

## SR 530 Landslide Commission Meeting

Monday, October 20, 2014; 5:00 – 8:15 p.m.  
The Everett Community Center, Port Gardner Rooms A&B  
3900 Broadway, Everett, WA 98201  
Phone: (425) 385- 4019

### *Meeting Summary*

#### **ATTENDANCE**

See Attachment 1

#### **Welcome and Meeting Overview**

Kathy Lombardo, Executive Director, opened the meeting and thanked the Commissioners and the panelists for their participation in the meeting. The Commission's investigative process is constructive and is constrained by time. The purpose of the Commission meeting is to receive opinions and targeted feedback from panelists on the Commission's preliminary draft recommendations. Desired feedback is to include confirmation that the Commission's recommendations are productive and achievable, and whether the recommendations are "hitting the mark".

Kathy reviewed the Commission's scope as set forth in the Charter and advised the Commission that part a part of the task is to consider costs and funding sources as well as to identify implementing agencies.

The October 13 Meeting Summary will be posted at the end of the week after Commissioners have the opportunity to provide edits.

#### **Panel Discussion - Emergency Management Research Group**

##### **Panelists:**

- Major General Bret Daugherty, The Adjutant General, Military Department, Washington
- Kevin Murphy, Regional Administrator, FEMA Region X
- Robert Ezelle, Director, Washington State Division of Emergency Management
- Jason Bierman, Deputy Director, Snohomish County Department of Emergency Management
- Brad Reading, Assistant Chief, Snohomish County Fire District 1, Incident Commander NWIMT

**Handout:** Draft Emergency Preparedness Preliminary Recommendations (Attachment 2)

##### Opening Comments - John Erickson, Lead of the Emergency Management Research Group (group)

John provided a brief summary of the issues and encouraged panelists to ask questions if specific recommendations were not clear. He explained that the format for the panel was for each panelist to give a 5 or 6 minute opening statement and then there would be discussion with the Commission. John mentioned two of the draft recommendations as examples of important issues facing the Commission: (1) the development of regional preparedness and (2) creation of a task force to study the emergency management system.

## Opening Statements from Panelists:

The following are highlights of the statements:

### ***Major General Bret Daugherty, The Adjutant General, Military Department Washington***

The response to the SR 530 landslide was a successful operation. The Commission's preliminary recommendations are on target. For the command and control recommendation emphasis should be given to early and accurate shared situational awareness. As new resources become available in the state, agencies need to consider how best to use them to increase situational awareness in emergency operations, for example, new National Guard helicopters. Improvements need to be made in order to effectively establish Joint Information Centers early, especially for large-scale disasters. The recommendation to establish better regional relationships, coordination and response capabilities is important.

The recommendation regarding fatality management is going in the right direction and could also include focus on mass casualty storage capability, as current statewide capability is inadequate. For improvements to communications it is helpful to use liaison officers who can link different levels of response. Increasing the use of satellite phones and high frequency radios could improve communications. The community engagement recommendations are helpful and setting public expectations is important since the public maintains high expectations even though budgets for services have been cut significantly. To provide optimal services, taxes may need to be increased. Volunteer management is a particular challenge and the Commission's recommendation is on track.

### ***Kenneth Murphy, Regional Administrator, FEMA Region X***

Overall the recommendations encompass many interesting ideas. Additional context could be helpful to provide a deeper understanding of the issues and the suggested improvements. The issues that the Commission is bringing forth are common across the nation. Improvements can always be made to how emergency management is organized. It is absolutely essential to have a sustainable funding model for emergency management across the state. Many counties and cities struggle to have one full-time emergency management professional. Many have a person whose responsibilities include emergency management. A strong recommendation has to be that sufficient and sustainable funding is provided for state, county, tribal and municipal emergency management efforts.

### ***Robert Ezelle, Director, Washington State Division of Emergency Management***

The Commission is to be recognized for its hard work and careful deliberation, especially given the complex challenge inherent in the scope of work. The preliminary recommendations have to be looked at in light of an understaffed and underfunded emergency management system throughout the State. If organizations are asked to take on additional work, there needs to be additional funding to the organizations or other aspects of their work need to drop. Emergency management efforts are strapped at all levels. This needs to be acknowledged. Sustained funding at all levels is key.

The Commission's recommendations need to be as concrete and specific as possible, identifying the problem statement and the solutions. The backstory on why each recommendation is put forth needs to be evident. It is also important to identify who might be responsible for implementing each recommendation. The recommendations need to take into consideration that Washington is a home rule state. It is important to identify where improvements can be made to training, education and doctrine. Some doctrine may need to

be codified. For example, command and control issues may be addressed by doctrine.

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Developing a “one stop shop” for disaster victims is important. Liaisons that are well trained, connected to the staff of the Governor and other elected officials need to be provided to tribes. A statewide campaign to set public expectations would not be as effective as focusing a statewide campaign on preparedness. The ability of professional responders to work with spontaneous volunteers needs to be improved.

***Jason Bierman, Deputy Director, Snohomish County Department of Emergency Management***

There was significant success in the response to the SR530 landslide. It is important to recognize that community members are capable of assisting with certain work in an incident. Constructive ideas need to be generated to figure out how to bring in community volunteers more quickly and possibly proactively. For command and control recommendations consideration needs to be given to broadening the use of Type 2 teams for all-hazard incidents. Conflicts in statutory responsibilities need to be resolved. A single system for resource ordering needs to be established. It is essential to develop more regional approaches and coordination. It is extremely important to provide funding for all hazards in the Fire Mobilization Plan, especially for small communities who have very limited resources.

***Brad Reading, Assistant Chief, Snohomish Co. Fire District 1, Incident Commander NWIMT***

Increase clarity of what is meant in recommendations related to command and control. Provide more definitions and clarity about what level a recommendation is related to. How the Incident Management Team (IMT) interfaces with a populated county versus a lesser-populated county needs more discussion and understanding. Medical examiners need to be available at the command post more quickly and have to be sufficiently staffed to be able to meet this responsibility. High frequency radios worked well for communications. This incident used more community volunteers than most incidents and with great success. The safety of volunteers needs to be balanced with their appropriate use. It is important that more work be done to improve how community volunteers can be effectively utilized and registered more quickly. One system for resource ordering is needed. The forms utilized in the Fire Mobilization Plan work well and may be applicable to all hazards. Overall, there were many things that went well in the response and these things need to be acknowledged in the final report.

**Question/Answer and Group Dialogue (panelists and Commission)**

Commissioners responded to the panel with a number of comments and follow-up questions for panelists.

Commissioner comments, questions and responses:

- *Question:* In Eastern Washington there are well-defined protocols for working with an IMT since an IMT is commonly used in fighting fires, but this is not true for Western Washington. Do we need to fix that and how best to fix that?
- *Response:* IMTs need to work with members of an EOC to drill together prior to incidents. Common understanding of responsibilities and protocols need to be established.
- *Question:* Is it constructive to develop a clear doctrine statewide that is used if an IMT is deployed?
- *Response:* There needs to be flexibility on how IMTs work with local agencies. It would be helpful if IMTs were incorporated into local exercise plans and drills. If there were a broad forum for discussion, shared approaches on how to coordinate IMTs with local response agencies may emerge.

