

# Re-thinking Risk

Establishing a More Comprehensive View of Environmental  
Risk in Age of The Internet

2014 Railroad Environmental Conference

# Introduction

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Warren Buffet has been quoted as saying:

“It takes 20 years to build a reputation and five minutes to ruin it. If you think about that, you’ll do things differently”

# Internet Usage

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## Internet Usage in the Modern Age

- 86% of adult internet users in America use social media.
- There are 88 million Millennials (Ages 18-34).
- There are 51 million Gen-xers (Ages 34-49).
- 39% of all adult Americans have engaged in political activities on social media sites.
- 1.3 bln monthly users on Facebook, and 1 Bln users on YouTube.
- 500 years of video a day are shared between Facebook and YouTube.

# Use of Social Media in Activism

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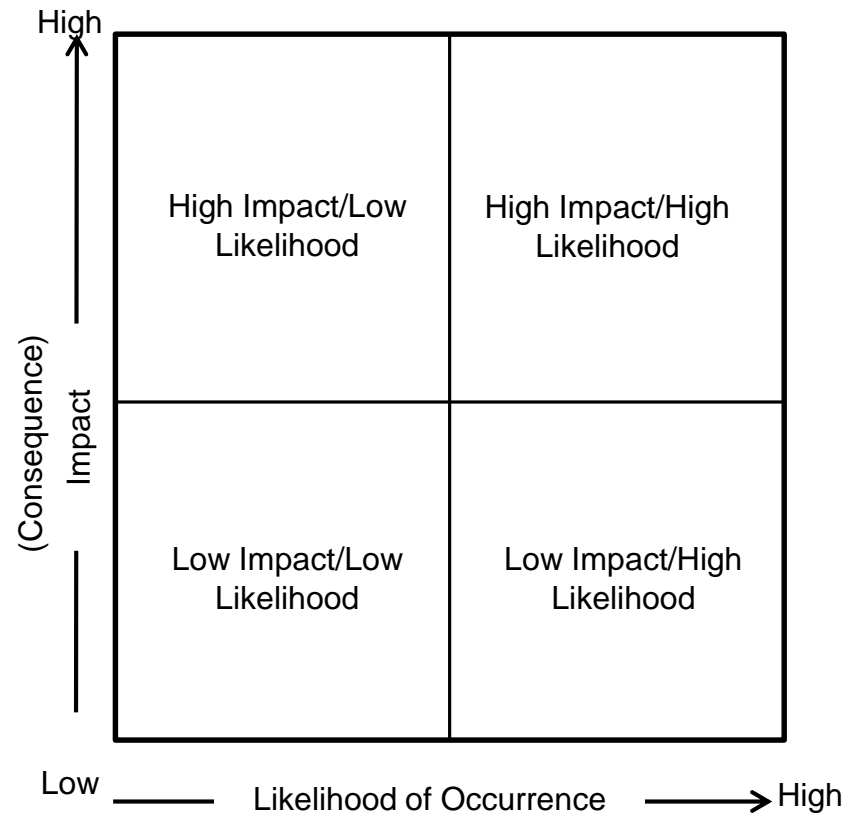
- Indignodos of Spain
- Occupy Wall street
- Arab Spring of the Middle East
- Anonymous cyber activists, “Hacktivists”
- “Slacktivism” and “Clicktivists”
- Terrorist organizations such as Al Qaeda, ISIS, Khorosan, etc.

# Traditional Risk Assessment Model

Quantitative Definition

$$R = \sum_{k=0}^n P_i \times C_i$$

Qualitative Definition



Source: *A Framework of Risk Management in the Railway Sector: Application of Road-Rail Level Crossing*,  
*The Open Transportation Journal*, 2011

# Prioritizing Risk Treatment and Control (Risk Management)

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- **Social Impact Evaluation**
  - Usually used as a prerequisite of economic impact evaluation.
  - Utilizes intangible variables such as controllability, uncertainty, public perception, etc.
  - Can utilize a step that takes into account subjective perception called *outrage*.
- **Economic Impact Evaluation**
  - Estimates the expected benefits.
  - Anticipates the cost of controls needed to reduce risk.
  - Uses monetary criteria.
  - Cost-Benefit Analysis and Cost-Effectiveness Analysis are primary tools for ranking risk.

