

Considering Freight Movements and the Effective Practices Learned from Previous Disruptive Events

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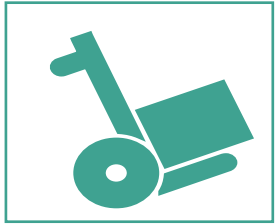


VIRTUAL | VIRTUEL

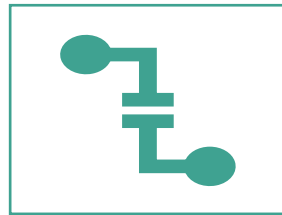
XVI WORLD WINTER SERVICE AND ROAD RESILIENCE CONGRESS
XVI^e CONGRÈS MONDIAL DE LA VIABILITÉ HIVERNALE ET DE LA RÉSILIENCE ROUTIÈRE
XVI CONGRESO MUNDIAL DE VIALIDAD INVERNAL Y RESILIENCIA DE LA CARRETERA



What are Supply Chains?



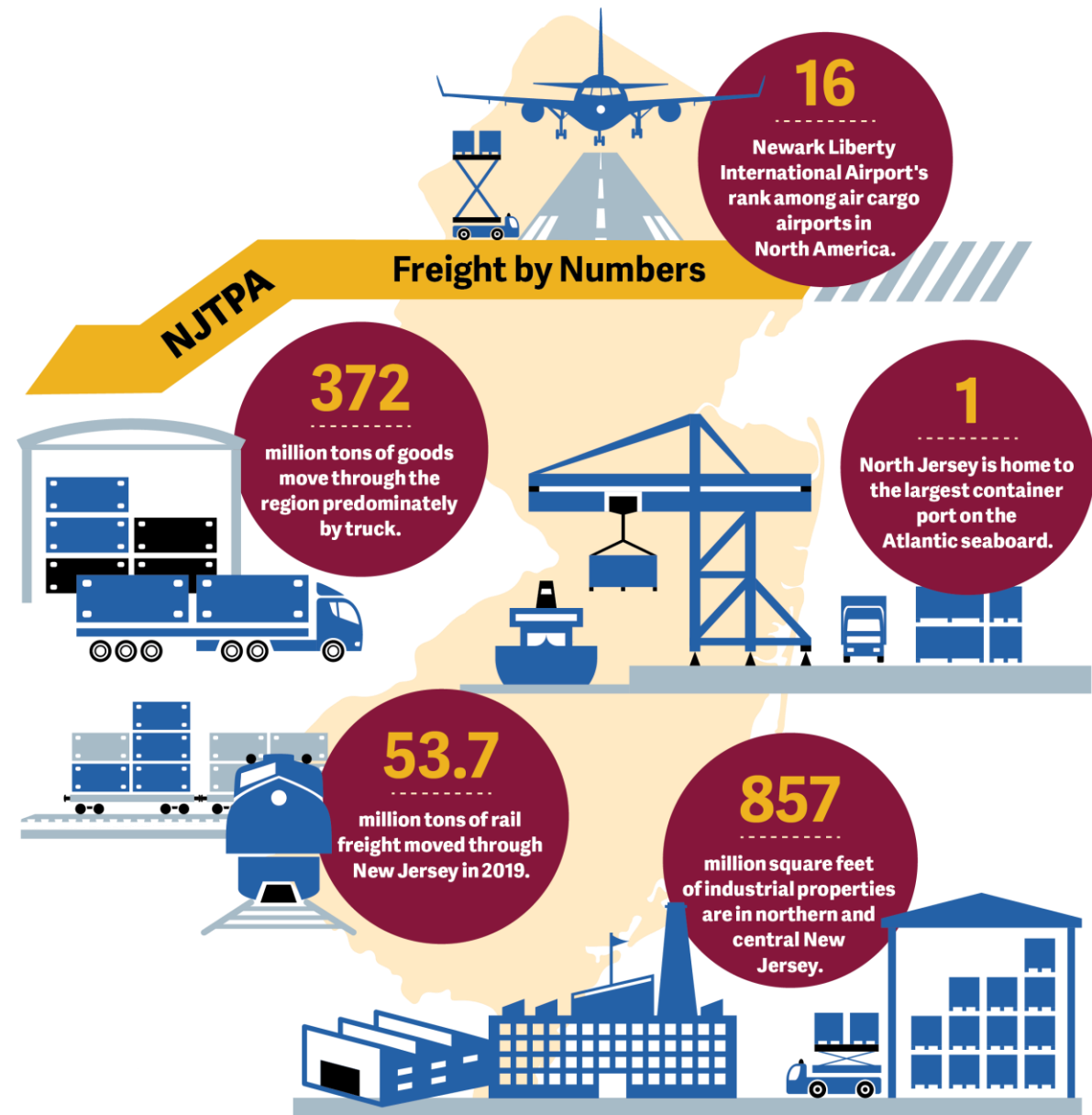
How goods move starting from materials sourcing to where production occurs and then to where they are consumed.