- *Question:* Given that emergencies don't stop at the borders of our cities and counties is there a way to respect home rule, but still establish more effective regional response?
- *Response:* There are standards set by emergency management accreditation programs, but some agencies chose to be accredited and some do not. It is costly and requires intensive staffing. If we approached this statewide, there could be a common set of elements and standardization among emergency management programs. Some steps are being taken already towards this direction. There could be a new WAC code developed. It is important for staff in cities and counties on the west side of the Cascades to familiarize themselves about the roles of IMTs. It would be ideal to do quarterly exercises in the state where all agencies drill on the same scenarios and coordinate, if possible.
- *Question:* Are there examples of states that have an excellent and well- funded statewide emergency management program?
- *Response:* The organization of emergency management has to be uniquely tailored to each state. The most important element of success is adequate and sustainable state funding for emergency management. The most successful states are well funded; therefore, they have faster response capabilities and have a broader package of public assistance programs.
- *Question:* Agencies may be saturated with the amount of training and education that has already occurred. Is it possible to do additional training or is it more effective to restructure training?
- *Response:* How training is accomplished varies by agency. What could be helpful is for municipalities or agencies to schedule trainings at the same time, train on the same scenarios and then create forums to share lessons learned. This would require that an entity be responsible for coordinating the trainings. It would be appropriate for the State to play this role especially given that smaller jurisdictions have limited staffing.
- *Question:* If the State would convene this type of training approach, what would be the cost?
- *Response:* This would not necessarily require new funding, although depending on who participated in the training cost of paying overtime would need to be considered.
- *Question:* Which states have the best statewide emergency management program?
- *Response:* Alaska and Arkansas are better funded than most. Their structures may not be better, but their funding allows more funds to flow to fill the needs of local jurisdictions as well as give them the ability to hire more public affairs people, provide more direct services to disaster survivors and to take on mitigation projects.

## **Public Comment**

### Darrington Mayor Dan Rankin – Summary of comments:

Mayor Dan Rankin stressed that a different type of communication system is needed and that it is critical to get information to the community during an incident. Public Information Officers need to be engaged with mayors and community leaders. The system of using volunteers needs to be simplified. Communities need to have a clear understanding of what equipment is available in the community and who is able to use the equipment. Look into whether utilizing state business licenses for volunteer certification would be helpful. Jurisdictions need to know what resources exist in their community and who has business licenses.

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### Kevin Ashe—Summary of comments:

Kevin Ashe acknowledged the presence of one of the “heroes” from Darrington in the audience. He asked whether any member of the public attending wanted to share insights into the value of volunteers to the landslide response. He emphasized that the professional responders couldn’t have been as effective without the assistance of the community volunteers (in particular the loggers and local contractors). Panel members responded to Kevin’s question with two quotes: “We couldn’t have done it without them”, and “They were invaluable”.

### Pete Selvig- Summary of comments:

Peter Selvig emphasized that improvements need to be made to involve community volunteers in a response. Identify and utilize systems already in place that can assist in use of community volunteers and equipment. The use of radios should be endorsed in a response.

## **Update on Fire Mobilization**

**Presentation** - All Hazards Mobilization - *Mayor Jill Boudreau and Chief Steve Strachan*

**Presentation materials** – available at [www.bit.ly/sr530commission](http://www.bit.ly/sr530commission)

- PowerPoint – “All Hazards Mobilization”

Mayor Boudreau and Chief Strachan discussed their inquiry into understanding the Fire Mobilization Plan and shared key insights. Mayor Boudreau commented that expanding the ability to respond to all hazards and not solely fire could be a significant tool for command and control, but will not solve all problems. She suggested that the Commission develop a recommendation and that it may be helpful for Commissioners to testify at hearings held by the State Legislature in support of including all hazards funding. Chief Strachan emphasized his belief that the authority to mobilize for non-fire events should be clarified.

### Commission discussion:

The Commission questioned whether it would be useful to recommend a formal Attorney General’s opinion on the issue of whether the language in the Fire Mobilization Plan covered only fire or all hazards. It was determined that it is unlikely that the Attorney General’s original opinion would be revisited. Discussion also focused on the reality that when natural disasters occur funding would be required so why not anticipate this and provide a rainy day fund. Discussion also focused on whether it would be helpful to add specific language in a new bill that labeled the types of hazards covered. It was suggested that the Commission be cautious about defining specific hazards in any recommended language put forth, as one Commission member (and former legislator) recalled that amendments made in the mid-1990’s reflected a legislative intent to *not* define or limit the emergencies which could be the subject of a fire mobilization.

## **Panel Discussion - Geologic Hazards and Land Use Research Group**

### **Panelists:**

- Jeff Jones, Geologist, Snohomish County
- Stephanie Harrington, UW, Associate Dean, Planning & Initiatives, College of the Environment
- Jeff Wilson, Senior Managing Director, Growth Management Services, State Department of Commerce
- Todd Slind, Founder/Principal, SpatialDev, Data Visualization

**Handout:** Geologic Hazards and Land Use Preliminary Recommendations (Attachment 3)

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Opening Comments - Bill Trimm & Wendy Gerstel, Co-chairs of the Geologic Hazards and Land Use Research Group (group)

The preliminary recommendations are drafts. The group is trying to consider both short-term needs and long-term needs. There is much to still be learned about the SR 530 landslide including the impact of the changed river on the existing slide area. Lessons learned need to be applied as they emerge over time. Since there is limited information and time for the Commission to do its work, it may be best to repackage the preliminary recommendations into a recommendation to develop a task force that could provide more substance to the recommendations. Regarding long-term needs, mapping is the overarching mantra. Since mapping will require time, it is important to determine how to identify and prioritize high hazard and risk areas and begin to map those first. The preliminary recommendations also focus on how to communicate hazards and risks to the public.

Opening Statements from the Panelists:

The following are highlights of the statements:

***Jeff Jones, Geologist, Snohomish County***

The preliminary recommendations are a very good start for the report. High resolution GIS based Lidar is the key to effective mapping and is a powerful tool. Many geologists have been informally meeting with the Department of Natural Resources (DNR) to establish the best protocols for hazard mapping. The Oregon Department of Geology has done studies and has implemented a program, which might provide a good framework for what can be accomplished in Washington State. DNR could act as the implementer of a program and cities and counties could contribute their own resources to its activation. Snohomish County is currently working with the Washington State Department of Transportation to install instrumentation in the current slide zone to assist with analysis of the slide.

***Stephanie Harrington, UW, Associate Dean, Planning & Initiatives, College of the Environment***

The issue of geologic hazards has high stakes and the Commission's work can be impactful. Risk and hazard is not necessarily the same thing. It is important to define the terms. An example is that if there is a puddle on the floor it is a hazard and when you put something down to absorb it you are mitigating the risk of slipping. Community resilience is a good goal. It is important to develop partnerships with academic institutions that can leverage investments, provide case studies and can create tools that can be shared with other partners. Include tribes in the development of partnerships. Making hazard information available to the public can be difficult as it is challenging for the public to differentiate a hazard versus a risk and to interpret risk and include it in their decision-making. Public information needs to be transparent about what a risk is and what a hazard is. Existing research is available to provide guidance on how best to communicate risks and hazards to the public.

***Jeff Wilson, Senior Managing Director, Growth Management Services, State Department of Commerce***

Everything begins with land use. Events involving critical areas do not stop at city boundaries. Adjoining jurisdictions often have different standards and regulations regarding land use. Regulations regarding critical areas often focus on how to protect the land/environment, but not how to protect people who are impacted if a natural disaster occurs. The main focus of critical areas ordinances is often on how to protect the top of

slopes and on habitat areas. It may be helpful to tweak the language in critical areas ordinances to focus on potential impacts on people and property. It would be helpful to have GIS information more accessible to the public and to consolidate GIS information into one location that includes information on municipal regulations. It is an opportune time to address this now as cities and counties are updating their Comprehensive Plans. It would be helpful to have model policy language available to assist cities and counties.

***Todd Slind, Founder/Principal, SpatialDev, Data Visualization***

The preliminary recommendations for mapping are very ambitious. There is a lot of existing professional experience that can assist this effort including the Puget Sound Lidar Consortium. The Commission may want to consider approaching existing Lidar providers to come up with a business model to collect information for counties and then develop creative franchising to continue the work. For short-term data collection, the most effective way is to convene people with maps and markers around a table. Any data published for the public needs to include adequate context. Providing interpretive graphics is one way that the public can understand information better. It is also important to publish raw data for independent analysis. Data needs to be accessible in the field, for example on mobile phones. Another way to get the data out once it is available is through companies that are already aggregating data, for example, Zillow or Redfin.

Question/Answer and Group Dialogue (panelists and Commission)

Commissioners responded to the panel with a number of comments and follow-up questions for panelists.

