Reducing Road Injuries through Speed Control

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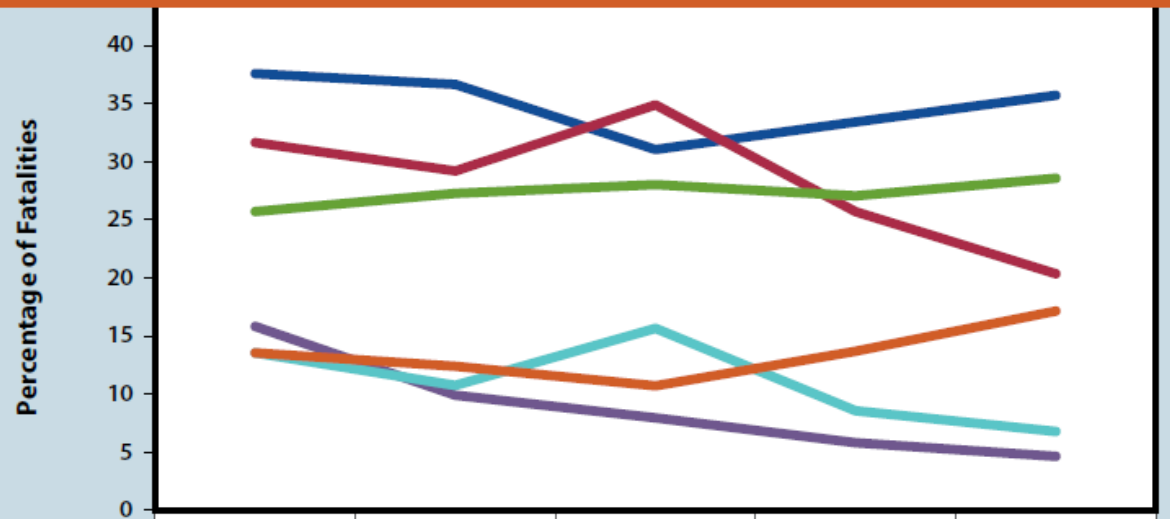
Figure 2.13

Proportion of Motor Vehicle Crash Fatalities, by Top Contributing Factor, BC, 2008 to 2012



	2008	2009	2010	2011	2012
Speed	37.6	36.6	31.0	33.6	35.7
Impairment	31.6	29.2	34.9	25.7	20.4
Distraction	25.7	27.3	28.0	27.1	28.6
Driver Error/Confusion	15.8	9.9	8.0	5.8	4.6
Driving on Wrong Side of Road	13.6	10.7	15.7	8.6	6.8
Road Condition	13.6	12.4	10.7	13.7	17.1

Year

Notes: "Impairment" includes alcohol involvement, ability impaired by alcohol, alcohol suspected, drugs illegal, ability impaired by drugs, drugs suspected, and ability impaired by medication. "Distraction" includes use of communication/video equipment, driver inattention, and driver internal/external distraction. "Driver error/confusion" includes gas/brake pedal confusion. "Road condition" includes ice, snow, slush, and/or water on the road. Data are based on police reports from police-attended motor vehicle crashes; therefore, contributing factors reported emphasize human error rather than other systemic factors (e.g., vehicle design, roadway design). See Appendix B for more information about this data source.
Source: Police Traffic Accident System, Business Information Warehouse, Insurance Corporation of British Columbia, 2008-2012. Prepared by BC Injury Research and Prevention Unit, 2014; and Population Health Surveillance, Engagement and Operations, Ministry of Health, 2015.

