Multnomah County

Damage Assessment Plan

September 2018

Record of Change

Change #	Date	Description of Change	Page #	Initials

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ACRONYMS

ATC	Applied Technology Council
CBOs	Community Based Organizations
CERT	Community Emergency Response Team
COG	Continuity of Government
COOP	Continuity of Operations Plan
COP	Common Operating Picture
CPODs	Community Points of Distribution
DAT	Damage Assessment Team
DAU	Damage Assessment Unit
DCA	Department of County Assets
DCHS	Department of County Human Services
DCM	Department of County Management
DCS	Department of Community Service
DH	Department of Health
DOC	Department Operations Center
EEI	Essential Elements of Information
EOC	Emergency Operations Center
EOP	Emergency Operations Plan
ESF	Emergency Support Function
FEMA	Federal Emergency Management Agency
GIS	Geographic Information System
HAZMAT	Hazardous Material
IA	Individual Assistance
IAPPG	Individual Assistance Program and Policy Guide
IC	Incident Commander
ICPs	Integrated Communication Providers
IDA	Initial Damage Assessment
JIT	Just-In-Time
MCEM	Multnomah County Emergency Management
MCHD	Multnomah County Health Department
MCSO	Multnomah County Sheriff's Office
NET	Neighborhood Emergency Team

NGO	Non-Government Organization
NHMP	Natural Hazard Mitigation Plan
NIMS	National Incident Management System
NWHPO	Northwest Health Preparedness Organization
ODOT	Oregon Department of Transportation
OEM	Office of Emergency Management
ORS	Oregon Revised Statutes
PA	Public Assistance
PAPPG	Public Assistance Program and Policy Guide
PDA	Preliminary Damage Assessment
PGE	Portland General Electric
RDA	Rapid Damage Assessment
SME	Subject Matter Expert
SU	Situation Unit

1. INTRODUCTION

1.1. Overview

This Comprehensive Damage Assessment Plan serves as Support Annex 2 to the Multnomah County Emergency Operations Plan (EOP). The plan guides and supports the damage assessment function resulting from small to catastrophic events and recognizes that no event will necessarily reflect the response and recovery needs of another.

1.2. Purpose

This plan outlines the goals, objectives, operational concepts, organizational relationships, responsibilities, and procedures for the conduct of damage assessment following natural or manmade disasters that affect Multnomah County. The plan also addresses community impact assessments and identifies the essential elements of information (EEIs) required for effective information sharing throughout response and recovery.

A well-executed damage assessment builds situational awareness within the county Emergency Operations Center (EOC) to facilitate emergency response and to support the transition to the recovery phase of emergency operations. It will also serve as a framework for the collaborative information sharing effort that will aid in the prioritization and allocation of resources. The county uses damage assessment data as the basis to obtain state and federal assistance in the wake of a significant emergency or disaster.

This plan supports damage assessments in unincorporated and incorporated areas of the county, as well as for special districts, nonprofit partners, and other organizations within the community. The level of damage must reach specifically defined financial thresholds for damage assessments to involve state and federal authorities. The damage assessment process serves to develop situational awareness to inform response activities, the amount of financial damages notwithstanding.

1.3. Assumptions

1.3.1. Assumptions for Catastrophic Event

1. The county, incorporated cities, and special districts will support a coordinated execution of damage assessment activities to the benefit of the entire county.
2. Disasters, either natural or manmade, may result in damage or the near complete destruction of private and public infrastructure ranging from bridges and roadways to buildings, telecommunications systems, natural gas lines, electrical power supplies, water and sewage systems, dams, and other critical facilities and functions.
3. Damage assessment will begin with the arrival of the on-scene Incident Commander (IC) and may continue throughout the response and recovery phases of emergency operations.
4. Designated, trained personnel formed into Damage Assessment Teams (DATs) will be available to conduct the initial damage assessment (IDA) of life safety and critical facilities. DATs will be coordinated and directed by selected county departments via Department Operations Centers (DOCs).
5. DATs will assemble and perform their tasks in absence of direct guidance from the DOCs until they are opened, staffed, and operational.

6. Neighborhood Emergency Teams (NETs), Community Emergency Response Teams (CERTs), and private sector partners will participate in damage assessment. Just-In-Time (JIT) damage assistance training will be available for NET and CERT teams.
7. Restricted access to an area, due either to significant damage or hazardous conditions, may hinder the ability of DATs to ascertain immediately the extent of damage to critical facilities.
8. Damage assessment information provided by individual citizens will be treated as true by the Situation Unit (SU) and Damage Assessment Unit (DAU) within the EOC unless and until otherwise confirmed as false.
9. DATs may operate in a low-tech or no-tech environment; internet, radio, or other non-direct communications between damage assessment teams and the DOCs will be limited or completely severed.
10. Information provided by incorporated cities and special districts will be limited during the first 24 hours after the event.
11. Mobility by motor vehicle will be severely restricted until debris management activities commence, but not sooner than 24 hours after an event.
12. DATs will perform their duties until the DOC managers release personnel back to their parent department or all tasks assigned to the team have been accomplished.
13. A catastrophic disaster will exceed the damage assessment resources of Multnomah County and its jurisdictions and will require additional damage assessment personnel.
14. Multiple damage and safety assessments may be needed prior to structures being reoccupied or transportation routes being used. The state Office of Emergency Management (OEM) will conduct an assessment to determine the need for state resources or federal assistance.
15. Buildings that appear undamaged will still require Applied Technology Council (ATC)-certified assessors to declare buildings safe for occupancy.
16. Contractors and out-of-state assets will be not be available to assist with IDA, but will be available to conduct damage assessments after seven days.

1.3.2. Assumptions for Small-Scale Event

1. Internet, radio, and hardwire communications will connect DATs to the DOCs and then to the county EOC.
2. Roadways and bridges will be trafficable and will support DAT activities from the outset of an event.
3. Forecasted and slow-onset events will enable the mobilization of DATs in advance of or concurrent to EOC activation.
4. ATC-20 certified safety assessment personnel may be required for damage resulting from earthquakes or events resulting in ground movement or shaking.
5. ATC-45 certified personnel will be needed for damage resulting from windstorms or flooding.

1.3.3. Limitations

Limitations consist of actions either required or prohibited during the conduct of damage assessment during the response phase of operations. Life safety response will take precedence over damage assessment for first responders.

1. Declaring buildings safe for occupancy/entry requires assessment by ATC-certified personnel.

2. Determinations for safe passage over bridges and overpasses must be made by qualified personnel and the County Engineer.
3. County and city departments and bureaus must perform damage assessments in conjunction with other critical response functions.
4. Damage assessments may be undertaken near simultaneously with safety assessments, limiting the number of qualified staff to conduct either mission.

1.4.Plan Goals, Objectives, and End State

1.4.1.Goals

- Create situational awareness in the EOC regarding the status of critical and essential assets and functions to:
    - Prioritize the employment of assets for the protection of life, property, and the environment and
    - Direct resources to enable the county to move from the response to recovery phase of emergency operations.
- Develop quantitative damage information to use as the initial basis to justify or determine the need for state or federal assistance.

1.4.2.Objectives

- Determine the immediate needs and assess priorities for disaster victims;
- Identify obstructions or interruptions to emergency response or recovery efforts;
- Determine the resources needed for emergency response and identify the capability gaps that must be filled from outside the county;
- Identify secondary hazards, such as occupied unsafe buildings, downed power lines, natural gas leaks, or areas at risk for flooding or landslides;
- Assess damage to critical facilities, emergency transportation routes, businesses, housing, and other public and private infrastructure;
- Develop initial costs estimates for damages to critical facilities, emergency transportation routes, businesses, housing, and other public and private infrastructure;
- Provide estimates of the volume and type of debris generated to assist debris management activities
- Estimate the economic impact of the disaster, including effects upon industry and trade;
- Monitor public health and the environment; and
- Determine community impacts that may affect the prioritization of resource requests.

1.4.3.End State

- A common operating picture (COP) developed and maintained by the SU within the EOC;
- Preliminary damage assessment results inform and guide subsequent damage and safety assessment efforts;

- Response assets prioritized and operational;
- Initial costs estimate of damage compiled and submitted to the state;
- Critical infrastructure marked for degree of appropriate use; and
- DATs released from EOC control and returned to primary duties.

1.5.Authorities and References

1.5.1.Authorities

1.5.1.1.Local

- Multnomah County Code Chapter 25.400, Emergency Management

1.5.1.2.State

- Oregon Revised Statutes (ORS) Chapter 401, Emergency Management and Services

1.5.1.3.Federal

- Robert T. Stafford Disaster Relief and Emergency Assistance Act, PL 100-707, signed into law November 23, 1988; amended the Disaster Relief Act of 1974, PL 93-288

1.5.2.References

1.5.2.1.Local

- Multnomah County Comprehensive Emergency Management Plan, Volume 3: Emergency Operations Plan, August 2017
- Multnomah County Road and Bridge Incident Response Inspection Plan, 2014
- Multnomah County Disaster Debris Management Plan, 2016
- Metro 2008-2018 Regional Solid Waste Management Plan
- City of Portland Basic Emergency Operations Plan, Annex E, Damage Assessment, 2014
- Multnomah County Natural Hazards Mitigation Plan, May 2017

1.5.2.2.State

- Oregon Emergency Management, Emergency Operations Plan, Revised January 2013.

1.5.2.3.Federal

- FEMA Comprehensive Planning Guide 102, Version 2, November 2010
- FEMA Damage Assessment Operations Manual, April 2016
- FEMA Public Assistance Program and Policy Guide (PAPPG), Version3.1, April 2018

2. DAMAGE ASSESSMENT STRATEGY

2.1. Overview

Following a disaster, damage assessment includes the collection of information on the status of critical infrastructure and government and private services, in addition to information on the numbers and types of residential, commercial, and industrial structures destroyed or damaged and to what extent. Damage assessment is a continuous process. Partners in damage assessment will develop procedures and identify teams before small-scale or catastrophic events occur. Successful damage assessment begins immediately after a damaging event occurs and continues through the recovery phase. Damage assessment will be conducted separately from, but concurrent to, life saving, property, and environmental protection.

The DAU within the EOC assumes responsibility for coordinating the damage assessment process. The DAU works under the direction of the Planning Section Chief. The DAU will collect, organize, analyze, summarize, and distribute assessment information as it arrives at the EOC.

2.1.1. Concept of Operations

Municipal bureaus and departments, nonprofit partners, special districts, and other partners assigned damage assessment responsibilities will develop appropriate internal procedures to accomplish their tasks consistent with this plan. These organizations will train personnel in their respective roles, responsibilities, organization, communications, and tools.

