# Localizing Hazard Mitigation Recommendations for Westport's Comprehensive Plan Update

### **EXECUTIVE SUMMARY**

Prepared for the City of Westport, WA, by the University of Washington Urban Design & Planning Studio "Community Engagement for Coastal Resilience," URBDP 508B, Autumn 2018







A Report based on Community Responses to Tsunami and Sea Level Rise Scenarios for purposes of Integrating the Grays Harbor County Multi-Jurisdiction Hazard Mitigation Plan with the City of Westport Comprehensive Plan

November 21, 2019

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### **Project Summary**

As the first community in North America to build a tsunami vertical evacuation structure (at the Ocosta Elementary School), the Ocosta School District and larger Westport-South Beach community has demonstrated extraordinary political will, community spirit, and long-term thinking. The City of Westport is considering additional vertical evacuation structures within the city limits, as necessary for the safety of its residents, visitors and employees. To ensure that these structures are cost-effective, function in a variety of possible emergencies, and also enhance daily life in the community, the City has partnered with the University of Washington's Department of Urban Design and Planning (UW Team) in a Coastal Resilience Project. Project goals were established in a Memorandum of Understanding signed in September 2018 by Westport Mayor Robin Bearden and Prof. Abramson on behalf of the UW Team:

- Engage a broad range of local community members as well as municipal and agency stakeholders, including residents, the City of Westport, Shoalwater Bay Tribe, Grays Harbor County, Pacific County, State and local emergency management agencies, Federal representatives, and other stakeholders representing coastal ecology, transportation, public health, education, local businesses and historic resources.
- Support ongoing efforts to improve community resilience in the City of Westport and surrounding areas, including collaborative efforts among multiple coastal communities.
- Identify opportunities for integrating equitable and just localized hazards planning with general community development planning, urban design and public health via the City's Comprehensive Plan update and other infrastructural improvements, including transportation and telecommunications.
- Learn from the successes won and challenges faced by the City of Westport and its residents to inform ongoing policy decisions around hazard planning and to share lessons learned with other communities both within our region and beyond.

In accordance with these goals, the attached full report provides detailed recommendations for integrating hazard mitigation strategies (from the Grays Harbor County Multi-Jurisdiction Hazard Mitigation Plan) into the City of Westport's Comprehensive Plan (Comprehensive Plan). Although the scope of the Comprehensive Plan is broader than hazard mitigation, the recommendations focus on opportunities to incorporate hazard mitigation into the plan and highlight potential co-benefits of these strategies. The recommendations should be viewed as possible answers to the question: How can mitigating coastal hazards in Westport also help the community achieve its everyday goals for development? Westport will need to complement these recommendations with other considerations related to community development and resilience when updating the Comprehensive Plan.

#### Process

An interdisciplinary group of students and faculty from the University of Washington's Department of Urban Design and Planning (UW team) developed the recommendations through a Coastal Resilience Project conducted with the Westport Tsunami Safety Committee and other community members. The Project involved reviewing the Comprehensive Plan and the Grays Harbor County Multi-Jurisdiction Hazard Mitigation Plan (County HMP), conducting additional research, including an extensive, quarter-



long community engagement process in Autumn 2018. Engagement activities included two workshops held in Westport in November and a public open house in December.

The County HMP identifies earthquake, tsunami, erosion, and flooding as the top hazards of concern for Westport, though Steering Committee members asked the UW team to consider severe weather and climate change as possibly also deserving high priority attention. For discussion in the workshops, the UW Team prepared maps of multiple tsunami scenarios and sea level rise (SLR) scenarios, reflecting a range of severity and likelihood of different kinds of hazards facing Westport. Input from the workshops, open house and other follow-up meetings, and pre-workshop site visits are discussed throughout the full report. Appendix A to the full report includes detailed documentation of the workshops themselves.

### Recommendations

The County HMP Westport annex listed six initiatives which can conceivably align with different elements of the Comprehensive Plan: (1) Vertical Tsunami Evacuation Structure; (2) Public Outreach Program; (3) Emergency Management Plan; (4) Emergency Communications Plan; (5) Critical Facilities Evaluation; (6) Transportation and Right of Way Improvements. The Comprehensive Plan currently includes six elements: Land Use, Transportation and Circulation, Economic Development, Community Appearance and Natural Resources, Area-Wide Development, and Shorelines Goals and Policies, as well as other chapters focused on overarching goals and objectives and implementation. The UW Team has drafted recommendations for updating each of the six existing elements, as well as adding a new element, Health and Well-Being:

