


EMERGENCY MANAGEMENT

Presented by
Roger Jordan and Bob Wells, Consultants for the
League of Oregon Cities
&
Ken Murphy
Director - Oregon Emergency Management

10/29/2009 1



History, Origins, and Case for Local Government in Emergency Management

Emergency Management is the managerial function charged with creating the framework within which communities reduce vulnerability to hazards and cope with disasters

10/29/2009 2

History, Origins, and Case for Local Government in Emergency Management

EMERGENCY MANAGEMENT NEEDS TO BE:



- **Comprehensive**
 - All hazards, all phases, all stakeholders, and impacts
- **Progressive**
 - Anticipate future disasters; building disaster resistant and resilient communities
- **Risk Driven**
 - Hazard identification, risk, and impact analysis
- **Collaborative**
 - Create and sustain relationships with others

10/29/2009

3

History, Origins, and Case for Local Government in Emergency Management

EMERGENCY MANAGEMENT NEEDS TO BE:



- **Integrated**
 - Ensure unity amongst partners – government and nongovernment
- **Coordinated**
 - Organize stakeholders with a common purpose
- **Flexible**
 - Use creative and innovative approaches
- **Professional**
 - Science and knowledge based approach should be used

10/29/2009

4

History, Origins, and Case for Local Government in Emergency Management



The biggest lesson from the September 11, 2001 attacks and the 2005 hurricanes was that the nation's Emergency Management Systems needed far reaching changes and ASAP.

10/29/2009

5


History, Origins, and Case for Local Government in Emergency Management



Recent years have brought an increasing number and vulnerability to disasters and attacks; changing the landscape of the type of disasters we have to deal with today and in the future.

10/29/2009

6



History, Origins, and Case for Local Government in Emergency Management

Communities, States and the National Government must rebuild with **TWO FOCUSES:**


First:

Increasing the capacity of local plans and first responders while establishing a new network of partnerships with local, state, and national responders to confront major events (response and recovery).

Second:

Focus on increasing the disaster resilience of communities (mitigation and predisaster planning)


10/29/2009 7



History, Origins, and Case for Local Government in Emergency Management

Early responses were mostly local but with increasing numbers and severity and new manmade disasters such as terrorist attacks, the federal government has increased its involvement and now plays a major role.

10/29/2009 8




History, Origins, and Case for Local Government in Emergency Management

Today the traditional cavalry role of government – rushing in to save the day, has given way to a more collaborative and cooperative set of relationships among public, private, and nonprofit organizations.

10/29/2009

9



History, Origins, and Case for Local Government in Emergency Management

Community emergency management must include neighborhood, family, and individual preparedness efforts which will greatly increase the local capacity to respond to and recover from disasters.

10/29/2009

10

FUNCTIONS AND PHASES OF EMERGENCY MANAGEMENT

MITIGATION
PLANNING AND PREPAREDNESS
RESPONSE
RECOVERY

10/29/2009 11

Functions & Phases of Emergency Management - MITIGATION

Mitigation is sustained action taken to reduce or eliminate the risk to human life and property from hazards

- Bricks and Mortar Projects
- Planning/Community Development
- Community Education

Mitigation is:

- Cost Effective
- Saves:
 - Lives
 - Property
 - Time Money
 - Resources

10/29/2009 12

Functions & Phases of Emergency Management - **MITIGATION**

Mitigation creates more resilient , sustainable, communities that can withstand an extreme event without suffering devastating losses and without requiring a great deal of outside assistance.

The communities physical, social, economic, and institutional networks survive and continue to function even under extreme conditions

LEAGUE of Oregon CITIES

10/29/2009 13

Functions & Phases of Emergency Management - **MITIGATION**


The resilient community pro-actively protects itself against hazards and builds self-sufficiency.

Steps are taken to protect “3 Es”

- Environment
- Economy
- Equity

LEAGUE of Oregon CITIES

10/29/2009 14




Functions & Phases of Emergency Management - MITIGATION


Communities should adopt policies that reduce risk and fosters resilience and ensures that future development does not increase vulnerability

Value of Mitigation:

- Proper mitigation reduces :
 - human suffering,
 - physical destruction, and
 - financial devastation




10/29/2009
15



Functions & Phases of Emergency Management - MITIGATION

Mitigation projects should be completed by all levels of government

- Federal Mitigation Programs:
 - Disaster Mitigation Act 2000
 - Hazard Mitigation Grant Program (HMGP)
 - Funds for mitigation plans that reduces losses, protects resources and creates safer communities
 - In order to receive HMGP federal funds you must have a plan which prioritizes, implements, and administers mitigation projects or actions. (account for risks and steps to deal with them – codes for land)
 - Build partnerships between local government and state agencies
- Flood mitigation grants used to implement measures to reduce flood losses.



10/29/2009
16

Functions & Phases of Emergency Management - MITIGATION

Mitigating Planning Steps:

| | | |
|---|--|--|
| <h4 style="text-align: center; margin: 0;">Organizing Resources</h4> <ul style="list-style-type: none"> Assess Community Support Build the Planning Team Engage the Public | <h4 style="text-align: center; margin: 0;">Assess Risk</h4> <ul style="list-style-type: none"> Identify hazards and profile hazard events Inventory assets and estimate potential losses (Key public buildings – hospitals, emergency shelters, transportation systems, schools) | <h4 style="text-align: center; margin: 0;">Develop a Mitigation Plan</h4> <ul style="list-style-type: none"> Set goals and objectives Identify actions and assign priorities Prepare an implementation strategy <ul style="list-style-type: none"> Define roles and responsibilities Prepare budget Write a complete, accurate and understandable Mitigation Plan |
|---|--|--|

MITIGATION

PLANNING AND PREPAREDNESS

RESPONSE

RECOVERY

10/29/2009
17

Functions & Phases of Emergency Management - MITIGATION

- Adopt the plan by jurisdiction (Gives Legal Status)
- Implement the plans recommendations
- Evaluate the planning results
- Revise the plan

MITIGATION

PLANNING AND PREPAREDNESS


RESPONSE

RECOVERY

10/29/2009
18

Functions & Phases of Emergency Management - MITIGATION


Plans must address “All Hazards”



LEAGUE
of Oregon
CITIES

FLOODS


- Elevation and Relocation
- Limits on Development within floodplains
- Adoption and Enforcement of flood mitigation standards in zoning and subdivision regulations
- Adoption of a storm water management ordinance



LEAGUE
of Oregon
CITIES


EARTH-
QUAKES

- Restrictions on development in areas adjacent to active faults that contain steep slopes or are susceptible to liquefaction
- Use risk areas for parks, wetlands open space without buildings
- Use credits and incentives
- Adoption of Building/Safety codes for different uses
- List Seismic hazards and protection measures
 - Anchoring water heaters, etc., retrofit with plans protection



10/29/2009 19


Functions & Phases of Emergency Management - MITIGATION



LEAGUE
of Oregon
CITIES

COASTAL
STORMS


- Hurricanes, Tropical Storms, Tsunamis, Wind Storms
- Assess Risk from Wind and Storm Surges
- Restrict Development or Set Standards to deal with development in hazardous risk areas
- Acquire areas for open space or recreation areas and restrict public use (bridges or treatment plants)
- Establish Flood Proof Standards



LEAGUE
of Oregon
CITIES


TORNADOS

- Strengthen Buildings
- Construct Safe Rooms



10/29/2009 20


Functions & Phases of Emergency Management - MITIGATION



WILDFIRES


- Manage conditions in the urban wildfire interface
- Fire resistant construction (non-flamable roofs, buildings)
- Fuel management
 - Clearance around homes
- Public Outreach - Education

- Map areas of vulnerability
- Require geotechnical investigation and building standards (grading)
- Install storm water systems and removal of vegetation
- Control Density



