMP) to assess the County's vulnerability to natural and human-caused hazards, and to develop mitigation strategies that reduce the risks associated with those hazards.

This plan is generally arranged and prepared using the template set forth in the Federal Emergency Management Agency's (FEMA) *State and Local Mitigation Planning How To Guides*. Assistance in funding the planning process and plan preparation was provided through a planning grant from FEMA and the Pennsylvania Emergency Management Agency (PEMA). The Franklin County Department of Emergency Services provided coordination of the planning effort, preparing the final plan documents, and submitting the plan to the Franklin County Commission and PEMA.

The overall purpose of hazard mitigation planning process is to establish a national program for pre-disaster mitigation, streamline administration of disaster relief at both the federal and state levels, and control federal costs of disaster assistance. Congress envisioned that implementation of these requirements would result in the following key benefits:

- Reduction of loss of life and property, human suffering, economic disruption, and disaster costs.
- Prioritization of hazard mitigation planning at the local level, with an increased emphasis placed on planning and public involvement, assessing risks, implementing loss reduction measures, and ensuring that critical services/facilities survive a disaster.
- Establishment of economic incentives, awareness and education via federal support to state, tribal, and local governments, that will result in forming community-based partnerships, implementing effective hazard mitigation measures, leveraging additional non-Federal resources, and establishing commitments to long-term hazard mitigation efforts.

In general, federal legislation requires all local, county, and tribal governments to develop a hazard mitigation plan for their respective communities in order to be eligible to receive certain federal mitigation funds including Hazard Mitigation Grant Program (HMGP), Pre-Disaster Mitigation Program (PDM), and Flood Mitigation Assistance Program (FMA) funds.

In satisfying the regulatory requirements, the primary purpose of this plan is to identify natural and human-caused hazards that impact Franklin County, assess the vulnerability and risk posed by those hazards to community-wide human and structural assets, develop strategies for mitigation of those

identified hazards, present future maintenance procedures for the plan, and document the planning process.

Where appropriate, detailed information is documented or provided in appendices. There are also certain data sets pertaining to the Risk Assessment that are deemed “sensitive” by Franklin County, and are, therefore, made a part of this plan by reference, but are documented in a separate technical binder which will remain at the Franklin County Department of Emergency Services and will not be submitted to FEMA or PEMA for review. General summaries of those specific data are provided in the FCMHMP instead.

The planning process used to develop the FCMHMP included the assembly of a County-wide Multi-Jurisdictional Planning Team with members of each municipality, emergency response agency, school district, businesses, and the community invited to participate. The Franklin County Department of Emergency Services functioned as the primary point of contact and the lead agency for the planning effort. The planning team primarily focused on the following objectives:

- Provide a unified approach to informing the public of hazard mitigation planning efforts.
- Identify, evaluate, prioritize, and profile the types of hazards impacting the County and its municipalities.
- Develop general, County-wide hazard mitigation goals and objectives to use as a starting point for each of the individual municipal plan.
- Provide a forum for community and inter-disciplinary communication during the development of mitigation actions/projects, especially for those projects that may involve multiple jurisdictions or organizations.
- Capitalize on the experience and institutional knowledge base afforded by a cooperative, multi-disciplinary, multi-jurisdictional team.

One of the key elements to the hazard mitigation planning process is risk assessment. In performing a risk assessment, a community determines “what” can occur, “when” (how often) it is likely to occur, and “how bad” the effects could be. According to federal guidance the primary components of a risk assessment that answer the above questions are generally categorized into the following measures:

- Identify Hazards
- Profile Hazard Events
- Assess Vulnerability to Hazards

Profiles were developed for each of the ranked hazards by researching and mapping historic hazard events, obtaining other hazard mapping, analysis and studies, and estimating the economic impact of an incident. A County-wide vulnerability analysis was performed to assess and evaluate the County’s population and critical facility exposure risk to the identified hazards. The risk was tabulated in terms of economic loss estimates and human population exposure. Economic losses include estimates of damage to critical, residential, industrial, and commercial facilities. Critical facilities were individually identified by the planning team for each community and supplemental residential, commercial, and industrial

facility information was obtained from FEMA's HAZUS program. It is estimated that there are at least \$20 billion worth of critical, residential, industrial, and commercial facilities within Franklin County. The 2010 County population estimate is 149,618.

The planning team developed a strategy for mitigating the hazard risks identified summarized in the table. The mitigation strategy provides the "*what, when, and how*" of actions that will reduce or possibly remove the community's exposure to hazard risks, and is generally categorized into the following components:

- Capability Assessment
- Goals and Objectives
- Mitigation Actions/Projects
- Implementation Strategy

The planning team assessed the County's capabilities regarding legal, regulatory, technical/staff, and financial resources, and then worked to develop a set of draft goals and objectives to establish general guidelines for the mitigation of hazards in the County and municipalities. Using the vulnerability analysis, capability assessment, and goals and objectives, the planning team then developed an initial list of mitigation actions/projects, with each action/project being scored based on a perceived value in the categories of social, technical, administrative, political, legal, economic, and environmental considerations.

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As a final step in the planning process, plan maintenance procedures were developed by the planning team to establish guidelines for maintaining, reviewing and updating the FCMHMP over the next five (5) years. The plan will be reviewed on an annual basis and/or following any incident or event where a state of emergency or disaster is declared. Each review shall include an evaluation of the following:

- *Public Involvement* – Public involvement successes and challenges shall be reviewed and noted, with any recommendations for changes.
- *Risk Assessment* – The identified hazards and associated risks shall be evaluated with respect to the previous year's events, and any significant differences shall be noted for possible revision during the next planning cycle.
- *Mitigation Strategy* – The proposed A/Ps shall be reviewed and updated regarding status and implementation (i.e. – proposed project is now fully complete). Any changes shall be noted along with the successes and/or challenges associated with the implementation of those projects.

The FCMHMP also outlines maintenance responsibilities and continued public involvement activities. Ultimately, the plan will require updating and re-approval from FEMA and the Commonwealth of Pennsylvania in five years.

1. Introduction

1.1. Background

Section 7503 Title 35 Pennsylvania Consolidated Statutes gives specific authority to each political subdivision to prepare and implement plans that benefit the health and well-being of their citizens. While these plans represent “good common sense”, these plans also meet the federal statutory requirement for mitigation plans that enables communities to receive the full range of after disaster assistance and mitigation grants.

This plan addresses the following:

- What significant hazards are present in the County?
- What are our goals and objectives to make ourselves safer and more sustainable?
- What are we going to do to reach the goals and objectives?
- How do we pay for these actions?

This plan does not stop with a simple list of action items. It also prioritizes the items and identifies the entities responsible for the action, including State and Federal agencies, Franklin County, municipal officials, property owners and others. Sources of potential funding are also identified in the plan along with information on where to go to obtain possible funds.

It is important to note that the action items contained in the plan are expected to be implemented in voluntary cooperation with property owners. Adopting the plan does not force a municipality to take any specific action, but rather helps protect their residents, minimize future damages, and helps maintain their eligibility for hazard mitigation funding.

1.2. Purpose

After suffering the effects of floods, tornadoes, drought, winter storms, and other natural and manmade hazards, the citizens, business leaders, and officials of Franklin County, Pennsylvania recognize the need to develop a long-term approach to reducing their vulnerability to hazards. This initiative to promote resistance to natural and human caused hazards began with the identification of the hazards that have historically threatened the county and then determine a series of prioritized actions necessary to reduce potential damages from these hazards.

1.3. Scope

This plan addresses the following:

- What significant hazards are present in the County?
- What are our goals and objectives to make ourselves safer and more sustainable?
- What are we going to do to reach the goals and objectives?
- How do we pay for these actions?

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1.4. Authority and Reference

Authority for this plan originates from the following federal sources:

Robert T. Stafford Disaster Relief and Emergency Assistance Act, 42 U.S.C., Section 322, as amended
Code of Federal Regulations (CFR), Title 44, Parts 201 and 206
Disaster Mitigation Act of 2000, Public Law 106-390, as amended
National Flood Insurance Act of 1968, as amended, 42 U.S.C. 4001 *et seq.*

Authority for this plan originates from the following Commonwealth of Pennsylvania sources:

Pennsylvania Emergency Management Services Code. Title 35, Pa C.S. Section 101
Pennsylvania Municipalities Planning Code of 1968, Act 247 as reenacted and amended by Act 170 of 1988
Pennsylvania Stormwater Management Act of October 4, 1978. P.L. 864, No. 167

The following Federal Emergency Management Agency (FEMA) guides and reference documents were used to prepare this document:

FEMA 386-1: *Getting Started*. September 2002
FEMA 386-2: *Understanding Your Risks: Identifying Hazards and Estimating Losses*. August 2001
FEMA 386-3: *Developing the Mitigation Plan*. April 2003
FEMA 386-4: *Bringing the Plan to Life*. August 2003
FEMA 386-5: *Using Benefit-Cost Review in Mitigation Planning*. May 2007
FEMA 386-6: *Integrating Historic Property and Cultural Resource Considerations into Hazard Mitigation Planning*. May 2005
FEMA 386-7: *Integrating Manmade Hazards into Mitigation Planning*. September 2003
FEMA 386-8: *Multijurisdictional Mitigation Planning*. August 2006
FEMA 386-9: *Using the Hazard Mitigation Plan to Prepare Successful Mitigation Projects*. August 2008
FEMA *Local Multi-Hazard Mitigation Planning Guidance*. July 1, 2008
FEMA *National Fire Incident Reporting System 5.0: Complete Reference Guide*. January 2008

The following Pennsylvania Emergency Management Agency (PEMA) guides and reference documents were used to prepare this document:

PEMA: *Hazard Mitigation Planning Made Easy!*
PEMA *Mitigation Ideas: Potential Mitigation Measures by Hazard Type: A Mitigation Planning Tool for Communities*. March 6, 2009
PEMA: *Draft Standard Operating Guide*. October 9, 2009

The following document produced by the National Fire Protection Association (NFPA) provided additional guidance for updating this plan:

NFPA 1600: *Standard on Disaster/Emergency Management and Business Continuity Programs*. 2007

2. Community Profile

2.1. Geography and the Environment

Franklin County is in the south-central region of the Commonwealth in the southern Pennsylvania portion of the Cumberland Valley. The Conococheague and Conodoguinet Creeks drain to two watershed areas, the Potomac and Susquehanna River watershed areas, which eventually drain to the Chesapeake Bay.

Interstate Highway 81 and the Pennsylvania Turnpike transit through Franklin County's boundaries. Two rail lines also cross through Franklin County, along with several sidings and spur lines. In addition, several pipelines, which provide key hydrocarbons for the eastern seaboard, transit Franklin County.

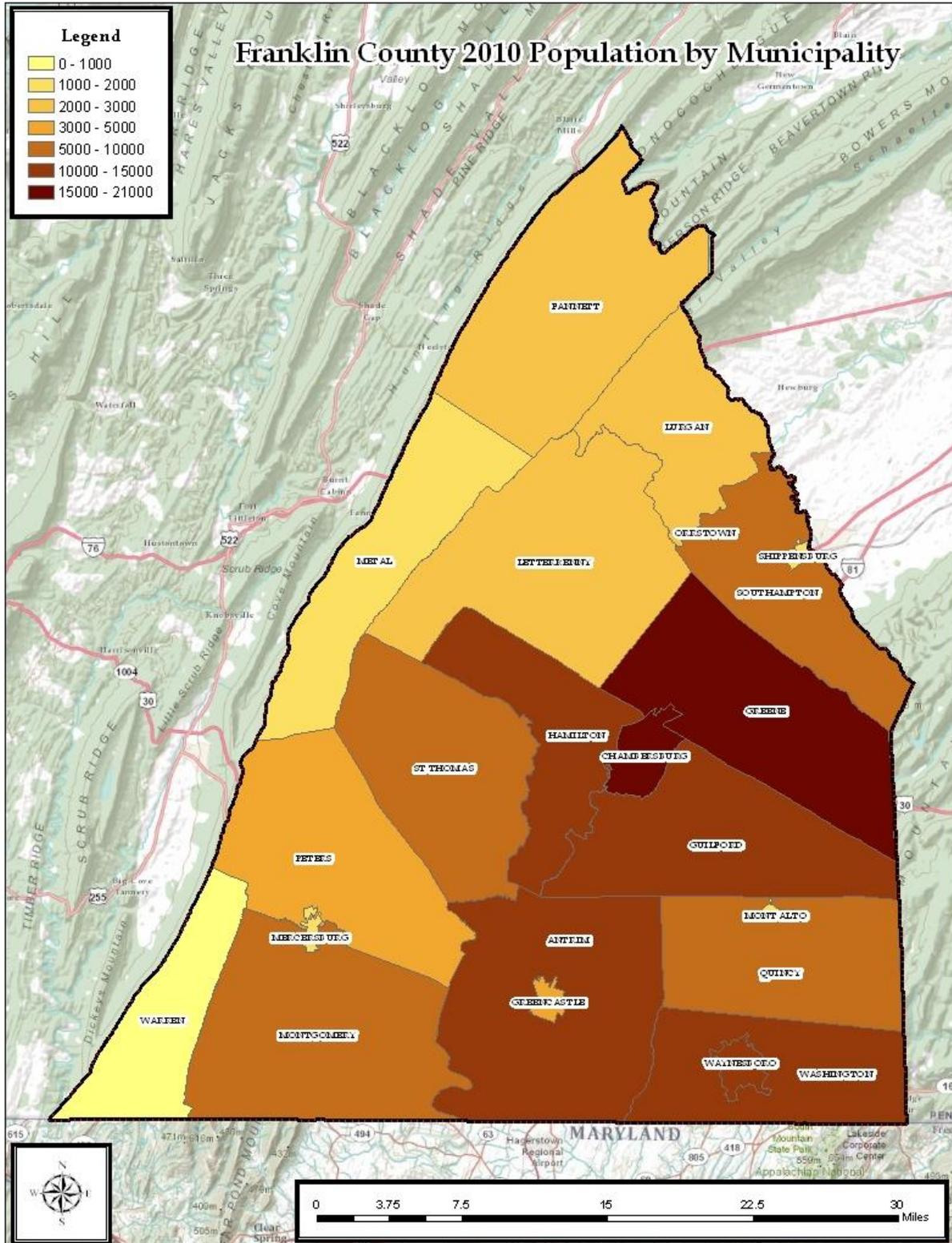
A section of the Mason-Dixon Line makes up the southern boundary of Franklin County while its most northerly point stretches jaggedly one-fourth of the way across the Commonwealth to an even latitude with Harrisburg. The county is considered the dividing line between floral growth of the north and south.

Fertile farmland within Franklin County produces major agricultural crops. In addition, dairying is also a productive industry. A variety of manufacturing and distribution facilities complement the agricultural enterprises and which results in a stable, well-balanced, and sound local economy.

Portions of Caledonia State Park, Michaux and Mont Alto State Forests are also in the county. Wilson College at Chambersburg, Penn State University, Mont Alto Campus, and Mercersburg Academy are the leading educational institutions, with Shippensburg University located along the northern border of Franklin County.. In addition, Harrisburg Area Community College provides courses at several satellite locations and the University of Maryland System offers classes from multiple universities south of the County.

According to the Pennsylvania County Data Book, Franklin County's 2010 population was 149,618 and median household income of \$50,398. The county has seven boroughs and 15 townships. There are two general service hospitals within the County, located in Chambersburg and Waynesboro.

