



# An Evolutionary Step in Risk Reduction

## Applying the Science of Human Attention in Public Transportation



**AMERICAN PUBLIC TRANSPORTATION ASSOCIATION**





Certainty of risk today

An evolutionary step in risk reduction



The weakest link



Certainty of risk today

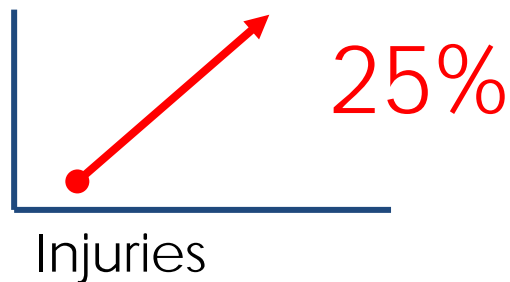
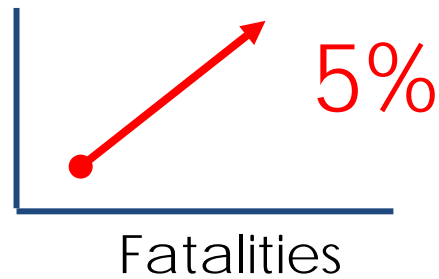
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# Indications of risk today



US DOT Office of Safety Federal Transit Administration Rail Safety Statistics Report 2003 - 2009



We're doing everything we can think of but...



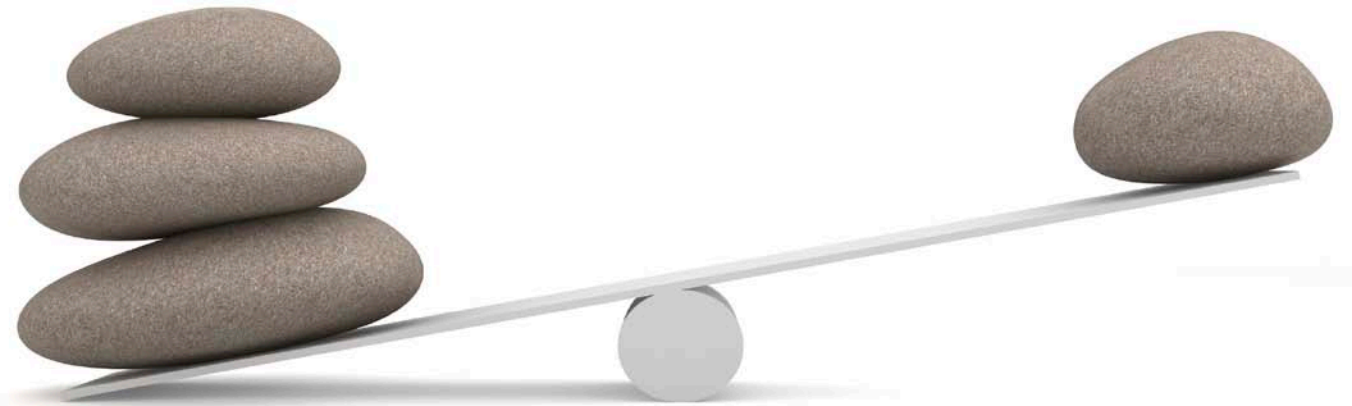
What?  
When?  
Where?

...or how to prevent it!

