

**IDENTIFYING A DISASTER MITIGATION PLANNING PROCESS FOR THE CITY  
OF BELLINGHAM, WASHINGTON**  
EXECUTIVE ANALYSIS OF FIRE SERVICE OPERATIONS IN EMERGENCY  
MANAGEMENT

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## ABSTRACT

The federal government enacted the Disaster Mitigation Act of 2000 (DMA), which requires local jurisdictions to develop customized disaster mitigation plans. The problem was that the City of Bellingham did not have a disaster mitigation plan that meets the requirements of the Disaster Mitigation Act. The purpose of this research project was to identify a disaster mitigation planning process for the City of Bellingham and Whatcom County government.

The research questions addressed in this paper were; (a) what are the requirements of the DMA that must be completed? (b) what are the common characteristics of current disaster mitigation planning efforts in western Washington State communities? (c) what are the characteristics of our community that must be considered in our planning process? and, (d) what are the key steps for a planning process to be successful in our community?

Historical and action research methods were used to identify the requirements of the new law, identify the planning characteristics and priorities for the City of Bellingham, and establish a planning framework and approach to begin the disaster mitigation planning process. A questionnaire was sent to 39 western Washington jurisdictions to assess ongoing planning efforts and gather information to help identify a local planning process.

The results of this study identified that the federal government has yet to finalize the planning requirements of the DMA, with the Interim Final Rule as the guiding document. Also, only one jurisdiction in Washington State has completed the planning process, but has yet to have the plan approved. The rest of the responding jurisdictions have either recently begun the planning process or have not yet started. Furthermore, the City of Bellingham has a long history

of strong neighborhood participation in community planning, with the most recent effort utilizing a visioning process to identify community goals and strategies.

The resulting recommendations include; (a) rely on the Interim Final Rule of the Disaster Mitigation Act to define the required mitigation planning components, (b) participate in a multi-jurisdictional planning process involving all Whatcom County jurisdictions, (c) create a county-wide mitigation planning steering committee, comprised of key stakeholders representing county government jurisdictions, public agencies, private businesses, non-profit organizations, and citizen groups (including a representative from the Bellingham Mayor's Neighborhood Advisory Panel). This steering committee should complete the following steps:

- (a) Educating themselves on the requirements of the DMA, and the need for mitigation planning.
- (b) Developing a consensus-building model planning process that meets the specific mitigation planning requirements and results in a product that can be easily incorporated into applicable jurisdictions comprehensive plans.
- (c) Identifying all of the special interest groups whom should participate in the planning process.
- (d) Defining the public information dissemination and input methods to maximize public participation and meet DMA requirements.

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## INTRODUCTION

The City of Bellingham recently became aware of the federal requirements requiring local governments to prepare natural hazards disaster mitigation plans that are formally approved by Washington State and the Federal Emergency Management Agency by November, 2003. The problem is that the City of Bellingham does not have a disaster mitigation plan as required by the Disaster Mitigation Act of 2000 (DMA). This will make the City ineligible for hazard mitigation grant awards and post-disaster mitigation funding unless an acceptable mitigation plan is completed and approved by FEMA.

The purpose of this research project is to identify a disaster mitigation planning process for the City of Bellingham and Whatcom County government. The research questions addressed in this paper include: (a) What are the requirements of the Disaster Mitigation Act that must be completed? (b) What are the common characteristics of current disaster mitigation planning efforts in western Washington State communities? (c) What are the characteristics of our community that must be considered in our planning process? (d) What are the key steps for a planning process to be successful in our community?

The historical and action research methods were used to conduct this research project. The research consisted of a literature review of emergency management publications, FEMA publications, and interviews with local and state emergency managers and community planning officials. Additionally, a questionnaire was created to identify the disaster mitigation planning status of other proximate Washington State jurisdictions.

## **BACKGROUND AND SIGNIFICANCE**

Bellingham is located in Whatcom County in the far northwestern area of Washington State. It is nestled between the Cascade mountain range and the San Juan Islands, on the shores of Bellingham Bay. The 2000 census lists the city's population at 67,171 persons.

The City of Bellingham has historically given disaster preparedness, mitigation, and planning efforts a low priority, until a large-scale disaster event brought the need for disaster preparedness into specific relief.

On June 10, 1999 a 16-inch diameter underground pipeline operated by Olympic Pipe Line Company ruptured spilling approximately 230,000 gallons of unleaded gasoline into Whatcom Creek, which subsequently ignited. The resulting explosion and fireball killed three young residents and destroyed 1.5 miles of pristine creek bed area. (Boyd, 2001)

After this event, the City took swift action in rejuvenating a previously aborted disaster planning effort and quickly developed and implemented an emergency operations planning process. Emergency operations education was introduced to all senior city managers, and mandatory disaster preparedness education was provided to all 640 city employees in early 2001 (Boyd, 2001). Further education and planning goals were achieved in late 2001 with the identification and configuration of a city emergency operations center (E.O.C.), and key city staff were exposed to emergency operations and incident command.

Immediately after the pipeline explosion, questions arose concerning the location of this pipeline in the community, and the obvious development that was allowed to occur over and around the pipeline corridor prior to the explosion. In fact, a middle school was built in 1993 within 30 feet of the pipeline. Residents wanted to know why they were allowed to purchase or build homes so close to the pipeline. To address these concerns and evaluate alternatives,

Olympic Pipe Line commissioned a study in 2000 to evaluate the possibility of relocating a portion of the line that runs through Bellingham neighborhoods. No safer alternatives were found. (Cosgrove, 2000)

In spring 2002, Whatcom County Division of Emergency Management officials notified the City of Bellingham Fire Department of the pending mitigation planning requirements of the DMA. Historically, hazard mitigation efforts have not been a priority for Bellingham's elected officials, with the obvious exception of creating and enforcing building codes and their recent leadership in establishing stronger pipeline safety regulations and oversight.

Our community is by no means unique in this regard. Most communities place more emphasis on disaster preparedness and response and down play the importance of mitigation (Farazmand, 2001). However, contemporary thought has disaster researchers and the federal government embracing the notion that it is imperative that communities take a more proactive approach to disaster preparedness. Mileti (1999) notes:

Until people are ready to address the interdependent root causes of disasters and to do the difficult work of coming to negotiated consensus about which losses are acceptable, which are unacceptable, and what type of action to take, our nation's communities will continue on a path toward ever-larger natural catastrophes. (p. 64)

Given the apparent shift towards increased mitigation emphasis by the federal government, the City needs to carefully review the new requirements of the DMA, available research and planning processes underway, and determine the best course of action to meet the requirements.

This applied research project relates to the National Fire Academy Executive Analysis of the Fire Service in Emergency Management course, Unit 4-Community Risk Assessment

(National Fire Academy, 2001). This unit clearly defines the need to conduct emergency planning, and defines parameters by which this planning process should occur. Also, Unit 6-Capability Assessment (National Fire Academy, 2001) defines the need and process for agencies to assess their capabilities to respond to large scale disaster events. Concepts and information within both of these units form the basic tenants of disaster mitigation planning strategies. Furthermore, this project directly relates to number four of the operational objectives of the U.S. Fire Administration: “To promote within communities a comprehensive, multi-hazard risk-reduction plan led by the fire service organization” (National Fire Academy, 2001).