Kendall 2016

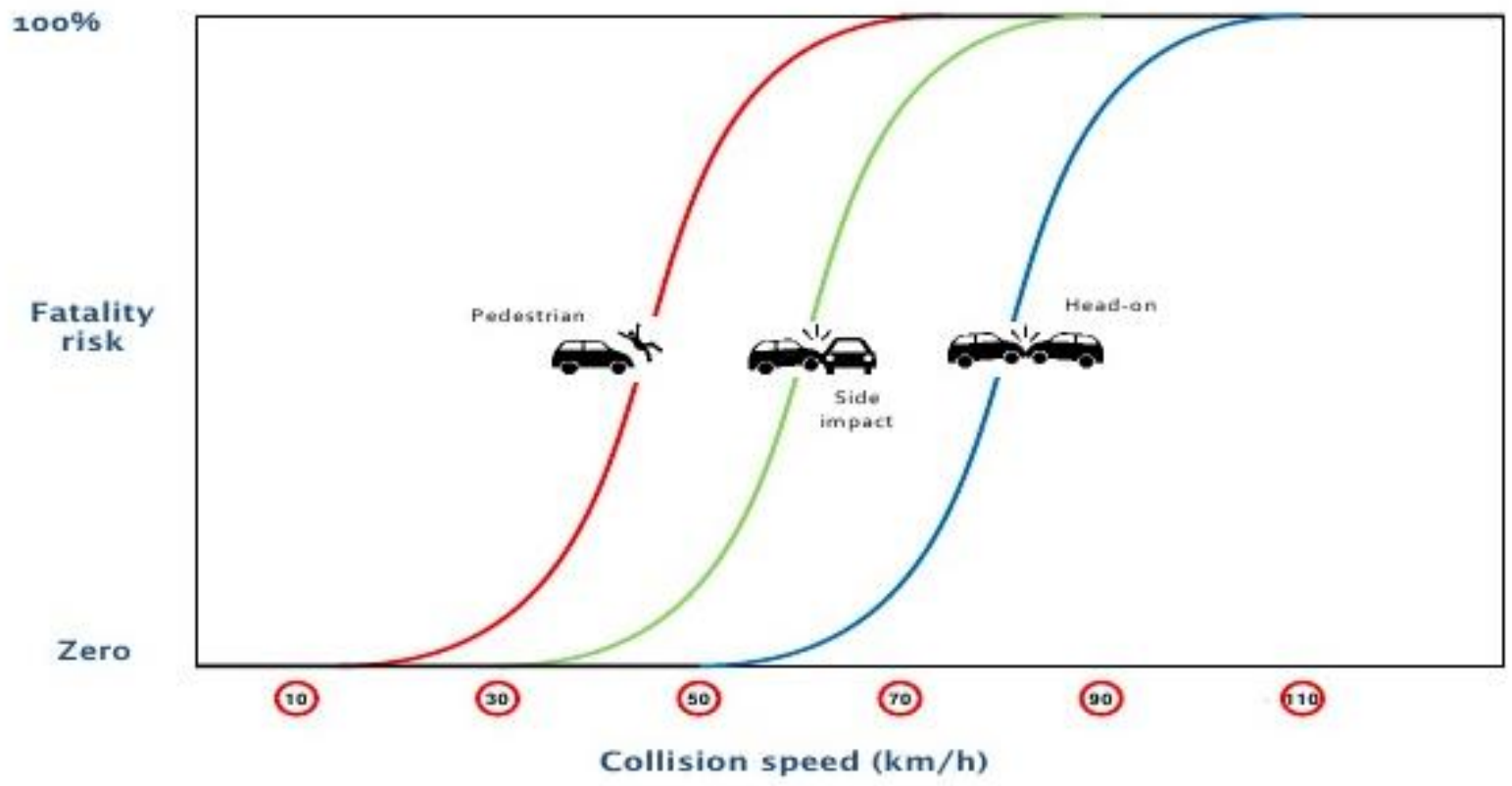
When do we blame speed?

