

Pipelines, Acceptable Risk, and the Public: Improving Risk Management and Communication

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PHMSA PIPELINE RISK MODELING METHODOLOGIES PUBLIC WORKSHOP

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Purpose of Risk Analysis

To provide regulators with information

To provide regulated industry with information

To provide public with information



Purpose of Risk Analysis in IM

To provide regulated pipeline industry with information that can be used to assess operational risk

- But does not define what the acceptable risk should be

Secondarily, to provide PHMSA with information to oversee industry response to operational risk

- But difficult to enforce because discretion given to industry

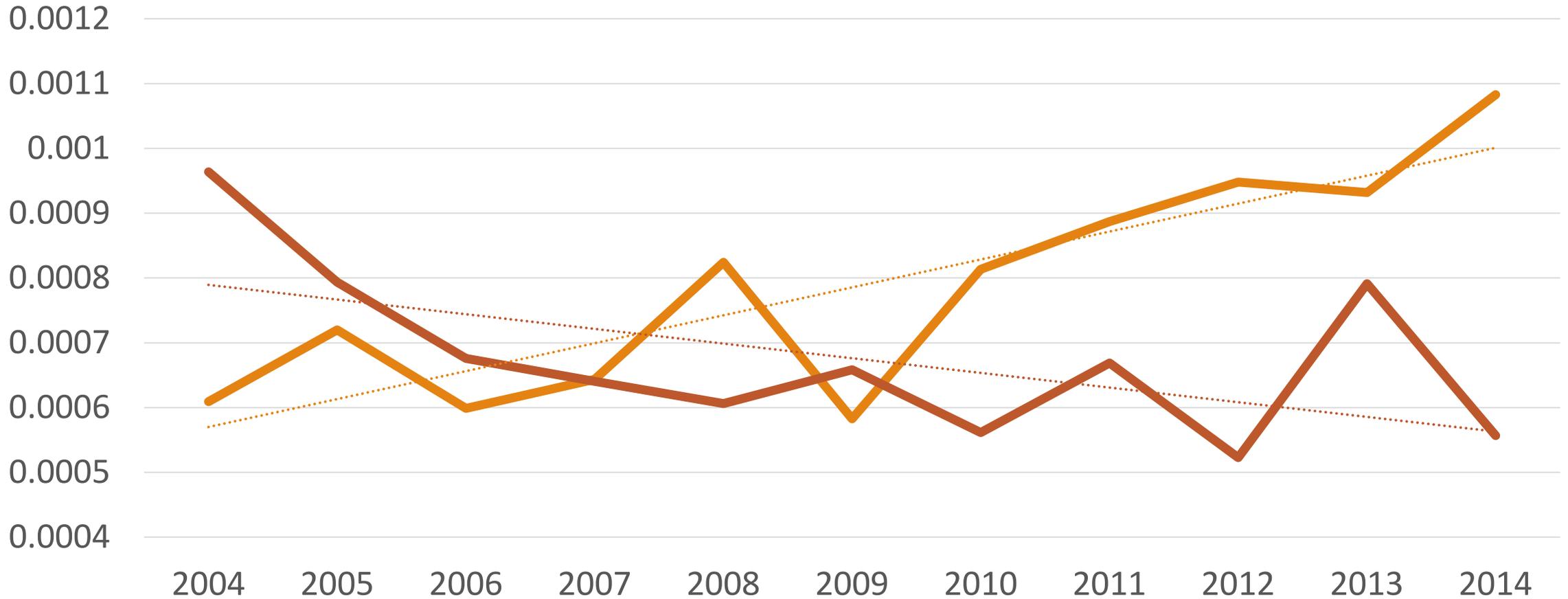
Does not provide public with any information

What is the Result?