## **LITERATURE REVIEW**

The purpose of this literature review is to briefly explore the historical and current perspective of hazard mitigation planning as it relates to national, state, and efforts. It will also review the challenges in developing mitigation plans and identify effective planning tools that could be used to facilitate the process to develop consensus among divergent interest groups.

### **Defining Mitigation and Sustainability**

The Federal Emergency Management Agency (FEMA) defines mitigation as: “actions taken to reduce or eliminate long-term risk to people and property from the effects of hazards and their effects” (FEMA, 1999). Furthermore, FEMA states that hazard mitigation is the most proactive and effective way to reduce the broad societal, political, and emotional impacts that have tremendous short and long term negative effects post-disaster by severing the vicious cycle of damage, reconstruction, and repeat damage (FEMA, 1999). Mitigation activities can be placed in two basic categories: structural and nonstructural. Structural activities include those that modify structures to withstand exposure to hazards. Nonstructural actions are those usually

taken by government to control development activities such as land use planning, building codes, land acquisition and insurance (Drabek and Hoetmer, 1991).

“Sustainability” is a term that recently entered the vocabulary of emergency managers, and is closely linked to mitigation. The concept of sustainability means that decisions made today will not compromise the options of our future generations by ensuring a stable natural, economic, and social environment that maintains a high quality of life (FEMA, 1999).

Sustainability is considered to be a state of normalcy and also the process to achieve this state. This process to achieve sustainability for the future takes intense effort, including wide ranging public participation, risk-taking, debate, and most importantly, building consensus to support securing the community environment for future generations (Mileti, 1999).

### **Historical Perspective**

The first comprehensive assessment of hazards in the United States was published in 1975 (Mileti, 1999). This assessment, published by White and Haas, noted that previous research efforts had been spotty at best, and tended to focus on technological impacts of disasters (Mileti, 1999). This paper, considered a major milestone in disaster research, stimulated debate and spurred others to begin an empirical assessment of the nation’s hazards and ability to withstand them. In the twenty years since the paper was first published, it was estimated that natural disasters caused between \$230 billion and \$1 trillion dollars worth of damage, and killed over 6,000 people (Mileti, 1999). FEMA notes that disaster costs have escalated tremendously since 1993, with over \$20 billion dollars being spent on disaster recovery since 1993 (FEMA, 1999). Interestingly enough, the insurance industry and the federal government are forecasting future disaster loss from a major metropolitan natural disaster could be as high as \$50 billion

dollars, cause \$250 billion in economic losses, and result in deaths of at least 5000 people (Johnson and Kloman, 1999).

In reviewing these figures, FEMA determined unsustainable development is to blame for the increase. Unchecked development into hazard areas and migration patterns over the last 30 years are the two main reasons for the erosion of sustainability, with over 50 percent of the nation's population living in coastal regions, along with substantial increase of populations in earthquake and landslide prone areas (FEMA 1999). As a result of this alarming trend, the federal government enacted the Stafford Act in 1988, requiring development of a mitigation plan within 180 days following a presidential disaster declaration in an affected area. The purpose of the Stafford Act is to break the cycle of damage, reconstruction, and repeat damage (Washington State, 2000).

As a result of the Stafford Act, and the mitigation planning requirements as defined by the Hazard Mitigation Grant Program (HMGP) and the National Flood Insurance Program, several state and local jurisdictions created effective mitigation plans. These plans had two common traits: (a) Comprehensive risk and capability assessments, and (b) input from a broad spectrum of the community impacted by mitigation planning (Washington State, 2002).

Washington State developed a hazard mitigation strategy in 1997 to meet the requirements of the Stafford Act. The purpose of this effort was to identify 13 major mitigation issues within the State that need to be addressed to build a strong mitigation foundation. The issues identified included; (a) lack of comprehensive geo-technical maps and information databases, (b) poor land clearing practices which increases flooding potential, (c) development of land slide prone areas, (d) increased reliance on vulnerable critical transportation corridors, (e) lack of incentives for communities to initiate mitigation efforts, (f) inadequate public warning

systems, (g) lack of local mitigation plans, (h) lack of critical facilities identification and fortification, (i) inadequate planning to meet the needs of special populations, (j) lack of personnel and resources to enforce building codes, (k) inadequate public education on the state's hazards, risks, and preparedness training (Washington State, 2000).

In 2000, the Stafford Act was amended to include new and innovative approaches to natural hazard mitigation planning. Section 322, Mitigation Planning, of the DMA created incentives for local and state jurisdictions to plan collaboratively in integrating mitigation strategies into emergency planning (Washington State, 2002). This Act requires local and tribal governments to develop and submit mitigation plans (and also sets aside seven percent of the HMGP funds for planning purposes), and provides qualifying states with increased guidance and autonomy in administering HMGP funds within their jurisdictions (FEMA, 2002). With the signing of the DMA into law, Public Law 106-390 was created, and was the basis used by FEMA in creating an Interim Final Rule, published in February 2002 (Washington State, 2002).

The Interim Final Rule defines what some would construe as one of the most important motivating factors for communities to initiate mitigation planning: "For all disasters declared on or after November 1, 2003, eligible applicants for grants must have an approved local mitigation plan or strategy in accordance with 44 CFR 201.6 as a condition of receiving a grant from the state's Hazard Mitigation Grant Program" (Washington State, 2002).

### **The Regional Perspective**

Although no jurisdiction within Washington State has had a plan approved by FEMA, a few communities have made great strides towards completing a hazard mitigation planning process. One such community is Redmond, Washington.

The City of Redmond Office of Emergency Management and the Department of Planning and Community Development teamed up with the University of Washington Institute for Hazards Mitigation Planning to create a Hazard Mitigation Strategies plan. This planning effort was begun in June, 2001 with the creation of the standard Hazard Inventory Vulnerability Analysis (HIVA), and followed up with a Multi-Hazard Mitigation Plan Proposal in March, 2002 R. Schneider (personal communication, September 18, 2002). A key concept found in this plan is that it was designed as a complimentary document to the City of Redmond Comprehensive Plan, complete with hazard vulnerability and mitigation strategy vision statements that complement those found in the Comprehensive Plan (City of Redmond, 2002).

Yakima County is located in eastern Washington. This county has substantially started (as of September 2002) the mitigation planning process to meet the requirements of the DMA L. Meyers (personal communication, September 1, 2002). Yakima County identified four steps to their mitigation planning process: (a) Hazard analysis – accomplished through a self-assessment tool completed by each stakeholder, (b) mitigation goals/strategies/tactics-accomplished through a self-assessment tool completed by each stakeholder, (c) consolidation of submitted assessment tools, and redistribution of the submitted information to each stakeholder for review and revision, and (d) development of a draft plan for submission to the state and FEMA C. Irwin (personal communication, September 24, 2002).

Pierce County, Washington has begun the planning process as well, and they recently completed the hazard risk assessment portion of the planning process. However, they have been frustrated by lack of clear direction from FEMA, which stalled their efforts for several months C. Ellsworth (personnel communication, September 20, 2002).