# Certainty of risk today

Risk

attentional  
performance

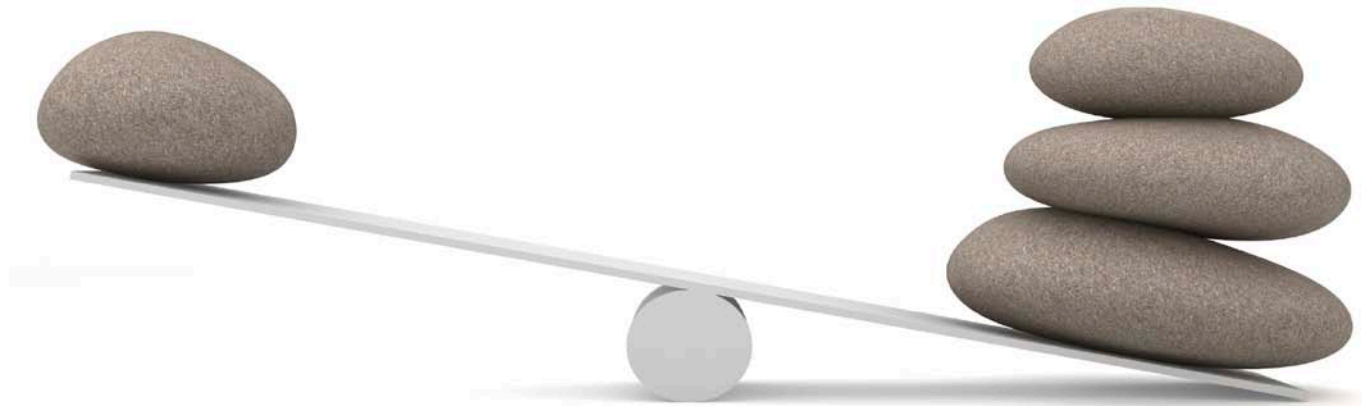




Certainty of opportunity today

risk

Attentional  
Performance





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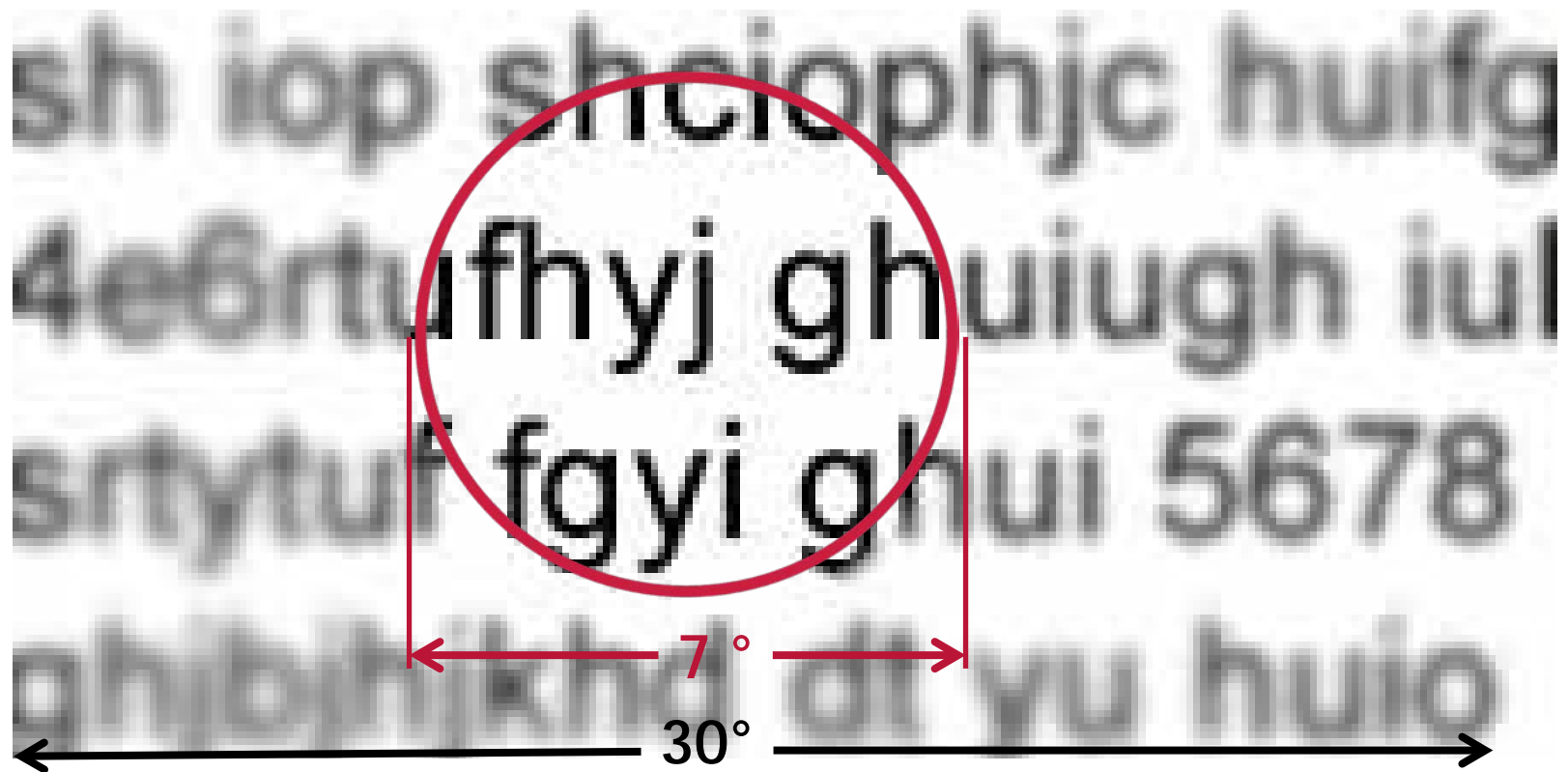
# Human Attentional Limitations







