



**BLUE CASCADES V:
Infrastructure Interdependencies Tabletop Exercise
Focus—Post-Disaster Regional Supply Chain Resilience**

ACTION STRATEGY

Below is an Action Strategy of short-term (one-year), medium-term (18 months to 2 years), and longer-term projects and activities that reflect the findings and recommendations in the Blue Cascades V Critical Infrastructure Interdependencies Exercise. The exercise held December 11, 2008, focused on assuring critical supply chains after a major disaster. The goal of the exercise was to explore impacts that would cause significant, extended disruptions in these critical supply chains; test disaster response plans and procedures; and identify gaps and mitigation and other measures that could expedite their restoration. An Exercise Report prepared from the proceedings, evaluator comments, and participant feedback produced more than three dozen recommendations. (*See Appendix A.*)

Note: All the projects listed below build upon existing regional capabilities and activities. Each requires cross-sector work groups to undertake the specific tasks required. These work groups may have many of the same individuals as members because of the overlapping focus areas of the projects, which are elements of a holistic approach to regional post-disaster supply chain resilience.

Short-Term (up to 1 year)

1) Regional Disaster Supply Chain Risk Assessment and Resilience Strategy

Region 6 local government and state agencies, private sector and other key stakeholders will create a Disaster Supply Chain Work Group. The Work Group, with inputs from military facilities, Coast Guard, and relevant other federal agencies, will work together using various funding mechanisms to develop and conduct a series of small targeted interactive workshops to provide better understanding of supply chain resilience needs and potential solutions. Further knowledge and lessons learned from the workshops will be utilized to develop the Strategy. The scope of the Strategy will cover:

- a) Earthquake -related interdependencies impacts on disaster supply chains and potential mitigation measures, including alternative energy and communications means;
 - i) A Workshop as part of the *Shakecast* project to work with stakeholders for this purpose,
- b) Roles and responsibilities and incident management and recovery processes;

- c) Decision-making process, including procedures for prioritization of food, water and fuel allocations to infrastructures and locations;
 - i) A Workshop to examine how food from disaster impacted stores could be used to feed displaced or special needs populations;
- d) Pre-disaster agreements among government and organizations to deal with legal and liability issues and potential environmental or regulatory constraints;
- e) Designation of practical and feasible pre-event points of distribution with alternate locations, and stockpiles of essential supplies;
- f) Identification of federal government, including defense assets and capabilities that could be used for disaster supply distribution;
- g) An exercise and training program for stakeholders on emergency management plans and incident and recovery chain-of-command procedures;
- h) Procedures to enable expeditious removal of spoiled food and other hazardous waste and address public sanitation needs after a disaster;
- i) Other key needs.

Medium-Term (2 years)

2) Regional Cross-Sector Emergency Transportation Management System (road, rail, maritime, and air)

- a) Create a Regional Cross Sector Transportation Work Group of key stakeholders;
- b) In conjunction with the Regional Transportation Recovery Planning Project o develop a regional transportation management system in close coordination with relevant state agencies to address re-routing of shipments of essential supplies and other emergency transportation issues associated with food, fuel, water delivery, and other essential needs;
- c) Investigate military and commercial maritime, air transportation and other assets to assist in supply chain resilience;

3) Disaster Supply Chain Coordination and Resource Management System

- a) Create a cross-sector Disaster Supply Chain Coordination and Resource Management Work Group to incorporate the private sector and other key stakeholders into the Regional Resource Management System Development Initiative now getting underway;

- b) Investigate NWWARN and other information sharing mechanisms and methods that could be used to collect and coordinate resource data and to push out information to appropriate stakeholders;
- c) Create a regional inventory of normally available private sector, non-profit including philanthropic and other key stakeholder resources and supplies that could be readily mobilized after a major disaster
- d) Develop an inventory of where to get additional resources in the event of a disaster.