Commissioner comments, questions and responses:

- *Question:* What is the best way to determine what are the high-risk areas for landslides?
- *Response:* There is a portfolio of work underway to figure out how to determine highest risk. This work is currently being done regarding earthquakes. It includes overlaying hazard maps to a series of GIS layers including population. Part of the determination of high-risk areas will be what is considered acceptable risk. A hazard plus exposure to the hazard would equal where the highest risk is.
  
- *Question:* Who is currently doing that analysis?
- *Response:* It needs to be a partnership between geologists, government agencies, academics and emergency managers. From the beginning it is important to determine who the end users of the information are so that the maps can be tailored to the users.
  
- *Question:* As more information becomes available through mapping it might change how landowners utilize their land and impact the workload of staff in county planning departments. For example, changes in forest practices rules may discourage small forest landowners to reforest their land. These landowners may instead want to convert their land to development. Would counties be prepared to increase their workload to do more evaluation of geotechnical reports?
- *Response:* This would not likely increase the workload in planning departments. Consultants would be utilized to assist with report review. Most jurisdictions defer to a landowner to develop their own reports. Local jurisdictions may not have the capacity to extensively review the reports.
  
- *Question:* Would it be important for local jurisdictions to require a third party review of geotechnical reports?

- *Response:* Yes and it could be also be required that a landowner have a million dollar liability policy for certain defined slide areas. It is critical that information is shared among jurisdictions since many jurisdictions have limited capacity for extensive reviews.
- *Question:* Is it a good idea to recommend developing a statewide GIS system/clearinghouse?
- *Response:* The concept is already there in an organization called Washington Geographic Information Council (WAGIC), but there are resource constraints. Technically, this is very feasible. The cost of developing the infrastructure is very low, but there would need to be resources to maintain the information. It is important to consider who would be the users.
- *Question:* If all of the preliminary recommendations are implemented what would be achieved?
- *Response:* The ideal would be to take the mapping information and analysis and identify mitigation measures. A significant challenge is how to protect private property rights while addressing these important issues. This is a difficult balancing act especially on the local level. If the information was readily available, a property owner could become well informed about the potential hazards or risks associated with their property. It would be important for property owners to be educated prior to designing or developing projects.
- *Question:* How might risk mapping be expanded statewide?
- *Response:* DNR has to lead this effort. Counties do not have the resources to accomplish the mapping. DNR is well qualified to work with GIS. The key is to have high resolution Lidar information for the most critical areas with the highest risk. A starting point might be the Cascade foothills on both sides.
- *Question:* Has DNR given any indication that they could start this mapping now?
- *Response:* DNR is exploring funding options. It is in infantile stages of development. The protocol that Oregon has developed is beneficial as a model for Washington State.
- *Question:* What creative models could we explore for accomplishing the high resolution Lidar mapping that is needed? A hackathon?
- *Response:* There are several groups that are doing a hackathon sort of approach, but not for geologic mapping. There is a lot of passion among some people for creative approaches.
- *Question:* What would be the impact to a property owner if after mapping the property shows up on the map? Would Zillow or Redfin devalue the house?
- *Response:* Planners already deal with these sorts of issues every day at the planning counter. Consideration needs to be given for how best to overcome this challenge as it can also bring up social justice issues. This challenge is similar to challenges emerging with climate change adaptation. It may be helpful to review FEMA's experience in mapping flood plains.

## Public Comment

### Will Knedlik- Summary of comments:

Will Knedlik shared that he recently went to see where his friend had died at the landslide. He expressed sadness and acknowledged the amazing work done by community volunteers to save lives. The greatest

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tribute to the people whose lives were lost would be for the Commission to take steps to prevent the loss of life in future landslides. It is critical to identify where the greatest landslide hazards are that could impact life and suggested that be on the Everett to Seattle rail corridor. High resolution Lidar is helpful, but it doesn't remove the responsibility of the Commission to focus on the rail corridor.

### **Timeline and Draft Report Discussion**

The Commission reviewed the draft report outline and discussed key elements of the report structure as well as content. There were many opinions about how certain information should be organized, what content belongs in the main body of the report versus the appendices, and what is most important to include in the executive summary. Discussion also centered on how best to acknowledge what went well by design or innovation and how to integrate as well as differentiate the recommendations from the two research groups. It was also pointed out that some recommendations are overarching and that some recommendations will produce immediate results while the impacts of others will be in the future. Concern was expressed that if recommendations are divided by whether they are short-term or long-term then there could be less motivation to implement long-term recommendations.

The Commission discussed whether recommendations regarding statewide mapping should be only focused on landslides or whether other hazards should be included. One approach may be to begin with landslide mapping as a model for how to approach other geo-hazards. The Commission clarified that they would like to include recommendations regarding the All Hazards Mobilization Plan and Mayor Boudreau will email draft recommendations to the Commission for their review. Additional and modified preliminary recommendations from the research groups will be provided to John Snyder to be incorporated into a draft report. Based on the draft report outline discussion, the Ruckelshaus Team will synthesize the feedback and provide a new draft report outline to the Commission on October 21.

The Commission discussed the timeline and approach for reviewing and commenting on the draft report. It was decided that Commissioner comments on the revised draft report outline would be due by close of business on Thursday, October 23. The first draft of the report will be sent to Commissioners by October 31. The November 4 Commission meeting agenda will focus on discussion of the first draft of the report and prioritization of recommendations.

### **Final Matters, Wrap-up, Adjourn**

There were no final matters.

Upcoming SR 530 Commission Meeting Dates	Location
<ul style="list-style-type: none"> <li>• November 4th, 5-8 p.m.</li> <li>• December 2nd, 5-8 p.m.</li> </ul>	<ul style="list-style-type: none"> <li>• Everett Community Center</li> <li>• Everett Community Center</li> </ul>

**Attachment 1**  
**Meeting Attendees**

<b>Name</b>	<b>Title and Affiliation</b>
Kathy Lombardo	Executive Director
Joann Boggs	Pend Oreille County Emergency Management Director, current Chair Washington state Emergency Management Association
Hon. Jill Boudreau	Mayor, Mount Vernon
Paul Chiles	Owner/ President, Chiles & Co Real Estate
John Erickson	Former Director of Emergency Preparedness, Department of Health
Wendy Gerstel	Principle, Qwg Applied Geology
David Montgomery	Director, UW Geomorphological Research Group
Renee Radcliff-Sinclair	Former Representative, Current Strategic Initiatives for Western United States for Apple Inc.
Lee Shipman	Emergency Management Director, Shoalwater Bay Tribe
Steve Strachan	Chief, Bremerton Police Department
Diane Sugimura	Director, Seattle Dept. of Planning and Development
Bill Trimm	County Planner/Land Use Expert, Member, Snohomish County Planning Advisory Council representing Mountlake Terrace
Mike Gaffney	Ruckelshaus Center
Amanda Murphy	Ruckelshaus Center
John Snyder	Ruckelshaus Center
Phyllis Shulman	Ruckelshaus Center

**Attachment 2**  
**SR 530 Landslide Commission**

**DRAFT PRELIMINARY RECOMMENDATIONS**

**Research Group- Emergency Management Members:**

John Erickson, Lee Shipman, Joann Boggs, Renee Radcliff-Sinclair

October 14, 2014

**ISSUE: Organization of Emergency Management in Washington State**

- Evaluate ways to improve the organization
- Sustainable funding
- Review/update RCW 38.52

**Draft Recommendation:**

- Convene a workgroup or task force to explore ideas on how to improve public safety through an improved emergency management structure in Washington State

**ISSUE: Command and Control**

- Unclear about who was in charge of what
- Apparent disconnect between field responders and state and county emergency management organizations
- Delay in getting assets to the site because agreements not in place
- Delegation of authority to IMTs
- Roles of elected officials and other leaders unclear

**Draft Recommendation:**

- Develop guidance that defines the interface between IMTs and counties during non-fire emergencies including a process for clear delegation of authority
- Develop agreements with Type 1 Task Forces or other skilled teams and/or their specialized equipment to ensure no delays in these resources being able to respond.
- Improve training and exercising of process
- Stipulate guidance that helps define roles and responsibilities of all responding officials and organizations

**ISSUE: Fatality Management**

- County MEs/Coroners organizations not staffed to handle mass fatality disasters of this magnitude
- Existing mass fatality plan was not adequate
- Family assistance centers not established