Finally, Whatcom County, Washington has only recently begun preparations for developing a multi-jurisdictional disaster mitigation plan. An initial education session sponsored by the Washington State Emergency Management Department is scheduled this fall to introduce the planning requirements to representatives from all Whatcom County jurisdictions. The goal of the meeting is to inform jurisdictional representatives about the DMA requirements, and begin identifying key stakeholders to participate in a yet to be defined planning process. N. Clement (personal communication, October 24, 2002).

### **Complicating factors**

Another aspect of disaster mitigation planning that must be reviewed is identifying the inhibiting factors for communities in supporting mitigation efforts. Inhibiting factors include generalized public apathy towards disaster preparedness activities and opposition from special interest groups (Auf der Heide, 1989).

Combating disaster preparedness apathy was identified years ago as a key inhibitor to disaster preparedness efforts. Generalized public apathy translates into governmental apathy, and disaster preparedness efforts are generally not supported unless mandated by law and/or paid for with state or federal funds (Auf der Heide, 1989). This apathy is exacerbated by the perception that modern engineering practices offer technological “fixes” that eliminate the perception of threat, instilling a false sense of security in government and the public (Tierney and Goltz, 1997).

Opposition from special interest groups is another key inhibitor to disaster planning efforts. Groups with vested interests work to protect their economic and social assets, regardless of the hazard vulnerability (Auf der Heide, 1989). Perhaps the most prevalent example of this dichotomy is disaster mitigation versus development. Disaster researchers identify development

of hazard areas as a major reason why disaster costs are increasing (Lewis, 1999). Significant development of coastal areas and increased population density make development strategies one of the key components that needs to be addressed in creating an effective mitigation strategy (Johnson and Kloman, 1999). Kunreuther (1999) examined the challenges in integrating sustainable development with disaster mitigation efforts, something that has met significant resistance from landowners and small business owners, and concluded that:

Homeowners, apartment owners, and small businesses are also not interested in investing in cost-effective risk mitigation measures because they have short time horizons and/or severe budget constraints which either reduce their perceived net benefits from these measures or simply prevent them from making the investments. (p. 26)

### **The Importance of Process**

In reviewing the abundance of information related to disaster mitigation efforts, this author noted an underlying theme that occasionally surfaced-that the *process* of developing the plan was considered just as important as the plan itself. Quarantelli (1997) opines his view on the need to make the planning process as participatory as possible;

...if the writing of plans is the major focus, it can be assumed that the planning will not be good. Unfortunately, the more a society is developed, peopled as they are by hordes of bureaucracies, a focus on the planning process rather than plans can be especially difficult to achieve...A concern with the planning process in preparing for disasters is therefore not likely to be highly evaluated within most government agencies although such a focus is necessary for good preparedness planning. (p. 5)

Another author goes so far as to state that the planning process is *more* important than the resulting written product (Auf der Heide, 1989). Quarantelli (1997) also stresses the importance of including a broad range of community interests in the planning process:

All relevant sectors of the community, public and private, not only need to be involved but their various proposed courses of action need to be tied to one another. Disasters do not impact only one sector or segment of a community; in fact a disaster involves a disruption of community life across-the-board. (p. 13)

It appears crucial not only to identify the various mitigation planning participants, but also to understand the organizational culture of each agency represented in the planning effort. Given the wide range of interests and needs present in any community, it seems obvious that each of the groups representing these interests operates within a distinct organizational culture. The more diversity present, the greater the risk of misunderstanding and mistrust (Susskind, 1999).

In reviewing the importance of group process, we must look at how the process is facilitated to attain desired goals. Autocratic leadership decision making and parliamentary procedures, such as Roberts Rules of Order, are two common models for facilitating group process. Lawrence Susskind, representing the Consensus Building Institute, states that the rigid framework found in each stifles creative ideas, and can significantly hinder participant support (1999). He offers consensus building as an alternative decision-making model that is more effective to facilitating group decision-making among divergent groups (1999). He defines consensus building as;

a process of seeking unanimous agreement. It involves a good-faith effort to meet the interests of all stakeholders. Consensus has been reached when everyone agrees they can

live with whatever is proposed after every effort has been made to meet the interests of all stakeholding parties. (p. 6)

To facilitate consensus building, a process called “visioning” is frequently used (Carpenter, 1999). The visioning process works particularly well in situations where parties hold steadfast to their positions, by allowing participants to discover future common ground (Carpenter, 1999). Visioning asks three basic questions: (a) What do we have?, (b) What do we want?, and (c) How do we get there? An important concept of the visioning process is that it asks people to think of ideal outcomes that will meet the interests of the different players, and thinking of solutions for the future is frequently easier than trying to think of solutions for present situations (Carpenter, 1999). A visioning process was used by the City of Bellingham in developing the 1996 Comprehensive Plan (City of Bellingham, 1996).

Citizen participation consultants Hans and Annemarie Bleiker offer another perspective. They found that much of the root causes of community conflict can be mitigated if the public perceives that the decision-making process of a project is fair and participatory (2000). They advocate an approach called “Informed Consent Building”, which they define as “...the grudging willingness of opponents to (grudgingly) ‘go along’ with a course of action that they-actually-are opposed to” (2000). They base their approach on a basic tenant that it is impossible to solve significant and complex problems without having negative impacts on at least some interests, resulting in an inability to get unanimous support of all affected interests strictly on a solution’s substantive merits (2000). Public participation in the complex community problem solving process is the key similarity for both the consensus building approach and the informed consent building approach.

## **The Local Perspective**

This literature review would not be complete without addressing existing community planning documents that encapsulate the unique community features and priorities for Bellingham residents into the future, and current local efforts contributing to disaster mitigation. The growth and development of the City of Bellingham is guided by a Comprehensive Plan. Mandated by state law in 1990, Bellingham's Comprehensive Plan was developed using an existing growth plan created in 1980, and was formally adopted by city ordinance in 1996 (City of Bellingham, 1996).

This plan was created to ensure the city's economic vitality, encourage wise use of land, and protect the safety and welfare of all city citizens. Beginning in 1992, an outside consulting firm facilitated approximately 20 neighborhood meetings with over 200 citizen participants, after which 12 Planning Commission work sessions were held to consolidate the information and make recommendations to the City Council. After another year of debate, review, and revision, the final draft of the Comprehensive Plan was adopted in January 1996 (City of Bellingham, 1996). A unique feature of the city's revised plan was the retention of individual land use plans for each of the city's 22 neighborhoods that were in the original 1980 plan. This reflected the strong neighborhood identities pervasive throughout the city, and the large amount of citizen participation representing each neighborhood.

Another key component of this plan acknowledged that the planning effort and product must be coordinated with community planning efforts of the neighboring jurisdictions: "...if only a single jurisdiction plans responsibly, its plans can be sabotaged by the unmanaged growth of its neighbors. Therefore, planning needs to occur in a coordinated and comprehensive manner, drawing on the cooperation of related jurisdictions" (City of Bellingham, 1996).

