SIREN – Strategic Planning for Coastal Community Resilience to Marine Transportation Disruption

Support from:



in partnership with the Province of British Columbia



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MEETING THE CHALLENGES OF OUR CHANGING OCEAN

SIREN Focus

Objective

To help build resilience of marine transportation systems and coastal communities

Scope

- Preparation for emergency response phase
- Case studies: (1) West Coast earthquakes
 (2) East Coast hurricanes













SIREN Research Questions

Damage to marine	 How would a major disaster likely affect marine transportation routes?
transportation	 Will a port be available, and in what state, considering its own vulnerability and the vulnerability of interdependent infrastructure?
Disruption to transportation flows	 How would this marine transportation disruption affect the movement of people and resources in the emergency response phase?
	• What ports could be used for ingress and egress of populations in a catastrophic disaster?
Strategies to reduce impacts	 What strategies (e.g., alternate routes/modes) would be effective for different types of communities in alleviating impacts?
	 What strategies would be effective for different types of ports to reduce failure risk or improve functional resilience?

SIREN team

Dalhousie University

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Soc-econ. impacts of disasters

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Principal investigators Collaborating investigators Postdoctoral fellow/students

Wide reach of organizations involved



https://insight.ieeeusa.org/wp-content/uploads/sites/3/2015/09/Critical-Infrastructure-and-the-IoT-A-Licensing-Perspective-1200x700.jpg

Normal and Emergency Operations

	Private Sector			Federal Government			Provincial Government				Local Government			Nonprofit/ Volunteer		
Jurisdiction	Retailers	Trucking Industry	Marine Shipping	Liquid Fuel	Transport Canada	Port Authorities	Department of Defense	Public Safety	EMBC	Health Authorities	Health EMBC	Local EM	Fire Services	Police	EMS	Ex. Red Cross, Food banks, Emergency housing
Commodity Supply ex. retail																
Transportation Infrastructure ex. ports, distribution																
Transportation services ex. shipping																
Filling commodity demands																
System-wide oversight																
Emergency Response																
Orange, emergency only Green, both normal and emergency operations																

Stakeholder engagement

Opportunities

- Gather diverse sets of knowledge
- Tailor research outputs to user needs
- Facilitate networking amongst stakeholders
- Effective in-person knowledge mobilization (KM)

Challenges

- Hard to conceive of plans for disaster conditions
- Devising broad but realistic solutions to improve preparedness
- Conveying the utility of scenarios
- Coordinating a large number of stakeholders

Questions? / Commentaires !



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