Vicinity Map



2.2. Population and Demographics

The Franklin County Planning Department has assembled population profiles for Franklin County and its municipalities. In 2010, it estimated that 149,618 people resided within Franklin County, spread over seven boroughs and fifteen townships.

Summary of population statistics for Franklin County and incorporated communities

Municipality	Population 1970	Population 1980	Population 1990	Population 2000	Population 2010
CHAMBERSBURG	17315	16174	16647	17862	20268
SHIPPENSBURG	1364	885	1003	1119	1076
ORRSTOWN	262	247	220	231	262
MERCERSBURG	1727	1617	1640	1540	1561
GREENCASTLE	3293	3679	3600	3722	3996
MONT ALTO	1532	1592	1395	1357	1705
WAYNESBORO	10011	9726	9578	9617	10568
GREENE	9504	11470	11930	12284	16700
HAMILTON	4921	6504	7745	8949	10788
GUILFORD	9291	10567	11893	13100	14531
ST THOMAS	3931	5711	5861	5775	5935
LETTERKENNY	1419	1960	2251	2074	2318
LURGAN	1649	1986	2026	2014	2151
FANNETT	1640	2016	2309	2309	2548
METAL	1205	1576	1612	1721	1866
WARREN	262	269	310	334	369
MONTGOMERY	3221	4252	4558	4949	6116

PETERS	3838	4060	4090	4251	4430
SOUTHAMPTON	3292	4604	5484	6138	7987
QUINCY	5264	5792	5704	5846	5541
WASHINGTON	8514	9616	11119	11559	14009
ANTRIM	7378	9326	10107	12504	14893
COUNTY TOTAL	100833	113629	121082	129255	149618

2.3. Land Use and Development

Its fertile farmland not only produces major agricultural crops, but dairy and poultry farming are productive and well-financed industries. Industrially, Franklin County ranks high, having a variety of manufacturing and distribution facilities which complement the agricultural enterprises and the result is a stable and sound economy. In addition, significant truck and intermodal transportation facilities, including intermodal sites for both CSX and Norfolk Southern Rail Roads.

Because of its famous Blue Ridge Mountains, Franklin County lends itself easily to the entertainment of vacationists and persons seeking rest and relaxation. There is not a river in the county but many streams afford an ample supply of water for the fertile limestone soil.

Portions of Caledonia State Park, Michaux and Mont Alto State Forests are also in the county. Wilson College at Chambersburg, Penn State University, Mont Alto Campus, and Mercersburg Academy are leading educational institutions within the County.

3. Planning Process

3.1. Update Process and Participation Summary

The Franklin County Department of Emergency Services facilitated the planning process. While this plan was developed with the input from a variety of stakeholders, all municipalities within Franklin County have the authority to review the plan and the option to adopt, in whole or part, the plan as presented.

3.2. The Planning Team

A Hazard Mitigation Steering Committee was developed to assist in the development of the plan, with participation requested and received from municipalities, businesses, school districts, emergency responders, PEMA, and multiple non-governmental organizations. Participants who attended one or more meeting included representatives from:

Washington Township	Waynesboro
Mount Alto	Quincy Township
Greencastle	Hamilton Township
Chambersburg	Letterkenny Township
St. Thomas Township	Southampton Township
Orrstown	Adams Electric
Columbia Gas	Target Distribution Center
Chambersburg	Antrim Township
Chambersburg Police Department	Chambersburg Fire Department
West Shore EMS	Greene Township
Franklin County EMS Council	Franklin County Police Chiefs Association
Franklin County Fire Chiefs Association	Franklin County LEPC
Franklin County Public Opinion	Hagerstown Herald Mail
Franklin County	General public
Chambersburg Area School District	Fannett Metal School District
Tuscarora School District	Greencastle-Antrim School District
Waynesboro Area School District	Penn State Mont Alto
Shalom Christian Academy	Pleasant Hall Fire Department
American Red Cross	Salvation Army
Chambersburg Mall	

This plan shall be reviewed annually by the Hazard Mitigation Steering Committee and updated on a five-year cycle due to changes in hazards and vulnerability.

The planning process used to develop the plan included the assembly of a planning team whose approach was to provide a holistic and united approach to hazard mitigation planning for all of the communities and organizations participating, and to share data and resources for developing hazard mitigation plans. The Franklin County planning team met to discuss various

aspects of the planning elements and the overall plan progress. A subset of this planning team, comprised solely of Franklin County staff, performed the detailed and focused plan development.

The planning team primarily focused on the following objectives:

- Provide a unified approach to informing the public of hazard mitigation planning efforts.
- Identify, evaluate, prioritize, and profile the types of hazards impacting the County and Municipalities.
- Develop general, County-wide hazard mitigation goals and objectives to use as a starting template for each of the individual plans.
- Provide a forum for community and inter-agency communication during the development of mitigation actions/projects, especially for those projects that may involve multiple jurisdictions.
- Capitalize on the experience and institutional knowledge base afforded by a cooperative, multi-discipline, multi-community team.

3.3. Meetings and Documentation

An important and valuable aspect of the planning process is public involvement. Members of the community, not specifically participating on the planning team, employed by Franklin County, or affiliated with the planning team, can prove to be great assets to the hazard mitigation planning process in many ways. E-mails were sent to all municipalities, utilities, non-governmental organizations, school districts, fire departments, EMS organizations, law enforcement departments, and public utilities; and a public notice was posted on the Department web site. Several public meetings were held in the summer of 2012, with a total of 54 people attending at least one meeting.

3.4. Public and Stakeholder Participation

Information was gathered from these meeting and also from infrastructure studies conducted by the Franklin County Department of Emergency Services. These include a hazard and vulnerability study completed in 2012, surveys conducted in four locations in 2011 and 2012; a hazardous materials traffic analysis conducted in 2011; flood plain analysis conducted using the Franklin County GIS data; historical records study conducted in the County archives; and an analysis of SARA Tier II facilities and their impact on the community. From these studies, a draft plan was written and reviewed by stakeholder participants.

3.5. Multi-Jurisdictional Planning

The draft plan was then submitted to the Franklin County Commissioners for review and approval.

Input will be requested annually with the update of municipal officers. The plan will be a public document and will be available at county and municipal offices for input and suggestion of projects.

3.6. Existing Planning Mechanisms

The concepts of this document shall be incorporated into future plans as applicable.

4. Risk Assessment

4.1. Update Process Summary

One of the key elements to the hazard mitigation planning process is the risk assessment. In performing a risk assessment, a community determines “what” can occur, “when” (how often) it is likely to occur, and “how bad” the effects could be. The primary components of a risk assessment that answer these questions are generally categorized into the following measures:

- Identify Hazards
- Profile Hazard Events
- Assess Vulnerability to Hazards

The risk assessment for Franklin County was performed using a County-wide perspective in 2012 and 2013, with much of the information input and development being accomplished by the planning team. The hazard and vulnerability assessment was performed in a way that the results reflect vulnerability at an individual community level, and at a County-wide level.

4.2. Hazard Identification

4.2.1. Summary of Hazards

The Hazard Vulnerability Assessment describes each hazard’s occurrence and the effects on the County and identifies the effects of natural or human-caused hazard events by estimating the exposure of people, buildings, and infrastructure to hazardous conditions.

The mitigation focus of the planning team was focused primarily on natural hazards and those human-caused hazards with a perceived significant potential to impact the environment and the community. Also, the planning recognized that schedule, budget and resources also limited the team’s ability to completely analyze all potential hazards; therefore, many of the human caused hazards were eliminated from further consideration for this planning effort. In addition, similar hazards were combined. A final list of hazards was developed using a systematic process of elimination that considered relevance, historical significance and experience, and catastrophic potential to the community.

Summary of natural and human-caused hazard threats to Franklin County

- Floods
- Earthquake
- Tornadoes
- Droughts and Water Supply Deficiencies
- Landslide
- Wildfire
- Hurricane
- Severe Thunderstorm
- Snow fall
- Blizzard
- Ice storm
- Temperature Extremes
- Epidemic/Mass Casualty Incident
- Dam inundation
- Infrastructure failure
- Hazardous materials spill
- Radiological incident
- Terrorism – chemical, biological, radiological, nuclear, explosive (CBRNE)

The mitigation focus of the planning group was primarily natural hazards and those human-caused hazards with a perceived significant potential to impact the environment and the community. Also, the group recognized that schedule, budget and resources also limited the team's ability to completely analyze all potential hazards; therefore, many of the human caused hazards were eliminated from further consideration for this planning effort. In addition, similar hazards were combined.

Profiles were developed for each of the ranked hazards by researching and mapping historic hazard events, obtaining other hazard mapping, analysis and studies, and estimating the economic impact of an incident. A County-wide vulnerability analysis was performed to assess and evaluate the County's population and critical facility exposure risk to the identified hazards. The risk was tabulated in terms of economic loss estimates and human population exposure. Economic losses include estimates of damage to critical, residential, industrial, and commercial facilities. Critical facilities were individually identified by the planning team for each community and supplemental residential, commercial, and industrial facility information was obtained from FEMA's HAZUS program. It is estimated that there are at least \$20 billion worth of critical,

residential, industrial, and commercial facilities within Franklin County. The 2010 County population estimate is 149,618.

Hazards that can affect Franklin County and deserve detailed study are included in the plan as follows:

Floods

Winter Storms (Severe)

Tornadoes, Tropical Storms, and Windstorms

Droughts and Water Supply Deficiencies

Subsidence – Natural/Mine Related

Wildfire/Structural Fire

Hazardous Materials Releases

Infrastructure Failure

4.3. Hazard Profiles

4.3.1 Drought

4.3.1.1 Location and Extent

The Governor of Pennsylvania has declared six drought emergencies in the past 30 years. The Commonwealth has been most vulnerable to hydrologic and water management droughts. Hydrologic droughts generally entail a reduction of stream flows, reduction in lake/reservoir storage, and the lowering of groundwater levels. Water management droughts are a result of abnormal dry periods and the failure to adhere to water management practices during these times. During the summer of 1983, the drought caused over \$196 million in damages to state crops.

4.3.1.2 Range of Magnitude

Droughts may occur in either a localized or wide spread fashion. In any given ten year period, there will be at least two years with widespread diminished rainfall amounts throughout Franklin County.

4.3.1.3 Past Occurrence

There has been four drought declared emergencies in Franklin County, with the most recent in February 2012. In addition, public water deficiencies were extremely evident. Prior to the early 1990's, drought in Franklin County did not exist. However, old and newly developed water companies have expanded due to increased consumption to the point that an extreme public water deficiency is an increasing threat.

4.3.1.4 Future Occurrence

Current problems concerning drought and water deficiencies are demanding immediate action. Assuming a normal increase in growth of population and industry, practicality guarantees an increase in consumption and need for an increase in the availability of water.

4.3.1.5 Vulnerability Assessment

It is reasonable to assume that drought will continue to plague Franklin County in the future. The large farming community lends itself to continued heavy losses. Additionally, the county's public water deficiency is forecasted to continue unless corrective actions are taken.

4.3.2 Flood, Flash Flood, Ice Jam

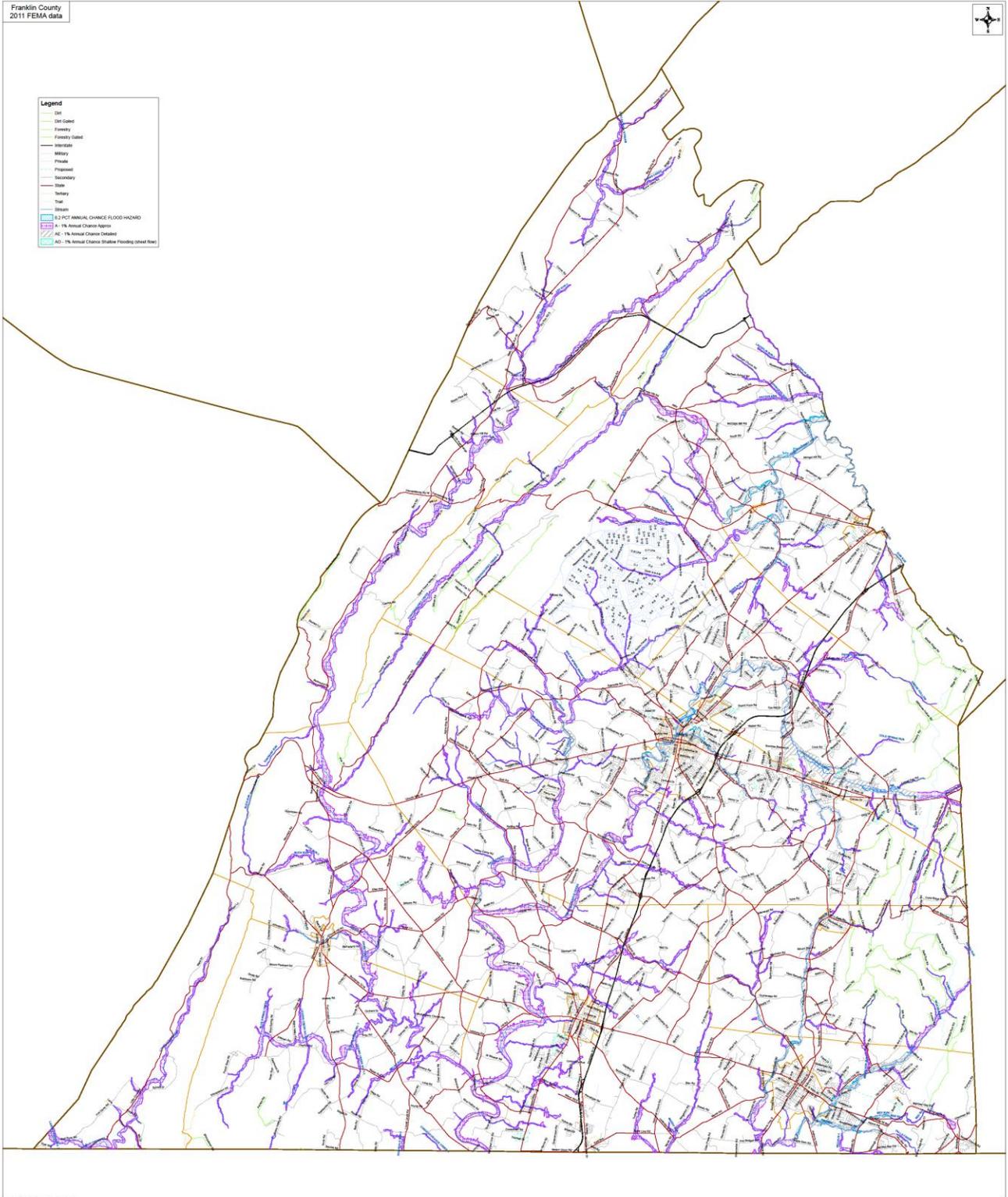
4.3.2.1 Location and Extent

Flooding is the most prevalent type of natural disaster occurring in the Commonwealth of Pennsylvania. In Pennsylvania, floods cause over \$1 billion worth of property damage annually. It is important for emergency management personnel to analyze flood plains and other critical areas in the county and determine how vulnerable to flooding the community might be.

There are no rivers located in Franklin County, but their streams flow into two river basins. Nineteen of the 22 municipalities are flood prone. The Potomac River Basin is comprised of the following creeks: Antietam, Falling Springs and the Conococheague including the east and west branch. The Condoquinet Creek flows into the Susquehanna River Basin.