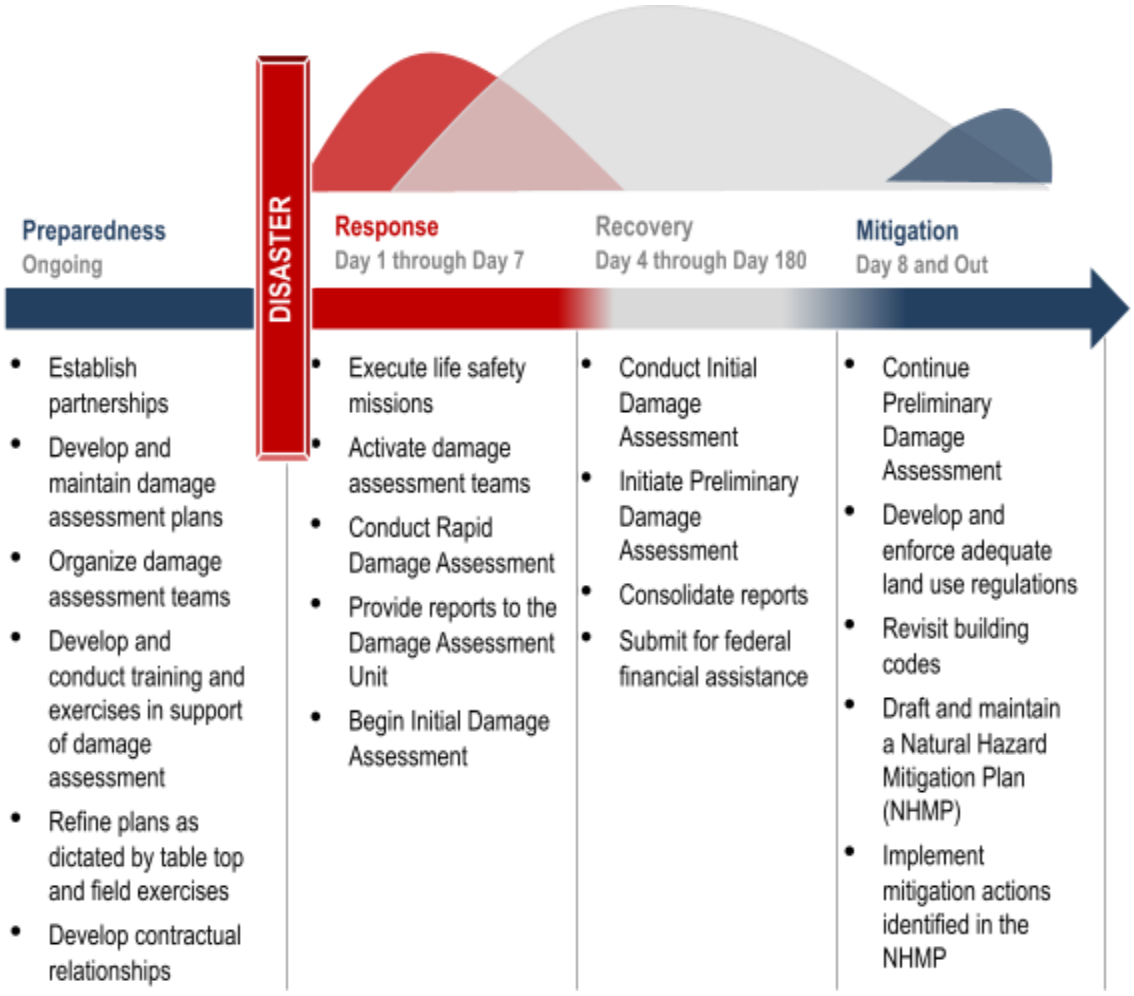
The Multnomah Department of County Management, Division of Assessment, Recording and Taxation, supported by Multnomah County Emergency Management, serves as the lead agency for damage assessment. This department will fill the Damage Assessment Unit Leader position under the Planning Section.

Selected Multnomah County departments will form DATs along functional lines and, to the greatest extent possible, each will be constituted from within a single department. Incorporated areas and special districts will form teams based upon their own priorities for damage assessment. In most cases DATs will consist of already established teams trained by their departments to conduct non-emergency assessments on department or jurisdiction owned assets. If a disaster produces consequences beyond the capability of local teams to assess, the EOC manager will request assistance through the Oregon OEM.

Section 3 assigns specific jurisdictional, agency, departmental, and bureau tasks associated with each phase of damage assessment. Jurisdictions and agencies are charged with creating supporting plans for their respective organizations.

The county carries out damage assessment functions in each of the four phases of emergency management: preparedness, response, recovery, and mitigation. Figure 2-1 summarizes the functions in each phase.

Figure 2-1: Damage Assessment Functions by Emergency Management Phase



2.1.2. Preparedness

Preparedness involves actions taken before an emergency or disaster occurs. Actions include plan development; identifying and cataloging municipal assets, both fixed and mobile; conducting training and exercises; establishing partnerships; and creating service contracts in support of damage assessment.

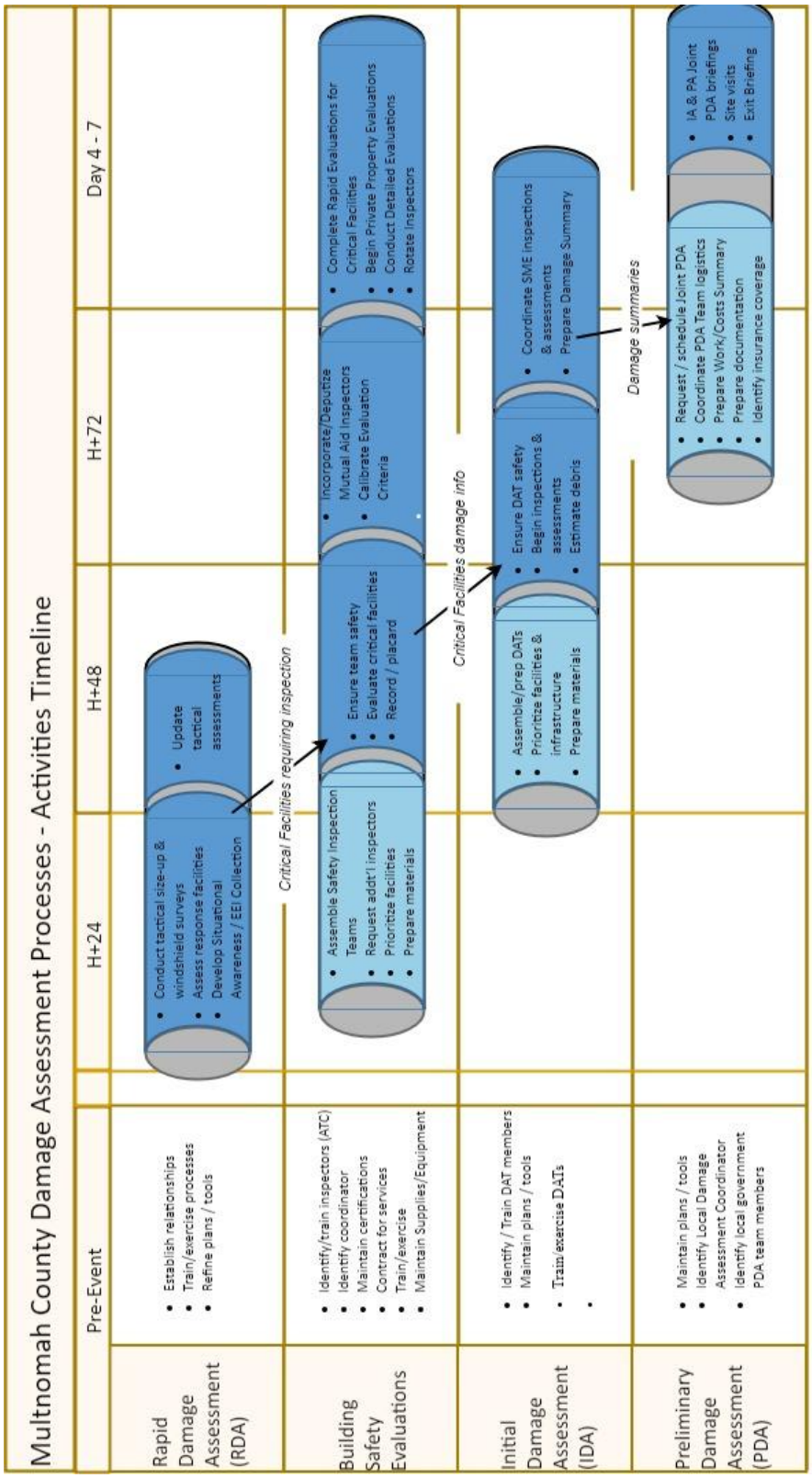
Preparedness is continuous and only ends with the onset of an emergency or disaster that requires assessments of damage to infrastructure. This plan identifies a damage assessment structure that uses the elements of the National Incident Management System (NIMS) as a framework.

2.1.3. Response

Damage assessment actions range from activating DATs to gaining situational awareness and developing a COP within the EOC.

To create situational awareness within the EOC and develop information to determine if assistance beyond local resources is required for response operations, damage assessment activities will begin immediately after an event. The county executes damage assessment in three stages: Rapid, Initial, and Preliminary Damage Assessment. Each stage may overlap and inform the others. See Figure 2-2 for a summary of activities in each stage and approximate timeline.

Figure 2-2: Damage Assessment Processes



2.1.3.1.Rapid Damage Assessment (RDA)

Often referred to as a "Windshield Survey," RDA involves a quick examination of the area impacted by a disaster to ascertain the scope of the event; determine life-threatening situations, and identify hazards that may threaten life, property, or the environment. The IC, supported by other first responders on the scene, will coordinate RDA from the outset of an event until the activation of the EOC or until establishment of other command relationships. RDA will normally be conducted from the outset of the event until 48 hours. RDA assessments should focus on the following information, at a minimum.

- Victim Assessment. Identify the number of people injured, the severity of the injuries, and the required assets to address the injuries.
- Life Safety and Health. Damages that pose or may pose a threat to people in the vicinity, including first responders.
- Environmental Hazards. Substances or events, e.g., oil leaks, that may significantly threaten the environment and impact the health of people.
- Transportation Access. Condition of surface roads, highways, and bridges and how they affect vehicle mobility in the affected area.
- Infrastructure Hazards. Report the condition of power lines, natural gas or propane facilities, and status of water or other infrastructure that may threaten the public and first responders or hinder response operations.
- Structural Damage. The degrees of damage to surrounding structures that may either hinder or assist response operations.

The EOC will accept RDA information from a wide array of sources, including social media and individual citizens. Municipalities may consider training employees to self-report damages from their away-from-work locations in support of the RDA process. The DAU may seek specific damage information based on a prioritized list of EEIs – see the Multnomah County EEI Tool. The EOC manager may direct county departments to deploy a DAT(s) in support of the IC.