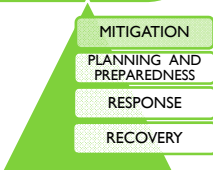
10/29/2009
21

Functions & Phases of Emergency Management - MITIGATION

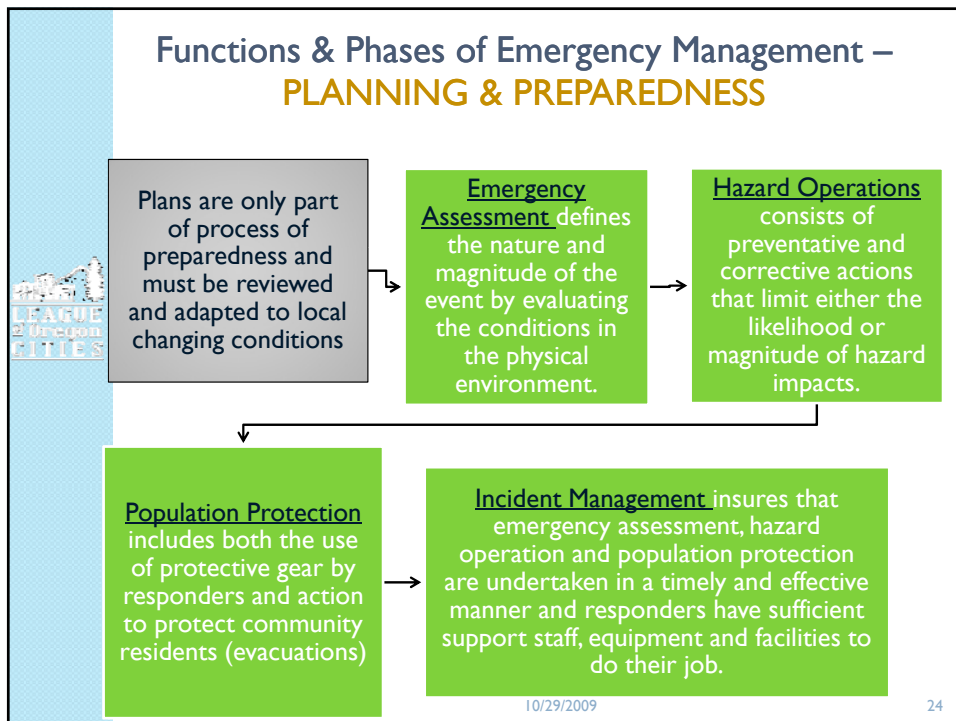
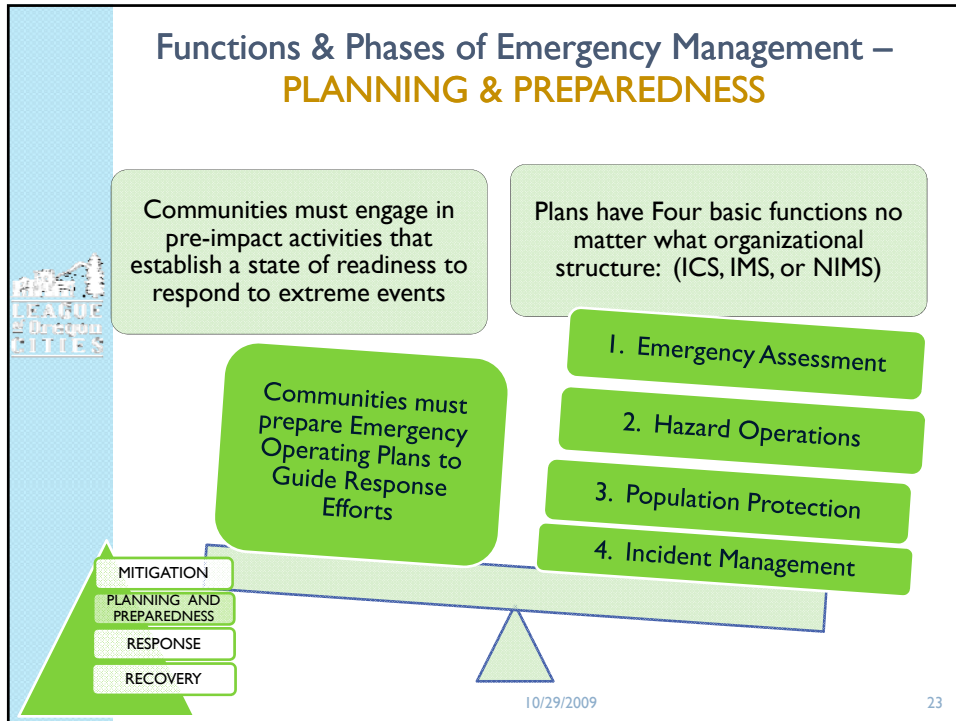


MANMADE
HAZARDS


- Terrorism – intentional criminal act – biological, chemical, nuclear, radiological
- Technological Hazards
 - Manufacturing
 - Transportation
 - Storage & Use of Hazardous Materials
 - Contamination
 - Release of Energy Explosion
- Reduce exposure, create safe and harmless environment
- Strengthen Building, Safe Areas
- Increase surveillance




10/29/2009
22



Functions & Phases of Emergency Management – PLANNING & PREPAREDNESS




Emergency Operating Plans are generally responsibility of government entities but may also involve non profits (Red Cross, Salvation Army)




10/29/2009 25

Functions & Phases of Emergency Management – PLANNING & PREPAREDNESS



Communities must think of emergency Management Planning as a process of continuous analysis, planned development, and development of skills through training drills, exercises and critiques. Plans must be thought of as flexible guides.



10/29/2009 26

Functions & Phases of Emergency Management – PLANNING & PREPAREDNESS

LEAGUE of Oregon CITIES

Eight Fundamental Principles of Community Emergency Planning

1. Develop Strategies to Manage the Planning Process and Obstacles
2. Address all Hazards of Exposure
3. Include all response organizations (participation, commitment and agreement)
4. Base pre-impact planning on accurate assumptions about threat and likely assistance available and when (state, federal, other)

MITIGATION
PLANNING AND PREPAREDNESS
RESPONSE
RECOVERY

10/29/2009 27

Functions & Phases of Emergency Management – PLANNING & PREPAREDNESS

LEAGUE of Oregon CITIES

Eight Fundamental Principles of Community Emergency Planning

5. Identify the types of emergency response appropriate and allow improvisation based upon continuing assessment
6. Address the linkage of emergency response to recovery efforts
7. Provide for Training and Evaluation at all levels
8. Recognize that emergency planning is a continuing process of planning and auditing

MITIGATION
PLANNING AND PREPAREDNESS
RESPONSE
RECOVERY

10/29/2009 28

Functions & Phases of Emergency Management – PLANNING & PREPAREDNESS

Development
of the
Emergency
Operations
Plan – Federal
Standards
NIMS

- Three Components:
 - Basic Plan
 - Functional Annexes
 - Hazard-Specific Appendices

10/29/2009
29

Functions & Phases of Emergency Management – PLANNING & PREPAREDNESS

BASIC PLAN

Identify Legal and Technical Bases for EOP and provisions describing the administrative aspect of the Plan

Plan has Eight Headings:

- Authority for Emergency Planning
- EOP Aim and Scope
- Statement of Purpose
- Situation and Assumptions
- Overall Concepts of Operation
- Documentation of Agreements
- Provisions for emergency Response Training drills, exercises, and critiques
- Procedures for administering the EOP

10/29/2009
30

Functions & Phases of Emergency Management – PLANNING & PREPAREDNESS

FUNCTIONAL ANNEX
Describes the principal functions that must be performed in responding to disaster demands by each agency.

POPULATION PROTECTION FUNCTION

- Warning
- Evacuation
- Mass Care
- Health and Medical

INCIDENT MANAGEMENT FUNCTION

- Direction and Control
- Communication
- Emergency Public Information
- Resource Management

MITIGATION
PLANNING AND PREPAREDNESS
RESPONSE
RECOVERY

10/29/2009 31

Functions & Phases of Emergency Management – PLANNING & PREPAREDNESS

HAZARD SPECIFIC APPENDIXES

Describe way that agencies respond to different incidents


MITIGATION
PLANNING AND PREPAREDNESS
RESPONSE
RECOVERY

10/29/2009 32

**Functions & Phases of Emergency Management –
PLANNING & PREPAREDNESS**

Four analysis should be used to guide the development of the EOP and insure property protection and response

| | | | |
|------------------------|-------------------|-----------------------|---------------------|
| Hazard / Vulnerability | Hazard Operations | Population Protection | Incident Management |
|------------------------|-------------------|-----------------------|---------------------|




- MITIGATION
- PLANNING AND PREPAREDNESS
- RESPONSE
- RECOVERY

10/29/2009 33

**Functions & Phases of Emergency Management –
PLANNING & PREPAREDNESS**

HAZARD / VULNERABILITY
addresses three components:

- Hazard Exposure – People's occupancy in an area where they may be affected by an event (toxic chemical spill)
- Physical vulnerability used to identify hazard operations action (sandbagging) and population protection (shelters) needed for humans in emergencies
- Social vulnerability – ability of a person or group to deal with impact of disaster economic demographics, etc.



