Catastrophic Post-disaster Long-term Recovery Planning

A Capacity and Needs Assessment of the Oregon Coast

Graduate Terminal Project
Presented to the Department of Planning,
Public Policy and Management
of the University of Oregon

June 2008

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COMMITTEE REVIEW

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Acknowledgements

I would like to thank my committee chair Andre LeDuc for his guidance in helping me develop this project and for being a great mentor throughout my masters program. He has been instrumental in my educational and professional development. I would also like extend my gratitude to committee members Krista Dillon and Jean Stockard for their steady support through this entire process. Thank you both.

Additionally, I would like show my appreciation to all the participating coastal communities for working with me. Without them this assessment would not have been possible. I also would like to thank Matt Spangler and Jay Wilson for reviewing my survey as well as the Cascadia Regional Earthquake Workgroup (CREW) for the contributions their work made on this report.

Lastly I would like to thank the Community Service Center, the Department of Planning and Public Policy and my dear friends for all their support and guidance over the last two years.

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Front Cover Photograph Source: Jenny Pearce (2008), Bandon, Oregon

ACRONYMS

CREW	Cascadia Regional Earthquake Workgroup
DHS	Department of Homeland Security or Oregon Department of Human Services
DOGAMI	Oregon Department of Geology and Mineral Industries
DLCD	Department of Land Conservation and Development
EMAP	Emergency Management Accreditation Program
EMP	Emergency Management Program
ERT	Economic Revitalization Team
FEMA	Federal Emergency Management Agency
FTE	Full Time Equivalency
HSA	Homeland Security Act
ICS	Incident Command System
LCDC	Land Conservation and Development Commission
LTRP	Long-Term Recovery Planning
NOAA	National Oceanic and Atmospheric Administration
NIMS	National Incident Management System
NFPA	National Fire Protection Association
NFIP	National Flood Insurance Program
NRP	National Response Plan
OECDD	Oregon Economic and Community Development Department
OEM	Office of Emergency Management
OPDR	Oregon Partnership for Disaster Resilience
USGS	United State Geological Survey

EXECUTIVE SUMMARY

Experts say that the Oregon coast has a 10-20% chance of facing a region wide catastrophic Cascadia Subduction Zone earthquake and tsunami in the next 50 years. Coastal cities will be severely affected physically, economically and socially. Research indicates that communities can recover more easily if they identify ahead of time strategic priorities for how they will rebuild, restore, improve and grow in the aftermath of a catastrophic disaster. However, currently there is no plan for how the Oregon coast will recover from a Cascadia event.

In order to identify what opportunities and challenges coastal communities currently face in planning for catastrophic post-disaster long-term recovery a capacity and needs assessment was conducted of the thirty-two incorporated cities along the coast. Findings indicated that staff time is stretched; funding, scientific data, disaster expertise and local knowledge about post-disaster long-term recovery planning and integrated emergency management are limited. In addition some indicated that using partnership can be challenging but all communities used partnerships to achieve their goals.

The assessment also revealed several opportunities that can be built upon to assist communities in building their capacity to develop catastrophic post-disaster long-term recovery plans. First, coastal communities have similar concerns and will face similar issues after a catastrophic event and therefore have a vested interest in working with one another. Second, communities are prioritizing disaster planning related activities and are increasingly seeing the importance of planning ahead for a catastrophic disaster. Lastly, communities already have existing relationships within the community, between communities, and at all levels of government.

Over 65% indicated an interest in networking with regional groups to assist them in planning for catastrophic post-disaster long-term recovery planning. In order to facilitate this interest and the need to increase local capacity to plan for catastrophic events, the recommendations outline integrated emergency management activities in the public, private sectors and at all levels of government. This integrated approach will increase the capacity of local jurisdictions, regional areas and the state to plan for a catastrophic event by increasing information exchange, knowledge about emergency planning, standardizing procedures and make efficient use of resources statewide.

INTRODUCTION

The *Oregon Technical Resource Guide* defines a catastrophic disaster as a natural disaster that is "regional in scale and scope" (LCDC, 2001). Catastrophic disasters exceed the local and state capacity to cope with the disaster and require extensive federal support and expertise. The worst-case catastrophic disaster that the Oregon coast may face is a 9.0 magnitude Cascadia Subduction Zone earthquake, which occurs on average 500 years, the last event being on January 26, 1700 (CREW, 2005). However, given the intervals and intensity of past earthquakes researchers believe there is a 10-20% chance of a Cascadia earthquake occurring in the next 50 years (Oregon Sea Grant 1994).

According to the Cascadia Region Earthquake Workgroup *Magnitude 9.0 Earthquake Scenario* (2005), a regional earthquake of this magnitude would seriously affect economies, damage property and potentially cause a large scale of injuries and potential life loss through coastal northern California, Oregon, Washington and British Columbia.

Communities would be faced with rebuilding in a time of instability and shock. Planning in advance for how communities will recover in the long-term from the effects of an earthquake, tsunami or any catastrophic disaster can decrease the length of time it takes for a community to recover economically, socially and ecologically (Center, N. H. R. a. A. I., 2001). It also provides communities with an opportunity to rebuild more sustainably so that the impacts of the next hazard are reduced (Center N. H. R. a. A. I., 2001).

The problem is that most communities usually do not develop catastrophic post-disaster long-term recovery plans until after a disaster strikes. Several researchers and agencies have documented how in the wake of these events the focus is on responding and not on the long-term planning processes (Mileti, 2004). Political and social motivation for emergency planning is usually at its highest after a disaster strikes; however, political leaders and planners struggle to bring stability and the situation back to "normal" at the same time (Mileti, 2004).

Research has shown that going back to "normal" only places communities in the same situation when the next event occurs (Mileti, 2004). As Dennis Mileti states, "Viewed practically, real decisions are likely to be severely limited by economic pressure and the pressure to decide quickly. The pressure to restore normalcy in response to victims' needs and desires are so strong that safety and community improvement goals—modifying land use, retrofitting damaged buildings, creating new parks, or widening existing streets—are often compromised or abandoned."

Over the last 40 years disaster planning practices have increased (Platt 1999) and since Hurricane Katrina, more interest has developed in the area of long-term recovery planning. However, the concept of long-term recovery planning is still new and most communities still have not developed long-term recovery plans (Schwab, 1998). In addition, how to develop these plans, especially in communities with limited resources and capacity, is still unknown.

The reality is that most coastal cities in Oregon have limited resources and institutional capacity. However, the extent of their resources and capacity to develop catastrophic post-disaster long-term recovery plans has yet to be explored. This research assesses the current capacity of coastal communities to develop catastrophic post-disaster long-term recovery plans. It identifies what challenges they face and where opportunities may exist to assist coastal communities in planning for catastrophic post-disaster recovery. Based on the findings, the researcher provides recommendations for the state, coastal region and local jurisdiction for how they can plan for catastrophic post-disaster long-term recovery planning in their upcoming community planning activities.

What is in this report?

Background Literature

This chapter provides the reader with a historical background of the academic literature and policy framework surrounding disaster recovery planning. It also introduces the reader to the role of the federal, state, and local government in the long-term recovery planning process.

The Oregon Coast

This chapter reviews the current catastrophic risks facing the Oregon coast. It also introduces why a capacity and needs assessment is an important step for future long-term recovery planning efforts on the Oregon coast.

Methodology

This section outlines the tools used to gather information for the capacity and needs assessment and the measures used to analyze the results.

Results

This section summarizes the results of the capacity and needs assessment. Results are categorized into two areas, ***Community Capacity*** and ***Resource Needs.***

Discussion and Recommendations

This section discusses the implication of the results outlined in the previous section. It also provides key recommendations for how local jurisdictions can overcome the challenges face in planning for catastrophic post-disaster long-term recovery. A suggested framework for emergency management at the state, regional and local level is provided.

Appendices

Appendices include:

- Online Survey
- Interview Questions
- Exposure and Sensitivity Chart (USGS Report)
- The following tables:
    - List of cities that participated in the assessment
    - Risk Management Committee Members List by Community
    - Oregon Partnership for Disaster Resilience Membership List

BACKGROUND LITERATURE

Until the 1970's disaster planning was researched individually in two main fields, geography and sociology. Research in geography tended to focus on the technological and land impacts of hazards, while sociological research on hazards focused on the population and environmental reactions to hazards.

Professor John Dewey (1929) of the University of Chicago, combined the two philosophies by stating disaster planning was based on the presumption that "humanity exists in a natural world that is innately hazardous [and therefore] results in human insecurity" (Miteli, 2004, 19). This insecurity leads individuals and society to develop ways of preventing or reducing the losses of these hazards. Gilbert F. White, the "father of natural disaster research" based his founding ideas on disaster management from Dewey's premise. White pushed the issue further to ask the question "Why are certain adjustments to hazards preferred over others? Why, despite investments in those adjustments, are social losses from hazards increasing?" These are questions still being address by disaster researchers and practitioners today (Mileti, 2004, 19).

Since the 1970's most of the writing on disaster policy and practices has focused on disaster preparedness and mitigation. More recently disaster response and recovery has been discussed, especially since 2005 when Hurricane Katrina forced the nation to realize how much further we need to go to become more resilient and coordinated in our response and reconstruction efforts.

This chapter briefly reviews some of the literature from both of these areas while incorporating the historical policy development that led to the nation's current disaster framework. Disaster policies can be found in boxes throughout the chapter. The chapter concludes with a discussion of the roles of federal, state, and local jurisdictions in long-term recovery planning. It also highlights the advantages and disadvantages to planning ahead for catastrophic post-disaster long-term recovery.

1970 – 1994: Inter-Disciplinary Approaches to Disaster Research

In the 1970s two key studies appeared that shaped disaster research for the next 20 years.

The first was a national comprehensive assessment, led by G. White and Eugene Haas of the University of Chicago in 1975, on the information known across the country on disasters. This *Assessment of Research on Natural Hazards*, was published soon

Disaster Relief Act of 1950

The 1950 Red River Floods of South Dakota and Minnesota instigated the enactment of the first federal act to dedicate monies specifically for the purposes of local disaster reconstruction. The Disaster Relief Act of 1950 dedicated $5 million dollars to a relief fund and covered 1% of local recovery costs.

Disaster Relief Act of 1974

By 1974 the financial burden for local recovery had shifted from the local and state government to the federal government and U.S. taxpayers. This was established in the 1974 revision of the Disaster Relief Act and is still relevant today. The federal government now covers 75% of the recovery and reconstruction cost for a community, requiring them to share in 25% of the costs. Unfortunately many communities have been unable to pay the 25% cost share requirement and the federal government does not strictly enforce the regulation

National Flood Insurance Program

In 1968 Congress established the National Flood Insurance Program, which today requires communities to map flood plain areas and abide by more strict development codes if properties want to participate in the program. While it is currently one of the strongest enforcement programs for disaster recovery it has been criticized widely for its limitations.

after Congress passed the new Federal Disaster Relief Act of 1974, which opened disaster relief funds to individual and private citizens. The assessment played a key role in identifying "directions for national policy and [provided an] inventory of the [country's] future needs" (Mileti, 2004, 21).

The second influential study, especially for disaster recovery research, was conducted by Haas, Kates, and Bowden in 1977. Their study focused specifically on the reconstruction process of four major disasters in the U.S and identified four periods in the disaster recovery process.

Four Periods of Disaster Recovery

1. **Emergency Recovery**— immediate time (hours and days) after a disaster, when the community is "cop[ing] with it's loses in property, lives, and injuries, and when normal activities were disruptive" (Swab, 1998, 8).
2. **Restoration**— the time between the emergency recovery period and when "major urban services", "transportation", "evacuees" were returned and debris is removed (Swab, 1999, 8).
3. **Replacement and Restoration**— when capital projects are completed to "pre-disaster levels" and social and economic levels are back to "normal" (Swab, 1999, 8).
4. **Commemorative, Betterment, and Development**— when future growth, reconstruction and developments begin to occur (Swab, 1999).

Haas, Kates and Bowden (1977) found that "community decisions during the periods of recovery and reconstruction are based on value choices between the competing priorities of returning to normalcy, reducing future vulnerability to disaster, and seizing opportunities, to improve efficiency, equity, or amenities in the city" (Swab, 1999, 8). The authors suggest that each period lasts "1,000 times longer" than the initial period and that planning and policy set before a disaster occurs could greatly reduce the recovery and reconstruction time for a community.

Subsequent research followed looking at social influences on how a community recovers from a disaster. Rubin's (1985) research established that the periods of recovery and reconstruction identified by Haas, Kates and Bowden overlap in time and suggested that policy decisions should be based on equity versus equality. A number of researchers, but notability, Geipel also found that cultural and socio-economic contexts have a direct influence on how a person will be able to cope with a disaster.

Interestingly Geipel (1982) noted that reconstruction has less to do with the destruction arising from a disaster and more to do with the "development trends, regeneration potential, plans, laws, subsides, personal expertise (especially planners) and the attitudes of the people affected" (Geipel, 1982, 162). Typically persons of lower economic status, ethnic minorities, elderly and the disabled become marginalized both in the response and recovery phases of a disaster. In addition he also noted that those "evacuees" who did not return at the right time to receive reconstruction benefits were also at a disadvantage (Geipel, 1982). Geipel stressed that effective reconstruction planning occurs when the right public policy and processes are combined with understanding the public's perspective and needs. When these two components are not aligned strong pressure for a community to rebuild quickly and to rebuild to be what it was prior to the disaster may occur.

Robert T. Stafford Disaster Relief Act of 1988

The Robert T. Stafford Disaster Relief and Emergency Assistance Act was enacted in 1988. It further defined criteria for federal disaster relief funds while opening up relief funds for private organizations and citizens through a number of programs that provided temporary housing, food stamps, and small business loans (FEMA, 2002). This Act is the leading source of emergency funding for communities today.

Incremental Shifts in Policy

The changes in the disaster policy show the incremental and slow progression the federal government has taken to coordinating emergency relief efforts. It also shows the shift from local governments to federal government bearing the majority of the financial burden (Platt, 1999).

1994 – 1999: The Disaster Cycle Approach

In 1999, Dennis S. Mileti conducted a *Reassessment of Natural Hazards in the United States* based on the 1974 assessment conducted by White and Haas. Mileti's reassessment synthesized the academic discussion on disaster management between 1994 and 1999 and identified the current paradigm for disaster management and provided recommendations for future progress in the field. He found that the approach at that time (1999) was based on a strategy similar to Dewey's (1929) presumption, that humans manage disasters with the goal of reducing loss of life, property, prosperity and society. Society was coping with disaster by managing how they prepared, responded, recovered and mitigated from a disaster.

According to Mileti (2004) each part of the cycle — preparedness, response, recovery and mitigation — required emergency managers and planners to perform various unique functions, yet all of the functions were interrelated and cyclical in nature (Mileti, 2004, 22).

Figure 1. Stages of Disaster Management

Dennis S. Mileti (2004) indicates that there are four cyclical and interrelated stages to how humans manage disasters — preparedness, response, recovery and mitigation.

Source: Fort –Bend County Government Emergency Management website http://www.co.fort-bend.tx.us/upload/images/emergency_management/p

The Disaster Cycle

1. **Preparedness:**

   Preparedness may involve the following components to ensure a community builds a capable emergency response and management system.

   - Hazard Detection
   - Vulnerability Analysis
   - Risk Analysis
   - Development of Warning Systems and Evacuation Routes
   - Identification of Shelters
   - Stock of Functioning and Up-to-date Emergency Supplies and Communication Systems
   - Development of Notification Systems
   - Establishment of Mutual Aid Agreements and Partnerships
   - Development of Emergency Plans
   - Training of Response Personnel
   - Public Education Programs

2. Response

The disaster response phase "refers to the actions taken immediately before, during, and after a disaster occurs to save lives, minimize damage to property, and enhance the effectiveness of recovery (Mileti, 2004, 23)." During this phase communities emergency response personnel are implementing the procedures set for the in the communities emergency response plan. The effectiveness of a community's response is directly related to the community's level of preparedness. Staff must be trained sufficiently enough to easily implement response procedures.

Components of response include:

- Immediate Hazard Detection
- Activation of Warning Systems
- Evacuation of Affected Populations
- Temporary Sheltering
- Emergency Medical Care
- Search and Rescue
- Security and Protection of Property
- Emergency Construction (hazard specific)
- Closure of Roads and Bridges (hazard specific)
- Restoration of Utilities (water and electric)

3. Recovery

The disaster recovery phase refers to the short and long-term restoration of the community after a disaster strikes. Short-term recovery activities (the weeks after a disaster) "restore vital services" to the community while long-term activities (months and years after a disaster) focus on returning the community to "normal" (Mileti, 2004, 23).

Short term recovery activities include:

- Comprehensive Damage Assessment
- Restoration of Utilities (water and electric)
- Debris Removal
- Public Health and Safety
- Short-term Housing
- Short-term Social Services Assistance
- Volunteer and Donations Management

Long-term recovery activities include:

- Reconstruction of Housing
- Reconstruction of Damaged Infrastructure
- Economic Development
- Financial Aid and Reimbursements
- Population and Social Services

4. Mitigation

Disaster mitigation usually has the most momentum immediately following a disaster, and serves to mitigate the effect of the next disaster. This shows the cyclical nature of the disaster management process. While you are recovering from the last disaster you are mitigating, and preparing for the next, usually using lessons learned from the previous disaster. Mitigation activities reduce the impacts of a disaster on their community through "structural, non-structural, and infrastructural" means (Mileti, 2004, 23).