- Legend**
- City
 - Dist. Center
 - Primary
 - Primary Center
 - Interstate
 - Highway
 - Proposed
 - Secondary
 - State
 - Town
 - Water
 - Stream
 - 0.2 PCT ANNUAL CHANCE FLOOD HAZARD
 - 1% Annual Chance Flood
 - 1% Annual Chance Debris
 - 1% Annual Chance Shallow Flooding (road flow)



Franklin County Flood Plains

4.3.2.2 Range of Magnitude

As indicated above, 20 of 22 municipalities are flood prone. Of the 22, only the Boroughs of Greencastle and Orrstown are not considered to be flood prone. However, Greencastle suffered localized flooding and damage associated with tropical weather in 2011. Floods might affect approximately 110,000 people.

There are several wastewater treatment facilities threatened by floods and have materials to protect their facilities. However, prolonged high water would necessitate the providing of life sustaining services and supplies.

The “base flood” or “100-year flood” has a one-percent chance of occurring in any particular year. Its probability of occurrence suggests it should reoccur once every 100 years, although this is not always the case.

In addition, the erosion and unwanted deposits in small streams, which cause Franklin County’s water problems, are fast becoming major causes of flooding. To address possible increases in flood related losses, development in floodplain areas should be regulated closely and structural and nonstructural measures should be reviewed to determine flood damage reduction potential.

Floods will continue to provide problems as they have in the past. With continued progress in road construction, industry and housing, runoff will undoubtedly add to future vulnerability and higher cost figures.

4.3.2.3 Past Occurrence

Historically, Franklin County has experienced the high degree of flooding that plagues the Commonwealth of Pennsylvania.

The major floods in 1972, 1975 and 1976 caused considerable damage. Flash flooding, although occurring yearly, does not cause much damage. Ice jams have occurred twice in the last six and one-half years. No deaths have occurred.

4.3.2.4 Future Occurrence

It can be anticipated that flooding will continue within Franklin County at greater than historical rates due to a variety of factors, including increased building, atmospheric changes, and changes in tropical weather patterns.

Housing Units in Flood Plains

Municipality	Housing Units in Municipality*	Structures in 100 year Floodplain	Percent of Structures in Floodplain
Antrim	4598	73	1.5%
Chambersburg	8305	357	4.2%
Fannett	1045	11	1.0%
Greencastle	1748	0	0%
Greene	5309	454	8.5%
Guilford	5130	58	1.1%
Hamilton	3612	66	1.8%
Letterkenny	829	12	1.4%
Lurgan	749	9	1.2%
Mercersburg	770	12	1.5%
Metal	782	15	1.9%
Mont Alto	579	15	2.5%
Montgomery	1846	15	0.8%
Orrstown	79	0	0%
Peters	1718	53	3.0%
Quincy	1914	45	2.3%
Shippensburg	2580	139	5.3%
Southampton	2388	15	0.6%
St. Thomas	2292	108	4.7%
Warren	151	3	1.9%

Population and Structural Value within Flood Plains

Municipality	Value of Structures	Value of Structures in Floodplain	Population	Population in Floodplain
CHAMBERSBURG	\$721,704,500	\$31,023,300	20268	750
SHIPPENSBURG	\$231,942,000	\$12,496,100	1076	296
ORRSTOWN	\$6,320,000	\$0	262	0
MERCERSBURG	\$71,456,000	\$1,113,600	1561	23
GREENCASTLE	\$190,182,400	\$0	3996	0
MONT ALTO	\$49,388,700	\$1,279,500	1705	34
WAYNESBORO	\$39,774,600	\$940,500	10568	20
GREENE	\$571,779,300	\$48,895,800	16700	1045
HAMILTON	\$382,149,600	\$6,982,800	10788	161
GUILFORD	\$556,050,000	\$6,293,000	14531	144
ST THOMAS	\$207,196,800	\$9,763,200	5935	272
LETTERKENNY	\$86,381,800	\$1,250,400	2318	30
LURGAN	\$70,331,100	\$845,100	2151	24
FANNETT	\$82,868,500	\$872,300	2548	18
METAL	\$62,090,800	\$1,191,000	1866	33
WARREN	\$16,126,800	\$320,400	369	7
MONTGOMERY	\$187,184,400	\$1,521,000	6116	40
PETERS	\$152,730,200	\$4,711,700	4430	128
SOUTHAMPTON	\$240,471,600	\$1,510,500	7987	37
QUINCY	\$170,154,600	\$4,000,500	5541	135
WASHINGTON	\$498,009,300	\$20,040,200	14009	463

ANTRIM	\$492,905,600	\$7,825,600	14893	188
COUNTY TOTAL	\$5,087,198,600	\$162,876,500	149618	3,848

4.3.2.5 Vulnerability Assessment

Franklin County properties will continue to remain vulnerable to stream flooding as long as they remain within the identified flood plain.

4.3.3 Hurricane, Tropical Storm, Nor'easter, High Winds, Thunderstorms

4.3.3.1 Location and Extent

Thunderstorms, high winds, tropical weather and tornados are the most frequent natural hazard impacting Franklin County. Hazards most typically associated with thunderstorms include lightning, microbursts, hail, tornados, and flooding. Issues related to flooding are addressed elsewhere in this document and this section shall focus on the impact of winds associated with these storms. Tornados and windstorms are common occurrences, especially during spring and summer months.

4.3.3.2 Range of Magnitude

High wind events occur with regularity throughout Franklin County, regardless of the cause. These events may be localized, as with tornados, or have a broad geographic impact, as seen with tropical and extra-tropical incidents. Historically, the magnitude of these incidents has been in the moderate range, with infrastructure impacts of several days and moderate damage to structures. Historically, tornados have been F0 or F1 in size. Of greater impact has been strong, straight line winds, which occur at least once per year. Wind storms have resulted in significant damage, including over \$1,000,000 in property and infrastructure damage as a result of Hurricane Sandy in 2012.

4.3.3.3 Past Occurrence

Wind events occur with great regularity with several wide impact thunderstorms occurring annually. Tropical impacts vary from year to year, however, the area will be impacted by tropical weather an average of once every two years. Nor'easters, impact the area an average of once per year. Tornados occur an average of once every eight years.

4.3.3.4 Future Occurrence

It is expected that these incidents will occur with a frequency at, or greater than the historical record.

4.3.3.5 Vulnerability Assessment

It is expected that Franklin County will remain vulnerable to wind incidents.

4.3.4 Subsidence, Sinkhole

4.3.4.1 Location and Extent

Subsidence may be natural or related to mining activities. Areas underlain by coal or other minerals may become susceptible to subsidence.

Natural subsidence results from what are considered normal geological processes particular to certain landforms. In Pennsylvania, water movement through carbonate terrain, (i.e. limestone and dolomite) may result in topographic features such as swales, sinkholes, and forms of subsidence.

4.3.4.2 Range of Magnitude

Franklin County has no significant mining industry. However, it does have considerable deposits of limestone that is utilized in several quarry operations. It is estimated that 32 percent of the land is considered limestone. Therefore we should be aware of the potential hazard of sinkholes. There have been incidences of sinkholes throughout the county. These incidents were minor and resulted in no loss of property or lives.

4.3.4.3 Past Occurrence

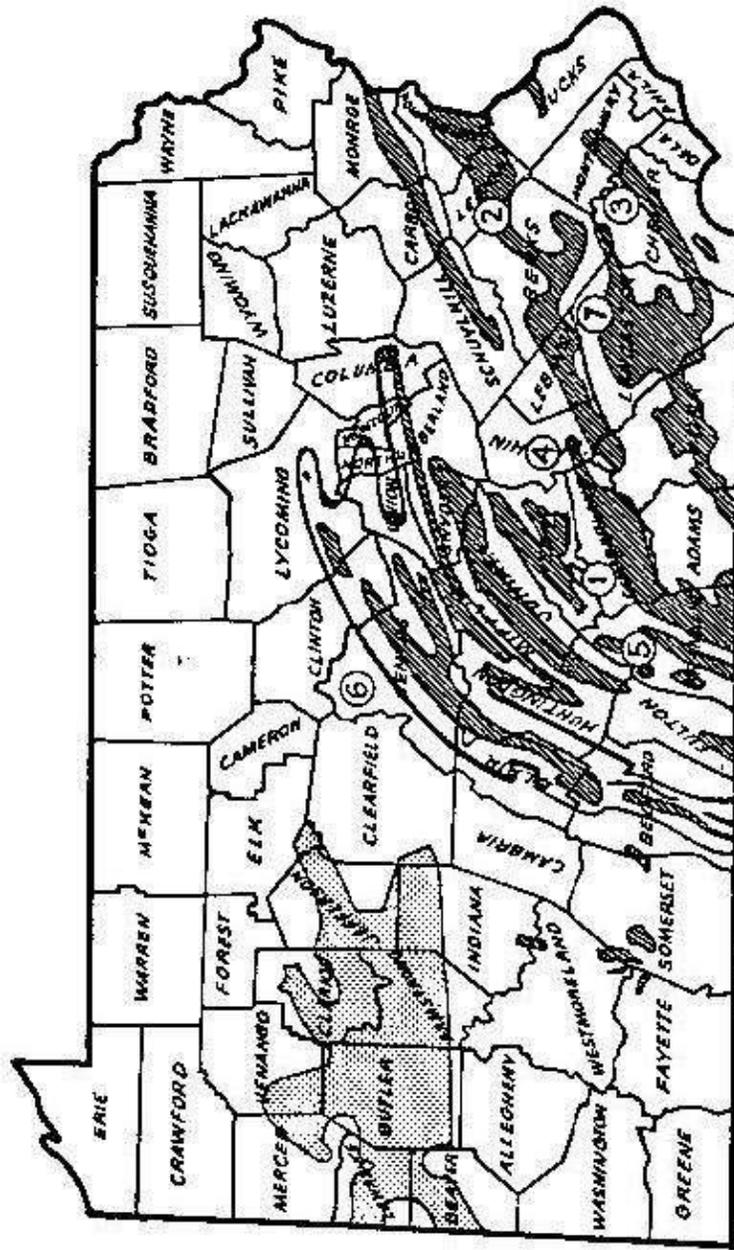
Localized sinkhole incidents occur an average of three times per year within Franklin County.

4.3.4.4 Future Occurrence

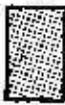
It is anticipated that the rate of sinkhole occurrence shall remain unchanged or increase, based on water levels.

4.3.4.5 Vulnerability Assessment

It is anticipated that Franklin County will continue to be subject to minor sinkhole incidents.



AREAS OF SINKHOLE OCCURENCE

-  SURFACE ONLY
-  SURFACE & SUBSURFACE
- OUTSTANDING OCCURENCES**
- ① CUMBERLAND COUNTY
- ② SAUCON VALLEY
- ③ VALLEY FORGE
- ④ MERSHEY
- ⑤ FRANKLIN COUNTY
- ⑥ CENTRE COUNTY
- ⑦ LANGCASTER COUNTY

4.3.5 Wildfire/Structural Fire

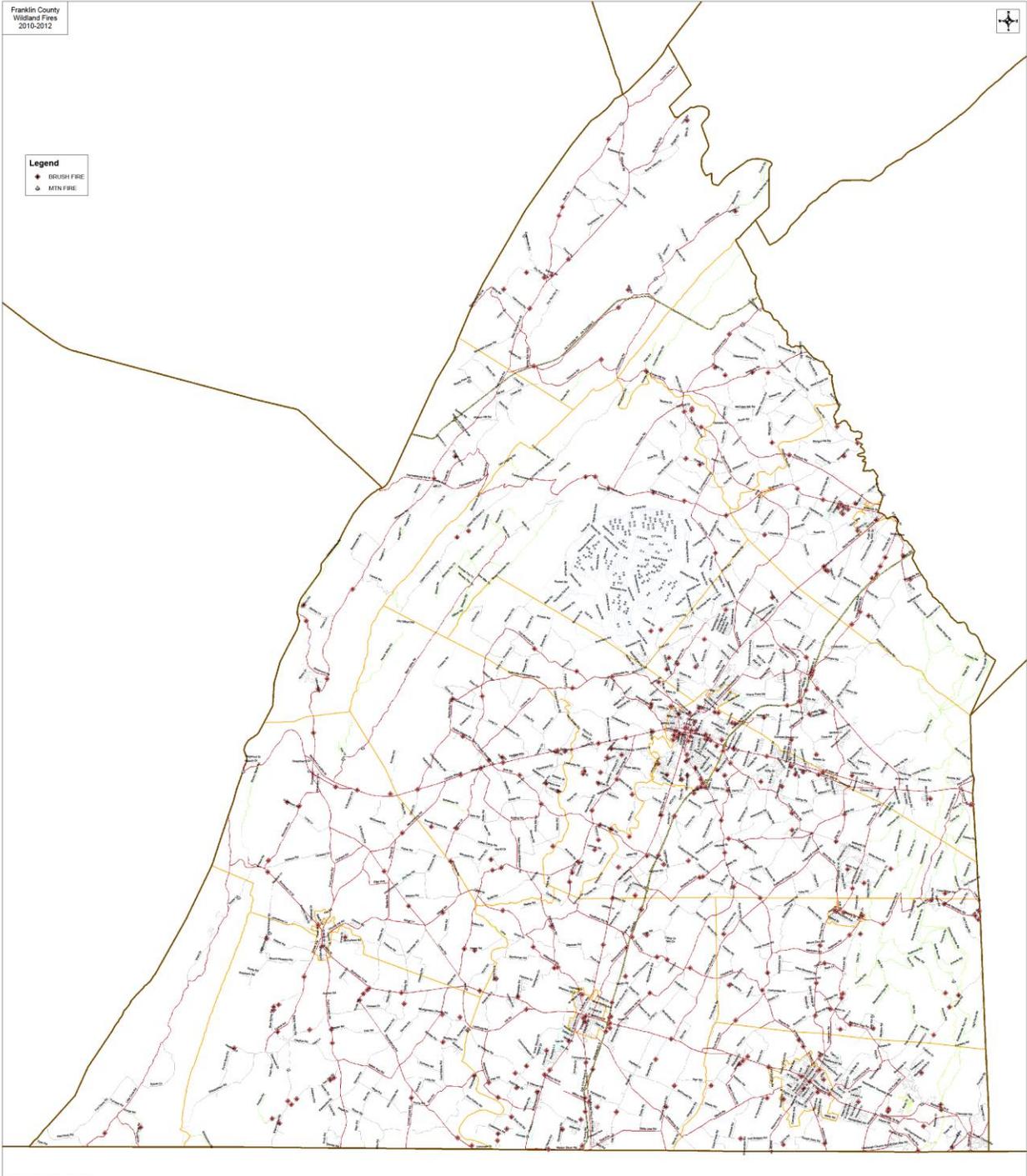
4.3.5.1 Location and Extent

Due to the agricultural and rural nature of Franklin County, wildfire remains a concern. Over one-third of Franklin County is in forestland, which is approximately 300 square miles. The probability of wildfires is directly associated with the levels of precipitation and is described under the drought hazard.