- MITIGATION
- PLANNING AND PREPAREDNESS
- RESPONSE
- RECOVERY

10/29/2009 34

Functions & Phases of Emergency Management – PLANNING & PREPAREDNESS



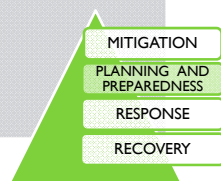
HAZARD OPERATIONS ANALYSIS

- For some hazard agents it is possible to intervene in the hazard generating process to prevent the disaster.
- Source Control (replace leaking valves)
- Physical Protection (firebreak)
- Building Repair or construction (cover windows)
- Building Content Protection (move furniture)

10/29/2009

35

Functions & Phases of Emergency Management – PLANNING & PREPAREDNESS



POPULATION PROTECTION ANALYSIS

- Risk areas must be warned and protective actions taken
- Local Notification
- Broadcast Media

10/29/2009

36

League of Oregon Cities logo

Functions & Phases of Emergency Management – PLANNING & PREPAREDNESS

INCIDENT MANAGEMENT ANALYSIS

- Examination of community organization to perform emergency response functions during a disaster. Government agencies, non profit and local businesses.

10/29/2009 37

League of Oregon Cities logo

Functions & Phases of Emergency Management – PLANNING & PREPAREDNESS

EMERGENCY RESPONSE RESOURCES

IDENTIFY:



- Equipment Needs
 - Owned or leased
 - Contract
 - Intergovernmental
- Facility Needs
 - EOC and Alternates
 - Shelter
 - Emergency Response
- Personnel Training
- Drills and Exercises
- Critiques
 - Outside Reviews – compliance with NFPA Standard 1600
- Audits

10/29/2009 38

Functions & Phases of Emergency Management – PLANNING & PREPAREDNESS

COMPLIANCE WITH NATIONAL FIRE PROTECTION ASSOCIATION STANDARD 1600


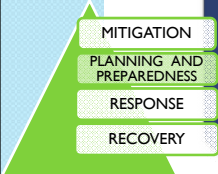
- Emergency Management Program Must Contain:
 - Laws and Authority
 - Hazardous Mitigation
 - Resource Management
 - Mutual Aid
 - Planning
 - Direction, control coordination
 - Communication and warning
 - Operation and Procedures
 - Logistic and facilities
 - Training
 - Exercise, evaluation and corrective actions
 - Crisis communications, and public information
 - Finance and administration

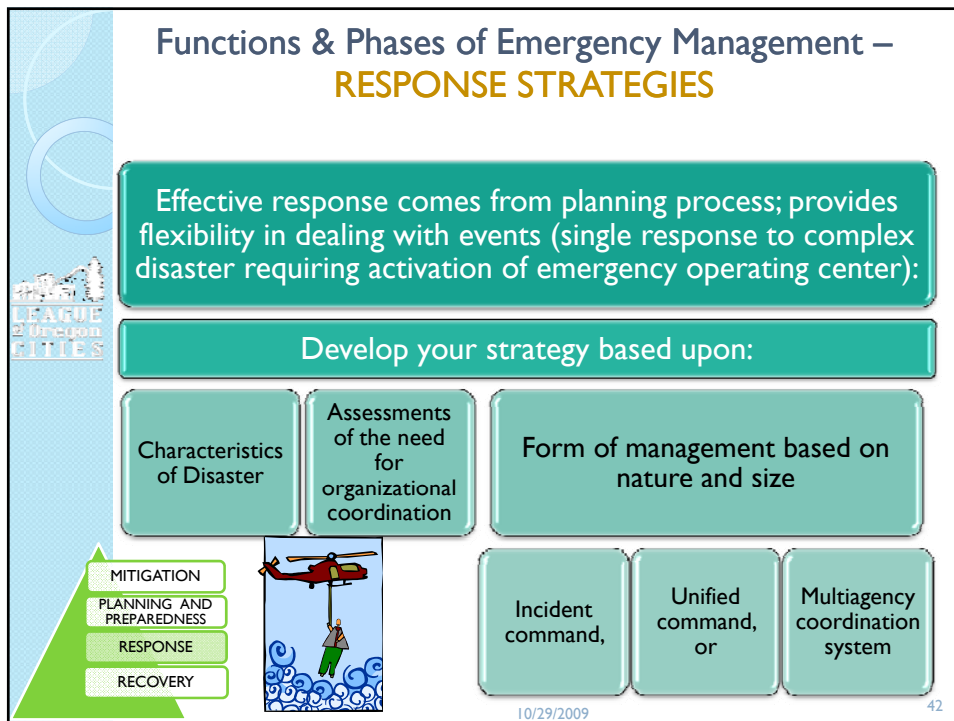
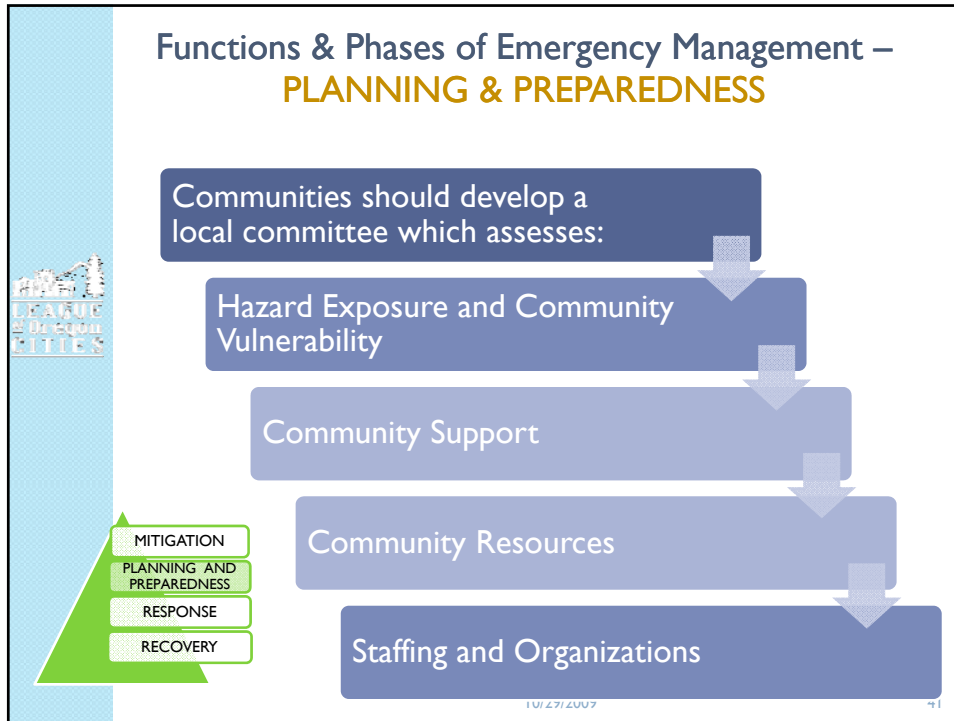
39

Functions & Phases of Emergency Management – USE STRATEGIES AND PROGRAMS

| | | |
|--|--|--|
| RISK COMMUNICATION | HOUSEHOLD | BUSINESS |
| Program to encourage households, businesses, other governments and non profit to adopt preparedness measures | Protective Action information must be practical, affordable, and emphasize peoples personal responsibility for self protection | Focus on most vulnerable to the community and small business least likely to be prepared (FEMA's Emergency Management Guide for Business & Industry) |

40



Functions & Phases of Emergency Management – RESPONSE STRATEGIES

• **DEFINE THE EVENT:**

Emergency
is routine incident – narrow in scope, occurs frequently;

HELP!