Mitigation activities can include:

- Building Code Regulations
- Building of Disaster Control Structures (i.e. dams, levees and channels aimed to direct flooding)
- Zoning Ordinances
- Insurance
- Development of Mitigation Plans (could also be in the Preparedness stage)
- Implementation of Activities to support Vulnerable Populations

An important conclusion of Mileti (2004) was that some mitigation activities, in particular the building of dams and levees, actually place communities in harm's way and give people a false sense of security. He explains that while some effects can be reduced a disaster is inevitable and at some point it may be catastrophic enough to surpass the infrastructure put in place. This same infrastructure has provided communities with a false sense of security from disaster and has led to an increasing emergence of development in hazardous areas. Prior to the building of this infrastructure (e.g. dams and levees) development did not occur in those areas. He states, "Communities located below dams or alongside levees construct themselves as if there is no risk of flooding, yet floods can and do occur that exceed the design capacity of control structures. When such things happen, the technological protection no longer offers security, but it has already made a larger population vulnerable to even more damage than was originally anticipated" (Mileti, 2004, 25).

Guidelines for Future Disaster Management

Mileti (2004) concluded his assessment by proposing a paradigm shift for disaster management based on six guidelines.

1. **Adopt a global systems perspective** — be aware that natural ecosystems are complex, wide ranging and constantly changing.

2. **Accept responsibility for hazards and disasters** — people make choices for how and where human development occurs.

3. **Anticipate ambiguity, constant change, and surprise** — Think in terms of adaptive management because "[the world] is characterized by a growing set of interrelated problems, and change can occur quickly and in non-linear ways" and we must adapt disaster policies and practices in conjunction with those changes. (Mileti, 2004, 27)

4. **Reject short-term thinking** — think 50 years down the road versus 5 years.

5. **Take a broader, more generous view of social forces and their role in hazards and disasters** — consider the limitation and boundaries of social, political, cultural and economic contexts.

6. **Embrace the principles of sustainable development** — develop in a way that "meets the needs of the present without compromising the ability of future generations to meet their own needs. Sustainability includes inter and intra-generational equity; that adequate standards of living for all people should be possible; and economics, ecology, and social equity are inseparable" (Mileti, 2004, 29).

Post Hurricane Katrina and 9-11

After Hurricane Katrina hit the gulf coast of the United States, several academics and practitioners spoke out about the inefficiency of current disaster policy, practices and the capacity of local, state and federal governments to effectively manage disasters.

While most of the literature is a review of the system's failure to respond quickly and effectively, some literature suggests policy changes that could be made to assist local government in the recovery process.

The following suggestions have been made related to long-term recovery planning.

National Flood Insurance Program (NFIP)

Raymond Burby (2006) suggests that government policy, in particular the Flood Insurance Act, needs to be adjusted to better assist "local government commitment to planning and hazard mitigation" (Burby, 2006, 171). The current policy supports the development of hazard prone areas by insuring properties rather than prohibiting development. Burby states, "the paradox is that in trying to make the most hazardous parts of New Orleans safe for urban expansion, it had the unintended effect of contributing directly to the devastation of Hurricane Katrina" (Burby, 2006, 176). Dams and Levees have design limits and are not designed to withstand catastrophic events. Thus when a catastrophic event does occur, those hazard prone areas are even more susceptible to the effects of a disaster. Overall the Flood Insurance policy has "facilitated the development of these areas…but they have increased the potential for catastrophic losses in large disasters" (Burby, 2006, 178).

Pre-Disaster Recovery Planning

Burby suggests that communities should be insured based on their exposure to risk and if local governments had the "burden of responsibility for insurance coverage, local officials may become more committed to limiting development in hazardous areas and to mitigating the hazards to at-risk developments" (Waugh, 2006, 313).

Philip R. Berke and Thomas Campanella (2006) discussed how to rebuild cities in the aftermath of a disaster. They suggest that communities should have a recovery plan in place in order to quickly take advantage for the short window of opportunity after a disaster. According to Berke and Campanella recovery plans have the following advantages:

- Provide a sense of security to the public to know the local government is in control of the situation and organized.
- Involving the public in the recovery planning process creates public awareness of disaster related issues and a higher likelihood of "support [for] redevelopment policies and programs after a disaster" (Berke, 2006).
- Recovery plans offer a vision for how the community will rebuild itself; provide strategic guidelines for rebuilding, and allow the community to perform short-term recovery activities in synch with long-term recovery plans.

Berke and Campanella found that most communities have not developed or prioritize recovery and mitigation planning. For those that had plans, Berke and Campanella found the quality and the knowledge of the plans contents to be low. They believe that federal and state action is required to motivate local government to prioritize recovery and mitigation planning. However, historically federal policy has supported development over hazards planning.

Department of Homeland Security

After the terrorist attack on September 11, 2001 the president ordered the consolidation of 22 federal agencies under the new Department of Homeland Security (DHS). This consolidation was to improve coordination and information exchange amongst key departments involved in the country's national security. The Federal Emergency Management Agency (FEMA) now found itself under the direction and financial management of the DHS. This bureaucratic reorganization restructured how the nation responds to disasters, whether they are human caused or natural.

National Incident Management System

The National Incident Management System (NIMS) was created to unify the way the nation responds to such disasters. It was developed to be used in any type of situation regardless of the scope or scale of the disasters, to increase communication and coordination amongst federal, state and local agencies and reduce confusion. On August 23, 2005 the system received its first big test when Hurricane Katrina hit the Gulf Coast. The system failed miserably. Being only a few years old, local, state, and federal agencies did not understand one another's role in the new system. This, among other things, led to the slow and highly publicized federal response.

National Response Framework

In reaction the Department of Homeland Security (especially in FEMA) and the National Response Plan (NRP) underwent severe scrutiny and restructuring. Today the National Response Framework replaces the NRP and includes an emergency support function on recovery. In addition, FEMA has developed several guides for communities on long-term recovery planning.

Catastrophic Post-Disaster Long-Term Recovery Planning

Catastrophic post-disaster long-term recovery planning looks beyond rapid damage assessment and immediate life support provisions for communities (FEMA web). It involves identifying strategic priorities for how a community will rebuild and restore, improve and grow in the aftermath of a catastrophic disaster (FEMA web). It is also an opportunity to "think big" and rebuild communities to be more resilient and sustainable (FEMA, 2005). Long-term recovery planning allows for communities to think about how they envision the community's future development and livability.

The Role of Federal, State and Local Agencies in Recovery Planning

Federal, state and local jurisdictions have different roles in the catastrophic post-disaster long-term recovery process. Below is a brief description of the responsibilities, processes and policies at each level of government before and after a disaster strikes.

Federal

The federal government's role is to develop national policies, provide technical assistance and resources in times of national interest. Federal agencies work with the state to distribute resources and funds needed for response and recovery efforts.

Pre-Disaster Role

The Department of Homeland Security primarily through the Federal Emergency Management Agency (FEMA) provides technical expertise and guidance for planning for disaster through guides and policy.

While most resources are focused on preparedness, response, mitigation and short term recovery planning, there is some guidance for long-term recovery planning. The National Response Framework includes an emergency support function on recovery. In addition, FEMA has developed several guides for communities on long-term recovery planning and technical resources guides on coastal hazards and vulnerabilities.

Currently funding for pre-disaster planning is limited to mitigation efforts and some public awareness and preparedness activities (primarily for fire and flood programs). There is no federal assistance program for holistic disaster planning, which forces communities to piecemeal disaster planning efforts according to grant requirements rather than approaching disaster planning holistically.

Post-Disaster Role

After a disaster strikes FEMA typically works with state governors to determine whether the president should declare a disaster an incident of national priority. If it is declared a disaster of national priority it becomes eligible for federal funding. Between 1984 and 1997 an average of 75% of disaster declaration requests were approved. This rate has been increasing throughout the years. FEMA has 1754 declared disasters on record to date (FEMA web).

State

The role of the state in long-term recovery planning is to facilitate the distribution of resources in a post-disaster situation and to request federal assistance as needed. In addition they may develop state laws and statutes to encourage local jurisdictions to plan ahead for emergency situations.

Pre-Disaster Role

The Oregon Office of Emergency Management (OEM) in collaboration with the Land Commission of Conservation and Development (LCDC), Oregon Department of Geology and Mineral Industries (DOGAMI) and the Oregon Partnership for Disaster Resilience work to provide scientific data regarding the types of hazards coastal communities face and the vulnerabilities of those communities. They work closely with federal agencies like the National Oceanic and Atmospheric Administration and the US Geological Survey.

Post-Disaster Role

After a disaster strikes the state works with affected communities to determine whether a request for presidential to declare the disaster of significant priority. If it is the state acts as the medium for dispersing funds. State resources are also organized and distributed to affected communities. At this point the Office of Emergency Management and other key state agencies would be involved in assisting communities in responding and recovering from a disaster.

Local

The role of the local jurisdiction in long-term recovery planning is to plan and implement activities that will ensure a successful recovery of their community in the wake of a disaster. Long-term recovery planning requires that local public works, housing authorities, land use planning, risk management and economic development agencies work together. In addition they collaborate with local stakeholders, neighboring communities and state, regional and national resources to gain support for how the city will rebuild the economy, neighborhoods and social fabric of the community.

Pre-Disaster Role

The idea of planning for how a community will recover in the long-term from a disaster is fairly new. City managers (or equivalent), city councils and local departments should work together to develop a strategy for long-term recovery. An accepted strategy should involve the public in order to gain support and create awareness of the new vision the community will have after a catastrophic disaster. This strategy incorporates way for the community to recover economically, socially, and physically from a disaster.

Below are a few typical long-term recovery planning activities that a local jurisdiction could implement:

- Identifying areas and levels of risk
- Identifying land uses in hazardous areas
- Determining whether to rebuild in the same area after a disaster
- Establishing a disaster ordinance
- Training staff in FEMA economic recovery programs and grants
- Develop a strategy for coordinating short-term and long-term recovery efforts.

Post-Disaster Role

Once a community has responded to a disaster they start to implement short and long-term recovery activities. The first step is to conduct a Preliminary Damage Assessment (PDA) and request that the state governor ask for the disaster to be declared an "incident of high priority" at the federal level. Once the disaster has been declared a federal incident of high priority, the community is eligible for federal funds through the state. From this point on state and city officials are working together to acquire resources and funding.

At this point local jurisdictions are working under intense pressure to return the community to normal and rebuild the infrastructure, utilities, housing, commercial areas and economy of the overall community. This work means coordinating land-use planning, public works, transportation, private property rights, business recovery and many other components of a community all at the same time.

The Advantages and Disadvantages to Planning for Long-Term Recovery

Planning for catastrophic post-disaster long-term recovery has several advantages. It reduces chaos, provides pre-approved vision from the public on how and where to rebuild effected parts of the community, limits political grandstanding, and lays the groundwork for a more coordinated recovery effort between the public, private sector, and government agencies involved in the recovery process (Berke, 2006) (FEMA, 2001) (Imam, 2005).

The main disadvantage communities, especially small communities, face is limited resources, staff and time. Small communities barely have the capacity to accomplish their immediate needs, let alone the needs of an event that may or may not happen in the future. This is a very valid and real concern that almost all communities face but one that has yet to be addressed by states, the federal government or researchers.

This capacity and needs assessment for is an attempt to understand the current capacity of Oregon coastal communities and the resources they need to plan for catastrophic post-disaster long-term recovery.

THE OREGON COAST

This chapter provides an overview of the Oregon coastal region. It looks at the population, geography and economic layout of the Oregon coast. It also discusses the types of hazards facing Oregon coastal communities and the anticipated affects a catastrophic disaster like a Cascadia Subduction Zone earthquake and tsunami would have on the region. Lastly it reviews efforts currently being made in Oregon in the area of long-term recovery planning.

Population

The Oregon coast has 32 incorporated cities and several unincorporated towns. It total population is over 220,000 with less than half living in unincorporated areas. From this point forth the report will use the word city only to represent incorporated cities (unincorporated areas and towns were not included in this study).

The average size of a coastal city in Oregon is 3,578 residents with the majority of cities having populations between 1,000 and 3,000. The city of Coos Bay has the largest population of 16,005. The city of Nehalem is the smallest with only 215 residents. See figure 2 for full population breakdown.

Geography

The Oregon coast is geographically divided into three sections, the north coast, central coast and south coast.

The northern coast encompasses the counties of Clatsop, and Tillamook and is physically associated with forest lands and rocky seashore. The central coast contains Lincoln, Lane and Douglas County and is well known for the dunes that line its coast (less in northern Lane and Lincoln). Coos and Curry County are considered the south coast and have a physical make up similar to the north coast.

FIGURE 2.
POPULATION OF THE OREGON COAST

	County	Name of City	Population
North Coast	Clatsop	Gearhart	1,095
		Cannon Beach	1,665
		Warrenton	4,460
		Seaside	6,165
		Astoria	9,970
	Tillamook	Nehalem	215
		Wheeler	435
		Manzanita	690
		Garibaldi	920
		Bay City	1,149
		Rockaway Beach	1,345
		Tillamook	4,675
Central Coast	Lincoln	Yachats	745
		Siletz	1,150
		Depoe Bay	1,310
		Waldport	2,110
		Toledo	3,590
		Lincoln City	7,615
		Newport	10,240
	Lane	Dunes City	1,345
		Florence	8,270
	Douglas	Reedsport	4,250
South Coast	Coos	Powers	730
		Lakeside	1,440
		Myrtle Point	2,535
		Bandon	3,115
		Coquille	4,210
		North Bend	9,720
		Coos Bay	16,005
	Curry	Port Orford	1,225
		Gold Beach	2,445
		Brookings	6,315
Total Incorporated Population			121,149

Source: Oregon Blue Book 2006

Economy

The leading industries found in most coastal cities are tourism, timber, fisheries, and trade. The coast also has a growing number of residents over the age of 55, many of which are retirees (1000 Friends of Oregon).

The coast holds 84 state parks up and down the coast drawing in on average 54,000 tourists and recreational visitors daily (USGS, 2007). There are an additional number of private campgrounds and resources areas that are not included in those numbers. This is an important component to note since cities are not simply dealing with the residents of their communities but in a disaster situation will be assisting these visitors as well. This inevitable extra strain of city resources should be considered when planning for hazards along the coast.

Coastal Hazards

The Oregon coast faces certain natural hazards on a regular basis including windstorms, flooding, landslides, wildfires, and minor seismic activity. These would be considered chronic hazards that most communities are prepared to handle. Catastrophic disasters, however, are regional in scope and size. Oregon potentially faces a region wide earthquake because of its location on the Cascadia Subduction Zone. This earthquake would rupture transportation networks, infrastructure and seriously impede cities along the coast and I-5 corridor.

FIGURE 3.
CASCADIA SUBDUCTION ZONE

Source: Cascadia Subduction Zone Earthquakes, the Cascadia Region Earthquake Workgroup 2005

Risk Assessment

In 2003 the Oregon Partnership for Disaster Resilience developed a hazards profile for the coastal region based on the counties assessment of their risk. Risk scores were assigned between 24 (low) and 240 (high) for a variety of natural hazards — seismic, floods, windstorms, landslides, wildfires, drought and volcanic (OPDR, 2003).

While county scores varied, the hazards that placed counties at the highest risk were windstorms, seismic activity, and flooding. This was followed by landslides and wildfires. Drought and volcanic risk was limited in comparison to the other hazards.

Cascadia Subduction Zone Earthquake

The Oregon coast is situated in the center of the Cascadia Subduction Zone. The Cascadia Subduction Zone is a seismically vulnerable area that begins in Northern California and reaches as far as British Columbia. In the zone the Juan de Fuca plate meets the North American Continental plate slowly pushing against each other. Since the matter that makes up the Juan de Fuca plate is denser than that of the North American plate, the Juan de Fuca plate is pushed under the North American plate (see figure 4). So far, since 1700 these plates have been rubbing against each other with little seismic disruption, however if friction increased and halted this calm relationship, pressure would built and eventually release erupting into a massive Cascadia earthquake with a magnitude between 8 and 9 (CREW, 2005). Cascadia earthquakes are said to take place every 500 years although the DOGAMI anticipates a 10-20% chance of it occurring in the next 50 years (CREW, 2005) (DOGAMI).