As conditions permit, RDA information will be compiled and submitted to the appropriate Emergency Support Function (ESF) using the *Initial Damage Assessment Data Collection Form for Public Infrastructure*[1]. Verbal transmission of damages will more likely be the primary means of communicating information to the EOC.

Within the EOC Planning Section, the DAU will manage the overall effort including the compilation of Initial Damage Assessment (IDA) data collection forms. The SU will develop and incorporate IDA summaries into situation status reports. The Geographic Information System (GIS) Unit will map and continually update RDA information to maintain a visual COP. The countywide COP will be shared with all county jurisdictions, special districts, department operations centers, and adjacent municipalities to the extent conditions permit.

2.1.3.2. Initial Damage Assessment (IDA)

IDA entails a more detailed evaluation and inspection of critical infrastructure that includes assessment of transportation, utilities, medical services, mass shelter facilities, and communication links. IDA includes the evaluation of residential and commercial areas. The DAU leads the IDA process within the county with support from all departments and non-departmental offices. Incorporated areas of the county will conduct their own IDA, supported by the county and other jurisdictions, as outlined in this plan.

[1] See http://www.oregon.gov/OEM/emresources/disasterassist/Pages/Damage-Assessment.aspx.

The DAU may request or complete a Hazus[2] simulation to provide an approximate IDA until a more deliberate IDA can be performed by county staff and stakeholders.

County departments, non-departmental offices, cities, and allied stakeholders will report their assessment to appropriate EOC ESF or directly to the DAU. CERTs, NETs, cooperating organizations, and individual citizens may also contribute to the overall IDA process. See Figure 2-3 on damage assessment information workflow.

Where required and available, local teams will be augmented by inspectors from the private sector and state and federal agencies. Depending upon the extent of the disaster and the ability of DATs to deploy, the IDA will typically begin within 48 to 72 hours of an event. In a catastrophic event, the IDA may take seven (7) days or more to complete.

The DAU will review and consolidate information provided by ESFs and other sources and prepare the IDA County Summary Form[3] and work with the SU and GIS Unit to update situation reports, maps, and other information necessary to maintain situational awareness and a COP within the EOC and with other jurisdictions.

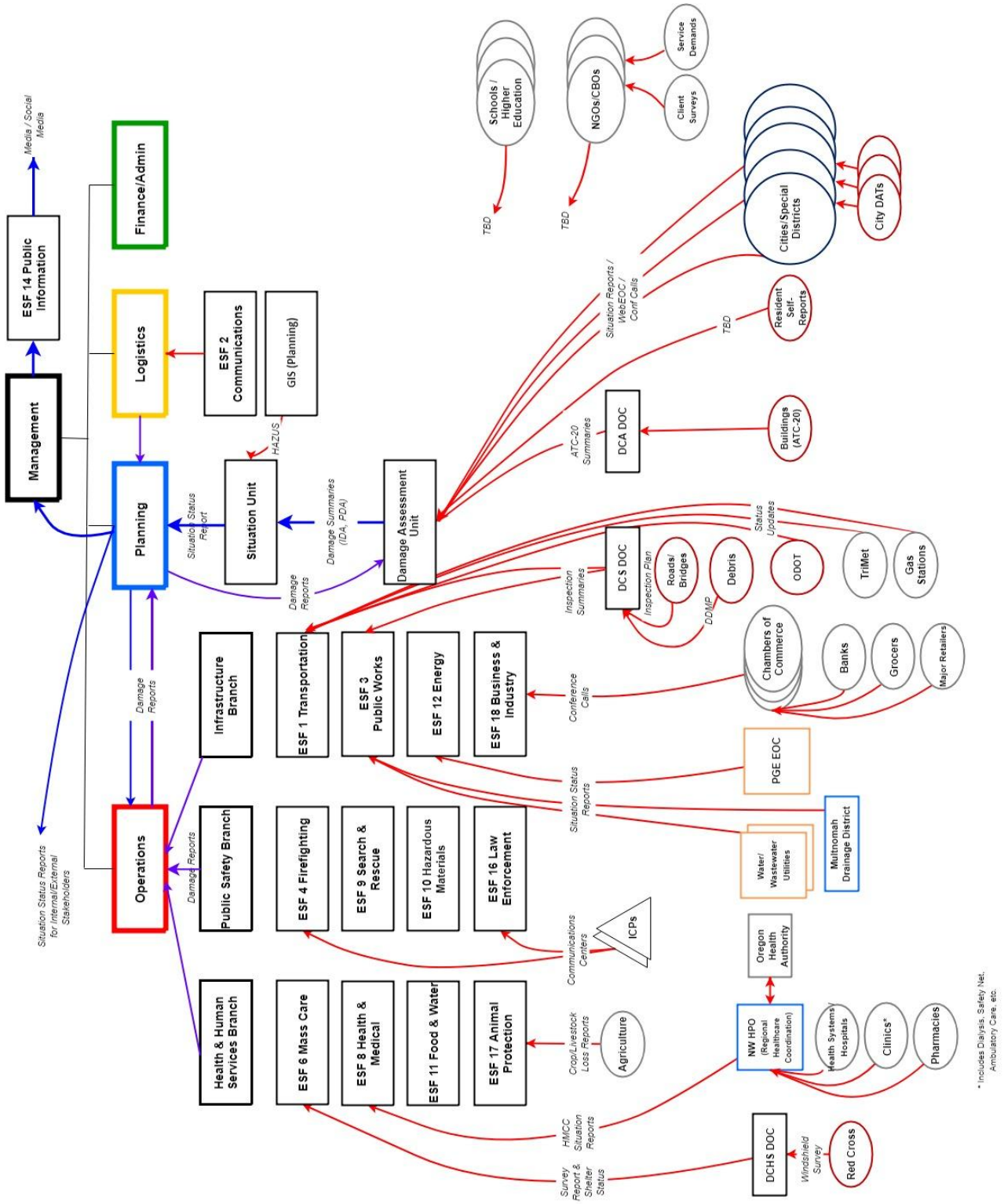
If state and county IDA reports indicate that the state may reach the threshold for a presidential disaster declaration, OEM will request a Joint Preliminary Damage Assessment (PDA) from the Federal Emergency Management Agency (FEMA) – see Section 2.1.3.3.

In addition to developing situational awareness within the EOC and determining eligibility for state and federal assistance, the IDA provides more detailed evaluations by teams qualified to determine the suitability of structures that may be available to support response and recovery operations.

[2] Hazus is a nationally applicable standardized methodology that contains models for estimating potential losses from earthquakes, floods, and hurricanes. Hazus uses GIS technology to estimate physical, economic, and social impacts of disasters. See https://www.fema.gov/hazus.

[3] See http://www.oregon.gov/OEM/emresources/disasterassist/Pages/Damage-Assessment.aspx.

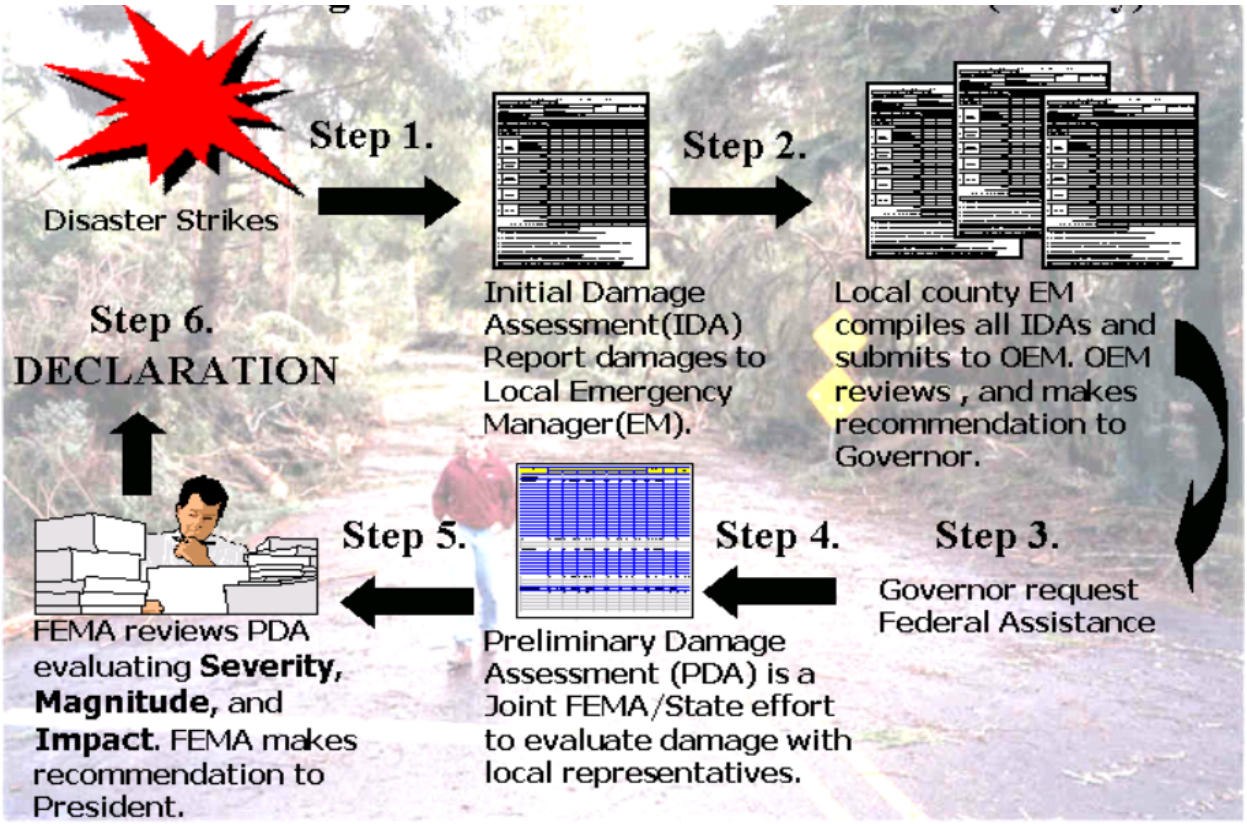
Figure 2-3 Damage Assessment Information Workflow



2.1.3.3. Preliminary Damage Assessment (PDA)

Following a major disaster, the federal government may provide assistance to local governments and impacted individuals. To qualify for this assistance, reported damages and impacts must be validated and found to be significant enough to warrant a presidential disaster declaration. Following the state's verification of reported damage, the state may request a Joint PDA with FEMA representatives.

Supported by the county, incorporated areas, and special districts, FEMA and the state OEM conduct the PDA prior to an official request by the governor for a declaration of emergency or major disaster by the president. The Joint PDA visit is generally undertaken within 3 to 7 days of a major disaster. However, circumstances and conditions may delay the PDA because of limited access to the disaster area or competing demands statewide and regionally. Multnomah County Emergency Management (MCEM) will coordinate with Oregon OEM and FEMA to conduct the Joint PDA within all areas of the county.