**Draft Recommendation**

- Develop a statewide mutual aid agreement for MEs and Coroners to be put in place immediately and before another disaster

- Make fatality management planning a priority
- Develop plans for multicounty mass fatality incidents

### **ISSUE: Volunteer Organizations**

- People confused about who to go to and for what
- No central place identified
- Same information was collected numerous times
- The Navigator program- what is it and how can it be expanded to be a more consistently applied benefit to victims and families

### **Draft Recommendation**

- The Navigator program needs to be evaluated and if appropriate promoted and developed into regional programs with extensive training and exercising.
- Organizations should work towards developing a single form that is accessible by all appropriate organizations

### **ISSUE: Tribes**

- 3 impacted tribes- some more than others
- Lack of communications/situational awareness
- Transportation issues for medical, daily living and child care needs

### **Draft Recommendation**

- Agency/Organization liaisons must be deployed in a timely manner to each impacted tribe
  - Liaisons should be ICS trained and knowledgeable in programs such as the Navigator program
  - Liaisons need to be allowed the time to develop a trusting relationship and be known by all tribes
  - Liaisons from all agencies should form a work group to share activities/ideas

### **ISSUE: Communications**

- Numerous reports of communication challenges especially within the first 24-72 hours
- Land lines and much of the cell service in Darrington was disrupted
- Situational awareness lacking especially within the first 72 hours
- Technical challenges with radio systems operated by different first responder organizations. Different operational frequencies made some communication difficult
- Most if not all of the Homeland Security funding that has gone to support communications in the state is gone

### **Draft Recommendations**

- In 2012 Congress authorized the First Responder Network Authority (“FirstNet”) and funded it with \$7 billion. It is mandated to build a nationwide wireless network for use by all responders with first responders having priority use. FirstNet is required to consult with responders in the state when creating the state specific design. Washington’s elected officials, emergency management and responder communities must actively participate in the design of the FirstNet network for the state with the goal of being one of the first states to deploy this new nationwide network.

- The state should explore ways to improve situational awareness in rural communities where much of the communications systems have been disrupted.

**ISSUE: Community Engagement and Information**

- Community members and the general public have many unrealistic expectations about the roles of the federal, state, county and volunteer agencies and organizations and what they can and cannot accomplish in an emergency.
- There is a shared responsibility between governments and the public that must be elevated before disasters happen to better understand the roles and responsibilities of each during an emergency

**Draft Recommendations**

- Develop a statewide public awareness campaign around the roles and responsibilities of responding agencies and organizations and what impacted communities can reasonably expect from each.
- Engage communities across the state in a series of roundtable discussions as part of this campaign
- Help communities be prepared

**ISSUE: Volunteer Management**

- Communication between the professional responders and the local community volunteers was strained throughout the response and recovery and even communications between the various professional responders was challenging.
- Onsite credentialing of volunteers was challenging.
- Was the State’s volunteer management system that registers and credentials prospective volunteers ahead of time used?
- The Snohomish County Medical Reserve Corp that consists of credentialed volunteers was used.
- Logistic and bureaucratic issues surrounding federal and state certification hampered the ability of volunteers to assist as quickly as they would have liked.

**Draft Recommendations**

- Develop a pre-incident system for developing relationships between response agencies/organizations and the community so when a disaster occurs everyone will know who the players are and have an opportunity to develop an environment of mutual trust and respect.
- Each responding organization must debrief internally and it is recommended that there would be value in debriefing across sectors, including volunteers.
- Expand on the current Map Your Neighborhood program to include more of the business community.
  - Pre-certify local equipment for state and federal contracts prior to an event so they can be activated immediately at the time of an incident.
  - Develop and maintain an inventory of community resources including equipment and human assets.

## ATTACHMENT 3

### Geological Hazards and Land Use – Research Group

#### Preliminary Recommendations

October 15, 2014

#### Issues

#### 1. GeoHazard mapping and incorporation of geologic data into county and city GIS databases and planning programs:

**Background/Analysis:** Geologic mapping currently covers approximately 13 % of Washington State. Very few if any adequate geologic hazard maps, which are based on geologic mapping, exist. The history of landsliding along the North Fork of the Stillaguamish River had been reported on previously, but there had been no landslide-specific assessment of risk associated with development of the valley. The SR 530 landslide highlights the need to incorporate landslide hazard risk assessments into land-use planning and to expand and refine geologic and geohazard mapping throughout Washington state, as well as incorporate mapping and assessment results into land-use planning tools.

#### **Recommendations:**

- Based on the collective knowledge of Washington State geology, identify the highest priority landslide risk areas including but not limited to deep-seated landslides, debris flows, debris avalanches, and potential initiation and run-out zones. Initial focus should be on high-density population areas and high-volume vehicle and rail transportation corridors.
- Develop protocol for rating hazard and risk vulnerability and compile maps according to statewide priority area ranking. This effort will require base-line geologic maps at a scale of 1:24K or better. Derivative mapping products should include both landslide hazard and risk susceptibility maps.
- Through the application of geologic maps and the deployment of appropriate specialists, assure that “situational awareness” is achieved as soon as possible after a geologic event(s). Geologic conditions and landslide processes may vary significantly from one area to another. Inappropriately transferring interpretations from one site to another could put victims and responders at great risk, highlighting the need to provide on-call geological expertise early to provide event-specific information, and so as not to inappropriately extrapolate to other events. *SPECIAL NOTE: SR 530 event has resulted in the INCORRECT assumption that all landslide victims will be found near the perimeter of landslide deposits.*
- Establish a statewide Geographic Information System (GIS) that incorporates all geologic information produced under the bullets above. This information should be accessible to the public. Additional recommended GIS layers include high resolution LiDAR, soils, geologic mapping (at 1:24k scale or better), steep slopes, water well logs, mapped landslides, run-out zones, parcel maps. Mapping needs to be generated in such a manner that will inform title companies, financing institutions, purchasers and sellers of potential risks and include such disclosures on Form 17.
- Require any geologists likely to be involved with or on call to respond to geologic hazard emergencies receive Incident Command System training. Designate a primary contact for press and other information dissemination as public information officer for technical geologic information on major geologic hazard events. Require that each county (or region, in the case of low-population counties) have a licensed engineering geologist or hydrogeologist on staff qualified and experienced to address geologic hazards and to respond to perceived threats to public safety.

- Develop protocol for community residents to bring to the attention of county or region geologist(s) concerns regarding observed indications of pending geologic hazards. Upon review by county geologist, mitigation would either be addressed locally or concerns would be advanced by the county or region geologist to the state geologic survey (DNR) or a designated geohazards specialist. Based on mapping products outlined in #1, establish (with state resources input as necessary?) county-managed monitoring protocol and early-warning systems.
- Require proponents of land development and forest practices activities to have a licensed geotechnical specialist conduct risk assessment studies associated with geologic hazard areas likely to impact or be impacted by the permit application areas. Include sufficient monitoring data to address geologic hazard concerns as deemed necessary by specified review protocols, peer review panels, and best available science.
- Create a geologic hazard-identification institute with strong and clear partnerships among government, academic, private, and non-profit institutions to collaborate and provide statewide resources and expertise to identify natural hazard issues, funding sources, public awareness needs, and mitigation measures. Mitigation may include mapping, community outreach and education, applied research, monitoring, planning, etc. Institutional objectives must support the building of community resilience.

## 2. Update the State Planning Enabling Legislation

**Background:** The Growth Management Act requires all cities and counties to prepare critical area regulations to classify and designate wetlands, frequently flooded areas, aquifer recharge areas, fish and wildlife habitats and geological hazard areas in their comprehensive plans. The Washington Administrative Code includes a set of guidelines for local government to use when classifying and designating the above critical areas and preparing local development regulations. The guidelines for designating geological hazard areas and assessing risk are permissive due in part, to the lack of statewide geological mapping. Further, state subdivision laws allow disapproval of land subdivisions due to flooding but are silent on geologic hazards.