Damaging Effects of a Cascadia Earthquake

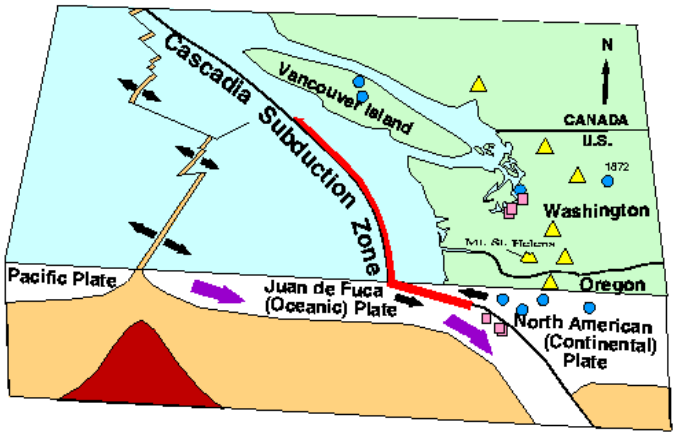
A 9.0 magnitude Cascadia earthquake will cause varying degrees of damage to buildings, roads, and utilities, but it can be assumed that many parts of highway 101, the north south route on the coast, will be impassable due to the massive flooding that will occur from the tsunami that will immediately follow (CREW, 2005). In addition chronic hazards like landslides, severe storms and fires will most likely accompany the earthquake additionally impacting the region. For most communities this means possible isolation from resources, goods, services and access to evacuation routes.

Most coastal communities' only access in and out the town is through the north/south bound highway 101. Once flooding, debris pile up from landslides, and cracks in the roads, prohibit access, communities will likely face isolation from the outside world.

Indirectly a Cascadia earthquake will severely hurt the region economically and socially, and even more so if ill prepared to recover from such an event. Fishing stocks, vegetation will be wiped out, coastal motels and building will be damaged, temporarily if not permanently suspending tourism, fishing and agriculture economies (CREW, 2005). Socially, medical services, food provisions and shelters will be overwhelmed by the number of people who will need to call on those services (CREW, 2005).

FIGURE 4.

RELATIONSHIP BETWEEN THE JUAN DE FUCA PLATE AND NORTH AMERICAN PLATE



Source: The Pacific Northwest Seismic Network

When a Cascadia-wide earthquake and tsunami occurs, local, state and federal resources would be strained to meet the recovery needs of the entire Pacific Northwest coastal region. In addition, the population centers in Oregon are within the I-5/Willamette Valley corridor and resources will most likely be prioritized to those areas, leaving small coastal towns even more reliant on their own limited resources and efforts (O'Neil, 2007).

Since most of the Oregon coastal communities are small in population and resources, the capacity and needs assessment in this study aims to identify what capability the coastal communities have to plan ahead for how they will recover from a catastrophic disaster like a Cascadia earthquake.

Long Term Recovery Planning along the Oregon Coast

The State of Oregon does not have any mandates or laws requiring communities to pursue long-term recovery planning. Goal 7 of the Oregon Statewide Planning Goals addresses Areas Subject to Natural Hazards. It requires local governments to "adopt comprehensive plans (inventories, policies and implementing measures) to reduce the risk to people and property from natural hazards" (OAR 660-015-0000(1)). Most communities address flooding in their comprehensive plans but are using the State Tsunami Inundation Zone as a boundary for catastrophic harm when in fact DOGAMI is showing that flooding could extend beyond this area.

The DOGAMI is one of the primary facilitators for state tsunami awareness. Currently DOGAMI is working on developing "scenario-based inundation research [maps that express] the variability of what could be expected from a tsunami impact on the Oregon coast in the event of a Cascadia Subduction Zone earthquake or a distant tsunami-generating earthquake." These maps will assist the state in verifying or

updating the current tsunami inundation zone and provide communities with a resource for development and hazards planning. The process for developing these maps is expensive and time consuming and could take up to 20 years to have up-to-date tsunami mapping throughout the coast. DOGAMI is currently working on acquiring additional funding to expedite the process. Coastal communities should keep this in mind when planning for hazards in their comprehensive plans.

In an effort to address mitigation and long-term recovery planning statewide, Senate Bill 1038 was introduced by representatives Morrisette and Verger but never made it to the floor. If enacted this Bill would have assigned resources and direction for mitigation and long-term recovery planning efforts throughout Oregon and in particular to those communities subject to the impacts of catastrophic disasters.

Cannon Beach Pilot Project for Post-Disaster Recovery

Cannon Beach was the focus of a pilot project that involved the city and community stakeholders in developing identifying "strategic activities the community could engage in to better prepare for the recovery issues they may face" in the wake of a catastrophic post-disaster long-term recovery. Currently, they are the only coastal community with strategies for how they will recover from a catastrophic disaster. Most communities are focusing disaster planning efforts on response and mitigation efforts.

The Strategic Planning Process

The process was a collaborative effort (funding and information exchange) between the U.S.G.S., OEM, CREW, the Oregon Partnership for Disaster Resilience (OPDR), formally know as Oregon Natural Hazards Workgroup) at the University of Oregon's Community Service Center. The project received funding from U.S.G.S. Science Impact, CREW and OPDR. OPDR was the primary group facilitating the participatory process to identify strategic actions the community could implement.

The process followed a ten step approach outlined in the *Holistic Disaster Recovery Guide* developed by the Natural Hazards Research and Applications Information Center (NHRAIC) at the University of Colorado. These ten steps were used to identify stakeholders, issues and opportunities, and goals. After the process was completed OPDR document lessons learned from the Cannon Beach process, which can be used to improve future projects.

The participatory process brought together a wide range of stakeholders from the public, private, and nonprofit sector. Examples include representatives from the City of Cannon Beach, the Emergency Preparedness Committee, citizens, North Coast Home Builders Association, Seaside School District, Oregon Department of Transportation, Pacific Power, American Red Cross, Neighborhood Associations, Clatsop County Health & Human Services, National Guard, Cannon Beach Rural Fire Protection District, US Postal Service, and Cannon Beach Vacation Rental. This list is not inclusive as there were many more stakeholders present. See the *Cannon Beach Post-Disaster Recovery Planning Process Report* (2007) for a full list of participants.

Together these stakeholders identified and prioritized potential issues that the Cannon Beach community would face after a disaster. They then identified strategic actions for addressing those issues. Issues and actions were categorized in the following themes — Population, Economy, Land and Development, and Critical Facilities and Infrastructure. Below is a list of the issues identified and actions developed for each theme. These considerations were listed in a PowerPoint delivered by the U.S.G.S to workshop participants (OPDR 2007, Appendix A) and in the *Cannon Beach Summary Report* 2006.

General Oversight

The recommendations set forth by OPDR advised Cannon Beach to develop a framework for implementing the action items identified in the workshops. The oversight committee would work closely with the city council and working groups to facilitate the implementation of the actions identified in the pilot project. This required several actions, as listed in figure 5, to establish such a committee and set the framework for disaster planning in Cannon Beach.

FIGURE 5. OVERSIGHT RELATED ACTIONS

	Oversight Related Actions
Action 1.1	Establish a Disaster Resilience Committee (DRC)
Action 1.2	Develop a Cannon Beach Post-Disaster Recovery Ordinance
Action 1.3	Establish comprehensive disaster communications strategies to address both the response and long-term recovery needs of Cannon Beach citizens and government
Action 1.4	Develop a funding matrix that provides a list of potential funding mechanisms for disaster recovery and mitigation activities
Action 1.5	Coordinate outreach and education programs related to disaster response, recovery, preparedness, and mitigation planning

Critical Facilities and Infrastructure

The community identified and prioritized several issues that related to critical facilities and infrastructure. See figure 6 below.

FIGURE 6. ISSUES IDENTIFIED THAT RELATED TO CRITICAL FACILITIES AND INFRASTRUCTURE

Issues identified that related to critical facilities and infrastructure (ONHW 2007, Appendix A):
General damage and/or loss of service
⇒ Broken pipes, inoperable services ⇒ Downed and/or damaged lines or cell towers ⇒ Gas stations inoperable ⇒ Roads, bridges and railroads damaged and/or covered in debris ⇒ Waterlines broken ⇒ Wastewater system inoperable ⇒ Airport or ports/harbors unusable ⇒ Medical facilities operable
Impaired roads cutting off access to critical facilities
⇒ Fire and emergency services unable to respond
Post-disaster capital improvement projects need to be prioritized
⇒ Public works department overloaded ⇒ Limited recovery funds
Stormwater system not functioning
⇒ Flooding and drainage patterns altered

Based on the issues listed above a set of actions were developed to start planning for post-disaster recovery, see figure 7.

FIGURE 7. CRITICAL FACILITIES & INFRASTRUCTURE RELATED ACTIONS

	Critical Facilities & Infrastructure Related Actions
Action 2.1	Conduct a study to determine priorities for utility restoration post-disaster
Action 2.2	Develop post-disaster strategies for restoring local transportation networks
Action 2.3	Assist the Department of Geology and Mineral Industries develop and enhance Cannon Beach's seismic needs assessment of critical emergency response buildings and public schools
Action 2.4	Develop a proposal to relocate or retrofit important buildings that are critical to post-disaster recovery efforts

Land Use and Development

The community identified and prioritized several issues that related to land and development. Figure 8 is a summary of those issues.

FIGURE 8. ISSUES IDENTIFIED THAT RELATED TO LAND AND DEVELOPMENT

Issues identified that related to land and development (ONHW 2007, Appendix A):
⇒ Changes in landforms
⇒ Some areas uninhabitable
⇒ Disagreement over where and how to rebuild
⇒ Environmental damage
⇒ City government disrupted
⇒ Houses condemned
⇒ Zoning changes
⇒ UGB expansions

Based on the issues listed above two actions were developed to start planning for how Cannon Beach will recovery from the impact a disaster will have on their land and development. See figure 9.

FIGURE 9. LAND AND DEVELOPMENT RELATED ACTIONS

	Land and Development Related Actions
Action 3.1	Complete a Buildable Lands Inventory that takes the tsunami inundation zone into account
Action 3.2	Establish a debris management plan

Economy

The community identified and prioritized several issues that related to their economy. Figure 10 is a summary of those issues.

FIGURE 10. ISSUES IDENTIFIED THAT RELATED TO THE ECONOMY

Issues identified that related to the economy (ONHW 2007, Appendix A):
Immediate business disruption
⇒ Commercial buildings damaged and unusable
⇒ Businesses disrupted
⇒ Lack of tourism short-term
⇒ Unemployment and/or workforce leaves
Rebuilding commercial sector
⇒ Economic incentives needed to encourage redevelopment
⇒ Major portion of the commercial sector located in disaster zone
⇒ Must maintain draw as a tourist destination post-disaster or if retail shops need to be relocated

Based on the economy issues the community identified they would face after a disaster, three actions were developed. See figure 11 below.

FIGURE 11. ECONOMY RELATED ACTIONS

	Economy Related Actions
Action 4.1	**Assist businesses in developing business continuity plans**
Action 4.2	**Create a list of qualified, local and regional contractors to perform recovery work post-disaster**
Action 4.3	**Prepare a City Continuity of Operations Plan (COOP) for the City of Cannon Beach**

Population

The participants also identified and prioritized issues surrounding the populations that would be affected by a disaster. See figure 12 below.

FIGURE 12. ISSUES IDENTIFIED THAT RELATED TO POPULATION

Issues identified that related to population (ONHW 2007, Appendix A):
General
⇒ Necessary to restrict access to certain areas and/or city services
⇒ Social and family services disrupted (ex. child care, elderly care)
⇒ Medical facilities in the inundation zone are damaged/unusable
⇒ Those without insurance left with large costs
⇒ Some may choose to leave the community and relocate
⇒ Temporary shelters inadequate
⇒ Non-residents overload established emergency systems
Elderly and disabled:
⇒ Lack of medical care, mobility and recovery network
Non-English speaking populations
⇒ May not understand response/recovery information and unsure where to get help
Single parent families
⇒ Unable to have basic needs met without support from social services
⇒ Only source of income may be eliminated
Poor households
⇒ Unable to have basic needs met without support from social services
Children
⇒ Especially vulnerable to disease, trauma, and other health issues

Two actions were developed to address the populations issues the community would face post-disaster. See figure 13 below.

FIGURE 13. POPULATION RELATED ACTIONS

	Population Related Actions
Action 5.1	Create a post-disaster housing plan that includes a vacant home database
Action 5.2	Increase communication and outreach through citizen-to-citizen networks that address post-disaster isolation and mental health of elderly, sick, and handicapped populations

Challenges to Implementation

Cannon Beach is still in the process of implementing the strategies and action items that were developed through the pilot project. The pilot project identified barriers that would hinder Cannon Beach from implementing the identified actions. As indicated in the *Cannon Beach Post-Disaster Recovery Planning Process Report* (2007) potential barriers included:

- Apathy and resistance to change are major barriers.
- Stakeholders identified a need for educational outreach to increase awareness and motivation.
- Time and money to hire staff, hold extra meetings, etc.
- Land battles over where to develop, or relocate vital infrastructure.
- Finding a lead in efforts to create a plan, and forming partnerships to implement next steps and create a viable plan.
- Looking at the problem as regional, rather than local.

These barriers are most likely affecting Cannon Beach's ability to implement the actions identified in the planning process. These barriers are probably barriers that most coastal communities in Oregon would face in planning for catastrophic post-disaster long-term recovery. This capacity and needs assessment will help to figure out if this is true.

Successes of the Project

While implementation may be difficult for communities the project was successful. It started the process of getting communities thinking about long-term recovery planning. It used a collaborative, participatory approach that engaged the public and made them invested in the recovery planning process. Capacity issues surrounding staff time, difficulty to coordinate efforts and establishing a framework for overseeing and implementing disaster planning were still an issue. The advantages the pilot project had was it had regional and local support, funding, and there was a strategic process and coordinator in place to identifying issues and actions. Unfortunately there lack of administrative support after the process may or may not be related to the slow implementation of the action items. However, since the process included an evaluation of the process itself, lessons learned were identified that will help improve the process for the next time.

U.S.G.S Study: Variations in City Exposure and Sensitivity to Tsunami Hazards in Oregon

Another important study recently completed, is the U.S. Geological Survey (2007) study on the *Variations in City Exposure and Sensitivity to Tsunami Hazards in Oregon*. The study looked at the relationship between hazards, land use, assets and socio-economic indicators for communities (incorporated and county) in the tsunami inundation zone.

Key findings were:

- 95% of land in the inundation zone is considered undeveloped but are most likely used for "recreational and ecosystem services" and attract a number of users.
- Over 22,000 people in the region are either above the age of 65 or are renters and will need special assistance in a disaster situation.
- 36% of the residents in the area live outside of incorporated communities.
- There is a significant number of nonresidential users in the area including "14,857 employees, 53,714 day use visitors on average per day to Oregon State Park, and a high number of dependent population facilities, overnight tourist accommodations, and public venues" (USGS 2007, 29).
- Economic recovery will vary through out the region (Seaside was indicated as the city being the most impacted loosing potentially 89% of its "workforce" and Port Orford the least with little to no "business impact").
- "Exposure and sensitivity to tsunamis vary across the region". Exposure was measured by the amount of developed land and assets in the tsunami inundation zone. Sensitivity was measured using the percentage of developed land and assets in the tsunami inundation zone. They found sensitivity was a stronger indicator of community vulnerability.
- The City of Seaside had the highest exposure and sensitivity ratings in the region (See Appendix A for a list of all cities exposure and sensitivity rating).
- There are few common patterns in how cities developed theirs land and distributed assets, however there was consistency within the individual cities.

Interestingly they noted that "exposure and sensitivity comparisons were only the first approximation of societal vulnerability because they do not include variations in resilience — the ability for a community to withstand, absorb, adapt to, and recover from the losses" (USGS 2007, 26-27). Communities with high levels of resiliency will be less vulnerable to the effects of a catastrophic event.

The USGS study coupled with the ongoing progression by state and regional agencies to increase the awareness of the potential impacts of a Cascadia earthquake and tsunami increasingly indicates the need for coastal communities to become more disaster resilient.

This Study

As awareness grows cities are being faced with an additional task of planning for disaster with limited to no funding support and resources. This report outlines the findings of a capacity and needs assessment conducted along the Oregon coasts. It attempts to understand what communities need to become more disaster resilient and what opportunities may exist to integrate long-term recovery planning into the everyday operations of public, private and nonprofits sectors and at all levels of government.

METHODOLOGY

A capacity and needs assessment of the 32 incorporated coastal cities in Oregon was conducted to assess what opportunities and challenges coastal cities in the Oregon face in developing catastrophic post-disaster long-term recovery plans (LTRP). The data was collected primarily through an online survey targeting city managers, or the equivalent, of coastal communities in Oregon. In addition, two supplemental interviews were conducted to gather additional information. One interview was with the city of Newport in Lincoln County and the other with a risk management agent at City County Insurance Services. Based on the analysis of the survey results and interviews, recommendations were developed for how communities can overcome the barriers they face in developing LTRP and how a state agency or regional organization could assist communities in the process.

Sample

The survey sample included representatives of all 32 incorporated cities along the Oregon coast. The survey was sent via email to all city managers, or the equivalent (city administrators and recorders in smaller communities). Since city managers are well equipped to answer questions pertaining to their community they were targeted as the primary survey recipient. Many may have passed the survey on to department head directors (i.e. planning director, police and fire chiefs). Their contact information was received from the Oregon Blue Book, online web resources, and a few direct phone calls to city halls.

