CATASTROPHIC INCIDENT PLANNING FRAMEWORK

Statewide Catastrophic Incident Planning Team

An emergency planning framework to prepare for a catastrophic incident affecting Washington State, and the tribal nations, counties, cities, and towns therein.

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Section 1: Introduction

Far beneath Washington State, positioned on the Pacific "ring of fire," lays an active subduction fault where the Juan de Fuca plate is applying crushing pressure against the North American Plate. Eventually this fault will rupture, causing a subduction earthquake and subsequent tsunami with devastating impact to Washington State. The last time this plate broke was January 26, 1700 and is remembered by the Native Yurok people in their myth explaining their place in the cosmos: "All kinds of creatures are in this ocean in front of us, because Thunder wanted it so. Earthquake wanted it so . . .The land sank where they had run about."[i] The physical evidence remaining from the tsunami indicates that the magnitude of this quake was at least a 9.0 as measured on the Richter scale. When the lower plate breaks free it will "leap" the North American Plate approximately eighteen feet in a southwesterly direction. The outer coast will sink six to eight feet and the sudden displacement of water will cause a tsunami arriving in about fifteen minutes. Individuals unable to hike to high ground, or those without quick access to higher elevation, will perish.

Statistics tell us that ruptures on this plate occur an average of every two hundred and fifty years. Since the 2004 9.1 earthquake in Sumatra, the 2008 Sichuan China earthquake of 8.0, and the 9.0 Japanese earthquake in 2011, and many others, knowledge of earthquake science has grown exponentially. We have more data to study, with more precise equipment and wider methodology to inform our decisions. During the past decade, an array of seismographs (called the PANGA Array http://www.panga.org/) have been positioned along the coast which measures the uplift of the North American Plate as well as report tremor activity. This tool provides real time information about this fault and augments other on-going research on the many other faults riddling the Pacific Northwest. Combined, this information indicates that we are at risk from several faults capable of producing earthquakes in the range of 7.0 to 9.2M.

We find ourselves suspended in imaginative planning for an event that hasn't impacted our region for three hundred and seventeen years. Building codes in Washington State require that new buildings (and any retrofits) be built to a 7.2M standard which falls short for the risk we anticipate. We have never seen the scale of infrastructure damage to utilities, hospitals and schools, roadways and bridges, impacting millions of people who now populate this region. Residents in Eastern Washington are mostly unaware that they too will be affected when Western Washington suffers this brutal event. The entire West Coast power grid will shut down from British Columbia to Mexico and as far east as Western Montana. As power is gradually brought back on-line, Eastern Washington will become the largest logistical base for deploying rescue operations since World War II, as all airports, highways, water, food and fuel needed for the rescue effort will be staged and transported from the east. The way of life in eastern Washington will be dramatically altered for months, if not years, before they can return to some semblance of normalcy.

Figure 1 shows recent earthquakes across the world but none greater than the Nisqually Earthquake of 2001, a 6.8M, has occurred in the Pacific Northwest for hundreds of years. Trying

to grasp the powerful impact of this event on our landscape and how to respond requires innovative, creative, and altogether new thinking. Initial death tolls for a "worst case scenario" are substantial, made worse by subsequent lack of food, water, and exposure to the elements.

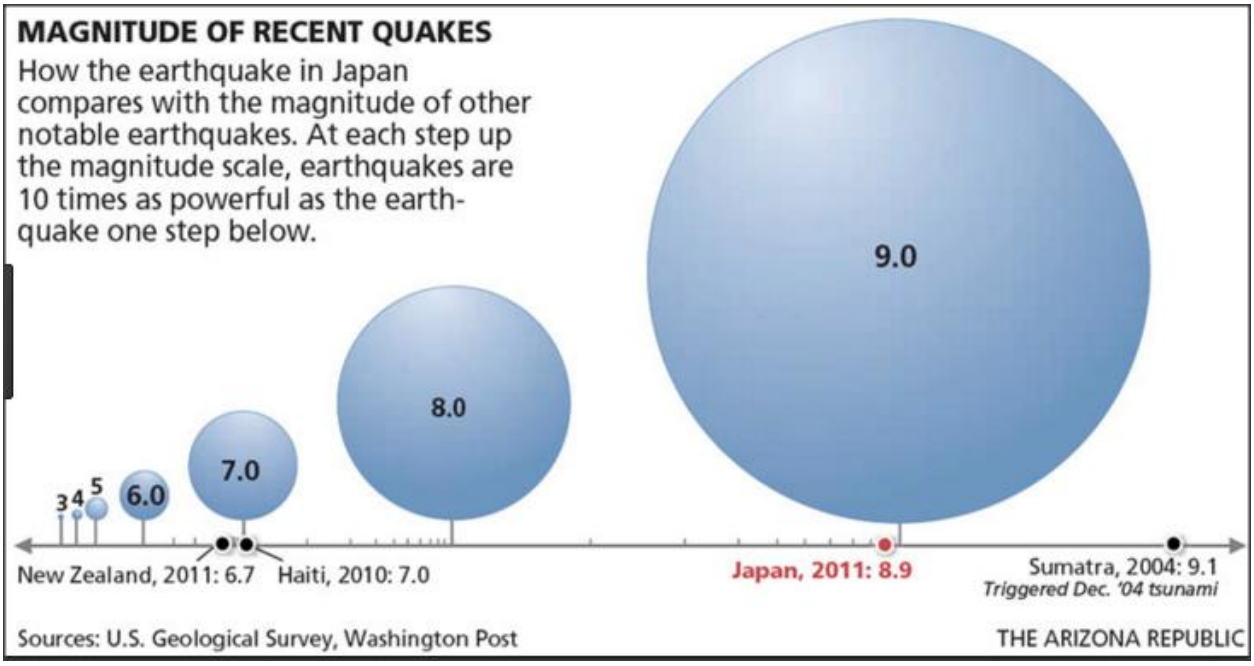

Figure 1 Magnitude of Recent Quakes

Comparing our level of preparedness to the country of Japan, long considered the best prepared nation on earth, we fall short. Years after the 2011 Tohoku earthquake, many Japanese still live in temporary housing. Radiation continues to leak into the Pacific Ocean from the damage incurred on the Fukushiima Daiichi Nuclear Power Plant by the resultant tsunami.

In order to respond effectively we require a response that is simple, systematic, and clearly defined. Communications, power, and utilities will be unreliable to non-existent for an extending period of time, thus necessitating a coordinated approach that is fully integrated at each echelon prior to the incident occurring. This planning "framework," if incorporated throughout Washington State, will structure and systemize the advance planning for this incident as well as informing the response so all efforts at recovery efforts are coordinated and predictable across the state. The goal of this Catastrophic Incident Planning Framework is to encourage emergency management professionals to evaluate their existing plans from a true catastrophic viewpoint and make appropriate changes based on the historically proven and projected risk of a 9.0M earthquake.

Statewide Catastrophic Incident Planning Team

Following the successes experienced with the Regional Catastrophic Preparedness Grant Program (RCPGP), individual members of the Puget Sound Regional Catastrophic Program Team approached emergency planners at the Emergency Management Division (EMD) about continuing their catastrophic incident planning efforts beyond the Puget Sound region and using their team approach for all of Washington State. With this idea, the Statewide Catastrophic Incident Planning Team (SCIPT) was formed with emergency managers representing each of the nine Homeland Security Regions in Washington State. Additionally, initial representation included emergency managers from select agencies of Washington State government. Ultimately, the SCIPT aims to support all levels of government, the whole community, and the private sector.

The mission of the SCIPT is to facilitate collaborative engagement between states, state agencies, tribes, and local jurisdictions, together with the communities they serve, in developing emergency plans to prepare for, respond to, and recover from catastrophic incidents. The SCIPT supports catastrophic incident planning conducted by, or between, emergency management organizations in Washington State, initiates catastrophic incident planning efforts where presently absent, and provides guidance to all emergency managers in Washington State.

Section 2: Situation

A catastrophe is both quantitatively AND qualitatively different from a disaster. While the Framework recognizes what is catastrophic to a given local jurisdiction or tribe may not be catastrophic to another, for the purposes of statewide catastrophic incident planning, this Framework considers catastrophic incidents from a statewide perspective.

Definition of a Catastrophe

The Framework uses the federal definition of a catastrophic incident, from the *National Response Framework*: "A catastrophic incident is defined as any natural or manmade incident, including terrorism, that results in extraordinary levels of mass casualties, damage, or disruption severely affecting the population, infrastructure, environment, economy, national morale, or government functions."[1]

Characteristics of a Catastrophic Incident

- Critical infrastructure is severely damaged or inoperable.
- First responders and supporting organizations cannot perform traditional initial incident response activities due to overwhelming losses of personnel, facilities, and/or equipment.
- Local capabilities and mutual aid agreements are exceeded and exhausted.
- Span of control is impractical during the first several operational periods.
- Situational awareness takes days to acquire. There is little to no information sharing, and information received is fragmented, conflicting, and/or chaotic.

[1] U.S. Department of Homeland Security. (2016). *National Response Framework, Third Edition* (p. 1). Washington, DC: U.S. Government Publishing Office.

Section 3: Scope

The Framework considers the following four core capabilities in the context of a catastrophic incident impacting Washington State. These core capabilities are fundamental to all aspects of response and recovery, and require integrated emergency planning statewide. These capabilities include:

- Operational Coordination;
- Operational Communications;
- Situational Assessment; and
- Logistics and Supply Chain Management.

In addition to the four identified core capabilities, four strategies have been identified as critical to the life-saving and life-sustaining response operations in a catastrophic scenario. These strategies include:

- Critical Transportation;
- Mass Care Services;
- Public Health, Healthcare, EMS, and Mortuary Services; and
- Utilities Restoration: Energy, Water and Waste Water, and Information Communications Technologies (ICT).

Within each of the core capabilities and strategies, the state's priorities and expected outcomes are described. State and local responsibilities are also delineated. Specific tasks are outlined by FEMA Region X's Cascadia Subduction Zone (CSZ) incident phases.

- **Phase 1** (Prepare)
- **Phase 2a** (Initial Response) – catastrophe happens
    - Lifesaving begins
    - Uncoordinated and chaotic
    - Immediate goal is survival
    - Secondary goal is to save lives
    - Initiate the response
- **Phase 2b** (Employment Response)
    - +72 hours
    - WA-UCG is established
    - Transition to "organized chaos"
    - Immediate goal is saving lives
    - Secondary goal is coordinating and increasing the response
- **Phase 2c** (Transition to Recovery)
    - Lifesaving effort complete
    - Begin to improve conditions
    - Immediate goal is "providing sustainment"
    - Secondary goal is "restoring services"

- **Phase 3** (Long-Term Recovery)
  - Maybe a year or more
  - Initiate long-term recovery
  - Immediate goal is “recovering services”
  - Secondary goal is the reestablishment of twenty-first century society

Figure 2 graphically depicts these phases in sequential order.

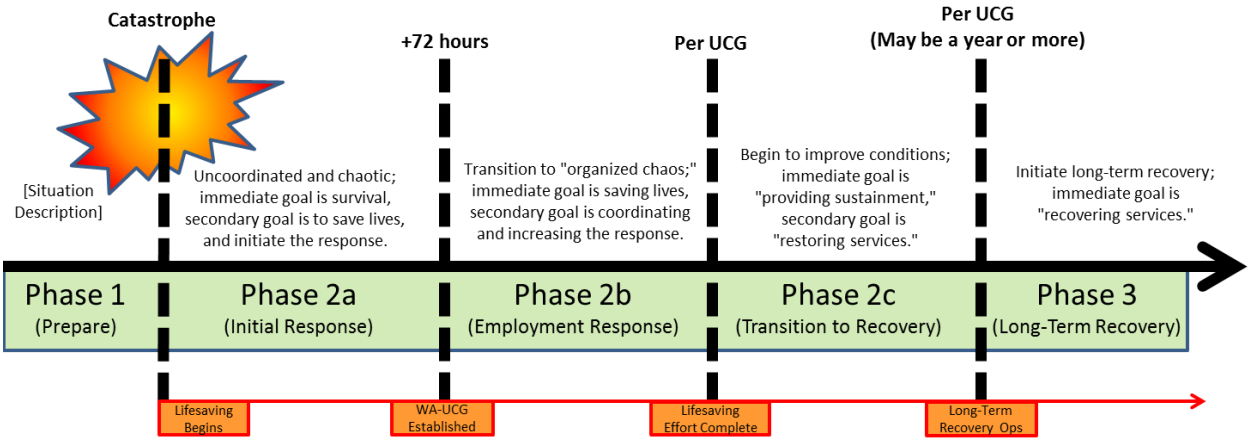

Figure 2 Framework Phases

This timeline is based from FEMA Region X CSZ Catastrophic Earthquake and Tsunami Response Plan (adapted from the Washington National Guard). The Framework, and catastrophic incident planning in general, is an example of activities conforming to Phase 1. The emergency planning documents revised or developed using the Framework describe and support activities associated with Phases 2 and 3. These phases only apply to catastrophic incident planning for government entities in FEMA Region X.

Washington State Homeland Security Regions

Due to both the geographic expanse of Washington State, and number of established emergency management organizations (73 at present count), statewide coordination of response and recovery activities following a catastrophe requires a region-based structure. For this structure, the Framework will use the boundaries of the Homeland Security Regions for planning purposes. Operational coordination for these regions is a state government-led effort, wherein no tribal nation or local government would assume any operational responsibility for or on behalf of another tribal nation or local government, respectively.

Following a catastrophic incident, teams of SEOC Liaison Officers (LNOs) assemble in each impacted Homeland Security Region (see Figure 3 for map of Washington State Homeland Security Regions) by Phase 2b. These Liaison Officers serve as a "SEOC forward," and are responsible for interfacing with every activated EOC/ECC in their assigned sector; then advocating their concerns, issues, requirements, and needs to the SEOC. The SEOC in turn uses the information provided by Liaison Officers to provide the most complete information possible regarding an incident impacting multiple sectors, if not the entire state, to the UCG for decision-

making. Additionally, taskforces established by the SEOC to address needs also use the information provided by LNOs to implement their objectives. The Liaisons Officers are organizationally part of the SEOC Operations Section.

As state government, local jurisdictions, and tribal nations capabilities are restored, the SEOC may further divide the Washington State Homeland Security Regions into smaller geographic areas, assigning/reassigning Liaison Officer teams to those new regions as a SEOC forward. The ultimate goal is to restore the SEOC's capability to interface directly with each impacted county government by Phase 2c.

