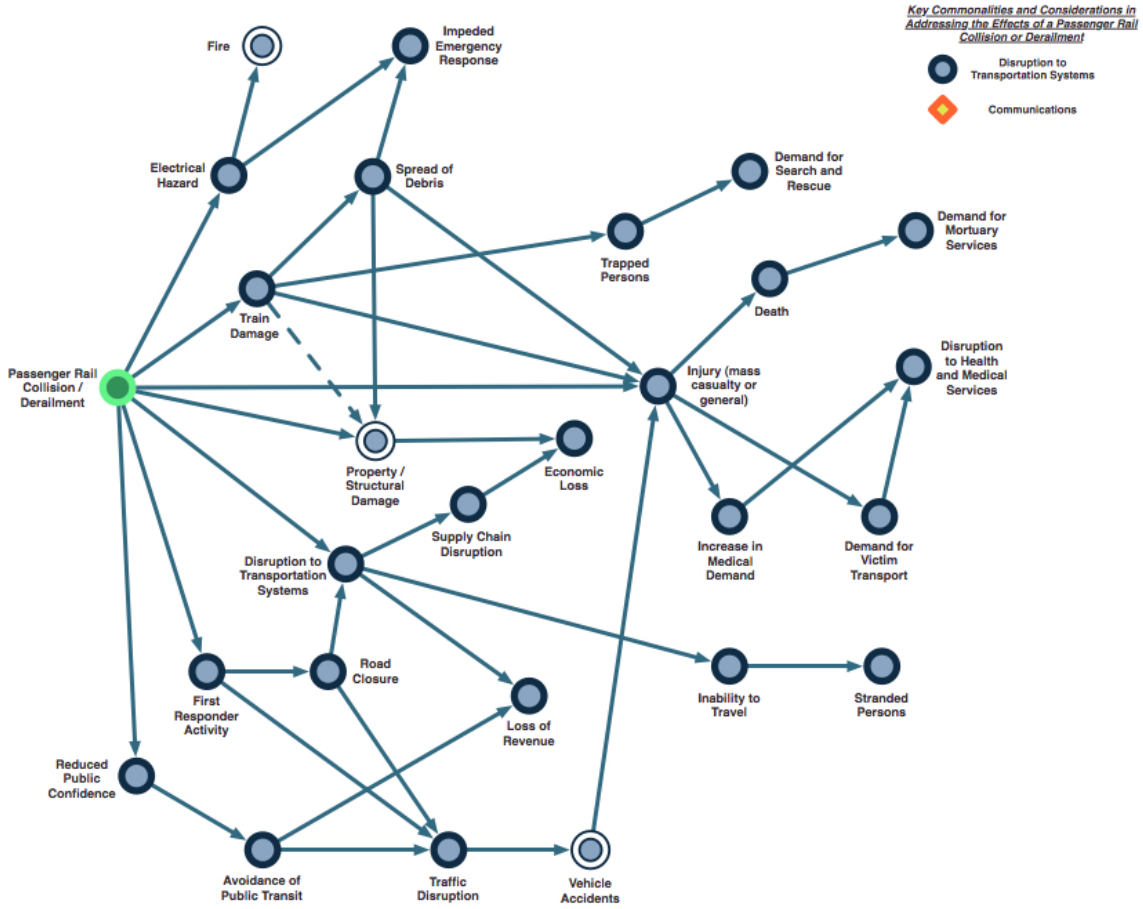
FEMA | The Full-Spectrum Risk Knowledgebase

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Passenger Rail Collision Hazard Network

From The Full-Spectrum Risk Knowledgebase

The below hazard network depicts potential cascading effects of a passenger rail accident, whether a collision or derailment.



NOTE: As with all hazard network slices included in The Knowledgebase, the above slice is a working draft and may be updated.

Included in the upper right corner of the hazard network are key commonalities and considerations that users should keep in mind when looking at the network. This list is not exhaustive, but highlights issues of importance as related to the effects of a passenger rail collision or derailment.