### **Recommendation:**

- Update GMA and WACs to require counties and cities to assess risk and classify geological hazards in their critical area regulations based on up-to-date geological information and mapping as available. (Note: amend WAC 365.190.080 and .120)
- Update state subdivision laws to require new land development activities to conduct geologic risk assessment studies as part of development permit applications when located in geological hazard areas.

## 3. Provide Public Awareness of Geologic Hazards through Notification, Education and Outreach

**Background:** Public awareness of the potential negative impacts to property caused by the existence of natural hazard is important in ensuring the protection of the general public. Often property transfers occur with little knowledge of the potential risks associated with living in existing or new developed areas. Although, the real estate industry is required to disclose the existence of known natural hazards on Form 17, real estate professionals may be unaware of such hazards.

### **Recommendation:**

- Local governments should develop public awareness initiatives to inform property owners (e.g.; property tax assessment notices) and the general public of designated geologic hazard areas once geologic hazards are identified from local, regional or statewide mapping programs.
- Encourage Real Estate Commission to include natural hazards awareness in their “core” curriculum that licensees must take every two years.

- Further, educational programs (e.g.; K-12) should be developed by and specific to local community issues to raise awareness of natural hazards and risks from landslides, debris flows, flooding, (also include here volcanic eruption, earthquake).

#### 4. Provide Innovative Development Regulations to Mitigate Geological Hazards

**Background:** Land use planning refers to the process by which land is allocated between competing and sometimes conflicting uses in order to secure the rational and orderly development of land in an environmentally sound manner to ensure the creation of sustainable human settlements. Land-use planning seeks to accommodate these needs within a technical and spatial framework. While houses must be built to accommodate the population as an example, they cannot be provided in a swamp; or in areas that are unsuitable for housing development because of terrain, vulnerability to natural or other disasters, or inability to physically support a building; or in an area that endangers the health and safety of the occupants or other members of the public.

The Commission recognizes that Landslide Hazard Information can be imprecise -- Regulations must be sensitive to the quality of landslide hazard data. Ideally, local governments would draw precise landslide hazard maps to justify prohibiting construction in designated unstable areas. But because landslide hazard information is usually imperfect, land use regulations must generally allow some level of development. Development can most successfully be prohibited only in extremely unstable areas.

There are several possible government responses to imperfect landslide hazard information. It is in this context that the Commission recommends the following:

**Recommendations:**

- The Growth Management Act provides counties and cities with the opportunity to implement their comprehensive plans with innovative approaches to regulate development. Encourage counties and cities to adopt and use innovative development regulations and practices to enable land development and use that ensures public safety and protects property rights in identified geologic hazard areas. Examples of such practices include but are not limited to transfer of development rights, critical area buffer widths based on site –specific geotechnical studies, slope-density regulations, land banking and grading ordinances.

#### 5. Encourage the Use of Regulatory Schemes That Could Reduce Landslide Hazards While Retaining Property Values

- Transfer development rights from unstable areas to more developable lands
- Permitting construction only if certain engineering mitigation measures are performed
- Conducting land-banking programs in which a government agency purchases land and resells it with deed restrictions on the type and density of development.
- Low-density zoning resulting in greater buffers and fewer people potentially in harm’s way.

#### 6. Encourage the Establishment of Slope-Density Regulations

**Background:** Some jurisdictions have adopted slope-density regulations, which establish maximum densities for various degrees of steepness. This presumes that landslide hazard is directly related to slope steepness, which is not necessarily the case. However, many planners like the slope-density ordinance as a relatively simple means of advancing both open-space and landslide-reduction goals. Slope-density regulations often specify minimum parcel sizes or overall density.

**Recommendations:**

- Another response is to use the information as a basis for flexible regulations. For example, some regulations require geologic and engineering reports for potentially unstable sites; this system provides a cost-effective means of incrementally acquiring the information as it is needed. A variation of this approach is to have strict uniform building and grading regulations for potentially hazardous areas but to allow site-specific engineering reports to waive some of the restrictions. This latter approach is restrictive enough to provide for public safety, yet flexible enough to be politically acceptable because it allows some development.

## 7. Eliminate Obstacles Impeding Enforcement of Landslide Reduction Regulations

**Background:** The risks of these impacts are exacerbated by regulatory loopholes and an uneven patchwork of standards and enforcement that can vary from county to county and even from city to city. Recognizing these impacts and the risks associated with landslide hazards, some banks are now refusing to grant mortgages for homes deemed to be in harm's way, and others are becoming increasingly concerned about the long-term investment risks associated with known landslide hazards. Even in jurisdictions having regulation aimed at landslide reduction, lack of adequate enforcement is a problem. Possible reasons include: (1) political pressure on local officials to approve questionable developments in potentially unstable areas; (2) local officials who are lack knowledge about landslide hazards; (3) higher priority given to conflicting environmental and social considerations; (4) the belief that landslides can be prevented by better engineering and, therefore, are not an important consideration in land use decision-making (5) local officials' fear of being subjected to "unlawful taking" claims.

## 8. Encourage the Adoption of Grading Ordinances

**Background:** A grading ordinance would require developers to obtain grading permits and provide engineering or geologic reports for proposed building sites. Because implementing grading ordinances depends upon a high degree of professional discretion in preparing and evaluating geologic and engineering reports, the ordinances are generally accompanied by professional licensing procedures or peer review boards.

### Recommendations:

- Another approach for reducing landslide hazards to new developments, which combines land use planning and engineering techniques, is to require detailed site analysis and construction monitoring. This process is usually controlled by a grading ordinance, which is typically part of the building code.

## 9. Educate Real Estate Professionals on the Perils of Landslides

**Background:** Form 17 is a required seller disclosure statement that potentially covers the disclosure of any landslide hazard (if known to the seller).

The commission does not embrace uninformed free-market individualism when it comes to the risk of landslides. It is believed "mapping" will provide homeowners with relevant information by identifying which areas are risky places to build, reside or invest. Mapping will warn property owners that basic services—or affordable insurance—might not be available should they run that risk.

### Recommendations:

- Propose to the Real Estate Commission that an introduction to landslides and other natural disasters be included in their "Core" curriculum that
- Real Estate licensees must take every two years.

The solutions and “best practices” presented are merely a snapshot of the issues endangered communities across Washington State may be facing. As development continues to encroach on hillsides and otherwise unstable land the risks and their effects will continue to impact housing, land use and regulation in ways that challenge our overarching mission; to keep Washingtonian’s out of harm’s way.