FIGURE 14.
SUMMARY OF METHODOLOGY

Target Population	All 32 Incorporated Coastal Cities in Oregon
Target Audience	City Managers (or equivalent)
Instruments	Online Survey and Interviews.
Response Rate	53% (survey) plus 2 supplemental interviews
Measures	Community Priorities, Institutional Capacity, and Resource Needs
Analytical Method	Descriptive Statistics

After the survey closed, cities who had not participated in the online survey were given the option to participate in a phone interview. The City of Newport was the only one to respond to this invitation.

In addition the *Partnership for Disaster Resilience* referred a risk management specialist at *City County Insurance Services* who was interviewed in person, primarily for information gathering purposes more than for data collection.

Procedures

Three major steps were taken to conduct this exploratory quasi-quantitative research. First, an online survey was developed using a web tool called Survey Monkey. Second, data was collected from the online survey and two supplemental interviews (one with the city of Newport and another with a City County Insurance Services representative). Third, basic statistical analysis was conducted using the data collected from the survey and interviews.

Figure 15. Survey Question #2: Identifying Community Priorities

In the next 5 years, what are your city's planning priorities as they related to the following planning components? Please rate the following.

	Low Priority	Medium Priority	High Priority	N/A
Comprehensive Plan Review				
Transportation Systems Planning				
Transportation — Long-term Capital Improvements				
Affordable Housing				
Urban Renewal				
Historic Preservation				
Community Safety				
Public Works – Long-term Capital Improvements				
Disaster Mitigation Planning				
Disaster Preparedness and Response Planning				
Disaster Long-term Recovery Planning				
Fire Department/District – Long-term Capital Improvements				

Survey Development

The survey was designed online to gather information in three areas, the community planning priorities, institutional capacity, and community needs. These three measures are explained in detail below.

Community Planning Priorities

This measure was selected to understand what would be the priority activities for communities over the next five years. Because catastrophic post-disaster long-term recovery planning can involve many different aspects of a community, the list of possible priorities was very extensive.

City managers were asked to prioritize a list of 32 common planning activities found in most cities. They ranged from comprehensive planning, transportation, public works, economic development, disaster planning and social service related activities. Figure 15 lists a sample of some of the community planning priorities listed in the survey question. For full list of all 32 planning activities, see Appendix B for full survey.

Institutional Capacity

This measure was selected because I wanted to understand the communities' current institutional capacity in order to better understand their needs and ability to integrate long-term recovery planning into their planning

processes. This research defined institutional capacity as the resources available to a community. Resources were measured in terms of available funding, staff, and partnerships.

Staff

The survey asked questions related to the number of staff and contractors working for the city and specifically looked at staff in land use planning, public works, economic development and risk management departments.

Partnerships

Cities were asked to identify the types of partnerships they had with the county, contractors, nonprofits, universities, and local stakeholders. In addition they were asked to identify how they collaborated with those entities as it related to grant writing and acquisition of funding, cost sharing, community outreach, project management, project implementation and assessment. Lastly the survey identified whether communities had already established a formal or informal group of people to deal with risk/emergency management issues.

Resource Allocation

Question three of the survey was intended to identify the resources to be allocated towards the 32 planning activities identified in questions two. The types of funding that cities anticipated using for community planning activities was identified as well and whether staff of contractor would be utilized. (See the text of question 3 in Figure 16 below).

Figure 16. Survey Question #3: Identifying Resource Allocation

In the next 5 years, please indicate what types of resources your city will be putting towards the following planning components. Check all that apply.

	Staff	Contractors	Grants	City Funding (taxes, bonds)
Comprehensive Plan Review				
Transportation Systems Planning				
Transportation — Long-term Capital Improvements				
Affordable Housing				
Urban Renewal				
Historic Preservation				
Community Safety				
Public Works – Long-term Capital Improvements				
Disaster Mitigation Planning				
Disaster Preparedness and Response Planning				
Disaster Long-term Recovery Planning				
Fire Department/District – Long-term Capital Improvements				

Resource Needs

This measure was included in the research to identify what resources communities needed to increase there capacity to plan for catastrophic post-disaster long-term recovery.

Questions identified challenges communities faced, preferred forms of technical assistance, and potential partnerships for planning for catastrophic post-disaster long-term recovery.

Challenges

City managers were asked to rate how challenging the following components would pose if their city were to develop a catastrophic post-disaster long-term recovery plan.

- Dedicating staff time
- Interpreting Scientific Data
- Establishing Internal and External Partnerships
- Securing Funding

Technical Assistance

The survey identified which types of technical assistance cities preferred and needed to plan for catastrophic post-disaster long-term recovery.

Partnerships

Cities were asked to evaluate the level of trust they had for federal, state, county, contractors, nonprofits and universities to provide them with the technical assistance they would require to adequately plan for long-term recovery.

While most of the survey questions were closed-ended, there were opportunities to add additional comments at the end of several questions and at the end of the entire survey. These comments proved very valuable in the understanding the perspective of coastal cities.

Testing the Survey

The survey was tested on two individuals prior to sending it to the sample. The State Tsunami Coordinator at the Office of Emergency Management, and the Planning Director for Lincoln County both reviewed the survey prior to its distribution. In addition, the Oregon Partnership for Disaster Resilience served as a key advisor in developing the survey.

Data Collection

Participants were introduced to the survey via email. This email introduced the research, its purpose and the city managers' roles in the research and it encourage them to participate in the attached online survey. Participants initially had one week to fill out the survey, but the deadline was extended to three weeks to allow for a higher response rate.

Participants received two reminder emails if they had not completed the survey. Those cities that had not filled out the survey were called and invited to participate in a phone interview. Only the City of Newport agreed to the interview. Most declined due to limited resources and staff time.

Interviews

Two supplemental interviews were conducted. One was a conference call with the City of Newport's City Manager, Police Chief and Fire Chief. The other was an informal and in-person information session with a risk management agent from City County Insurance Services.

The interview with the City of Newport aimed to gather similar information that was gathered from the survey participants. Questions surrounded community priorities, institutional capacity and resource needs. The interview brought to light several other elements that provided me with a good understanding of the cities current capacity and priorities.

The information session with the City County Insurance Services representative contributed an understanding of the insurance policies available to coastal cities as it related to catastrophic post-disaster long-term recovery planning.

Data Analysis

The response rate for the survey was slightly above 53% (17 out of 32 cities responded). The web survey tool, Survey Monkey provided both a numeric and percentage summary for all responses. The summary allowed me to see general trends throughout the coastal region. Trends were determined to occur if over 50% of the respondents had similar answers. Priority levels of high, medium or low were determined based on the respondents self selected answer to survey question #2.

In addition a detailed report was generated on the responses of each city that participated. This is important since each city face different risks and capacities related to factors such as their geographic location (e.g. sea level, topography), economic well being, and socio-demographic characteristics. Understanding and knowing the needs of specific communities will be crucial for planning for future needs.

Respondents

The assessment received a proportionally even distribution of responses from cities with population that were very small (less than 1000), small (1000-4000), medium (4001-8,000) and large (8,001 and up). There were slightly more respondents from medium size cities and slightly less from larger cities. In addition cities represented every county except for Lane County. For a list of cities that participated see Appendix B.

FIGURE 17.

RESPONDENTS SUMMARY

Population Size	# of Responses out of Total	% Responded
Fewer than 1,000	3 out of 6	50%
1,001- 4,000	8 out of 14	57%
4,001 – 8,000	5 out of 7	71%
8,001 and up	2 out of 5	40%
Total	**18 out of 32**	**56%**

Communities gave the following reasons for not participating in the assessment.

1. The survey required information gathering from several departments.
2. Staff time was limited.
3. It was difficult to find the appropriate person to provide the needed information for communities without a city manager or administrator.

The larger cities were the least represented in the assessment. This indicates that while cities may be the largest in the region they have similar resources constraints as smaller communities.

RESULTS

This chapter will outline the results of the capacity and needs assessment. The results will be categorized into two sections ***Community Capacity*** and ***Resource Needs***. They reflect the responses of the cities that participated in the assessment. Results typically reflect regional (unless stated otherwise) trends and are based on a planning period of five years.

Community Capacity

The assessment evaluates the capacity cities have to plan for long-term recovery from a catastrophic disaster. The findings are categorized into Lang Use Planning, Economic Development, Hazards Risk Management, Public Works, Transportation, Community Development and Partnerships. These are all critical components to long-term recovery planning because the departments which oversee these activities will be heading recovery efforts after a disaster. The findings identify which planning components are priorities for the region in the next five years and what staff and resources are being dedicated to those components.

Overview

The top planning priorities for over 50% of participating cities are:

- Public Works
- Stormwater Management
- Disaster Preparedness and Response Planning
- Community Safety
- Disaster Mitigation Planning
- Disaster Long-term Recovery Planning
- Affordable Housing
- Urban renewal
- Parks and open space

These planning priorities are highlights in boxes throughout the section. Other areas of significant priority (50% or more communities found to be of *medium* priority) for communities are:

- Comprehensive planning
- Natural Resource management
- Auto Transportation Long-term Capital Improvements.
- Auto Transportation Systems Planning
- Alternative Transportation Systems Planning
- Business Recruitment
- Design of Commercial and Residential Areas
- Social Services
- Education System
- Education Facilities Improvements

FIGURE 18.
TOP REGIONAL PLANNING PRIORITIES

Rank	Top Planning Priorities (% of respondents)
1.	**Public Works** (94%)
2.	**Stormwater Management** (77%)
3.	**Disaster Preparedness and Response Planning** (77%)
4.	**Community Safety** (71%)
	Disaster Mitigation Planning (71%)
5.	**Disaster Long-term Recovery Planning** (59%)
	Affordable Housing (59%)
	Urban Renewal (59%)
6.	**Parks and Open Space** (53%)

It is also instructive to look at the priority given to activities within different aspects of planning and the resources and staff that are allocated to each area. We begin with land use planning and then move on to discuss economic development, hazards management, public works and transportation, and community development. Lastly the various types of partnerships communities use and the activities they use them for are discussed.

Land Use Planning

The following were considered components of land use planning. The level of priority the majority of cities will be placing on each component in the next five years is indicated in parentheses.

1. Parks and Open Space (High)
2. Natural Resources Management (Medium)
3. Comprehensive Plan Review (Medium)

Resource Allocation

- Fifteen out of 18 communities will be reviewing their **comprehensive plan** in the next five years and will be dedicating staff time to this task. 41% of communities will dedicate grants and use contractors and 24% will use city funding for their comprehensive plan review.
- **Parks and open space** planning is considered to be high priorities for 53% of communities and will receive grants by 59%, city funding by 41% and staff time from 100% of communities.
- **Natural resource management** planning is considered to be medium priority for most communities and will receive grants by 18%, city funding by 24%, and staff time from 77% of communities.

Staff

- Almost all cities have fewer than 2 employees dedicated to land use planning, regardless of their size (47% of those cities have less than 1 employee for land use planning.).
- 29% of city land-use planners are private contractors and/or on staff.

Economic Development

The following three elements were considered components of economic development. The level of priority the majority of cities will be placing on each component in the next five years is indicated in parentheses.

1. Urban renewal (High)
2. Business recruitment (High/Medium)
3. Design of Commercial Areas (Medium)

Resource Allocation

- **Urban renewal** is considered to be a high priority for 59% of communities and will receive grants by 29%, city funding by 47% and staff time from 65% of communities. Only 24% of communities will use contractors for urban renewal. 29% of communities will not place any resources towards urban renewal.
- Most communities rate **business recruitment** as a medium (42%) or high priority (42%). About 41% of communities are going to be dedicating staff time and 47% will not be allocating any

resources to business recruitment. Only 18% are planning on using contractors and grants, while 24% will be allocating city funding towards business recruitment.

- **Design of commercial** areas was a medium priority for the majority of communities (53%). The majority of cities will not place any resources to design commercial areas (53%). Those that will anticipate that staff time (41%) to be the most likely resource.

Staff

- 47% of cities do not have a staff member dedicated to economic development.
- 36% of cities have less than 1 person dedicated to economic development.
- 17.6% of cities have between 1 and 2 persons.

Hazard Risk Management

The following were considered components of hazard risk management. The level of priority the majority of cities will be placing on each component in the next five years is indicated in parentheses.

1. Disaster Preparedness and Response Planning (High)
2. Community Safety (High)
3. Disaster Mitigation Planning (High)
4. Disaster Long-term Recovery Planning (High)
5. Fire Department/District Capital Improvements (High
6. Police Department/District Capital Improvements (Medium))
7. Environmental Health and Safety (Medium)

Resource Allocation

- **Disaster preparedness and response planning** is considered a high priority for 77% of the communities. 94% of communities anticipate dedicating staff time and 35% anticipate contacting for disaster preparedness and response planning.
- **Community Safety** is considered a high priority for 70% of communities. It will receive grants by 41% and city funding from 53% of communities. Over 88% of communities will dedicate staff time to community safety and 35% will contract services.
- **Disaster Mitigation Planning** is considered a high priority for 71% of communities. 94% of communities will be dedicate staff time to mitigation planning. 64% anticipate grants and 47% anticipate city funding for mitigation projects. 41% will contract for mitigation planning projects.
- **Disaster Long-term Recovery Planning** is considered a high priority for 58% of communities. It will receive staff time from 82%, grants from 59%, and city funding from 47% of communities. Contractors will be used by 41% of communities for disaster long-term recovery planning projects. 12% of communities do not anticipate dedicated any resources towards disaster long-term recovery planning.
- **Police department/district capital improvements** is considered a medium priority by 41% of communities. It will receive staff time from 71%, grants from 47%, and city funding from 52%. 41% of cities anticipate using contractors for police capital improvements.

- **Fire department/district capital improvements** is considered to be a high priority for 35% of communities. It will receive staff time from 53%, grants from 53%, and city funding from 47%. 41% of cities anticipate using contractors for fire capital improvements.

Staff

- Most cities have between 0.5 and 2 employees dedicated to hazard risk management.
- Size of the city did not have any significance on the number of employees that were dedicated to hazard risk management.
- Two cities have 3 or more employees dedicated to hazard risk management.
- Three cities have no employees are dedicated to hazard risk management.
- Only one city contracted for hazard risk management staffing, using a citizen volunteer.
- All but one city plans on dedicating staff time to disaster preparedness and response and mitigation planning in the next five years.
- 41% of cities said they would be able to dedicate 1-2 FTE to long-term recovery planning.
- 41% of cities said they would be able to dedicate less than 1 FTE to long-term recovery planning.
- Two cities would not be able to dedicate any FTE for catastrophic post-disaster long-term recovery planning.
- Only one city mentioned they would be able to dedicate more than 2 FTE.

Risk Management Committees

The following results reflect what types of hazard risk management committees currently exist in communities along the Oregon coast. See Appendix D for detailed table outlining the information below.

- 10 out of 17 cities have some form of a hazard risk management group.
- 60% of these groups report to their city councils either out of duty or voluntarily.
- 40% reported to the county, county sheriff, city manager, or fire chief.
- A majority of small communities have some form of hazard risk management group.
- Common members on these committees tend to be Fire Chiefs, Police Chiefs, City Council Members, Public Works Directors, City Financial Advisors, City Managers/Administrators/Recorders, Health and School District representatives and concerned citizens.
- One community has the adjacent town's Fire Chief, School District and Health District representatives on their hazard risk management committee.

Public Works and Transportation

The following were considered components of public works and transportation. The level of priority the majority of cities will be placing on each component in the next five years is indicated in parentheses.

1. Public Works Long-term Capital Improvements (High)

2. Stormwater Management (High)
3. Waste Management (Medium)
4. Renewable Energy (Medium)
5. Transportation Systems Planning
   - Automobiles (Low)
   - Alternative Transportation (Medium)
   - Multimodal Systems (Low)
6. Transportation Capital Improvements
   - Automobiles (Medium)
   - Alternative Transportation (Medium)
   - Multimodal Systems (Low)

Resource Allocation

- **Public Works Long-term Capital Improvements** will be receiving the highest amount of resources from most communities. It is considered to be high priority for 94% of communities and will receive grants by 77%, city funding by 77% and staff time from 88% of communities.
- **Stormwater management** is considered a high priority for 77% of communities. It will receive grants from 59%, city funding from 71%, staff time from 88% of communities. Also, 65% of communities anticipate using contractors for stormwater management projects.
- **Waste management** is a medium priority for 58% of communities. The main resources communities are dedicating to waste management are staff time (59%) and city funding (234%). A third of the region does not anticipate dedicating any resources to waste management in the next five years.
- **Renewable energy** was considered a medium priority by 50% of the cities and was evenly considered either a low or a high priority for the other cities. Four cities anticipate grants for renewable energy projects and one anticipates using city funding. Over 50% are dedicating staff and two communities plan to contract for renewable energy projects.
- Overall most communities prioritize **transportation systems planning for alternative transportation** over automobile and multimodal systems. Staff time was the primary resource. Between 20-35% of cities planned on using contractors, dedicating grants or city funding for alternative transportation systems planning. 41% of cities do not plan on dedicating any resources.
- **Capital improvements for automobile transportation and alternative transportation** were a medium priority for most communities.
  - Capital Improvement projects for **automobile transportation** will receive staff from 71%, contractors from 53%, grants from 47%, and city funding from 47%.
  - Capital Improvement projects for **alternative transportation** will receive staff from 59%, contractors from 35%, grants from 24% grants, and city funding from 24%. 41% of communities do not anticipate spending any resources on capital improvements for alternative transportation purposes.
- **Multimodal transportation systems planning and capital improvements** are considered very low priorities by the majority of cities. Limited if any resources will be spent on this in the region over the next five years.