Business continuity refers to the capacity to continue to deliver products or services after a disruptive event.



New Jersey is the Supply Chain State

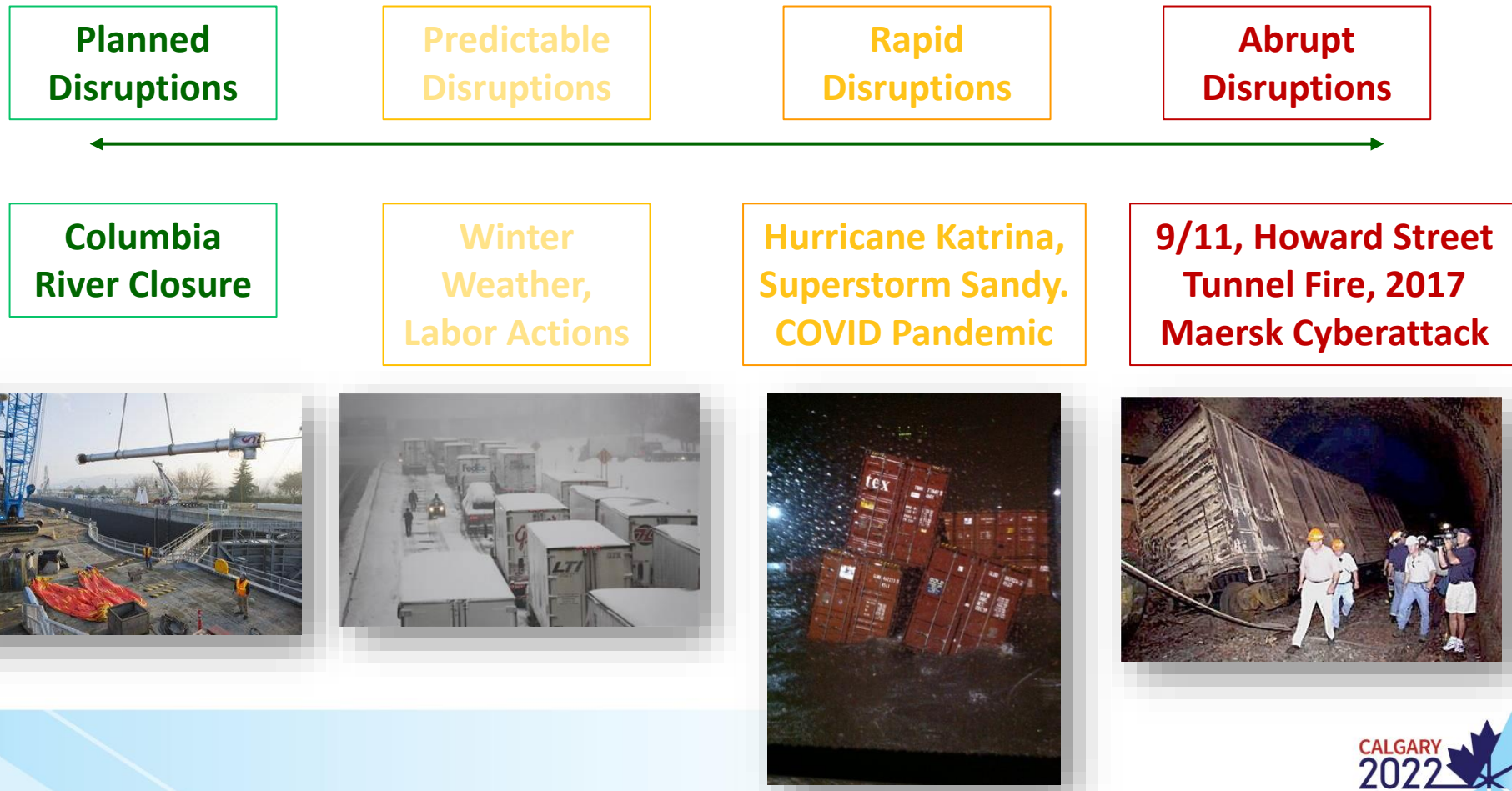


Supply Chain Risk Categories

- Natural Disasters
- Manmade Disruptions
- Supplier Risks
- Cybersecurity and Information System Failures
- Transportation Failures
- Quality Failures



The Disruption Spectrum



Defining a Disruption through Characteristics

Characteristics	Information Disruption: 2017 NotPetya Cyber Attack
Geographical Scope Affected	<ul style="list-style-type: none">• Global – All information systems went down
Freight Facilities Affected	<ul style="list-style-type: none">• Vessels, terminals and company infrastructure around the world.
Commodities and Shipments Affected	<ul style="list-style-type: none">• Multiple commodities and shipments affected
Recovery Time from Disruption	<ul style="list-style-type: none">• 10 days involving “a complete new infrastructure of 4,000 new servers, 45,000 new PCs, and 2,500 applications.”• Estimated cost to company of the attack: \$250-300 million.