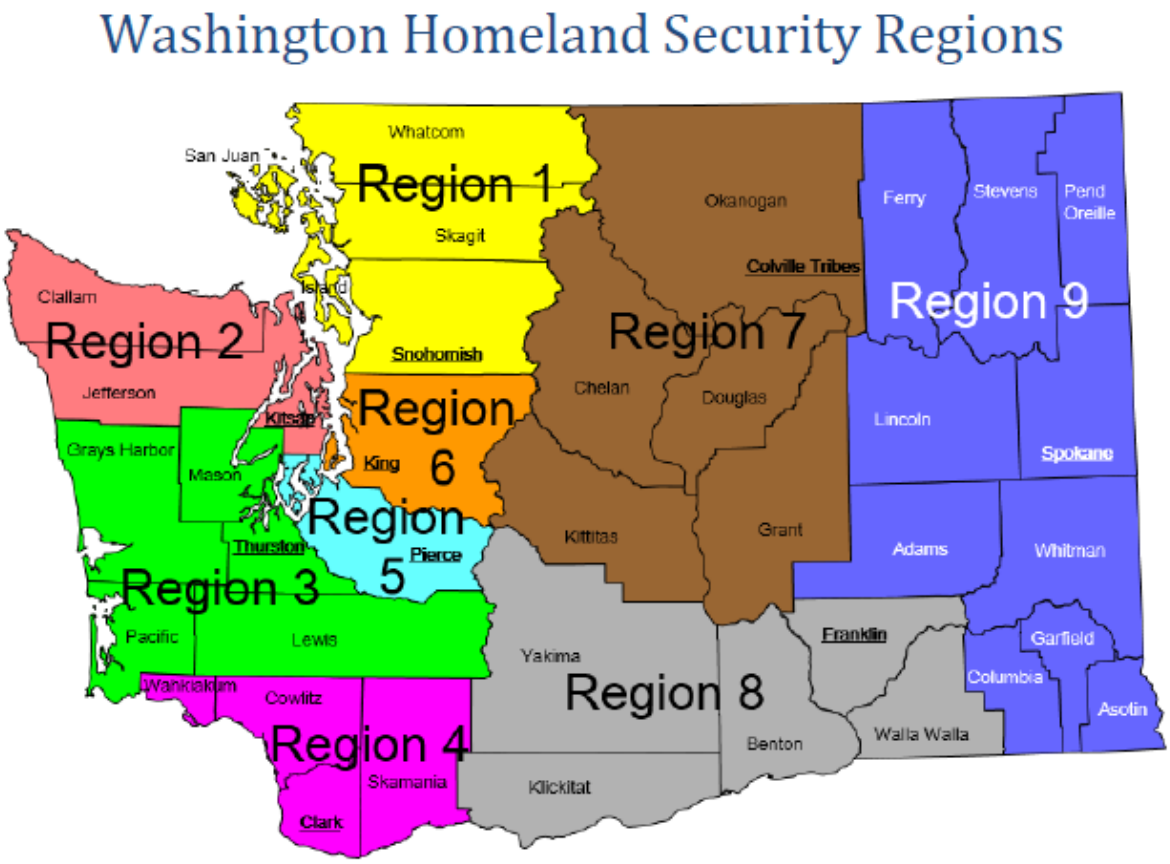

Figure 3 Washington State Homeland Security Regions

Section 4: Planning Assumptions

Emergency planning for a catastrophic incident requires planners to make informed assumptions describing the affects and situations following the catastrophe. The Framework assumes the findings/conclusions from the Homeland Infrastructure Threat and Risk Analysis Center (HITRAC)[2] *Analytical Baseline Study for the Cascadia Earthquake and Tsunami* to be facts for planning purposes.

The below planning assumptions are required to implement this Framework.

- Federal assistance is immediately needed as the initial response to a catastrophic incident is beyond the capability of the State of Washington.
- There will be a Governor's Proclamation of a State of Emergency and a Presidential Major Disaster Declaration.
- Responding to the impacts of a statewide catastrophic incident becomes the first priority of Washington State government, until transition to response activities within the Comprehensive Emergency Management Plan (CEMP) and recovery begins. Response to a catastrophe is recognized as outside the scope of the current CEMP base plan.
- Regardless of where it is physically located, the Washington State Emergency Operations Center (SEOC) remains the statewide central coordination point for receiving incident-related information and requesting federal or state resources during catastrophic incidents impacting Washington State.
- Family preparedness considerations should be addressed during the Phase 1.

[2] HITRAC is now known as the "Office of Cyber and Infrastructure Analysis" (OCIA).

Section 5: Core Capabilities

The core capabilities identified in the Framework align with the National Response Framework. Within this Framework planning efforts focus on the following core capabilities that require integrated emergency planning statewide:

- Operational Coordination
- Operational Communications
- Situational Assessment
- Logistics and Supply Chain Management

Each of the core capabilities are defined in the National Response Framework by objective and critical tasks.

Operational Coordination

***Definition*:** The National Preparedness Goal defines operational coordination as the ability to "establish and maintain a unified and coordinated operational structure and process that appropriately integrates all critical stakeholders and supports the execution of core capabilities."

Expected Outcome: A coordinated response that encompasses federal, state, local jurisdictions, tribes, private sector and private non-profits through identified strategies and guidelines.

Planning Considerations:

- The SEOC remains the statewide central coordination point for receiving incident-related information and requesting federal or state resources during catastrophic incidents impacting Washington State; however, expect substantial federal, state, and/or local interaction to happen well ahead of traditional command, coordination, and control mechanisms.
- When reporting to their regular staffing locations (i.e., jurisdictional primary and alternate sites) is impossible or impractical, emergency managers in Washington State should consider responding to the nearest available Emergency Operations or Coordination Center (EOC/ECC), if or when able.
- The ability of first responders and emergency managers to maintain a doctrinal span of control will be impractical, if not impossible, for the first several operational periods.

Critical Tasks:

- Mobilize all critical resources and establish command, control, and coordination structures within the affected community, which may no longer be defined by established jurisdictional boundaries as needed throughout the duration of an incident.
- Enhance and maintain command, control, and coordination structures (C3), consistent with the National Incident Management System (NIMS), to meet basic human needs, stabilize the incident, and facilitate the integration of restoration and recovery activities.

Time-phased Tasks:

Phase 1 (Prepare)

- State
  - Establish redundant capability to ensure the viability of the SEOC.
  - Train and exercise staff accordingly.
  - Identify and train regional points of contact that correspond with the Homeland Security regional construct as described in Figure 3.
- Local
  - Utilize existing scenario data to identify geographic islands and corresponding C3 structures.

- Train and exercise local resources, and develop and communicate external resource requirements to the State EMD's Logistics Section that will support the C3 structures.
- Develop relationships among local, state, tribal, and federal C3 structures.
- Integrate critical infrastructure partners into planning efforts.
- Plan for emergent/spontaneous/volunteer response.

- **Phase 2a (Initial Response)**
- State
  - Activate the SEOC
  - Activate the regional points of contact in eastern Washington as a means by which to gain situational awareness.
  - In conjunction with Department of Homeland Security (DHS) Federal Emergency Management Agency (FEMA), activate the Unified Coordination Group (UCG).
  - Activate Washington National Guard's regionally aligned forces (see Figure 4).

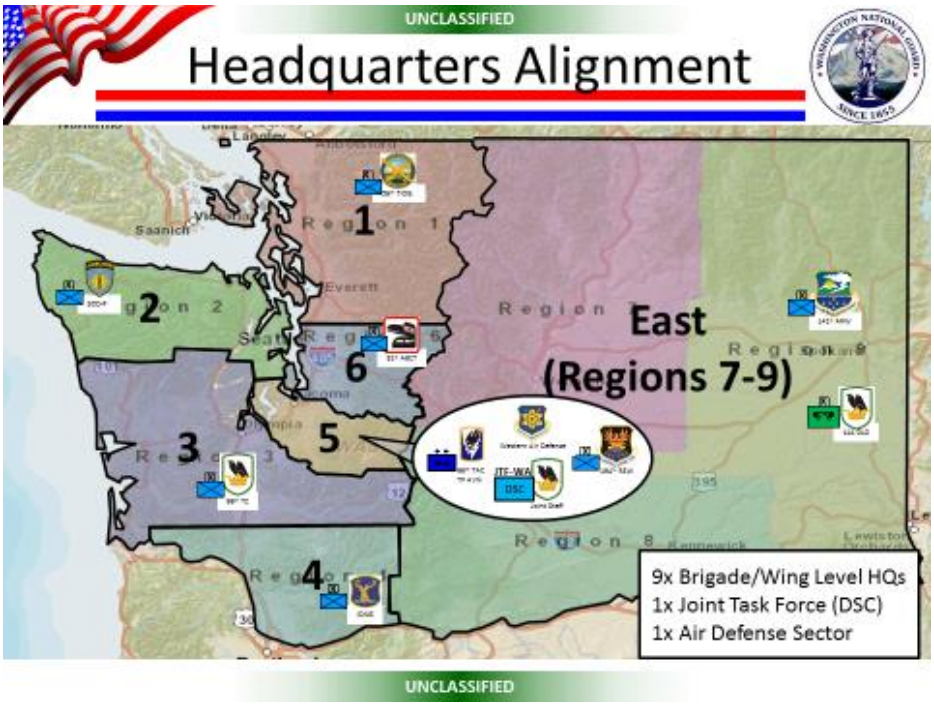

Figure 4 National Guard's regionally aligned forces

- Local
  - Activate continuity of operations (COOP) and continuity of government (COG) plans.
  - Utilizing available resources, establish local incident/unified/area command structures to manage tactical response activities.

- Begin to gain situational awareness and establish prioritization of available C3 resources. Consolidate and/or adjust incident management structures as needed to provide incident command and multiagency coordination to affected areas.
- Identify emergent/spontaneous response activities and additional C3 assets needed to organize those activities; identify viable locations capable of supporting additional C3 assets requirements (e.g. power) and prepare resource requests for additional C3 teams.

Phase 2b (Employment Response)

- State
  - In conjunction with DHS/FEMA, establish the UCG.
  - Develop and communicate state-level incident priorities, and resource allocation and prioritization strategy to local EOC/ECCs.
  - Establish C3 structure for receipt and integration of out of area responders and volunteers.
  - Implement oversight of pre-planned regional catastrophic efforts including evacuation and resettlement.
  - Coordinate and integrate State and Federal C3 assets based upon operational need (see Figure 5).

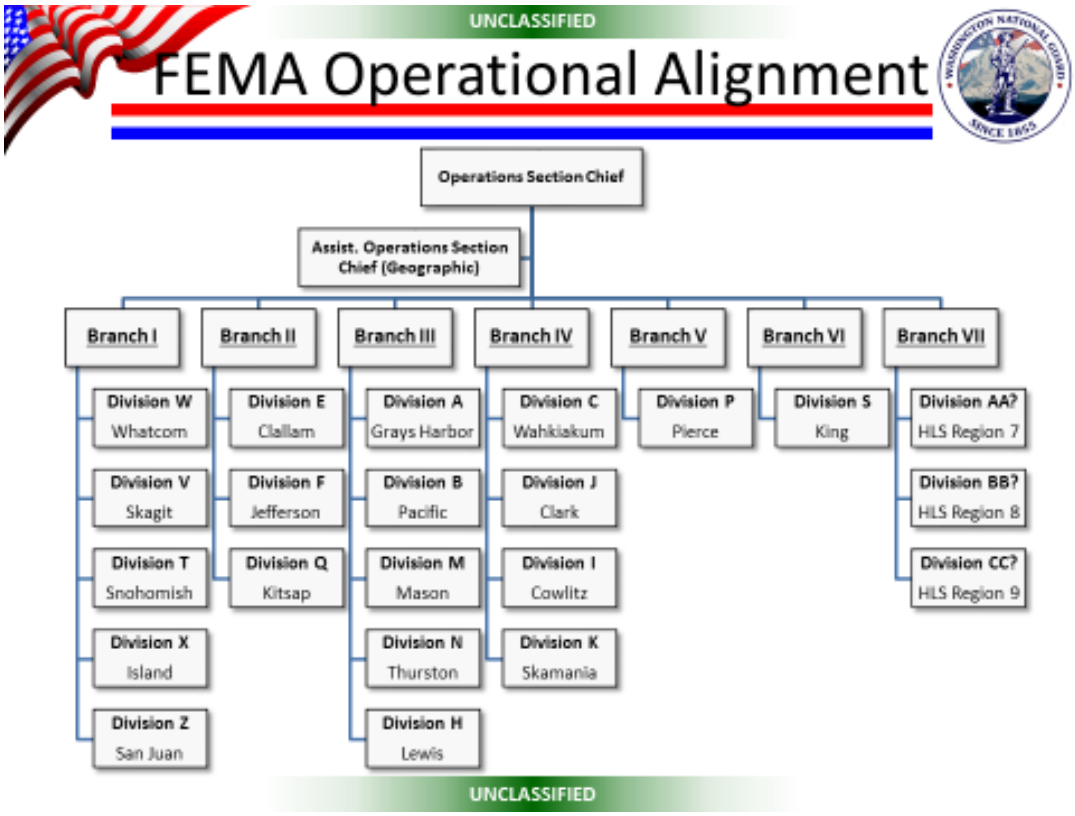

Figure 5 FEMA Operational Alignment

- Local
    - Develop plans that integrate State and Federal C3 structures into operational planning.
    - Assessment of critical infrastructure status.
    - Identification of affected areas and locations of mass care operations.
    - Deployment of C3 teams.

Phase 2c (Transition to Recovery)

- State
    - In conjunction with DHS/FEMA, establish and staff a Joint Field Office (JFO).
    - Activate the Washington Restoration Framework; establish and publish reporting requirements for local recovery efforts.
    - Prioritize restoration of state-owned or managed critical infrastructure and communicate the state's priorities to local EOC/ECCs.
- Local
    - Activate local recovery plans/frameworks and/or establish a local recovery group.
    - Prioritize restoration of locally-owned or -managed critical infrastructure.
    - Communicate priorities to the State via the published reporting cycle.

Operational Communication

Objective: Ensure the capacity for timely communications in support of security, situational awareness, and operations by any and all means available, among and between affected communities in the impact area and all response forces.

Critical Tasks:

- Ensure the capacity to communicate with both the emergency response community and the affected populations.
- Establish interoperable voice and data communications to support response at the local, state, tribal, and federal levels through primary and redundant communications technology and protocols.
- Ensure the capacity to provide the public with timely warning and emergency information.
- Re-establish sufficient communications infrastructure within the affected areas to support ongoing life-sustaining activities, provide basic human needs, and facilitate the integration of recovery activities.
- Re-establish critical information networks, including cybersecurity information-sharing networks, in order to inform situational awareness, enable incident response, and support the resiliency of key systems.
- Partner with private sector providers to restore commercial voice and data communications capabilities.
- Ensure redundant communication systems are in place, documented, procedures are developed, and staff are trained to use them.