The planning process utilized a visioning approach, which allowed participating citizens to realize the unique characteristics of their community. They took into account Bellingham's unique physical location and historical features, and its small town feel (City of Bellingham, 1996). However, in balancing a small town feel, they challenged themselves to develop strategies that promote "infilling" of developed areas, effectively increasing population density while preserving rural areas outside of its defined urban growth boundary.

The plan also places emphasis on historic preservation, given the large amount of historic structures still standing from the mid 1800's. Economic incentives in the form of property tax breaks, zoning, and building code flexibility are encouraged (City of Bellingham, 1996). Conspicuously absent from the planning document, especially given the stated priority of citizen safety, is any reference to disaster preparedness, other than acknowledgement of the need to coordinate flood control measures between the city and county in urban growth areas (City of Bellingham, 1996).

Each year, the City of Bellingham Planning Department updates the Comprehensive Plan, making minor changes to keep it contemporary. The Planning Department is slated to spearhead a major plan revision in 2003, approximately 10 years after the previous planning process G. Aucutt (personal communication, October 2, 2002). The purpose of this revision is to update the plan to reflect the year 2000 census data, and adjust stated goals to reflect this new information. A visioning process is not planned due to the significant costs involved with hiring qualified consulting services and the feeling that the stated goals are still contemporary G. Aucutt (personal communication, October 28, 2002).

Finally, Hazard Identification and Vulnerability Analysis (HIVA) efforts have been underway for approximately one year by the Whatcom County Division of Emergency

Management. A draft HIVA, outlining only natural hazards, was recently completed and distributed to county jurisdictions for review and comment. This HIVA encompasses all of Whatcom County, including the City of Bellingham N. Clement (personal communication, October 28, 2002).

### **Literature Review Summary**

In summary, FEMA has clearly identified the need to shift focus to disaster mitigation, and has taken decisive steps to motivate communities to address mitigation measures.

Washington State has taken substantive steps in the past few years to support this effort by defining significant mitigation deficiencies that must be addressed. However, this effort has had no impact on the city's comprehensive planning, as evidenced by a lack of mention in the comprehensive plan. In exploring why, it should be noted that community leaders face stiff resistance in furthering mitigation efforts due to competing special interest groups and generalized citizen apathy towards preparedness and mitigation.

While general citizen apathy and special interests have a negative impact on disaster mitigation planning, the City of Bellingham has a strong history of community involvement in charting its future. The 1994 visioning planning effort retained the strong neighborhood influences found in previous planning efforts (City of Bellingham 1996). This approach maintained strong citizen participation and ownership in the planning product.

Lastly, while it is important to define the technical aspects of disaster mitigation planning, it is even more important to define an effective group planning process to facilitate agreement among the diverse, and frequently competing, special interest groups. Perhaps this approach could have a positive impact on facilitating effective disaster mitigation planning efforts. This will be a challenge given the current financial status of the City of Bellingham.

## **PROCEDURE**

The procedures used in this action research included a comprehensive literature review, communications with local and state emergency managers and City of Bellingham planners, and distribution, collection, and evaluation of a questionnaire to county and city emergency managers from the Washington counties west of the Cascade mountain range. The literature review included materials obtained at the National Fire Academy Learning Resource Center, Internet sources found on the World Wide Web, the City of Bellingham Planning Department, and the Western Washington University library. Disaster mitigation program managers from Pierce County, the City of Redmond, and Yakima County provided information on the status of their current mitigation planning efforts, and practical observations of the planning challenges they face.

A questionnaire was developed to assist in gathering background information on the planning efforts of other jurisdictions. Draft questions were developed and reviewed by the Whatcom County Division of Emergency Management. These questions and the accompanying email were presented to the city's computer network manager who created and distributed an email questionnaire that was sent to 39 emergency management agencies on the west side of Washington State. The west side agencies were chosen because of their geographical similarities and resulting similar natural hazards.

The City of Bellingham uses the Lotus Notes computer software program as its basic information management conduit. The questionnaire distribution mechanism was constructed to allow agency representatives to click on a website link that took them to the Lotus Notes database to complete the online form. Once the employee completed the questionnaire, he/she

simply clicked on a completed icon and the responses were automatically inputted into a database for subsequent tabulation. Agencies were given between October 1, 2002 and October 31, 2002 to submit the questionnaire. Once the questionnaire results were tabulated, this author and Neil Clement, Deputy Director for Whatcom County Emergency Management, met to discuss the findings of the questionnaire and literature review and determine a multi-jurisdictional planning approach for the City of Bellingham and Whatcom County.

### **Assumptions and Limitations**

An assumption is made that each of the respondents to the questionnaire understood each question and answered truthfully. Several limitations were experienced and are noted. This author was limited by time and resources in reviewing the plethora of research available regarding disaster mitigation and planning processes. Another limitation encountered was a lack of responses to the email questionnaire. Finally, it quickly became apparent at the time this paper was written that there were no FEMA approved Washington State jurisdiction disaster mitigation plans to use for reference documents.

## **RESULTS**

### **Research Question One**

What are the requirements of the Disaster Mitigation Act that must be completed?

FEMA indicates that until the Final Rule is published, the Interim Final Rule serves as the governing document sources for DMA planning purposes (Washington State, 2002). An interesting note to this document is while it focuses on mitigating natural hazards, FEMA is stressing incorporating technological and man-made hazards into mitigation planning as well (Washington State, 2002).

The Interim Final Rule identifies specific mitigation plan performance requirements that must be met to qualify as an approved plan. The technical aspects that must be addressed include: (a) Performing hazard and vulnerability assessments, (b) developing mitigation goals and mitigation analysis measures, (c) developing mitigation implementation measures, and (d) developing formal plan maintenance processes (FEMA, 2002).

An underlying theme of these requirements focuses on the need for public participation in the planning process. Specifically, the planning process must include; (a) opportunities for public comment during the drafting stage and prior to final approval, (b) opportunities for potentially affected community organizations and agencies to be involved in the planning process, (c) incorporation of previously approved existing plans, reports, and technical information, (d) documentation of the planning process, including specific information about the level of public participation, and (e) incorporation of a five year maintenance cycle for the plan with public participation (Washington State, 2002).

Once the plan is created, it must be submitted to the Washington State Department of Emergency Management, which reviews it and if acceptable forwards the plan to the regional FEMA Mitigation Office for final approval (Washington State, 2002). In reviewing FEMA and Washington State documents defining the requirements of the mitigation planning process, the performance requirements allow for development of multi-jurisdictional plans (Washington State, 2002). However, each jurisdiction must demonstrate in the plan that it actively participated in the planning process, include specific risk assessment information unique to the jurisdiction, identify unique action items for the jurisdiction, and provide proof that it formally adopt the plan (Washington State, 2002).

A complete listing of the Draft Interim Criteria requirements for local mitigation planning is included in Appendix E in this document.

### **Research Question Two**

What are the common characteristics of current disaster mitigation planning efforts in western Washington State communities?

Only 13 of the 39 west side jurisdictions responded to the online questionnaire. Of these jurisdictions, only two have completed mitigation plans, eight only recently begun the planning process, and the remaining two have yet to start.