Information has not led to the expected decline in significant incidents in high-consequence areas

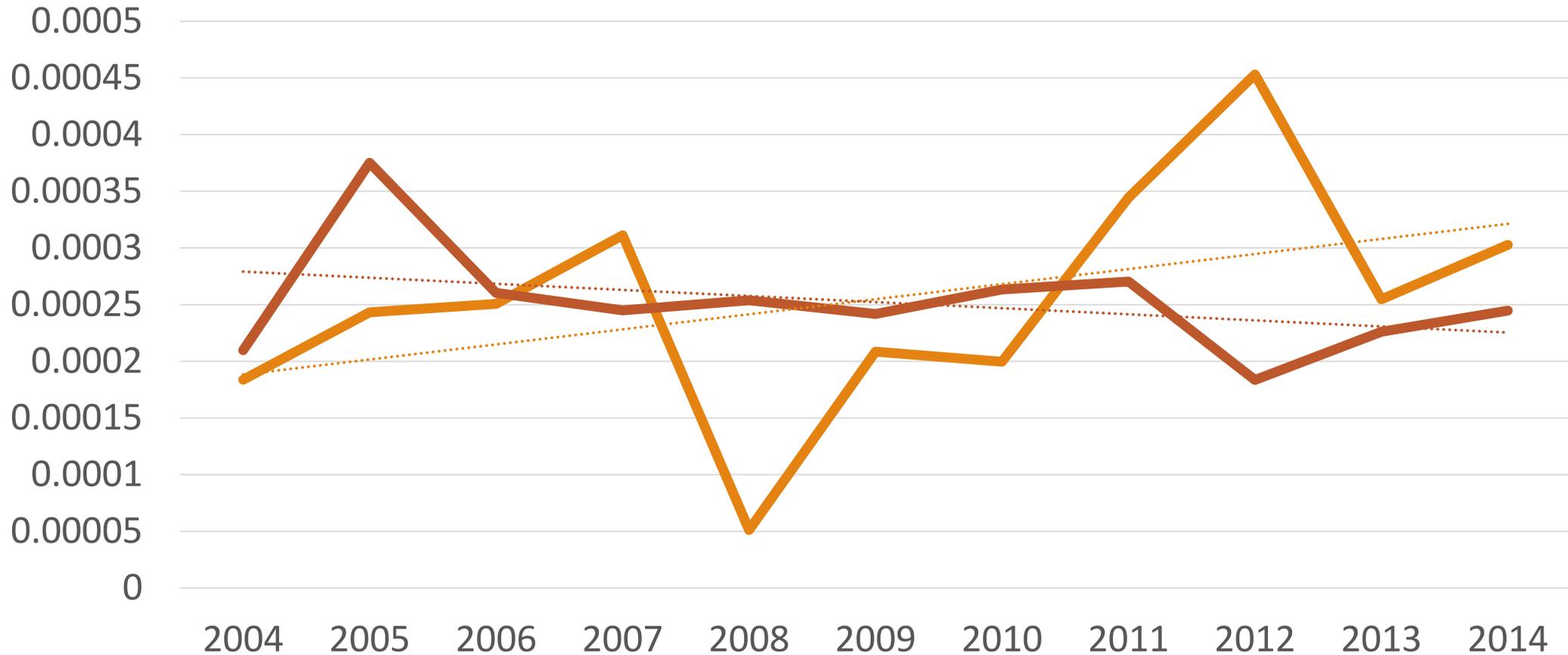
Significant Incidents Per Mile of Hazardous Liquid Pipeline (2004 – 2014)

Within Could Affect HCA Areas Outside of Could Affect HCA Areas



Significant Incidents Per Mile of Gas Transmission Pipeline (2004 – 2014)