- Land Use Element: Highlights opportunities to utilize land use-related tools and approaches to increase resiliency to flooding and other hazards. The section emphasizes approaches including land acquisition and strategic location of critical facilities, hazard-resilient buildings and infrastructure, and water management as key opportunities to mitigate hazards.
- **Transportation, Circulation, and Telecommunications Element:** Identifies opportunities to strengthen existing transportation plans and infrastructure to support evacuation and disaster response. This section also recommends including Telecommunication and proposes innovative technologies for improving internet access and other forms of communication.
- **Economic Development Element:** Describes areas of alignment between hazard mitigation and Westport's economic development goals. Recommendations include renovating existing structures to provide multi-purpose benefits, e.g. both vertical evacuation and event space.
- **Community Identity and Natural Resources Element:** Recommends dividing the current Community Appearance and Natural Resources Element into two new elements, with "community appearance" broadened to "community identity ". Recommendations describe creative opportunities for introducing new development and infrastructure that improves hazard resilience while maintaining and enhancing Westport's character and image.
- Area-Wide Development Element: Incorporates regional considerations into hazard mitigation planning and opportunities for accessing regional assets to increase hazard resiliency.
- **Shoreline Master Program:** Outlines opportunities to incorporate sea level rise (SLR) projections while promoting best practices for conservation and use of Westport's shoreline.
- Health and Well-Being Element: Proposes a new element focused on health and well-being of Westport residents, for both emergency response, hazard mitigation and long-term resilience.



Table 1 below includes a summary of key crosscutting recommendations; check marks indicate elements that include a recommendation relevant to the crosscutting themes identified. The full report includes more detail and specificity regarding strategies.

Table 1.	Summary	of Recomm	nendations	and Alignmen	t among	Elements
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Crosscutting Recommendations	Land Use	Transp. & Telecom.	Econ. Devel.	Identity	Area Wide	Shore.	Health
Implement climate-smart and hazard resilient development and zoning based on best-available sea level rise/flood data, including in the Marina District	✓		✓	~	✓	✓	✓
Build multi-use vertical evacuation structures that are integrated with community and economic development goals	~		~	✓	~		~
Develop innovative transportation and accessibility solutions		✓	~	✓	~	~	✓
Consider securing access to higher ground, including assessing feasibility and identifying possible near-term uses	✓		~	✓	✓		✓
Identify and implement creative adaptation solutions and land uses for low lying areas	~		~	✓	✓		
Improve evacuation/emergency response planning, training, preparedness, and communication		✓		✓	✓		✓
Support transportation infrastructure improvements (e.g., critical roads, bridges, airport) and transportation management		~	~		~		~
Strategically site/relocate critical facilities to low-risk areas within Westport	✓			~	✓		
Improve drainage and stormwater infrastructure	✓			✓		√	
Improve communications capacity and technology		√	√		~		✓
Implement economic, community, and cultural development initiatives			√	√			√
Promote sustainable land and natural resources management			✓	√	✓		
Establish community health center	$\checkmark$	$\checkmark$					$\checkmark$
Improve availability of community demographic and health needs data							✓
Support resilient, local food systems	$\checkmark$		$\checkmark$	$\checkmark$			$\checkmark$

Table 2 below includes a summary of crosscutting recommendations and provides a snapshot of the specific focus of each element relating to the crosscutting recommendations.



Crosscutting Recommendations	Land Use	Transportation, Circulation & Telecommunication	Economic Development
Implement climate-smart and hazard resilient development and zoning using best-available sea level rise/flood data	Climate/hazard resilient building codes and infrastructure investment		Resilient infrastructure in the Marina; new cultural district
Build multi-use vertical evacuation structures that are integrated with community and economic development goals	Additional multi-use vertical evacuation capacity		New or retrofitted vertical evacuation infrastructure (e.g., Chateau Westport)
Develop innovative transportation and accessibility solutions		New ferry routes and vessel technology	New ferry and high ground trail network
Consider securing access to higher ground, including assessing feasibility and identifying possible near-term uses	Purchase, acquisition, or annexation of higher land		Acquisition of higher ground land
Identify and implement creative adaptation solutions and land uses for low lying areas	Funding to change use patterns in flood prone areas		Relocation of homes and restoration of flood-prone areas
Improve evacuation/emergency response planning, training, preparedness, and communication		Evacuation drills and route planning, emergency radio infrastructure, and emergency planning	
Support transportation infrastructure improvements (e.g., critical roads, bridges, airport) and transportation management		Improvements to key routes	Reconstruction of key roads/bridges
Strategically site/relocate critical facilities to low-risk areas within Westport	Research and evaluation of critical facilities siting		
Improve drainage and stormwater infrastructure	Improvements to storm and wastewater drainage		
Improve communications capacity and technology		Telecommunication improvements (e.g., LTE, low power radio)	Improved internet and cellular connectivity
Implement economic, community, and cultural development initiatives			Improved web presence and local art shops
Promote sustainable land and natural resources management			Conservation of open space for public use and ecosystem services
Establish community health center	Co-locate with vertical evacuation structure	Co-locate with broadband internet access	
Improve availability of community demographic and health needs data		Enhanced disaster medical response	
Support resilient, local food systems	Zoning for community food gardens		Community garden produce market