***Time-phased Tasks*:**

Phase 1 (Prepare)

- State
    - Assess the vulnerability of existing communications infrastructure.
    - Develop redundant communications plan to respond to a catastrophic incident that focuses on supporting a lifesaving and life sustaining response, ongoing emergency response, and recovery efforts.
        - Explore the use of the On-scene Command and Control Radio (OSCCR) as a backbone for a resilient and redundant radio network.
        - Explore the use of satellite technology for redundancy of voice and data communications.
        - Explore the use of ham radio for redundant information sharing.
    - Develop redundant communications plan to provide the technology and protocols necessary to provide public warning and emergency information.
    - Develop procedures and provide training for using redundant communications systems.

    - Develop a plan to assess damage to primary communications systems and a framework for conducting emergency repairs.
    - Review and update contracts with vendors for emergency repairs on communications systems.
    - Develop a plan for coordinating with private sector vendors for repair and restoration of commercial voice and data infrastructure.
- Local
    - Assess the vulnerability of existing communications infrastructure.
    - Develop redundant communications plans for response and support agencies.
    - Develop procedures for using redundant communications systems.
    - Develop a plan to assess damage to primary communications systems and a framework for conducting emergency repairs. Review and update contracts with vendors for emergency repairs on communications systems.

Phase 2a (Initial Response)

- State
    - Implement plan to assess the functionality of primary communications systems.
    - Implement appropriate redundant communications systems and procedures.
    - Develop emergency repair plan for primary communications systems based upon emergency repair framework.
    - Coordinate and support private sector communications repair and restoration activities.
- Local
    - Implement plan to assess the functionality of primary communications systems.
    - Implement appropriate redundant communications systems and procedures.
    - Develop emergency repair plan for primary communications systems based upon emergency repair framework.

Phase 2b (Employment Response)

- State
    - Implement emergency repair plan for primary communications.
    - Develop restoration plan for primary communications systems based upon emergency repair plan and emergency repair framework.
    - Return to use of primary communications systems and procedures as functionality is restored.
    - Continue coordination and support of private sector communications repair and restorations activities.
- Local
    - Implement primary communications repair plan.
    - Develop restoration plan for primary communications systems based upon emergency repair plan and emergency repair framework.

- Return to use of primary communications systems and procedures as functionality is restored.

Phase 2c (Transition to Recovery)

- State
  - Implement primary communications restoration plan.
  - Continue return to use of primary communications systems and procedures as functionality is restored.
  - Continue coordination and support of private sector communications repair and restoration activities.
- Local
  - Implement primary communications restoration plan.
  - Continue return to use of primary communications systems and procedures as functionality is restored.

Situational Assessment

Objective: Provide all decision makers with decision-relevant information regarding the nature and extent of the hazard, any cascading effects, and the state of the response.

Critical Tasks:

- Deliver information sufficient to inform decision making regarding immediate lifesaving and life-sustaining activities, and engage governmental, private, and civic sector resources within and outside of the affected area to meet basic human needs and stabilize the incident.
- Deliver enhanced information to reinforce ongoing lifesaving and life-sustaining activities, cascading impacts, and engage governmental, private, and civic sector resources within and outside of the affected area to meet basic human needs, stabilize the incident, and facilitate the integration of recovery activities.
- Identify interdependencies across all critical areas.

***Time-phased Tasks*:**

Phase 1 (Prepare)

- State
  - Leverage hazard identifications, risk assessments, and consequence analysis to support pre-planning efforts.
  - Identify and socialize essential elements of information for damage and impact assessments from impacted partners (Incident Snapshot (ISNAP), Situation Reports, Damage/Impact Summaries).
  - Educate the public on damage/impacts systems and processes.
- Local
  - Leverage hazard identifications, risk assessments, and consequence analysis to support pre-planning efforts.
  - Incorporate essential elements of information for damage and impact assessments into planning documentation (ISNAP, Situation Reports, Damage/Impact Summaries.
  - Educate the public on damage/impacts systems and processes.

Phase 2a (Initial Response)

- State
  - As they become available, roll-up local jurisdiction ISNAPs into a statewide common operating picture and publish to WebEOC.
  - Identify, collate, and synthesize high level damage/impacts based on limited information and intelligence across the state.
  - Initiate windshield survey processes.
  - Continue to share summary information with partners both vertically and horizontally.

    - Communicate with public on incident specific damage/impacts processes.
- Local
    - As soon as practical, complete local jurisdiction ISNAPs and send into State Common Operating Picture.
    - Identify, collate, and synthesize high level damage/impacts based on limited information and intelligence across the local jurisdiction.
    - Initiate windshield survey processes
    - Continue to share summary information with partners both vertically and horizontally.
    - Communicate with public on incident specific damage/impacts processes.

Phase 2b (Employment Response)

- State
    - Damage/impact assessments are conducted based on defined priorities.
    - Continue windshield survey processes.
    - Initiate in-depth damage and impact assessments.
    - Continue to share summary information with partners both vertically and horizontally.
    - Continue to communicate with public on incident specific damage/impacts processes.
- Local
    - Damage/impact assessments are conducted based on defined priorities.
    - Continue windshield survey processes.
    - Initiate in-depth damage and impact assessments.
    - Continue to share summary information with partners both vertically and horizontally.
    - Continue to communicate with public on incident specific damage/impacts processes.

Phase 2c (Transition to Recovery)

- State
    - Complete damage/impact assessments.
    - Continue to share summary information with partners both vertically and horizontally.
    - Identify essential of elements of information of incident impacts that allow for efficient transition to recovery.
    - Identify incident impact and damage essential of elements of information that allow for efficient transition to recovery.
    - Continue to communicate with public on incident specific damage/impacts processes.

- Local
  - Complete damage/impact assessments.
  - Continue to share summary information with partners both vertically and horizontally.
  - Identify incident impact and damage essential of elements of information that allow for efficient transition to recovery.
  - Continue to communicate with public on incident specific damage/impacts processes.

Logistics and Supply Chain Management

Scope and Purpose:Facilitate collaborative engagement between state, tribal, and local governments, together with the communities they serve, in developing coordinated logistics systems to prepare for, respond to, and recover from catastrophic incidents.

Expected Outcome:Increase the ability to support life-saving and life-sustaining operations with sustained and well-coordinated supply chain of resources so that the right personnel, equipment, supplies and support are in the right place, at the right time, and in the right quantities, in alignment with current priorities for response and recovery operations.

Planning Considerations:

- Early in the incident, critical resources will be "pushed" directly into the impacted areas via highly coordinated federal response.
- As the incident matures, logistics flow will transition from "pushed" to "prioritized pull" system and eventually reestablish pre-incident supply chains.
- The State and Locals synchronize priorities in order to inform the delivery of resources into the impacted areas.
- Closely coordinate logistics activities with partners to identify and overcome logistical deficiencies and restrictions.
- The magnitude of catastrophic incident creates a convergence of personnel, resources and information with the humanitarian needs to impacted areas arriving not only from around the region but around the country and possibly the world.
- Anticipate that the operational requirements for responding to a catastrophic incident could exceed the available supply by an order of magnitude estimate.

Critical Tasks:

- Mobilize and deliver governmental, nongovernmental, and private sector resources within and outside of the affected area to save lives, sustain lives, meet basic human needs, stabilize the incident, and facilitate the integration of recovery efforts, to include moving and delivering resources and services to meet the needs of disaster survivors.
- Enhance public and private resource and services support for an affected area.
- To sustain and effectively manage the logistics supply chain in catastrophic incident the requirement (the location and extent of need) and the source (the quantity and provider of the resources needed) and the control movement (the origin and destination location and times, and the means of transport) must be considered.

Strategic Goals:

Resource Management: Resources managed by local, tribal, state, and federal partners to support and ensure effective and efficient response and recovery operations. Resource management provides visibility at all levels of the resource request process, reduces duplication, enhances capabilities and establishes common terminology for resources.

Movement Control: Manage transportation resources efficiently and effectively utilizing air, land and waterway to provide logistical support to response and recovery missions.

Distribution Management: Manage delivery of resources via nodes operated by government, private and nonprofit partners required for timely and accurate distribution, reallocation and redistribution to field sites and general public. Distribution management is required at all levels of government; the system is managed individually yet coordinated through EOC/ECCs at all levels.

Time-phased Tasks:

Phase 1 (Prepare)

Resource Management

- State
  - The Catastrophic Incident Annex to the National Response Framework establishes the concept of push logistics: "Upon the occurrence of a catastrophic incident, or in advance if determined by the Secretary of Homeland Security, the [federal] government will deploy federal resources, organized into incident-specific "packages…" in coordination with the affected state and incident command structure."3).
  - The push logistics methodology described here will only be used by the state to local jurisdictions following a catastrophic incident such as the CSZ.
  - Relief supplies that may be pushed during the incident will be coordinated pre-incident with local governments to ensure that push method meets needs and can be utilized until individual jurisdiction's capability increases.
- Local
  - These activities are the subject of advanced logistical planning and coordination with the State of Washington. The State uses information provided by local governments to inform and guide that planning effort.
  - If, local governments do not provide the resource need information to the state, survival rations will be sent based upon population data relative to the Community Point of Distribution (CPOD) locations.
  - Identify flexible supply chain alternatives to be able to quickly recover and provide agile redirection of resources.
    - Ensure understanding of push-pull logistics systems that are able to mature from initial response to long term recovery.
    - Identify critical resources that may require to be pre-scripted and consolidated.

        - Establish a process for sourcing request either through mutual aid, procurement or mission assignment.
        - Develop pre-scripted mission request for critical resources and coordinate with local, state and federal partners.
    - Identify resource limitations by conducting gap analysis to determine logistics strategies that include resources from federal, state, private and nonprofit agencies.
        - Establish a system for capturing information on capabilities and critical assets.
    - Establish ordering processes that are expandable based on the situation and requirements.
        - Map process to receive and validate requests via all levels of government, with the ability to maintain situational awareness on the supply chain.
        - Establish procedures on how to prioritize requests
    - Identify means of ordering and tracking resources in a catastrophic incident.
        - Establish capability to quickly expand logistics operations to manage surge in resource requests including site, equipment and staffing organization and deployment requirements.
        - Establish a process for demobilization and reserve logistics
    - Share information to provide asset and in-transit visibility throughout the distribution system.
- Understand the interdependencies in the supply chains and maintain relationships through agreements among public and private sector.
    - Establish collaborative relationship among key sectors through contracts and mutual aid agreements that include disaster or response clauses, and identify authorities and systems to improve coordination.
    - Work with private sector to identify products, services and capabilities to carry out specific missions.
    - Identify authorities and systems to work with private sector during emergencies to prioritize activities in alignment with state operational objectives.
- Effective Logistics Operations depends on trained and knowledgeable personnel in all sectors.
    - Establish logistical core competencies in EOC and ECC command, general and line positions.
    - Establish a process for partnering with private and nonprofit entities.
    - Identify staffing requirements and training for logistical operations.
    - Identify and use incidents and exercises as opportunities to train across logistics and assess interoperability of logistics staff and incorporate the private sector.

- Work with local representatives from appropriate agencies to streamline resource management operations.

Movement Control

- State
  - Movement Control will be a joint endeavor between the SEOC and FEMA. A Movement Coordination Center (MCC) will be established at a national level to manage flow into and out of the state. A Movement Coordination Group will be established within the SEOC and will receive input from all Essential Support Functions, impacted jurisdictions, and the MCC. The UCG will set priorities and the MCG will manage movement of resources into and out of the impacted area.
- Local
  - Plan for the unprecedented reorganization of current transportation capacity to create delivery capabilities and authorities that do not currently exist.
    - Understand the capability and capacity of the various modes of transportation (i.e. air, ground, marine) to support the response and capacity of transportation system in a catastrophic incident.
    - Engage key partners to manage transport of resources and transmit predictive information on changing conditions and detours.
    - Coordinate with authorities to identify the required access credentials to move freight cross-jurisdictional boundaries.
  - Develop Memorandums of Understand (MOU) between jurisdictions and facilities on moving freight across jurisdictional lines
    - Determine minimum security requirements and priorities for escort.

Distribution Management

- State
  - FEMA will operate an Incident Staging Base at Moses Lake Washington where all federal assets will assemble for possible incident use within the Region. Resources at the Incident Support Base (ISB) belong to FEMA National and are not dedicated to Washington State.
  - Any resource that is committed to the incident in Washington State will be moved from the ISB to a Federal Staging Area (FSA) or to the end user through the CPOD if it is feasible. If movement from the ISB to the CPOD is not feasible then the resource will transfer to the State at a State Staging Area (SSA); which in a CSZ scenario will be co-located with all FSAs.
  - The transfer of resources will then be moved to a County Logistical Staging Area or to the local CPOD.

- Local
    - As part of emergency planning for catastrophic incidents, local governments must identify CPODs in locations sufficient to support their populations throughout their jurisdiction. For a CSZ incident, all local governments west of the Cascades will have CPOD locations pre-identified and placed into the State's CSZ Plan for response operations. IF local governments have not shared that information with the State, the State will select locations based on the HITRAC study and current United States Geological Survey (USGS) liquefaction data; public schools will be the first locations reviewed for selection.
    - Manage the distribution of resources in a standardized approach at each node.
        - Establish baseline temporary distribution and inventory strategy for response operations and the public requirements and capability.
    - Pre-identify and assess sites to effectively receive and distribute incoming resources.
    - Determine site, equipment and staff requirements for equipment decontamination and disposal of waste.
        - Develop scalable temporary storage strategies.
        - Develop strategies to address overcoming continuing challenge in "last-mile" delivery of resources.
    - Pre-identify and assess field sites for points of distribution for incoming resources and life-sustaining commodities.
        - Develop reentry strategy to reestablish preexisting modes of distribution and delivery.
    - Identify possible long-term storage locations for stockpiles of expendable commodities.

Phase 2a (Initial Response)

Resource Management

- State
    - Washington State anticipates pushing logistics from the ISB to the FSA/SSA during the initial onset of the response.
- Local
    - Activate a mechanism to effectively manage resources.
    - Deploy a team of trained personnel to support logistics operations at the EOC.
    - Activate EOC Logistics Section with ability to scale up operations to manage resource acquisition and delivery.

Movement Control

- State
  - Washington Department of Transportation may execute the Commercial Vehicle Pass (CVP) system to prioritize shipments. The SEOC Operations section will staff their Movement Coordination Unit and direct Movement Control Checkpoints and coordinate with law enforcement for security measures and compliance with the CVP system using the UCGs priorities.
- Local
  - Establish communications with critical government partners and transportation logistics providers needed to manage movement control.
  - Identify a method to obtain situational awareness/visibility into status of critical routes and infrastructure.

Distribution Management

- State
  - FEMA maintains resources at all ISBs and FSAs and is responsible for the distribution until the state assumes ownership/control of the resources.
- Local
  - Assess distribution routes and sites.