Disaster
involves occurrences of imminent threat of widespread or severe damage, injury or loss of life or property (natural or manmade)

Catastrophe
embraces multiple communities, many of the buildings damaged or destroyed and most of the communities infrastructure and community function are disrupted

MITIGATION
PLANNING AND PREPAREDNESS
RESPONSE
RECOVERY

10/29/2009
43

Functions & Phases of Emergency Management – RESPONSE STRATEGIES

Phases of Disaster

10/29/2009
44

Functions & Phases of Emergency Management —**RESPONSE STRATEGIES**

Agent vs. Response Generated Demand Elements

| Agent Response | Response-generated demand |
|---|--|
| Response based on event | Common in most Disasters |
| Warning and Notice must be understood by all • Evacuation, Shelter in Place, etc | Communication |
| Coordination Critical | Mobilization and dispatch human and material resources |
| | Continuous Assessments |
| | Coordination |
| | Control and Authority |

10/29/2009

Functions & Phases of Emergency Management —**RESPONSE STRATEGIES**

Emergency Operations Center

AN EOC facilitates management of the agency's responsibilities, committed and available resources, and level of involvement in an event.


Allows:

- Coordination of all activities
- Surveillance management of disaster
- Determination of level of activation
- Management of Information
- Central storage and usage of emergency plans
- Operation and missions management
- Coordination of public information and public relations
- Contact with policy makers (policy decisions)

10/29/2009

Functions & Phases of Emergency Management –**RESPONSE STRATEGIES**

Response related principle challenges that are critical to effective emergency response:



Understanding the responses of citizens

- Generally citizens respond effectively and constructively
- Expect anxiety, citizen action
- Citizen compliance with requested action, long term consequences

Managing the emergency of resources and people on the disaster scene


- Volunteer Assistants
- Receipt, storage, and deployment of donations and equipment from others

LEAGUE of Oregon CITIES

10/29/2009 47

Functions & Phases of Emergency Management –**RESPONSE STRATEGIES**

Response related principle challenges that are critical to effective emergency response:



Limiting the likelihood of role abandonment by emergency workers who are responding to the demand of disaster operations

- Set up system for assistance for emergency workers, families and property

Obtaining disaster declarations which is required to get assistance

- What is the process in your community and state?
- Make sure process for keeping records is in place

Addressing Communication among responders during operations

- Communication interoperability (ability to communicate between agencies)

MITIGATION
PLANNING AND PREPAREDNESS
RESPONSE
RECOVERY

LEAGUE of Oregon CITIES

10/29/2009 48

Functions & Phases of Emergency Management –**RESPONSE STRATEGIES**

Federal Government Role

The new U.S. Department of Homeland Security includes Federal Emergency Management Agency (FEMA) which has responsibility for all hazard emergency assistance

Local Government “first responders” will be primary, however, local government must comply with federal standards or will not be eligible for federal assistance grants.

MITIGATION
PLANNING AND PREPAREDNESS
RESPONSE
RECOVERY

10/29/2009 49

Functions & Phases of Emergency Management –**RESPONSE STRATEGIES**

NATIONAL INCIDENT MANAGEMENT SYSTEM must be used and is a nationwide framework for all hazard planning and response

SEVEN COMPONENTS REQUIRED:

- Command and Control (Incident Command System)**
 - Multiagency coordination system and public information system
- Preparedness**
 - Integrates planning, training exercises, personnel qualifications, standards, equipment standards, and publication management activities
- Resource Management**

10/29/2009 50

Functions & Phases of Emergency Management –**RESPONSE STRATEGIES**

COMPONENTS REQUIRED (cont.):



Communications and Information Management

- Sets standard for interoperability communication and defines process for interagency incident information

Intra and Interagency Communications

- Requires coordination and sets standards

Supporting Technologies

- Requires continual review of technology available

Ongoing Management and Maintenance

- Establishes direction for and oversight over NIMS

10/29/2009

51

Functions & Phases of Emergency Management –**RECOVERY**

RECOVERY is a process in which local government creates critical partnerships to guide the affected community toward a multifaceted recovery from a disaster.



Brings all parties together

No one single model

Although recovery is a distinct phase of emergency management, it is affected by activities that take place during mitigation preparedness and response phases

10/29/2009

52

Functions & Phases of Emergency Management – **RECOVERY**

TWO PHASES OF RECOVERY

Short Term

- Damage Assessment
- Public Relations and Information
- Restoration of Utilities
- Debris Clearing
- Handling Donations
- Temporary Housing

Long Term

- Address basic dimensions of a communities existence
- Permanent Housing
- Economic Condition
- Environment
- Infrastructure/Lifelines (roads, sewers, water, electricity)

10/29/2009

53

Functions & Phases of Emergency Management – **RECOVERY**

• RECOVERY LESSONS

- 1

- Cannot succeed if it does not have community support
- 2

- Must have a process to resolve political conflicts (decisions)
- 3

- The emphasis is moving away from simply rebuilding damaged places to creating communities that are more sustainable
- 4


- Poor and larger families have the most difficulty recovering
- 5

- Economic recovery is about the resilience of the local economy scale and space in time, the magnitude of the losses, adoption of new technology, and marketing of recovery efforts and leadership

10/29/2009

54

Functions & Phases of Emergency Management – **RECOVERY**



RECOVERY EFFORT

Prior to Event


- Pre-disaster planning has proven to be a critical part of recovery
- Organization and authority
- Mutual aid/intergovernmental agreements
- Emergency ordinances
- Landfill and re-use policies
- Identify Partners

Post Event

- Post disaster recovery can be successful but must be holistic
- Address all dimensions while being specific to the particular disaster
- Establish a recovery group of stakeholders to develop and implement visioning process based on a consensus model
- Weigh the benefit and costs of rapid versus slower recovery especially if mitigation efforts are part of strategy (structural and non-structural measures, planning and zoning laws)
- Identify Partners

55

Functions & Phases of Emergency Management – **RECOVERY**




Recovery Planning must involve the public in broad participatory strategies.

Stakeholder must have an investment in the process as well as outcome

- Traditional Representation
- Grass roots Efforts

Dos and don'ts for Encouraging Public Involvement



MITIGATION

PLANNING AND PREPAREDNESS

RESPONSE

RECOVERY

10/29/2009

56

Functions & Phases of Emergency Management –RECOVERY

DIMENSIONS OF RECOVERY

Most Challenging Dimensions

Social and Psychological Conditions

- How are the people affected and
- How can you keep their attitude positive and preserve the neighborhood and cultures of the local area

MITIGATION

PLANNING AND PREPAREDNESS

RESPONSE

RECOVERY

Housing

- Local government must be seen as a critical part often thinking outside the bureaucracy

10/29/2009 57

Functions & Phases of Emergency Management –RECOVERY

Housing

• Four Phases

Emergency Shelter

Temporary Shelter – Red Cross

Temporary Housing – FEMA

Permanent Housing

- Process Must:
 - Facilitate rebuilding
 - Make community safer
 - Ensure compliance with state and local codes and ordinances
- Types of Housing Models
 - Redevelopment – complete rebuild
 - Capital infusion – outside money
 - Market model – real estate sector
 - Limited intervention – government program providing individual assistance
- Affordable housing is an issue in most recoveries

58

Functions & Phases of Emergency Management –RECOVERY



ECONOMIC Recovery

- Differs depending on the area and the depth of the disaster
- Must develop public-private partnerships and government understanding of business

ENVIRONMENTAL Recovery

- Communities must use disaster as an opportunity to make their communities fit within the landscape and implement long term risk reduction programs (purchase open space, develop parks, relocate housing, and businesses, plant trees using federal and state funds)

INFRASTRUCTURE and LIFELINES

- Roads, Bridges
- Mass Transit
- Rail Systems,
- Waterways
- Utilities (power, water, sewer, telecommunications)



10/29/2009

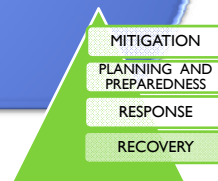
59

Functions & Phases of Emergency Management –RECOVERY



DEBRIS MANAGEMENT


- Removal and safe disposal of debris is a major problem in most disasters
- Develop plan before event
- Don't forget Federal and State Assistance



10/29/2009



60

Functions & Phases of Emergency Management – **RECOVERY**




DONATION MANAGEMENT

- In almost all disasters large numbers of volunteers will donate their time, talent, resources, equipment and physical items
- Must let the public know your needs if any
- Must set up process for managing donations and volunteers



10/29/2009 61

Functions & Phases of Emergency Management – **RECOVERY**




FINANCIAL AND COMMUNITY RESOURCES


↓

Research and develop a plan for financial resources from federal, state, nonprofit, and private sectors

- Set up a process of managing information and finances in the entire event
- A municipalities best friend in a disaster is the accounting staff




10/29/2009 62




EMERGENCY MANAGEMENT

EXERCISE



10/29/2009 63

EXERCISE




It is early fall

You just had a fairly severe wind event that that caused many small power failures in your city. All power will not be restored for at least the next 12-24 hours. You have many trees down throughout the city.


