



# PMHSA R&D Forum Gas Transmission Key Challenges

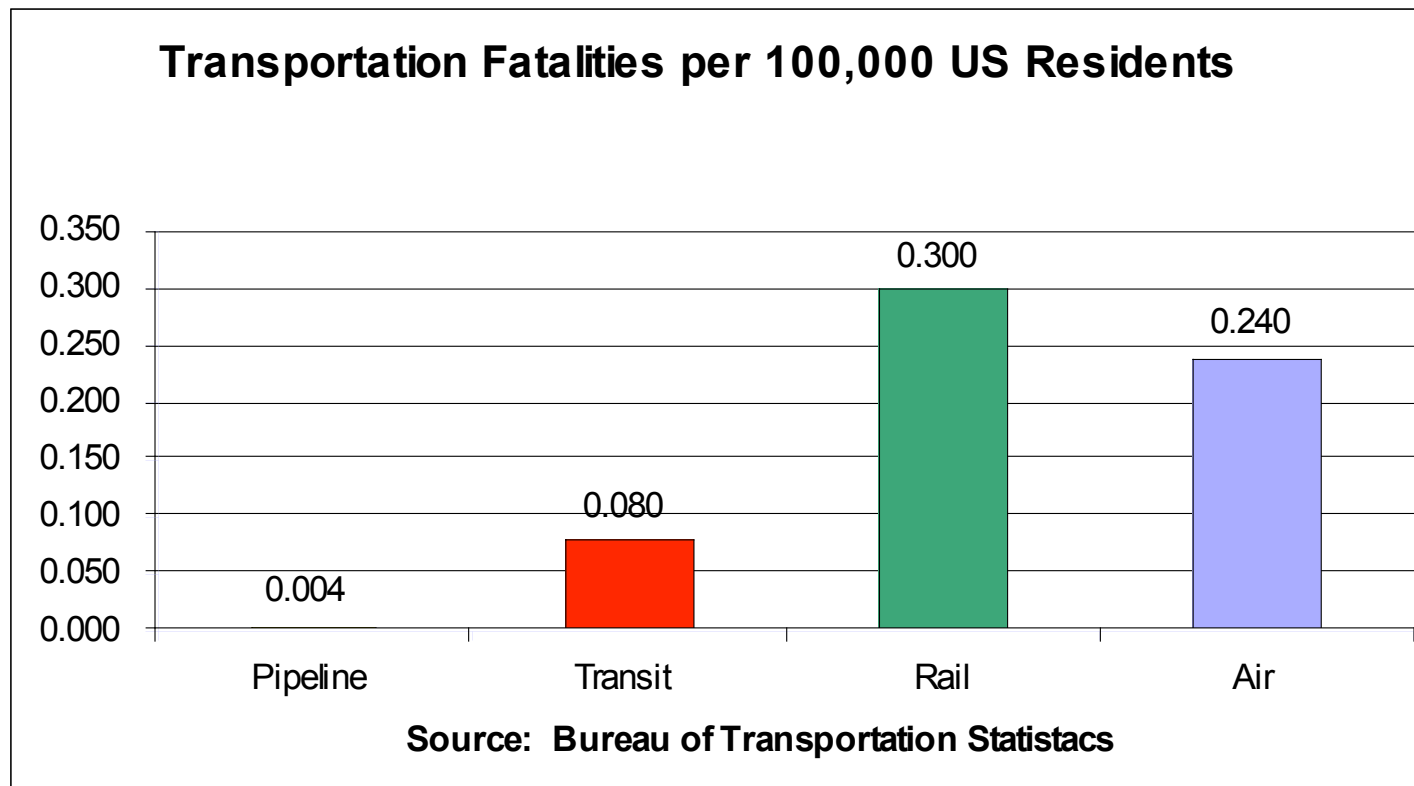
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# Pipeline Safety



- Pipeline safety is the pipeline industry's number one priority.





## Critical issues will shape the future of natural gas transportation:

- Shifting natural gas supply sources will require **infrastructure expansion** to continue.
- U.S. energy policy is likely to be even more tightly integrated with environmental and security policies leading to comprehensive plans for **reducing greenhouse gas emissions** and developing alternative fuels.
- The legal framework for pipeline rate regulation remains premised on the assumption that pipelines are monopolies.

Source: INGAA Strategic Plan, Dec. 2008

## Interstate Natural Gas Association of America



- The interstate pipeline industry will remain subject to multiple regulators that do not necessarily share a common vision.
- The relative lack of common vision across elements of the natural gas value chain may continue to drive distinct and sometimes inconsistent messaging.
- A changing economic environment will affect corporations that own pipeline assets.

Source: INGAA Strategic Plan, Dec. 2008

# New Pipeline Construction Challenges



- Numerous new pipeline projects in recent years
- Numerous pipeline incidents
- PHMSA Engagement
  - New Construction Workshop (April 23, 2009)
  - Potential Low Yield Advisory Bulletin (May 21, 2009)
- INGAA Engagement
  - Workshop of Building Better Pipelines (March 25/26, 2009)
  - Pipe Quality Summit (June 11, 2009)
    - INGAA 10 Point Action Plan
    - Shared with PHMSA (June 18, 2009)

## Greenhouse Gas Emissions – Game Changer



- The anticipated reductions in GHG required to meet proposed regulations will have significant affect on the natural gas industry
- Natural gas contributes 16 % of US GHG emissions
- Natural gas industry contributes 3 % of US GHG emissions
- No easy means to reduce GHG's
- New Technologies will be needed
- Natural Gas is partly a solution to GHG's, and
- Natural Gas is a contributor to GHG's

# Gas Transmission R&D Priorities



## **Corrosion**

- SCC threat assessment
- Reliability-based integrity management

## **Design, Materials & Construction**

- Fitness for service; repair avoidance
- Evaluation method for dents

## **Operations & Integrity**

- Adapt existing Fitness for service methods to pipelines
- More efficient monitoring of ROW

## **Compressor & Pump Stations**

- GHG mitigation

Source: PRCI Needs, Opportunity, Threats & Industry Drivers for the 2010 Annual Research Program

## Challenges & Opportunities



- PHMSA/Operator collaboration
- Design & Construction
  - 80 % SMYS
  - Strain Based/Reliability Based, AIV
- Technology advances will assist in enhancing the safety of pipelines
  - New/Improved inspection tools
  - New/Improved Processes
- Technology advances will assist in enabling more efficient and effective operations of pipelines
  - Regulations, Standards, Processes
  - 80 % SMYS
  - Performance based vs prescriptive based IM





Thank You