Staff

- The four smallest cities (Gearhart, Nehalem, Wheeler, and Powers) had the fewest public works employees (between 1-3) on staff.
- Every other city had over 3 employees dedicated to public works. Only one city contracted for engineering services.

Community Development

The following were considered components of community development. The level of priority the majority of cities will be placing on each component in the next five years is indicated in parentheses.

1. Community Development Block Grants (High)
2. Affordable Housing (High)
3. Design of Residential Areas (Medium/Low)
4. Social Services (Medium)
5. Education System (Medium)
6. Education Facilities Improvements (Medium)
7. Historic Preservation (Medium)

Resource Allocation

- **Community Development Block Grant (CDBG)** projects will be highly prioritized by 53% of the communities. It will receive 77% staff time, 41% contractors, 59% grants, and 29% city funding from communities. Three communities do not anticipate dedicating any resources to CDBG.
- **Affordable housing** is considered high priority for 59% of the cities. Staff time will be dedicated by 71% of the communities and 41% will use grants, and 24% city funding. 35% of communities will use contractors for affordable housing projects and 24% will not dedicate any resources at all in the next five years.
- **Social Services** are considered a medium priority by 41% of the communities. However 71% of communities do not anticipate dedicating any resources to social services in the next five years.
- **Education system planning and facilities improvements** are considered medium priorities for between 35-45% of communities. Many communities did not find this priority applicable to their field. Almost all communities anticipated limited if any resources for education in the next five years. This is most likely a reflection of how the education system is funded in the state.
- **Historic Preservation** is considered a medium priority for 47% of the communities. However it will receive staff from 58%, grants from 35%, and city funding from 24%. 18% of cities anticipate using contractors while 35% of cities do not anticipate dedicating any resources.

Partnerships

The following results indicate whether cities partnered with counties, contractors, nonprofits, universities or local stakeholders for grant writing, cost sharing, community outreach, project management, implementation, and assessment.

- All cities utilize partnerships for one or more of the following — grant writing, cost sharing, community outreach, project management, implementation, and assessment.

- 71% of cities partner with the **county** for community outreach and cost sharing.
- 79% of cities partner with **contractors** for project management and implementation.
- 50% of cities partner with **nonprofits** for cost sharing, community outreach and project implementation.
- Overall cities partnered the least with u**niversities** but when they did it was primarily for community outreach and project assessment.
- Cities partnered with **local stakeholders** primarily for community outreach but also for grant writing and funding acquisition as well as cost sharing.
- Small cities tended to partner most with the county and local stakeholders and less with contractors.
- Cities in Curry County do not partner with the county for grant writing, cost sharing, community outreach, project implementation, management and assessment.
- The City of Bandon was the only city to do grant writing, cost sharing, community outreach, project management, implementation, and assessment with the county, contractors, non-profits, universities, and local stakeholders.

While the assessment revealed the capacity cities will have in the next five years it also discussed the types of constraints and resource needs that the community was facing when trying to planning for disasters. The next section will address those resource needs.

Resource Needs

The assessment gathered information on the types of resources communities would need to assist them in developing catastrophic post-disaster long-term recovery plans. Participating cities were asked several questions directly related to staff, partnerships, funding and technical needs to assess what resources constraints are barriers for communities developing long-term recovery plans. The assessment revealed the following results.

Staff

- Dedicating staff time would be very challenging for the majority of cities.
- Staff trainings on long-term recovery planning would be useful for most communities.

Partnerships

- Establishing external partnerships would be somewhat challenging for the majority of cities.
- Establishing internal partnerships would not be challenging for 35% of cities but would be challenging to some degree for the majority of them.
- 65% of the cities indicated that networking with city administrators and/or regional groups would be beneficial to them in developing a plan for catastrophic post-disaster long-term recovery.

Funding

- Securing funding is the most challenging task and most important task for implementing catastrophic post-disaster long-term recovery planning in communities.

Technical Needs

- Interpreting scientific data is somewhat to very challenging for most communities.
- Access to needed scientific data was also a significant concern.
- Cities indicated that receiving technical assistance would be the most useful form of assistance to help them develop a long-term recovery plan.
- The majority of cities indicated that web based tools would be useful in helping them develop catastrophic post-disaster long-term recovery plans for their community.
- Manuals for long-term recovery were the least useful form of technical assistance to help communities plan for catastrophic post-disaster long-term recovery.
- Most communities trust the State the most to deliver technical assistance. This was followed by federal agencies, the county and contractors. Most cities were unsure about university and nonprofits.

Together the results from the capacity and needs assessment reveal opportunities and challenges that communities face in develop catastrophic post-disaster long-term recovery plan. These opportunities and challenges are outlined in the next chapter.

DISCUSSION AND RECOMMENDATIONS

Oregon coastal communities have placed disaster planning as a high priority for the next five years. They are increasingly interested in how they can mitigate, respond, and recovery from disasters. However, most communities are challenged with developing disaster-planning systems with limited resources, scientific data, emergency management knowledge, and staff time. While communities face several challenges the assessment revealed several opportunities for communities to build upon that will assist them in planning for catastrophic disasters.

Based on these challenges and opportunities a set of recommendations has been provided for how the state, coastal region and local jurisdictions can better prepare for long-term recovery from a catastrophic event.

Challenges

Below is an explanation of four primary challenges that communities face in planning for catastrophic post-disaster long-term recovery.

Challenge #1: Staff time is stretched

Staff time is the primary resource being allocated towards all 32 planning priorities communities listed in the assessment. Yet 8 out of the 18 communities that participated in the assessment have less than 15 employees on staff. Additionally, the number of city staff typically corresponded to the size of the city indicating that regardless of the size of the city the work load is probably proportional for city staff across the coast.

Challenge #2: Resources for disaster long-term recovery planning are limited

The primary source of federal funding available for disaster planning is the pre-disaster mitigation grant. However, these grants can only to be used for mitigation related activities. The Department Homeland Security, Emergency Management Performance Grant (EMPG) are available to help state and local governments "prepare and implement emergency management activities" such as "planning, equipping and training; conducting exercises and providing all hazards emergency management operations" (Natural Hazards Center 2007, 9). However, these funds are geared primarily towards response and preparedness activities.

Recovery funds are available to communities only AFTER a disaster strikes. While planning for how a community will recovery in the long-term from a disaster would lead to more cost effective decisions in the aftermath (i.e. it will save the federal government money), federal funding has yet to be allocated for this purpose. Communities are left to use current funding streams to pay for catastrophic disaster recovery planning activities. While disaster planning typically has not been a priority for most communities, the need for it has become increasingly apparent to communities and can be seen by the high priority almost all coastal communities will be placing disaster preparedness and response, mitigation and long-term recovery planning in the next five years.

An interesting note is that most communities indicated that they would be placing grant funding towards response and recovery planning in the next five years, however, there are no grants available for these purposes. This indicates one of three things. One, communities may not fully understand the differences between preparedness and response, mitigation and long-term recovery. Two, communities believe that the

pre-disaster mitigation grants can be used for response and recovery planning. Three, they plan on integrating long-term recovery planning into other non-disaster related grant programs. This goes to show that communities may not be very familiar with emergency management systems (as indicated in Challenge #4).

Challenge #3: Disaster planning data and expertise is limited

Communities are concerned that they do not have access to the scientific data needed to make proper disaster planning decisions. Staff time and resources are limited and cities want to know that there is scientific evidence for why they should plan for catastrophic post-disaster recovery (or any disaster planning). In addition, this data is critical in making the right types of planning decisions. Each community's geography, topography and layout are different and they need to have an understanding of what and where they need to plan.

While progress is being made at the state level to develop this type of scientific data the process is slow and expensive. Currently state statute requirements are minimal and are focused on response planning. In addition, progress is being made in the research field to understand the vulnerabilities and probabilities of natural hazards in the state. DOGAMI has started mapping the best available data available on the disaster impacts on coastal communities and the USGS has identified vulnerabilities levels for the entire coastal region. However, to date, the City of Cannon Beach is the only city along the Oregon coast that has been mapped by DOGAMI.

Additionally planning for catastrophic disaster long-term recovery is a new concept nationwide and there has yet to be a long-term standardize recovery plan in place that has been tested by a catastrophic disaster.

Challenge #4: Local understanding on emergency management in limited

Most communities have limited knowledge about integrated emergency management as defined by national standards such as National Fire Protection Association (NFPA) 1600 *Standard on Disaster/Emergency Management and Business Continuity Programs* and the Emergency Management Accreditation Program (EMAP). When communities think of emergency management they think of response. While many communities still are developing their response strategies, emergency management in much more than figuring out how a community will respond to an event. Communities are not trained in emergency management and need more training if they are going to fully integrated mitigation and recovery planning into their comprehensive planning operations. Even response planning knowledge in limited and typically assigned as a responsibility for fire, police and EMS staff. Emergency management needs to shift from being a separate task primarily devoted to emergency response personnel and become an integrated part of the current system.

Challenge #5: Establishing internal and external partnerships can be challenging

The majority of cities thought that establishing external and internal partnerships would be challenging to some degree. Internal partnerships would include working with the various departments in city governments. External partners include local stakeholders, contractors, NGOs, county and state agencies, and neighboring communities.

One reason cities may find it challenging to develop partnerships may be because partnership development can be complex and require time, effort and dedication. It should be mentioned though that every single city that participated in the assessment uses partnerships to achieve their goals and objectives.

Opportunities

While communities face several challenges in planning for long-term recovery the assessment revealed several opportunities.

Opportunity #1: Coastal communities will face similar issues after a catastrophic event

When a region wide Cascadia earthquake and tsunami hits the Oregon coast there will be similar issues that all coastal communities will face. They have a vested interested in learning from each other and coordinating how they will recover individually and as a region from such an event.

Communities are likely to face:

- Damages to transportation networks, damaged bridges, buildings and utility systems (CREW, 2005).
- Massive flooding in most coastal communities and all along the coast from the tsunami that would follow a Cascadia earthquake.
- Route 101 would have several impassable areas due to flooding and landslide debris blocking the road.
- Economic and social impacts, and even more so if ill prepared to recover from such an event.
    - Fishing stocks, vegetation will be wiped out, coastal motels and building will be damaged, temporarily if not permanently suspending tourism, fishing and agriculture economies (CREW, 2005).
    - Socially, medical services, food provisions and shelters will be overwhelmed by the number of people who will need to call on those services (CREW, 2005).

Opportunity #2: Coastal communities are prioritizing preparedness, response, mitigation and recovery activities in the next five years.

Disaster planning activities were in the top six planning priorities for well over 50% of the coastal communities that participated in the assessment. Priority was given to preparedness and response planning, followed by mitigation and then long-term recovery planning. This indicates that communities are poised and ready to integrated disaster planning into their community planning priorities over the next five years.

Opportunity #3: Coastal communities are prioritizing planning components that relate to long-term recovery planning

Communities are prioritizing planning activities that are important to long-term recovery planning. Long-term recovery activities typically surround land use planning, public works and infrastructure, economic development, community development and social services. Although communities do not seem to understand that these activities would be a part of planning for catastrophic post-disaster long-term recovery they will be working on several of these activities in the next five years. These activities should incorporate long-term recovery planning approaches to their project to make the most of the available resources.

- Long-term capital improvements for public works, stormwater management, community safety, parks and open space, capital improvements for economic development, and community development block grants were all rated as the high priorities for the region (over 50% of communities). In addition, these priorities will receive city funding and/or grants in the next five years by over 50% of the communities.
- Fifteen out of 18 communities will be reviewing their **comprehensive plan** in the next five years and will be dedicating staff time to this task. 41% of communities will dedicate grants and use

contractors and 24% will use city funding for their comprehensive plan review. This is an opportunity to integrate disaster policy the community's comprehensive plans.

- Affordable housing, urban renewal were also high priorities but less than 50% of communities anticipated using grants or city funding towards these components. Staff was the primary resource being allocated by over 65% of communities.
- Regionally most communities found business recruitment, design of commercial and residential areas, social services, education system and facilities improvements of significant priority but were allocated the least amount of resources.

Since communities will be working on projects related to long-term recovery in the next five years it is a prime time to integrate strategies for how current design and implementation of projects will impact the community's recovery process.

Opportunity #4: Communities have existing relationships within the community, between communities and at all levels of government.

Partnerships are being built within the communities, across agencies, and between communities. Every community that participated in the assessment used partnerships to reach their goals. Some communities utilize interagency partnerships locally and at the state and federal level, and some work with private and nonprofits and local stakeholders to achieve their goals. One mentioned they work with their neighboring community, although this was not asked for in the assessment (i.e. One city has a representative from the adjacent community on their hazards management committee). Almost all cities had a disaster management group of some sort with representation from a variety of city and public stakeholders.

City governments have connections with many local and non local stakeholders. This existing social capital can be utilized in furthering partnerships and creating new networks for implementing long-term recovery planning.

Recommendations

The capacity and needs assessment showed that communities recognize the growing importance of planning for emergencies but are limited in their capacity implement such activities. They lack the staff time, technical information and funding needed to properly coordinate emergency planning efforts across the public, private and nonprofit sectors. In addition, insufficient coordination at the state level directly affects local communities' ability to coordinate emergency management activities. The state needs to develop a system that sufficiently promotes the coordination of emergency management activities across agencies, stakeholders and at all levels of government. Based on the challenges and the opportunities outlined earlier, a set of recommendations for developing a framework for integrated emergency management at the state, coastal region and local level has been provided. This framework is based on increasing the state and local communities' capacity to plan for disasters and increase community resiliency and follows the guidelines set forth by the Emergency Management Accreditation Program (EMAP) and the National Fire Protection Association (NFPA).

I. Move towards an EMAP and NFPA 1600 Approach to Emergency Management

Emergency management in Oregon should move towards an integrated and standardized approach similar to what is set forth by the Emergency Management Accreditation Program (EMAP) and the National Fire Protection Association (NFPA) 1600, *Standard on Disaster/Emergency Management and Continuity Programs*. These approaches aim to build a framework for emergency management that will increase the public, private and nonprofit capacity to coordinate emergency preparedness, response, mitigation and long-term recovery activities.

Current Emergency Management System

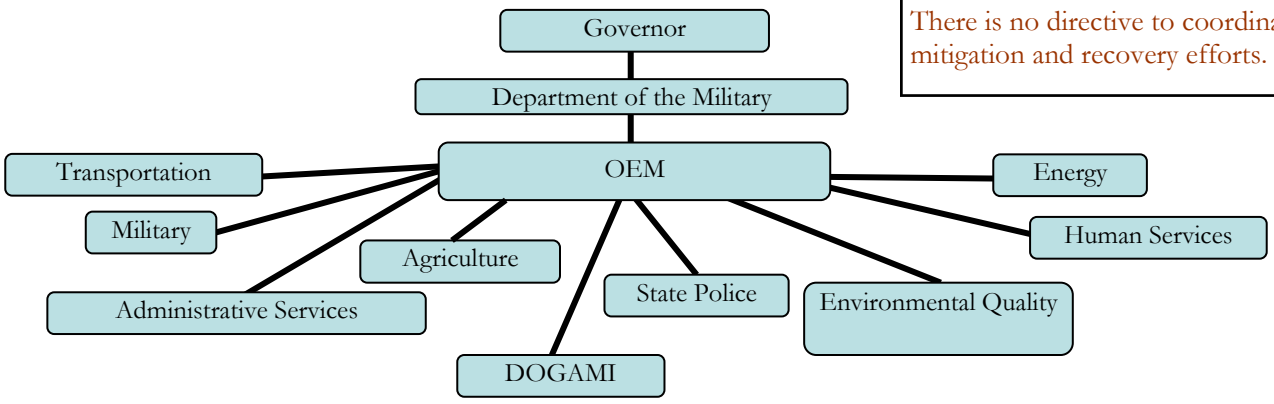
Today the state's focus is primarily on response planning followed by preparedness and mitigation and very little attention has been given to how the state will recover in the long-term from a catastrophic event like a Cascadia earthquake.

Currently the Office of Emergency Management (OEM) is housed within the Department of the Military which reports to the governor. Oregon state statute 401 outlines the authority and responsibilities of OEM. It states that the office "shall be responsible for: (a) coordinating and facilitating private sector and governmental efforts to prevent, prepare for, respond to and recovery from emergencies; and (b) coordinating exercises and training, planning, preparedness, response, mitigation, and recovery activities with state and local emergency services agencies and organizations" (Senate Bill 2370, 2007). However, the majority of resources are being allocated towards emergency response programs and this holistic approach is not being adequately implemented. The statute also requires that liaisons be assigned to work with OEM from the Department of Transportation, Department of Agriculture, DOGAMI, Department of Environmental Quality, Department of Human Services, Department of Energy, Department of Administrative Services, Department of State Police, and Department of the Military. However they are only required to "assist in the coordination of function that relate to emergency preparedness and response" and there is no directive to coordinate mitigation and recovery efforts (2007).