Source on Recovery Information: https://www.theregister.co.uk/2018/01/25/after_notpetya_maersk_replaced_everything/

COVID-19 as a Supply Chain Disruption

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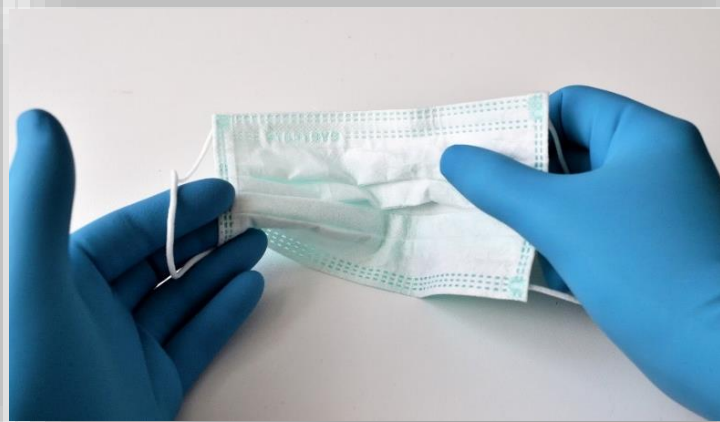
Rapid Increases in Demand

Examples: Personal Protection Equipment, Cleaning Supplies, Food, Household Items, Ecommerce Provision

Sharply Decreased Demand

Examples: Restaurants and Office Building Supplies, In-Store Retail

Disruption Tools and Phases



- Toolbox: Coordinate, Collaborate, Communicate
- Phases: React, Retool, Reshape



Collaborate, Coordinate, Communicate

- Activate and/or form public/private sector teams.
- Proactively and immediately address freight movement issues.
- Identify and address the range of resident and business needs.
- Understand and address the multi-state considerations and issues.