— Within HCAs — Outside of HCAs



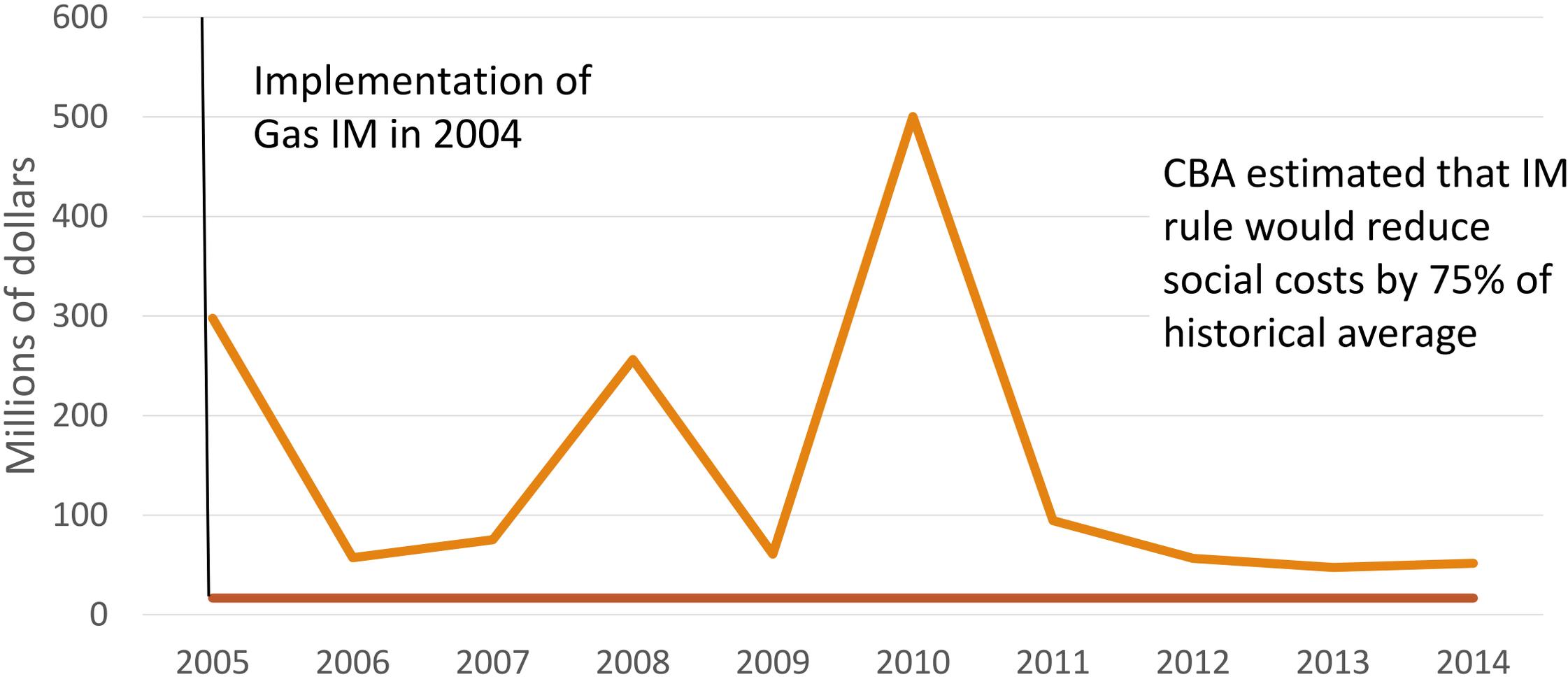
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