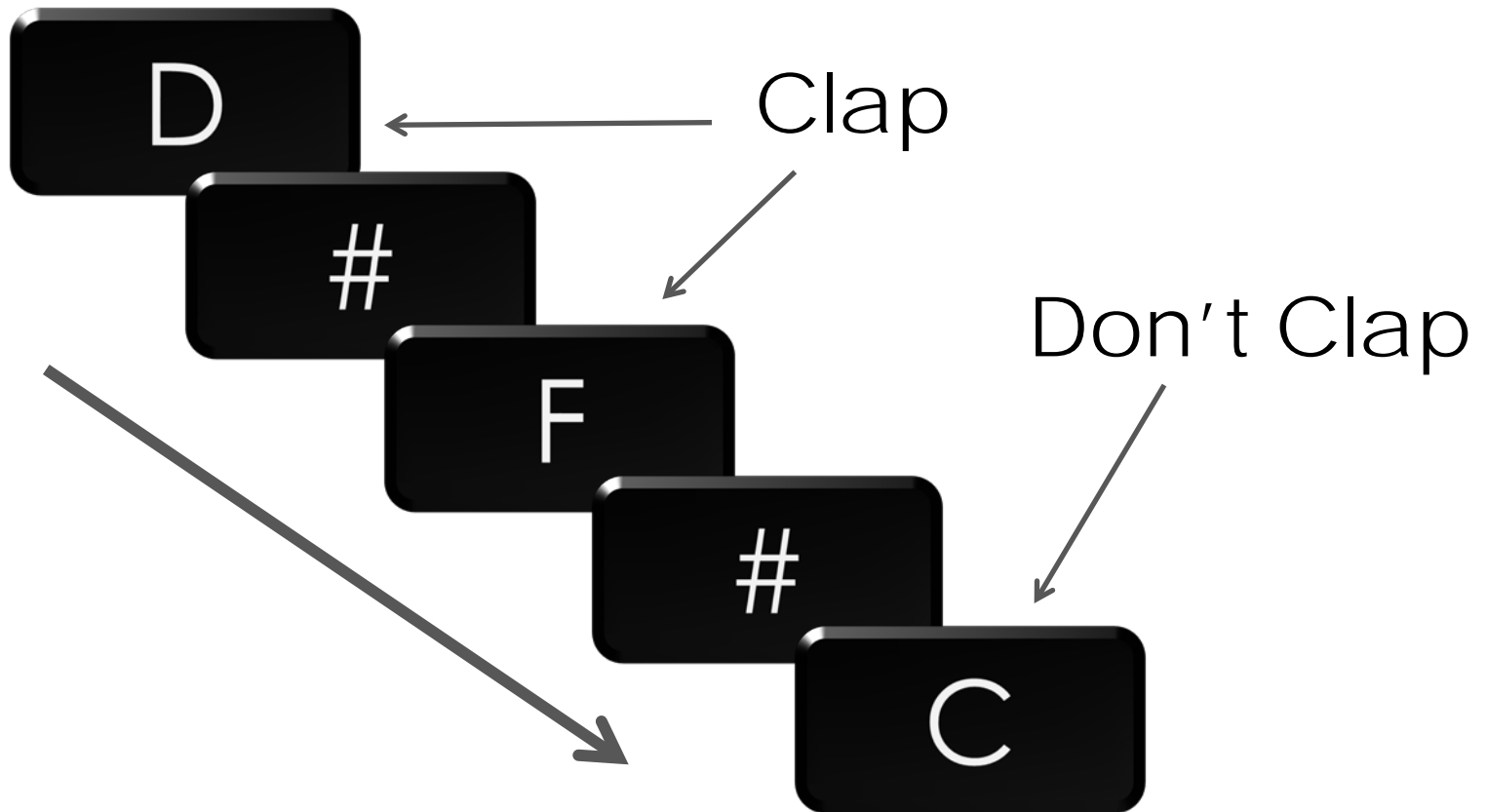
# Limits of Visual Perception







# A test of sustained attention



The SART: Robertson et al. (1997)

Ready?



X

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