- The weather service has issued a warning for 2-4 inches of rain in the next 24 hours. Your public works department has not yet completed cleaning the storm drains and the recent wind storm has slowed their efforts.
- Your city attorney is at a conference out of town. Your mayor has just returned from vacation.
- What are your actions at this point to ensure your city is prepared and informed for possible flooding?

10/29/2009 64




EMERGENCY MANAGEMENT

ORGANIZING FOR EMERGENCY MANAGEMENT IN OREGON



10/29/2009 65




Organizing for Emergency Management

- State Priorities
- Why Oregon Responds
- Oregon Revised Statutes
- Oregon Emergency Operations Plan
- Ladder of Assistance
- Emergency Coordination Center
- Partners in Response and Recovery
- Resources Available



Response Priorities

- **Saving Lives / Protecting Public Health and Safety**
- **Protecting Property**
 - Emergency Equipment
 - Public/Private Property
- **Protecting the Environment**



State Response to a Disaster

- Occurs when the;
- Appropriate response is beyond the capability of the city and county
- City or county fails to act
- Emergency involves two or more counties
- A major disaster is imminent or strikes a wide area of the state and state assistance is required.

How does Emergency Management work in Oregon?

- Oregon Revised Statutes 401
- Oregon Administrative Rule (104)
 - ORS 183.310(9) defines “rule” as “any agency directive, standard, regulation or statement of general applicability that implements, interprets or prescribes law or policy, or describes the procedure or practice requirements of any agency.”




Oregon Revised Statutes

401.015 Statement of policy and purpose.

- (1) The general purpose **is to reduce the vulnerability** of the State of Oregon to loss of life, injury to persons or property and human suffering and financial loss resulting from emergencies, and to provide for recovery and relief assistance for the victims of such occurrences.
- (2) It is declared to be the **policy and intent** of the Legislative Assembly that preparations for emergencies and governmental responsibility for responding to emergencies be placed at the local government level.
- (3) The **state shall prepare for emergencies**, but **shall not assume authority or responsibility for responding to such an event unless the appropriate response is beyond the capability of the city and county in which it occurs, the city or county fails to act, or the emergency involves two or more counties.**






Oregon Revised Statutes

401.035 Responsibility for Emergency Services Systems.

- (1) The Governor is responsible for the emergency services system within the State of Oregon.**
- (2) The executive officer or governing body of each county or city of this state is responsible for the emergency services system within that jurisdiction.**



Oregon Revised Statutes

401.055 Declaration of state of emergency procedure

- (1) The Governor may declare a state of emergency by proclamation at the request of a county governing body or after determining that an emergency has occurred or is imminent.**
- (2) All requests by a county governing body that the Governor declare an emergency shall be sent to the Office of Emergency Management. Cities must submit requests through the governing body of the county in which the majority of the city's property is located. Requests from counties shall be in writing.**

Oregon Revised Statutes

401.065 **Police Powers** During State of Emergency

During a state of emergency, the **Governor shall:**

- (1) **Have complete authority over all executive agencies of state government** and the right to exercise, within the area designated in the proclamation, all police powers vested in the state by the Oregon Constitution.....
- (2) **Have authority to suspend provisions of any order or rule of any state agency**, if the Governor determines and declares that strict compliance with the provisions of the order or rule would in any way prevent, hinder or delay mitigation of the effects of the emergency; and
- (3) **Have authority to direct any agencies in the state government to utilize and employ state personnel**, equipment and facilities for the performance of any activities designed to prevent or alleviate actual or threatened damage due to the emergency, and **may direct the agencies to provide supplemental services and equipment to local governments to restore any services in order to provide for the health and safety of the citizens of the affected area.**



Oregon Emergency Management Plan

- Volume I - Natural Hazards Mitigation Plan
- Volume II - Emergency Operations Plan
- Disaster Recovery Assistance Guidebook
- Emergency Declaration Guidelines For Local Elected and Appointed Officials
- Employee and Family Disaster Preparedness Guide
- Emergency Alert System Stations



Why does Emergency Management work in Oregon?

- Ladder of Assistance
 - Incident
 - Federal
 - State
 - County
 - Local
- All incidents and response organizations follow this process.
- Coordination
- Collaboration
- Communication



Coordination with Response Partners

- Oregon Emergency Management
 - Oregon State Emergency Management Plan
 - State Emergency Coordination Center (ECC)
 - State agencies
 - Federal
 - Federal Agencies
 - Emergency Support Functions
 - Non-Government Organizations
 - Volunteer
 - Other
 - Private Business



Oregon Emergency Response System (OERS)

- Oregon Emergency Response System
 - The purpose of the Oregon Emergency Response System (OERS) is to coordinate and manage state resources in response to natural and technological emergencies and civil unrest involving multijurisdictional cooperation between all levels of government and the private sector.



OERS Agencies

- Aeronautics
- Attorney General
- Dept of Administrative Services
- Dept of Agriculture
- Dept of Consumer & Business Services
- Office of Energy
- Oregon - OSHA
- Dept of Corrections
- Dept of Education
- Dept of Environmental Quality
- Oregon Emergency Management
- Dept of Transportation
- Military Department
- Water Resources Department
- Dept of Fish and Wildlife
- Dept of Forestry
- Dept of Geology & Mineral Industries
- Dept of Human Services
- Oregon Health Division
- Dept of Justice
- Dept Land Conservation & Development
- Dept of Parks & Recreation
- Dept of State Lands
- Dept of State Police
- Law Enforcement Data Systems
- Office of State Fire Marshal



Emergency Support Functions



- **ESF #1 – Transportation**
 - Aviation/airspace management and control
 - Transportation safety
 - Restoration and recovery of transportation infrastructure
 - Movement restrictions
 - Damage and impact assessment
- **ESF #2 – Communications**
 - Coordination with telecommunications and information technology industries
 - Restoration and repair of telecommunications infrastructure
 - Protection, restoration, and sustainment of national cyber and information technology resources
 - Oversight of communications within the federal incident management and response structures
- **ESF #3 – Public Works and Engineering**
 - Infrastructure protection and emergency repair
 - Infrastructure restoration
 - Engineering services and construction management
 - Emergency contracting support for life-saving and life-sustaining services

Emergency Support Functions




- **ESF #4 – Firefighting**
 - Coordination of federal firefighting activities
 - Support to wildland, rural, and urban firefighting operations
- **ESF #5 – Emergency Management**
 - Coordination of incident management and response efforts
 - Issuance of mission assignments
 - Resource and human capital
 - Incident action planning
 - Financial management
- **ESF #6 – Mass Care, Emergency Assistance, Housing, and Human Services**
 - Mass care
 - Emergency assistance
 - Disaster housing
 - Human services



Emergency Support Functions

- **ESF #7 – Logistics Management and Resource Support**
 - Comprehensive, national incident logistics planning, management, and sustainment capability
 - Resource support (facility space, office equipment and supplies, contracting services, etc.)
- **ESF #8 – Public Health and Medical Services**
 - Public health
 - Medical
 - Mental health services
 - Mass fatality management
- **ESF #9 – Search and Rescue**
 - Life-saving assistance
 - Search and rescue operations



Emergency Support Functions

- **ESF #10 – Oil and Hazardous Materials Response**
 - Oil and hazardous materials (chemical, biological, radiological, etc.) response
 - Environmental short- and long-term cleanup
- **ESF #11 – Agriculture and Natural Resources**
 - Nutrition assistance
 - Animal and plant disease and pest response
 - Food safety and security
 - Natural and cultural resources and historic properties protection
 - Safety and well-being of household pets
- **ESF #12 – Energy**
 - Energy infrastructure assessment, repair, and restoration
 - Energy industry utilities coordination
 - Energy forecast

