Development of Railroad/Highway Consolidation Rating Formula

Iowa DOT
In cooperation with
The Institute for Transportation at Iowa State University (InTrans)
IOWA RAILROAD FACTS

• \( \approx 4,300 \) public crossings

• Over 5M vehicles/day

• 50 collisions/year
COMPELLING CONDITIONS

• Every crossing is a risk
• Non-Regulatory State
• Public arena
WHAT’S NEW?

• Previously only risk and crash history

• This will balance risk with “inconvenience”

• GIS based

• This is a TOOL!
WHAT IS “INCONVENIENCE”

The amount of impact vs. perception

• Out of distance travel
• Emergency services
• Schools
• Added safety concerns
  – Amount of traffic
  – Crash history on the alternate route
VARIABLES CONSIDERED

- Proximity to an intersection
- Proximity to another railroad highway crossing
- Truck traffic (Note: Must investigate availability on all public roads.)
- Population and demographic data (Possible source: US Census Bureau.)
- Trip generators (Possible sources: Local and state travel demand models.)
- Length of train (Note: May be very difficult to obtain.)
- Tonnage by segment (Note: This may potentially be used to back calculate number of rail cars.)
- Crash history and predicted risk
- Trip purpose (Note: Convenience factor may be weighted based on trip purpose, vehicle type or user, e.g. truck, public, EMS, etc.)
- Skew angle of railroad to roadway
- Humped crossing, with respect to percent grade
- Sight distance – stop and approach
- Non-motorist (pedestrian and bicycle) activity and/or presence of sidewalks and bike paths
- Proximity to transit pickup and drop off location(s)
- “Projected” rail traffic volume
ISSUES WITH VARIABLES

- Dataset integrity/availability
- Feasibility
- Defining distances
WHAT IS LEFT?

• Weighting the variables

• Stakeholder meetings

• Corridor testing

• First run by January 1, 2015
QUESTIONS??

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