React and Reboot: Keep Critical Goods Flowing

- **Pivot** to manage changing product demands and supply chain issues.
 - 94% of the Fortune 1000 companies experienced supply chain issues in February 2020
- **Anticipate** future surges.
- **Keep** the workforce safe and healthy.
- **Enhance** information systems connectivity



Reshape: Context Changers

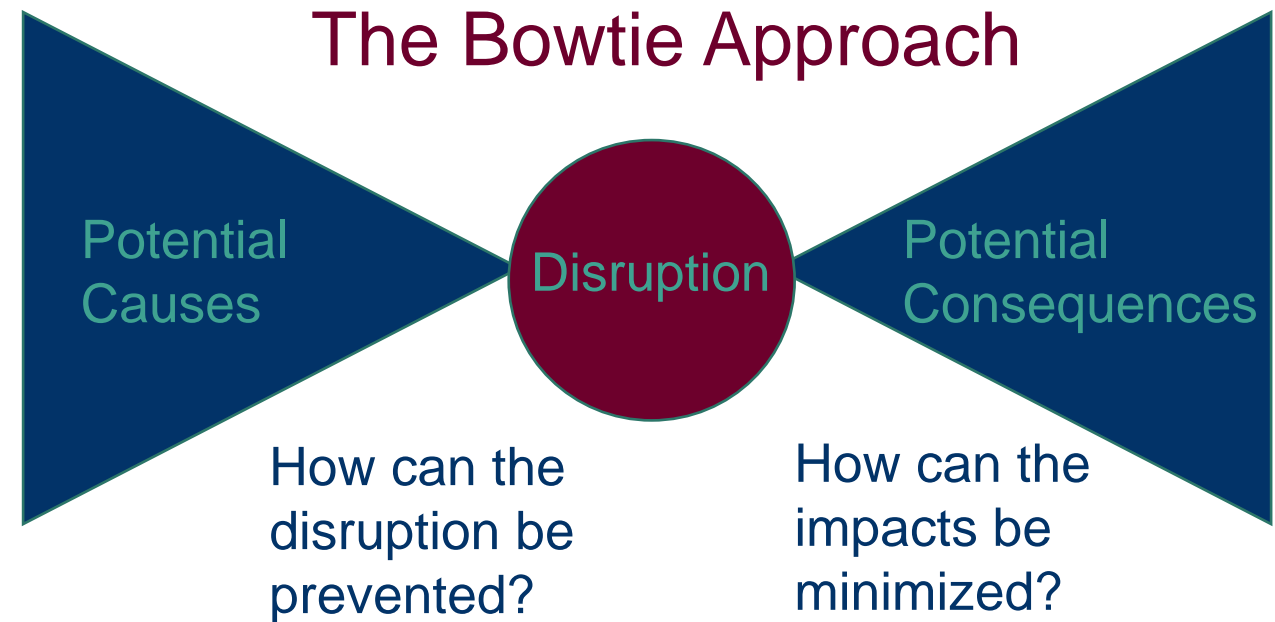
- Increased Direct to Consumer and Buy Online, Pick Up in Store (BOPUS)
- Shift to having more inventory
- Diversify production locations
- Increased importance of information technologies
- Continuing workforce shortages
- Enhanced deployment of automation



Sources: Walmart, Amazon

Proactive Resiliency Planning

- Use the “Bowtie Approach” for assessing potential disruptions
- Develop a “Risk Register.”
 - Describe disruption
 - Identify likelihood
 - Estimate potential severity
 - Identify possible consequences
 - Consider mitigation measures
- Think of short- and longer-term impacts.



The Importance of Business and Community Continuity

- 30 percent of all companies that experience a catastrophic loss fail within the first two years after the event.
- Another 29 percent shut down after this time.
- Severe and potentially permanent economic losses for communities.

These figures are pre-Pandemic.



PHOTO: WARREN AMTOLA, FLICKR

TR News 311 September-October 2017, p. 14.

Thank You



Defining the Vision. Shaping the Future.



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