(graphic provided by Oregon OEM)

The PDA depicts the magnitude, impact, dollar amount, and actions needed to respond and recover from the event. The PDA is conducted for both public assistance (PA) and individual assistance (IA) programs.

Public Assistance (PA) PDA

The PA PDA will address the repair and restoration of public sector facilities, infrastructure, or services including:

- Roads and bridges,

- Water control facilities,
- Public buildings and related equipment,
- Public utilities,
- Facilities under construction,
- Recreational and park facilities,
- Educational institutions,
- Certain private nonprofit facilities,
- Debris removal, and
- Emergency response costs.

PA PDA documentation information should include the location and extent of damage, as well as estimates of costs for debris removal, emergency work, and repairing or replacing damaged facilities to a non-vulnerable and mitigated condition. The cost of compliance with building codes for new construction, repair, and restoration will also be documented. The cost of improving facilities may be provided under federal mitigation programs. Each jurisdiction must develop a firm understanding of insurance coverage, limitations, and deductibles. Information will be collected and recorded using the Joint PDA Site Estimate Form, along with the PA PDA Form[4]. For additional information on PA eligibility and required information, see the current edition of the FEMA Public Assistance Program and Policy Guide (PAPPG)[5].

Individual Assistance (IA) PDA

For eligibility under the IA programs, the IA PDA must be able to verify that the impact on county residents exceeds their capacity to recover on their own. This requires the rapid assessment of damage to the business, commercial, and industrial sectors, as well as documenting the extent of uninsured residential losses. To successfully document these damages and losses, the county and impacted jurisdictions will gather data and document the following categories of information:

- The general nature of the damages,
- Total estimated private business and individual losses,
- Summary of business damages,
- Locations of business damages,
- Summary of residential damages,
- Locations of residential damages,
- Maps and photos depicting the damages,
- Damages and losses by businesses, and
- Damages and losses by neighborhood.

This information can be collected using several methods including but not limited to:

- Self-reporting through online web portal (residents reporting through County web portal)
- Windshield surveys
- Door-to-door site assessments
- Geospatial analysis and Geographic Information Systems (comparative data)

[4] See http://www.oregon.gov/OEM/emresources/disasterassist/Pages/Damage-Assessment.aspx.
[5] See https://www.fema.gov/media-library/assets/documents/111781.

- Predictive modeling (typically used for catastrophic events where access to areas are limited for extended periods of time)

Information collected will be documented and reported using the IA PDA Summary Form[6]. For more information, see the FEMA Individual Assistance Program and Policy Guide (IAPPG)[7].

PDA Working Group

The DAU (with significant support from other EOC sections, DOCs, and impacted jurisdictions) may establish a PDA Working Group to gather and organize the damage/impact data, prepare briefing materials, identify local representatives that will participate in the Joint PDA visit, and assist the Joint PDA team in conducting the PDA visit. If available, the county's Finance Section should participate in the PA PDA to help ensure the county is gathering the appropriate information – this is especially critical if the county has started any emergency repair work. The finance staff need not participate in site visits.

Joint PDA Visit

Prior to the arrival of the state and federal PDA team, the county's PDA Working Group will prepare a briefing book that paints a comprehensive picture of the damage and other impacts. This book will serve as the basis for documenting the need for all applicable Public Assistance Programs, Individual and Business Assistance Programs, and Post-Disaster Hazard Mitigation Programs. At a minimum, the PDA briefing book will include:

- Chronology and scope of the disaster,
- Damage assessment: public assistance,
- Damage assessment: individual assistance,
- Effects on agriculture (*if applicable)*,
- Effectiveness of prior hazard mitigation programs,
- Community response to the disaster,
- Current initial damage estimates, and
- Local contacts & information repositories.

The PDA Working group will identify a central staging and briefing area where the local PDA team representatives will meet the state and federal PDA partners. The PDA Working Group will also prepare a briefing for the state and federal teams. The briefing slides should make strong use of graphics/photos and at least one slide should address each of the content areas in the briefing book. The PDA team will most likely arrive after completion of most of the debris removal and emergency work; therefore, photos illustrating the true impact of the disaster are essential in painting a clear picture to the state and federal team members. The state and federal teams will brief local jurisdictions on their mission, procedures, and products. At this point, all parties must agree on the definitions of damage by category (Destroyed, Major Damage, Minor Damage, or Affected). It may be helpful to have all teams visit an initial set of sites to calibrate assessments and develop a common understanding of damage definitions.

The state and federal teams will probably divide into two to three main groups: one group for PA, one group for IA, and one group for hazard mitigation. Before the teams arrive, the PDA Working Group will make contact and find out how the teams are structured and how many individuals will work in each area of the investigation.

[6] See http://www.oregon.gov/OEM/emresources/disasterassist/Pages/Damage-Assessment.aspx.
[7] See https://www.fema.gov/individual-assistance-program-and-policy-guide.

After the briefing, the PDA Working Group will provide vans with drivers, local guides, interpreters for the IA groups, an engineer or other subject matter expert for the PA and hazard mitigation group(s). The PDA Working Group will provide a list of sites with the most significant damage and a recommended travel route. At significant building or infrastructure damage sites, a local representative familiar with the site should be made available to brief the PDA team, provide related documents, and answer questions.

The PDA site visits may take 1 to 2 days to complete. If multiple days are required, the PDA Working Group may assist the state and federal teams in finding accommodations and any other needed support.

At the PDA staging area, workspace should be provided for the state and federal PDA teams to work after their field site visits. This area should have a printer, copier, plenty of workspace, good lighting, and communication services. Upon completion of the site visits and development of their PDA report, the state and federal PDA teams will conduct a briefing on their findings.

For additional information, see the April 2016 FEMA Damage Assessment Operations Manual or the brief overview video.[8]

The DAU, SU, and GIS Unit will continue to support and coordinate damage assessment from within the EOC. Situation status reports, damage assessment data, and COP maps will continue to be updated throughout the PDA process. ATC-20 qualified teams will likewise continue to evaluate and mark buildings appropriate levels of use.

2.1.3.4. Building Safety Evaluations

To the greatest extent possible, jurisdictions and special districts will conduct Rapid Safety Assessments concurrent with the IDA using ATC[9] procedures for earthquake (ATC-20) or flood (ATC-45). ATC provides a method for qualified and trained personnel to make on-the-spot evaluations of building safety and, under authority of the local building official, classify the occupancy status of the evaluated building. This usually takes the form of colored placards posted at each entrance (tagging).

Structures will fall into one of three categories and will be tagged for the approved level of use.

1. Inspected. No restrictions on use or occupancy (Green)
2. Restricted Use. Entry, occupancy, and use restrictions (Yellow)
3. Unsafe. Do not enter of occupy (Red)

Jurisdictions should coordinate training to meet the local building safety evaluation needs in the aftermath of a major emergency or disaster. Multnomah County will coordinate with state OEM and local private sector engineering and architectural professional associations to identify and solicit ATC-trained volunteer safety evaluators to augment local staff. Safety evaluators will use ATC Safety Evaluation procedures and forms – see the ATC-20 and ATC-45 Field Manuals[10].

Building safety evaluations are prioritized into three categories:

- Priority 1. Personnel, infrastructure, and services critical to response. Evaluations will begin immediately following an incident via self-reporting of responder agencies.
    - County and city emergency operations/coordination centers
    - Police and sheriff station personnel and equipment

[8] See https://www.fema.gov/media-library/assets/documents/109040 or https://www.fema.gov/media-library/assets/videos/76436.
[9] See https://www.atcouncil.org/.
[10] See https://www.atcouncil.org/atc-20 and https://www.atcouncil.org/atc-45.

    - Fire station personnel and equipment
    - Bureau and department personnel and operations centers
    - Hospitals and their ability to receive patients
    - Public works facilities and assets, including government fuel supplies
    - Emergency transportation routes
    - High-risk HAZMAT locations
- Priority 2. Related to life safety, at-risk populations, high occupancy structures, and essential services, e.g., utilities. Evaluations may occur concurrent with Priority 1 based upon proximity but within the first three (3) hours following an event.
    - Institutional occupancy facilities, e.g., retirement centers, senior apartment complexes, assisted living facilities, and skilled nursing homes
    - Medical facilities other than hospitals, e.g., clinics, urgent care facilities, and mental health providers
    - High occupancy facilities, e.g., high-rise apartments, other apartments and condominium complexes, and mass shelter facilities
    - Electric providers; natural gas and propane services; sewer systems and wastewater treatment plants; water providers; and telecommunications services, i.e., landlines, mobile phones, and internet providers
    - Nonprofit service providers, including American Red Cross, Oregon Food Bank, Central City Concern, and Salvation Army
- Priority 3. Personnel, facilities, and assets essential for the continued delivery of key services, particularly those that support recovery operations.
    - Transportation providers
    - Community centers
    - Community points of distribution (CPODs)
    - Food banks
    - Gasoline stations
    - Grocery stores
    - Hardware stores
    - Pharmacies
    - Secondary transportation routes

Additional priority facilities or infrastructure may be identified during the RDA and IDA processes. For example, an IC may identify a fire equipment service facility that appears damaged and is critical for emergency response efforts. The DAU will work with the Safety Evaluator Teams to escalate the priority for evaluation of these facilities.

2.1.3.5. Essential Elements of Information (EEIs)

EEIs provide a focus for information gathering to support Situational Awareness (SA) and the development of a COP within the EOC. The SU within the Planning Branch interprets collected information and uses it to project future status of the response assets and the operational environment.

"Shared situational awareness . . . enables incident leadership and any supporting agencies to make effective, consistent, coordinated, and timely decisions."[11] The Multnomah County EEI Tool lists the essential elements of information, the specific information required, the source of that information, the agency responsible for providing that information, and the priority for collection. Many EEIs drive damage assessment efforts. The EEI Tool is designed so that only the prioritized EEIs specific to the disaster at hand are considered.

2.1.3.6. EEI Collection Priorities

EEIs fall broadly into three priorities: information critical for response; information related to life safety; and information that supports recovery operations.

2.1.4. Recovery

Recovery operations typically begin soon after response; however, in a catastrophic event, response and recovery operations will likely overlap (see Figure 2-1). Recovery operations involve actions to return to normal or even safer conditions following a disaster. Recovery includes applying for financial assistance to help restore infrastructure and services. For damage assessment, actions including refining damage reports as additional damage is reported and discovered, developing insurance coverage estimates, and participating in After Action Reviews.

2.2. Operations Health and Safety

All government personnel engaged in damage assessment must remain aware of hazards caused by the incident that triggered the emergency, as well as secondary hazards. First responders, DAT members, and any government employee engaged in damage assessment must consider personal and team safety as the first priority. Teams will follow safety guidelines while conducting damage assessments.