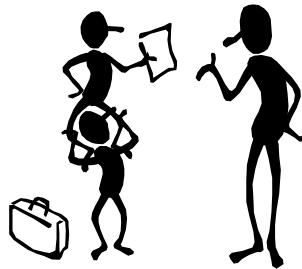
Emergency Support Functions

- **ESF #13 – Public Safety and Security**
 - Facility and resource security
 - Security planning and technical resource assistance
 - Public safety and security support
 - Support for access, traffic, and crowd control
- **ESF #14 – Long-Term Community Recovery**
 - Social and economic community impact assessment
 - Long-term community recovery assistance to states, tribes, local governments, and the private sector
 - Analysis and review of mitigation program implementation
- **ESF #15 – External Affairs**
 - Emergency public information and protective action guidance
 - Media and community relations
 - Congressional and international affairs
 - Tribal and insular affairs




EMERGENCY MANAGEMENT

◦ OTHER PARTNERS



Emergency Management




OTHER PARTNERS

Governments

| | | | | |
|--------|----------|-------------------|------------------|--------------------|
| Cities | Counties | Special Districts | State Government | Federal Government |
|--------|----------|-------------------|------------------|--------------------|

10/29/2009 85

Emergency Management – OTHER PARTNERS




Non-Profits/ Faith Based Organizations

| | | | | | |
|-----------|----------------|-----------|----------|---------------|-------------------------|
| Red Cross | Salvation Army | Hospitals | Churches | Service clubs | Social service agencies |
|-----------|----------------|-----------|----------|---------------|-------------------------|

10/29/2009 86

Emergency Management –
OTHER PARTNERS

Education




Schools Community Colleges Universities

10/29/2009 87

Emergency Management –
OTHER PARTNERS

Volunteers




CERT Teams Ham radio operators General Public

10/29/2009 88

Emergency Management – OTHER PARTNERS

Media



Newspapers

Radio stations



Television stations

Social networking sites


10/29/2009 89

EMERGENCY MANAGEMENT

ROLES AND RESPONSIBILITIES




10/29/2009 90



Roles and Responsibilities


- **401.035 Responsibility for Emergency Services Systems.**
 - (1) The Governor is responsible for the emergency services system within the State of Oregon.**
 - (2) The executive officer or governing body of each county or city of this state is responsible for the emergency services system within that jurisdiction.**



Roles and Responsibilities


401.257 Responsibilities of Office of Emergency Management;

- **(2) The office shall be responsible for:**
 - (a) Coordinating and facilitating private sector and governmental efforts to **prevent, prepare for, respond to and recover** from emergencies; and;**
 - (b) Coordinating exercises and training, planning, preparedness, response, mitigation and recovery activities with state and local emergency services agencies and organizations.**
- **The continued mission of the Office of Emergency Management** executes the Governor's responsibilities to maintain an emergency services system as prescribed in this ORS (401) by planning, preparing and providing for the prevention, mitigation and management of emergencies or disasters that present a threat to the lives and property of citizens of and visitors to the State of Oregon.



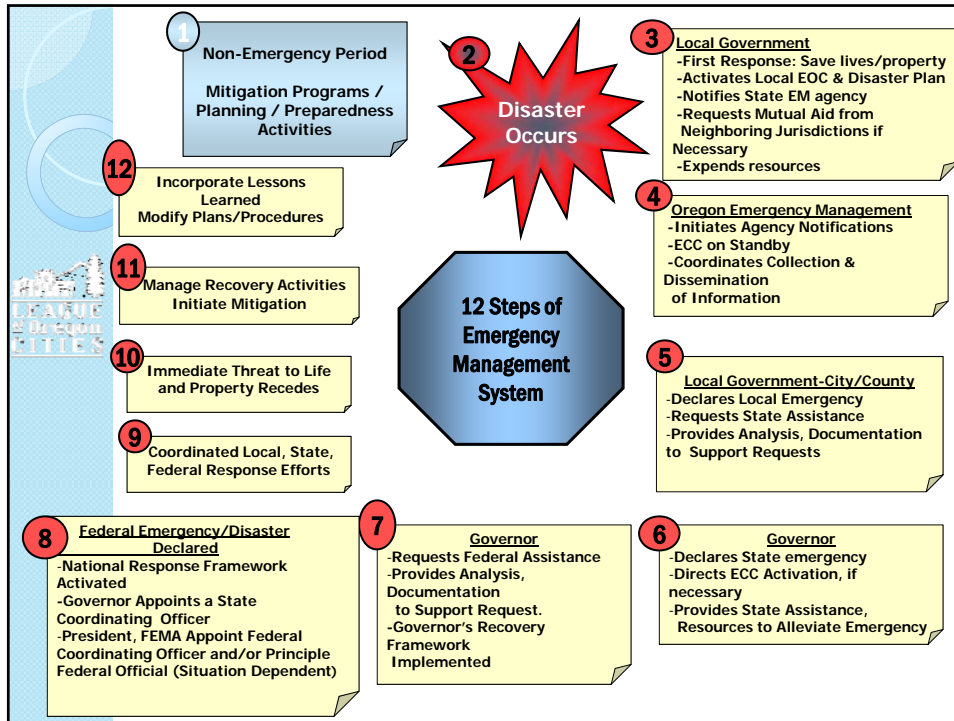
Roles and Responsibilities

- Counties are required to have an emergency plan and Cities may have a plan.
- The disaster always starts at the City
- Governor can assume authority over a jurisdiction if the “appropriate response is beyond the capability of the city and county, the city or county fails to act, or the emergency involves two or more counties”



Roles and Responsibilities

- Form Your Team
- Design it to fit the Incident Command System
- Create depth in your staff
- Planning, Mitigating, and Training before the disaster
- Response
- Recovery-Instant - short term - long term



EMERGENCY MANAGEMENT

REVIEW OF MODEL EMERGENCY MANAGEMENT PLANS EMPHASIZING PANDEMIC

LEAGUE of Oregon CITIES

10/29/2009 96

MODEL EMERGENCY MANAGEMENT PLANS

Sources:

League of Oregon web site. Includes the cities of Brookings, Cottage Grove, Hillsboro and Sherwood

The League of Oregon Cities web site also links to other state and federal agencies responsible for emergency management

Many city web sites show their emergency plans


10/29/2009
97

MODEL EMERGENCY MANAGEMENT PLANS

| Characteristic | Moderate Pandemic | Severe Pandemic |
|----------------|-------------------|-----------------|
| Illness | 1.27 million | 1.27 million |
| Outpatient | 635,000 | 12,206 |
| Hospitalized | 12,206 | 22,913 |
| Intensive Care | 1,820 | 11,448 |
| Ventilator Use | 917 | 25,316 |
| Deaths | 2,508 | 635,000 |

10/29/2009
98

MODEL EMERGENCY MANAGEMENT PLANS



PANDEMIC FLU

CHARACTERISTICS


- 35% of the population will acquire the illness, ranging from 20% of the workforce to 40% of school age children
- Of those who become ill, 50% will seek medical care
- Those with a high risk include children, young adults and those with compromised immune systems
- The time between infection and illness is two days

LEAGUE of Oregon CITIES

10/29/2009

99

MODEL EMERGENCY MANAGEMENT PLANS



PANDEMIC FLU

CHARACTERISTICS

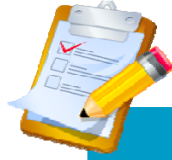
- People who are ill transmit the disease one day before the onset of symptoms and up to five days after onset of symptoms
- Some people can transmit the disease without becoming ill
- In a community, a pandemic outbreak may last up to 12 weeks and may occur in waves over an 18 month period
- In 1918 pandemic, the difference between success and failure was communication and social distancing

LEAGUE of Oregon CITIES

10/29/2009

100

MODEL EMERGENCY MANAGEMENT PLANS



Internal Checklist

- Get your employees vaccinated. Vaccinated employees are 43% less likely to get the flu than unvaccinated employees.
- Establish social distancing where possible. These could include telecommuting, the use of conference calls instead of meetings and the diffusing of worksites throughout the building

10/29/2009

101

MODEL EMERGENCY MANAGEMENT PLANS



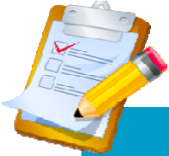

Internal Checklist

- Train and encourage employees to wash their hands frequently and properly cover their coughs and sneezes
- The early use of non-pharmaceutical measures (e.g. social distancing and proper hand washing) may reduce the disease by 50% according to the Center For Disease Control and Prevention

10/29/2009

102

MODEL EMERGENCY MANAGEMENT PLANS






Internal Checklist

- Update your emergency plans for pandemic influenza
- Develop continuity plans
- Cross train employees
- As appropriate, consider assigning staff who have recovered from the influenza to roles that involve higher risk of exposure to influenza (e.g. direct contact with the public)