Phase 2b (Employment Response)

Resource Management

- State
  - Relief commodities, such as food and water purification, will be distributed to county staging areas or CPODs. If the capacity exists, relief supplies will be delivered directly to CPODs during the initial phase (Phase 2a and 2b), however, anticipate fourteen days before any relief supplies arrive.
  - Once the local government EOC/ECC is operational and in contact with the SEOC, the push system will no longer be used for that local EOC/ECC, and the normal pull logistics system is used.
  - In pull logistics, the SEOC accepts resource requests from county EOC/ECCs sent to the SEOC on accepted forms, preferably via the Resource Tracker board on the State's WebEOC account.
  - If WebEOC is not an available option for a local EOC/ECC, for whatever reason, resource requests made on the Incident Command System (ICS) 213 RR form and sent by email, amateur radio, or telephone are acceptable.
- Local
  - Requestors should describe resource requests following instructions for ICS 213 RR in terms of capability needs.
  - Communicate guidelines for prioritizing resource requests.
  - Identify critical resource needs and match critical resource shortfalls.
  - Execute the resource request process.
  - Coordinate and track delivery of resources.

Movement Control

- State
  - CVP System may be enacted by the SEOC Policy Group/UCG.
  - The Movement Coordination Group (MCG), part of the SEOC, oversees movement control across the impacted area(s). MCG partners include, but are not limited to, FEMA (to include both headquarters, National Response Coordination Center [NRCC] and the Regional Response Coordination Center [RRCC]), National Emergency Management Association (NEMA) for Emergency Management Assistance Compact (EMAC), United States Department of Defense (DOD), United States Transportation Command (USTRANSCOM), United States Army Forces Command (FORSCOM), United States Army North (ARNORTH), National Guard Bureau (NGB), and Washington National Guard (WANG).
- Local
  - Evaluate logistics transportation options.
  - Coordinate with local and State authorities to identify the required access credentials and security requirements to move freight across jurisdictional lines.
  - Maintain visibility on inbound delivery of resources into the area.

Distribution Management

- State
  - The State maintains resources at all state facilities and SSAs and is responsible for the distribution until the local government assumes ownership/control of the resources.
  - The UCG at the SEOC will determine priority of resources when any demand is greater than the amount of resources available. For a CSZ incident, the priority for resources being pushed is determined by the UCG.
  - For pull logistics, used for all catastrophic incidents other than the CSZ, priority is based upon the priority of the request (which is assigned by the requestor) and/or on a first-come, first-serve basis. When two requests of the same priority have a conflict, the UCG will determine which receives priority for fulfillment.
- Local
  - Distribution management is the responsibility of the county/local government to the CPOD or the end user.
  - Provide the necessary support to activate, operate logistics sites including points of distribution.
  - Communicate and report out on site metrics during operations:
    - Monitor burn rates to anticipate future requirements;
    - Measure inventory of on-hand resources at each site;
    - Monitor all operating costs; and

- Track personnel and equipment needed to operate site.
- Assess and establish sites for decontamination.

Phase 2c (Transition to Recovery)

Resource Management

- State
  - Demobilize resources external to the state when they are no longer required; this includes any EMAC, Pacific Northwest Emergency Management Arrangement (PNEMA), or federally mission assigned resources.
  - The state will continue to operate SSAs/FSAs until their use is no longer beneficial and will demobilize SSAs as necessary to maintain support to impacted areas.
- Local
  - Coordinate demobilization and reverse logistics processes for non-consumable resources such as equipment.
  - Continue sourcing and fulfillment of resource requirements to support long-term recovery efforts (Phase 3).
  - Assess feasibility of redistributing commodities to fill shortages.
  - Capture documentation and costs to offset federal match.

Movement Control

- State
  - The CVP system will be discontinued once transportation routes can support traffic flow without serious delays.
  - The SEOC operations section will continue to support Movement Control Point until the CVP system is demobilized.
- Local
  - Continue sourcing and fulfillment of transportation logistics to support long-term recovery efforts (Phase 3).

Distribution Management

- State
  - In this phase, normal resource request processes will be utilized and priority is based upon the priority of the request (which is assigned by the requestor) and/or on a first-come, first-serve basis. When two requests of the same priority have a conflict, the UCG will determine which receives priority for fulfillment.
- Local
  - Execute demobilization and reverse logistics at logistics sites.
  - Continue to maintain safe and organized decontamination sites in support of operations.
  - Monitor consumption and burn rates with providing entities.
  - Communicate the need to adjust or stop the flow of supplies, as needed.

- Begin protocols to release assets and determine deposition of unused expendable commodities to point of origin.
- Continue distribution in support of long-term recovery efforts.

Section 6: Strategies

This section details the four life-saving and life-sustaining strategies identified as critical for catastrophic incident planning in Washington State. Each strategy includes specific tasks within the FEMA Region X Phases by state and local responsibility. These strategies include:

- Critical Transportation;
- Mass Care Services;
- Public Health, Healthcare, EMS, and Mortuary Services; and
- Utilities Restoration: Energy, Water and Waste Water, and Information Communications Technologies (ICT).

Critical Transportation:

Objective: Provide transportation (including infrastructure access and accessible transportation services) for response priority objectives, including the evacuation of people and animals, and the delivery of vital response personnel, equipment, and services to the affected area.

Critical Tasks:

- Establish physical access through appropriate transportation corridors and deliver required resources to save lives and to meet the needs of disaster survivors.
- Ensure basic human needs are met, stabilize the incident, transition into recovery for an affected area, and restore basic services and community functionality.

Scope and Purpose:

The transportation system is the lynchpin of an effective response; allowing resources (and the material required to sustain them) to travel to places of need, removal (from scene of injury) of injured persons needing emergency medicine, and movement of patients at impacted healthcare facilities. This functional area is multi-modal: encompassing air, road, rail, maritime, and pipeline transportation. The first response priority of state government following a catastrophic incident is assessing the condition of the transportation system, and then reopening as many transportation corridors as possible.

Expected Outcome: To provide transportation for vital services and resources needed to save and sustain human life after a catastrophic incident. Priority in this effort will be given to the state's "Seismic Lifeline Corridor" identified in Figure 6 shown and life line routes identified by individual jurisdictions.

Planning Considerations:

- After the start of the incident efforts will commence to assess the condition of the transportation system with emphasis on the "Seismic Life-line Corridor." Damage assessments will be accomplished through two primary sources: 1. Washington State Department of Transportation (WSDOT) Damage Assessment Teams will conduct on-the-ground surveys; 2. WSDOT Aviation Division will coordinate daytime aerial surveys as aircrafts are available. As the incident matures maintenance crews will begin the debris removal and emergency repairs necessary to reestablish access beginning with the "Seismic Life-line Routes." WSDOT Bridge inspectors will conduct more detailed survey of damaged bridges identified by the Damage Assessment Teams.
- WSDOT Aviation Division will coordinate damage assessment and emergency repairs at state-owned airports.
- The state and locals will coordinate assessment of debris removal, repairs and recovery efforts through WSDOT regional EOCs.

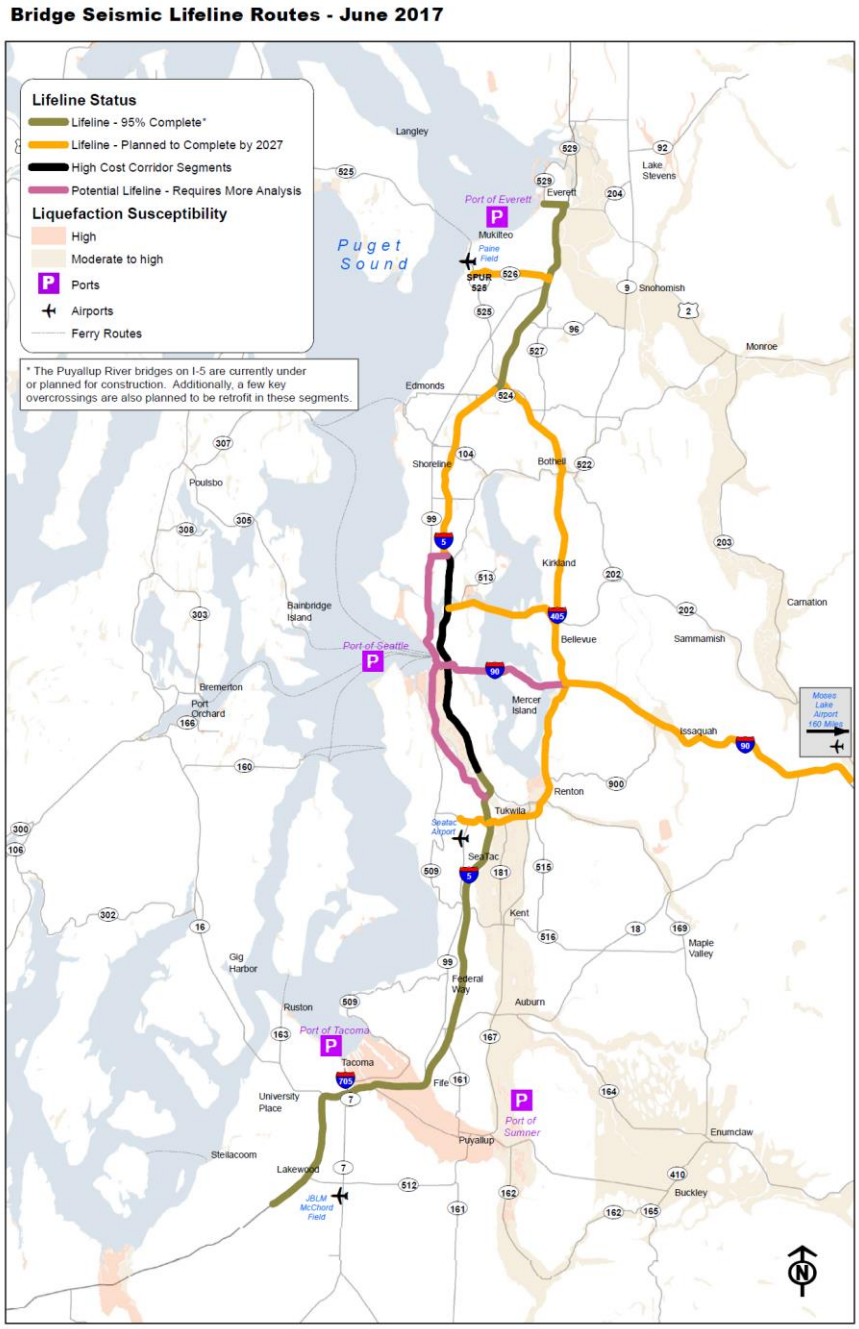

Figure 6 "Seismic Lifeline Routes" identified by WSDOT

Critical Tasks:

- Determine what lifeline routes including routes connecting staging areas, points of distribution, points of entry, hospitals, and critical services including police and fire.
- Assess the condition of lifeline routes.
- Conduct debris removal and emergency repairs on lifeline routes.
- Assess condition, remove debris, and conduct emergency repairs of ports.

- Develop a plan to restore operation of lifeline routes or alternate routes if the lifeline routes are badly damaged and ports of entry.
- Conduct assessment, debris removal, and repair on non-lifeline routes.
- Develop a plan for long-term restoration.
- Coordinate restoration of rail service.
- Coordinate restoration of ferry services.

Strategic Goals:

Critical Routes: Identify the routes critical for response including routes to hospitals, emergency services, mass care shelters, CPODs, staging area, and points of entry including connections to adjacent communities, the states "Seismic Lifeline Routes" and air and water ports.

Situational Awareness: Assess the condition of the transportation network starting with critical routes.

Restoration: Remove debris and make necessary emergency repairs to reestablish at least one lane of traffic on critical routes and long-term restoration.

Time-phased Tasks:

Phase 1 (Prepare)

Critical Routes

- State
  - WSDOT has identified "Seismic Lifeline Routes" as critical to the response to a catastrophic incident. The "Seismic Lifeline Routes" are shown in Figure 6. WSDOT is analyzing these routes to identify hazards along these routes including crossings, landslides, and liquefaction and developing a hazard mitigation plan.
  - WSDOT will develop and implement mitigation strategies to improve the survivability of crossings within the "Seismic Lifeline Routes."
  - WSDOT will expand catastrophic debris management based on existing routine debris management strategies.
  - WSDOT will develop logistical supply line for WSDOT employees, equipment and construction materials.
- Local
  - List critical infrastructure and services that will need access after a catastrophic incident including:
    - Emergency services: Fire, EMS, Police;
    - Hospitals;
    - Staging Areas; Staging Areas are a location set up at or near an incident where resources can be placed while awaiting a tactical assignment;
    - CPODs;

        - Connection to points of entry to included connections to WSDOT's "Seismic Lifeline Routes," adjacent communities, and ports of entry (water ports/airports); and
    - Mass care shelters.
    - Develop list of critical routes and other critical transportation infrastructure (airports, water ports, rail lines) connecting identified critical infrastructure and services.
    - Determine hazards to critical routes / critical transportation infrastructure.
    - Develop and implement hazard mitigation strategies to protect critical routes.
    - Determine available resources for inspections, debris removal, and emergency repairs.
    - Develop logistics plan for equipment, personnel, and construction materials. (other considerations include food, fuel, water, and medical supplies).
    - Coordinate critical transportation plans with regional WSDOT offices.

Phase 2a (Initial Response)

Situational Awareness

- State
    - WSDOT will use regional office personnel to conduct on the ground surveys of the roads and bridges along the "Seismic Lifeline Route." WSDOT aviation division will use fixed winged air craft to conduct aerial surveys during daylight hours starting with the "seismic lifeline routes" Situational assessment information will be shared through the regional WSDOT EOC, the WSDOT Headquarters EOC, as well as the SEOC. Based on initial assessment, WSDOT will deploy certified bridge inspector and dive teams to conduct additional surveys of affected crossings.
    - Washington State will coordinate with rail companies to determine status of passenger and freight rail lines.
- Local
    - Conduct surveys of transportation network starting with crucial routes, ports of entry, and other critical transportation infrastructure.
    - Report transportation conditions to local EOC and WSDOT regional EOCs.

Debris Removal

- State
    - Conduct debris removal in accordance with WSDOT debris removal plan.
- Local
    - Conduct debris removal in accordance with local debris removal plan. Make request for assistance through WSDOT regional EOC with knowledge that WSDOT's first priority is to the "Seismic Lifeline Route."

Phase 2b (Employment Response)

Emergency Repairs

- State
  - WSDOT will develop and resource emergency repair plans based upon surveys with the goal of first establishing a minimum of one lane of travel in each direction on the "Seismic Lifeline Route" and then expand to assist with other state facilities and fulfill local requests for assistance.
- Local
  - Create emergency repair plan based upon surveys with the goal of establishing a minimum of one lane of travel in each direction starting with critical routes and expanding to other local transportation facilitates.