- Request information regarding safety considerations in the areas where teams will deploy prior to departing the team assembly area.
- Know the likely hazards and how to respond. ESF and/or DOC staff can advise teams prior to deployment.
- Confirm EOC contact information before departure in the event the team requires emergency assistance.
- Ensure team safety before entering a hazardous area. When in doubt, stay out.
- If a situation appears dangerous, leave the area. During DAT or PDA site visits, do not challenge property owners or other individuals occupying structures.
- Disaster debris poses a significant danger to foot and vehicular traffic. Weakened roads and bridges may collapse under the weight of a vehicle.
- Inspect buildings for structural damage before entering to ensure no danger of collapse exists.
- Due to the risk of gas leaks, never use an open flame as a light source.
- Wear appropriate clothing and carry necessary equipment for performing damage assessment tasks.
- Bring sufficient water and food to sustain the team for the entire day; depending upon the season, be prepared for severe weather, cold, ice, rain, and extreme heat.

[11] FEMA National Incident Support Manual, February 2011.

Jurisdictions and special districts should include safety considerations in their respective damage assessment plans.

2.3. Equity and Vulnerable Populations

2.3.1. Overview

Catastrophic events disproportionately affect vulnerable populations. People with disabilities and functional and access needs, seniors, children, and individuals with limited English language proficiency face significantly greater risk from natural hazards than others in their communities. Poverty likewise serves as an indicator of disproportionate risk from hazards.

Multnomah County commits to serving everyone, everywhere, particularly those who may require additional support to access or utilize emergency services in the aftermath of a catastrophe. County emergency management and its partners consider vulnerable populations as an integral part of the planning process.

Following a disaster, vulnerable populations, including underserved and underrepresented communities, typically lack equitable access to resources, such as medical care, shelter services, food and water, and transportation necessary to acquire essential services. Organizations responsible for conducting damage assessments must make a special commitment to pre-identify locations of vulnerable individuals within their functional service areas and prioritize these locations during the conduct of damage assessments. Often, these communities reside in isolated or hard to reach locations, ranging from rural areas or more densely populated urban areas with older, seismically weak structures.

Additional time and resources may be required to conduct a thorough IA Joint PDA team site visit. This may include the need to conduct extended interviews with individuals, perform enhanced outreach to individuals and communities that may not seek contact with government officials, and provide for translation and other services to support communication with individuals with access and functional needs.

2.3.2. Damage Assessment Priorities for Vulnerable Populations

Disasters create new physical barriers and eliminate or reduce available services. For people with access and functional needs, a disaster may take away their ability to perform certain functions that were previously possible, to live independently, and to navigate the available response and recovery systems effectively.

Damage assessments help create situational awareness within the EOC to develop response priorities. Individuals with disabilities and functional and access needs must be quickly identified and prioritized. These individuals and other vulnerable populations may require emergency services earlier than other segments of the population. The DAU will ensure those EEIs relevant to vulnerable populations are addressed.

3. Roles and Responsibilities

All government organizations within Multnomah County and incorporated jurisdictions will forward damage assessment information to the county EOC as rapidly and accurately as possible. The county EOC director is ultimately responsible for ensuring damage assessment information is forwarded to the Oregon OEM.

The DAU within the Planning Branch of the EOC assumes primary responsibility for damage assessment during the response and recovery phase. The SU within the Planning Branch ensures continuous situational awareness. The Planning Branch will develop and disseminate a continuously updated COP within the EOC and other emergency operating and coordination centers. See Table 2-1 for the role and responsibilities for each organization/agency.

Table 2-1: Roles and Responsibilities

ALL ORGANIZATIONS

Phase	Roles and Responsibilities
Preparedness	● Develop and maintain supporting plans to this Annex, as needed. ● Identify jurisdictional, bureau, departmental, and other organizational damage assessment teams in support of damage assessment operations. ● Train organizational damage assessment teams. ● Participate in recurring planning, training, and exercises. ● Maintain maps, blueprints, photos, and other documents of facilities and infrastructure that fall within your purview. ● Compile and maintain lists of critical response assets, including personnel, trucks, rescue equipment, communications gear, and other tangible property that may be used in emergency response.
Response	● Activate DATs in accordance with this Annex and organizational plans. ● Dispatch staff to EOC to fill damage assessment-related roles in accordance with this Annex or other supporting plans. ● Receive reports of damage from employees, private citizens, and other sources within your jurisdiction or other organizational purview. ● Provide the EOC with a consolidated report of damages to Priority 1 facilities within three (3) hours of a catastrophic event. ● Assess damage to all buildings, facilities, and other assets managed by your organization. ● Monitor WebEOC and other disaster management systems. ● Update WebEOC organizational logs throughout the response.
Recovery	● Execute jurisdictional continuity of government (COG) plans. ● Bureaus, departments, and other organizations implement Continuity of Operations Plans (COOPs). ● Monitor WebEOC and other disaster management systems. ● Update WebEOC, department status boards or other organizational logs throughout the response. ● Provide the EOC with consolidate reports of Priority 2 and 3 facilities at the end of each operational period.
Mitigation	● Identify potential mitigation actions for inclusion in hazard mitigation plan revisions. ● Implement previously identified mitigation actions from jurisdictional and organizational natural hazard mitigation plans.

INCORPORATED AREAS AND SPECIAL DISTRICTS

Phase	Roles and Responsibilities
Preparedness	● Develop and maintain supporting plans and procedures in support of the overall county damage assessment Annex. ● Develop and maintain internal operational procedures for conducting damage assessments.
Response	● Provide a liaison to the county EOC. ● Coordinate debris clearance operations within jurisdiction to enable damage assessment activities. ● Conduct damage assessments of city or special district infrastructure. ● Conduct damage assessment of city or special district emergency response assets. ● Report information from damage assessments that supports county EEI collection. ● Submit requests for damage assessment support that exceeds local capability through the county EOC. ● Provide mutual aid to other county jurisdictions when requested and as able.
Recovery	● Implement jurisdiction COG/COOP plans. ● Coordinate ongoing debris removal in support of damage assessment. ● Manage the repair and restoration of jurisdiction or special district infrastructure. ● Identify actions to support future disaster mitigation.
Mitigation	● Identify potential mitigation actions for inclusion in hazard mitigation plan revisions. ● Implement previously identified mitigation actions from jurisdictional and organizational natural hazard mitigation plans.

DEPARTMENT OF COUNTY MANAGEMENT, DIVISION OF ASSESSMENT, RECORDING AND TAXATION

Phase	Roles and Responsibilities
Preparedness	● Serve as the lead on the damage assessment for the County ● Assist with the maintenance of the Damage Assessment Annex to the Multnomah County EOP ● In conjunction with MCEM, organize training and exercises to test and refine this Annex ● Conduct internal training on damage assessment policies and procedures ● Maintain vital records per COOP plan
Response	● Implement DCM COOP. ● Upon activation of the EOC, assign a staff member as the Damage Assessment Unit (DAU) Lead within the Planning Section of the EOC ● Designate Damage Assessment Coordinators from within the DCM ● Manage RDA collection via ESFs within the EOC. ● Catalog inspected infrastructure to ensure appropriate posting as safe or unsafe for use.

Recovery	• Assist with IDA collection within the EOC. • Coordinate PDA process and lead the PDA Working Group during Joint PDA • Assess and calculate the extent of damage to structures and infrastructure to obtain federal financial reimbursement • Provide data and technical assistance to PDA teams • Participate in or lead the After Action Review process
Mitigation	• As required, direct inspections to develop list of post-disaster mitigation activities. • Support efforts to implement measures identified in the Natural Hazard Mitigation Plan (NHMP).

DEPARTMENT OF COUNTY MANAGEMENT (DCM), FINANCE, AND RISK MANAGEMENT

Phase	Roles and Responsibilities
Preparedness	• Support the Division of Assessment and Taxation in its role as Damage Assessment Unit Lead • Conduct internal training on damage assessment policies and procedures. • Maintain county insurance policies and ensure they comply with relevant standards for catastrophic events. • Maintain vital records per COOP plan
Response	• Implement DCM COOP. • Support primary agency and other county departments by providing advice on county insurance coverage in the aftermath of a catastrophic event.
Recovery	• Work with county departments to determine insurance coverage following a catastrophic event. • Assist county departments in submitting for state or federal reimbursement following a catastrophic event. • Support assessment and calculation of the extent of damage to structures and infrastructure to obtain federal financial reimbursement. • Support PDA by providing data and technical assistance to PDA teams. • Participate in the After Action Review process.
Mitigation	• Based on review of damages, recommend potential mitigation actions for inclusion in hazard mitigation plan revisions.

DEPARTMENT OF COMMUNITY SERVICES (DCS)

Phase	Roles and Responsibilities
Preparedness	• Develop and maintain supporting plans and procedures in support of the overall county damage assessment Annex. • Develop and maintain internal operational procedures for conducting damage assessments. • Maintain vital records per COOP plan
Response	• Serve as the primary agency for collection of EEIs related to transportation systems. • Implement DCS COOP. • Lead ESF 1, Transportation upon activation of the EOC. • Conduct RDA of roads, bridges, and other transportation systems in accordance with this Annex and the county Road and Bridge Incident Response Inspection Plan.

	• Collect, analyze, and provide to the SU and DAU information on event impact and the status of transportation systems, available transportation assets, and infrastructure. • Lead ESF 3, Public Works upon activation of the EOC..
Recovery	• Monitor and provide information on the status, repair, and restoration of transportation. • Support PDA by providing relevant data and technical assistance to inspection teams. • Participate or lead the After Action Review process.
Mitigation	• Conduct pre-disaster mitigation activities as required by the Multi-Jurisdictional NHMP. • Support efforts to implement measures identified in the NHMP.

DEPARTMENT OF COUNTY ASSETS (DCA)

Phase	Roles and Responsibilities
Preparedness	• Develop and maintain supporting plans and procedures in support of the overall county damage assessment Annex. • Develop and maintain internal operational procedures for conducting damage assessments. • Maintain vital records per COOP plan
Response	• Implement DCA COOP. • Assess damage to all county buildings, facilities, and other assets managed by the department. • Lead ESF 2, Communications upon activation of the EOC. • Collect, analyze, and provide to the SU and DAU information related to the status of communication systems, communications infrastructure, and estimated restoration times. • Lead ESF 12, Energy upon activation of the EOC. • Collect, analyze, and provide to the SU and DAU information related to the status of energy supply, infrastructure, and estimated service restoration times.
Recovery	• Monitor and report on the status, repair, and restoration of communications and energy systems. • Monitor and report the status of repair and restoration of county buildings, facilities, and assets managed by the department. • Support PDA by providing relevant data and technical assistance to inspection teams. • Participate or lead the After Action Review process.
Mitigation	• Identify potential mitigation actions for inclusion in hazard mitigation plan revisions. • Implement previously identified mitigation actions from jurisdictional and organizational NHMPs.