## SR 530 LANDSLIDE COMMISSION MEETING SIGN-IN SHEET

**Meeting Date & Time:** October 20, 2014, 5:00pm – 8:15pm

**Location:** The Everett Community Center, 3900 Broadway, Everett, WA 98201

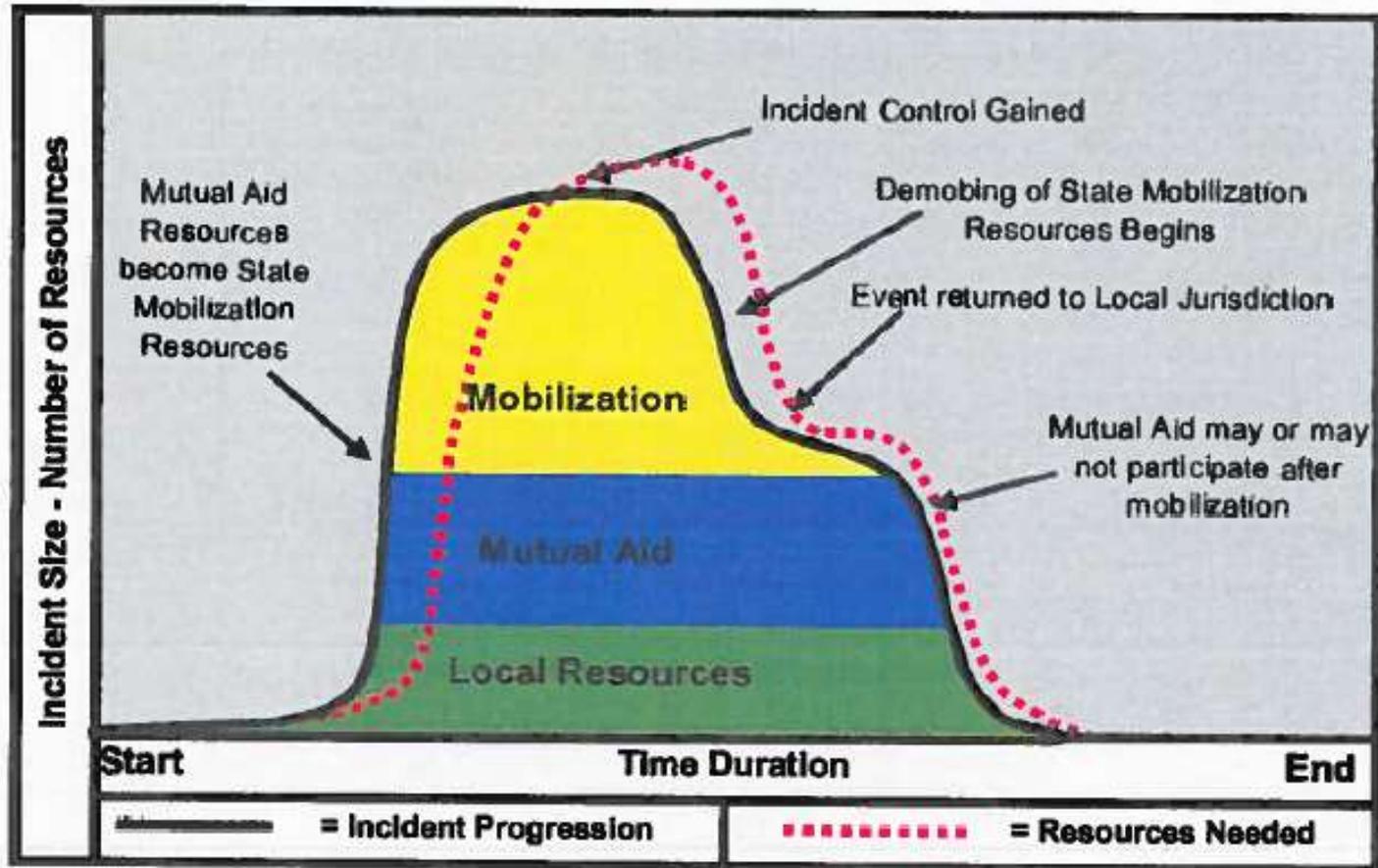
Name	Title	Affiliation	Phone	E-Mail
Willy Harper	<del>Snoco</del> Fire Chief	snoco #25	425-754 5271	ch37@oso-fire.com
GORDON NESS		RETIRED GEO	425-743- 9071	gkness@comcast.net
Wim KNEDLIK	President	Eastside Rail Now	425-822- 1342	wknedlik@aol.com
DAN SMITH	FIRE CHIEF	NORTH KITSAP	360-340-4386	smith@nkr.org
Krista Salinas	Coor.	Skagit DEM Skagit City	360-391-0503	KristaS@co.skagit.wa.us
Brian McMahan	Asst-Fire Chief	Mukilteo FIS	425- 308 9630	bmcMahon@ ci.mukilteo.wa.us
Kerri Love	Mitigation Sp.	Skagit DEM	360.428.3250	klove@co.skagit.wa.us
Bill Schrier	Chair SIEC	State of Wash	206 255 2156	bill.schrier@ociv.wa.gov





# All Hazards Mobilization

How does it work?



# All Hazards Mobilization



Responsibility of the State Fire Marshal, WSP

Funded through Disaster Response Account (fund 05H)

163 mobilizations (as of 1/2014):

2 non-fire:

- World Trade Organization riots, 1999 – \$1,386,000
- Rosalia Motorcycle run, 2005 - \$232,693

WSP asked for interpretation after deploying to the Rosalia Motorcycle run, and then being denied reimbursement of expenses

# All Hazards Mobilization



Mayor Dan Rankin and Fire District 24 Chief Joel Smith requests a mobilization.

Why was the SR530 mobilization denied?

Interpretation of the legislative language by WSP attorney  
– State Mobilization to be used for fires only

Difference in interpretation of intent of 1995 legislative bill language

Concern that funding language restricts to fires only

# All Hazards Mobilization



Would this resource have made a difference during the SR530 event?

“State mobilization is a significant tool to use in emergency incidents.”

State mobilization is the only intrastate plan that has been used and exercised many times. It is a well tested plan, with faith and confidence from fire fighting agencies.

# All Hazards Mobilization



Steve, Jill, and Kathy thoughts:

SR 530 incident response could have been improved from All Hazards Mobilization for:

Command and Control  
Resources for first response only

# State Mobilization for All-Hazards

Adopted Legislation  
Substitute House Bill 1017  
Chapter 391, Laws of 1995  
Effective date 7/1/95

1 Also included are the department of natural resources fire control  
2 chief, and the department of natural resources regional managers.  
3 (5) "Jurisdiction" means state, county, city, fire district, or  
4 port district ~~((fire))~~ fire fighting units, or other units covered by  
5 this chapter.  
6 (6) "Mobilization" means that fire fighting resources beyond those  
7 available through existing agreements will be requested and, when  
8 available, sent ~~((to fight a fire))~~ in response to an emergency or  
9 disaster situation that has ((or soon will exceed)) exceeded the  
10 capabilities of available local resources. During a large scale  
11 ~~((fire))~~ emergency, mobilization includes the redistribution of

4 port district ~~((fire))~~ fire fighting units, or other units covered by  
5 this chapter.  
6 (6) "Mobilization" means that fire fighting resources beyond those  
7 available through existing agreements will be requested and, when  
8 available, sent ~~((to fight a fire))~~ in response to an emergency or  
9 disaster situation that has ((or soon will exceed)) exceeded the  
10 capabilities of available local resources. During a large scale  
11 ~~((fire))~~ emergency, mobilization includes the redistribution of  
12 regional or state-wide fire fighting resources to either direct ~~((fire~~  
13 ~~fighting))~~ emergency incident assignments or to assignment in  
14 communities where fire fighting resources are needed.  
15 When mobilization is declared and authorized as provided in this  
16 chapter, all fire fighting resources except those of the host fire

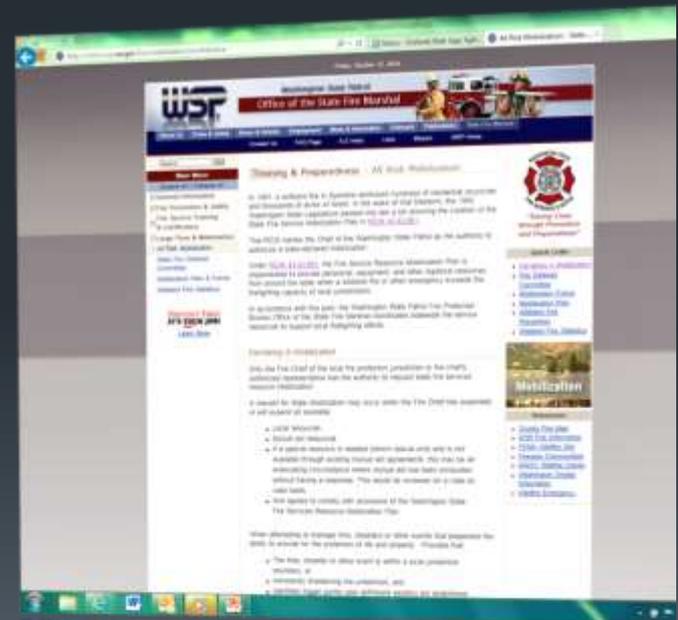
# All Hazards Mobilization

“when attempting to manage fires, disasters or other events that jeopardize the ability to provide for the protection of life and property...”

No formal Attorney General opinion has been requested

Legislature has attempted clarity in 2013 and 2014

HB1126 – specific wording to support earthquakes, floods, contagious disease



# All Hazards Mobilization



Steve, Jill, and Kathy thoughts:

1995 legislation is VERY CLEAR

All Hazards is the correct interpretation of the legislation.  
Focusing on a definition of 'fire fighting' does not make sense in the English language.