For added reference, a version of the Passenger Rail Collision Hazard Network that offers color-coding to indicate causal relationships that may impact Public Health and Safety (including loss of life) and Mission Disruption is available for viewing.

Examples of historical events related to passenger rail collisions or derailments and the downstream hazards above may be found in the Historical Events section of The Knowledgebase and in individual event/hazard descriptions.



Narrative Description of the Hazard Network

Below is a list of the hazards and outcomes caused by a passenger rail collision or derailment as depicted in the above network slice. Complementing this narrative description is a list of all Linkages pages found on the Passenger Rail Collision Hazard Network.

- Electrical Hazard (which may cause)
  - Fire *(see also the Fire Hazard Network)*
  - Impeded Emergency Response

- Train Damage (which may cause)
  - Spread of Debris (which may lead to)
    - Impeded Emergency Response
    - Injury (mass casualty or general) (which may result in) *(see also the Injury Hazard Network)*
      - Death (which may cause)
        - Demand for Mortuary Services
      - Demand for Victim Transport (which may cause)
        - Disruption to Health and Medical Services
      - Increase in Medical Demand (which may cause)
        - Disruption to Health and Medical Services
    - Property/Structural Damage (which may result in) *(see also the Property/Structural Damage Hazard Network)*
      - Economic Loss
  - Trapped Persons (which may lead to)
    - Demand for Search and Rescue
  - Injury (mass casualty or general) (which may lead to hazards as previously listed, including Death, Demand for Victim Transport, and Increase in Medical Demand, among others) *(see also the Injury Hazard Network)*
  - Property/Structural Damage, of which Train Damage is a type (which may lead to hazards as previously listed, including Economic Loss) *(see also the Property/Structural Damage Hazard Network)*

- Injury (mass casualty or general) (which may cause) *(see also the Injury Hazard Network)*
  - Death (which may lead to)
    - Demand for Mortuary Services
  - Demand for Victim Transport (which may lead to)
    - Disruption to Health and Medical Services
  - Increase in Medical Demand (which may lead to)
    - Disruption to Health and Medical Services

- Property/Structural Damage, of which Train Damage is a type (which may cause) *(see also the Property/Structural Damage Hazard Network)*
  - Economic Loss

- Disruption to Transportation Systems (which may cause) *(see also the Disruption to Transportation Systems Hazard Network)*
  - Supply Chain Disruption (which may lead to) *(see also the Supply Chain Disruption Hazard Network)*
    - Economic Loss
  - Inability to Travel (which may lead to)
    - Stranded Persons
  - Loss of Revenue

- First Responder Activity (which may cause)
  - Road Closure (which may lead to)
    - Disruption to Transportation Systems (which may result in hazards as previously listed, including Supply Chain Disruption, Inability to Travel, and Loss of Revenue, among others) *(see also the Disruption to Transportation Systems Hazard Network)*
    - Traffic Disruption (which may result in)
      - Vehicle Accidents (which may cause) *(see also the Vehicle Accident Hazard Network)*
        - Injury (which may lead to hazards as previously listed, including Death, Demand for Victim Transport, and Increase in Medical Demand, among others)
  - Traffic Disruption (which may lead to hazards as previously listed, including Vehicle Accidents, among others)

- Reduced Public Confidence (which may cause)
  - Avoidance of Public Transit (which may lead to)
    - Loss of Revenue
    - Traffic Disruption (which may result in hazards as previously listed, including Vehicle Accidents, among others)

Key Commonalities and Considerations

As noted above, included in the upper right corner of the hazard network are key commonalities and considerations that users should keep in mind when looking at the network. This list is not exhaustive, but highlights issues of importance as related to the effects of a passenger rail collision or derailment. These issues include:

Downstream Hazards

- Disruption to Transportation Systems

Mitigation/Countermeasures

- Communications

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