MULTNOMAH COUNTY HEALTH DEPARTMENT (MCHD)

Phase	Roles and Responsibilities
Preparedness	• Develop and maintain supporting plans and procedures in support of the overall county damage assessment Annex. • Develop and maintain internal operational procedures for conducting damage assessments. • Maintain vital records per COOP plan
Response	• Implement MCHD COOP. • Lead ESF 8, Health and Medical upon activation of the EOC.

	• Collect, analyze, and provide to the SU and DAU information related to the status of medical services and infrastructure estimated restoration times for disrupted services. • Collect and report to the SU and DAU the deaths, injuries, and the medical needs of the community. • Assist with damage assessments related to health hazards caused by disruption of sewage systems, the presence of disease carrying insects and rodents, and other public health concerns. • Assist with damage assessment of grocery outlets and food producing businesses.
Recovery	• Continue to assist with damage assessments conducted in response phase. • Support PDA by providing relevant data and technical assistance to inspection teams. • Participate or lead the After Action Review process.
Mitigation	• Identify potential mitigation actions for inclusion in hazard mitigation plan revisions. • Implement previously identified mitigation actions from jurisdictional and organizational NHMPs.

DEPARTMENT OF COUNTY HUMAN SERVICES (DCHS)

Phase	Roles and Responsibilities
Preparedness	• Develop and maintain supporting plans and procedures in support of the overall county damage assessment Annex. • Develop and maintain internal operational procedures for conducting damage assessments. • Maintain vital records per COOP plan
Response	• Implement DCHS COOP. • Lead ESF 6, Mass Care upon activation of the EOC. • Collect, analyze, and provide to the SU and DAU information related to the status of infrastructure and services associated with developmental disabilities, mental health concerns, and aging and disability services. • Support the DH in collecting and reporting deaths, injuries, and the medical needs of the community with a focus on individuals with disabilities and functional and access needs. • Assist with the RDA of facilities identified as potential mass shelter locations.
Recovery	• Continue to assist with damage assessments conducted in response phase. • Support PDA by providing relevant data and technical assistance to inspection teams. • Participate or lead the After Action Review process.
Mitigation	• Identify potential mitigation actions for inclusion in hazard mitigation plan revisions. • Implement previously identified mitigation actions from jurisdictional and organizational NHMPs.

MULTNOMAH COUNTY SHERIFF'S OFFICE (MCSO)

Phase	Roles and Responsibilities
Preparedness	• Develop and maintain supporting plans and procedures in support of the overall county damage assessment Annex. • Develop and maintain internal operational procedures for conducting damage assessments. • Maintain vital records per COOP plan
Response	• Implement MCSO COOP.

	• Lead ESF 16, Law Enforcement upon activation of the EOC. • Conduct assessments to determine the extent of damage to MCSO facilities and response assets. • Provide information on the status of law enforcement facilities and capabilities across the county. • While conducting life saving and property protection tasks, assist in gathering damage assessment information. • Request support from Oregon OEM for damage assessments as needed.
Recovery	• Coordinate with Oregon OEM for PDA support. • Participate or lead the After Action Review process.
Mitigation	• Identify potential mitigation actions for inclusion in hazard mitigation plan revisions. • Implement previously identified mitigation actions from jurisdictional and organizational NHMPs.

MULTNOMAH COUNTY FIRE DISTRICTS

Phase	Roles and Responsibilities
Preparedness	• Develop and maintain supporting plans and procedures in support of the overall county damage assessment Annex. • Develop and maintain internal operational procedures for conducting damage assessments. • Maintain vital records per COOP plan
Response	• Lead ESF 4, Firefighting upon activation of the EOC. • Leader ESF 10, Hazardous Materials upon activation of the EOC. • During RDA, collect, analyze, and provide information to the DAU and SU on event impact and the status of firefighting units and associated infrastructure.
Recovery	• Monitor the status of firefighting capabilities and associated infrastructure. • Provide information on firefighting capabilities and infrastructure to the DAU and SU. • Monitor and provide information regarding threats posed by hazardous material. • Provide advice on requirements for state or federal assistance in the conduct of firefighting or responses to threats posed by hazardous material. • Participate or lead the After Action Review process.
Mitigation	• Identify potential mitigation actions for inclusion in hazard mitigation plan revisions. • Implement previously identified mitigation actions from jurisdictional and organizational NHMPs.

MULTNOMAH COUNTY EMERGENCY MANAGEMENT (MCEM)

Phase	Roles and Responsibilities
Preparedness	• Support damage assessment planning activities for county departments and offices, nonprofit organizations, and other organizations except for incorporated areas and special districts. • Maintain Standard Operating Procedures for the conduct of damage assessment operations within the EOC. • Ensure regular testing of procedures for relaying information on damages to the EOC. • Maintain vital records per COOP plan

Response	• Implement MCEM COOP. • Activate the EOC if necessary and ensure the assignment of SU and DAU leaders to the Planning Branch. • Dispatch staff to EOC to fill damage assessment related roles in accordance with this Annex or other supporting plans. • Provide assistance in collecting and analyzing EEIs and in the distribution of damage assessment information. • Request support from Oregon OEM for damage assessments as needed.
Recovery	• Coordinate with Oregon OEM for PDA support. • Participate or lead the After Action Review process.
Mitigation	• Direct the preparation of the county Multi-Jurisdictional NHMP and prepare updates as required by FEMA regulations. • Identify potential mitigation actions for inclusion in hazard mitigation plan revisions. • Implement previously identified mitigation actions from jurisdictional and organizational NHMPs.

NEIGHBORHOOD/COMMUNITY EMERGENCY RESPONSE TEAMS

Phase	Roles and Responsibilities
Preparedness	• Develop and maintain supporting plans and procedures in support of the overall county damage assessment Annex. • Develop and maintain internal operational procedures for conducting damage assessments.
Response	• Support the IDA process by collecting damage information and reporting to appropriate EOC for evaluation and inclusion in damage assessment reports.
Recovery	• Participate in the After Action Review process.
Mitigation	• Conduct pre-disaster mitigation activities as recommended by the Multi-Jurisdictional NHMP. • Educate neighborhood groups and prepare communities through mitigation actions.

NONPROFIT ORGANIZATIONS

Phase	Roles and Responsibilities
Preparedness	• Develop and maintain supporting plans and procedures in support of the overall county damage assessment Annex. • Develop and maintain internal operational procedures for conducting damage assessments.
Response	• Assign a liaison to the EOC in accordance with existing agreements. • Assess organization property and report the results to the ESF 15, Volunteers and Donations coordinator in the EOC. • Assess organizational capabilities and report results to the appropriate ESF coordinator within the EOC; e.g., Oregon Food Bank reports to ESF 11, Food and Water. • Gather and report information related to needs of individuals served by your organization; e.g., Easter Seals reports to ESF 6, Mass Care for individuals with developmental disabilities.
Recovery	• Coordinate with MCEM for PDA support. • Participate in the After Action Review process.

Mitigation	● Identify potential mitigation actions for inclusion in hazard mitigation plan revisions. ● Implement previously identified mitigation actions from jurisdictional and organizational NHMPs.

NORTHWEST HEALTH PREPAREDNESS ORGANIZATION

Phase	Roles and Responsibilities
Preparedness	● Develop and maintain supporting plans and procedures in support of the overall county damage assessment Annex. ● Develop and maintain internal operational procedures for conducting damage assessments.
Response	● Assign liaison to EOC. ● Collect, analyze, and report information via ESF 8, Public Health and Medical Services regarding damage to hospital infrastructure and facilities across the county. ● Provide information regarding hospital capacity and capabilities across the county. ● Provide information regarding estimated restoration times for disrupted emergency medical services. ● Collect, analyze, and report via ESF 8 information regarding pharmaceutical stockpiles available for distribution to medical facilities across the county.
Recovery	● Monitor and report the progress of repair and restoration of hospitals facilities across the county. ● Support the PDA process by providing relevant data and technical assistance to assessment teams. ● Participate in After Action Review process.
Mitigation	● Identify potential mitigation actions for inclusion in hazard mitigation plan revisions. ● Implement previously identified mitigation actions from jurisdictional and organizational NHMPs.

ELECTRIC AND NATURAL GAS UTILITIES

Phase	Roles and Responsibilities
Preparedness	● Develop and maintain supporting plans and procedures in support of the overall county damage assessment Annex. ● Develop and maintain internal operational procedures for conducting damage assessments.
Response	● Assign liaison to EOC. ● Collect, analyze, and report information via ESF 12, Energy regarding damage to utilities infrastructure and facilities across the county. ● Provide information regarding estimated restoration times for disrupted utility services.
Recovery	● Monitor and report the progress of repair and restoration of utility services and report information to EOC. ● Support the PDA process by providing relevant data and technical assistance to assessment teams. ● Participate in After Action Review process.
Mitigation	● Identify potential mitigation actions for inclusion in hazard mitigation plan revisions. ● Implement previously identified mitigation actions from jurisdictional and organizational NHMPs.

METRO

Phase	Roles and Responsibilities
Preparedness	● Develop and maintain supporting plans and procedures in support of the overall county damage assessment Annex. ● Develop and maintain internal operational procedures for conducting damage assessments.
Response	● Assign liaison to EOC. ● Determine accessibility of Debris Management Sites
Recovery	● Monitor and report the progress of debris management operations ● Support the PDA process by providing relevant data and technical assistance to assessment teams. ● Participate in After Action Review process.
Mitigation	● Identify potential mitigation actions for inclusion in hazard mitigation plan revisions. ● Implement previously identified mitigation actions from jurisdictional and organizational NHMPs.

Appendix 1 - EOC Intelligence Function

EOC Intelligence Function

Appendix 1 to Damage Assessment Plan

Multnomah County

Emergency Operations Center

May 2018

MULTNOMAH COUNTY

Table of Contents

Administrative

Situation

The success of the County's EOC is dependent upon its ability to rapidly, gather, analyze, and communicate information. Refining raw data into actionable intelligence allows for the best possible decisions and allocation of resources.

In the EOC, intelligence is driven by the efforts to develop situational awareness (SA) and a common operating picture (COP). Multnomah County Emergency Management (MCEM) has developed this Intelligence Function Plan to improve the understanding of SA and COP principles, procedures, and applicable tools for EOC operations.

Situational awareness is the basic building block for any response effort. Local, state, and federal emergency management officials are jointly responsible to make information available to the response community and the general population. Situational awareness includes understanding what has happened, how it has impacted the area, what actions have been taken, and what actions need to occur to reduce the impact of the event and restore normal activities.