“Fire fighting” applies to the description of the resources that are sent, NOT the “situation” of which to deploy.

# All Hazards Mobilization

Draft ideas:

**Legislative clarity needed to break through interpretive impasse**

**Legislative clarity in establishing adequate funding level for all hazard deployments**

**County DEM's should take on the responsibility of:**

- **knowing what the State All Hazard Mobilization IS**
- **how to request it**
- **pro-actively train and build trusting relationships with regional incident management teams**

**Quintessential step to ensure that forty three of our fellow citizens shall not have died in vain**

The 43 western cedar saplings now planted along State Route 530 will offer a further truly fitting tribute to a devastating tragedy, as they grow, for decades beyond every life in this room tonight.

Thus, that living memorial will last far longer than many others – however entirely suitable and however genuinely heartfelt – including an official presidential visit made to the Oso Firehouse.

Yet, commemorations and valedictories all must and all do pale toward relative insignificance in any reasoned comparison with the monument that can and should be constructed by each member of this commission impaneled to honor those 43 souls felled at Steelhead Haven by ensuring that no citizen of, nor visitor to, our state shall be added cruelly to the ranks of needlessly fallen dead.

In our conversations of August 22nd and of September 10th, I have respectfully noted objectives that are estimable, and sentiments that are admirable, as ably stated by commission members and as duly reported by leading publications located both in Snohomish County and also in Seattle.

But good intentions are simply not enough, particularly given the enormous responsibilities that have been placed directly on your shoulders and that your leadership has squarely acknowledged.

Given this commission's oversize fiduciary obligations, and given an extremely short time frame in which to complete its study and its recommendations, absent actual soundness, in design, even the very best of good intentions can and quite likely will result in a suboptimal product or worse.

Simply stated, if this commission does not identify and prioritize the greatest of threats to human life, then your worthy service in a position of true public trust will yield unworthy disservice to state citizens as this body fails both its important mission, as directed by Governor Jay Inslee and by County Executive John Lovick, and also its central operating principles, as developed and as adopted by this key body (which were quoted from and read into the record on September 10th).

Without attention to systematic risk triage to identify highest jeopardies of major losses of human lives in the Everett-to-Seattle rail corridor, as known since not later than mid 1897, as well as any other like-or-larger dangers, as identified by this body, your report will lack adequate foundation.

When Geoffrey Chaucer exited public service in 1399 –after four decades as poet to the London court – he reported a “hevy chere,” because his purse “been lyght,” leaving him therefore lacking for a warm coat against the elements from drizzly winter weather, on the Thames, then and now.

You can do nothing about state finances, of course, but please do not leave state citizens without the basic protection that you **can** afford against slides known to derive from supersaturated soils.

Please honor the dead by ensuring that no more lives are wasted, needlessly, because the work of this commission does not identify nor quantify the relative risks faced by Washingtonians, today, as application of systematic risk triage methods allows – if only you do not choose to bury them.

Please do not fail the people of the state of Washington by breaching your patent fiduciary duties and your equally clear *de jure* obligations to identify and to prioritize grave threats to human life.

**Testimony by Will Knedlik to the Joint SR 530 Landslide Commission on October 2, 2014**

**We here must highly resolve that forty three of our fellow citizens shall not have died in vain**

Five months ago, today, a gargantuan saturated expanse of Hazel ridge collapsed above Steelhead Haven, near Oso, thus exposing a colossal gaping wound to endure for centuries across that face, and then imposing loss of 43 souls from one small enclave to abide for as long in human hearts.

The enormity of resulting landslides, which yielded theretofore-unimaginable breadth and depth and length, was almost immediately comprehended by regional seismologists, and was thereafter analyzed with amazing celerity, despite the destructive span, by geologists and by other scientists.

Seismographic records document two gigantic events, the first commencing at 10:37:22 a.m., and lasting 150 seconds, followed by another pulse of briefer duration at 10:41:53 a.m., from data that started flowing, instantaneously, even as numerous lesser rumblings continued for several hours.

Seared into the psyches of those living from Arlington to Darrington, around Snohomish County, statewide and beyond – who shall remember that tragic early spring morning for scores of years to come – is a nearly inconceivable heartbreak from losses of lives and of homes and of dreams.

Science lacks instrumentations adequate to calibrate magnitudes of human suffering – for so long to follow – as President Barack Obama acknowledged when he travelled here, one month later, to pay our nation's fitting-and-proper respect, in person, as well as to offer consolation to survivors.

Dedication of purpose and generosity of spirit have been repeatedly in view – within innumerable acts of good will – over the several months necessary to recover all remains at long last, to reopen State Route 530 and to restore infrastructure required for life to begin to return toward normalcy, albeit across a physical-and-human environment altered forever by tragedies, on March 22nd, as I feel in my sense of loss for the one victim known to me among those 43 taken suddenly from us.

Thus, despite some fits-and-starts by the Snohomish County Council in enacting an ultimately *de minimis* legislative response to seemingly slack county land-use oversight previously, despite self-protective bureaucratic responses by the office of our State Land Commissioner to its apparently likewise lax oversight of logging, rather near the slide zone, perhaps contributing to the collapse with runoff from clear cutting and despite one property owner's perceived gouging of taxpayers, substantially, for temporary access to skirt a debris field, much fine work has been done on myriad pivotal fronts, over a terrible 153 days, meritorious of public recognition and of sincere gratitude.

However, quintessential actions both necessary and also sufficient are required to see that not one of our 43 fellow citizens shall have died in vain by ensuring – in the only manner left available to those of us who remain – that **no** human life is lost again, **unnecessarily**, from lethargy or worse.

Indeed, critical policy changes need to be undertaken over coming months if we are truly to honor our dead, thereby, in part because legislative-and-bureaucratic inertia is inevitable politically, in part because realities of rain and of gravity that felled Hazel ridge are inexorable physically and in part because dangers caused by supersaturation of soils are becoming ever clearer scientifically.

**Testimony by Will Knedlik\* to the Joint SR 530 Landslide Commission on August 22, 2014 – 1 of 3**

The Joint SR 530 Landslide Commission fashioned by Gov. Jay Inslee and by Snohomish County Executive John Lovick affords opportunity for our state to make certain that deaths there are not a futility, given capable appointees, given directives to “Operate independently from the state and county executive branches” and to “Produce a report of prioritized recommendations” and given members’ repeated focus on balanced analyses of several urgent risks, geological and otherwise.

These elements are crucial because serious problems from state-and-local government neglect, or worse, have been exposed by Hazel ridge, and because needless threats to human life so recklessly imposed by such violations of statutory duties and of public trust were thereby painfully clarified.

As comments by multiple Landslide Commissioners have noted since appointment – even before this body’s initial formal meeting in Everett today – complexity must be recognized with honesty for sound development, and a correct weighing, of probabilities for future slide events that, even though quite rare, can yield catastrophic consequences exposing citizens to titanic losses of life.

Further, this reality implicates the paramount importance of recognizing necessity for policies to ensure institution of a systematic risk triage methodology required to allocate finite tax funds so as to identify – and to protect against – the greatest hazards, jeopardies, perils, threats and risks, statewide, commencing with comprehensive assessment of our state’s most slide-prone regions.

Policymaking needed to protect all state citizens through applied risk triage shall almost certainly require deployment of now-readily-available mapping based upon airborne Light Detection And Ranging technologies. With LiDAR tools affording ever increasing capabilities, even as costs are decreasing, any list of “prioritized recommendations” to be delivered by this panel of competent-and-disciplined professionals will likely determine baselining with such techniques as essential.

Yet, state-of-the-art risk triage essential to prevent slides with far larger potentials for still greater losses of human life than at Oso, five months ago, must start with facts indisputably well known long before LiDAR’s creation and yet longer before Hazel ridge’s collapse onto Steelhead Haven.