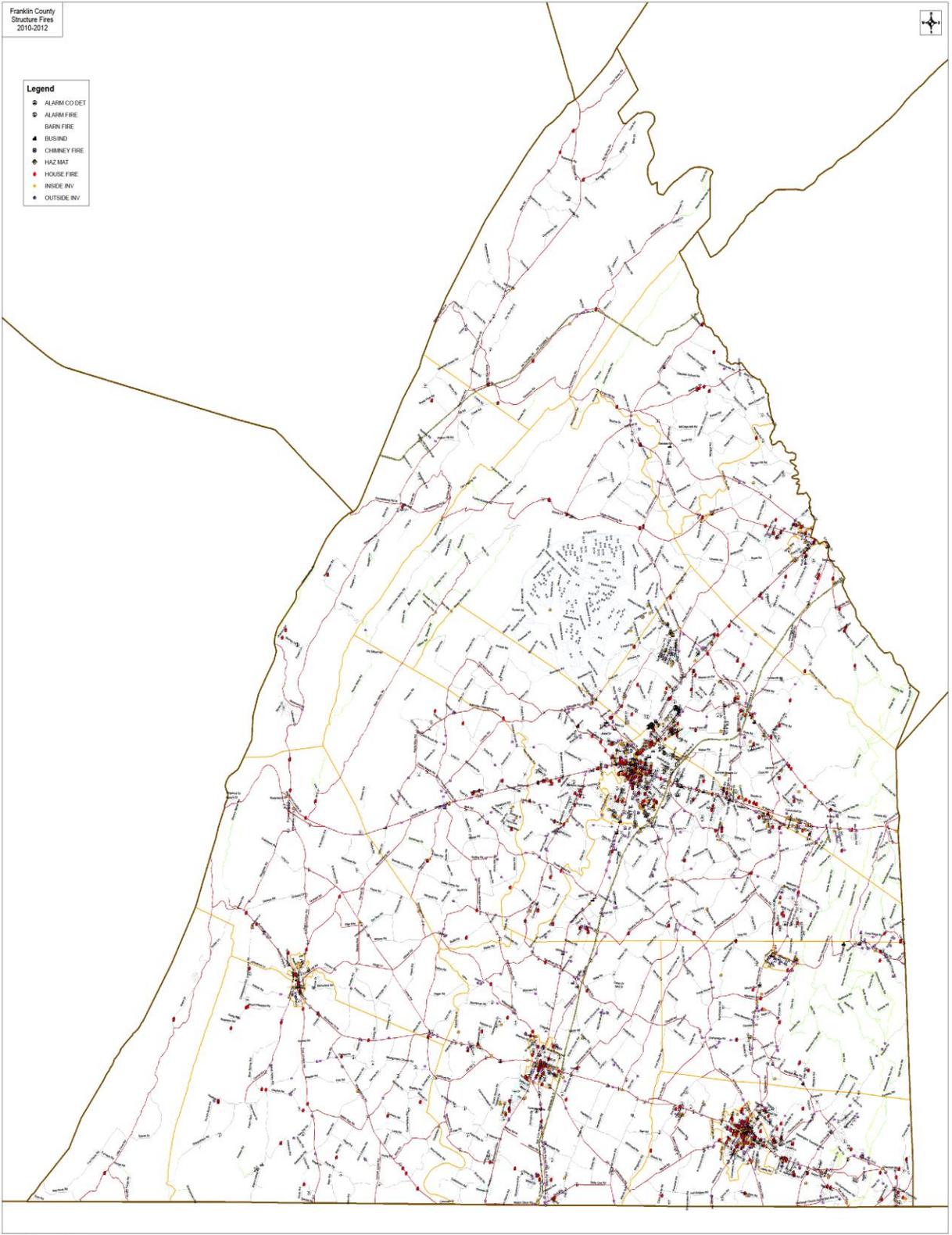
Historically, wildfires occur with a frequency of greater than one per year. Fires tend to be relatively small in size (less than 200 acres) and controlled within 24 hours of occurrence.

Several areas of concern related to these incidents increase the potential impact of wildfires. These include secondary soil erosion impacting stream and watershed areas, increased risk of landslides, wildland-urban interface fires, and wildfires extending into agricultural areas.

Pennsylvania traditionally has a rate of structure fire in excess of the national rate. For communities with similar populations, the rate of structure fires averages 3.6 per 1,000 residents. In Franklin County, the rate of structure fires 57.14 fires per 1,000 residents.



Wildland Fire Locations – Franklin County 2010 - 2012



Structure Fire Locations – Franklin County 2010 - 2012

4.3.5.2 Range of Magnitude

The potential for a catastrophic fire continues to exist within Franklin County. The County has a greater than average number of fires, with an average response time by fire departments continuing to remain in the area of ten minutes.

4.3.5.3 Past Occurrence

Fire departments respond to over 30,000 calls for assistance each year.

4.3.5.4 Future Occurrence

The number of fires each year has remained steady over the past five years, and when weighted for population, has actually decreased.

4.3.5.5 Vulnerability Assessment

The County continues to remain vulnerable to fires in both the wildland and urban environments.

4.3.6 Winter Storm

4.3.6.1 Location and Extent

Winter storms occur on the average of five times a year in Pennsylvania. Every county in the Commonwealth is subject to severe winter storms although the northern tier, western counties and mountainous regions tend to experience these storms more frequently and with greater severity.

Winter storms can adversely affect roadways, utilities and business activities while a rapid thaw often causes flooding.

Franklin County experiences major winter storms every few years. The county has experienced large snowfall amounts as well as significant icing events. These events in combination with high winds have caused moderate damage and temporary closings.

Since the county is situated in the southern part of the state, it escapes some of the severity of winter storms, but it nevertheless has had problems related to storms. In the past, power failures, road closings, and stranded motorist situations have occurred. The county has experienced intermittent loss of communications, with a minimal need to evacuate people or experience severe crop losses due to this weather condition.

4.3.6.2 Range of Magnitude

The severity and frequency of major winter storms is expected to remain fairly constant. However, due to increased dependency on various modes of transportations and increased use of public utilities for light, heat, and power, the disruption by these storms is more significant today than in the past.

4.3.6.3 Past Occurrence

Winter storms occur nearly annually, with significant incidents occurring approximately once every three years.

4.3.6.4 Future Occurrence

It is anticipated that Franklin County will continue to be subject to winter storm incidents.

4.3.6.5 Vulnerability Assessment

Franklin County will continue to remain vulnerable to the effects of winter storms, especially secondary incidents involving infrastructure.

Franklin County is vulnerable to winter storms in varying degrees of severity. Winter storms can cause road closings in the county, especially on secondary and farm roads that become virtually impassable.

Additional vulnerability conditions also exist, including business losses, property loss, and interruption of utility services.

4.3.7 Hazardous Materials Releases

4.3.7.1 Location and Extent

As a primary transportation corridor with over 600 miles of major highway and two rail corridors, Franklin County sees several tons of hazardous materials pass through the County on any given day. Several times each year, one of these shipments suffers a container failure. In addition, hazardous materials are found in manufacturing processes, agricultural industry, and storage and distribution facilities throughout the County.

4.3.7.2 Range of Magnitude

The number and quantity of hazardous materials being produced, stored, and transported continues to increase. Hazardous materials fall into several categories such as flammable, combustible materials, compressed gases, explosive and blasting agents, radioactive materials, oxidizing materials, poisons and corrosive liquids.

A 2011 study of hazardous materials shipments discovered that approximately ten percent (10%) of the truck traffic transiting Franklin County consists of hazardous materials shipments. It should be noted that the study discovered an interesting anomaly that may indicate that the number of hazardous shipments transiting Franklin County may be higher. In the study, it was discovered that 100% of the trailers that are designed to ship heavy liquids, primarily hazardous materials, were not placarded. This possibly indicated that these shipments were not placarded to the legal requirement. The same study discovered that one hundred percent (100%) of the train traffic contains hazardous materials. This does not mean that all rail cars contain hazardous materials; rather cars in all trains surveyed contained placard quantities of hazardous materials.

4.3.7.3 Past Occurrence

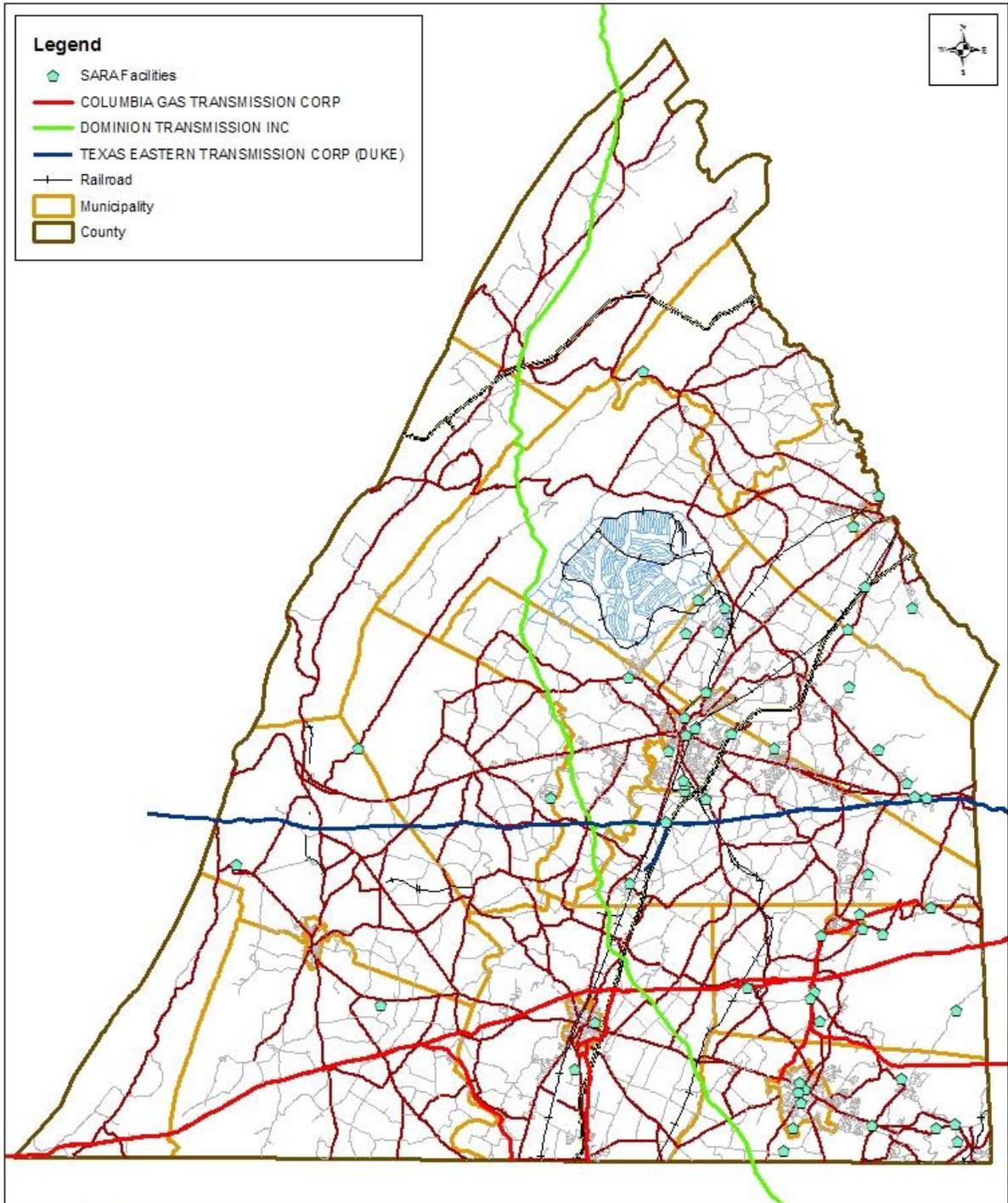
While the potential for major, hazardous materials incidents exists, Franklin County has been fortunate in that it has not experienced a major release within the past ten years. The County has several minor (<100 gallon) spills each month.

4.3.7.4 Future Occurrence

As truck traffic is predicted to increase by 300% over the next ten years, it is anticipated that the number of hazardous materials incidents will increase.

4.3.7.5 Vulnerability Assessment

The County will remain vulnerable to hazardous materials releases from both fixed facilities and transportation corridors.



Mapping by Franklin County Department of Emergency Services GIS

4.3.8 Infrastructure Failure

4.3.8.1 Location and Extent

The infrastructure necessary to keep Franklin County connected to, and interacting with the rest of the world while ensuring the safety and health of its citizens, includes transportation corridors, electrical power grid, communications and information pathways, fuel and gas supplies, and water quality. Due to its geographic and demographic nature, the County is served by multiple infrastructure providers for each category. This redundancy provides some depth in protection in the event of a single provider becoming unable to provide services. Regardless of the level of redundant systems, The least degree of redundancy is seen in the provision of communications and information system pathways any failure of any infrastructure pathway may catastrophically impact the County or region of impact.

4.3.8.2 Range of Magnitude

The County has been subject to repeated failures of infrastructure, secondary to other incidents, such as storms. The infrastructure involved has historically been restored within one week. However, several bridges within Franklin County are in need of repair to remain serviceable, and recent outages in the telecommunications systems demonstrated the fragility of the system and lack of redundant back up. This outage resulted in a significant population being without telecommunications capabilities or the ability to utilize telecommunications systems, such as paging, 9-1-1, and internet.

4.3.8.3 Past Occurrence

Historically, temporary, short-term failures occur every year.

4.3.8.4 Future Occurrence

It is predicted that infrastructure failures in the telecommunications, transportation, water distribution, and electric utilities will continue and the rate of failure and extent will increase.

4.3.8.5 Vulnerability Assessment

Infrastructure failure continues to be a issue of great concern with the potential for significant impact on Franklin County.

4.4. Hazard Vulnerability Summary

4.4.1. Methodology

Ranking hazards helps communities set goals and priorities for mitigation based on their vulnerabilities. A risk factor (RF) is a tool used to measure the degree of risk for identified hazards in a particular planning area. The RF can also assist local community officials in ranking and prioritizing hazards that pose the most significant threat to a planning area based on a variety of factors deemed important by the planning team and other stakeholders involved in

the hazard mitigation planning process. The RF system relies mainly on historical data, local knowledge, general consensus from the planning team, and information collected through development of the hazard profiles included in Section 4.3. The RF approach produces numerical values that allow identified hazards to be ranked against one another; the higher the RF value, the greater the hazard risk.

RF values were obtained by assigning varying degrees of risk to five categories for each of the hazards profiled in the HMP update. Those categories include *probability*, *impact*, *spatial extent*, *warning time*, and *duration*. Each degree of risk was assigned a value ranging from one to four. The weighting factor agreed upon by the planning team is shown in Table 4.4-1. To calculate the RF value for a given hazard, the assigned risk value for each category was multiplied by the weighting factor. The sum of all five categories equals the final RF value, as demonstrated in the following example equation:

$$\text{Risk Factor Value} = [(Probability \times .30) + (Impact \times .30) + (Spatial Extent \times .20) + (Warning Time \times .10) + (Duration \times .10)]$$

The following table summarizes each of the five categories used for calculating a RF for each hazard.

According to the weighting scheme applied, the highest possible RF value is 4.0.

Summary of Risk Factor approach used to rank hazard risk.