County agencies, cities, special districts and allied stakeholder organizations are responsible for obtaining and consolidating situational awareness information and data from all sources including local, state, and federal response partners. Maintaining vertical and horizontal flows of information from federal, state, local, private-sector, and/or media sources to senior leadership and decision makers requires a disciplined approach to facilitate effective development of a common operating picture.

Purpose

The Intelligence Function Plan and the associated EOC Essential Elements of Information (EEI) Tool have been developed to assist EOC staff in acquiring a foundational understanding of SA and the information management process to generate a COP.

Maintained as a separate Excel spreadsheet, the EOC EEI Tool is an operational tool for EOC responders that identifies EEI by Incident Command System (ICS) section, responsible position (lead) in the EOC, source of information, methodology, product (output), and applicable hazards.

Considerations

Users of the Intelligence Function plan should consider the following:

- The plan serves as an instrument for EOC staff to gain a better understanding of SA and COP and to ensure that EOC Management expectations are realistic.
- The plan may be executed at the section chief, branch director, or unit leader level.

Assumptions

This plan was developed with the following assumptions:

- Responders will utilize the Incident Command System (ICS) and the National Incident Management System (NIMS) during response and recovery operations.
- EOC responders will be trained to use existing EOC technologies and/or systems (e.g., WebEOC, OpsCenter, etc.)
- SA & COP information should be communicated based on existing capabilities within the EOC.
- EOC staff will have subject matter expertise to support discipline-specific decisions.
- ICS expands and contracts based on scope and complexity of the incident.

SA & COP Limitations

The ability to develop SA & COP may be limited by the following considerations:

- Initial situational awareness in the impacted areas will be difficult to obtain, as infrastructure and communications will be damaged by the event (e.g., earthquake).
- At the onset of an event, when critical decisions must be made, initial information that is reported may be incorrect or incomplete.
- Depending upon the scope and severity of the event, a detailed and credible common operating picture (COP) may not be achievable until 24-72 hours after the incident. Consequently, response operations must begin without the benefit of a detailed assessment of the situation and critical needs.
- EOC staff members often define information requirements based on their experience and knowledge. If their training and experience does not include a wide variety of possibilities, information requirements may be inadvertently missed.

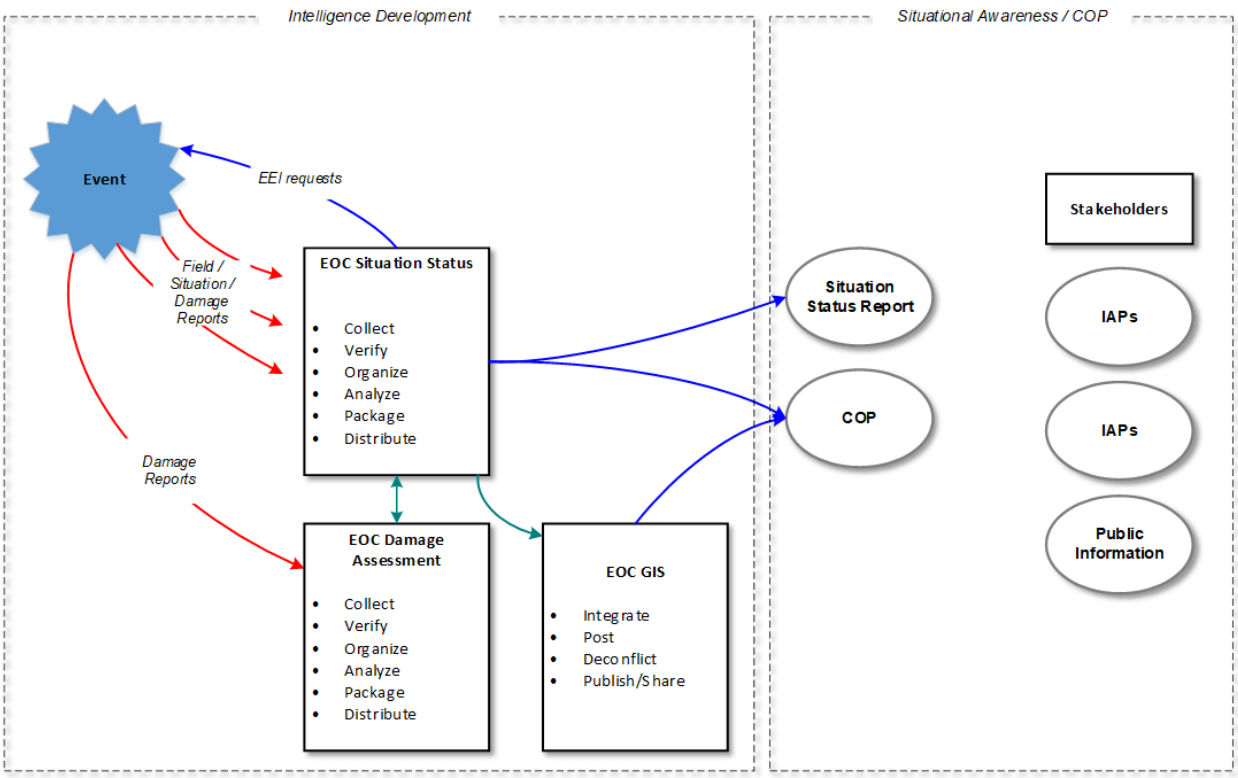
Maintenance of the Intelligence Function Plan

The Intelligence Function plan will be reviewed and approved, implemented, trained on, and periodically exercised to enable responders to effectively conduct the procedures and processes of developing accurate SA and COP.

Concept of Operations

Intelligence Process

In the Intelligence Process, information is developed, organized and presented using Situational Awareness and the Common Operating Picture. The process is summarized in the diagram below.



EOC Functions

Along with EEIs, the following EOC activities provide data and information to develop SA and COP in the EOC:

- Providing/receiving situation status reports
- Receiving departmental operations status
- Receiving resource requests
- Receiving/developing resource allocation priorities

Situational Awareness (SA)

The National Response Framework (NRF) defines situational awareness as ". . . the ability to identify, process, and comprehend the critical information about an incident. More simply, it is knowing what is going on around you. Situational awareness requires continuous monitoring of relevant sources of information regarding actual incidents and developing hazards." [12]

SA is achieved through the following elements of perception, comprehension, and projection:

- Perception is used in gathering or collecting information (i.e., who has the best perspective and understanding of the situation?). The key to perception is to know *what* information is needed.
- Comprehension is understanding and interpreting the information.
- Projection is anticipating the future status of the incident through the SA.

The scope and type of monitoring vary based on the type of incidents being evaluated and necessary reporting thresholds. Critical information is passed through established reporting channels according to established security protocols. Priorities include:

- Providing the right information at the right time
- Continually refining the ability to accurately assess the situation as the incident unfolds
- Rapidly providing accurate, user-friendly, and accessible information to decision makers

SA is a result of comprehensive information collection, analysis, and dissemination in a context relevant to the decision makers and necessary levels of the organization. Personnel should leverage all sources to gain, maintain, and relay essential information that contributes to the SA of leadership at all levels, and decision-makers using appropriate methods and products.[13]

Essential Elements of Information (EEIs)

Response personnel have a critical need for accurate information in and as near to real-time as possible so they can make actionable decisions. Effective decision-making is contingent upon response agencies collectively defining and codifying their operational information requirements for various missions. The collection of pre-defined operational information requirements are known as essential elements of information (EEIs). EEIs are important in prioritizing and standardizing the types and format of information needed to make timely and informed decisions. EEIs also provide context, contribute to analysis and ensure that critical response functions are not overlooked.
The Multnomah County EOC EEI Tool was developed as a guide for response staff to collect information using a targeted list of information requirements based on the actual incident or

[12] National Response Framework https://www.fema.gov/pdf/emergency/nrf/nrf-core.pdf

[13] FEMA National Incident Support Manual
https://www.fema.gov/media-library-data/20130726-1821-25045-8641/fema_national_incident_support_manual_03_23_2011.pdf

disaster being addressed. Refer to Appendix 2 - EEI Tool for additional details and a link to the tool. By selecting the type of disaster (ex. earthquake), only those EEIs relevant to the current event are displayed (ex. location of the epicenter).
EOC Section Chiefs and/or Branch Directors are responsible for identifying which EEIs are needed for each operational period to match current conditions and operational needs. Some EEIs may or may not be needed for a specific incident type or operational period.

Information Collection

Information collection is based on established EEIs. Information will pour into the EOC from a wide range of sources using a variety of methods. Data and information should be compared against other sources to validate accuracy and to produce consistency in information.
Information must be vetted and confirmed.

While information from all sources will be considered, the following sources will have priority in development of the SA:

- Reports from County and municipal representatives at the field level.
- Reports from County departments and agencies.
- Reports from cities and special districts.
- Information obtained by stakeholder organizations, state agencies, and mutual aid coordinators.
- Predictive modeling based on sources that may include:
    - Loss estimation models based on actual earthquake data prepared by USGS, OEM, FEMA, and others using Hazards U.S. Multi-Hazards (HAZUS-MH) [14]
    - Predictive modeling of wildfire or flooding.
- State EOC and state department operations centers including Oregon State Police (OSP), Oregon Department of Transportation (ODOT), Oregon Health Authority (OHA), and the Oregon TITAN Fusion Center.
- Emergency operations centers (EOC) of federal agencies
- State and federal assessment teams such as state/federal Rapid Needs Assessment or Preliminary Damage Assessment teams
- Media reports.

Generally, the most accurate information is obtained from those on the ground, closest to the incident site. Incident commanders (IC) and the planning sections within their incident management teams are the most reliable sources of information. As ICs are often completely engaged in managing tactical operations, the County EOC may need to send liaisons to ICPs to obtain current information.

[14] OEM, FEMA, USGS, and other entities may initiate HAZUS-MH modeling at the same time. The Shake Maps produced immediately following an earthquake may be imported into HAZUS-MH; and within 1 to 2 hours, HAZUS-MH may generate initial loss estimates and projections of demand for medical treatment, care and shelter, mass fatality operations, and logistical support. Multnomah County may request that OEM produce the HAZUS-MH modeling.

Implementing Situational Awareness (SA)

The collection and organization of incident SA information and the evaluation, analysis, and display of that information is critical for use by all sections in the EOC. The Situation Unit in the Planning/Intelligence Section is the lead for collecting, validating, and consolidating SA information, but each section in the EOC is responsible for contributing to this task.

The table below summarizes the situation awareness roles of each section of the EOC:

Management Staff	Provides overall guidance, coordination and direction for intelligence collection; and provides status reports to County and other key stakeholders on the status of the overall emergency operations.
Operations Section	Provides information on the status of field operations and department operations centers (DOC), updates on the nature and scope of the disaster, and requests for resources from the field.
Planning/Intelligence Section	Collects, verifies, and combines input from other sections and agencies into SA; develops Geographic Information System (GIS) products, and disseminates Situation Reports via networked digital systems or hard copy as required.
Logistics Section	Provides information on the status of available, committed, and ordered resources; relays status of support facilities, staffing, and communications systems.
Finance/Administration Section	Provides information on costs, claims, and damage assessments related to the emergency.