FIGURE 19. CURRENT EMERGENCY MANAGEMENT ORGANIZATIONAL STRUCTURE

Law only requires the departments to *"assist in the coordination of function that relate to emergency preparedness and response".*

There is no directive to coordinate mitigation and recovery efforts.



Senate Bill 1038, which never made it to the assembly, was to create an Act that would "designate certain state agencies to develop plans for mitigation effect of and recovery and reconstruction efforts after a natural disaster" (Senate Bill 1038, 2007). It also appropriated monies from the General Fund to the OEM to implement the responsibilities outlined in the act. While this act is moving in the right direction, a comprehensive funded approach needs to be developed for the entire state to ensure that resources are being used wisely, and efforts on preparedness, response recovery and mitigation are being coordinated. Local communities trust and are looking to the state to provide them with the technical and scientific data they need to make wise disaster planning decisions. Establishing a statewide integrated emergency management program will better prepare the state to cope with a catastrophic response and recovery by increasing the capacity at the regional and local level.

The EMAP and NFPA 1600 Standard on Disaster/Emergency Management and Business Continuity Programs

The National Fire Protection Association (NFPA) 1600 *Standard on Disaster/Emergency Management and Business Continuity Programs* and the Emergency Management Accreditation Program (EMAP) are voluntary programs endorsed by the professional emergency management community.

Lucien G. Canton 2007 suggests that a successful integrated emergency management program needs to have the administrative capacity to fully integrate response, preparedness, recovery and mitigation activities at all levels of government and in all sectors of society.

Disaster affects all components of a community - physically, economically and socially. Emergency planning needs to shift from focusing solely on response and start thinking holistically about how to *prepare for, respond to, recovery from and mitigate* the effect of a disaster.

To do this an emergency management approaches need to be implemented in all state, and local agencies and departments and in all operations.

An *integrated emergency management program* should have:

- ***Authority***
- ***A Budget***
- ***An Administrative Plan***
- ***A Strategic Plan***
- ***Training***
- ***Program Assessment***

To have administrative capacity a program must have the following key components.

- **Authority** to call on the resources and expertise of all departments. This requires legislative action to mandate the establishment of a statewide holistic and integrated Emergency Management Program (EMP). In addition old legislation needs to be updated to give authority to the integrated emergency management program over necessary state agencies (EMP should report directly to the governor).

- **A budget** based on monies from the General Fund and from grants. Emergency management is of the utmost importance as it saves lives, economies, property and the environment. It needs to be adequately funded by and prioritized in the state budget.

- **An administrative plan** that outlines the goals, mission and administrative procedures for running the program. This plan would outline the responsibilities of the players in the EMP.

- **A strategic plan** outlining annual objectives, strategies and actions for achieving goals. This plan made for a five year period and revised at the end of that period.

- **Training** on the new integrated EMP will be essential to the success of the program at the state, regional and local level. Training must be an ongoing process to ensure the successful growth of the program.

- **Program Assessment** needs to be incorporated into the program to ensure objectives are being met and resources are being used most efficiently.

These components create a framework for institutionalizing emergency management at the state, regional and local level and across departments and sectors of society. Recovery expert, Aseem Inam 2005, reviewed recovery processes in Mexico City, New York and Los Angeles and found that "planning programs were successful because…they relied on standardized routines, rigorous sets of established regimes, familiar program and institutional hierarchies" (Inam, 2005, 3). He also noted that the key actors in this process were "middle manager because they knew the institutional structures inside out and also knew what the routines were and how to use them" (Inam, 2005, 3). The components listed above provides this type of hierarchy and will require continual training to ensure that procedures become routine and second nature to all the staff involved.

In addition to the key components listed above Canton (2007) believes that an integrated emergency management structure should have an advisory committee, program coordinator, and working groups comprised of departments, agencies and stakeholders at the state, regional and local levels all working together to coordinate preparedness, response, recovery and mitigation activities.

Emergency Management Advisory Committee - High level representatives from state, regional, and local agencies and departments and private and NGO representative. The role of the advisory committee is to set and adopt program policies and oversees that program goals are being met. In addition, because of the highest level representative will be on this committee they will be able to assign resources from their departments or agencies. Private and NGO representative will bring in outside resources.

Examples of departments that should be represented on this committee are Department of Transportation, Department of Agriculture, DOGAMI, Department of Environmental Quality, Department of Human Services, Department of Energy, Department of Administrative Services, Department of State Police, and Department of the Military, Department of Land and Conservation (DLCD), and the Oregon Economic and Community Development Department (OECDD), Legal Counsel, Insurance Agencies (i.e. City County Insurance Services), U.S. Geological Survey (USGS), and National and Oceanic Atmospheric Administration (NOAA). Examples of private and NGO representative would be business associations, 1000 Friends of Oregon, Nature Conservancy). These lists are is not inclusive.

Program Coordinator – The program coordinator is responsible for administrating the Emergency Management Program (EMP). They create procedures and guidelines for implementing state law and codes as they relate the EMP and will be reflect in the administrative plan. They are responsible for the development and updating of the administrative and strategic plans. This position must have high level authority and access to high level officials in order to solve conflicts and bring stakeholders together.

Department and Stakeholder Working Groups – This group will comprise of midlevel managers from the departments listed under the Emergency Management Advisory Committee. These representatives will be on the ground implementing preparedness, response, recovery and mitigation efforts in their individual sectors. They representation is key to the success of the program as they are the implementers of the Emergency Management Program. Training these individuals is vital in ensuring they understand the Emergency Management Program's structure, goals and processes. They need to have access to the most up-to-date scientific data and information in order to integrate emergency management approaches in their daily operations. These representatives will provide perspectives that will influence and mold the EMP strategic plan.

These three entities will make up the policy, administration and implementing components of an emergency management program. The types of representatives and scope of work will vary slightly at the state, regional and local level.

Current Collaborative Programs in Oregon

Currently there are a few programs throughout Oregon that are using a systems wide approach to addressing health care, economic development and mitigation activities. They are the governor's Economic Revitalization Team, Department of Human Services, and the Oregon Partnership for Disaster Resilience.

Since involving a full range of government agencies, private and nonprofit stakeholders can be time-consuming and difficult it may be useful to use already existing entities as starting points for integrating emergency management across various departments and jurisdictions. They each have some but not all the key capacity components necessary to fully implement emergency management and could serve as models to build from in the future. The following is a preliminary scan of each program against the key components identified in the NFPA 1600 standards.

Economic Revitalization Teams

The Governor's Economic Revitalization Teams (ERT) take a systems approach to coordinating and streamlining state policies, programs and procedures and providing coordinated state agency assistance to local governments as it relates to the economic development and health of the state. They focus primarily on industrial lands and streamlining permit processes which is reflected in the their three key performance measures (1) customer service (2) percentage of "opportunity sites certified or developed" and (3) number of certified industrial lands.

Key to the success of the ERT the legislative authority it has to bring together over seven state agencies to coordinate economic development processes (House Bill 2011 SECTION 13, and amendment to ORS 174.116). This legislation also mandates that the ERT report directly to the Governor and acquires its funding from the Governor's budget.

The ERT is a seven member team with representatives from the:

- Department of Environmental Quality
- Economic and Community Development Department
- Department of Transportation
- The Division of State Lands
- The Department of Land Conservation and Development
- The State Department of Agriculture
- Housing and Community Services Department

This team works to streamline permit processes and planning policies to ensure speedy economic development of land. It is a collaborative process that came out of the recognition that economic development crosses a range of jurisdictional boundaries and that the planning process a developer or business needed to go through for each agency (transportation, agriculture, land-use etc) was in some cases cumbersome, repetitive and slowing down economic development in the state. Together the members of the ERT represent the highest level of each agency giving the ERT the necessary authority to make implementation decision in the respective agencies. This representation allows the ERT to truly be effective in implementing economic development activities.

The ERT works in seven regions throughout Oregon and has task specific advisory and working groups for achieving their goals.

The seven regions include:

Region 1. Northwest Region (Clatsop, Columbia, Tillamook)

Region 2. Metro/Hood River Region (Washington, Multnomah, Hood River, Clackamas)

Region 3. Willamette Valley/Mid-Coast Region (Yamhill, Marion, Polk, Lincoln, Benton, Linn, Lane)

Region 4. Coos-Curry-Douglas Region (Coos, Curry, Douglas)

Region 5. Lower John Day Region (Sherman, Wasco, Gilliam, Wheeler)

Region 6. Central Region (Jefferson, Deschutes, Crook)

Region 7. South Central Region (Klamath, Lake)

Region 8. Eastern Region (Morrow, Umatilla, Union, Wallowa, Grant, Baker, Harney, Malheur)

The ERT uses a systems approach to achieve "statewide initiative and local priorities" as it relates to economic development. This is does not specifically include emergency planning activities although the two are directly related. The important factor is that the ERT was established because the Governor recognized that "transportation, land use, environmental protection, sewer/water capacity, affordable housing and workforce are all part of a larger economic development system that reaches across state agencies' boundaries and governmental jurisdictions". The same can be said for emergency planning. A system wide approach should also be use to increase the resiliency of a community to survive a catastrophic event. Since long-term recovery planning directly relates to communities economic survival the ERT may be an appropriate place to integrate long-term recovery planning activities. Further research would have to be done to see if this is the best approach.

Department of Human Services

The Oregon Department of Human Services (DHS) uses U.S. Health Services and Resource Administration Grants to implement Emergency Preparedness Activities throughout the state. The purpose of these activities is to increase the capacity of the health care system to deal with a "surge" in patients due to a large scale disaster by coordinating activities and resources between local and statewide health care providers. They work to coordinate their efforts with the state's Emergency Response Plan. They have successfully developed a statewide registry of private health care providers willing to work during an emergency. In addition, they facilitated cooperative agreements between "EMS, tribes, clinics and others to improve their capabilities to respond to public health emergencies". They have established networks and experience in capacity building as it relates to emergency response in the health care world and may be a useful group to integrate other components of emergency response, preparedness, mitigation and recovery activities.

DHS assigns a HSRA Grants Coordinator to collaborate with "select staff from hospitals, emergency medical services, local health departments, tribes and federally qualified health centers" within seven regions throughout Oregon to coordinate emergency planning, training and response activities.

The DHS regions are as follows:

Region 1. Clatsop, Tillamook, Washington, Columbia, Multnomah, and Clackamas County.

Region 2. Yamhill, Polk, Marion, Linn, Benton, and Lincoln County.

Region 3. Lane, Douglas, Coos, and Curry County.

Region 4. Josephine and Jackson County

Region 5. Hood River, Wasco (northern), Sherman, and Gilliam County.

Region 6. Wasco (southern), Jefferson, Wheeler, Crook, Deschutes, Klamath, Lake, Grant, and Harney County.

Region 7. Morrow, Umatilla, Wallowa, Union, Baker, and Malheur County.

The extent of this programs administrative and strategic planning processes are unknown. Also, further research would need to be conducted to find out what types of training activities the group is involved in and how they assess their program goals and objectives. However, because they already have the capacity to collaborate with multiple stakeholder at various levels of government, it would be a prime opportunity to integrate emergency recovery, preparedness, and mitigation activities as they related to population and health issues into their activities.

Oregon Partnership for Disaster Resilience

The Oregon Partnership for Disaster Resilience (OPDR) is a coalition of 55 primary partners from the federal (2), state (34), private (4), professional and nonprofit sectors (15). For a full list of members see appendix G. The mission of the Partnership is "to develop and sustain partnerships that offer a

comprehensive, cost effective approach for states, communities, and organizations to bring together resources — both human and financial — to enhance community disaster safety and risk reduction statewide.

Membership is voluntary and promoted by the belief that "an effective collaborative process must have involvement from a full range of stakeholders who feel welcome to participate in the process" (LeDuc, 2006, 13). The organization is served by three administrative staff and an advisory council both of which guides and facilitate the work of the partnership. They work very closely with mitigation, preparedness and response specific working groups (limited recovery work).

OPDR employ a systems approach to disaster planning. The believe that "if disaster resilience is to take root, all the pieces of risk reduction, mitigation, and preparedness need to be woven in the existing local decision-making process, plans, policies, and programs". They intend to "offer communities a seamless support network aimed at building their capacity to address risk reduction in a holistic and sustainable fashion. This is accomplished by linking federal and state agencies, professional organizations, resources, and programs directly to communities, individuals, businesses, and organizations engaged in managing complex local risk issues" (LeDuc, 2006, 14).

OPDR is limited by their lack of legislative authority to acquire state funding. However they have been successful in providing a holistic and cost effective approach to disaster planning working at the grassroots level with federal, state, regional, and local stakeholders especially as it relates to mitigation planning. OPDR's activities are funded primarily via federal grants.

In addition they were the key facilitators in the Cannon Beach Recovery Planning Pilot Project which demonstrated their interested and ability to provide communities' with capacity building trainings and effective facilitation support that foster holistic, cost-effective and community based disaster planning.

OPDR works in eight regions throughout Oregon:

Region 1: Oregon Coast (Clatsop, Tillamook, Lincoln, Lane, Douglas, Coos, and Curry County)

Region 2: Northern Willamette Valley/Portland Metro (Columbia, Washington, Multnomah, and Clackamas County)

Region 3: Mid/Southern Willamette Valley (Benton, Lane (the non-coastal portion), Linn, Marion, Polk, and Yamhill County)

Region 4: Southwest Oregon (Douglas (the non-coastal portion), Jackson, and Josephine County)

Region 5: Mid-Columbia (Gilliam, Hood River, Morrow, Sherman, Umatilla and Wasco County)

Region 6: Central Oregon (Crook, Deschutes, Jefferson, Klamath, Lake, and Wheeler County)

Region 7: Northeast Oregon (Union, Wallowa, Baker, and Grant County)

Region 8: Southeast Oregon (Harney and Malheur County)

While they lack legislative authority they have managed to bring over 55 partners to the table, especially as it relates to mitigation planning. Long-term recovery planning has received the least amount of attention by the Partnership but this may be a reflection of the lack of support and understanding of long-term recovery planning throughout the state. The Partnership has the knowledge, experience to facilitate emergency management activities that will increase the resiliency of the state, coastal region and local communities. In order to fully integrated emergency management activities throughout the state it would need the financial support and legislative authority by the state.

Each of these models, the ERT, DHS and OPDR operate with the intention on using a systems based approach that integrates their work across jurisdictional boundaries and throughout various sectors of society. Further research needs to be conducted to (1) truly understand the effectiveness of each of these models and

(2) assess the barriers and opportunities to integrating emergency management activities in the public, private and nonprofit sector and at all levels of government. However, their approach is a step in the right direction and they provide a opportunity to integrate emergency management activities into their current processes.

II. Establish a Coastal Region Network for Catastrophic Disaster Management

Since all the coastal communities will face similar issues during a catastrophic event they have a vested interested in learning from and coordinating with each other. A Coastal Region Network will allow communities to sharing information and expertise with one another as well as coordinate efforts for managing catastrophic disasters. Together this network of 32 coastal communities and 7 counties will provide the region with a stronger voice than if individual communities were to act alone. They can acquire funding, resources, technical expertise and bring necessary training to the region.

The coastal region must be able to work across *jurisdictional boundaries because of the nature of natural disasters.* The regional network needs to have either the voluntary consent of all local jurisdictions or state mandated participation and jurisdictional cooperation.

The time for developing this network is now as most communities are prioritizing disaster planning in the next five years and are ready to participate. The assessment revealed that 65% of communities were very interested in networking to regional groups to plan for catastrophic disasters. The OPDR was the only group that grouped the coastal region together. Since they specialize in disaster planning it makes sense that would group regions that face similar hazards. They may be the appropriate entity to coordinate a regional network. Stakeholders from the regional network should share in the costs of paying for some or all the regional program coordinator's salary and administrative costs.

The regional program coordinator would work with an advisory committee to develop an administrative and strategic plan for how the regional can coordinate preparedness, response, mitigation and recovery efforts. Cities and counties would have to volunteer to be a member in the network or the state would have to mandate participation. Either way the regional efforts must be able to cross jurisdictional boundaries to effectively plan for a catastrophic disaster.

This regional network can work together to write grants, share resources and meet the needs of individual communities through the voice of the region. The coordination and communication region wide may ease the concern communities have about being isolated from resources and marginalized by the state when a catastrophic disaster. In addition it will increase the capacity of communities to manage disasters and assist the state in coordinating its disaster management efforts.

III. Establish an Integrated and Collaborative Local Emergency Management Strategy

Each community should establish an integrated and collaborative approach for how they will manage disasters. This includes preparation and response to a disaster, mitigation and how they will recovery in the short and long-term from a catastrophic event.

An integrated approach considers how a disaster will impact land use, infrastructure and the socio-economics of the community. Development decisions should reflect careful consideration for the long-term impacts it may have on the community if a disaster occurred. This may mean adopting this integrated emergency management approach in the city comprehensive plan or city policies. The strategy should incorporate input from all the relevant city departments and local stakeholders and use collaborative techniques and community involvement strategies to ensure acceptance from internal and external partners.

Steps to establishing and integrated and collaborative local emergency management strategy:

1. City council must adopt a nonpartisan policy for integrating emergency management in the jurisdiction. The program coordinator must have high enough authority and reporting rights to gather relevant stakeholders and resources.