10/29/2009 103


MODEL EMERGENCY MANAGEMENT PLANS

External Checklist

- Control expectations
- Coordinate your emergency plans with other agencies
- Identify key services provided by other agencies and check their plans
 - Emergency communication centers
 - ODOT snow removal
 - Hospitals
 - Schools


10/29/2009 104



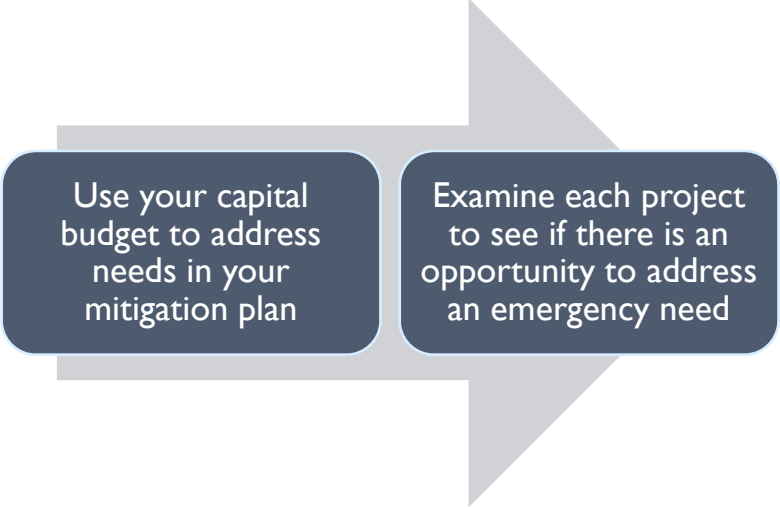
EMERGENCY MANAGEMENT

BUDGETING, GRANTS AND FINANCIAL ASSISTANCE

10/29/2009 105



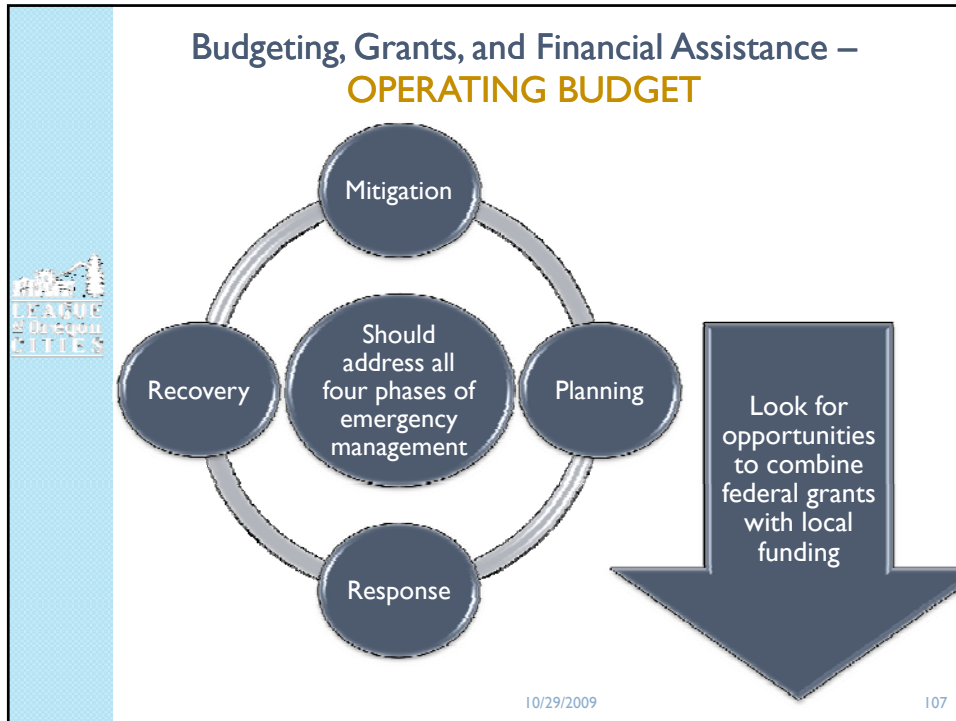
Budgeting, Grants, and Financial Assistance – CAPITAL BUDGET



Use your capital budget to address needs in your mitigation plan

Examine each project to see if there is an opportunity to address an emergency need

10/29/2009 106




Grants & Financial Assistance

Grants and Financial assistance is everywhere! But, most all have strings attached!

LEAGUE of Oregon CITIES


10/29/2009 108



Grants & Financial Assistance

- Highly recommend that you have a grant writer.
- If you can subscribe to a service that's allows you to view/find any and all grants available. Try www.grants.gov
- Take the time to read the grant to make sure that you eligible before you apply.
- The biggest problems are:
 - Not meeting the grant requirements
 - Coordination with partners
 - Not understanding the match requirements
 - Record keeping
 - Not conforming to environmental or historical issues

10/29/2009 109



Grants & Financial Assistance

- State Homeland Security Program (SHSP) - SHSP supports the implementation of State Homeland Security Strategies to address the identified planning, equipment, training, and exercise needs for acts of terrorism. In addition, SHSP supports the implementation of the National Preparedness Goal, the National Incident Management System (NIMS), and the National Response Plan (NRP).
- Urban Areas Security Initiative (UASI) - UASI Program funds address the unique planning, equipment, training, and exercise needs of high-threat, high-density Urban Areas, and assist them in building an enhanced and sustainable capacity to prevent, protect against, respond to, and recover from acts of terrorism.
- Transit Security Grant Program (TSGP) - The TSGP provides grant funding to the nation's key high-threat urban areas to enhance security measures for their critical transit infrastructure including bus, rail and ferry systems. This year, the TSGP will also provide funding to Amtrak for continued security enhancements for their intercity rail operations between key, high-risk urban areas throughout the United States.

10/29/2009 110

Grants & Financial Assistance

- **Buffer Zone Protection Program (BZPP)** - BZPP provides grant funding to build security and risk-management capabilities at the State and local level to secure pre-designated Tier I and Tier II critical infrastructure sites, including chemical facilities, financial institutions, nuclear and electric power plants, dams, stadiums, and other high-risk/high-consequence facilities.
- **Intercity Bus Security Grant Program (IBSGP)** - The IBSGP provides funding to create a sustainable program for the protection of intercity bus systems and the traveling public from terrorism. The FY07 IBSGP seeks to assist owners and operators of fixed-route intercity and charter bus services in obtaining the resources required to support security measures such as enhanced planning, facility security upgrades, and vehicle and driver protection.
- **Trucking Security Grant Program (TSGP)** - The TSP provides funding for the Highway Watch® Program in order to continue a sustainable national program to enhance security and overall preparedness on our Nation's highways.

10/29/2009

111



Grants & Financial Assistance

- **Emergency Management Performance Grant (EMPG)** - EMPG directly supports the Nation's emergency management community. The EMPG program is administered through DHS' Preparedness Directorate Office of Grants and Training and in close working relationship with the National Emergency Management Association and the emergency management community. EMPG supports all-hazards planning, conducting training and exercises, and most importantly, emergency management personnel at the State and local level.

10/29/2009

112



Grants & Financial Assistance



Assistance to Firefighters Grants (AFG) - AFG has helped firefighters and other first responders to obtain critically needed equipment, protective gear, emergency vehicles, training, and other resources needed to protect the public and emergency personnel from fire and related hazards. The Office of Grants and Training in the Department of Homeland Security administers this grant program.

Eligible applicants for Fire Prevention and Safety Grants include fire departments as well as national, regional, state, local or community organizations that are recognized for their experience and expertise in fire prevention or safety programs and activities. Finally, private and public nonprofit organizations, academic institutions, non-federal governmental organizations, non-governmental organizations, and individual researchers (i.e. doctoral candidates) are eligible to apply for funding for research and development activities.

10/29/2009

113


Grants & Financial Assistance



- **Staffing for Adequate Fire and Emergency Response (SAFER)** - The purpose of the Staffing for Adequate Fire and Emergency Response (SAFER) grants is to help fire departments increase the number of frontline firefighters. The goal is for fire departments to increase their staffing and deployment capabilities and ultimately attain 24-hour staffing, thus assuring that their communities have adequate protection from fire and fire-related hazards. The SAFER grants support two specific activities: (1) the hiring of firefighters, and (2) recruitment and retention of volunteer firefighters. The hiring of firefighters activity provides grants to pay for part of the salaries of newly hired firefighters over the 5-year program. SAFER is part of the Assistance to Firefighters Grants and is under the purview of the Office of Grants and Training of the Department of Homeland Security.