Phase 2c (Transition to Recovery)

Long Term Restoration

- State
  - Develop long-term transportation restoration plan with priority given to the "Seismic Lifeline Routes."
  - In consultation with local governments and state agencies, WSDOT will prioritize restoration of other state routes.
  - Demobilize resources as they are no longer required.
- Local
  - Develop long-term transportation restoration plan with priority given to critical routes.
  - Coordinate with the state on resource requests and restoration of state facilities within their jurisdictions.
  - Demobilize resources as they are no longer required.

Mass Care Services

Objective: Provide life-sustaining and human services to the affected population, to include hydration, feeding, sheltering, temporary emergency housing, evacuee support, reunification, and distribution of emergency supplies.

Critical Tasks:

- Develop public education materials concerning mass care services and conduct outreach.
- Before a disaster occurs, identify and build relationships with the key leaders, staff, and organizations from the whole community of state, local, tribal, and federal community who will provide resources, and/or coordinate, and conduct mass care operations in the state of Washington.
- Conduct detailed assessments and a gap analysis at the state and jurisdiction level of the mass care needs following a catastrophic earthquake scenario. Develop solutions to meet the needs and incorporate in specific jurisdictional catastrophic plans.
- Develop plans, policies, and procedures for delivery of mass care services to all persons in the impacted areas or evacuating to non-impacted areas in coordination with all responsible agencies.
- Develop and implement training and exercise programs for mass care personnel involved in the decision-making, planning, coordinating, or delivery and operations for sheltering, feeding and bulk distribution for the entire population, including those with disabilities, and access and functional needs issues.
- Alert, notify, mobilize, and assemble all mass care responders in accordance with procedures.
- Request, acquire, and deliver resources and capabilities to address life sustaining needs of all disaster survivors. Integrate deployment of resources and capabilities with other incident logistical operations such as patient evacuation, and delivery of key supplies and response personnel. Integrate with other support operations such as Critical Transportation, Public Health, Environmental Health, Agriculture, and Public Safety.
- Establish, staff, and equip emergency shelters and feeding operations, including provision of secure and accessible options for children and persons with disabilities, and pets/companion animals.

Time-phased Tasks:

Phase 1 (Prepare)

- State
    - ASSESS: Conduct detailed assessments and a gap analysis at the state level of the mass care needs following a catastrophic earthquake scenario. incorporate in specific state catastrophic plans.
        - Leverage hazard identifications, risk assessments, and consequence analysis to support pre-planning efforts.

        - Identify and socialize essential elements of information for damage and impact assessments from impacted partners (ISNAP, situation reports, damage/impact summaries).
        - Share gap analysis with federal partners.
    - PLAN: Develop plans, policies, and procedures in collaboration with partners to coordinate the delivery of mass care services.
    - TRAIN AND EXERCISE: Develop and implement training and exercise programs for mass care personnel involved in the decision-making, planning, coordinating, or delivery and operations for sheltering, feeding and bulk distribution for the entire population, including those with disabilities, and access and functional needs issues.
    - Develop and deliver public education materials concerning mass care services.
- Local
    - Conduct the above parallel activities at the jurisdiction level for assessment, planning, training and exercises, and communication.
        - Conduct detailed jurisdictional mass sheltering and feeding planning and coordination. Plans, policies, and procedures may include considerations for:
        - Develop public education materials on mass care services;
        - General population shelters: general population, people with disabilities, and individuals with caregivers and service animals;
        - Guidance on moving people between general population and functional and medical sheltering services;
        - Mass care staffing and service delivery;
        - Pre-identification of shelter facilities;
        - Guidance on volunteer management to include emergency and spontaneous volunteers; and
        - Identify, document, and train staff on interoperable communication systems and redundant communication systems.

Phase 2a (Initial Response)

- State
    - Alert, notify, and mobilize mass care responding organizations.
    - Develop and maintain situational assessment in areas critical to the success of mass care delivery.
    - Estimate initial mass care needs.
    - Conduct ongoing assessment of mass care needs.
    - Identify critical interdependencies.
    - Coordinate with Emergency Support Function (ESF) #7 s for volunteer resources to support of mass care operations, as needed.

  - Coordinate with ESF #11 if needed to provide emergency supplies for pets and service animals.
  - Provide quantitative mass care services data to Planning and Logistics Sections, and other ESFs that require accurate data for response logistics.
  - Coordinate with ESF #12 - Energy for power generation at shelters and other mass care delivery sites.
  - Implement a daily counting and reporting system for sheltering, feeding, and bulk distribution items delivered.
- Local
  - Activate local incident/unified/area command structures to manage prioritized response activities.
  - Activate local emergency operations/coordination centers.
  - Alert, Notify, and mobilize mass care staff and resources.
  - Assemble mass care teams for each identified mass care site (e.g. shelter, feeding, bulk distribution).
  - Activate emergency shelters.
  - Mobilize veterinary and animal shelter services.
  - Identify emergent/spontaneous response activities and C3 needs to organize those activities; prepare resource requests for those C3 teams.
  - Conduct initial and ongoing mass care needs assessment for sheltering, feeding, bulk distribution for the local jurisdiction.
    - Obtain information on population and location of potentially affected populations as part of planning process.
    - Coordinate anticipated need for mass care services with agencies responsible for evacuation.
    - Designate sites to serve as mass care facilities to include shelters, feeding sites, reception centers, food preparation sites, distribution points, etc.
    - Estimate numbers requiring sheltering services.
    - Estimate numbers requiring feeding services.
    - Estimate numbers requiring bulk distribution of relief items.
  - Activate contingency plans for shelter surge capacity, as needed.
  - Activate vendor agreements, MOUs, and Memorandums of Agreement (MOA) in support of mass care activities as needed.
  - Acquire and provide resources necessary to support mass care services.
  - Provide appropriate communication systems for mass care personnel and facilities.
  - Disseminate accurate, timely, and accessible information to the public, media, support agencies, and vendors about mass care services.
  - Coordinate mass care services for general population with appropriate agencies.
  - Coordinate with appropriate agencies on common population issues (e.g. disability, language, culture, etc.).

- Coordinate environmental health assessment of mass care operations with agencies responsible for environmental health.
- Coordinate mass care services for companion animals and owners with appropriate agencies.
- Sheltering: Conduct safe, secure, and effective sheltering operations to provide life-sustaining services in safe, sanitary, and secure facilities to individuals and households displaced by disasters.
    - Determine whether areas are located in a safe area as determined by appropriate government agencies.
    - Staff shelter with appropriately trained personnel.
    - Set-up shelter for operations.
    - Establish self-sufficiency (water/food/staffing) of shelter for minimum of 48 hours.
    - Ensure adequate communication systems are available for shelter staff.
    - Conduct regular communications with mass care management.
    - Provide regular updates on shelter needs and capacity.
    - Coordinate provision of mass care services within the shelter.
    - Coordinate provision of shelter support services with appropriate agencies.
    - Ensure shelter facility is accessible or provides temporary accessibility solutions where feasible.
    - Coordinate with appropriate government agency to conduct an environmental health assessment for mass care operations.
    - Coordinate with appropriate government agency to ensure any necessary decontamination is provided for shelter residents prior to entering shelter facility.
    - Coordinate dissemination of information about locations of different kinds of shelter, including companion animal shelters, general population shelters, and Functional and Medical Support Shelters.
    - Conduct shelter registration for general population.
    - Conduct initial assessment of population registering at shelter ensure appropriate shelter services are provided.
    - Conduct detailed assessments to identify types and levels of support needed to maintain functional independence of those individuals with disabilities and determine whether these needs can be met in general population shelters.
    - Coordinate with Functional and Medical Support Shelter Capability to ensure that individuals are referred to appropriate settings and appropriate functional and medical care is provided.
    - Establish processes to address issues identified in the assessment of shelter registrants.

        - Make arrangements to transfer individuals and caregivers/family members to appropriate care facilities when necessary.
        - Request additional resources and equipment necessary to support shelter operations.
        - Implement mechanisms for daily reporting of shelter population and locations.
        - Coordinate to provide security services if needed.
        - Coordinate feeding services for general populations in shelters.
        - Provide culturally and restricted diet appropriate feeding services when possible.
        - Provide regular updates on shelter needs and capacity.
        - Assess ongoing medical and public health needs of shelter population and refer as appropriate.
        - Coordinate environmental health assessment of mass care operations.
    - Establish companion and pets animal shelter.
        - Arrange for animal care/handling services.
        - Operate animal care/handling facilities.
        - Coordinate provision of veterinary medical services with appropriate agencies.
    - Coordinate with entities responsible for search and rescue for transference of companion animals into animal shelters.
        - Coordinate message regarding companion animal evacuation with agencies responsible for issuing evacuation orders.
        - Coordinate animal shelter operations with agencies responsible for environmental health.
        - Coordinate acquisition of needed companion animal resources with appropriate agencies receiving donations.
        - Coordinate transportation of companion animals with appropriate agencies.
        - Identify any special procedures necessary for the intake of companion animals (e.g., decontamination).
        - Identify and implement special procedures (e.g., decontamination) for companion animal intake.
        - Implement procedures for companion animal intake/registration.
        - Implement tracking system for intake and export of companion animals in compliance with local holding regulations.
        - Provide feeding services that ensure adequate nutrition for companion animals.
        - Establish guidance for staff on integrating volunteers while maintaining health and safety for staff, companion animals, and volunteers.
    - Feeding: Provides feeding services at fixed and mobile sites.

- Distribution of Emergency Supplies: Acquire and deliver supplies to meet the urgent needs of disaster survivors. Support may include transportation, warehousing, equipment, technical assistance, and other mission critical materials or services.
- Local jurisdictions will work in concert with federal and host state authorities to support, plan, and coordinate mass care support to survivors relocated to their local jurisdictions.
- Identify, collate, and synthesize high level damage/impacts based on limited information and intelligence.
- Share summary information with partners both vertically and horizontally.
- Communicate with public on damage/impacts.
- Supervise and support day-to-day mass care operations.

Phase 2b (Employment Response)

- State
  - Coordinate and support safe, secure, and effective feeding and sheltering operations.
  - Damage/impact assessments are conducted based on defined priorities.
  - Initiate in depth impact assessments.
  - Share summary information with partners both vertically and horizontally.
  - Communicate with public on damage/impacts.
  - Coordinate with appropriate agencies to determine bulk distribution needs of affected population.
  - Coordinate with agencies receiving donations to acquire items needed for bulk distribution, including supplies for companion animals.
- Local
  - Implement a daily counting and reporting system for sheltering, feeding, and bulk distribution items delivered.
  - Damage/impact assessments are conducted based on defined priorities.
  - Initiate in depth damage and impact assessments.
  - Share summary information with partners both vertically and horizontally.
  - Communicate with public on damage/impacts.
  - Coordinate with appropriate agencies to determine bulk distribution needs of affected population.
  - Coordinate with agencies receiving donations to acquire items needed for bulk distribution, including supplies for companion animals.
  - Conduct Bulk Distribution Operations.
    - Conduct bulk distribution of relief items at fixed sites.
    - Conduct mobile bulk distribution operations.
    - Report daily distribution count and number of people served.

        - Disseminate notification of end to bulk distribution operations.
    - Conduct Feeding.
        - Estimate projected feeding services required.
        - Identify kitchens, vendors, and other capabilities to prepare and distribute food.
        - Identify additional mobile feeding resources necessary to meet feeding need.
        - Assess number of pre-packaged meals needed to augment feeding services.
        - Develop a strategy to meet projected feeding need.
        - Conduct inspection of identified food operation facilities to determine structural integrity, capability, and suitability.
        - Ensure kitchen facilities are in compliance with local health regulations.
        - Staff kitchens with appropriately trained personnel.
        - Acquire foodstuffs for feeding operations.
        - Determine mobile feeding routes.
        - Implement reporting mechanism for daily meal counts.
        - Coordinate with shelter managers to ensure adequate feeding is conducted at shelters.
        - Conduct food preparation and distribution using safe food handling protocols.
        - Conduct mass feeding operations, including mobile and fixed.
        - Conduct food preparation and distribution using safe food handling protocols.
        - Provide culturally and diet-restriction appropriate feeding services as available.
        - Ensure adequate nutrition is provided for shelter populations.
        - Report accurate count of meals and snacks served.
        - Disseminate notification of end to feeding operations.

Phase 2c (Transition to Recovery)

- State
    - Coordinate transition to Short-Long Term Housing options.
    - Coordinate demobilization of mass care resources with participating agencies.
- Local
    - Complete damage/impact assessments.
    - Share summary information with partners both vertically and horizontally.
    - Communicate with public on damage/impacts.
    - Phase out the mass care facilities and assist displaced persons in obtaining temporary housing and other aid. The demobilization plan of action will outline

public/private partnership roles, responsibilities, resources, and protocols for the recovery transition period.

- The Care and Shelter staff will participate in the demobilization and recovery from an emergency; coordinate provision of support to cleanup and recovery operations, as needed, including provision of financial and behavioral health services to individuals and emergency workers, where appropriate.
- Disseminate notification to close shelter operations to shelter residents, appropriate government agencies, and other partners.
- Conduct closing inspection and walk-through of shelters.

Public Health, Healthcare, Emergency Medical Services, and Mortuary Services

Objective for Public Health, Healthcare, and Emergency Medical Services: The National Preparedness Goal defines public health, healthcare, emergency medical services, and mortuary services as the ability to "provide lifesaving medical treatment via Emergency Medical Services and related operations and avoid additional disease and injury by providing targeted public health, medical, and behavioral health support and products to all affected populations."

Objective for Fatality Management: Provide fatality management services, including decedent remains recovery and victim identification, working with local, state, tribal, territorial, insular area, and Federal authorities to provide mortuary processes, temporary storage or permanent internment solutions, sharing information with mass care services for the purpose of reunifying family members and caregivers with missing persons/remains, and providing counseling to the bereaved.

Critical Tasks:

- Identify health threats and implement disease control and environmental health measures to protect the affected population.
- Provide emergency medical care to casualties and provide transportation to definitive care.
- Support the healthcare system in caring for patients in hospitals and long-term care facilities within the affected area.
- Provide care and resources for people with medical needs within the affected area.
- Provide for the timely and respectful removal and identification of human remains and conduct next of kin notifications.
- Return medical surge resources to pre-incident levels, complete health assessments, and identify recovery processes.