Of the 13 responding jurisdictions, 7 are taking a multi-jurisdictional planning approach, 4 are developing their own plans, and one has yet to start planning. Of the two completed mitigation plans, one was a multi-jurisdictional plan completed before the passage of the DMA, and the other was a single jurisdictional plan recently completed.

The results of the questionnaire also revealed different approaches to facilitate the planning process. Eight of the 13 jurisdictions stated that they are using their own resources and personnel to facilitate the planning process. Two jurisdictions contracted with outside experts to assist in the planning effort. One agency has yet to start planning, and the remaining agency did not respond to the question.

Of those jurisdictions participating in the planning process, six are including stakeholders from a broad spectrum of the community: Public agencies, private businesses, and citizen special interest groups. Eight jurisdictions plan on holding public meetings to summarize completed planning work.

Additionally, the questionnaire asked each agency to list the top three obstacles to creating a disaster mitigation plan in their community. The most common response centered

around the theme of lack of resources to support the process. Six of the 12 responders noted lack of time, money, and resources to assist in the planning efforts.

The next most common responses highlighted an obvious lack of available mitigation planning information to assist local agencies. Four of the jurisdictions noted a lack of clear federal direction and support for the planning process.

Finally, the questionnaire also asked each agency to list the top three community assets/characteristics that enhance the ability in developing a successful mitigation plan. Four agencies indicated interagency cooperation as an asset that is assisting their planning efforts. No other similarities emerged in the remaining answers. The complete questionnaire results are listed in Appendix D.

### **Research Question Three**

What are the characteristics of our community that must be considered in our planning process? As noted in the literature review, Bellingham residents actively participated in a visioning process in 1994, and exerted significant influence, utilizing a neighborhood approach and perspective, to help define Bellingham's future. This effort was motivated in part by the forecast for significant community growth, with the population of Bellingham increasing by 30,000 people between 1995-2010 (City of Bellingham, 1996). Also, county-wide planning policies required that the City plan for 50 percent more than the expected growth to ensure that adequate land exists to avoid artificial land price inflation and allow choice in the marketplace (City of Bellingham, 1996).

The resulting comprehensive plan identified key goals that must be addressed to ensure the sustainability of the community. The goals that have the potential impact on Bellingham's disaster mitigation efforts are: (a) Encourage development in urban areas where adequate public

facilities and services exist or can be provided in an efficient manner, (b) reduce the inappropriate conversion of undeveloped land into sprawling, low-density development, (c) private property shall not be taken for public use without just compensation having been made, and property rights of land owners shall be protected from arbitrary and discriminatory actions, (d) encourage the retention of open space and development of recreational opportunities, (e) encourage the involvement of citizens in the planning process and ensure coordination between communities and jurisdictions to reconcile conflict, and (f) identify and encourage the preservation of lands, sites, and structures, that have historical or archaeological significance (City of Bellingham, 1996).

Conspicuous in its absence is consistent reference to hazard mitigation measures found within the City of Bellingham. While it can be argued that the City has taken significant steps in hazard mitigation, most recently in the area of pipeline safety, there is no mention of this priority in the City's planning documents.

#### **Research Question Four**

What are the key steps for a planning process to be successful in our community?

In answering this question, one must look at not only the technical requirements mandated by the DMA, but also look for existing planning vehicles available within the community. The City's Comprehensive Plan clearly states that citizens want to be involved in the planning process (City of Bellingham, 1996).

In the case of the City of Bellingham, public participation will be necessary to not only meet the requirements of the DMA, but also meet the requirements of the affected citizens. Given the fortunate timing of the planned major revision of the City's comprehensive plan, we can we take advantage of this opportunity to address applicable disaster mitigation goals by

including this subject as one of the plan update priorities. However, given the detailed requirements of the DMA, it appears too cumbersome to use only the comprehensive plan update process to satisfy all of the DMA planning requirements. Instead, the comprehensive planning process could be enhanced by incorporating a variation of the visioning process, called a “charrette”, sponsored by the Whatcom County Division of Emergency Management and the City of Bellingham Planning Department. A charette is a short and intensive-visioning process designed to develop a plan for a major component of community life (Moore, Longo, Palmer, 1999).

## **DISCUSSION**

The findings of this research project identified the difficulties jurisdictions are facing in meeting the requirements of the DMA. One of the challenges this author faced was the inability to define a step by step planning process that would meet the DMA requirements. While this was the original intent of this research project, it quickly became apparent that this approach would probably not be successfully implemented within our community. There are simply too many variables given the complexities found in facilitating a group process, and it makes the planning effort vulnerable to failure. Straus notes:

If detailed, step-by-step procedures for reaching agreement are designed in advance by a consultant, potential participants may feel that a cookie-cutter method is being imposed on them, and as before, they may refuse to take part (1999).

He goes on to stress that stakeholders need ways to participate in planning the consensus building process appropriate to their situation (1999).

The lack of responses to the questionnaire was disappointing, and precludes drawing substantive conclusions regarding the success of disaster mitigation planning among western Washington jurisdictions. It appears that almost all agencies are just beginning the planning process, with only one agency indicating they have a completed draft plan. However, it appears lack of federal resources and support to assist local agencies in mitigation planning is a concern to regional agencies.

Another challenge in developing Bellingham's mitigation planning process is confidently addressing undefined federal planning requirements. In interviewing Claudia Ellsworth, Hazard Mitigation Project Manager for Pierce County, Washington, she stated; "...one of most difficult aspects to this whole process has been figuring out what the federal government wants in this program" (personal communication, September 18, 2002). In fact, in late September the City of Bellingham received verbal notification from FEMA Region 10 that the deadline for completion of the plan had been extended to November 2004. While this is welcome news, it points out what appears to be confusion and lack of clear direction on FEMA's part. It also does not apply to Whatcom County, who must complete their plan by November 2003 because a county jurisdiction has been approved for FEMA funding, which mandates early completion of the mitigation planning process N. Clement (personal communication, November 7, 2002).

On October 2, 2002, FEMA released draft-planning criteria to assist local jurisdictions. This criteria identified key decisions that must be made by jurisdictions wishing to participate in the planning process, including whether or not the city should participate in a multi-jurisdictional planning process, defining a public participation strategy, and identifying key mitigation strategies and implementation steps.

Formulating a strategy for effective public participation is the key component in the planning process, which is reinforced in FEMA's planning criteria (FEMA, 2002). However, it is not good enough to only involve community members in the mitigation planning process. Johnson and Kloman, writing about disaster mitigation and planning approaches for small governments and businesses noted that for mitigation planning to be successful, it must be viewed as a social value, and incorporated into development plans for transportation, housing, and land use by using a participatory approach that relies on consensus building instead of majority rule (1999). This approach is also accepted by Monday and Myers, who state: "To accomplish [sustainability], communities and the nation must fully integrate disaster management, mitigation, and recovery with underlying societal and environmental conditions to produce sustainable localities and, ultimately, a sustainable world" (1999).