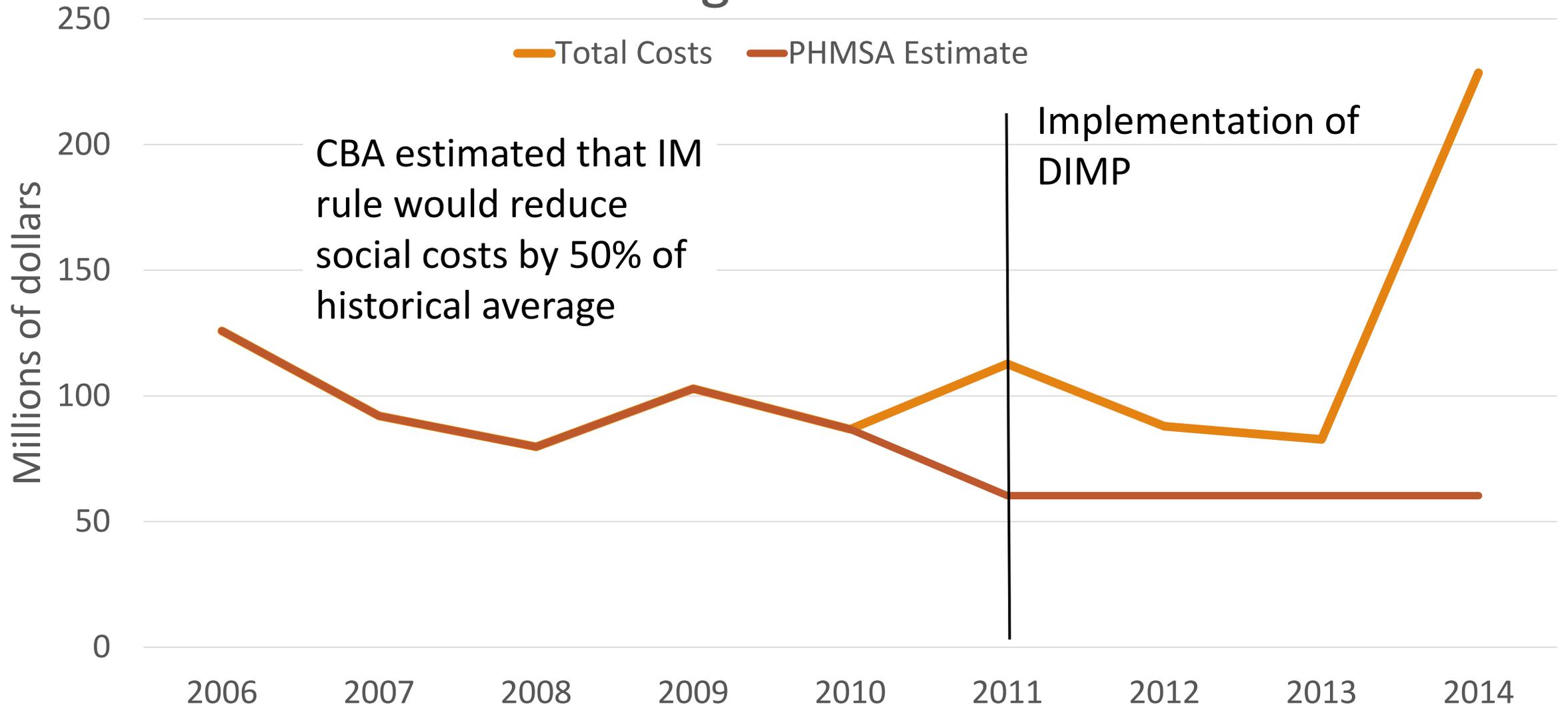
Information has not led to the expected decline in social costs from incidents