2. Smaller cities may want to collaborate with neighboring communities to contract a local program coordinator.

3. Establish a working group of high level department heads and important local stakeholders (given the small size of coastal communities most may not be large enough to have an advisory committee. In this case the working group would have the highest level department representatives so they have the power to allocate resources and make high level decisions).

4. Develop an administrative and strategic plan for the community. Work with neighboring communities and county.

5. Collaborate and participate in Coastal Region Network.

6. Take advantage of training opportunities provided by the State EMP.

7. Utilize and build upon existing partnerships

Working with Partners to Achieve Goals

Establishing partnerships can reduce the strain on city government resources. All coastal indicated that they utilize partnerships for one or more of the following — grant writing, cost sharing, community outreach, project management, implementation, and assessment. This trend should continue and be strengthened. Below is a discussion of the type of partnerships coastal communities have with the state, county, contractors, universities, nonprofits and local stakeholders.

State

The State provides guidance and regulations for what communities have to do to meet state requirements. In addition they are the gateway for federal funding when a community is recovering from a disaster. They also provide technical research and information to counties and cities for planning purposes. Most cities indicated that they trust the State the most to provide technical information. Yet some communities indicated that more assistance could be provided. The state should make a valiant effort to increase the level of technical information available to communities so they may make well educated planning decision for disaster management. In addition the state or a regional body may be the appropriate entity to unite the coastal communities into a collaborative process for disaster planning for the region (as indicated by the two previous recommendations).

County

Since catastrophic disasters will affect incorporated cities and unincorporated areas, the county and local jurisdictions need to work closely with one another on how they will prepare for, respond, mitigate and recovery in the short and long-term from a catastrophic disaster. In many cases unincorporated areas surrounding city jurisdiction will most likely depend on the resources of the city during such an event and cities should plan and be aware of this potentially extra strain on resources. Counties should accommodate and work with cities to plan for this. As indicated by the assessment most local jurisdictions are likely to partner with the county for community outreach and cost sharing purposes. This partnership should continue and incorporate long-term recovery planning strategies.

Contractors

Coastal communities tend to use contractors for management and implementation of projects. They may want to contract services for managing, facilitating and implementing long-term recovery planning project for their community. In fact it may be more financially viable for communities pool their resources and contract a single group/individual to develop a long-term recovery strategy for the entire region (i.e. proposed coastal regional network). This strategy would be individualized for each community but would also create cohesiveness in the region. Small cities tended to partner most with the county and local stakeholders and less with contractors but this may have to do with the resources available to smaller communities. If communities pooled resources proportionately to their size smaller communities it may make it easier for smaller communities to participate in the collaboration.

Nonprofits

Cities indicated that they typically partner with nonprofits for cost sharing, community outreach and project implementation. Nonprofits tend to have an investment in the community regardless of their mission. Cities should work with nonprofits and establish what their roles would be in long-term recovery planning process. Once these roles are established cities can partners with various nonprofits to incorporate long-term recovery planning goals into nonprofit projects. In addition nonprofits are great resources for reaching the public. They are in continual contact with their constituents and could be a great community outreach tool for increasing residents' awareness of long-term recovery planning.

Universities

Overall cities partnered the least with universities but when they did it was primarily for community outreach and project assessment. While respondents were unsure how much they trusted universities to deliver technical assistance to communities, universities are a great source of intellectual information. It may be worthwhile for coastal communities to utilize research that students and faculty are conducting on topics related to long-term recovery planning and other emergency management related activities.

Local Stakeholders

Local stakeholders include any citizen group, business, local agency, residents and visitors that have a stake in the community's long-term recovery. Cities partnered with local stakeholders primarily for community outreach but also for grant writing and funding acquisition as well as cost sharing. Local partnerships are a great for outside resources and funding.

Long-term recovery planning activities

Capacity issues at the local level should be alleviated if a Statewide Emergency Management Program and a Coastal Region Network were established. However there are other opportunities for collaborating resources at the local level that will assist in implementing the local emergency management strategy. Three strategies based on the findings in the capacity and needs assessment are proved below.

1. **Identify Post-Disaster Locations for Land Uses in Hazard Prone Areas**

Communities can prepare for how they will recover from a catastrophic disaster by having a vision prior to the disaster occurring for how they will rebuild their community. These discussions and policy guidelines can increase the efficiency and effectiveness of a community's long-term recovery.

The results indicated that almost all the communities that participated in the assessment will be undergoing a review of their comprehensive plan in the next five years. This is an opportunity for the community to integrate mitigation and long-term recovery planning ideas into the long-range land use planning process. Mitigation ideas would surround using hazard prone areas for parks and opens spaces or natural resource conservation areas. However, in many cases it is too costly to relocated already established neighborhoods

and developed areas. A long-term recovery planning activity would be to identify hazard prone areas and determine where the community would want to relocate those neighborhoods in the wake of a catastrophic disaster. This effectively does not reduce the affects the next disaster would have on the current neighborhoods; however, it does reduce the affects on the community for the preceding disasters by not rebuilding in a known hazardous area. Planning ahead provides a layout for the new vision for the community and allows the city to gain public input, awareness and acceptance for how they will rebuild in the wake of a disaster. This requires that communities have the support and cooperation from land use and development agencies at the local and state levels (Examples include Department of Land Conservation and Development, Oregon Economic and Community Development Department and Local Land Use Planning and Economic Development Offices).

The capacity and needs assessments identified that all communities will be dedicating staff time to parks and open space planning in the next five years. In addition between 40-60% of coastal cities will dedicate grant monies and city funding to parks and open space planning. While many communities have less than 2 land use planners they would gain substantially by collaborating resources and staff time with natural resource managers and parks and open space directors (city, county and/or NGOs). This collaborative would assist communities to uniformly strategize for catastrophic post-disaster long-term recovery. A key component to the success of this strategy would be for those involved to work with the local stakeholders to gather input, create awareness of the purpose and importance and acceptance of the strategy.

2. Adopt a Recovery Ordinance to Streamline the Redevelopment Process

Physical infrastructure will be damaged by a catastrophic earthquake. People's homes and businesses will be severely damaged and they will want to restore it at soon as possible. The city needs to have a process in place to handling a large number of building permit applications. Without a process in place the reconstruction process can become backed up, businesses can go under and people may be forced to relocate if they are out of house and employment.

3. Be Prepared for Economic Loss after a Disaster

Economic recovery is key to a community's survival after a disaster. Businesses provide residents with employment; they generate income for the city, and provide goods and services to the public. Economic recovery depends on a community's ability to quickly get businesses up and running after a disaster. It is an advantage to have a diversified economy to ensure that not all businesses are suspended at the same time (although this is not a guarantee). Since the majority of coastal communities depend heavily on tourism this may be something to consider when planning for catastrophic post-disaster long-term recovery.

While diversifying a community's economy ahead of time may mitigate the affects of a disaster, communities may be too small or unable to diversify as much as they would like. A long-term recovery activity would include assessing which businesses would be hurt most by a catastrophic disaster and what could the city do to expedite the economic recovery process for those businesses?

Thing to consider would be:

- What businesses would be least able to bounce back after a catastrophic disaster?
- Are these businesses critical to the economic recovery of your community?
- Is your community familiar with the federal small business loan process?
- Is there anyway to expedite small business loaning process in your community?
- Does your community have an expedited land use and building permit process during the post-disaster recovery phases?

The difficulty is that most communities do not have a staff member dedicated to economic development. Those cities that are working on economic develop have less than 1 FTE dedicated to it, with the exception of two cities that did have between 1 and 2 FTE. This is probably an indication that economic development is left to the city manager or it becomes a small portion of an employee's job description. Most cities found business recruitment as a high or medium priority for their community over the next five years, yet 41% of communities were not dedicating any resources to this endeavor. However, urban renewal projects were rated the highest economic development priority by 59% of the communities.

Communities can work with local business groups to facilitate a plan for catastrophic post-disaster recovery. Also collaborating with local nonprofits and stakeholders will assist cities' in accomplishing their goals while using staff and resources available to them locally.

Conclusion

When a region wide Cascadia Subduction Zone earthquake occurs coastal communities in Oregon are going to be faced with dealing with how they will rebuild and recovery from such an event. The assessment revealed that most communities are interested in planning for disasters but due to limited resources and knowledge, they have be unable to build a robust system for how they will respond and recover from a catastrophic disaster.

Given the current emergency management operations in Oregon, the capacity issues that communities face will not go away. An integrated emergency management framework needs to be established at the state and regional level to provide local jurisdictions with training, expertise and support they need to properly plan for catastrophic disasters. Emergency management efforts need to be coordinated between agencies and at all levels of government. It must include all stages of disaster management – preparedness, response, recovery and mitigation. The EMAP and NFPA 1600 approaches provide a framework that will increase the states capacity to reduce risk and increase community resiliency.

The time to start integrating statewide emergency management activities is the next five years as communities are thinking of disaster planning and will be implementing projects related to disaster planning in this timeframe. In the meantime, communities should maximize their outputs by integrate emergency management approaches into their daily program operations.

Implications for future research

This study shows that communities are limited in their capacity to plan holistically for how they will prepare, respond, mitigate and recover from a catastrophic disaster. They need assistance at the state level and they need to collaborate with one another to coordinate regional efforts. The results and recommendations of this study can be used as a baseline for establishing a system based emergency management program in Oregon.

Below are a few suggestions for future research related to disaster planning in Oregon.

- Feasibility assessment of developing a system based EMP building on existing collaborative models.
- Comparative analysis of community vulnerability to a tsunami and their resiliency level.

In addition, this study can be used by coastal communities and counties to initiate a regional network for catastrophic disaster management. The suggested recommendation for local, regional and state integrated emergency management activities will increase the regions ability to recover from a catastrophic disaster.

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Appendix A. Sensitivity and Exposure Rating (USGS Report)

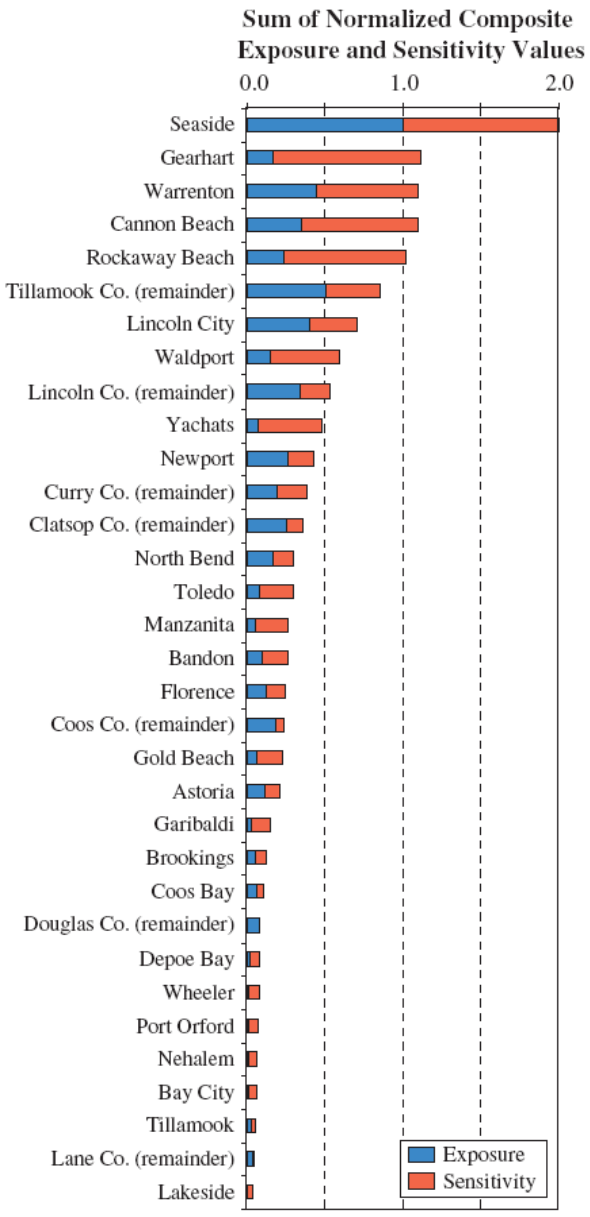

Figure 22. Sum of normalized exposure and sensitivity indices for incorporated cities in the Oregon tsunami-inundation zone.

Appendix B. 32 Community Planning Priorities

1. Vision Planning
2. Comprehensive Plan Review
3. Natural Resource Management
4. Auto Transportation - Development of Transportation Systems Plan
5. Auto Transportation - Implementation of Long-Term Capital Improvements
6. Alternative Transportation (i.e. bus systems, walkability, bikability etc.)- Development of Transportation Systems Plan
7. Alternative Transportation (i.e. bus systems, walkability, bikability etc.) - Implementation of Long-term Capital Improvements
8. Multi-model Transportation (i.e. air, freight, pipelines, rail, ports etc.)- Development of Transportation Systems Plan
9. Multi-model Transportation (i.e. air, freight, pipelines, rail, ports etc.)- Implementation of Long-term Capital Improvements
10. Historic Preservation
11. Affordable Housing
12. Urban Renewal
13. Community Development Block Grants
14. Community Safety
15. Business Recruitment
16. Long-term Capital Improvements for Economic Development(locality development)
17. Parks and Open Space
18. Design of Commercial Areas
19. Design of Residential Areas
20. Social Services
21. Education System
22. Education - Facilities Improvements
23. Public Works - Long-term Capital Improvements
24. Stormwater Management
25. Renewable Energy
26. Waste Management
27. Disaster Mitigation Planning
28. Disaster Preparedness and Response Planning
29. Disaster Long-term Recovery Planning
30. Environmental Health and Safety
31. Fire Department/District- Long-term Capital Improvements
32. Police Department/District - Long-term Capital Improvements

Appendix C. Assessment Participant List

City Name	County
Warrenton - Tip of the Spear	Clatsop
Cannon Beach	Clatsop
City of Toledo	Lincoln
Depoe Bay	Lincoln
Newport	Lincoln
Waldport	Lincoln
Tillamook	Tillamook
Gearhart	Tillamook
Rockaway Beach	Tillamook
Nehalem	Tillamook
Wheeler	Tillamook
Reedsport	Douglas
Coos Bay	Coos
Coquille	Coos
Bandon	Coos
Powers	Coos
Brookings	Curry
Port Orford	Curry

Appendix D. Membership on Risk Management Group for Participating Cities (Question 6-7 on survey)

City Name	County	Size	Existing Risk Management Group?	Reports to	Members
Warrenton - Tip of the Spear	Clatsop	M	Yes	Clatsop County Sheriff	Fire Chief; Police Chief
Cannon Beach	Clatsop	S	Yes	City Council or Manager	City staff and Volunteers
Toledo	Lincoln	S	Yes	Lincoln County	Fire Chief
Depoe Bay	Lincoln	S	Yes	courtesy reports to city council	Depoe Bay Emergency Preparedness Committee - This committee is not an official city appointed committee, it is a group of citizens interested in emergency/disaster response in the city
Waldport	Lincoln	S	Yes	City Council	2 Council Members, Fire Chief, Fire Board Chair, adjacent City Fire Chief, Health District, School District
Tillamook	Tillamook	M	Yes	The Tillamook City Council	Police Chief, Public Works Director, City Manager
Gearhart	Tillamook	S	No		
Rockaway Beach	Tillamook	S	Yes	City Council	Mayor, council member, Fire Chief, Police Chief, Emergency Communications Coordinator
Nehalem	Tillamook	XS	No		
Wheeler	Tillamook	XS	Yes	City Council	City Mgr., Public Wks. Supt., Council liaison, & concerned citizens.
Reedsport	Douglas	M	No		
Coos Bay	Coos	L	No		
Coquille	Coos	M	No		
Bandon	Coos	S	Yes	City Manager	City Planner, City Recorder; City Electric Department Supervisor, City Public Works Supervisor; City Public Works/Electric Office Manager, City Finance Director
Powers	Coos	XS	Yes	Fire Chief	Fire Chief, City Recorder, 3 City Council members, Public Works Director, ALERT Members.
Brookings	Curry	M	No		
Port Orford	Curry	S	No		

Interviewees: Allen O'Neil, City Manager, 541-574-0601

Rick Crook, Fire Chief

Mark Miranda, Police Chief

Date: March 14, 2008 @4:00pm

Interview Questions

1. **Does the city of Newport have any plans or procedures in place that would assist it in the long-term recovery process? (i.e risk management committee, emergency management advisory committee etc, ordinances,)**

No formally designated committee for emergency management, however, department heads meet biweekly and discuss (at some level) topics related to emergency management.

Roles and responsibilities related to disaster response have been assigned to each department but at this point have yet to be fully documented and incorporated into an Emergency Operations Plan (EOP). There is a "skeleton" plan in place and they are working to establish a formal EOP in the next year (outline developed, and they have identified needs). Long-term recovery planning has not been address yet. Mitigation planning is on the horizon. Fire chief is meeting with county to discuss mitigation efforts.