#### Table 2.Summary of Recommendations and Alignment among Elements (continued on following page)







Community Identity and Natural Resources	Area-Wide Development	Shoreline Master Program	Health and Well-Being	
Flood-smart building design	Zoning and policies that promote resilient development; evaluate critical facilities exposure	Inclusion of sea level rise projections and focus on adaptation opportunities	Land use planning updates and protection of important habitat (e.g., oyster beds)	
Retrofitting existing and/or building new vertical evacuation structures	Network of vertical evacuation structures		Community health center with vertical evacuation capacity	
New ridge trail	New ferry, ridge trail system, logging/forest road access	Earthquake resistant beach access and trail connections	Opportunities for physically active living	
Development of resorts on hilly land outside the city	Assessment of feasibility and possible uses for higher ground outside city			
Wetland resort development	Identification of new economic	Preservation of coastal		
Emergency evacuation route signage	Regional collaboration with county and private sector on evacuation planning	vegetation	Coordinating volunteer organizations to support emergency aid	
	Transportation infrastructure improvements	Incorporation of sea level rise into infrastructure planning		
Relocation of critical facilities	Feasibility of relocating critical facilities			
Blue-green stormwater infrastructure		Vulnerability assessment of wastewater treatment and mitigation needs		
	Improved cellular and internet connectivity		Regional telehealth programs	
Potential aerial tourism opportunities			Walking-friendly environment; affordable housing	
Coastal resources mapping	Protection of open spaces and ecosystem services			
			New telehealth system and improved health outreach	
			Health service providers and knowledge of community needs	
Gardens and markets for neighborhood identity			Increase healthy food options and local self-sufficiency	





#### Mutually Supporting Area-wide Development Strategies

The overlap among strategies and elements illustrates the importance of taking a comprehensive, integrative approach to increasing community resilience and mitigating hazards in Westport. The overlap also illustrates the principle that a robust and effective strategy should not only mitigate a hazard (and ideally more than one hazard scenario) but also provide multiple benefits to the community on an everyday basis, regardless when or whether the hazard manifests itself or not. In this way, robust strategies account for the uncertainties and unpredictability of the timing and severity of future possible hazardous events and ensure the protection of the highest community values (e.g. human life), while allowing the community to realize other values (e.g. economic development) under normal "blue sky" conditions. Finally, the integration of mitigation strategies with everyday life helps to ensure that such strategies are well-understood and internalized by community members, making them more effective.

One key hazard mitigation consideration for the city may be the acquisition of land (or at least access to land) at higher elevations both within and outside the city limits, such as the dune ridges on the Westport peninsula, uplands in Bay City across the Elk River or atop the bluffs in the direction of Grayland. Relocation of important public and emergency facilities, and possibly some housing, to the dune ridges on the peninsula would help protect them from the more likely but less severe hazards such as sea level rise, even if it does not protect them from the most severe (but much less likely) tsunami events. Building these facilities as vertical evacuation structures would allow them to serve at least as life-saving protection in a severe tsunami. Combining vertical evacuation with frequently used facilities such as the school, City Hall, the fire and police stations, clinics, hotels, etc., would also help community members and visitors become familiar with where to go in such an emergency, and potentially support the HMP's Public Outreach Program initiative. Including vertical evacuation in new hotel and event space construction could lever Economic Development to support mitigation, and vice versa. Designing such a facility to function as a highly visible landmark (e.g. on high ground) could both enhance Westport's city image (Community Identity and Appearance) and also serve as a form of Public Outreach, raising awareness of where to evacuate.

Acquiring even higher ground outside the current city limits would function as a form of "insurance" against a future with higher water caused by sea level rise, or by the rare but possible inundation and subsidence associated with an earthquake and tsunami. This is a nascent idea that would require considerable research into the feasibility and community desire to pursue it. Several sections below reference this idea, and it is important to note that at this stage, land acquisition is not recommended for relocating Westport now; rather, the city could pursue options including annexation, land swaps, easements, or other mechanisms to gain access to higher ground for a variety of uses.

## Low-lying, flood-vulnerable critical facilities and even residential properties could be bought-out for relocation to higher ground, and redeveloped for near-term profitable commercial development.

Higher ground outside the city limits could be developed to provide economic opportunities in the nearterm and used more directly by the city over the long-term. What might be useful (and even profitable) in normal times as an ecologically low-impact camping area, hunting lodge, educational and research facility, or resort development, may serve as an emergency refuge and resettlement area after a major disaster.



#### Figure 1. Land and development rights swaps for resilient long-term land use (map by Sreya Sreenivasan)

In sum, the UW Team developed these recommendations after considering the following questions, based on the above overarching considerations and principles, and after reviewing the County HMP, the Comprehensive Plan, and all community input:

- How many different hazard scenarios does each strategy mitigate, given the nature, severity, timing and likelihood of the hazard? (The more hazards it mitigates, the more robust the strategy.)
- 2) Which Comprehensive Plan Element goals can each mitigation strategy help to achieve? (The more, the better.)
- 3) What additions or revisions to the Comprehensive Plan goals does each mitigation strategy suggest? (The more alignment, the more resilient the community's development will be.)
- 4) What additions or revisions to the Comprehensive Plan goals would better reflect community values? (An important reality check to inform the validity of the answers above as well as priorities for implementation.)

As the City's Planning Commission considers these recommendations, the UW Team invites further dialogue on these questions, and looks forward to further revising the recommendations as necessary.