RISK ASSESSMENT CATEGORY	DEGREE OF RISK	LEVEL CRITERIA	INDEX	WEIGHT VALUE
PROBABILITY <i>What is the likelihood of a hazard event occurring in a given year?</i>	UNLIKELY	LESS THAN 1% ANNUAL PROBABILITY	1	30%
	POSSIBLE	BETWEEN 1 & 10% ANNUAL PROBABILITY	2	
	LIKELY	BETWEEN 10 & 100% ANNUAL PROBABILITY	3	
		100% ANNUAL PROBABILITY	4	
	HIGHLY LIKELY			
IMPACT <i>In terms of injuries, damage, or death, would you anticipate impacts to be minor, limited, critical, or catastrophic when a significant hazard event occurs?</i>	MINOR	VERY FEW INJURIES, IF ANY. ONLY MINOR PROPERTY DAMAGE & MINIMAL DISRUPTION OF QUALITY OF LIFE. TEMPORARY SHUTDOWN OF CRITICAL FACILITIES.	1	30%
	LIMITED	MINOR INJURIES ONLY. MORE THAN 10% OF PROPERTY IN AFFECTED AREA DAMAGED OR DESTROYED. COMPLETE SHUTDOWN OF CRITICAL FACILITIES FOR MORE THAN ONE DAY.	2	
	CRITICAL	MULTIPLE DEATHS/INJURIES POSSIBLE. MORE THAN 25% OF PROPERTY IN AFFECTED AREA DAMAGED OR DESTROYED. COMPLETE SHUTDOWN OF CRITICAL FACILITIES FOR MORE THAN ONE WEEK.	3	
	CATASTROPHIC	HIGH NUMBER OF DEATHS/INJURIES POSSIBLE. MORE THAN 50% OF PROPERTY IN AFFECTED AREA DAMAGED OR DESTROYED. COMPLETE SHUTDOWN OF CRITICAL FACILITIES FOR 30 DAYS OR MORE.	4	
SPATIAL EXTENT <i>How large of an area could be impacted by a hazard event? Are impacts localized or regional?</i>	NEGLIGIBLE	LESS THAN 1% OF AREA AFFECTED	1	20%
	SMALL	BETWEEN 1 & 10% OF AREA AFFECTED	2	
	MODERATE	BETWEEN 10 & 50% OF AREA AFFECTED	3	
	LARGE	BETWEEN 50 & 100% OF AREA AFFECTED	4	
WARNING TIME <i>Is there usually some lead time associated with the hazard event? Have warning measures been implemented?</i>	MORE THAN 24 HRS	SELF-DEFINED	1	10%
	12 TO 24 HRS	SELF-DEFINED	2	
	6 TO 12 HRS	SELF-DEFINED	3	
	LESS THAN 6 HRS	SELF-DEFINED	4	

DURATION <i>How long does the hazard event usually last?</i>	LESS THAN 6 HRS	SELF-DEFINED	1	10%
	LESS THAN 24 HRS	SELF-DEFINED	2	
	LESS THAN 1 WEEK	SELF-DEFINED	3	
	MORE THAN 1 WEEK	SELF-DEFINED	4	

4.4.2. Ranking Results

RISK	NATURAL(N) OR MAN-MADE(M)	PROBABILITY	IMPACT	SPATIAL EXTENT	WARNING TIME	DURATION	RISK FACTOR (RF)
	Drought (N)	2	2	3	1	4	2.3
	Flood, Flash Flood, Ice Jam	3	2	2	2	3	2.4
	Hurricane, Tropical Storm, Nor'easter, High Winds, Thunderstorms (N)	4	2	3	1	2	2.7
	Subsidence, Sinkhole (N,/M)	3	1	1	4	4	2.2
	Wildfire/Structural Fire (N/M)	4	3	1	4	2	2.9
	Winter Storm (N)	3	2	4	1	2	2.6
	Hazardous Materials Releases (M)	4	2	2	4	3	2.9
	Infrastructure Failure (M)	4	4	4	4	3	3.9

Probability of Occurrence

Impact of Loss

	Very High	High	Moderate	Low
Devastating	Infrastructure failure			Dam failure
Severe	Winter storms Temperature extremes	Mass casualty incident & Epidemic	Drought	Radiological incident Terrorism
Noticeable	Tornado Severe Thunderstorm Flood Hazardous materials spill		Hurricane & Tropical weather	Earthquake
Minor	Wildfire			Landslide

4.4.3. Potential Loss Estimates

Due to its size and the variety of disasters that can impact Franklin County, an accurate loss estimate is difficult to determine. However, based on the historical record, normal, minor disasters, such as damage caused by Hurricane Sandy, can run in excess of several million dollars.

4.4.4. Future Development and Vulnerability

Franklin County is subject to the most common natural hazards such as flooding, winter storms, windstorms, and drought. Although flooding is a frequent problem, windstorms probably cause more damage and affect more people. In addition, water deficiencies are most certainly a serious long-range hazard. With the increasing demand for water by residential, industrial, and agricultural users, alternative solutions must be investigated.

Responsibility for emergency management begins at the municipal level of government in Pennsylvania. However, as the scope of a disaster or the level of resources required increases, the county and even state and federal agencies must be involved. It is important; therefore, that every level of government assesses the hazards that threaten their communities so that appropriate response precautions and preventive measures can minimize the effects of these events.

The Franklin County Department of Emergency Services is committed to the enhancement of emergency services and an effective and coordinated response capability based on a current assessment of the hazards that threaten the citizens and visitors of Franklin County.

5. Capability Assessment

5.1. Update Process Summary

The following table summarizes the local government capabilities of the Franklin County municipalities that will facilitate implementation of the mitigation strategy. Franklin County has 15 townships and 7 boroughs within its boundaries that have a very important relationship in which they share resources to ensure the effective implementation of ordinances and codes. Shippensburg borough offices are in Cumberland County with sections of the municipality in Franklin County.

Municipality	Comprehensive Plan	Zoning Ordinance	Solid & Land Development Ordinance	Flood Ordinance	NFIP Bldg Code
Antrim	1992	1996	1996	Yes	Yes
Chambersburg	1994	1982	1979	Yes	Yes
Fannett			1999	Yes	Yes
Greencastle	1992	1995	1995	No	Yes
Greene	1994	1998	1998	Yes	Yes
Guilford		1998	1997	Yes	Yes
Hamilton			2002	Yes	Yes
Letterkenny			1988	Yes	Yes
Lurgan	1992	1993	1994	Yes	Yes
Mercersburg			2001	Yes	Yes
Metal			2001	Yes	Yes
Mont Alto		1993	1993	Yes	Yes
Montgomery	1974		1990	Yes	Yes
Orrstown			1967		Yes
Peters	1974		1991	Yes	Yes
Quincy		2003	1996	Yes	Yes
St. Thomas	1992		1990	Yes	Yes
Shippensburg	1992	1996	1993	Yes	Yes
Southampton	1999		2001	Yes	Yes
Warren	1974		2004	Yes	Yes
Washington	1999	2001	2002	Yes	Yes
Waynesboro	1999	1991	1992	Yes	Yes

The County, townships and boroughs have undertaken several important planning initiatives:

Comprehensive Planning: Franklin County developed and has been implementing its comprehensive planning document. This document provides the basis for many decisions regarding land use, conservation, transportation, and economic development.

Watershed Planning: The County is responsible for stormwater management planning for watersheds within its jurisdiction. This includes future planning projects, obstructions to the waterways are inventoried and analyzed, and ordinances based upon studies in order to provide management for stormwater resulting from future development.

Building Codes: In 2004, the Commonwealth of Pennsylvania implemented the Uniform Construction Code, a comprehensive building code that establishes minimum regulations for most new construction, including additions and renovations to existing structures.

Natural Resources Planning: Franklin County has an Agriculture Land Preservation Program, which helps to limit the spread of development.

Natural Resources Planning: Promotes the completion of parks and open space by identifying resources of the County, recreation goals, and an action plan to achieve those goals. The County is preparing a greenway plan to tie the natural resources of the county together and preserve vulnerable areas.

Water Supply Planning: The County, while it has no direct responsibility concerning the availability or supply of water, does encourage the regionalization of water resources. Currently there are several projects that are providing for emergency interconnects on water systems to provide water resources during times of drought.

Alternate Sources of Funding: Community Development Block Grant Program, Department of Community and Economic Development, Department of Environmental Protections, and Department of Homeland Security will provide additional assistance to locate specific funding opportunities.

5.2. Capability Assessment Findings

5.2.1. Emergency Management

5.2.2. Participation in the National Flood Insurance Program (NFIP)

Flood Plain Management and Insurance: All townships and boroughs, with the exception of Greencastle and Orrstown, have adopted floodplain management ordinances and participate in the NFIP. This plan encourages the jurisdictions that have not adopted a floodplain management ordinance to do so. To date, the properties subject to the greatest hazard from repeated floodplain impact are subject to isolation rather than property damage. As a result, attempts to determine cost-benefit assessment have been unsuccessful in justifying property relocation or removal.

5.2.3. Planning and Regulatory Capability

The County, townships and boroughs have undertaken several important planning initiatives:

Comprehensive Planning: Franklin County developed and has been implementing its comprehensive planning document. This document provides the basis for many decisions regarding land use, conservation, transportation, and economic development.

Watershed Planning: The County is responsible for stormwater management planning for watersheds within its jurisdiction. This includes future planning projects, obstructions to the waterways are inventoried and analyzed, and ordinances based upon studies in order to provide management for stormwater resulting from future development.

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Pennsylvania Emergency Management Agency was established “To assure prompt, proper and effective discharge of basic Commonwealth responsibilities relating to civil defense and disaster preparedness, operations and recovery.” Preamble to Title 35 PA

C.S. Title 35 § 7313 enumerates the Powers and duties of the agency as:

1. To prepare, maintain and keep current a Pennsylvania Emergency Management Plan for the prevention and minimization of injury and damage caused by disaster, prompt and effective response to disaster and disaster emergency relief and recovery. The plan may include provisions for:

(i) Preparedness standards established by the Federal Emergency Management Agency.

(ii) Commonwealth and local disaster emergency management responsibilities.

(iii) Assistance to Commonwealth and local government officials in designing emergency management plans and training programs.

(iv) Organization of manpower, chains of command, continuity of government in emergency situations and emergency operational principles.

(v) Coordination of Federal, Commonwealth and local disaster emergency management activities.

- (vi) Coordination of the Commonwealth Emergency Management Plan with the disaster plans of the Federal Government and those of other states.
- (vii) Assistance to the Commonwealth and local governments in obtaining, utilizing and managing Federal and Commonwealth disaster assistance.
- (viii) Supply to appropriate Commonwealth and local officials State catalogs of Federal, Commonwealth and private assistance programs.
- (ix) Identification of areas particularly vulnerable to disasters.
- (x) Recommendations for zoning, building and other land-use controls; safety measures pertaining to nonpermanent or semi-permanent structures; resource conservation and allocation; and other preventive and preparedness measures designed to eliminate or reduce disasters or their impact.
- (xi) Authorization and procedures for the erection or other construction of temporary works designed to protect against or mitigate danger, damage or loss from flood, conflagration or other disaster.

The Pennsylvania legislature realized that preparedness, mitigation, response and recovery covered many different aspects of government. As a result PA C.S. Title 35 additionally created a body legally known as the Pennsylvania Emergency Management Council. As a Commonwealth, we have a long history of different perspectives on issues of mitigation.

Pennsylvania and her citizens participate in available federal, state and local mitigation programs. The Commonwealth of Pennsylvania through PEMA has undertaken participation in several Federal FEMA based mitigation programs.

Franklin County may also be able to access several of the resources offered by the Commonwealth of Pennsylvania. One resource that may have particular application to hazard mitigation initiatives is the "Growing Greener" campaign. Growing Greener was signed into law in 1999 investing nearly \$650 million in preserving farmland and protecting open space; providing funds for recreational trails; helping communities address land use; and providing new and upgraded water and sewer systems. Many counties have received grants to address land-use and open space issues. Some of these funds may be used for hazard mitigation objectives like acquisition and demolition of flood-prone structures.

The Department of Conservation and Natural Resources (DCNR) provides a single point of contact for communities seeking state assistance in support of local conservation initiatives. This assistance can take the form of grants, technical assistance, information exchange and training.

Other potential sources of help from the Commonwealth include:

Local Government Capital Projects Loan Program: Provides low-interest loans for up to 50 percent of the total cost of purchasing equipment up to a maximum of \$25,000 or 50 percent of the total cost of municipal facility needs up to \$50,000 for small local governments with populations of 12,000 or less;

Shared Municipal Services: Provides grant funds to promote cooperation among municipalities, encouraging more efficient and effective delivery of municipal services like shared personnel activities or equipment or shared data processing operations;

Land Use Planning and Technical Assistance Program: Provides grant funds for the preparation of community comprehensive plans and ordinances to implement them;

Floodplain Land Use Assistance Program: Provides grants and technical assistance to encourage the proper use of land and the management of floodplain lands including the costs for clerical, technical and legal staff as well as advertising, public hearing, and consultant costs; and

Community Revitalization Program: Provides grant funds to support local initiatives that promote social and economic diversity to ensure a productive tax base and good quality of life with projects like construction or rehabilitation of infrastructure, building rehabilitation, public safety, recreation, and acquisition.

Stormwater Management Program: Provides grants to counties to develop stormwater management plans for designated watersheds and to municipalities to implement the plans.

Pennsylvania Infrastructure Investment Authority (PennVEST): Provides for design, engineering, and construction of publicly and privately owned drinking water distribution and treatment facilities, stormwater conveyance and wastewater treatment systems.

5.2.4. Administrative and Technical Capability

5.2.5. Fiscal Capability

Other potential sources of help from the Commonwealth include:

Local Government Capital Projects Loan Program: Provides low-interest loans for up to 50 percent of the total cost of purchasing equipment up to a maximum of \$25,000 or 50 percent of the total cost of municipal facility needs up to \$50,000 for small local governments with populations of 12,000 or less;

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Alternate Sources of Funding: Community Development Block Grant Program, Department of Community and Economic Development, Department of Environmental Protections, and will provide additional assistance to locate specific funding opportunities.

The federal government offers a number of mitigation-related funding and training resources. Funding opportunities such as the Pre-Disaster Mitigation Assistance program, the Flood Mitigation Assistance Program, and the Hazard Mitigation Grant Program require local governments to have a hazard mitigation plan in order to be eligible to receive such grants. Other possible funding sources include Community Development Block Grants and the Small Business Administration. The relationship between these funding sources and potential mitigation actions will be explained as part of the implementation strategy for this plan.

Through the Emergency Management Institute, the federal government offers training in all aspects of emergency management, including hazard mitigation. The courses available at the Institute are free to local government staff.

Other federal resources include:

Weatherization Assistance Program: Minimizes the adverse effects of high-energy costs on low-income, elderly, and handicapped citizens through client education activities and weatherization services like heating system modifications and insulation.

FEMA's Flood Mitigation Assistance Program: Provides grants to states and communities for planning assistance and mitigation projects that reduce the risk of flood damage to structures covered by flood insurance. There are three types of grants: planning, project and technical assistance.

FEMA's Public Assistance Grant Program: One way federal assistance gets to the state and local governments and to certain private nonprofit organizations. These grants allow them to respond to disasters, to recover from their impact from future disasters.

Section 108 Loan Guarantee Programs: Provides loan guarantees as security for federal loans for acquisition, rehabilitation, relocation, clearance, site preparation, special economic development activities, and construction of certain public facilities and housing.

US Department of Housing and Urban Development Community Block Grant: Provides flexible grants to help municipalities, counties, and states recover from Presidentially declared disasters, especially in low-income areas.