Critical Tasks under each time phase and core capability by state and local responsibility:

Federal and State

- Crisis Standards of Care
- Medical Surge
- Patient Movement
- Fatality Management
- Emergency Medical Services
- Public Health Services

Local Jurisdictions

- Crisis Standards of Care
- Medical Surge
- Patient Movement
- Fatality Management

- Emergency Medical Services
- Public Health Services

Time-phased Tasks:

Phase 1 (Prepare)

Operational Coordination

- State
  - Grant work funded by the Centers for Disease Control and Prevention (CDC).
  - Grant work funded by the Healthcare Preparedness Program through U.S. Health and Human Services (HHS).
  - Establish Continuity of Operations Plan.
  - Develop the Washington State Department of Health (DOH) SOAR Initiative (Support Our Agency Responders by providing pet, child, elder care, psychological support, and food and sanitation services).
  - Exercises and developing response capabilities as outlined by FEMA and CDC.
  - Craft pre-scripted mission assignments and create mission ready packages with federal response agencies.
  - Support other states, territories, and tribal nations in crisis across the country.
  - Empower our local/tribal/regional partners to respond to catastrophic events without centralized direction.
  - Identify triggers and indicators that may indicate the need for crisis standards of care.
  - Establish crisis standards of care clinical guidelines through the Disaster Medical Advisory Committee (DMAC).
  - Provide crisis standards of care training to healthcare providers.
  - Establish statewide ethical framework around crisis standards of care based on existing evidence and best practice.
  - Develop systems to provide emergency medical services resources to affected jurisdictions.
  - Develop and sustain systems to support medical surge within the statewide healthcare system.
  - Develop and sustain systems to provide care for people with special medical needs.
  - Develop and sustain systems for enhanced public health surveillance during response and recovery.
  - Develop and sustain plans and operational capabilities to conduct and support mass patient movement.
  - Develop plan for coordinated fatality management across counties.
- Local
  - Develop medical surge plans in concert with state plans.

  - Develop patient movement plans in concert with state plans.
  - Develop fatality management plans in concert with state plans.
  - Train and exercise capabilities in concert with state plans.
  - Provide crisis standards of care training to healthcare providers.

Operational Communication

- State
  - Build redundant communication systems.
  - Train and exercise on redundant communication systems.
- Local
  - Build redundant communication systems.
  - Train and exercise on redundant communication systems.

Situational Assessment

- State
  - Develop essential elements of information that will be collected from state, local, and tribal partners.
  - Establish systems to gather health surveillance and assessment data from local and tribal jurisdictions.
- Local
  - Develop essential elements of information that will be collected from field responders.
  - Develop and provide to the state, essential elements of information needed from the state-level to support response and recovery.
  - Develop process to surveil for and anticipate health consequences related to the incident.

Logistics and Supply Chain Management

- State
  - Identify at risk public health and healthcare supply chains that would be impacted.
  - Train and exercise Receipt, Stage, and Store Task Force for logistics and supply chain needs.
  - Pre-identify, train and exercise state public health strike teams and task forces.
- Local
  - Identify at risk public health and healthcare supply chains that could be impacted.
  - Pre-identify locations to receive and distribute medical supplies to affected citizens.
  - Pre-identify, train and exercise local public health strike teams and task forces.

Phase 2a (Initial Response)

Operational Coordination

- State
  - Establish command and control.
  - Activate COOP.
  - Encourage "islands of response" to use framework objectives:
    - Individuals empowered to save lives;
    - Connect to and communicate with others responding;
    - Work to establish communications to a higher level: Neighborhood to city, City to county, County to state, and State to federal.
  - Assess and develop a common operating picture for public health, emergency medical services and healthcare impacts.
  - With geography, re-establish basic public health and medical state level coordination in an unaffected area.
  - Respond to direct impacts to the agency.
  - Establish the ability to provide support and coordination.
  - Surge medical resources to support impacted healthcare facilities.
  - Implement pre-scripted mission ready packages.
  - Establish coordinated fatality management process in consult with impacted localities.
- Local
  - Establish process and locations to triage injured.
  - Establish continuity of operations (or reconstitution of government).
  - Establish priorities for limited resources.
  - Respond to direct impacts to the agency.
  - Establish command and control.
  - Establish the ability to provide support and coordination.
  - Establish the ability to request resources.
  - Assess and develop a common operating picture for public health, emergency medical services and healthcare impacts.

Operational Communication

- State
  - Prioritize establishing communication with impacted jurisdictions (local public health, local emergency management, tribal partners, and healthcare coalitions).
  - Establish the ability to request resources outside the state (EMAC, federal, etc.).
  - Local: Prioritize establishing communication within jurisdictions public health agencies, healthcare facilities, healthcare coalition and emergency management agency.
  - Establish the ability to request resources.

Situational Assessment

  - State: Establish process to assess critical infrastructure for public health and healthcare.
  - Begin collecting essential elements of information as it becomes available.
- Local
  - Establish process to assess critical infrastructure for public health and healthcare.
  - Begin collecting essential elements of information as it becomes available.

Logistics and Supply Chain Management

- State
  - Establish process to assess supply chain needs for public health and healthcare.
- Local
  - Establish process to assess supply chain needs for public health and healthcare.

Phase 2b (Employment Response)

Operational Coordination

- State
  - Using best information available and resources available, begin assigning to initial state coordinated missions.
    - Ask for more help (minimum of 2 Public Health Incident Management Teams for immediate replacement for the duration of at least 1 month).
  - Establish casualty collection points near/at serviceable air heads and engage EMS.
  - Establish in-state patient movement per DOH plans.
  - Appoint state-level incident medical examiner.
  - As a more complete common operating picture is developed, policy group will craft the mid-term and long-term public health and medical response strategy.
  - Build a demobilization plan addressing:
    - Priorities for release; and
    - Transitions to recovery staff.
  - As needed, reposition light and fast resources deployed to field as a more complete common operation picture is developed.
  - Request and develop employment plans for larger more logistically demanding federal and other resources.
  - Surge up existing hospitals with additional resources.
  - Request and deploy federal resources based on priorities.
  - Support Hospital/Facility decompression and medical surge.
  - Coordinate federal assets including National Disaster Medical System (NDMS), FEMA National Ambulance Contract and other pre-scripted missions.

  - Manage resource requests for other public health, fatality management and healthcare to support impacted jurisdictions.
  - Appoint a State Medical Examiner from outside the impacted area and coordinate with impacted jurisdictions.
  - Oversight of federal resources brought in to support cross-county fatality management.
- Local
  - Patient movement within local jurisdiction.
  - Fatality management.
  - Drinking water/sewage.
  - Set up alternate care facilities to support impacted populations.
  - Establish process and capability for recovery and victim identification of human remains.
  - Establish process and capability for Family Assistance Center operations.
  - Determine authority to declare death.

Operational Communication

- State
  - Interface with local medical examiners/coroners.
  - Establish statewide public messaging process (Joint Information Center [JIC]/Joint Information System [JIS]).
  - Establish multiple communication lines with impacted jurisdiction as communication lines become more reliable and available.
- Local
  - Establish local public messaging.
  - Establish communication with county EOCs and the SEOC if not already done.

Situational Assessment

- State
  - Assist in coordinating interstate, cross-jurisdictional state and federal mutual aid.
  - Provide regular updates on Essential Elements of Information (EEIs) to the DOH Policy Group, SEOC, state ESF 8 partners, federal ESF 8 partners, local health jurisdictions, healthcare coalitions and tribal partners.
- Local
  - Inform DOH of location of alternate care sites for resource delivery.
  - Identify local casualty collection sites.
  - Provide regular updates on EEIs to local policy makers, local EOC and to State ESF 8 entire population, including those with disabilities, and access and functional needs issues.

Phase 2c (Transition to Recovery)

Operational Coordination

- State
    - Establish Family Assistance Centers (with federal assistance).
    - Develop and implement plans to support deployed resources long-term.
    - Identify processes and triggers for recovery.
    - Develop and implement plans to support logistical operations long-term.
    - As a more complete common operating picture is developed, policy group will update the mid-term and long-term public health and medical response strategy.
    - Update the demobilization plan addressing:
        - Priorities for release; and
        - Transitions to recovery staff.

Utilities Restoration

This section includes the following sub areas: Power, Water and Waste Water, and Information Communications Technology (ICT).

Scope, Purpose, and Objective: Facilitate the strategic restoration of electrical grid and fuel resources to affected population, critical services, and critical infrastructure.

Critical Tasks:

- Monitor and report the status of and damage to the electrical grid and pipeline systems and infrastructure.
- Monitor and coordinate implementation of energy supply alert or energy emergency proclamation as necessary.
- Coordinate regulatory waivers and exemptions.
- Provide longer term coordination of the restoration and recovery of the affected grid or pipeline system and infrastructure if required.

Strategic Goals:

- Statewide operational coordination during a catastrophic incident.

  Federal and State

  - Pipeline transportation of natural gas and hazardous liquids (fuels) management.
  - Fuel distribution.
  - Power restoration.

  Local Jurisdictions

  - Power restoration.
  - Dispersal of distributed fuel to priority facilities.

  Private Sector/Nongovernmental Organizations

  - Stabilization and reestablishment of normal operations at energy facilities.

Planning Assumptions: Except for some agency specific uses, the State of Washington does not own or operate any significant energy supply facilities, nor is it involved in any wholesale or retail energy transactions or businesses. With the exception of rate regulation by the Washington Utilities and Transportation Commission (WUTC), the State does not regulate energy financial transactions. Energy supply and distribution is a function almost entirely of the private sector or local jurisdictions (such as Public Utility Districts or municipal utilities).

- Local fuel resupply is limited (Tacoma to Everett).
- Useable fuel stocks are low.
- Unrationed fuel use is expected to exceed supply (prioritized rationing required).
- Transportation grid is heavily impacted.

- Limited local law enforcement staff unable to secure fuel stocks on hand or in transport.
- Once fuel arrives via air or water, it is beyond local capacity to administer (regional coordination required).

Electrical:

- Loss of electrical grid will include damage to transmission and distribution systems. Damages will occur in the generation facilities, but system redundancy and interstate interconnects will provide some load capacity.
- Initial system safe shutdowns (breakers tripping due to shorts) may cause statewide blackouts that could impact transmission throughout the region covered by the Western Electricity Coordinating Council.
- Short term distributed generation (generators) will be required to provide energy to critical facilities. The use of generators will require short and long-term prioritization of fuel distribution.
- Electrical equipment will be damaged at most of the substations in the impacted area. Both overhead and in ground transmission and distribution lines are damaged.

Natural Gas

- Natural gas transmission pipelines, compressors, city gates and distribution systems will experience damage, outages and restoration issues.
- Distribution lines for end customers will likely experience damage.
- Large scale underground storage may experience structural damages, impacting seasonal natural gas availability.
- Natural gas pipelines may experience breaks and leaks, impacting product availability in the western US.

Petroleum

- Restoration of fuel refinery operations will require both water and electrical components.
- Damage to petroleum ports and rail may impact crude stock for refineries.
- Damage to refined product pump stations will impact end consumers. Fuel stations with generators are limited and consumers may not be able to easily access gasoline for evacuation or small generators.
- Refined product pipelines may experience breaks and leaks, impacting refined product availability in the western US.

- Damage to transportation corridors may reduce the overall demand for petroleum products, however fuel demand for response and recovery efforts will increase significantly and be a high priority for the first weeks and months of a catastrophic incident.
- Short term distributed generation (generators) will be required to provide energy to critical facilities. The use of generators will require short and long-term prioritization of fuel distribution.

Time-phased Tasks:

Phase 1 (Prepare) – Petroleum

- Coordinate with local plans with State Emergency Distribution and Allocation Plan.

Phase 2a (Initial Response) - Petroleum

- Conduct physical fuel site assessment to determine safety, access, power, communication, fuel stock on-hand, and site security needs.

Phase 2b (Employment Response) - Petroleum

- Establish replenishment plan with vendors.
- Check and establish communications with fuel and system support vendors (supply and repair).
- Determine local vendor capabilities.
- Order City fuel replenishment based on stock.
- Anticipate other fuel requests (i.e., remote fuel site set up, field emergency generator fueling, fuel transfer, field staffing).

Phase 2c (Transition to Recovery) - Petroleum

- Establish manual fueling capability at select fuel sites.
- If powered fuel site dispensing site fails:
  - Portable fuel pumping kits located at each underground fuel sites for each fuel stored underground;
  - Manual hand pumps stationed at sites with above ground tanks;
  - Coordinate set up of remote field fuel sites as requested; and
  - Manual record keeping.

All

- The ability for energy providers to request mutual aid assistance through normal channels will be disrupted.
- Workforce absences will complicate restoration and operations at all facilities.

Issues within the transmission corridor must be addressed in combination with issue in the distribution system. Transmission cannot be fully reestablished until distribution lines are ready to accept load.

Water and Waste Water – PLACE HOLDER

Information Communications Technology – PLACE HOLDER

Section 7: Conclusion

As the state's emergency management agency, the Emergency Management Division (EMD) of the Washington Military Department is available to assist local jurisdictions, tribes, and state agencies with implementing the requirements in this Framework. To request catastrophic incident planning assistance, or ask questions regarding the information contained in the Framework, contact EMD.

Finally, members of the SCIPT periodically review the Framework for currency. Revisions to the Framework occur to reflect changes in national emergency management doctrine, capabilities of Washington State government, and statewide or regional agreements.

Resources: Acronyms

ARNORTH – United States Army North
C3 – Command, Control, and Coordination
CDC – Centers for Disease Control and Prevention
CEMP – Comprehensive Emergency Management Plan
COG – Continuity of Government
COOP – Continuity of Operations Plan
CPOD – Community Point of Distribution
CSZ – Cascadia Subduction Zone
CVP – Commercial Vehicle Pass
DHS – Department of Homeland Security
DMAC – Disaster Medical Advisory Committee
DOD – Department of Defense
DOH – Washington State Department of Health
ECC – Emergency Coordination Center
EEI – Essential Elements of Information
EMAC – Emergency Management Assistance Compact
EMD – Emergency Management Division
EOC – Emergency Operations Center
ESF – Emergency Support Function
FEMA – Federal Emergency Management Agency
FORSCOM – United States Army Forces Command
Framework – Catastrophic Incident Planning Framework
FSA – Federal Staging Area
HHS – United States Health and Human Services
HITRAC – Homeland Infrastructure Threat and Risk Analysis Center
ICS – Incident Command System
ICT – Information Communications Technologies
ISB – Incident Support Base
ISNAP – Incident Snapshot
JFO – Joint Field Office
JIC – Joint Information Center
JIS – Joint Information System
MCC – Movement Coordination Center
MCG – Movement Control Group
MOA – Memorandum of Agreement
MOU – Memorandum of Understanding
NDMS – National Disaster Medical System
NEMA – National Emergency Management Association
NGB – National Guard Bureau

NIMS – National Incident Management System
NRCC – National Response Coordination Center
OSCCR – On Scene Command and Control Radio
PNEMA – Pacific Northwest Emergency Management Arrangement
RCPGP – Regional Catastrophic Preparedness Grant Program
RRCC – Regional Response Coordination Center
SCIPT – Statewide Catastrophic Incident Planning Team
SEOC – State Emergency Operations Center
SOAR – Support Our Agency Responders
SSA – State Staging Area
UCG – Unified Coordination Group
USGS – United States Geological Survey
USTRANSCOM – United States Transportation Command
WANG – Washington National Guard
WSDOT – Washington State Department of Transportation
WUTC – Washington Utilities and Transportation Commission

Resources: History

This section is a brief history of catastrophic incident planning in Washington State, and makes every effort to remain succinct without compromising adequate detail necessary for a complete picture of the past.