Social Costs of Significant GT Incidents

— Total Costs — PHMSA Estimate



Social Costs of Significant GD Incidents



What is the Result?

Information has not led to the expected decline in significant incidents in high-consequence areas

Information has not led to the expected decline in social costs from incidents

Public continues to be concerned about pipeline safety

Compare Search terms ▾

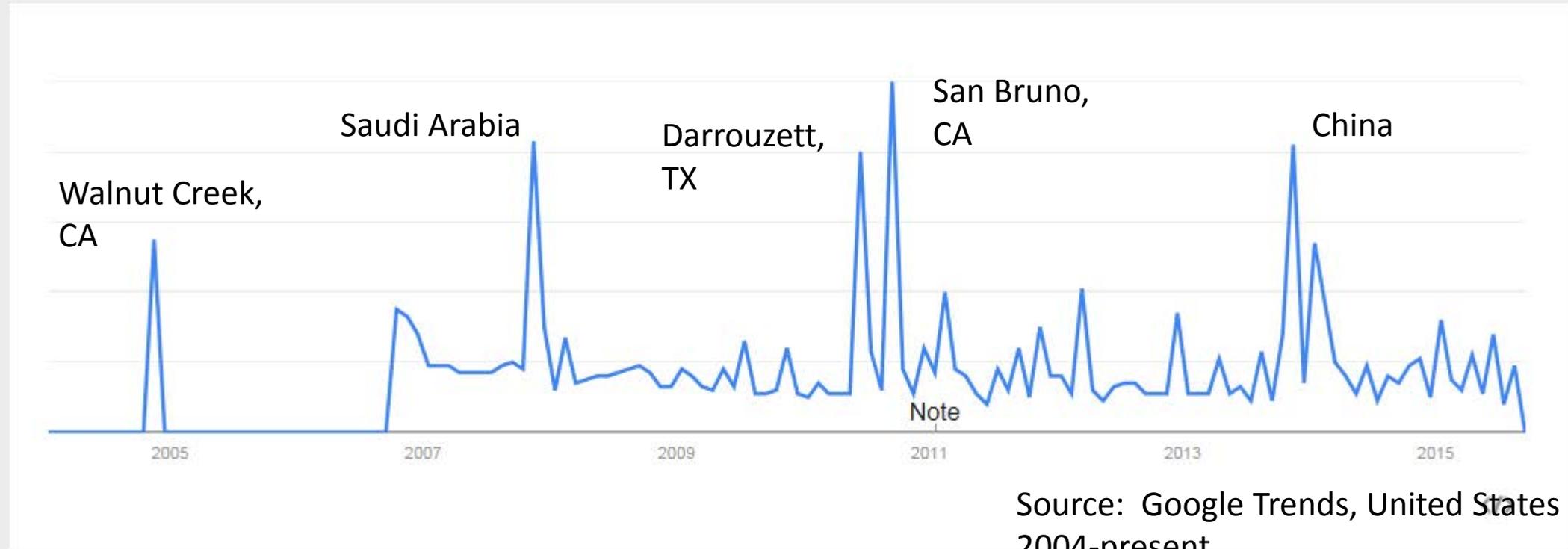
pipeline explosion

Search term

+ Add term

Interest over time ?

News headlines Forecast ?