US Army Corp of Engineers: Provides planning and technical assistance for a wide range of activities including flood-damage reduction, dam safety, and emergency response:

Emergency Streambank and Shoreline Protection Projects (Section 14, Flood Control Act of 1946). The Corps may spend up to \$500,000 in one locality during any fiscal year for the construction, repair, restoration, and modification of emergency streambank and shoreline protection works. These projects may be designed to prevent damage to highways, bridge approaches, and public works, as well as churches, hospitals, schools, and other non-profit services endangered by streambank or shoreline erosion.

Small Flood Control Projects (Section 205, Flood Control Act of 1948, as amended). Small flood control projects may be constructed without specific authorization by Congress, when the Chief of Engineers determines that such work is advisable. The project must constitute a complete solution to the flood problem involved, and not require subsequent improvements to ensure effective operation.

Aquatic Ecosystem Restoration (Section 206 of Water Resources Development Act of 1996, as amended). Aquatic Ecosystem Restoration provides for restoration and protection of the aquatic ecosystem if it is determined that the project will improve the quality of the environment, is in the public interest, and is cost effective.

Snagging and Clearing (Section 208, Flood Control Act of 1954, as amended). For the purposes of flood control, the Corps may allot up to \$500,000 on any single tributary during any fiscal year for the removal of accumulated snags and other debris, and for the clearing and straightening of stream channels.

Project Modifications for the Improvement of the Environment (Section 1135(b), Water Resources Development Act of 1986, as amended). The Corps is authorized to investigate, study, modify, and construct projects for the restoration of fish and wildlife habitats where degradation is attributable to existing Federal water resource projects previously constructed by the Corps

US Department of Agriculture: Provides disaster assistance through the following:
Emergency Watershed Protection Program: Undertake emergency measures, including the purchase of flood plain easements, for runoff retardation and soil erosion prevention to safeguard lives and property from floods, drought, and the products of erosion on any watershed whenever fire, flood or any other natural

occurrence is causing or has caused a sudden impairment of the watershed. It is not necessary for a national emergency to be declared for an area to be eligible for assistance. The program objective is to assist sponsors and individuals in implementing emergency measures to relieve imminent hazards to life and property created by a natural disaster. Activities include providing financial and technical assistance to remove debris from streams, protect destabilized stream banks, establish cover on critically eroding lands, repairing conservation practices, and the purchase of flood plain easements. The program is designed for installation of recovery measures.

The Emergency Conservation Program provides emergency funding for farmers to rehabilitate farmland damaged by natural disasters and for carrying out emergency water conservation measures during periods of severe drought. The Non-insured Crop Disaster Assistance Program provides financial assistance for non-insurable crop losses and planting prevented by disasters.

5.2.6. Political Capability

5.2.7. Self-Assessment

Franklin County has the capability to bring together citizens, government representatives, and local officials to work closely together in crafting a better future for their communities. That same cooperative effort, if joined with the appropriate technical and financial assistance from regional, state and federal resources, can be harnessed to implement the greatest benefit cost program and prioritize those hazard mitigation actions. A sustained effort by the citizens, staff, and local officials can create a more sustainable and disaster resistant future for Franklin County.

A series of self assessments are presented below, with the first being an aggregate score of vulnerability and the second being a susceptibility rating by municipality for detailed hazards.

0 being no impact/ susceptibility/ unprepared/ no resources and 3 being high probability/ impact/ level of preparedness/ ability to mitigate	Susceptibility/ Probability of occurrence	Impact on People	Impact on Structures	Impact on businesses	Preparedness level
Hurricane	0-2	0-3	0-3	0-3	0-3
Tornado	1-2	1-3	1-3	1-3	1-3
Severe	2-3	1-3	1-3	1-3	2-3

Thunderstorm					
Snow Fall	3	2-3	1-3	1-3	2-3
Blizzard	2-3	2-3	1-3	1-3	2-3
Ice Storm	2-3	1-3	1-2	1-2	1-3
Earthquake	0-3	0-3	0-3	0-3	0-3
Temperature Extremes	0-2	1-2	0-1	0-2	0-3
Drought	2-3	1-3	0-1	0-2	0-3
Flood	1-3	1-3	0-2	0-2	0-3
Wild fire	1-2	1-2	0-3	1-2	2
Landslide	0-1	1	1-3	0-3	1-3
Dam Inundation	0-1	0-3	0-3	0-3	1-3
Epidemic	1-3	1-3	0-1	1-3	0-2
Electric Failure	0-3	2-3	0-2	1-3	1-3
Transportation Failure	0-1	0-2	0-1	0-1	0-2
Fuel Shortage	0-1	1-3	0-2	0-3	1-2
Natural Gas Failure	0-2	1-3	0-3	1-3	1-3
Water Failure	0-2	1-3	0-3	1-3	0-3
Sewer Failure	0-2	1-3	0-3	0-3	1-3
Communications System Failure	1-2	2-3	0-2	0-2	0-2
Information Systems Failure	1-2	1-3	0-3	1-3	1-3
Mass Casualty Incident - Trauma	1-3	1-3	0-2	1-2	1-2
Mass Casualty Incident - Medical	1-3	1-3	0-2	1-2	1-2
Bio-terrorism	1-2	1-3	0-3	1-3	0-3
VIP visit	1-2	1-2	0-2	0-2	0-2
Infant abduction	1-3	1-2	0	0-1	0-2
Hostage situation	1-3	1-3	0-2	1-2	0-2
Civil disturbance	0-3	1-3	0-1	0-2	0-2
Labor Action	0-2	1-3	0-1	0-1	0-3
Explosion	0-2	1-3	1-3	1-2	1-3
Mass Casualty Incident - Hazardous Materials (>5	1-3	1-3	0-2	0-2	1-3

patients)					
Hazardous Materials Injuries (<5 patients)	1-2	1-3	0	0	
Hazardous Materials Spill	1-2	1-3	0-1	0-1	0-1
Terrorism - Chemical	0-2	0-3	0-1	0-3	0-3
Radiological incident	1	1-3	1	1	0-3
Radiological Incident - terrorism	1	1-3	1	1	0-3

Impact of incident

Municipality	Drought	Floods	Hurricane, Tropical Storms, Nor'Easter Tornado	Subsidence and Sinkholes	Wildfire and Structural Fire	Hazardous Materials Releases	Infrastructure Failure
Antrim	S	S	S	S	S	S	S
Chambersburg		S	S	S	S	S	S
Fannett		S			S	S	S
Greencastle	S		S	S	S	S	S
Greene	S	S		S	S	S	S
Guilford	S	S	S	S	S	S	S
Hamilton		S	S	S	S	S	S
Letterkenny	S	S	S	S	S	S	S
Lurgan		S		S	S	S	S
Mercersburg	S	S	S		S	S	S
Metal	S	S			S	S	S
Mont Alto	S	S	S	S	S	S	S
Montgomery		S			S	S	S
Orrstown				S	S	S	S
Peters	S	S			S	S	S
Quincy	S	S	S	S	S	S	S
St. Thomas	S	S	S	S	S	S	S
Shippensburg	S	S	S	S	S	S	S
Southampton	S	S	S	S	S	S	S

Warren		S			S	S	S
Washington	S	S	S	S	S	S	S
Waynesboro	S	S	S	S	S	S	S

5.2.8. Existing Limitations

After conducting the mitigation capability assessment, it was determined that the County will need to rely on technical and financial assistance from regional, state, and federal resources to effectively implement hazard mitigation actions over the next five years. The constraints facing the County include limited staff resources and funds that can be directed toward implementing hazard mitigation.

6. Mitigation Strategy

The mitigation strategy serves as the road map for reducing losses, hazard, and shortcomings identified during the risk assessment process. These strategies include a list of goals and objectives and mitigation actions that are prioritized, based on community requirements. The mitigation strategy is comprised of the following subsections:

- Local Hazard Mitigation Goals
- Identification and Analysis of Mitigation Actions (County Level)
- Multi-jurisdictional Mitigation Actions (Municipal Level)
- Implementation of the National Flood Insurance Program

The mitigation strategy is based on historical precedent, legislative mandate and jurisdictional interpretation. For information on historical and jurisdictional interpretation, the Pennsylvania Bar Association, through their continuing legal education arm, has authored many multi-hazard synoptic discussions (www.pbi.org). The legislative mandates are present in the prepared discussions and the legislation of the Pennsylvania legislature (www.legis.state.pa.us).

Philosophy Of Hazard Mitigation

Hazard Mitigation is an investment in the health and safety of Pennsylvania’s citizens as well as a safeguard of their property and economic well-being. Effective hazard mitigation can lessen loss of live, reduce the potential for physical and economic loss, reduce the need to respond to disaster, and shorten the disaster recovery period in stricken areas. Hazard mitigation can best be achieved by hazard avoidance. In instances where this is not feasible, adapting to the hazard or altering the impact of the hazard should be considered. All levels of Commonwealth government have an equal stake in hazard mitigation planning and execution, for it is the

citizens of those entities who must bear the agony of loss of life and property when disaster strikes.

Hazard avoidance requires knowledge of the potential presence and potential location of occurrence of natural hazards.

6.1 Requirements for the Mitigation Strategy

Requirement 201.6(c)(3): The plan shall include 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.

Requirement 201.6(c)(3)(i): (The hazard mitigation strategy shall include a) description of mitigation goals to reduce or avoid long-term vulnerabilities to the identified hazards.

Requirement 201.6(c)(3)(ii): (The hazard mitigation strategy 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.

Requirement 201.6(c)(3)(iii): (The hazard mitigation strategy shall include) an action plan describing how the actions identified in section (c)(3)(ii) 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.

Requirement 201.6(c)(3)(iv): For multi-jurisdictional plans, there must be an identifiable action items specific to the jurisdiction requesting FEMA approval or credit of the plan.

6.2 Local Hazard Mitigation Goals

For the purposes of this plan, goals are defined as general policy guidelines or broad statements that represent a vision for Franklin County. The goals for this planning process have been developed with the steering committee and draw from the hazard and vulnerability assessment and mitigation capabilities assessments. The following goals are designed to serve as the basis for mitigation actions at the county and municipal level.

Create an organizational structure for accountability to follow through with plan maintenance.

Maintain a sense of regional accountability, whereas, a hazard in one municipality may affect another.

Promote actions that support economic development and public/private partnerships within Franklin County.

Encourage municipalities, through education, to promote public awareness of current and/or potential hazards within their communities.

Strengthen land use and zoning ordinances regarding floodplain regulation.
Identify resources within each community.

6.3 Identification and Analysis of Mitigation Actions (County Level)

In formulating the Mitigation Strategy, the following six mitigation categories were explored for attaining the plan's goals. These are: Prevention, Property Protection, Natural Resources Protection, Structural Projects, Emergency Services, and Public Information and Awareness. These categories provide the framework for mitigation actions in this plan. Descriptions of each are included below:

Prevention: Government administrative or regulatory actions or processes that influence the way land and buildings are developed and built and public activities to reduce hazard losses. Examples include planning, zoning, building codes, subdivision regulations, hazard-specific regulations (such as floodplain regulations), capital improvement programs, open-space preservation, and stormwater regulations.

Property Protection: Actions that involve modifying or removing existing buildings or infrastructure to protect them from a hazard. Examples include structure acquisition, elevation, relocation; retrofitting; flood-proofing; and shatter-resistant glass use. While this category predominantly includes techniques that constitute a "sticks and bricks" approach to property protection, it also includes insurance.

Natural Resource Protection: Actions that, in addition to minimizing hazard losses, preserve or restore the functions of natural systems. Examples include sediment and erosion control, stream corridor restoration, forest and vegetation management, wetlands restoration or preservation, slope stabilization, and historic property and archeological site preservation.

Structural Project Implementation: Mitigation projects intended to lessen the impact of a hazard by using structures to modify the environment. Structures include stormwater controls (culverts); dams, dikes and levees; and safe rooms.

Emergency Services: Actions that typically are not considered mitigation techniques but reduce the impacts of a hazard event on people and property. These actions are often taken prior to, during, or in response to an emergency or disaster. Examples include warning systems, evacuation planning and management, emergency response training and exercises, and emergency flood protection procedures.

Public Information and Awareness: Actions to educate citizens, elected officials, and property owners about potential risks from hazards and potential ways to mitigate them. Examples include performing hazard mapping, implementing outreach projects, disseminating library materials, providing real estate disclosures, establishing hazard information centers, and developing educational programs for school-age children or for adults.

Mitigation actions have been developed for the entire county as well as for some of the participating agencies and jurisdictions. The mitigation actions that have been developed can be implemented through a variety of local tools, such as changes in ordinances and policies, staff time, capital improvement budgets, and applying for grant funding.

To fulfill FEMA requirements for multi-jurisdictional (i.e., multi-municipal) planning, each respective municipality must have identifiable action items for potential implementation. Some of these recommended mitigation measures are to be implemented by County personnel; many are to be implemented at the local level by the appropriate municipal official(s). Additionally, given the myriad of regional differences between various municipalities, certain hazard mitigation measures are only to be implemented within select municipalities. Development of this municipality specific/multi-jurisdictional hazard mitigation strategy fulfills FEMA’s requirements for multi-jurisdictional plan implementation. Franklin County has adopted a Comprehensive Plan that gives emphasis to land use and development patterns. It also addresses transportation, agricultural preservation, natural features, community facilities and services, historic preservation, and ways to carry out the recommendations.

The tables that follow identify County-level mitigation actions. The projects are described, refer to the hazard(s) mitigated and the specific goal and objective(s) addressed, lead agency for implementation, possible funding sources, and time frame for implementation.