While recent (ca. 2015–2016) news media articles and exercises brought extra attention to catastrophic incidents and the emergency planning for them, the adjective "catastrophic" entered the U.S. emergency management discourse over a decade ago. In the aftermath of Hurricanes Katrina and Rita, occurring in August 2005 and September 2005 respectively, Congress directed the U.S. Department of Homeland Security (DHS) to "report on the status of catastrophic planning… in all 50 States and the 75 largest urban areas."[4] With this mandate, DHS launched the first "Nationwide Plan Review;" consisting of two phases: the first being a self-assessment by the states and urban areas, and the second being a peer review by former state and local homeland security and emergency management officials. The final report stressed the need for emergency planning to address catastrophic incidents: "Current catastrophic planning is unsystematic and not linked within a national planning system. This is incompatible with 21st century homeland security challenges, and reflects a systemic problem: outmoded planning processes, products, and tools are primary contributors to the inadequacy of catastrophic planning."[5]

Task Force for Emergency Readiness

The Federal Emergency Management Agency (FEMA) managed the Task Force for Emergency Readiness (TFER) pilot program from September 2008 to September 2010. Under this program, FEMA identified five states to receive funding for hiring teams of catastrophic incident planers, Washington being one of the five states. As a pilot program, successful evaluation of TFER after its initial eighteen-month run (later extended by FEMA) could allow for future expansion of the program. The three objectives of the TFER pilot program were:

1. Develop a catastrophic response plan as an annex to the state's emergency management planning, integrating federal, state, tribal, local, and private sector capabilities;
2. Build relationships across sectors for interagency coordination; and,
3. Document lessons learned.

An additional goal for the pilot program included assessing the initiative to strengthen integrated state and federal planning through: (1) Synchronizing catastrophic planning efforts at the respective state, [FEMA] regional, and federal levels; (2) Conducting assessments of catastrophic risks; (3) Identifying and addressing gaps in existing state plans; and, (4) Assisting

[4] U.S. House of Representatives. (2005). H. Rept. 109-241, *Making Appropriations for the Department of Homeland Security for the Fiscal Year Ending September 30, 2006, and for Other Purposes* (p. 68). Washington, DC: U.S. Government Printing Office.

[5] U.S. Department of Homeland Security. (2006). *Nationwide Plan Review: Phase 2 Report* (p. viii). Washington, DC: U.S. Government Printing Office.

in the overall organization, administration, and improvement of state catastrophic preparedness planning capacity.

FEMA Regional Offices worked with their applicable TFER states to select the most-appropriate National Planning Scenario(s) for focusing their team's catastrophic incident planning efforts. Washington selected Scenario 9: Natural Disaster–Major Earthquake, focusing on catastrophic planning, emergency logistics, distribution, evacuation, and recovery. TFER placed special emphasis on the vertical and horizontal integration of emergency plans, particularly with military plans under the auspices of "Defense Support to Civil Authorities" and "Domestic Operations;" indeed, the U.S. Department of Defense initially conceived of the TFER program.

As early as April 2009, the U.S. Government Accountability Office (GAO) reported that FEMA faced challenges in assessing pilot program data, and had no policy guidance for pilot programs at that time. In early 2010, FEMA announced that TFER would not continue past the pilot stage. An April 2011 GAO report to congressional requestors acknowledged the progress made by TFER states towards developing emergency plans and documenting lessons learned[6]. However, that same report criticized an overall lack of structured guidance to states participating in the pilot program.

Puget Sound Regional Catastrophic Planning Team

While the TFER pilot program focused on catastrophic incident planning at the state government-level, the focus for DHS's Regional Catastrophic Preparedness Grant Program (RCPGP) was more at the local government-level. From September 2008 to July 2014, 10 sites selected from the then Metropolitan Statistical Areas (MSAs) participating in the Urban Area Security Initiative (UASI) program conducted extensive catastrophic incident planning; the Seattle MSA being one of those ten sites.

Under the RCPGP, tribal nations, local governments, non-governmental organizations (NGOs), and the private sector within eight Washington State counties surrounding Puget Sound formed a Regional Catastrophic Planning Team (RCPT). Over the next six years, the Puget Sound RCPT developed dozens of catastrophic incident products (e.g., plans, templates, maps, etc.) for tribal and local emergency managers to incorporate into their emergency planning; as well as plans supporting response and recovery operations during catastrophic incidents. Several RCPGP products are still available from their respective UASI working groups; however, the Washington Military Department, Emergency Management Division (EMD) hosts the Puget Sound RCPT products on its website[7].

[6] U.S. Government Accountability Office. (2011). GAO-11-383, *Catastrophic Planning: States Participating in FEMA's Pilot Program Made Progress, but Better Guidance Could Enhance Future Pilot Programs*. Washington, DC: U.S. Government Printing Office.

[7] http://mil.wa.gov/emergency-management-division/regional-catastrophic-preparedness-grant-program-rcpgp

Resources: Planning Pyramid

A way to visually conceptualize the purpose of operational coordination within the Framework is with the "Planning Pyramid" (see Figure 7) from Comprehensive Preparedness Guide (CPG) 101, wherein "operational planning" concerns roles and responsibilities, tasks, integration, and actions. In this context, "operational" is not necessarily synonymous with "response," as the terms used to describe operational planning could equally apply to recovery efforts. As further explained in CPG 101, "all three tiers of planning occur at all levels of government."[8]

Figure 7 Relationship between Strategic, Operational, and Tactical Planning (reprinted from Comprehensive Preparedness Guide 101)

[8] U.S. Federal Emergency Management Agency. (2010). *Comprehensive Preparedness Guide 101, Developing and Maintaining Emergency Operations Plans, Version 2.0* (p. 1-4). Washington, DC: U.S. Government Printing Office.

Resources: Organizational Coordination

STATEWIDE OPERATIONAL COORDINATION DURING A CATASTROPHIC INCIDENT

Day-to-day, the SEOC remains activated at Level 3 (Normal Operations) with two (2) State Emergency Operations Officers (SEOOs, also called duty officers) staffing the Alert and Warning Center (AWC). Once activated to Level 1 (Full Operations), the SEOC is staffed with the subject matter experts needed to support and [in the instance of a catastrophic incident] direct response and recovery operations. As assisting federal personnel arrive, the SEOC becomes an Initial Operating Facility (IOF). Superseding the IOF is the Joint Field Office (JFO), which may or may not reside at the same physical location as the IOF. The JFO is a temporary facility that provides a central location for coordination of response efforts by the private sector, NGOs, and all levels of government. The personnel that staff the JFO are sometimes called the "Unified Coordinating Staff," and the JFO itself is sometimes referred to as an [or using an] "unified coordinating structure." Once state and federal partners establish a JFO in response to a catastrophic incident, the SEOC remains physically integrated in partnership with the JFO, while maintaining its own organizational structure.

Despite the unique and widespread characteristics of a catastrophe, emergency management of a catastrophic incident impacting Washington State follows established national doctrine; that is, overall statewide strategic emergency management coordination responsibility residing with the Unified Coordination Group (UCG). As described in the *National Response Framework*, the membership of the UCG comprises "senior leaders representing state, tribal, and federal interests and, in certain circumstances, local jurisdictions and the private sector. UCG members must have significant jurisdictional responsibility and authority."[9] In the circumstance of a catastrophe affecting Washington State, the UCG membership includes representation from impacted tribal nations and local governments. Furthermore, state and federal partners establish a UCG in every impacted state receiving federal assistance.

Under the Robert T. Stafford Disaster Relief and Emergency Assistance Act (Stafford Act), once the governor of a state [which includes the District of Columbia, Puerto Rico, the U.S. Virgin Islands, Guam, American Samoa, and the Commonwealth of the Northern Mariana Islands] requests federal assistance, the requesting governor appoints a State Coordinating Officer (SCO) to oversee state-level response and recovery efforts.

[9] U.S. Department of Homeland Security. (2016). *National Response Framework, Third Edition* (p. 48). Washington, DC: U.S. Government Publishing Office.

A Federal Coordinating Officer (FCO), appointed by the President in a Stafford Act declaration, coordinates federal activities in support of the state requesting assistance. The SCO and FCO co-lead the UCG, and the UCG provides leadership within the JFO (see Figure 8 for an illustration of the UCG organizational structure within the JFO, NOTE: Consider "Unified Coordination Staff" synonymous with the JFO in this instance).

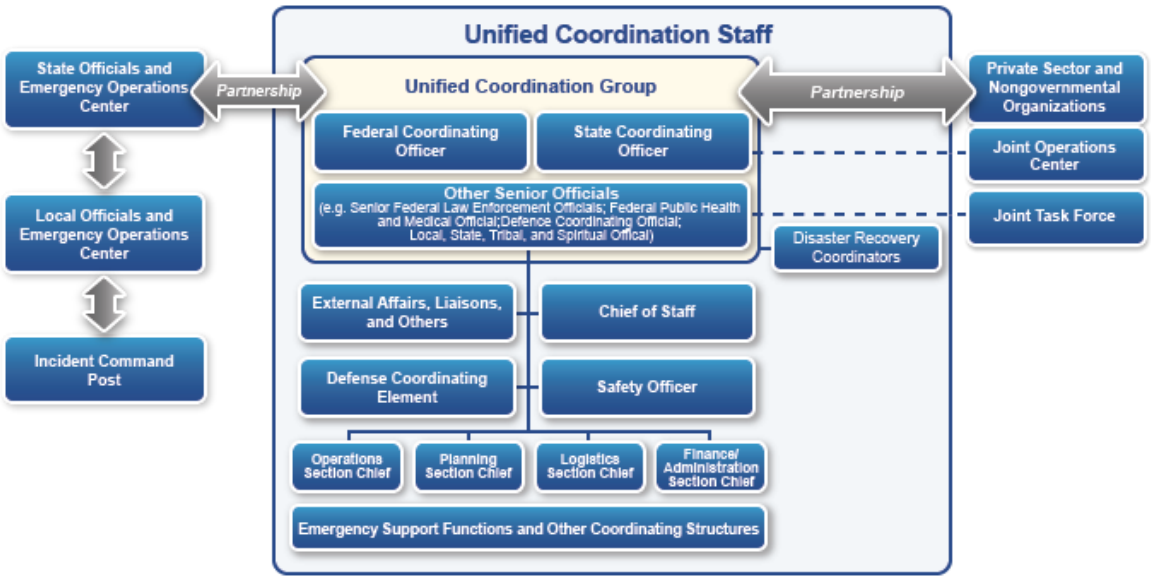

Figure 8 Organizational chart titled "Unified Coordination" (reprinted from the National Response Framework)

Resources: List of Existing Catastrophic Plans for Washington State

> ***CATASTROPHIC INCIDENT – Any natural or human-made incident, including terrorism, which results in extraordinary levels of mass casualties, damage, or disruption severely affecting the population, infrastructure, environment, economy, national moral, or government functions.***

History of Catastrophic Planning- While recent (ca. 2015–2016) news media articles and exercises brought extra attention to catastrophic incidents and the emergency planning for them, the adjective "catastrophic" entered the U.S. emergency management discourse over a decade ago. In the aftermath of Hurricanes Katrina and Rita, occurring in August 2005 and September 2005 respectively, Congress directed the U.S. Department of Homeland Security (DHS) to "report on the status of catastrophic planning… in all 50 States and the 75 largest urban areas."2 With this mandate, DHS launched the first "Nationwide Plan Review;" consisting of two phases: the first being a self-assessment by the states and urban areas, and the second being a peer review by former state and local homeland security and emergency management officials. The final report stressed the need for emergency planning to address catastrophic incidents: "Current catastrophic planning is unsystematic and not linked within a national planning system. This is incompatible with 21st century homeland security challenges, and reflects a systemic problem: outmoded planning processes, products, and tools are primary contributors to the inadequacy of catastrophic planning."

- **Washington State Comprehensive Emergency Management Plan**
  - "In the event of a catastrophic incident, Washington State government will respond to the incident to the best of its ability, but will require help from non-governmental organizations (NGOs), the private sector, neighboring states, provinces, and the federal government. State agencies will rely on their Continuity of Operations plan to quickly address and recover from the incident."
  - "Catastrophic Incident Annex addresses all hazards planning in accordance with the Emergency Management Act (RCW 38.52), by including catastrophic incident planning. Coordinating general courses of action in advance to address activities likely in a catastrophic disaster simplifies communications, speeds response, and helps to guide a host of additional participants that commonly become involved. Pre-coordinated activities and additional response operations needed for a catastrophic incident are termed as Catastrophic Contingency Options (CCOs) and may be implemented by state agencies to support local jurisdictions."
- **Resilient Washington Subcabinet**
  - "The Resilient Washington Subcabinet was convened in January of 2017 to help our state better prepare for natural disasters, including earthquakes, tsunamis, wildfires, drought, storms and flooding."
  - "The subcabinet has been directed to:
    - Identify data and information gaps that hinder preparedness and response plans;

        - Identify data and information to help guide a strategic public education campaign centered on personal preparedness;
        - Develop potential actions that can be coordinated across state agencies, local jurisdictions and federal partners to reduce risk and improve response in the event of an earthquake or tsunami; and
        - Identify, prioritize and estimate costs for state actions that will improve public safety and earthquake preparedness and response."
    - **State Seismic Safety Committee**
        - **"Purpose -** Prepare and submit to the Emergency Management Council (EMC) statewide strategies, policies, and recommendations that address the seismic threat through mitigation, preparedness, response and recovery activities. This will be established through a collaborative effort and consensus of committee members representing stakeholder organizations across the state.
        - **Overview -** The Washington State Seismic Safety Committee (SSC) initiated a project to study and prepare a policy paper with the purpose of providing a framework for improving Washington's resilience when earthquakes occur. Such a framework includes more effective seismic mitigation policies and recommendations for legislation and policy changes to improve and enhance statewide seismic safety. The document will be used to facilitate long-term implementation of seismic risk reduction policies across the state with the goal of making the state resilient in a 50-year time frame."
    - **WSDOT (Washington Dept. of Transportation)**
        - In 2012, the Washington State Seismic Safety Committee published the Resilient Washington State: Final Workshop Report which provides the framework for improving Washington's resilience when earthquakes occur by proactively reducing critical vulnerabilities.
        - Following that framework, WSDOT established a vision to refine its Phase three tier and create an interconnected lifeline of highways with built in redundancy to provide alternate routes if a segment of highway becomes impassable after an earthquake.
- **WSDOT Aviation Division- Aviation Emergency Services and the Cascadia Subduction Zone**
    - Washington State Law specifies that WSDOT Aviation is the lead agency for the coordination of Air Search and Rescue and Aeronautics within the state. The references are RCW 47.68 and 468-200 WAC.
    - WSDOT Aviation is a part of the statewide emergency management system, representing portions of both Emergency Support Functions (ESF) 1 (Transportation) and 9 (Search and Rescue) under the control of the Emergency Management Division and the Governor of Washington.
    - WSDOT Aviation Response Plan