To influence consensus building specific to disaster mitigation planning, education for the key stakeholders is crucial to the development of a realistic and accepted mitigation plan. E. L. Quarantelli, a leading disaster researcher, notes that for disaster planning to be effective, it must include education as a key component, and that organizational disaster planners frequently forget this important component (1997).

As noted in the literature review, public participation is the key to developing a realistic and effective disaster mitigation plan. Even though our community experienced a catastrophic event in 1999, citizen apathy towards disasters is still prevalent. This attitude is not much different than in most communities, where people don't know the hazards, underestimate the impact of hazards they do know about, overestimate their ability to cope, blame everyone else when a loss occurs, and rely on emergency relief when disaster strikes (Mileti, 1999). How do we address these issues? One way is to build a participatory planning process that takes

advantage of Bellingham's strong sense of community and neighborhood spirit. This spirit fits well with the altruistic societal norms found in disaster situations. As a national culture, we value independence and individualism. Ironically, we also exhibit strong volunteer spirit and sense of community when faced with the overwhelming adversity found in disaster events (Mileti, 1999). The challenge is to figure out a way to harness this spirit and apply it to mitigation efforts before a disaster strikes.

### **RECOMMENDATIONS**

Given Whatcom County's current efforts to begin addressing the requirements of the DMA, this author recommends the following planning process steps be implemented as soon as possible to begin planning to meet FEMA's November 2004 deadline:

1. Use the Interim Final Rule to define the DMA planning requirements.
2. Conduct a multi-jurisdictional education session to inform Whatcom County communities about the DMA requirements and timelines and obtain approval from chief executives from each jurisdiction to support the planning effort.
3. Identify the City of Bellingham Planning Department as the lead department representing the City of Bellingham in the multi-jurisdictional planning effort.
4. Create a county-wide mitigation planning steering committee, comprised of key stakeholders representing county government jurisdictions, public agencies, private businesses, non-profit organizations, and citizen groups (including a representative from the Bellingham Mayor's Neighborhood Advisory Panel). This committee should be tasked with completing the following tasks:

- (a) Educating themselves on the requirements of the DMA, and the need for mitigation planning.
- (b) developing a consensus-building model planning process that meets the specific mitigation planning requirements. This author recommends using a charrette visioning process to facilitate consensus-building.
- (c) identifying all of the special interest groups whom should participate in the planning process.
- (d) defining the public information dissemination and input methods to maximize public participation and meet DMA requirements.

Obviously, this research should be expanded and reviewed in the future as state and local jurisdictions complete their disaster mitigation plans to determine the effectiveness of the various planning processes used. Determining the level of disaster mitigation measures actually implemented in each community may be the most revealing indicator of a successful planning process, and should be evaluated at the state/national level. This information could be used to provide effective planning process educational support to jurisdictions.

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**APPENDIX A**  
**QUESTIONNAIRE COVER LETTER**

To “west side” Washington State Emergency Managers:

I am the Assistant Fire Chief for the Bellingham Fire Department, and also enrolled in the National Fire Academy Executive Officer Program. As part of this program, I am conducting research into Emergency Management activities in select Washington State Communities. The purposes of my research is to identify successful disaster mitigation planning activities and processes currently underway or completed in Washington State, and develop the disaster mitigation planning process for the City of Bellingham and Whatcom County.

As I’m sure you are aware, the federal government enacted the Disaster Mitigation Act of 2000. This law requires that state and local governments create and implement disaster mitigation plans that must then be approved by the federal government. The “kicker” is those jurisdictions without approved plans will not be eligible for hazard mitigation grant funding until an approved plan is adopted. The requirements of this Act must be completed by November 2004 (apparently the November 2003 deadline was recently extended). What I’m finding interesting is that the Final Rule for the administrative requirements of the DMA have yet to be published, which appears to make it difficult to identify a solid planning process now that will withstand federal scrutiny later.

To assist the City of Bellingham and Whatcom County in formulating a disaster mitigation planning process, I would appreciate it if you would take a few minutes to complete this short questionnaire. Please feel free to contact me with any questions or additional information.

Thank you for any information you can provide about your agency's activities.

Respectfully,

Bill Boyd, Assistant Fire Chief

BELLINGHAM FIRE DEPARTMENT

1800 Broadway

Bellingham, WA. 98225

(360) 676-6831

(360) 738-7312 FAX

Email [bboyd@cob.org](mailto:bboyd@cob.org)

**APPENDIX B****QUESTIONNAIRE MAILING LIST**

Questionnaires sent to:

City of Auburn Department of Emergency Services

City of Bellevue Fire Department

City of Buckley Department of Emergency Management

City of Centralia Fire Department

Clallam County Department of Emergency Management

Clark County Emergency Regional Service Agency

Cowlitz County Department of Emergency Management

Emergency Services Coordinating Agency (Edmonds)

City of Federal Way Department of Emergency Management

Grays Harbor Department of Emergency Management

City of Issaquah Department of Emergency Management

Jefferson County Department of Emergency Management

City of Kent Office of Emergency Management

King County Emergency Management Division

City of Kirkland Emergency Preparedness Services

Kitsap County Department of Emergency Management

City of Lacey Emergency Management

Mason County Department of Emergency Management

City of Mercer Island Office of Public Safety

City of Normandy Park Department of Emergency Management

City of Olympia Fire Department

Pacific County Emergency Management Agency

Pierce County Department of Emergency Management

City of Port Angeles Department of Emergency Management

City of Puyallup Department of Emergency Management

City of Redmond Department of Emergency Management

City of Renton Fire Department

San Juan County Sheriff's Office

City of Seattle Department of Emergency Management

City of Shelton

Skagit County Department of Emergency Management

City of Skykomish Department of Emergency Management

Snohomish County Department of Emergency Management

City of Snoqualmie Department of Public Safety

City of Tacoma Emergency Services

Thurston County Emergency Management Department

City of Tukwila Department of Emergency Services

City of Tumwater Fire Department

Whatcom County Division of Emergency Management

**APPENDIX C  
QUESTIONNAIRE**

Is your agency/department responsible for coordinating disaster mitigation planning to meet the requirements of the DMA? If not, I would appreciate it if you would forward this survey to the appropriate department/agency/person.

Please identify the main contact for information about your agency's disaster mitigation/response programs.

(Name)\_\_\_\_\_ (Department/Agency)\_\_\_\_\_

(Phone)\_\_\_\_\_ (Email)\_\_\_\_\_

1. Please indicate below the statement that best describes your agencies disaster mitigation activities related to the Disaster Mitigation Act.
  - a. We are aware of the planning requirements, but have not started planning.
  - b. We are aware of the planning requirements, but have chosen not to participate.
  - c. We have only recently begun a planning effort.
  - d. We are essentially done with the planning effort, and have submitted our plan for approval to the State/Federal government.
  - e. We have a completed and approved plan and have initiated mitigation activities.
  - f. We had a disaster mitigation plan in place prior to enactment of the Mitigation Act.