Exceeding the posted speed limit

Driving too fast for conditions

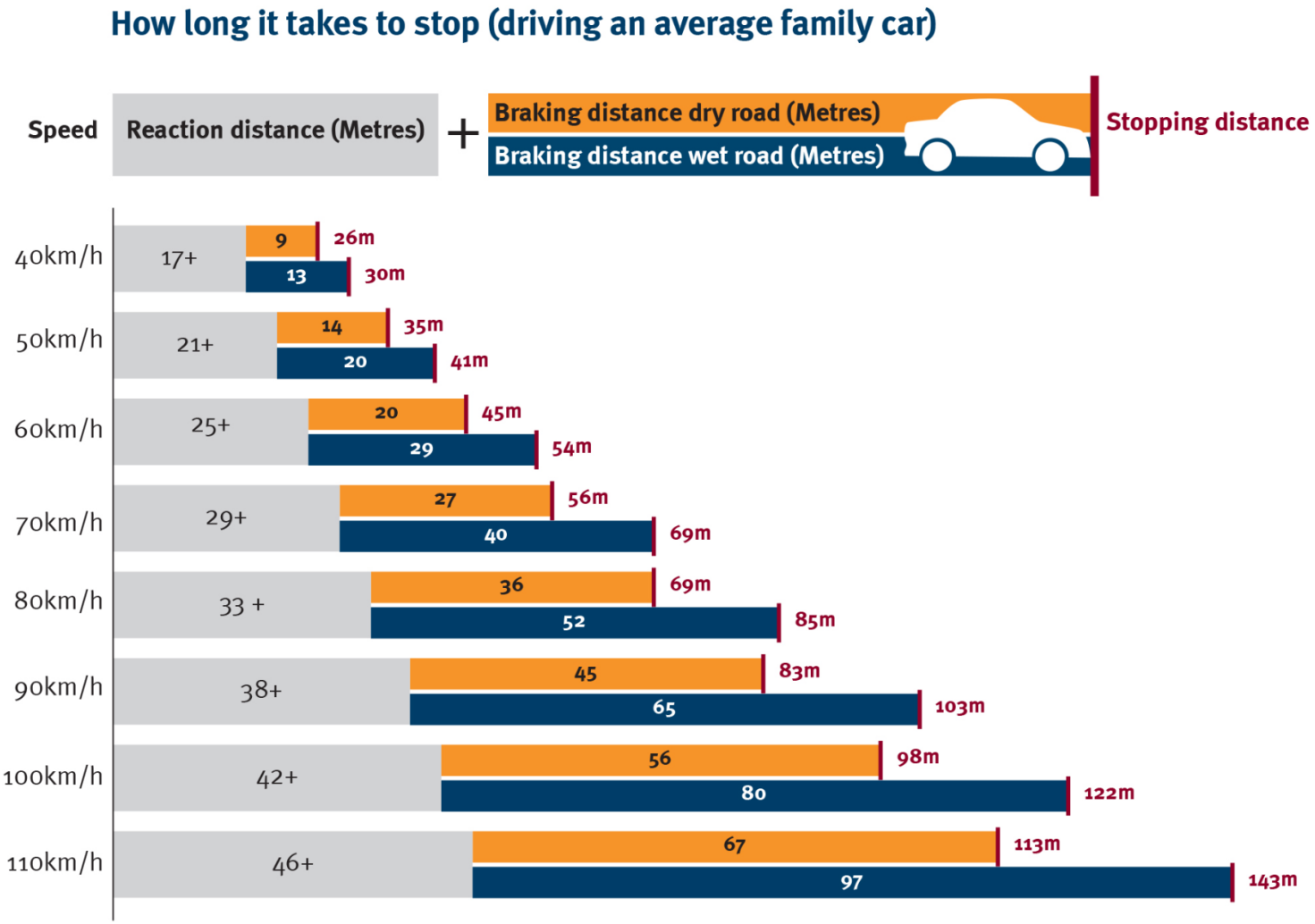
Speed as a contributor: it's always a factor