The Planning/Intelligence Section's Situation Status Unit, Damage Assessment Unit, and GIS Unit are primarily responsible for collecting, validating, and consolidating emergency-related information into the COP. Their specific tasks are outlined below:

- The Situation Status Unit Leader is the lead for seeking out, compiling, analyzing, and sharing event-related information in the EOC. The Situation Status Unit Leader will work with the Operations Section to capture and present field and DOC operations status to the EOC.
- The Damage Assessment Unit Leader is the lead for gathering and assembling event information related to physical damage and community impacts.
- The GIS Unit Leader is responsible for producing maps and imagery of the incident that identify impacted areas, damages, road closures, critical infrastructure, key resources, and response facilities.

The general duties of the Situation Unit Leader are outlined below:

- Collect, organize, and analyze situation information from multiple sources
- Provide current situational assessments based on analysis of information received from a variety of sources and reports
- Develop situation reports for dissemination to the EOC Planning/Intelligence Section Chief, other Section Chiefs to initiate the action planning process
- Assess, verify, and prioritize situation information into situation intelligence briefings
- Seek information from verifiable sources that may be useful in the development of current situational assessments of the affected area
- Evaluate the content of all-incoming field situation and major incident reports
- Provide incoming intelligence information directly to appropriate EOC Sections, summarize, and provide current information on centralized maps and displays
- Monitor and ensure the orderly flow of disaster intelligence information within the EOC

EOC staff should be familiar with the procedures for relaying information for inclusion in the COP.

Common Operating Picture (COP)

FEMA defines a COP as, “a shared situational awareness that offers a standard overview of an incident and provides information in a manner that enables incident leadership and any supporting agencies to make effective, consistent, coordinated, and timely decisions.”[15] The COP is used to overcome coordination and information management problems during emergency response.

The COP offers an incident overview for emergency management and response personnel at all levels of government, NGOs and private sector organizations, critical infrastructure owners and

[15] National Incident Support Manual, March 2011
http://www.fema.gov/media-library-data/20130726-1821-25045-8641/fema_national_incident_support_manual_03_23_2011.pdf

operators, and all other stakeholders involved in the emergency. Achieving a COP allows on-scene and off-scene personnel—such as those at the Incident Command Post, EOC, Multiagency Coordination (MAC) Group, and EOC—to have the same information about the incident, including the availability and location of resources and the status of assistance requests.

Development of a COP is a continuous process during an emergency response. EOC staff coordinate information updates through their Section Chiefs to the Situation Unit Leader at regular intervals. The Situation Unit Leader collects, validates, and combines this information into a single-source Situation Summary document with the Planning /Intelligence Section.

Validated information is then released by the Planning/Intelligence Section Chief for dissemination to all EOC staff, stakeholders. Distribution of this information may occur in the form of a Situation Summary report, GIS map, or via electronic systems (ex. WebEOC). See EOC Operations Manual for the EOC Situation Summary Report.

Situation status is verbally presented by the Planning/Intelligence Section Chief during periodic EOC staff update briefings, shift change briefings and as needed. The EOC Director may approve release of situation summary information as part of the Public Information function.

The National Incident Management System (NIMS) states that establishing and maintaining a COP and ensuring accessibility and interoperability are the principal goals of the Communications and Information Management component of NIMS. Properly planned, established, and applied communications enable the dissemination of information among command and support elements and, as appropriate, cooperating agencies and organizations, and contribute to a Common Operating Picture.[16]

COP in the EOC

The COP is used by all the sections in an EOC activation. The following examples describe the ways a COP is utilized, and the value of the COP to response staff.

Management Section

The COP is the primary tool for conducting the daily management briefings during a response. The COP, if accurate, will show (visually) real-time or near real-time information within the County. This allows command staff to make decisions based on actual information from the various sections of the response organization. Information present should include any data sets the Management Section wants to see, report on, and discuss. The COP is adapted to meet the particular needs of the response due to the physical and political environments.

[16] National Incident Management System, December 2008 https://www.fema.gov/pdf/emergency/nims/NIMS_core.pdf

Operations Section

Operations will use the COP to communicate planned activities to the actual field responders completing the tasks. The benefit of the COP is that it provides real-time location information on assets such as task forces, resources, and current and predicted weather information. Operations will also use the COP to communicate in-progress activities such as actual deployed resources, operations completed, and resources immediately available for assignment in the response.

Planning/Intelligence Section

The Planning Section uses the COP to communicate planned activities to other teams. This may include planning meetings, briefings, and activations. The Planning Section also uses the COP to report on information or activities such as incident status, traffic, weather, actual damage, resource availability, communications (voice, data, etc.) and other information. The COP provides a situational status report, typically with a map for display of real-time or near real-time information.

Situation Unit

To present the information to the end users, a series of maps will be required providing selected sets of information for specific purposes. Examples are:

- Facility Map: Provides a recognized view of the operating facility/control center and surrounding area within the incident.
- Resource Allocation Map: Identifies resources needed, available, at risk within the incident area.
- Situation Map: A more detailed map intended to represent real-time resources, weather, and damage as well as regularly-updated situation status information.

Information Systems

Effective emergency management and incident response activities rely on flexible communications and information systems that provide a COP to response personnel.

If any of the systems are unavailable due to loss of power or internet connectivity, back-up forms will be completed and distributed manually (see EOC Operations Manual for forms).

Incident communications are facilitated through the development and use of common communications plans and interoperable communications equipment, processes, standards, and architectures. Information technology has the potential to increase the speed of surveillance and information sharing, enable better communication between the authorities and the public, and incorporate geospatial tools and data to promote SA for a more realistic COP.

The EOC has access to numerous communication systems to achieve SA and COP, including:

- E-mail
- WebEOC
- Landline/Cellular Telephone
- Fax
- 2-1-1
- Telecommunications Service Priority (TSP)
- Governmental Emergency Telecommunications System (GETS)
- Wireless Priority Service (WPS)
- Satellite Phones
- Broadband Global Area Network (BGAN)
- Public Safety Enterprise Communication System (PSEC 700MHz)
- Two-Way Radio (VHF, UHF)
- Amateur Radio/Radio Amateur Civil Emergency Services (RACES)

Acronym List

ARES	Amateur Radio Emergency Service
BGAN	Broadband Global Area Network
COP	Common Operating Picture
DAU	Damage Assessment Unity
DOC	Department Operations Center
EEI	Essential Element of Information
EOC	Emergency Operations Center
FEMA	Federal Emergency Management Agency
GETS	Government Emergency Telecommunications Service
GIS	Geographic Information System
HAZUS-MH	Hazards US - Multi-Hazard
IAP	Incident Action Plan
IC	Incident Command/Incident Commander
ICPs	Incident Command Posts
ICS	Incident Command System
MAC	Multiagency Coordination
MCEM	Multnomah County Emergency Management
NGO	Non-Governmental Organization
NRF	National Response Framework
NIMS	National Incident Management System
ODOT	Oregon Department of Transportation
OHA	Oregon Health Authority
OEM	Office of Emergency Management (State)
OSP	Oregon State Police
PSEC	Public Safety Enterprise Communication System
RACES	Radio Amateur Civil Emergency Service
SA	Situational Awareness
TSP	Telecommunications Service Priority
USGS	United States Geological Survey
WPS	Wireless Priority Service

Appendix 2 - EEI Tool

Accessible as a separate document:
https://drive.google.com/open?id=1ZlsWs8S1z1O4ULH0AZ4zM4v4Iv-_bvtMdvkJ_ZKv2Jc

- Designed for the quick collection of relevant information during an event
- Information collected will be used to prioritize and make decisions in the EOC specific to asset deployment, resource requests, etc.
- Can be filtered based on:
  - Type of event/disaster
  - EOC Position
  - ESF
- Guides the user by indicating:
  - What information should be collected
  - Where to source the information
  - How the information will be delivered

Available Fields	Description
Hazard Type	Allows the user to filter selection by hazard type: general, winter storm, EQ, Fire, Flood.
Section	Refers to EOC Section: Management, Operations, Planning, Logistics, or Finance
EOC Lead	Refers to either a specific ESF or to a branch lead (i.e. Infrastructure, Public Safety, etc.)
Essential Element of Information (EEI)	The information that is needed to inform decision making
Source	Refers to where the information (the EEI) may come from or who it should be requested from
Method	Refers to the format or origination point of the information
Product	How the information will be relayed from the source

★ Understanding the relationship between these 4 fields helps validate the information flowing into the DAU.

★ Understanding the validity of the source helps vet the information received

This is the Intelligence Function part of the EEI utilization process

Appendix 3 - Mobile Technology

Products in Use

Product Name	Used By
Cartegraph	Multnomah County Department of Community Services
Tririga	Multnomah County Facilities
Survey 1-2-3	PBEM, Various volunteer organizations, and NGO partners
Collector ArcGIS	Various volunteer organizations, and NGO partners
Fulcrum	Various volunteer organizations, and NGO partners
WebEOC	Various volunteer organizations, and NGO partners

Potential Solutions

Situational Awareness / Decision Support Tool

- Veoci https://www.info.veoci.com/
- D4HLIVE https://www.d4htechnologies.com/public-safety/emergency-operations/
- E-Team http://nc4.com/Pages/eteam.aspx
- Ushahidi https://www.ushahidi.com/
- Palantir http://www.palantir.com/solutions/intelligence/
- SAS http://www.fd-software.com/cop.asp
- Haystax https://security.haystax.com/products/emergency-management/
- ArcView SAV http://solutions.arcgis.com/emergency-management/help/incident-analysis-viewer/
- IMPACT http://geo.ornl.gov/impact
- EmerGeo http://www.emergeo.com/solutions/fusion-point
- Noggin http://www.noggin.io/emergency-management-software
- DisasterLAN https://www.buffalocomputergraphics.com/
- TRP http://www.emergency-response-planning.com/

Damage Assessment

- FEMA SDE https://www.fema.gov/media-library/assets/documents/18692
- Crisis Track http://www.crisistrack.com/
- Orion http://www.orionprotected.com/
- DARS https://www.damageassess.com/
- IDAM http://schneidercorp.com/products/idam/
- GSI Scout http://www.gsiworks.com/products/damage-assessment/

Function or Discipline-Specific

- Carbyne https://carbyne911.com/
- BeST https://best.be-strategic.solutions/
- ArcGIS DAC https://solutions.arcgis.com/utilities/electric/help/damage-assessment/
- GeoHEALTH https://geohealth.hhs.gov/arcgis/home/
- HootSuite https://hootsuite.com/#