10/29/2009


114



Grants & Financial Assistance

Fire Prevention & Safety Grants (FP&S) - The Fire Prevention and Safety Grants (FP&S) are part of the Assistance to Firefighters Grants (AFG) and are under the purview of the Office of Grants and Training in the Department of Homeland Security. FP&S grants support projects that enhance the safety of the public and firefighters from fire and related hazards. The primary goal is to target high-risk populations and mitigate high incidences of death and injury. Examples of the types of projects supported by FP&S include fire prevention and public safety education campaigns, juvenile fire setter interventions, media campaigns, and arson prevention and awareness programs.

10/29/2009 115



Grants & Financial Assistance

- **Interoperable Emergency Communications Grant Program (IECGP)** Specialized grant produced by DHS/FEMA/OEC. The grant provides a specified dollar amount to each state for governance, leadership, common planning, operational protocols, and emergency responder skills and capabilities.

10/29/2009 116

Grants & Financial Assistance




Emergency Operations Center Grant Program

Emergency Operations Center (EOC) Grant Program is intended to improve emergency management and preparedness capabilities by supporting flexible, sustainable, secure, and interoperable EOCs with a focus on addressing identified deficiencies and needs. Per Section 614 of the Robert T. Stafford Disaster Relief and Emergency Assistance Act (42 U.S.C. 5196c), as amended by section 202 of the Implementing Recommendations of the 9/11 Commission Act of 2007 (P.L. 110-53), Over \$30 million to date has been available for grants for construction or renovation of a State, local, or tribal government's principal Emergency Operations Center (EOC).

Grants & Financial Assistance




This grant program is not intended to fund the construction or renovation of State, local, or tribal Fusion Centers. Fully capable emergency operations facilities at the State and local levels are an essential element of a comprehensive national emergency management system and are necessary to ensure continuity of operations and continuity of government in major disasters caused by any hazard.



Grants and Financial Assistance

- Centers for Disease Control Grants (CDC)** – The purpose of this program is to develop emergency-ready public health departments by upgrading, integrating and evaluating state and local public health jurisdictions' preparedness for and response to terrorism, pandemic influenza, and other public health emergencies with federal, state, local, and tribal governments, the private sector, and non-governmental organizations (NGOs). The primary intent of this cooperative agreement is to fund the active participation of recipients in the immediate establishment, use, and continuous improvement of a national system of public health emergency preparedness that uses the CDC Preparedness Goals and associated measures to monitor public health system response performance. Authority: This program is authorized under Authority: 42 U.S.C. 247d-3.


10/29/2009 119



Grants & Financial Assistance

- Health Resources Services Administration Grants (HRSA)** - The National Bioterrorism Hospital Preparedness Program (NBHPP) enhances the ability of hospitals and health care systems to prepare for and respond to bioterrorism and other public health emergencies. Program priority areas include improving bed and personnel surge capacity, decontamination capabilities, isolation capacity, pharmaceutical supplies, and supporting training, education, and drills and exercises. The mission of the National Bioterrorism Hospital Preparedness Program (NBHPP) is to prepare hospitals and supporting healthcare systems, in collaboration with other partners, to deliver coordinated and effective care to victims of terrorism and other public health emergencies. Authorizing Legislation P.L. 107-188: Section 319 of the Public Health Service Act, 42 U.S.C. 247d, Grants to Improve State, Local, and Hospital Preparedness and Response to Bioterrorism and Other Public Health Emergencies.


10/29/2009 120



Grants & Financial Assistance

- **What:** The SRGP is a competitive state funded grant program that provides up to \$1.5 million for seismic rehabilitation of critical public buildings.
- **Why:** Increased awareness and evidence shows Oregon is at risk for a much sooner, larger, and potentially damaging earthquake and tsunami than originally thought. During the past two biennium's, the Legislative Assembly approved several bills to address seismic risks to critical public buildings and provided \$30 million in bond authority for the SRGP during the 2009 Legislative Assembly.
- **When:** Application period is open September 15, 2009 through November 16, 2009.

10/29/2009 121




Grants & Financial Assistance

Who: The following is a list of eligible entities:

- ❖ K-12 public schools, community colleges, education service districts, and institutions of higher education buildings with a capacity of 250 or more persons that are routinely used for student activities,
- ❖ Hospital buildings with acute inpatient care facilities, fire stations, police stations, sheriffs' offices, other facilities used by state, county, district or municipal law enforcement agencies.


10/29/2009 122



Grants & Financial Assistance

❖ **How:** Application packet available on Oregon Emergency Management's (OEM) website: <http://www.oregon.gov/OMD/OEM/index.shtml>
Please make sure that you use the application document available on the website. Applications will be reviewed for eligibility and completeness. Applications that are not complete will **not** be considered for grant selection. This includes any additional documents as required. Applicants that are not eligible for this program will **not** be considered for grant selection.

10/29/2009 123




Grants & Financial Assistance

Contact:
Paulina Layton, Seismic Grants Coordinator at playton@oem.state.or.us or (503) 378-2911 ext 22231; or Kiri Carini, Seismic Grants Assistant at kcarini@oem.state.or.us, or (503) 378-2911 ext 22245.

Organizational Timelines:

- ❖ Application packet posted on OEM website –mid September, 2009
- ❖ Opening September 15, 2009, Closing November 16, 2009
- ❖ SRGP Grant Selection Committee Convenes –December 3, 2009
- ❖ Grant Awards Announced –mid January 2010
- ❖ General Obligation Bond Sale Held –mid May 2010
- ❖ Projects Begin –June 2010


10/29/2009 124



Grant & Financial Assistance

- **Declared Disaster Grants**
- Public Assistance Grant Program
- Individual Assistance Grant Program
- Hazard Mitigation Grant Program
- **Mitigation Grants**
- Pre-Disaster Mitigation Grants
- Flood Mitigation Assistance Grants


10/29/2009 125



Grants & Financial Assistance

- Most grants have a 24-36 month execution period.
- The local jurisdiction must pay for item/event up front and bill the grantee for reimbursement.
- Grants will be monitored and audited. Eventually, a demonstration of performance may be required.


10/29/2009 126



• ROUND TABLE



10/29/2009 127




EMERGENCY MANAGEMENT

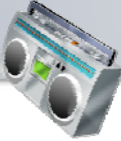
• COMMUNICATION

10/29/2009 128

Emergency Management
COMMUNICATIONS



Radio




More than 90% listen to radio


Good source for fast breaking news

10/29/2009 129

Emergency Management
COMMUNICATIONS



Newspaper



Almost 70% read newspapers


Best for:

- Continuing coverage and follow-up
- In-depth stories
- Getting information out in detail

10/29/2009 130

Emergency Management COMMUNICATIONS


Television



Nearly every household has television

75% watch news regularly

Good source for emergencies



10/29/2009 131

Emergency Management COMMUNICATIONS



Community Cable Television (CCTV)

Many communities have public access channels

Good way for local officials to communicate directly with citizens


Option for communities not covered by network television

More limited viewership than network television





10/29/2009 132

Emergency Management
COMMUNICATIONS




Electronic

- Update website with latest information
- Consider establishing e-mail list serves
- Use social networking sites



10/29/2009 133

Emergency Management
COMMUNICATIONS



Develop talking points ahead of emergencies


Coordinate public information releases with other agencies

- Need a consistent, focused message
- Must be prepared to respond to rumors

Communicate with special populations

- Major employers
- Seniors
- Children
- Those who do not speak English as their primary language
- Those with disabilities


10/29/2009 134



Emergency Management COMMUNICATIONS


- Maintain a variety of communications options**
 - Cell phones
 - Satellite phones
 - Land phones
 - Mobile radios
 - Portable radios
 - Ham radio operators
- Explore emerging technologies**
 - Mapping data from incoming 911 calls
- Elected officials**
 - Define their roles before there is an emergency
 - Keep them informed throughout the emergency

10/29/2009 135



EMERGENCY MANAGEMENT

QUESTIONS/DISCUSSION



10/29/2009 136