        - First, we need to get your help in maintaining our existing airport databases currently on our website.
        - Next, after the incident, we need to know your current status and who we can contact.
        - Then we will need to know what we can do to help.
    - When the big one hits:
        - We ask that an airport representative call, email or get to WSDOT Aviation with changes/updates to the airport;
        - If we do not hear from you, we will go to you; and
        - If you don't know, tell us what you do know and we'll take care of the rest (especially if it a serviceability or fuel contamination issue).
- **Regional Catastrophic Preparedness Grant Program (RCPGP)**
    - "The Puget Sound Catastrophic Disaster Coordination Plan (Coordination Plan) can assist local, state, federal, and private sector partners in coordinating their planning, response to and recovery from regional catastrophic incidents and disasters.
    - This program is a group of 10 cities that have come together to think differently about planning and preparedness for catastrophes. The sites have developed a number of products – plans, tools, trainings, and exercises – that bolster the ability of their communities to respond to and recover from catastrophic emergencies.
    - **Supply Chain Project -** The main objectives of the project were to develop a supply chain resilience working group consisting of transportation and supply chain stakeholders across the 8 county RCPGP. A series of workshops conducted by the working group researched the designation of community points of distribution (CPODs), identification of alternate means of delivery, and transition plan from government to private sector.**"**
- **Puget Sound Regional Catastrophic Planning (RCP)**
    - **Vision -** Through implementation of this Strategic Sustainment Plan, the RCPT envisions Puget Sound Region 3 stakeholders working collaboratively to prepare for, respond to and recover from a catastrophic incident.
        - We will sustain, refine and continue to develop catastrophic plans and tools that will support regional coordination before, during and after catastrophic incidents.
        - Catastrophic planning will be part of every emergency management program, based on the concepts in the Regional Coordination Plan and Annexes.
        - These efforts will be coordinated through a regional committee composed of stakeholders who represent the whole community from across the Puget Sound Region.

- **Mission -** Through collaborative engagement and planning, Puget Sound Region stakeholders will enable the Puget Sound Region to prepare for, respond to, and recover from, catastrophic incidents.

- **Washington Statewide Catastrophic Incident Planning Team (SCIPT)**
  - **Purpose -** The purpose of the SCIPT is to facilitate collaborative engagement between state, tribal, and local governments, together with the communities they serve, in developing plans to prepare for, respond to, and recover from catastrophic incidents. The SCIPT serves in an advisory capacity to state agencies, tribal nations, and local jurisdictions in Washington State and may review and propose policies and plans in support of integrated statewide catastrophic incident planning.
  - **"Six criteria distinguishing catastrophes from other disasters**
    - Critical infrastructure within the impacted area receives heavy damage, and is potentially inoperable for an extended period. This includes the transportation modes (e.g., roads, bridges, etc.) and facilities (e.g., fire stations, hospitals, etc.) needed for emergency response.
    - The capabilities of an impacted jurisdiction are so degraded; they have little or no capacity to manage a comprehensive emergency response. In catastrophic situations, local personnel are often unable to carry out emergency duties for some time, both right after the incident and well into the recovery period. Entities from outside the impacted communities may need to assume now-vacant leadership roles.
    - The catastrophe impacts the whole community as almost all everyday functions are interrupted simultaneously (e.g., schools, work, recreation, religious functions, cultural, and government).
    - The scale of the catastrophe impacts multiple adjacent jurisdictions and exhausts resources throughout the region, making mutual aid unavailable.
    - In order to provide timely assistance, state and federal governments may take proactive measures, based on planning assumptions, to mobilize and deploy resources prior to formal requests for assistance.
    - Media coverage of catastrophes is more intensive, of a much longer duration, and focuses on personal stories even more so than usual.
  - **Typical characteristics of a catastrophic incident**
    - Most, or all, of the built environment in a multi-jurisdictional area is severely impacted/damaged.
    - Local response and supporting organizations (including NGOs) in a multijurisdictional area cannot assume emergency roles due to losses of personnel, facilities, and/or equipment.
    - The scope of response (e.g., numbers of victims, need for aid, etc.) in impacted jurisdictions greatly exceeds surviving resources and established mutual aid agreements; assistance from adjacent

communities is unavailable, including nontraditional partners within the jurisdiction or in adjacent jurisdictions.
        - A thorough situation assessment takes several days to acquire. There is little to no information available from neighboring jurisdictions, and impact reports from regular sources are fragmentary, conflicting, and/or chaotic."
- **State Seismic Safety Committee**
    - **"Purpose -** Prepare and submit to the Emergency Management Council (EMC) statewide strategies, policies, and recommendations that address the seismic threat through mitigation, preparedness, response and recovery activities. This will be established through a collaborative effort and consensus of committee members representing stakeholder organizations across the state.
    - **Overview -** The Washington State Seismic Safety Committee (SSC) initiated a project to study and prepare a policy paper with the purpose of providing a framework for improving Washington's resilience when earthquakes occur. Such a framework includes more effective seismic mitigation policies and recommendations for legislation and policy changes to improve and enhance statewide seismic safety. The document will be used to facilitate long-term implementation of seismic risk reduction policies across the state with the goal of making the state resilient in a 50-year time frame."
- **Washington State Coast Resilience Assessment-Final Report**
    - The majority of participants listed earthquake and tsunami as the top hazard for the coast and frequently talked about the potential devastating impact of a Cascadia Subduction Zone Earthquake (CSZE). This 9.0+M earthquake would cause a number of other potentially catastrophic incidents, including a large tsunami, landslides and liquefaction (a phenomenon in which soil loses its strength and ability to support structures and buildings).
    - In addition to the challenges and opportunities that are brought on by changing conditions there is a sobering reality that the coastal communities and environment face potentially catastrophic impacts from a Cascadia earthquake and tsunami. To prepare for and to mitigate against these life-threatening hazards will be a critical component of coastal resilience efforts.

Resources: References

Annexes, Puget Sound Regional Catastrophic Disaster Coordination Plan and. "https://mil.wa.gov/uploads/pdf/PLANS/StrategicSustainmentPlan.pdf." Dec 2013. *https://mil.wa.gov/.* 30 July 2017.

Center, William D. Ruckelshaus. *Washington State Coast Resilience Assessment Final Report*. 01 May 2017.

Committee, Seismic Safety. "http://mil.wa.gov/other-links/seismic-safety-committee-ssc." Sep 2010. *http://mil.wa.gov/.* July 2017.

Dept, Washington Military. "https://mil.wa.gov/uploads/pdf/PLANS/coordinationplannew.pdf." July 2014. *https://mil.wa.gov/.* July 2017.

—. "https://mil.wa.gov/uploads/pdf/PLANS/final-wacemp-basic-plan-june2016-signed.pdf." June 2016. *https://mil.wa.gov.* July 2017.

Harvey, Conrad. "Aviation Emergency Services and the Cascadia Subduction Zone." Sept 2015. *http://www.wsdot.wa.gov/NR/rdonlyres/CBC80266-02FB-44B7-8527-56FFAAF0269B/0/AviationEmergencyServicesWorkshopPresentation_24SEP.pdf.* 31 July 2017.

Statewide Catastrophic Incident Planning Team, (SCIPT). "https://mil.wa.gov/emergency-management-division/statewide-catastrophic-incident-planning-team." Jan 2017. *ps://mil.wa.gov/.* July 2017.

Subcabinet, Resilient Washington. "https://mil.wa.gov/emergency-management-division/resilient-washington-subcabinet." May 2017. *https://mil.wa.gov/.* July 2017.

WSDOT. "http://www.wsdot.wa.gov/publications/fulltext/Bridge/Seismic.pdf." June 2015. *https://mil.wa.gov/emergency-management-division/resilient-washington-subcabinet.* July 2017.

Resources: Cascadia Subduction Zone Background

The Cascadia Subduction Zone (CSZ) is an approximately 800-mile "megathrust" fault stretching from the northern half of Vancouver Island in British Columbia to Cape Mendocino in Northern California; ranging between 50 to 80 miles off the coast of the Pacific Northwest. A full rupture of the CSZ fault line could generate an earthquake exceeding magnitude 9.0 that lasts for five minutes or longer, as well as subsequent aftershocks and local source tsunamis.

The CSZ fault is formed by the convergence of the Juan de Fuca Plate and North American Plate. Subduction occurs as one tectonic plate moves under another. The Juan de Fuca Plate is subsiding beneath the North American Plate, as seen in Figure 9, thereby creating the CSZ (illustrated with a red line).

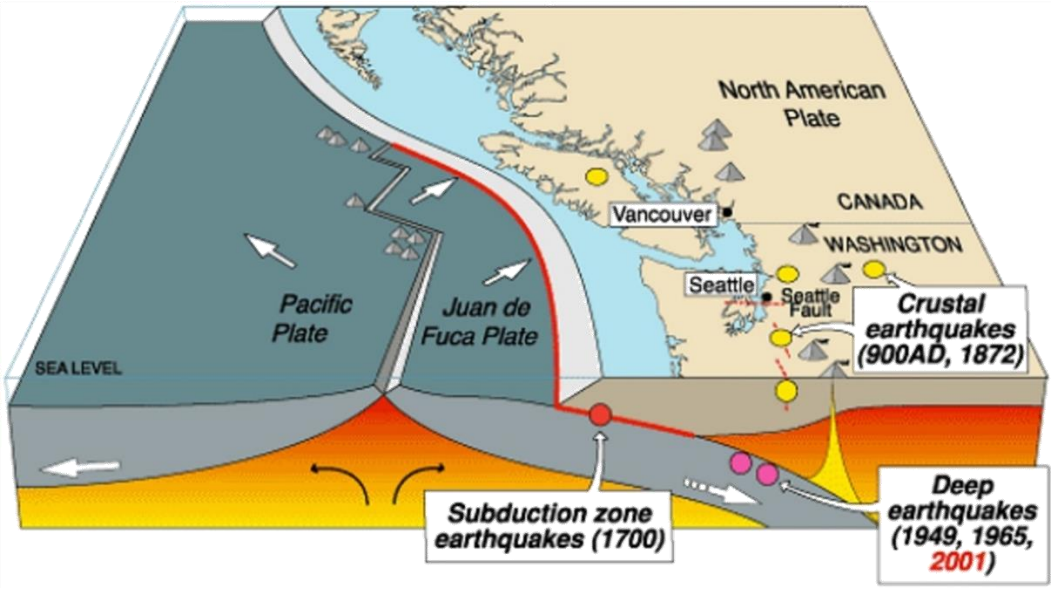

Figure 9 Simplified Cross Section of the Earth's crust through Washington State titled "Cascadia earthquake sources" (adapted from USGS)

Scientists and researchers used field studies and historical as well as cultural records respectively, to confirm the last rupture of the entire CSZ occurred in January 1700. Fieldwork conducted in the 1980s and 1990s along the Pacific Northwest coast found areas where the land dropped suddenly, as evidenced by buried and submerged trees of "ghost forests" that died from the rapid advance of seawater.[10] Scientists further used sediment layers, debris samples from landslides, core samples from the ocean floor, and the tree rings from the ghost forests to determine the date of the 1700 Cascadia earthquake.[7] While there were no historical records for the Pacific Northwest at that time, Japanese sources from that timeframe described the sudden appearance of a tsunami with no associated earthquake.[11] Finally, despite the lack of historical records for the Pacific Northwest in 1700, oral traditions of Native American

[10] Spitz, T. (2015). *How Scientists Know When the Last Big Earthquake Happened Here*. Portland, OR: Oregon Public Broadcasting.

[11] Satake, K. et al. (1996). Time and Size of a Giant Earthquake in Cascadia Inferred from Japanese Tsunami Records of January 1700. *Nature*. London, UK: Nature Publishing Group.

peoples provided clues pointing to a catastrophic earthquake and tsunami,[12] specifically a common regional pattern of art, dance, and stories telling of an epic battle between a thunderbird and a whale.

Scientific research and consensus indicates an earthquake along the CSZ megathrust fault will occur with little or no advance notice. While analytical modeling of such an incident predicts devastating and disruptive affects throughout the entire state: both the western and eastern sides. Further, a full rupture of the CSZ has a national impact in terms of economic disruption and cessation of commercial supply chains.

The CSZ is Washington State's hazard of greatest concern; representing both the highest risk, and "maximum-of-maximum" threat or hazard facing the State of Washington. In keeping with the concept of planning for the worst-case threat and/or hazard is therefore planning for all possible threats and/or hazards, the Framework uses the CSZ as the statewide planning standard for catastrophic incidents.

State law (WAC 118-30-060) requires political subdivisions to develop Comprehensive Emergency Management Plans (CEMPs) that includes a hazard analysis listing the natural and "man-made" disasters to which the political subdivision is vulnerable. Every political subdivision in Washington State is vulnerable to catastrophes; therefore, each political subdivision [of Washington State] must incorporate catastrophic incidents into their emergency planning.

Yurok myth: "All of the earthquake-related Yurok stories are contained in "Yurok Myths" (Kroeber, 1976). These include the relatively unambiguous story of co-seismic subsidence and tsunami "How the Prairie Became Ocean" (Kroeber, 1976; BB3) (previously discovered by D. Carver and G. Carver). The Yurok stories include a character called "Earthquake" (Kroeber, 1976; stories B5, C1, C5, F1, L1, P1, P6, W1, X1, and BB3)." This is an excerpt from this document: "DRAFT: CASCADIA MEGATHRUST EARTHQUAKES IN PACIFIC NORTHWEST INDIAN MYTHS AND LEGENDS by Ruth Ludwin, University of Washington Dept. of Earth and Space Sciences 12/29/99 DRAFT" on the website of PNSN, Pacific Northwest Seismic Network website: https://pnsn.org/outreach/native-american-stories/native-american-stories-overview

[12] U.S. Geological Survey/Pacific Coastal and Marine Science Center. (2008). *Native American Legends of Tsunamis in the Pacific Northwest*. Retrieved from https://walrus.wr.usgs.gov/tsunami/NAlegends.html