4) Disaster Supply Chain Public Outreach and Information Initiative

- a) Set up a cross-sector Disaster Supply Chain Outreach and Education Work Group;
- b) Develop a public information plan on disaster supply chains that includes:
 - i) The media ;
 - ii) An event to educate elected officials;
 - iii) Information on earthquake impacts and what the public can expect regarding food, water, fuel, and other critical supplies;
 - iv) What services the government can and cannot provide ;
 - v) Provisions for public message coordination among local government with food, water, and fuel and other essential service providers to deal with public and media inquiries
 - vi) Cross-sector exercises and workshops;
 - vii) An experts group to provide information in coordination with emergency management before, during and after a disaster;
 - viii) A “crisis information” mechanism to put out information via email, Twitter, or other technology means.

Longer-Term (multi-year)

- 5) Phased Implementation of Regional Disaster Supply Chain Risk Assessment and Mitigation Strategy** (activities to develop procedures, tools, systems for prevention, mitigation needs as outlined in the Strategy);
- 6) Other Activities/Projects.**

APPENDIX

BLUE CASCADES V EXERCISE REPORT RECOMENDATIONS

Interdependencies

1. There needs to be **more intensive and extensive exploration of interdependencies impacts** on disaster supply chain issues.
2. Various means of **alternative energy resources to provide or supplement power need to be explored**. Participants suggested solar, wind, additional generators for small enterprises or buildings, installation of rainwater cisterns or using existing wells.
3. Various means of **alternative communications likewise should be examined**. Suggestions included satellite phones with a database of relevant users, sharing satellite phone channels, using ham radios, and designating collaborative space in EOCs to enable public-private sector interaction and communication during the response and recovery process. One participant recommended providing old police and fire radios to private sector organizations as alternative communications resources that can tie directly into the Emergency Operation Center and not disrupt the current systems employed by the police and fire.
4. A **regional emergency transportation management system** needs to be developed to enable informed and coordinated re-routing of shipments of essential supplies and prudent and practical siting of publicly accessible distribution locations.
5. A **regional emergency fuel storage and distribution system** needs to be developed to assure adequate fuel is available to first responders, hospitals, power and communications maintenance vehicles, delivery vehicles and to grocers and other distributors of essential goods and services.
6. An **emergency power generation needs assessment** should be undertaken to determine regional emergency power generator capacity, identify suppliers and locations of available generators, and ascertain and prioritize the needs of essential service providers for emergency power generation. Once the assessment has been completed, a plan for accessing/stockpiling generators with procedures for providing electrical teams for fueling and necessary fuel should be established.

Coordination

7. State and local government need to work with and educate private and non-profit organizations to **provide for effective means and mechanisms for cross-sector coordination** in disaster supply plans.
8. **Regional stakeholder organizations need to continue to meet and work to develop relationships and trust** necessary to collectively address response and recovery supply and distribution challenges.

9. Stakeholders should **share disaster supply distribution plans**.
10. Government and key stakeholder organizations should work together to develop an agreed **cross-sector methodology for prioritizing food, water, and fuel allocations to infrastructures and locations**.
11. Providers of essential services need to overcome competition and work together to develop arrangements and agreements to cooperate in a major disaster.

Roles and Responsibilities

12. State and local plans need to specify clearly which agency or agencies are in charge of which responsibilities in regard to supply/distribution decisions and management and outline the procedures for how this process works.
13. **Educate stakeholders** on emergency management plans and process.
14. Key stakeholder organizations with major roles in disaster supply and distribution need to participate in incident and recovery management **training on chain-of-command procedures** once they are developed.

Response

15. **Pre-disaster agreements among government and organizations essential for disaster supply and distribution should be negotiated** to deal with legal and liability issues, and potential environmental or regulatory constraints.
16. **Pre-event points of distribution with alternate locations, and stockpiles of essential supplies should be established** as practical and feasible.
17. **Local military facilities, the Coast Guard, and National Guard should be involved** in disaster supply and distribution planning and execution.
18. **Defense assets and capabilities should be identified in advance** that could be used for disaster supply distribution.
19. **Schools and other community institutions need to be involved** in disaster supply and distribution planning and execution.
20. Disaster response/recovery plans need to **include arrangements for food and shelter for government and stakeholder personnel** who are providing essential goods and services during disaster response and recovery.