Hazard Addressed	Lead Agency for Implementation	Mitigation Action	Possible Funding Sources	Approximate cost	Time Frame
All hazards	FCDES	Review mutual aid agreements and recommend changes as required	None needed	Staff time	Short term
All hazards	FCDES	Review and evaluate facilities, equipment, personnel and other resources needed to support emergency response annually	None needed	Staff time	Short term
All hazards	FCDES	Continue to maintain webpages where	None needed	Staff time	Short term

		presentations, training documentation, and webinars can be posted. This will allow municipal officials to access the information at their own schedule and pace.			
All hazards	FCDES	Monitor and evaluate mitigation actions annually and update the hazard mitigation plan every five years.	None needed	Staff time	Short term
All hazards	FCDES County grant writing	On an annual basis, conduct Municipal Officials Training and/or State sponsored training courses to address hazard mitigation topics, such as damage assessment, storm water management, mutual aid agreements, public disaster assistance, and hazard mitigation grant assistance.	None needed	Staff time	Short term
All hazards	FCDES	Advocate for municipalities to find alternative methods of funding to the Hazard Mitigation Grant Program	None needed	Staff time	Short term
All hazards	FCDES	Train additional personnel on the use of GIS systems to support emergency operations.	None needed	County funds	Short term
All hazards	County	Map new	None	Staff time	Short

	planning department	developments as plans are approved for the purpose of emergency and land use planning	needed		term
All hazards	FCDES	Implement a community advisory board which consists of representatives from the community at large, homeowners associations, community fraternal and social organizations, emergency management, agricultural community, business community, special interest groups, elected officials, and government representatives with the goal of identifying strategies for community risk reduction.	None needed	Staff time	Short term
All hazards	Municipalities	Utilize most recent hazard assessment, including National Flood Plain reports and historical records, when planning or authorizing building projects, including significant renovations	None needed	Staff time	Short term
All hazards	Municipalities	Adopt and support codes that restrict building and developing in areas identified as being	None needed	Staff time	Short term

		high risk for natural and man-made incidents			
All hazards	Municipalities	Municipalities should develop and implement a plan which addresses the risks which face the municipality. These plans should coordinate with the plans in neighboring municipalities and with the County plan	None needed	Staff time	Short term
Flood	Municipalities	Encourage municipalities to update their storm water regulations as needed. A model PA DEP ordinance is available on line that can be used.	None needed	Staff time	Short term
Flood	Municipalities	Where acquisition is not feasible, advise homeowners of a preferred mitigation alternative, such as elevation or flood proofing	None needed	Staff time	Short term
Flood	Municipalities	Encourage municipalities to pass Tree City USA ordinance and meet requirements of Tree City USA. This will reduce the speed of runoff due to storm water and mitigate storm water impact.	None needed	Staff time	Short term
Flood	Municipalities	Install traffic control devices on roads subject to flooding	Grant funding	TBD	Short term
Fire	Municipalities	Enroll municipalities	None	Staff time	Short

		in the Firewise program. Encourage municipalities to reduce the vulnerability of critical facilities to wildfire by methods, such as: increasing buffers and introduction defensible spaces, identifying potential fire breaks, and providing assistance to FCDES to identify vulnerable structures.	needed		term
Fire	Municipalities	Implement policies and regulations to reduce the threat of fire and life loss in residential structures	None needed	Staff time	Short term
Hazardous materials	FCDES	Develop a comprehensive assessment and safety exam of all SARA facilities every two years	Grant funds County funds	Staff time	Short term
All hazards	FCDES	Assign and train additional County employees and volunteers to assist the Emergency Operations Center staff, so they can be called upon in the event of major emergencies	County funds	Staff time	Medium term
All hazards	FCDES	Assist municipalities in the preparation and maintenance of Municipal Emergency Operations Plans	County funds EMPG	Staff time	Medium term

All hazards	FCDES	Foster relationships with other counties so that Franklin County may utilize mutual aid in Emergency Operations positions	None needed	Staff time	Medium term
All hazards	FCDES Planning department	Provide assistance to municipalities in implementing individual hazard mitigation actions	County funds	Staff time	Medium term
All hazards	FCDES	Incorporate local data in HAZUS models	County funds	Staff time	Medium term
Flood	Municipalities	Ensure proper enforcement of municipal Floodplain Ordinances	None needed	Staff time	Medium term
High winds	Municipalities	Develop a Debris Management Plan to include quick "Help Sheets" built upon various types of incidents and events	None needed	Staff time	Medium term
Fire	FCDES	Identify and implement incentives to encourage municipal officials to participate in training	County funds	TBD	Medium term
All hazards	Municipalities	Continue to stringently enforce all building codes in effect	None	Staff time	Medium term
All hazards	Planning department	Work with municipalities to integrate County Hazard Mitigation Plan into municipal Comprehensive Plans, Subdivision and Land Development Ordinances, and Zoning Ordinances	None	Staff time	Medium term

All hazards	FCDES	Increase funding and resources for public outreach and education with focused programs designed to address the highest risks in the community with the goal of reducing community risk and the cost of emergencies in the community	County funds	TBD	Medium term
All hazards	FCDES	Identify metrics for measuring community risk to establish benchmark. Utilize these benchmarks when implementing risk reduction strategies and develop reporting mechanism for reporting progress	None	Staff time	Medium term
All hazards	FCDES	Develop a means to fund the purchase and distribution of NOAA weather radios at no or reduced cost to the citizens of Franklin County	Grant funds	TBD	Medium term
All hazards	FCDES	Evaluate and update evacuation and sheltering plans throughout Franklin County	Grant funds County funds	TBD	Medium term
Flooding	Municipalities	Utilize engineered solutions to slow or alter streams to limit damage to the built environment	Grant funds	TBD	Medium term
Fire	Municipalities	Develop programs which provide home	Grant funds	TBD	Medium Term

		safety exams throughout Franklin County	Municipal funds		
Hazardous materials	FCDES	Ensure and expand the capabilities of regional decontamination team to include providing mass, emergency, and technical decontamination	Grant funds County funds	TBD	Medium term
Hazardous materials	FCDES	Develop and maintain a cache of hazardous materials mitigation supplies for deployment as needed	Grant funds County funds	TBD	Medium term
Transportation	FCDES	Develop a comprehensive approach to reducing the level of damage and loss due to transportation accidents	County fund Grant funds	TBD	Long term

7. Plan Maintenance

7.1. Update Process Summary

The Franklin County Hazard Mitigation Draft Plan has been sent to all municipalities for review. Upon review from the Pennsylvania Emergency Management Agency and the Federal Emergency Management Agency, a final plan will be sent to all municipalities for approval and adoption and public comment.

7.2. Monitoring, Evaluating, and Updating the Plan

The Hazard Mitigation Officer, Emergency Management staff, and representatives from stakeholders, the community and the Hazard Mitigation Steering Committee will be invited to review the plan annually or more often if a major event occurs, to recommend changes to the plan. Any change in hazard will be incorporated into the Plan. The annual review shall occur 12 months following plan adoption, and every 12 months thereafter.

This Plan will be updated every five (5) years using information gathered from annual reviews and observations. Planning for the semi-decadal update shall begin immediately following the 4 year annual review and shall be completed approximately 3 months prior to the 5 year anniversary.

Year	Activity	Participants
1	Annual review and update	County EMA Local EMA Municipalities NGO's Community groups Stakeholders Citizens County staff Steering committee
2	Annual review and update	County EMA Local EMA Municipalities NGO's Community groups Stakeholders Citizens County staff Steering committee
3	Annual review and update	County EMA Local EMA Municipalities NGO's Community groups

		Stakeholders Citizens County staff Steering committee
4	Annual review and update	County EMA Local EMA Municipalities NGO's Community groups Stakeholders Citizens County staff Steering committee
4	Semi-decadal review and update	County EMA Local EMA Municipalities NGO's Community groups Stakeholders Citizens County staff Steering committee

Evaluations shall consist of input and observations from municipalities to include

- Action items
- Plan objectives
- Goals
- Evaluation of planning team
- Project results

Franklin County Department of Emergency Services will be responsible for monitoring progress.

7.3. Incorporation into Other Planning Mechanisms

Concepts of hazard reduction from this planning document shall be reviewed for inclusion in other planning documents when applicable.

7.4. Continued Public Involvement

The opinions and contributions of all stakeholders shall be incorporated into all future planning processes with regards to hazard mitigation. The intent of this plan is to conduct a public review of the plan annually to incorporate changes in analysis and vulnerability, with a complete rewrite of the plan conducted every five years. Involvement will be advertised

utilizing public announcements via press releases, personal invitations, and on-line announcements using the County and Department web sites.

GLOSSARY OF TERMS

Actions/Projects

Specific actions or projects that help achieve goals and objectives.

Asset

Any natural or human-caused feature that has value, including, but not limited to people; buildings; infrastructure like bridges, roads, and sewer and water systems; lifelines like electricity and communication resources; or environmental, cultural, or recreational features like parks, dunes, wetlands, or landmarks.

Building

A structure that is walled and roofed, principally above ground and permanently affixed to a site. The term includes a manufactured home on a permanent foundation on which the wheels and axles carry no weight.

Critical Facilities and Infrastructure

Systems or facilities whose incapacity or destruction would have a debilitating impact on the defense or economic security of the nation. The Critical Infrastructure Assurance Office (CIAO) defines eight categories of critical infrastructure, as follows:

1. Telecommunications infrastructure: Telephone, data services, and Internet communications, which have become essential to continuity of business, industry, government, and military operations.
2. Electrical power systems: Generation stations and transmission and distribution networks that create and supply electricity to end-users.
3. Gas and oil facilities: Production and holding facilities for natural gas, crude and refined petroleum, and petroleum-derived fuels, as well as the refining and processing facilities for these fuels.
4. Banking and finance institutions: Banks, financial service companies, payment systems, investment companies, and securities/commodities exchanges.
5. Transportation networks: Highways, railroads, ports and inland waterways, pipelines, and airports and airways that facilitate the efficient movement of goods and people.
6. Water supply systems: Sources of water; reservoirs and holding facilities; aqueducts and other transport systems; filtration, cleaning, and treatment systems; pipelines; cooling

systems; and other delivery mechanisms that provide for domestic and industrial applications, including systems for dealing with water runoff, wastewater, and firefighting.

7. Government services: Capabilities at the federal, state, and local levels of government required to meet the needs for essential services to the public.

8. Emergency services: Emergency management, medical, police, public health, crisis mental health, fire, and rescue systems.

Department of Homeland Security (DHS)

Following the September 11, 2001 terrorist attacks, President George W. Bush created a new federal government department in order to bring 22 previously separate domestic agencies together. The new department's first priority is protecting the nation against further terrorist attacks. Component agencies analyze threats and intelligence, guard borders and airports, protect critical infrastructure, and coordinate the response for future emergencies. The new department is organized into five major directorates: Border and Transportation Security (BTS); Emergency Preparedness and Response (EPR); Science and Technology (S&T); and Information Analysis and Infrastructure Protection (IAIP); Management. In addition, several other critical agencies have been folded into the new department or are newly created. The Federal Emergency Management Agency (FEMA) is the foundation of the Emergency Preparedness and Response (EPR) Directorate.

Disaster Mitigation Act of 2000 (DMA2K)

A law signed by the President on October 30, 2000 that encourages and rewards local and state pre-disaster planning, promotes sustainability as a strategy for disaster resistance, and is intended to integrate state and local planning with the aim of strengthening statewide mitigation planning.

Emergency Preparedness and Response (EPR) Directorate

One of five major Department of Homeland Security Directorates which builds upon the formerly independent Federal Emergency Management Agency (FEMA). EPR is responsible for preparing for natural and human-caused disasters through a comprehensive, risk-based emergency management program of preparedness, prevention, response, and recovery. This work incorporates the concept of disaster-resistant communities, including providing federal support for local governments that promote structures and communities that reduce the chances of being hit by disasters.

Emergency Response Plan

A document that contains information on the actions that may be taken by a governmental jurisdiction to protect people and property before, during, and after a disaster.

Federal Emergency Management Agency (FEMA)

Formerly independent agency created in 1978 to provide a single point of accountability for all Federal activities related to disaster mitigation and emergency preparedness, response and recovery. As of March 2003, FEMA is a part of the Department of Homeland Security's Emergency Preparedness and Response (EPR) Directorate.

Flood Insurance Rate Map (FIRM)

Map of a community, prepared by FEMA, that shows the special flood hazard areas and the risk premium zones applicable to the community.

Frequency

A measure of how often events of a particular magnitude are expected to occur. Frequency describes how often a hazard of a specific magnitude, duration, and/or extent typically occurs, on average. Statistically, a hazard with a 100-year recurrence interval is expected to occur once every 100 years on average, and would have a 1 percent chance – its probability – of happening in any given year. The reliability of this information varies depending on the kind of hazard being considered.

Fujita Scale of Tornado Intensity

Rates tornados with numeric values from F0 to F5 based on tornado winds peed and damage sustained. An F0 indicates minimal damage such as broken tree limbs or signs, while an F5 indicates severe damage sustained.

Geographic Information Systems (GIS)

A computer software application that relates physical features on the earth to a database to be used for mapping and analysis.

Goals

General guidelines that explain what you want to achieve. Goals are usually broad statements with long-term perspective.

Hazard

A source of potential danger or adverse condition. Hazards include both natural and human-caused events. A natural event is a hazard when it has the potential to harm people or property

and may include events such as floods, earthquakes, tornados, tsunami, coastal storms, landslides, and wildfires that strike populated areas. Human-caused hazard events originate from human activity and may include technological hazards and terrorism. Technological hazards arise from human activities and are assumed to be accidental and/or have unintended consequences (e.g., manufacture, storage and use of hazardous materials). While no single definition of terrorism exists, the Code of Federal Regulations defines terrorism as "...unlawful use of force and violence against persons or property to intimidate or coerce a government, the civilian population, or any segment thereof, in furtherance of political or social objectives."

Hazard Event

A specific occurrence of a particular type of hazard.

Hazard Identification

The process of identifying hazards that threaten an area.

Hazard Mitigation

Cost effective measures taken to reduce or eliminate long-term risk associated with hazards and their effects.

Hazard Profile

A description of the physical characteristics of hazards and a determination of various descriptors including magnitude, duration, frequency, probability, and extent.

HAZUS

A GIS-based nationally standardized earthquake loss estimation tool developed by FEMA.

Implementation Strategy

A comprehensive strategy that describes how the mitigation actions will be implemented.

Mitigate

To cause to become less harsh or hostile; to make less severe or painful. Mitigation activities are actions taken to eliminate or reduce the probability of the event, or reduce its severity of consequences, either prior to or following a disaster/emergency.

Mitigation Plan

A systematic evaluation of the nature and extent of vulnerability to the effects of natural hazards typically present in a defined geographic area, including a description of actions to minimize future vulnerability to hazards.

Modified Mercalli Intensity Scale

The Modified Mercalli Intensity Scale is commonly used in the United States by seismologists seeking information on the severity of earthquake effects. Intensity ratings are expressed as Roman numerals between I at the low end and XII at the high end. The Intensity Scale differs from the

Richter Magnitude Scale in that the effects of any one earthquake vary greatly from place to place, so there may be many Intensity values (e.g.: IV, VII) measured from one earthquake. Each earthquake, on the other hand, should have just one Magnitude, although the several methods of estimating it will yield slightly different values (e.g.: 6.1, 6.3).

Objectives

Defined strategies or implementation steps intended to attain the identified goals. Objectives are specific, measurable, and have a defined time horizon.

100-Hundred Year Floodplain

Also referred to as the Base Flood Elevation (BFE) and Special Flood Hazard Area (SFHA). An area within a floodplain having a 1 percent or greater chance of flood occurrence in any given year.

Planning

The act or process of making or carrying out plans; the establishment of goals, policies, and procedures for a social or economic unit.

Probability

A statistical measure of the likelihood that a hazard event will occur.

Promulgation

To make public and put into action the Hazard Mitigation Plan via formal adoption and/or approval by the governing body of the respective community or jurisdiction.

Q3 Data

The Q3 Flood Data product is a digital representation of certain features of FEMA's Flood Insurance

Rate Map (FIRM) product, intended for use with desktop mapping and Geographic Information Systems technology. The digital Q3 Flood Data are created by scanning the effective Flood Insurance Rate Map (FIRM) paper maps and digitizing selected features and lines. The digital Q3 Flood Data are designed to serve FEMA's needs for disaster response activities, National Flood Insurance

Program activities, risk assessment, and floodplain management.

Repetitive Loss Property

A property that is currently insured for which two or more National Flood Insurance Program losses (occurring more than ten days apart) of at least \$1000 each have been paid within any 10-year period since 1978.

Richter Magnitude Scale

A logarithmic scale devised by seismologist C.F. Richter in 1935 to express the total amount of energy released by an earthquake. While the scale has no upper limit, values are typically between 1 and 9, and each increase of 1 represents a 32-fold increase in released energy.

Risk

The estimated impact that a hazard would have on people, services, facilities, and structures in a community; the likelihood of a hazard event resulting in an adverse condition that causes injury or damage. Risk is often expressed in relative terms such as a high, moderate, or low likelihood of sustaining damage beyond a particular threshold due to a specific type of hazard event. It also can be expressed in terms of potential monetary losses associated with the intensity of the hazard.