Source: Google Trends, United States 2004-present

Compare Search terms ▾

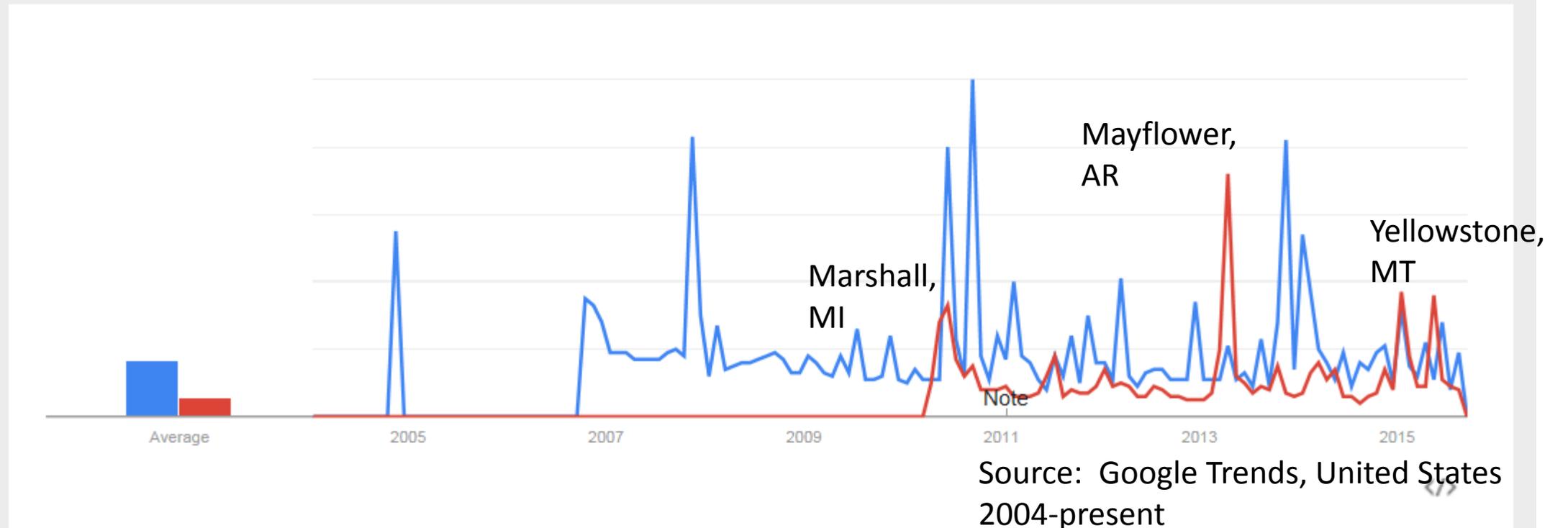
pipeline explosion
Search term

pipeline spill
Search term

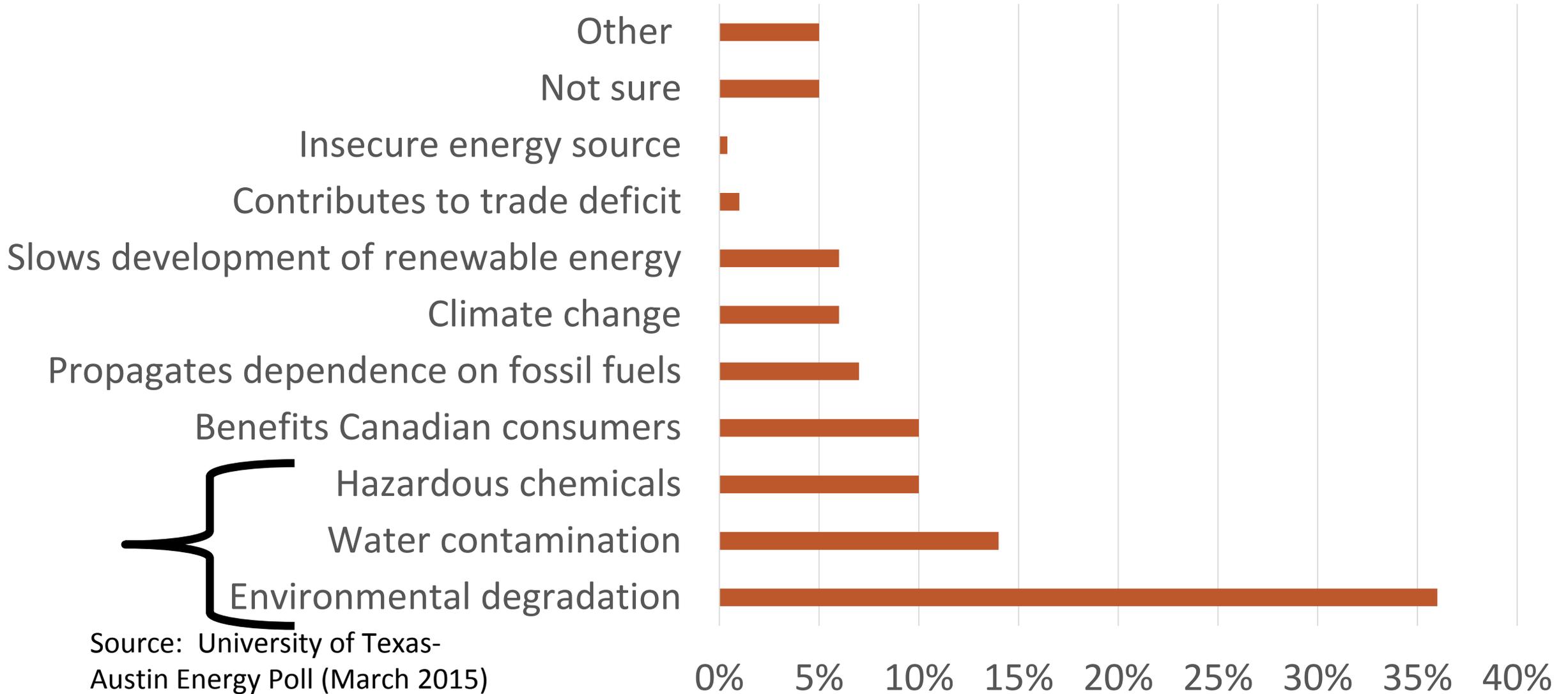
+ Add term

Interest over time ?

News headlines Forecast ?



Top concern regarding Keystone XL pipeline



Source: University of Texas-
Austin Energy Poll (March 2015)

Solutions

Conduct more rigorous analysis

- Use probabilistic risk assessment methods
- Gather more data on external and internal risks

AND

Reconsider purpose of information and audience

- Focus on regulatory acceptable risk for given pipeline
- Provide risk information to public in form that will help individuals make decisions

Benefits to PHMSA

Makes decision making about risk transparent

Improves oversight of pipeline industry

Provides data needed to measure benefits of regulation

Benefits to Public

Provides individuals with risk information they can use to make decisions, such as whether to live near a pipeline, based on their determination of what is acceptable

Ensures that individuals can participate in the democratic process of setting and revising regulatory standards