21. Key stakeholder organizations willing to be involved in disaster supply and distribution of food, water, fuel and other essential supplies should **identify in advance the personnel who would contribute their services**.
22. A **credentialing system needs to include personnel that may be involved in supply and distribution of essential goods and services** in a disaster.
23. Local governments need to examine **refuse disposal contractual arrangements and determine procedures** to incorporate into disaster response/recovery plans to enable expeditious removal of spoiled food and other hazardous waste. Local plans must also take into account provision of portable toilets and other sanitary facilities for people without running water or in shelters.

Critical Resource Logistics and Distribution

24. A **regional system should be developed to manage supplies and logistics** after a major disaster that incorporates local agencies across jurisdictions and relevant state agencies. King County is currently developing this system through a DHS pilot program. The system should include:
 - Alternate routes for distribution if certain roads, bridges, or tunnels are impassable;
 - Alternate sites to be used as distribution warehouses;
 - Alternative suppliers if local suppliers are unavailable;
 - An inventory of heavy equipment; e.g., cranes, backhoes, tracked loaders, dump trucks to open roads, and refrigerated trucks, delivery trucks and helicopters to bring in needed supplies;
 - Procedures to delay payments and provision of mobile ATMs.
25. **Local agencies should develop a contact list of private and non-profit sector organizations** that would be involved in disaster supply and distribution. For example, faith-based and other community organizations can be a resource for coordination, sheltering, and distribution centers. Often these organizations own or control buildings, parking lots, campground, retreat centers, and other sites that could be utilized.
26. **Contracts covering payments and other arrangements should be made in advance** between local government and food, water, fuel suppliers and other private sector organizations for provision of critical supplies.
27. **Government and other key stakeholders should exercise with local military representatives** to see how defense assets and processes could be utilized to handle critical resources distribution.

28. A method for collecting information should be developed that includes the private sector to create a regional inventory of normally available critical disaster supplies that could be readily mobilized after a major disaster.

- The inventory of available resources should be categorized using common government terms to facilitate cross-jurisdiction, local-federal agencies and include where to get additional resources in the event of a disaster.

29. WSDOT should consider constructing temporary gravel roads and investigate temporary bridges to deal with major disaster disruptions of transportation.

30. A coordinated public communication plan should be developed among local government with food, water, and fuel providers to deal with media inquiries.

Information Sharing

31. Explore utilizing an enhanced NWWARN that will be part of the cross-sector Information Fusion Center now under development as the communications mechanism for critical supply distribution information/two-way situational awareness. NWWARN could be leveraged to allow for on-line conferences with cross-sector participation.

Economic/Community Recovery

32. Explore Navy, Coast Guard and other untraditional federal capabilities that could be utilized for restoration.

33. Need to identify regulatory and other “roadblocks” that impede transportation, fuel storage, or certification of buildings as safe and other critical disaster supply distribution challenges, **and create MOUs** to get around these constraints during and after a disaster.

Public Information

34. Need to educate public on earthquake impacts and what to expect regarding food, water, fuel, and other critical supplies, what services the government can provide, including when and how—and what the government cannot provide.

35. Develop a regional public information plan focused on disaster supply chains that links public and private messaging through a Joint Information Center and that includes the media. Explore various communications methods beyond media, including email, Twitter, conference calls, and other modes of public information.

Training and Education

36. Once critical supply distribution plans are in place, conduct bi-annual functional testing of plans.

37. Conduct targeted workshops and drills to explore and test critical different supply chain issues and plans.

38. Hold a conference to educate and sensitize elected officials to disaster supply distribution challenges.