Substantial Damage

Damage of any origin sustained by a structure in a Special Flood Hazard Area whereby the cost of restoring the structure to its before-damaged condition would equal or exceed 50 percent of the market value of the structure before the damage.

Vulnerability

Describes how exposed or susceptible to damage an asset is. Vulnerability depends on an asset's construction, contents, and the economic value of its functions. Like indirect damages, the vulnerability of one element of the community is often related to the vulnerability of

another. For example, many businesses depend on uninterrupted electrical power—if an electric substation is flooded, it will affect not only the substation itself, but a number of businesses as well. Often, indirect effects can be much more widespread and damaging than direct effects.

Vulnerability Analysis

The extent of injury and damage that may result from a hazard event of a given intensity in a given area. The vulnerability analysis should address impacts of hazard events on the existing and future built environment.

Vulnerable Populations

Any segment of the population that is more vulnerable to the effects of hazards because of things such as lack of mobility, sensitivity to environmental factors, or physical abilities. These populations can include, but are not limited to, senior citizens and school children.

NATURAL HAZARDS

Avalanche

Avalanches are massive downward and outward movements of slope-forming materials. These masses may range from car-size to entire mountainsides and includes movement of snow, ice, and debris moving rapidly enough to threaten life. Snow avalanches are caused by the added weight of fresh snow or by gradual weakening of older snow and are often triggered by recreational activity or the impact of small masses of snow or ice falling from above. Three main factors determine whether avalanches are likely to occur - the weather, snow pack, and terrain. There are two principal types of avalanches: a loose snow avalanche gathers more and more snow as it descends a mountainside; a slab avalanche consists of more compact, cohesive snow and ice that breaks away from the slope in a discrete mass. The latter type is responsible for the great majority of accidents.

Drought

A drought occurs when water supplies cannot meet established demands. "Severe" to "extreme" drought conditions endanger livestock and crops, significantly reduce surface and ground water supplies, increase the potential risk for wildland fires, increase the potential for dust storms, and cause significant economic loss. Humid areas are more vulnerable than arid areas. Drought may not be constant or predictable and does not begin or end on any schedule. Short term droughts are less common due to the reliance on irrigation water in arid environments.

Earthquake

An earthquake is a naturally-induced shaking of the ground, caused by the fracture and sliding of rock within the Earth's crust. The magnitude is determined by the dimensions of the rupturing fracture (fault) and the amount of displacement that takes place. The larger the fault surface and displacement, the greater the energy. In addition to deforming the rock near the fault, this energy produces the shaking and a variety of seismic waves that radiate throughout the Earth. Earthquake magnitude is measured using the Richter Scale and earthquake intensity is measured using the Modified Mercalli Intensity Scale.

Extreme Cold

Extreme cold is associated with either polar regions or extreme winter storms. Communities in polar regions are less threatened as they are normally prepared to cope with extreme cold. The extreme cold associated with winter storms is a deceptive killer as it indirectly causes injury and

death resulting from exhaustion and overexertion, hypothermia and frostbite from wind chill, and asphyxiation.

Extreme Heat

Extreme heat is defined as temperatures that hover ten degrees or more above the average high temperature for the region and last for several weeks. Humid conditions may also add to the discomfort of high temperatures. Excessively dry and hot conditions can provoke dust storms and low visibility.

Flooding / Flash Flooding

Flooding is an overflowing of water onto normally dry land and is one of the most significant and costly of natural disasters. Flooding tends to occur in Arizona during anomalous years of prolonged, regional rainfall (typical of an El Nino year), and is typified by increased humidity and high summer temperatures.

Flash flooding is caused by too much rain falling in a small area in a short time. Several factors contribute to flash flooding: rainfall intensity and duration, topography, soil conditions, and ground cover. Most flash flooding is caused by slow-moving thunderstorms or thunderstorms repeatedly moving over the same area and can occur within a few minutes or hours of excessive rainfall, or a quick release from a dam or levee failure. Thunderstorms produce flash flooding, often far from the actual storm and at night when natural warnings may not be noticed.

Infestations

An infestation consists of an invasion or spreading of a living organism (plant, animal, etc.) that has an adverse (unwanted) effect on the population or the environment. The effect may range from a simple nuisance to an infectious disease or destructive parasite or insect. Infestations may result from non-indigenous plants, rodents, weeds, parasites, insects, and fungi, and may adversely affect people, animals, agriculture, economy (e.g., tourism), and property.

Liquefaction

The phenomenon that occurs when ground shaking (earthquake) causes loose soils to lose strength and act like viscous fluid. Liquefaction causes two types of ground failure: lateral spread and loss of bearing strength.

Landslides / Mudslides

Landslides, like avalanches are massive downward and outward movements of slope-forming materials. The term landslide is restricted to movement of rock and soil and includes a broad

range of velocities. Slow movements, although rarely a threat to life, can destroy buildings or break buried utility lines. A landslide occurs when a portion of a hill slope becomes too weak to support its own weight. The weakness is generally initiated when rainfall or some other source of water increases the water content of the slope, reducing the shear strength of the materials. A mud slide is a type of landslide referred to as a flow. Flows are landslides that behave like fluids: mud flows involve wet mud and debris.

Radon

Radon is a naturally occurring radioactive gas that is odorless and tasteless. It is formed from the radioactive decay of uranium. Uranium is found in small amounts in most rocks and soil. It slowly breaks down to other products such as radium, which breaks down to radon. Radon also undergoes radioactive decay. Radon enters the environment from the soil, from uranium and phosphate mines, and from coal combustion. Radon has a radioactive half-life and about 4 days; this means the one-half of a given amount of radon will decay to other products every 4 days. Some of the radon produced in the soil will move to the surface and enter the air. Radon also moves from the soil and enters the groundwater.

Subsidence

Land subsidence occurs when large amounts of ground water have been withdrawn from certain types of rocks, such as fine-grained sediments. The rock compacts because the water is partly responsible for holding the ground up. When the water is withdrawn, the rocks fall in on itself.

Thunderstorms / High Winds

Thunderstorms are characterized as violent storms that typically are associated with high winds, dust storms, heavy rainfall, hail, lightning strikes, and/or tornados. The unpredictability of thunderstorms, particularly their formation and the rapid movement to new locations heightens the possibility of floods. Thunderstorms, dust/sand storms and the like are most prevalent in Arizona during the monsoon season, which is a seasonal shift in the winds that causes an increase in humidity capable of fueling thunderstorms. The monsoon season in Arizona typically is from late-June or early-July through mid-September.

Tornados / Dust Devils

A tornado is a violently rotating column of air extending from a thunderstorm to the ground. The most violent tornados are capable of tremendous destruction with wind speeds in excess of 250 mph.

Damage paths can exceed a mile wide and 50 miles long. Tornadoes are one of nature's most violent storms. In an average year, 800 tornadoes are reported across the United States, resulting in 80 deaths and over 1,500 injuries. The damage from tornadoes is due to high winds. The Fujita Scale of Tornado

Intensity measures tornado / high wind intensity and damage.

Tropical Storms / Hurricane

A tropical system in which the maximum sustained surface wind ranges from 34 to 63 knots (39 to 73 mph). Tropical storms are associated with heavy rain, high wind, and thunderstorms. High intensity rainfall in short periods is typical.

A tropical storm is classified as a hurricane when its sustained winds reach or exceed 74 mph (64 knots). These storms are medium to large in size and are capable of producing dangerous winds, torrential rains, and flooding, all of which may result in tremendous property damage and loss of life, primarily in coastal populated areas. The effects are typically most dangerous before a hurricane makes landfall, when most damage occurs. However, Franklin County has experienced a number of tropical storms that have caused extensive flooding and wind damage.

Volcanoes

A volcano is a vent in the Earth from which molten rock (magma) and gas erupt. The molten rock that erupts from the volcano (lava) forms a hill or mountain around the vent. The lava may flow out as a viscous liquid, or it may explode from the vent as solid or liquid particles. Volcanic eruptions can be placed into two general categories: those that are explosive and those that are effusive resulting in gently flowing lava flows, spatter cones, and lava fountains. Many eruptions are highly explosive in nature. They produce fragmental rocks from erupting lava and surrounding area rock and may produce fine volcanic ash that rises many kilometers into the atmosphere in enormous eruption columns. Explosive activity can also cause widespread ash fall, pyroclastic flows, debris avalanches, landslides, pyroclastic surges, and lahars.

Wildfires

Wildfire is a rapid, persistent chemical reaction that releases heat and light, especially the exothermic combination of a combustible substance with oxygen which involves vegetation.

Winter Storms

Winter storm is defined as a cold wind accompanied by blowing snow; freezing rain or sleet, cold temperatures, and possibly low visibility and drifting snow. The storms often make roads impassable.

Residents, travelers, and livestock may become isolated or stranded without adequate food, water, and fuel supplies. The conditions may overwhelm the capabilities of a local jurisdiction. Winter storms are considered deceptive killers as they indirectly cause transportation accidents, and injury and death resulting from exhaustion/overexertion, hypothermia and frostbite from wind chill, and asphyxiation.

HUMAN-CAUSED HAZARDS

Arson

The act of willfully and maliciously burning of property, especially with criminal or fraudulent intent.

Biological Hazards

A hazard caused by the presence of any micro-organism, virus, infectious substance, or biological product that may be engineered as a result of biotechnology or any naturally occurring microorganism, virus, infectious substance, or biological product, capable of causing death, disease, or other biological malfunction. Biological hazards occur naturally or can be man-made.

Building / Structure Collapse

The failure and downfall of a structure. The collapse may result from a variety of natural causes such as hurricanes, earthquakes, tornados, floods, or from manmade circumstances such as construction deficiencies, neglect, aging infrastructure, or acts of terrorism.

Civil Disobedience

The refusal to obey civil laws or decrees, usually taking the form of passive resistance. People practicing civil disobedience break a law because they consider the law unjust, want to call attention to its justice, and hope to bring about its repeal or amendment. They are also willing to accept a penalty for breaking the law.

Civil Disturbance

When individuals or segments of the population create a situation, often a result of civil unrest, requiring a response from the emergency response community to protect lives and property. The disturbance may be small and isolated to a small area or be of a larger scale and exceeding the response capabilities of a jurisdiction. Activities are normally active (demonstrations, looting, riots) rather than passive (public speeches, sit-downs, marches).

Civil Unrest

When a segment of the civil population indicates its discontent or dissatisfaction with existing political, social, or religious issues. The unrest may materialize as a civil disturbance or civil disobedience. Activities may be passive (public speeches, sit-downs, marches) or active (demonstrations, looting, riots).

Dam / Levee Failure

Dam/levee failure can be caused by natural occurrences such as floods, rock slides, earthquakes, or the deterioration of the foundation or the materials used in construction. Usually the changes are slow and not readily discovered by visual examination. Such a failure presents a significant potential for a disaster in that significant loss of life and property would be expected in addition to the possible loss of power and water resources.

Enemy Attack

The use of aggressive action against an opponent in pursuit of an objective. An "enemy attack" is considered an attack of one sovereign government against another as either a declared or undeclared act of war.

Explosion/Fire

An explosion is the sudden loud release of energy and a rapidly expanding volume of gas that occurs when a gas explodes or a bomb detonates. Explosions result from the ignition of volatile products such as petroleum products, natural and other flammable gases, hazardous materials/chemicals, dust, and bombs. While an explosion surely may cause death, injury and property damage, a fire routinely follows which may cause further damage and inhibit emergency response.

Extreme Air Pollution

Pollution is the contamination of the earth's environment with materials that interfere with human health, the quality of life, or the natural functioning of ecosystems. Air pollution is the addition of harmful substances to the atmosphere. It makes people sick, causing breathing problems and sometimes cancer, and it harms plants, animals, and the ecosystems in which they live. Some pollutants return to earth in the form of acid rain and snow that corrodes structures, damages vegetation, and makes streams and lakes unsuitable for life. "Extreme air pollution" exceeds established thresholds resulting in the need to take corrective actions and cause the public to take precautions.

Fuel / Resource Shortage

A fuel/resource shortage is defined as an actual or potential shortage of natural gas, crude and refined petroleum, petroleum-derived fuels, or other critical commodities that significantly impacts the ability to render essential government and emergency services (medical, fire, safety); and threatens the health and safety of the public.

Hazardous Materials Incidents

A spilling, leaking, pumping, pouring, emitting, emptying, discharging, injecting, escaping, leaching, dumping or disposing into the environment of a hazardous material, but excludes: (1) any release which results in exposure to poisons solely within the workplace, with respect to claims which such persons may assert against the employer of such persons; (2) emissions from the engine exhaust of a motor vehicle, rolling stock, aircraft, vessel, or pipeline pumping station engine; (3) release of source, byproduct, or special nuclear material from a nuclear incident; and (4) the normal application of fertilizer.

Hostage Situation

A situation in which people are held hostage and negotiations take place for their release. The situation may range from a simple domestic or isolated criminal act to an attempt to impose will on a national or international scale to intimidate or coerce a government to further a political, social, or religious objective.

Hysteria (Mass)

Also known as "mass psychogenic illness" and "hysterical contagion," mass hysteria is a situation in which a symptom or set of symptoms for which there is no physical explanation spreads quickly among a group. It may occur as a reaction to an incident of domestic terrorism.

Power / Utility Failure

A power/utility failure is defined as an actual or potential shortage of electric power or the interruption of electrical power that significantly threatens health and safety. Many communities are vulnerable to many localized, short and long-term energy emergencies. Power shortages or failures do occur and may be brought on by severe weather conditions, such as blizzards, ice storms, extreme heat, thunderstorms, or events such as war, or civil disturbance.

Radiological Accident

A radiological accident is a release of radioactive materials. It can occur where radioactive materials are used, stored, or transported. Potentially nuclear power plants (fixed nuclear facilities), hospitals, universities, research laboratories, industries, major highways, railroads, or shipping yards could be the site of a radiological accident.

Sabotage

Sabotage is the deliberate destruction of property, dismantling of technology or other interference or obstruction of normal operations. "Sabotage" is normally considered an act related to war; similar acts during "non-war" conditions would be considered a terrorist act.

Special Events

An event of such a magnitude, media visibility, or importance that may require extraordinary preparations by government and possible response by emergency response agencies. Such events may be considered an opportunity or target for activist or terrorist activities.

Strike

A strike is an organized work stoppage carried out by a group of employees for the purpose either of enforcing demands relating to employment conditions on their employer or of protesting unfair labor practices. A strike may be engaged to obtain improvement in work conditions, higher wages or fewer hours of work, to forestall an adverse change in conditions of employment, or to prevent the employer from carrying out actions viewed by workers as detrimental to their interests.

Transportation Accident

A transportation accident is an incident related to a mode of transportation (highway, air, rail, waterway, port, harbor) where an emergency response is necessary to protect life and property.

Terrorism (Economic, Cyber, Nuclear, Biological, and Chemical)

"Terrorism is the unlawful use of force or violence, or threatened use of force or violence, against persons and places for the purpose of intimidation and/or coercing a government, its citizens, or any segment thereof for political or social goals." (Department of Justice, Federal Bureau of Investigation).

Terrorism can include computer-based (cyber) attacks and the use of weapons of mass destruction (WMD) to include chemical, biological, radiological, nuclear, or explosive (CBRNE) agents.