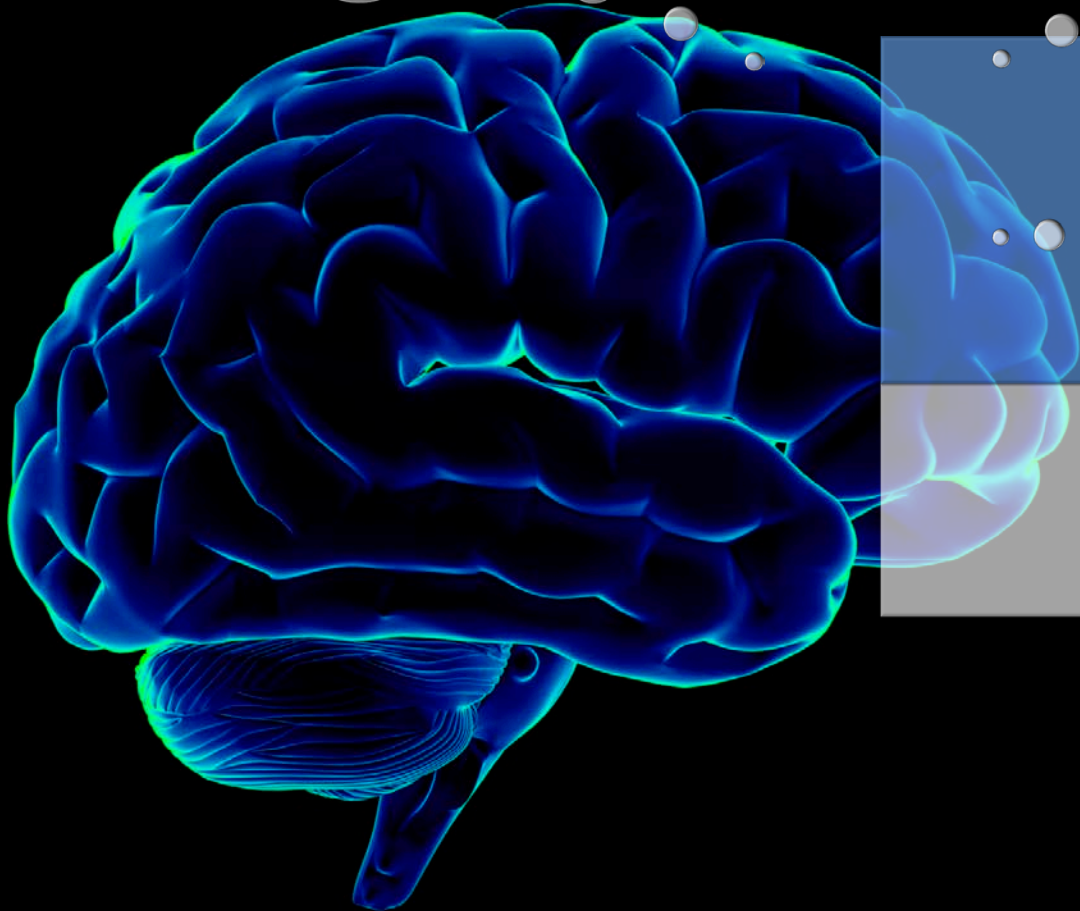


# Conscious Attention

I wonder if I can do this?

This is easier than I thought!

Oh no! I just messed up!



~~Main Task~~





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