1. If you circled c-f of question #1, what are the approach jurisdictions are using to formulate their mitigation plans?
  - a. Each jurisdiction is independently working on their planning process.
  - b. The jurisdictions are working collaboratively to build a multi-jurisdictional plan.
  - c. The largest jurisdictions are performing their own planning, and smaller jurisdictions are working collaboratively towards a multi-jurisdictional plan.
  - d. Other (please list) \_\_\_\_\_
  
3. If you circled c-f of question #1, please circle *all* the statements that apply to your planning process:
  - a. We hired an outside contractor to facilitate the planning process.
  - b. We used our designated emergency management agency to facilitate the planning process.
  - c. We use(d) our own employee(s) to facilitate the planning process.

4. What do you think are the top three obstacles to creating a disaster mitigation plan in your community (if you have developed a mitigation plan, what were the top three obstacles you had to overcome in the process), and why?
  - a.
  - b.
  - c.
  
5. What do you think are the top three assets/characteristics of your community that enhance your ability in developing a successful disaster mitigation plan?
  - a.
  - b.
  - c.
  
6. The DMA requires substantial public participation in the planning process. Please circle *all* of the applicable public participation methods you are (or will) using.
  - a. Meetings and work sessions of only key stakeholders from various public agencies responsible for disaster/emergency response.
  - b. Meetings and work sessions of only key stakeholders from both public and private agencies responsible for disaster/emergency response.

- c. Meetings and work sessions of key stakeholders from the broad base of the community-public agencies, private businesses, and citizen special interest groups.
- d. Use of internet web page to share information with the public and allow for email feedback.
- e. Use of surveys/questionnaires to solicit feedback.
- f. Public meetings to summarize completed planning work.
- g. Other (please list) \_\_\_\_\_

If you have a defined planning process, I would appreciate a copy for my reference as we begin developing our own planning process.

Please indicate below if you would like a copy of the survey summary results and a copy of the research paper.

---Yes, I'd like a copy (Please make sure you included your email address at the beginning of this form).

--- No, Thank you

**APPENDIX D**  
**QUESTIONNAIRE RESULTS**

**Table D1**

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2. *Please indicate below the statement that best describes your agencies disaster mitigation activities related to the Disaster Mitigation Act.*

---

a. We are aware of the planning requirements, but have not started planning.

Pacific County, City of Lacey

b. We are aware of the planning requirements, but have chosen not to participate.

None

c. We have only recently begun a planning effort.

City of Bellevue, City of Kent, City of Olympia, City of Puyallup, San Juan County, City of Seattle Police, Skagit County, City of Snoqualmie, Whatcom County

d. We are essentially done with the planning effort, and have submitted our plan for approval to the State/Federal government.

City of Redmond

e. We have a completed and approved plan and have initiated mitigation activities.

None

f. We had a disaster mitigation plan in place prior to enactment of the Mitigation Act.

Kitsap County

**Table D2**


---

3. *If you circled c-f of question #1, what are the approach jurisdictions are using to formulate their mitigation plans?*

---

- a. Each jurisdiction is independently working on their planning process.

Pacific County

- b. The jurisdictions are working collaboratively to build a multi-jurisdictional plan.

Kitsap County, City of Puyallup, Skagit County, Whatcom County

- c. The largest jurisdictions are performing their own planning, and smaller jurisdictions are working collaboratively towards a multi-jurisdictional plan.

City of Bellevue, City of Kent

- d. Other (please list) \_\_\_\_\_

City of Seattle Police – Seattle is a single jurisdiction

San Juan County – No explanation

City of Snoqualmie – King County is working on a regional level. We received a FEMA grant to hire a consultant to complete our plan.

Whatcom County – Our office is formulating a plan for the nine jurisdictions represented by the Whatcom County Emergency Management Council. Other entities such as school districts, fire districts, private enterprises, private non-profits, etc... within the county are responsible for their own plan with some assistance from and coordination by our office.

**Table D3**


---

4. *If you circled c-f of question #1, please circle all the statements that apply to your planning process:*

---

- a. We hired an outside contractor to facilitate the planning process.

Kitsap County, City of Snoqualmie

- b. We used our designated emergency management agency to facilitate the planning process.

City of Bellevue, City of Kent, City of Olympia, City of Puyallup, City of Seattle Police,  
San Juan County, Whatcom County

- c. We use(d) our own employee(s) to facilitate the planning process.

City of Kent, City of Puyallup, City of Redmond, City of Seattle Police, San Juan  
County, Skagit County

No response

City of Lacey, Pacific County

**Table D4**


---

5. *What do you think are the top three obstacles to creating a disaster mitigation plan in your community (if you have developed a mitigation plan, what were the top three obstacles you had to overcome in the process), and why?*

---

City of Bellevue

(a) Personnel resources to do the planning

City of Kent

(a) Formatting, what are they looking for?

(b) Content, how detailed do they want it?

(c) Time, who has the time and resources these days with the economic realities?

Kitsap County

(a) Money

(b) Time

(c) Experience in developing this type of plan

City of Lacey

(a) Lack of staff time

(b) Budget

(c) Lack of expertise/resources

City of Olympia

- (a) Coordination of multiple interests in a community that is urban and also very rural in some places
- (b) Time required to do the work
- (c) Funds to do the planning work

Pacific County

- (a) You should refer this question to Mayor Karl Heinicke of the City of South Bend

City of Puyallup

- (a) Cooperation of other depts.
- (b) Commitment, cooperation, and dedication

City of Redmond

- (a) Lack of state and federal requirements at the time we developed the plan.

San Juan County

- (a) Our county commissioners designated artificial flood plains for waterfront homes that were flooded during storm surges to help them get flood insurance. My understanding is we would be required to move or purchase these homes under the federal guidelines being put out. Since their value starts at about a million dollars, this is not going to happen.

(b) Being islanders, we are all big on self-reliance and independence. Having a government agency tell us what to do does not sit well with us.

(c) We also have the feeling that we live in a paradise and all bad things will pass us by.

#### City of Seattle Police

(a) Absence of federal commitment in terms of dollars and general support for the concept.

(b) With little in the way of federal support, state is limited as well.

(c) Since mitigation is focused on minimizing consequences that have not occurred, it is difficult for local officials to raise tough issues without the prospect of an means to solve problems.

#### Skagit County

(a) Lack of an existing approved plan to use as a guide.

(b) Difficulty in trying to decide the economic impacts of a disaster

(c) Hiring the best consultant to assist in the process.

#### City of Snoqualmie

(a) Unable to answer at this time. We are going through consultant interviews.

Whatcom County

- (a) Time and commitment to prepare a comprehensive plan with limited resources.
- (b) Full understanding of the scope of the project and its requirements
- (c) In the case of several entities, management support for what may be seen as an “unfunded mandate”.

**Table D5**

---

6. *What do you think are the top three assets/characteristics of your community that enhance your ability in developing a successful disaster mitigation plan?*

---

City of Bellevue

- (a) The City of Bellevue has a strong history of acting in a pro-mitigation way without the benefit of having it written in policy language. For instance, we seismically strengthened all of our critical structures to operational continuity without having a separate seismic policy statement.

City of Kent

- (a) Dedicated EMD staff
- (b) Will purchase 20/20 software to help
- (c) HIVA already done

Kitsap County

- (a) Disaster planing, response and mitigation is only done as multiple jurisdictions. We have one Emergency Management System and the four cities in Kitsap County always do it together.

