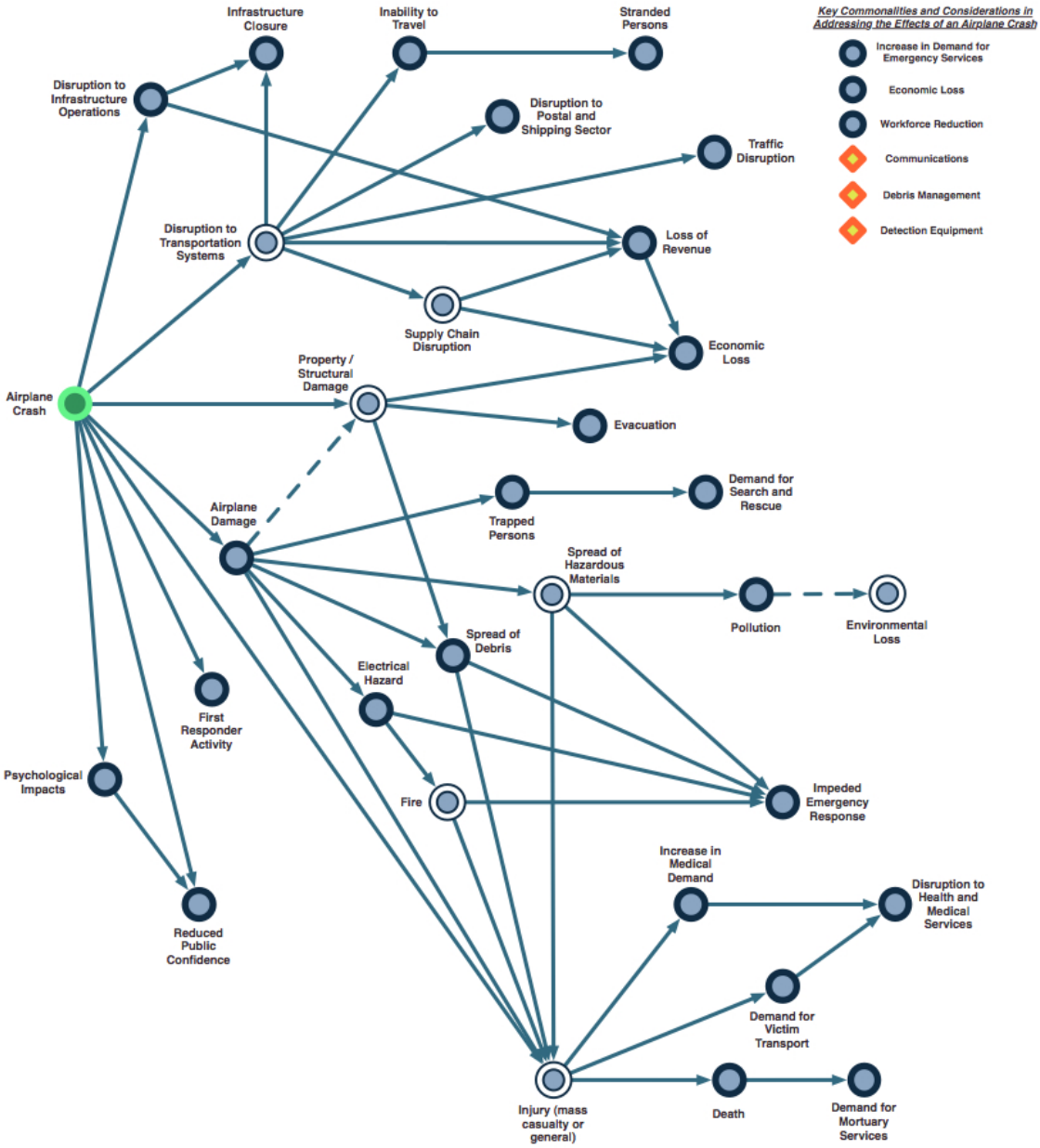
FEMA | The Full-Spectrum Risk Knowledgebase

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Airplane Crash Hazard Network

From The Full-Spectrum Risk Knowledgebase

The below hazard network represents potential cascading effects of an airplane crash, a type of aircraft crash.



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 an airplane crash.



Examples of historical events related to airplane crashes 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 an airplane crash as depicted in the above network slice. These same hazards and outcomes may result from various types of aircraft crashes, albeit on a somewhat smaller scale depending on the specific type of aircraft. Complementing this narrative description is a list of all Linkages pages found on the Airplane Crash Hazard Network.

- Disruption to Infrastructure Operations (which may cause)
  - Infrastructure Closure
  - Loss of Revenue (which may lead to)
    - Economic Loss

- Disruption to Transportation Systems (which may cause) *(see also the Disruption to Transportation Systems Hazard Network)*
  - Infrastructure Closure
  - Inability to Travel (which may lead to)
    - Stranded Persons
  - Disruption to Postal and Shipping Sector
  - Traffic Disruption
  - Loss of Revenue (which may lead to)
    - Economic Loss
  - Supply Chain Disruption (which may lead to) *(see also the Supply Chain Disruption Hazard Network)*
    - Loss of Revenue (which may result in)
      - Economic Loss
    - Economic Loss

- Property/Structural Damage (which may cause) *(see also the Property/Structural Damage Hazard Network)*
  - Economic Loss
  - Evacuation
  - 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)*
      - Increase in Medical Demand (which may cause)
        - Disruption to Health and Medical Services
      - Demand for Victim Transport (which may cause)
        - Disruption to Health and Medical Services
      - Death (which may cause)
        - Demand for Mortuary Services

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

- Injury (mass casualty or general) (which may cause)
  - Increase in Medical Demand (which may lead to)

        - Disruption to Health and Medical Services
    - Demand for Victim Transport (which may lead to)
        - Disruption to Health and Medical Services
    - Death (which may lead to)
        - Demand for Mortuary Services

- First Responder Activity

- Reduced Public Confidence

- Psychological Impacts (which may cause)
    - Reduced Public Confidence

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 an aircraft crash. These issues include:

Downstream Hazards

- Increase in Demand for Emergency Services
- Economic Loss
- Workforce Reduction, for larger scale incidents

Mitigation/Countermeasures

- Communications
- Debris Management
- Detection Equipment, particularly in locating crash debris

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