Indeed, four times as many as two score and three who died near Oso – and who are, also, mostly Snohomish County residents – board rail cars in Everett and in Seattle eight times each weekday, and thus five days a week, to traverse one of the most dangerous and slide-prone rail corridors, in all of America, with its stark history of slides thoroughly documented back to at least May, 1897, when then-still-“recent landslides of sound bluffs on the line of the Great Northern railway, near point Edmonds,” were the core illustration used by James Kimball for then-already-“Well-known engineering difficulties,” more-than-117 years ago, in his seminal “Physiographic Geology of the Puget Sound Basin” study in the *The American Geologist*, a century before later slides pushed rail cars into the sound at Woodway, in January, 1997, and over 100 years before further slides have repeatedly derailed trains, in this decade, including in a very chilling derailment film at YouTube.

Importantly, concern for decades by state legislators respecting literally thousands and thousands of landslides onto railroad tracks in the Everett-to-Seattle corridor, since statehood, was a central factor underlying our state’s direct policy decision to demand, through state law, that its “utilities and transportation commission shall maintain safety responsibility for passenger rail service operating on freight rail lines,” in 1990, by means of statute law codified as RCW 81.104.120(c).

The state UTC's responses to this overt statutory order by our state's policymakers to protect **all** state citizens have been either to ignore it, or else to defy them, resulting in needless exposure of hundreds of thousands of commuter-rail passengers to unconscionable dangers which dwarf huge losses of life, at Steelhead Haven, and in reckless imposition of perils for regional rail operations known to be recurrently so hazardous that the Burlington Northern Santa Fe Railroad does, time after time, what our state fails to do, despite a totally clear state law obligation, when BNSF halts all passenger-rail service, over its lines, as bluffs and ridges become supersaturated and collapse.

Despite this pivotal state agency squarely claiming that "**Our Mission** is to protect consumers" – emphasis by the UTC before it identifies public transport that is "fairly priced, available, reliable and safe" – it has not only completely failed to protect commuter-rail passengers in a treacherous corridor, for nearly 25 years now, but it has squelched multiple questions raised by its own staff.

Not one of those 43 souls lost five months ago, today, can be replaced, but their deaths shall not have been in vain if trains hauling four-or-five-or-six-or-seven times as many Washingtonians in a patently unstable rail corridor, during winter rains, are prevented from playing Russian roulette – trip after trip, day after day, week after week – below supersaturated hillsides between Everett and Seattle (despite repeated derailments occurring since the UTC started to stonewall state law).

As the Joint SR 530 Landslide Commission formally begins its critically important endeavors this afternoon – after first appropriately touring the site of the Hazel ridge tragedy at Oso this morning – its members cannot dedicate, nor consecrate, nor hallow that ground, which is well above your power to add or detract, but it is for us the living, rather, to be dedicated here to unfinished work, and for us to be devoted, thus, to the great task remaining before us whereby we must boldly take all acts needful to evidence that we here highly resolve that no citizen shall have died in vain here.

Exposure of trainloads of people to risks of major losses of life or of serious injuries, from long-and-well known slide dangers, may **not** be the worst jeopardy that competent risk triage can soon identify, but it creates a hazard that cries out for resolution after burials at Oso, and it evidences a like crying need to put a stop to at least those perils beyond the loss interred beneath Hazel ridge.

Yet, while risk triage has been designed, developed and deployed for many health-care, internet-security and other important private-and-public functions, its estimable powers for assessment of dangers to human life and for improving safety – as well as for optimizing allocations of limited tax dollars – badly lag in formalization and in implementation for public policy decisionmaking.

After vast destruction in Oso, we as Washingtonians cannot pay full-and-proper respect for the 43 souls taken, in a brief moment of human history, without ensuring that a key state law intended by our state policymakers to protect every person is not spurned by state bureaucrats, as the UTC has been doing for decades and is continuing to do today, and this minimum step must be undertaken by the Landslide Commission's able members to foster public safety as a *sine qua non* to prevent a polity of the people, by the people and for the people from perishing under the earth here **again**.

\*Will Knedlik, J.D. (Harvard), Ph.D. (Washington), is president of Eastside Rail Now and is secretary of the Eastside Transportation Association. He served in the Washington State House of Representatives from the 45th Legislative District. His email address is [wknedlik@aol.com](mailto:wknedlik@aol.com).

Testimony by Will Knedlik\* to the Joint SR 530 Landslide Commission on August 22, 2014 – 3 of 3

**Subject:** Re:

**From:** Rae Smith (thehumbleheros@gmail.com)

**To:** d.iga@frontier.com;

**Date:** Monday, October 13, 2014 1:30 PM

Hi Kevin,

I am happy to know that there is someone else who takes issue with the first responders taking all the credit for rescues and recovery. You may have already guessed that this is Rae Smith. Every time I hear or see the first responders taking all the credit it feels like someone is sticking a knife in my belly.

First of all I need to tell you that you are the only one who responded to my letter. It may be that none of those involved read it or that they simply wish to remain in the background. Dayn has most of their names. I may have to contact them on an individual basis to see if they would step forward for recognition for all of their efforts and sacrifices. I know most of them feel that what they did simply was what they ought to have done or had to do and not to be made hero's in any way. But they are all hero's in my book and should be touted as such.

I know that Summer died instantly. I knew as soon as I heard about the slide she was in there and she was gone, all I wanted was for my boys to bring her home.

I wasn't in town when the slide occurred. I was in Puyallup and headed home as soon as I heard the news. I had no idea of the scope of things. I only knew that it was bad and Summer was gone. Since I was out of town I don't know exactly how long the first responders stayed at the scene. But I know it wasn't long enough and I'll give you one experience so you know why I am so angry with them.

After they left and the road blocks were set up the members of my family who defied the law were Dayn, Riley, Zack, Brittney, Cheyenne, Anthony and Sean. They all went in looking for Summer right after the first responders left. They were told they would be arrested but they went in anyway. Brittney was on the east edge of the slide looking for any sign of her sisters car. She heard a moaning and looked out over the debris field. She saw a little child's hand sticking up out of the mud and heard gurgling sounds. She was about 30 yards from the child and she tried desperately to fight her way through the mud, muck and debris to reach the child. She kept falling and sinking in the mud. She couldn't get to the child and finally the little hand fell back into the mud and the gurgling ceased. Brittney did the only thing she knew to do at the time and that was to go try to

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get help. She fought her way out of the mud, got to my truck and tried to get back through the barcade. At first they wouldn't let her back through. She called me hysterical and I spoke with the officer and told them they had to let her come out. When she got home, caked with mud and sobbing she told me what happened. I immediately drove back to town to the fire hall. Britt was with me still sobbing. I saw several people milling around outside the fire hall in their gear. Eating, drinking and laughing. I jumped out of my truck and screamed at them that they had to go back down to the slide because there were still people who needed help. They simply said 'no, they told us to leave'. I was in shock. I started to drive out of town to the slide area. There was a female state trooper blocking the road at the Assembly of God church. I put my truck in park and approached her. I told her they needed to get help down to the slide. She said get back in your vehicle or I'll arrest you. I was so outraged I pushed her and told her to go ahead and arrest me. There were four other vehicles stopped in the line by her car and all of them had put their cars in park and started to get out. She backed off. And I got back in my truck and just started driving around town because I didn't know what else to do. All the while I was on and off of the cell phone with Dayn asking him if he'd found Summer. He said they were walking over bodies. Some covered with sheets, others still laying motionless in the mud. Why the first responders just covered and left bodies out there is still beyond my scope of understanding. Maybe that child would have passed away even if the first responders had found him/her and brought them out when they were there. But at least the child would have not died in that horrible filth and mud. That's unforgivable to me. Brittney still suffers from nightmares and guilt. But it's the first responders who are sitting back and taking all the credit and glory who need to feel guilty. Recently I have heard Willie Harper and Travis Hotts give some mention of the civilians out in a whisper not a shout and only after they have thanked the first responders, search and rescue and FEMA. If you truly want to do something to change this please let's get together and see what our options are. I'd really like you to speak one on one with Dayn. To hear his experience and that of those who were out there with him fighting shoulder to shoulder to find the victims. I won't stop until we get them the recognition they deserve. Even if it's a blanket recognition for those who want to remain anonymous.

Thank you,  
Lae L Smith

March 22, 2014

The Day The Mountain Fell

10/20/2014