# Risk Communication and Social Perception

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- To communicate risk in an effective way, it is important to understand the reasons behind variations, perceptions, and biases.
- The Sandman formula states that risk perception is formed by two components, Hazard and Outrage or:

$$R = H + O$$

- Hazard should have been previously identified through PHA, ETA, FTA or BNA steps.
- Outrage is based on 12 different factors.

*Source: World Health Organization: Communicating the risks*

# Outrage Factors

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- Voluntary or Involuntary
- Natural or Unnatural
- Familiar or Exotic
- Not Memorable or Memorable
- Not Dreaded or Dreaded
- Chronic or Catastrophic
- Knowable or Unknowable
- Individually Controlled or Controlled by Others
- Fair or Unfair
- Morally Irrelevant
- Trustworthy or Untrustworthy
- Responsive or Unresponsive Process



# Minimizing Outrage and Risk Perception

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- Utilizing social capital
- Building trust
- Community involvement
- Ensure contractors and consultants convey the same message as the corporation

# Social Capital Development

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- Identify “opinion holders” within a community or group.
  - Spend an inordinate amount of time with the individual or group.
  - Include “opinion holders” in planning activities.
  - Encourage them to include others from the community or group to participate.
  - Provide tangible ways or methods they can serve as a voice within the community or group.
- Use caution!

# Building Trust

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- Use Opinion Holders to serve as voice in the community;
- Include media in some activities as “apomediators”
- Transparent actions and activities
- Use caution!

# Community Involvement

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- Encourage participation by the public and community stakeholders.
- Solicit, when possible, input from opinion holders, and stakeholders and incorporate into planning activities.
- Use caution!

# Internal Corporate actions

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- Cross train with media relations.
- Ensure contractors and consultants convey same message as corporate message.
- Invite media relations to staff meetings to present and also participate in activities associated with environmental compliance and risk communication.
- Communicate to contractors and consultants the company expectations regarding social media and events or incidents.
- Use caution!

# Case Study: Clark Fork River Derailment

- Summary of Incident
  - Montana Rail Link train derailed about 4 p.m. Thursday July 3, 2014.
  - 19 cars derailed including three pictured
- Posting onto social media was immediate even though location was somewhat remote.



# Other Noteworthy Examples

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- Former Congressman Anthony Weiner
  - Allegedly tweeted unsavory photos
- Current Indian Prime minister Narendra Modi
  - Utilizes social media extensively and has an online following second only to the U.S. president
  - Congratulations from world leaders through Twitter
- U.S. President, Barack Obama
  - Largest social media following of any political figure
  - Established the Whitehouse petition website
- Comedian Rob Schneider
  - State Farm dropped his add campaign due to social media campaign started because of his views of vaccination

# Conclusion

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“The smarter the journalists are, the better off society is.  
For to a degree, people read the press to inform  
themselves - and the better the teacher, the better the  
student body.”

– Warren Buffet



# Questions?

The image features a blurred high-speed train moving from left to right across the middle ground. The background is a sunset or sunrise sky with warm orange and yellow tones near the horizon, transitioning to a clear blue sky above. In the foreground, there is a dark, gravelly surface, likely a railway track bed. To the left, a signal tower with two lights (one green, one red) stands on a small structure. In the distance, a small rectangular structure is visible on the horizon. The BNSF Railway logo is prominently displayed in the center, consisting of the letters 'BNSF' in a large, bold, white sans-serif font with a registered trademark symbol, and the word 'RAILWAY' in a smaller, white, italicized sans-serif font below it. A thick white horizontal bar is positioned behind the 'RAILWAY' text.

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