City of Lacey

- (a) Strong relationship with County EMD
- (b) Small enough to manage program
- (c) Low expectations

City of Olympia

- (a) An existing cooperative agreement between the major emergency management players-  
Thurston County, Olympia, Tumwater, Lacey.

Pacific County

- (a) You should refer this question to Mayor Karl Heinicke of the City of South Bend.

City of Puyallup

- (a) Commitment, cooperation, dedication

City of Redmond

1. Buy in from the Mayor/CEO and fire chief.
2. The ability to utilize and contract with the University of Washington to study and write the document.
3. Cooperation from the city planning department.

### San Juan County

- (a) Since we are so darn independent, many of us have already thought through what to do when bad things happen.
- (b) We have a wealth of experience and background living on our islands-mainly retirees.
- (c) There is a growing awareness among agencies that would be first responders that we have a lot of work to do.

### City of Seattle Police

- (a) Hazard mitigation efforts post-disaster over the years have been successful.
- (b) Project Impact was the first (only) incentive for locals to take direct support and chart their own course.
- (c) Post Project Impact

### Skagit County

- (a) No Answer

### City of Snoqualmie

- (a) Our city is prone to flooding. The current mitigation has earned us the title of the poster child for flood resistant communities.

Whatcom County

- (a) Whatcom County agencies and all the entities mentioned in question #3 above, work very well together and have a terrific history of doing so. This will just be one of many projects that many jurisdictions and entities will be done together.
  
- (b) Whatcom County is very near completion of its Hazard Identification Vulnerability Analysis (HIVA) and it is very comprehensive. It will serve as a good tool for all in this planning process.
  
- (c) We understand the ramifications of not conducting this planning process. We anticipate that failure to do this process will have lingering effects that could last years and cost lots of dollars. We feel that the benefits of doing such a process will greatly outweigh the costs.

**Table D6**


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*7. The DMA requires substantial public participation in the planning process. Please select all of the applicable public participation methods you are (or will) using.*

---

- (a) Meetings and work sessions of only key stakeholders from various public agencies responsible for disaster/emergency response

Kitsap County, City of Puyallup, San Juan County, Skagit County

- (b) Meetings and work sessions of only key stakeholders from both public and private agencies responsible for disaster/emergency response.

City of Kent, Kitsap County, San Juan County, Skagit County, Whatcom County

- (c) Meetings and work sessions of key stakeholders from the broad base of the community- public agencies, private businesses, and citizen special interest groups.

City of Bellevue, Kitsap County, San Juan County, Skagit County, City of Snoqualmie, Whatcom County

(d) Use of Internet web page to share information with the public and allow for email feedback.

City of Lacey, City of Puyallup, City of Redmond, Skagit County

(e) Use of surveys/questionnaires to solicit feedback.

City of Lacey

(f) Public meetings to summarize completed planning work.

City of Bellevue, City of Kent, Kitsap County, City of Lacey, City of Puyallup, San Juan County, City of Snoqualmie, Whatcom County

(g) Other (please list)

City of Olympia:

We are not far enough along in the process to answer this question yet.

City of Redmond:

Our hazard mitigation process has been a rewarding one. However, we have been working on our HIVA and Mitigation Strategies for over a year. Our partnership with the University of Washington has been great. At this time we are probably the only city in the state to have completed our plan.

San Juan County:

I should probably mention that as a county made up of many islands, the logistics of scheduling meetings, let alone mutual aid, is always a large consideration and hindrance.

City of Seattle Police:

Note that our mitigation efforts are divided: We have mitigation program offerings in home retrofit, school retrofit, business disaster mitigation, and USGS/City GIS mapping. Besides community mitigation, the city's agencies have a public agency interest in mitigating hazards facing city infrastructure. The Recovery Unit handles the latter effort. The Community Mitigation (Project Impact) Unit handles the former.

Skagit County:

I do not know if we will mail information to the public or not-I expect there will be quite a bit of information in the local print media and multiple requests for comments as we work our way through the process. Another thought is giving presentations to service organizations such as Rotary and Kiwanis.

Whatcom County:

It is early in our process. I don't think all the avenues of participation have been explored, and may change with the process.

## APPENDIX E

### FEMA

#### **Local Plan interim criteria under the Disaster Mitigation Act of 2000**

##### **Adoption by the Local Governing Body**

- (a) The local hazard mitigation plan shall include documentation that the plan has been formally adopted by the governing body of the jurisdiction requesting approval of the plan.
- (b) For multi-jurisdictional plan, each jurisdiction requesting approval of the plan must document that it has been formally adopted.
- (c) Multi-jurisdictional plans (e.g. watershed plans) may be accepted, as appropriate, as long as each jurisdiction has participated in the process... Statewide plans will not be accepted as multi-jurisdictional plans.

##### **Documentation of the Planning Process**

- (a) [The plan must document] the planning process used to develop the plan, including how it was prepared, who was involved in the process, and how the public was involved.

##### **Identifying Hazards**

- (a) [The risk assessment shall include a] description of the type...of all natural hazards that can affect the jurisdiction...

##### **Profiling hazard Events**

- (a) [The risk assessment shall include a] description of the...location and extent of all natural hazards that can affect the jurisdiction. The plan shall include information on previous occurrences of hazard events and on the probability of future hazard events.

### **Assessing Vulnerability: Identifying Assets**

- (a) [The risk assessment shall include a] description of the jurisdiction's vulnerability to the hazards described in paragraph (above) of this section. This description shall include an overall summary of each hazard and its impact on the community. The plan should describe vulnerability in terms of:
  - (b) The types and numbers of existing and future buildings, infrastructure, and critical facilities located in the identified hazard areas.
  - (c) An estimate of the potential dollar losses to vulnerable structures identified assessment and a description of the methodology used to prepare the estimate.
  - (d) Providing a general description of land uses and development trends within the community so that mitigation options can be considered in future land use decisions.

### **Multi-Jurisdictional Risk Assessment**

- (a) For multi-jurisdictional plans, the risk assessment section must assess each jurisdiction's risks where they vary from the risks facing the entire planning area.

### **Local Hazard Mitigation Goals**

- (a) [The hazard mitigation strategy shall include: a] description of mitigation goals to reduce or avoid long-term vulnerabilities to the identified areas.

### **Identification and Analysis of Mitigation Measures**

- (a) [The 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.

### **Implementation of Mitigation Measures**

- (a) [The mitigation strategy section shall include] an action plan describing how the actions identified above 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.

### **Multi-Jurisdictional Mitigation Strategy**

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

### **Monitoring, Evaluating, and Updating the Plan**

- (a) [The plan maintenance process shall include a section describing the] method and schedule of monitoring, evaluating, and updating the mitigation plan within a five-year cycle.

### **Implementation Through Existing Programs**

- (a) [The plan shall include a] process by which local governments incorporate the requirements of the mitigation plan into other planning mechanisms such as comprehensive or capital improvement plans, when appropriate.

### **Continued Public Involvement**

- (a) [The plan maintenance process shall include a] discussion on how the community will continue public participation in the plan maintenance process.