

A Review of the Status of Hazardous Materials Cargo Flow

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Outline

- **Status of Cargo Flow Information and Use**
- **Available National Data**
- **Available Local Data**
- **Truck Rollover as an Example**
- **Recommendations and Data Needs**



Status of Cargo Flow Information and Use

- **Data on cargo flow that is consistent, complete and continuous in collection**
- **Cannot assess volume flow of commodities in general and hazardous materials in particular**
- **Lack of reliable assessment of trends, safety and security risk of hazardous materials transport**
- **Hampered ability to respond in emergency situation and to pre-plan**



Available National Data

- **Most reliable source is Bureau of Transportation Statics' Commodity Flow Survey-low frequency and commodity reporting is irregular**
- **Cannot assess volume flow of commodities in timely manner or analyze annual trends**
- **US Census Bureau data targets more export and import data which is more relevant to air cargo flow and provides an incomplete set that hinders analysis**

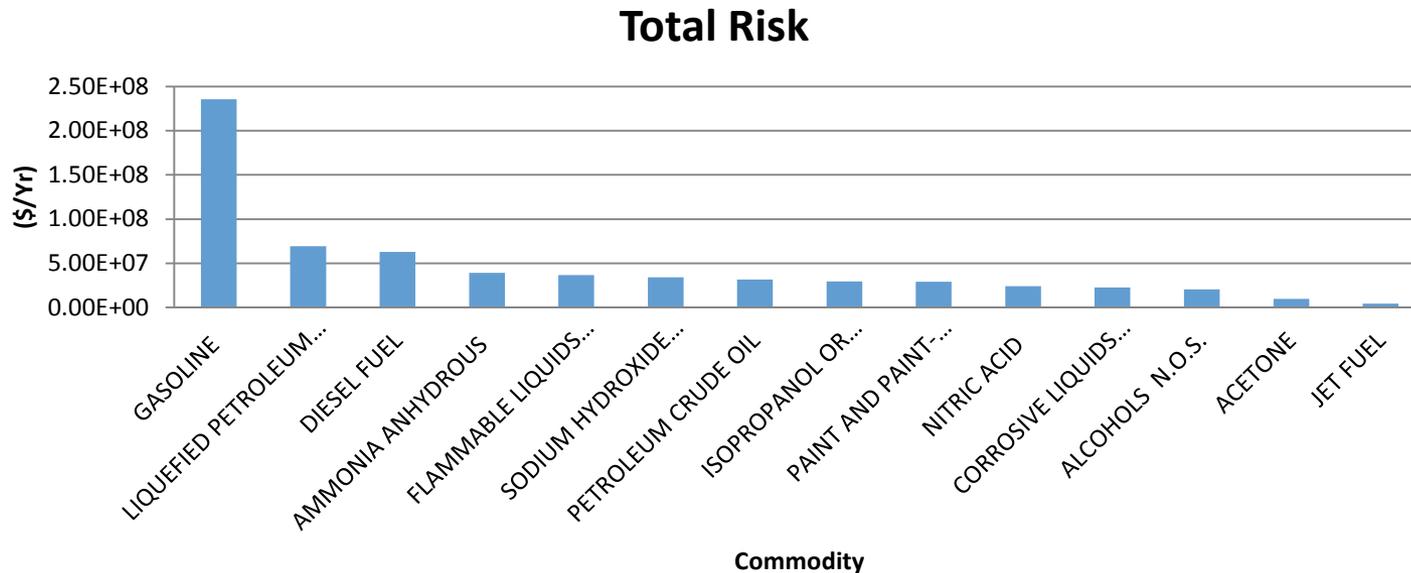


Available Local Data

- **Commodity flow studies geared towards emergency planning and response**
- **Non-uniform method of analysis, but some follow EPA- PHMSA's guidance**
- **Effort needed to collect and document data varies due to data availability and awareness issues**
- **Studies are inconsistent and unclear about how the data collected is to be integrated and analyzed**
- **Best method to capture detailed data if process is guided**



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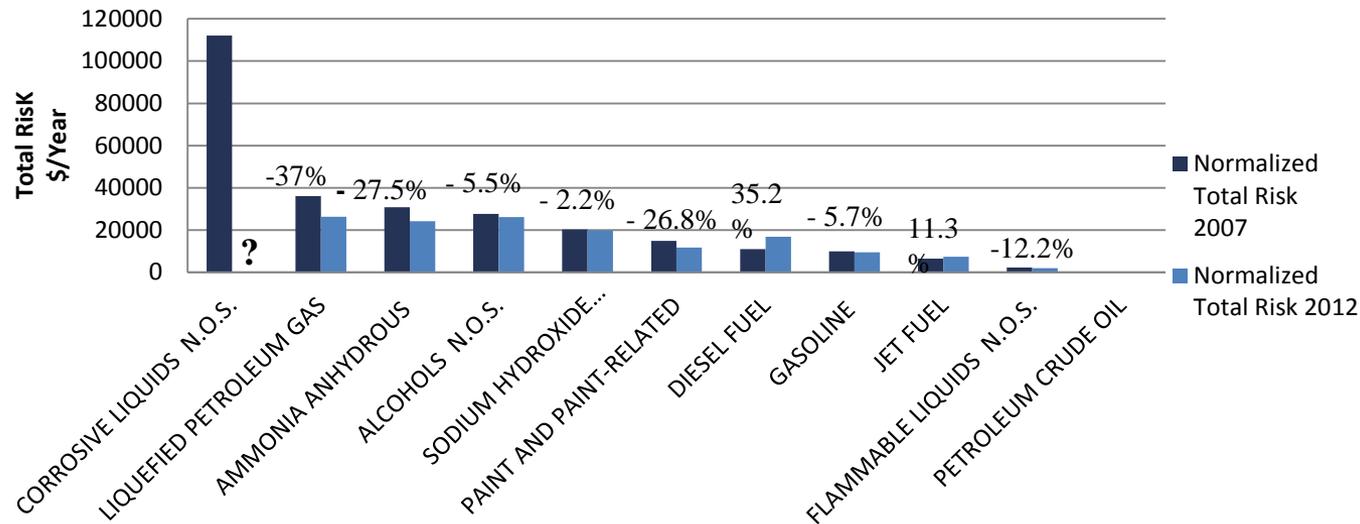


- **Total Risk includes injuries, fatalities and environmental damage; it is not normalized by commodity flow volume**



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Highway Five Year (08-12) Average Total Risk Normalized by 2007 & 2012 Ton-Miles



- **Total Risk includes injuries, fatalities and environmental damage; when normalized the risk priority changes**



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- Risk priority of truck rollovers is yet to be specified, but has a high level of incidence.
- In 2012 the truck traffic ratio to that of all modes was

$$\frac{96559 \text{ MTM}}{307524 \text{ MTM}} = 31\%$$

whereas the 2012 total risk ratio of truck rollover to all highway accidents

$$\frac{167814017}{788179758} = 21\%.$$

- The rate of incidence of truck rollovers for the same year, 2012, makes up about 6.5% of the total rate of incidence for the highway mode.
- 21% relative total risk as compared to the risk from the whole mode is high given an approximate 6% rate of incidence. Yet, there is no direct data that presents the relative risk of truck rollovers as compared to other highway modes of failures.



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- **Key data gap exists in the area of annual commodity flow statistics for all the modes or at least the highest risk or the most transported hazardous materials with sufficient detail and consistency to allow for trending.**
- **Locally there is benefit to providing specific and standardized procedures for data collection, integration and analysis.**
- **All data collection has to be accompanied by specified need and use to justify resource allocation.**