2. **How many employees do you have on staff? How many are dedicated to working on one or more of the following areas: land use, risk management, public works, and economic development.**

Total Staff: 177

Full Time: 100

Land Use Planners: 2 FTE

Public Works: 28 staff (all city staff…some contractors for special projects)

Economic Development: City Manager

Risk Mgt: City Mangers Office (Responsibilities shared between 4 people -City Manager, Attorney, Executive Assistant to the Attorney and City Manager, Human Resource Coordinator**)**

*** All city staff…no contractors.**

3. **What are your community planning priorities for the next five years** (i.e. Comp. Plan Review, Trans., Housing, and Economic Development**)? What types of resources will be invested in each of these priorities** (Staff, Contractors, grants, city funding, none, other?)**?**

Comprehensive Plan Review: Reviewing this coming fiscal year. Reviewing all components (including transportation, housing, economic development etc)

Community Specific Plan for the South Beach Area: This joint public and private effort is currently underway and in the early phases of urban renewal.

Public: Oregon Coast Community College and City of Newport — Building new campus

Private: Land waves and EE Northwest — Mixed use development area around campus.

4. **Compared to these priorities how would prioritize emergency planning (in particular long-term recovery planning)?**

Long-term recovery planning is not a priority but EOP and Mitigation efforts are on the radar.

5. **What are the challenges your community faces in planning for catastrophic post-disaster long-term recovery?**

Response/Short term recovery: Concerned about isolation and supplies and services being cut off.

Long-term recovery: Staff, time, funding, expertise.

6. **Are there any opportunities where catastrophic post-disaster long-term recovery planning can be integrated into current planning efforts?**

Didn't get to this question.

7. **What partnership (internal or external) does the city have?**

- County Department of Emergency Management
- LinCom (Lincoln Communication — A consortium of local governments - 911 dispatch center)
- Emergency Responders Units
- National Guard
- Red Cross (increasingly)
- Hospital
- CERT
- School District (currently working on federal grant to secure schools against shooting)

8. **What resources or needs would your community need to make planning for catastrophic post-disaster long-term recovery possible?**

Full time emergency manager (can't afford one).
In general, more city employees.

9. **Other Comments?** *Please note any other comment you may have that would enable us to better understand you community's capacity and resources needs (as they relate to catastrophic post-disaster long-term recovery planning).*

Isolation is the key concern. Also there is a fear of the City of Newport will be a low priority to the state in terms of emergency response and recovery assistance (Willamette Valley will be high priority). Often larger population center get most of the attention and small communities in isolation are left out of the process. They don't have the resources to be loud enough and are left of the radar screen.

City is situated between hwy 101 and Hwy 20…elevation at 8-10ft

Economy: 1/3 Fisheries, 1/3 Services, 1/3 High Level Service Industry

Fishing Industry: Fish plant facilities are located on the coast base line are owned or leased by the city. Newport has the 11th largest fishing fleet in the country (collectively). If the a catastrophic disaster occurred the fishing facilities would crumble into the bay and Newport would loose 1/3 of its economy.

Families in the fishing industry work in the service industry and rely heavily on it for day to day living. If services and goods were cut off from transportation

Quote: "It will be very difficult to rebuild the community after a major event. This is the reality of where we are located and the types of disasters we face." Allen O'Neil, City Manager.

Would you like a copy of the transcripts from our interview to review? Yes

Appendix F. Online Capacity and Needs Assessment Survey for Coastal Communities

Capacity Survey for Coastal Communities

Welcome!

The Oregon Partnership for Disaster Resilience recognizes that communities face several challenges (i.e. working with limited resources and staff capacity) in preparing for natural disasters and would like your assistance in helping us identify those challenges (and opportunities). Your input in this survey will enable us to understand your city's planning priorities, institutional capacity and resources needs as the related to post-catastrophic long-term recovery planning.

The results of this survey combined with additional research will end in a set of recommendations on how Oregon can increase coastal communities' capacity to develop Post-Catastrophic Disaster Long-Term Recovery Plans. The following survey should take about 15 minutes to complete.

Your name will not appear anywhere on the survey, however, you will be asked to identify which city you are representing. If you have any questions regarding the research, you can contact Jenny Pearce at jpearce2@uoregon.edu. If you would like to address your questions to the faculty adviser for this project, Jean Stockard, she can be reached at jeans@uoregon.edu. If you have questions regarding your rights as a research participant, please contact the Office of Human Subjects Compliance, University of Oregon, 5219, Eugene, OR 97403, or call (541) 346-2510.

Click next to get started!

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Please tell us a little about you

1. Before we start, please tell us what city you represent.

Capacity Survey for Coastal Communities

Community Priorities

The following questions are related to your city's priorities over the next five years.

2. In the next 5 years, what are your city's planning priorities as they relate to the following planning components? Please rate the following.

	Low Priority	Medium Priority	High Priority	N/A
Vision Planning	◯	◯	◯	◯
Comprehensive Plan Review	◯	◯	◯	◯
Natural Resource Management	◯	◯	◯	◯
Auto Transportation - Development of Transportation Systems Plan	◯	◯	◯	◯
Auto Transportation - Implementation of Long-Term Capital Improvements	◯	◯	◯	◯
Alternative Transportation (i.e. bus systems, walkability, bikability etc.)- Development of Transportation Systems Plan	◯	◯	◯	◯
Alternative Transportation (i.e. bus systems, walkability, bikability etc.) - Implementation of Long-term Capital Improvements	◯	◯	◯	◯
Multi-model Transportation (i.e. air, freight, pipelines, rail, ports etc.)- Development of Transportation Systems Plan	◯	◯	◯	◯
Multi-model Transportation (i.e. air, freight, pipelines, rail, ports etc.)- Implementation of Long-term Capital Improvements	◯	◯	◯	◯
Historic Preservation	◯	◯	◯	◯
Affordable Housing	◯	◯	◯	◯
Urban Renewal	◯	◯	◯	◯
Community Development Block Grants	◯	◯	◯	◯
Community Safety	◯	◯	◯	◯
Business Recruitment	◯	◯	◯	◯

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Capacity Survey for Coastal Communities

Long-term Capital Improvements for Economic Development (locality development)	◯	◯	◯	◯
Parks and Open Space	◯	◯	◯	◯
Design of Commercial Areas	◯	◯	◯	◯
Design of Residential Areas	◯	◯	◯	◯
Social Services	◯	◯	◯	◯
Education System	◯	◯	◯	◯
Education - Facilities Improvements	◯	◯	◯	◯
Public Works - Long-term Capital Improvements	◯	◯	◯	◯
Stormwater Management	◯	◯	◯	◯
Renewable Energy	◯	◯	◯	◯
Waste Management	◯	◯	◯	◯
Disaster Mitigation Planning	◯	◯	◯	◯
Disaster Preparedness and Response Planning	◯	◯	◯	◯
Disaster Long-term Recovery Planning	◯	◯	◯	◯
Environmental Health and Safety	◯	◯	◯	◯
Fire Department/District- Long-term Capital Improvements	◯	◯	◯	◯
Police Department/District - Long-term Capital Improvements	◯	◯	◯	◯

Other (please specify)

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Capacity Survey for Coastal Communities

3. In the next 5 years, please indicate what types of resources your city will be putting towards the following planning components. Check all that apply.

	Staff	Contractors	Grants	City Funding (taxes, bonds)	None
Vision Planning	☐	☐	☐	☐	☐
Comprehensive Plan Review	☐	☐	☐	☐	☐
Natural Resource Management	☐	☐	☐	☐	☐
Auto Transportation - Development of Transportation Systems Plan	☐	☐	☐	☐	☐
Auto Transportation - Implementation of Long-Term Capital Improvements	☐	☐	☐	☐	☐
Alternative Transportation (i.e. bus systems, walkability, bikability etc.)- Development of Transportation Systems Plan	☐	☐	☐	☐	☐
Alternative Transportation (i.e. bus systems, walkability, bikability etc.) - Implementation of Long-term Capital Improvements	☐	☐	☐	☐	☐
Multi-model Transportation (i.e. air, freight, pipelines, rail, ports etc.)- Development of Transportation Systems Plan	☐	☐	☐	☐	☐
Multi-model Transportation (i.e. air, freight, pipelines, rail, ports etc.)- Implementation of Long-term Capital Improvements	☐	☐	☐	☐	☐
Historic Preservation	☐	☐	☐	☐	☐
Affordable Housing	☐	☐	☐	☐	☐
Urban Renewal	☐	☐	☐	☐	☐
Community Development Block Grants	☐	☐	☐	☐	☐
Community Safety	☐	☐	☐	☐	☐
Business Recruitment	☐	☐	☐	☐	☐
Long-term Capital Improvements for Economic Development (locality development)	☐	☐	☐	☐	☐

Capacity Survey for Coastal Communities

Parks and Open Space	☐	☐	☐	☐	☐
Design of Commercial Areas	☐	☐	☐	☐	☐
Design of Residential Areas	☐	☐	☐	☐	☐
Social Services	☐	☐	☐	☐	☐
Education System	☐	☐	☐	☐	☐
Education - Facilities Improvements	☐	☐	☐	☐	☐
Public Works - Long-term Capital Improvements	☐	☐	☐	☐	☐
Stormwater Management	☐	☐	☐	☐	☐
Renewable Energy	☐	☐	☐	☐	☐
Waste Management	☐	☐	☐	☐	☐
Disaster Mitigation Planning	☐	☐	☐	☐	☐
Disaster Preparedness and Response Planning	☐	☐	☐	☐	☐
Disaster Long-term Recovery Planning	☐	☐	☐	☐	☐
Environmental Health and Safety	☐	☐	☐	☐	☐
Fire Department/District- Long-term Capital Improvements	☐	☐	☐	☐	☐
Police Department/District - Long-term Capital Improvements	☐	☐	☐	☐	☐

Other (please specify)

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Capacity Survey for Coastal Communities

Partnerships and Collaboration

The following few questions relate to how the city utilizes partnerships to achieve community objectives.

4. Does the city utilize partnerships and collaboration techniques to accomplish community objectives?

- ◯ No
- ◯ Yes

5. Who does the city partner with and in what ways does it collaborates with those entities? Check all that apply.

	Grant Writing and Aquisition of Funding	Cost sharing	Community Outreach	Project Managment	Project Implementation	Project Assessment	Other
County	☐	☐	☐	☐	☐	☐	☐
Contractors	☐	☐	☐	☐	☐	☐	☐
Nonprofits	☐	☐	☐	☐	☐	☐	☐
University	☐	☐	☐	☐	☐	☐	☐
Local Stakeholders	☐	☐	☐	☐	☐	☐	☐

Other (please specify)

Oraganized Emergency Planning Groups

6. Does your city have some form of local disaster advisory committee? (Example: Emergency Preparedness Council, Risk Management Group)

- ◯ Yes
- ◯ No

7. Who does this group report to?

8. Who sits on this committee/group? Please list position title and place of work of each member. Separate group members with a semicolon.

(Example: Director, Dept. Public Works; Inspector, Environmental Health and Safety; Emergency Manager, Lane County; etc...)

Staff

The following questions will be related to your city's staff.

9. How many full time equivalent personnel (FTE) does the city employ?

- ◯ 5 or less
- ◯ 6-10
- ◯ 10-15
- ◯ Over 15

Staff - Land Use

10. How many city employees are dedicated to land use planning?

- ◯ None
- ◯ Less than 1
- ◯ 1 - 2
- ◯ between 2 and 3
- ◯ 3 or more

11. Are they on staff or contracted?

- ◯ Staff
- ◯ Contract
- ◯ Both (some on staff and some contracted)

12. Please list the agencies you contract for land use planning.

Staff - Economic Development

13. How many city employees are dedicated to economic development?

- ◯ None
- ◯ Less than 1
- ◯ 1 - 2
- ◯ Between 2 and 3
- ◯ 3 or more

14. Are they on staff or contracted?

- ◯ Staff
- ◯ Contract
- ◯ Both (some on staff and some contracted)

15. Please list the agencies you contract for economic development.

Staff - Risk Management

16. How many city employees are dedicated to hazard related risk management?

- ◯ None
- ◯ Less than 1
- ◯ 1 - 2
- ◯ Between 2 and 3
- ◯ 3 or more

17. Are they on staff or contracted?

- ◯ Staff
- ◯ Contract
- ◯ Both (some on staff and some contracted)

18. Please list the agencies you contract for hazard related risk managment.

Staff-Public Works

19. How many city employees are dedicated to public works?

- ◯ None
- ◯ Less than 1
- ◯ 1 - 2
- ◯ Between 2 and 3
- ◯ 3 or more

20. Are they on staff or contracted?

- ◯ Staff
- ◯ Contract
- ◯ Both (some on staff and some contracted)

21. Please list the agencies you contract for public works.

22. In the future, if your city were to integrate long-term recovery activities into its already existing programs, how many FTE do you think would be available to work on long-term recovery planning activities?

- ◯ None
- ◯ Less than 1
- ◯ 1 - 2
- ◯ More than 2

Capacity Survey for Coastal Communities

Resource Needs

The following questions are related to your city's resource needs.

23. If your city were to develop a post-catastrophic disaster long-term recovery plan, how much of a challenge would the following pose?

	Not Challenging	Somewhat Challenging	Challenging	Very Challenging	Unsure
Dedicating Staff Time	◯	◯	◯	◯	◯
Interpreting Scientific Data	◯	◯	◯	◯	◯
Establishing Internal Partnerships	◯	◯	◯	◯	◯
Establishing External Partnerships	◯	◯	◯	◯	◯
Securing Funding	◯	◯	◯	◯	◯

Other (please specify)

24. How important is external funding in achieving long-term recovery planning in your city?

- ◯ Not Important
- ◯ Somewhat Important
- ◯ Important
- ◯ Very Important

Tools

The following questions will tell us what tools would assist your city the most in developing a long-term recovery plan.

25. Please rate how useful the following forms of technical assistance would be in helping your community develop a long-term recovery plan?

	Not Useful	Somewhat Useful	Useful	Very Useful
Staff trainings	◯	◯	◯	◯
Long-term recovery manuals	◯	◯	◯	◯
Web based tools	◯	◯	◯	◯
Networking with city administrators and/or regional groups	◯	◯	◯	◯
Technical assistance	◯	◯	◯	◯

26. To what extent do you trust the following entities to provide technical assistance to your city?

	Not at all	Very little	Somewhat	Very Much	Unsure
Federal Agency	◯	◯	◯	◯	◯
State Agency	◯	◯	◯	◯	◯
County	◯	◯	◯	◯	◯
Contractor	◯	◯	◯	◯	◯
Nonprofit	◯	◯	◯	◯	◯
University	◯	◯	◯	◯	◯

Comments?

Additional Comments

27. Please write below any additional comments that would help us understand your city's current capacity to integrate long-term recovery planning into its current planning processes.

Appendix G. Primary Partners in the Oregon Partnership for Disaster Resilience

Federal Agencies:

1. Federal Emergency Management Agency Region 10
2. United States Geological Survey

State Entities:

• State Interagency Hazard Mitigation Team:

3. Department of Administrative Services, Risk
4. Management Division (RMD)
5. Oregon Department of Agriculture (ODA)
6. Department of Consumer and Business Services,
7. Building Codes Division
8. Department of Consumer and Business Services,
9. Insurance Division (ID)
10. Oregon Economic & Community Development
11. Department (OECDD)
12. Department of Environmental Quality (DEQ)
13. Oregon Department of Fish and Wildlife (ODFW)
14. Oregon Department of Forestry (ODF)
15. Department of Geology and Mineral
16. Industries (DOGAMI)
17. Department of Land Conservation and
18. Development (DLCD)
19. Department of State Lands (DSL)
20. Oregon Emergency Management (OEM)
21. Office of State Fire Marshal (OSFM)
22. Oregon State University, Oregon Climate
23. Service (OCS)
24. Oregon Parks and Recreation Department (OPRD)
25. Public Utility Commission (PUC)
26. Oregon Department of Transportation (ODOT)
27. University of Oregon, Oregon Partnership for
28. Disaster Resilience (OPDR)
29. Water Resources Department (WRD)
30. Community Service Center, University of Oregon
31. Department of Planning, Public Policy & Management -University of Oregon
32. Ecosystem Workforce Program
33. InfoGraphics Lab, University of Oregon
34. Resource Assistance for Rural Environments (RARE) -University of Oregon
35. Resource Innovations - University of Oregon
36. City County Insurance Services (CIS)

Private Businesses:

37. Intel (Intel Oregon)
38. Portland General Electric
39. SAFECO Insurance Companies
40. State Farm Insurance

Professional and Non-Profit Organizations:

41. American Red Cross, Oregon Trail Chapter
42. Association of Oregon Counties (AOC)
43. Cascadia Region Earthquake Workgroup (CREW)

44. FIREWISE
45. Institute for Business & Home Safety (IBHS)
46. Keep Oregon Green Association
47. League of Oregon Cities (LOC)
48. NW Insurance Council
49. Oregon Chapter of the American Planning Association (OAPA)
50. Oregon Continuity Planner Association (OCPA)
51. Oregon Emergency Management Association (OEMA)
52. Oregon Hazus Users Group (ORHUG)
53. Oregon Small Business Development Center Network
54. Partners for Loss Prevention
55. Public Entity Risk Institute (PERI)