Speed and risk of injury/death



Wramborg 2005

Speed and stopping distance



Speed and human capacity

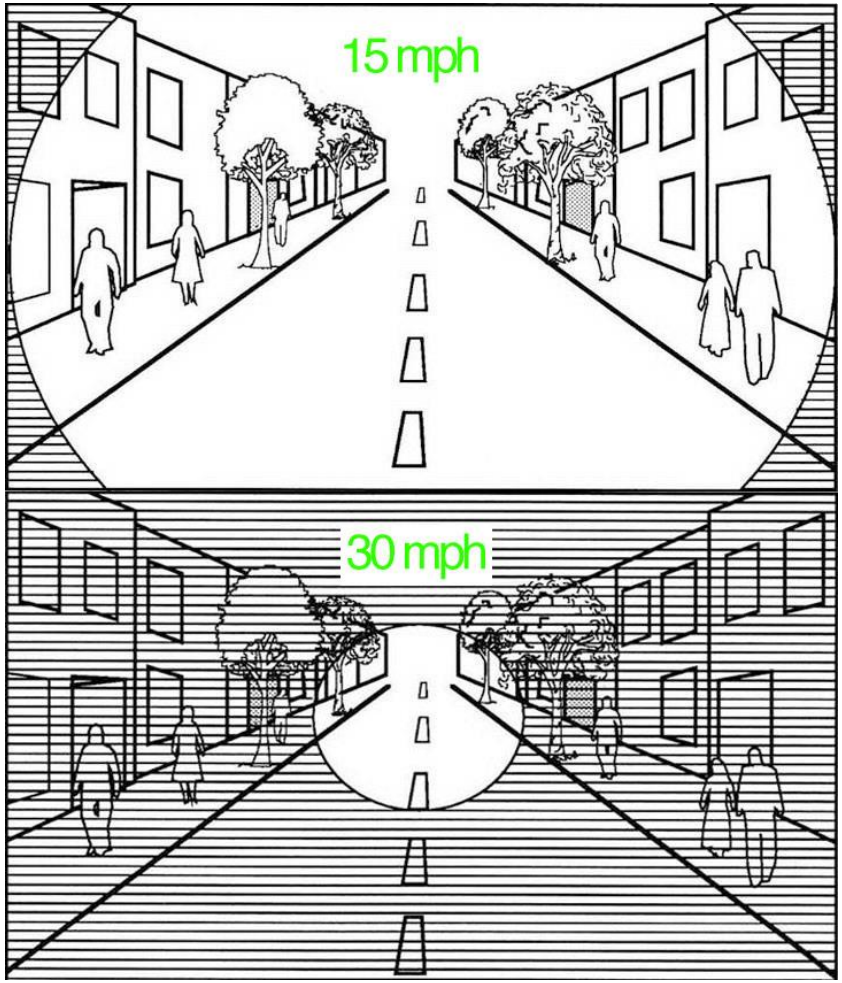
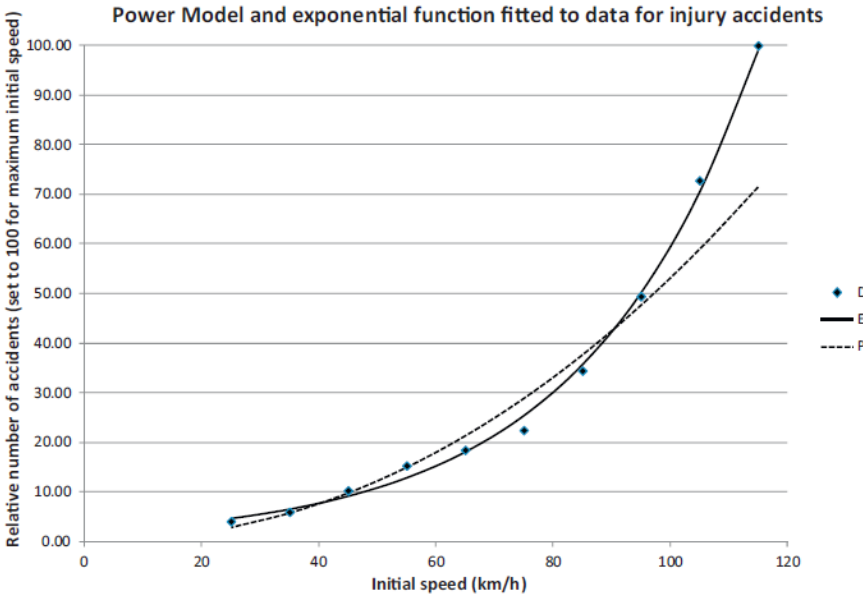
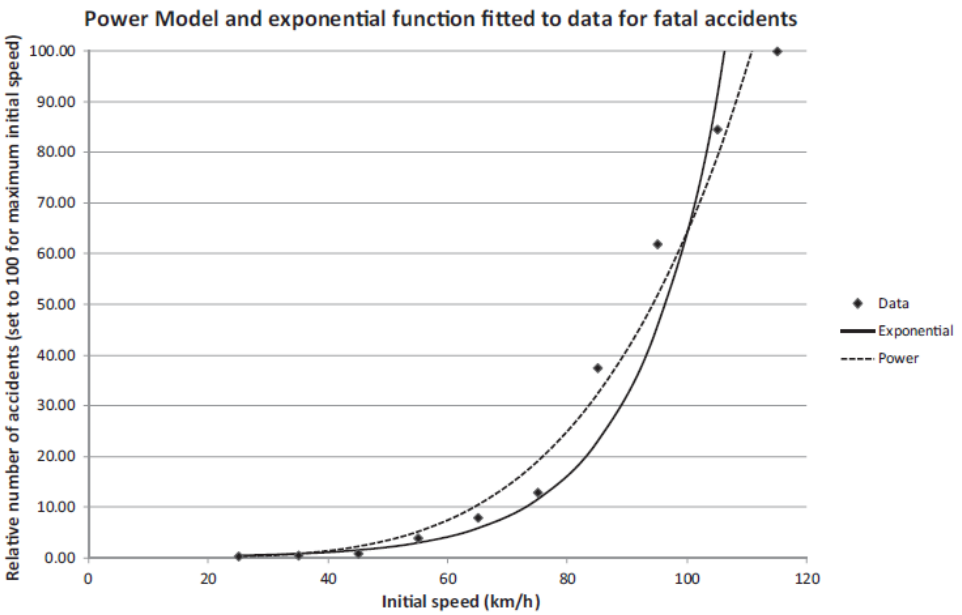


Image via Streets.mn, 2015

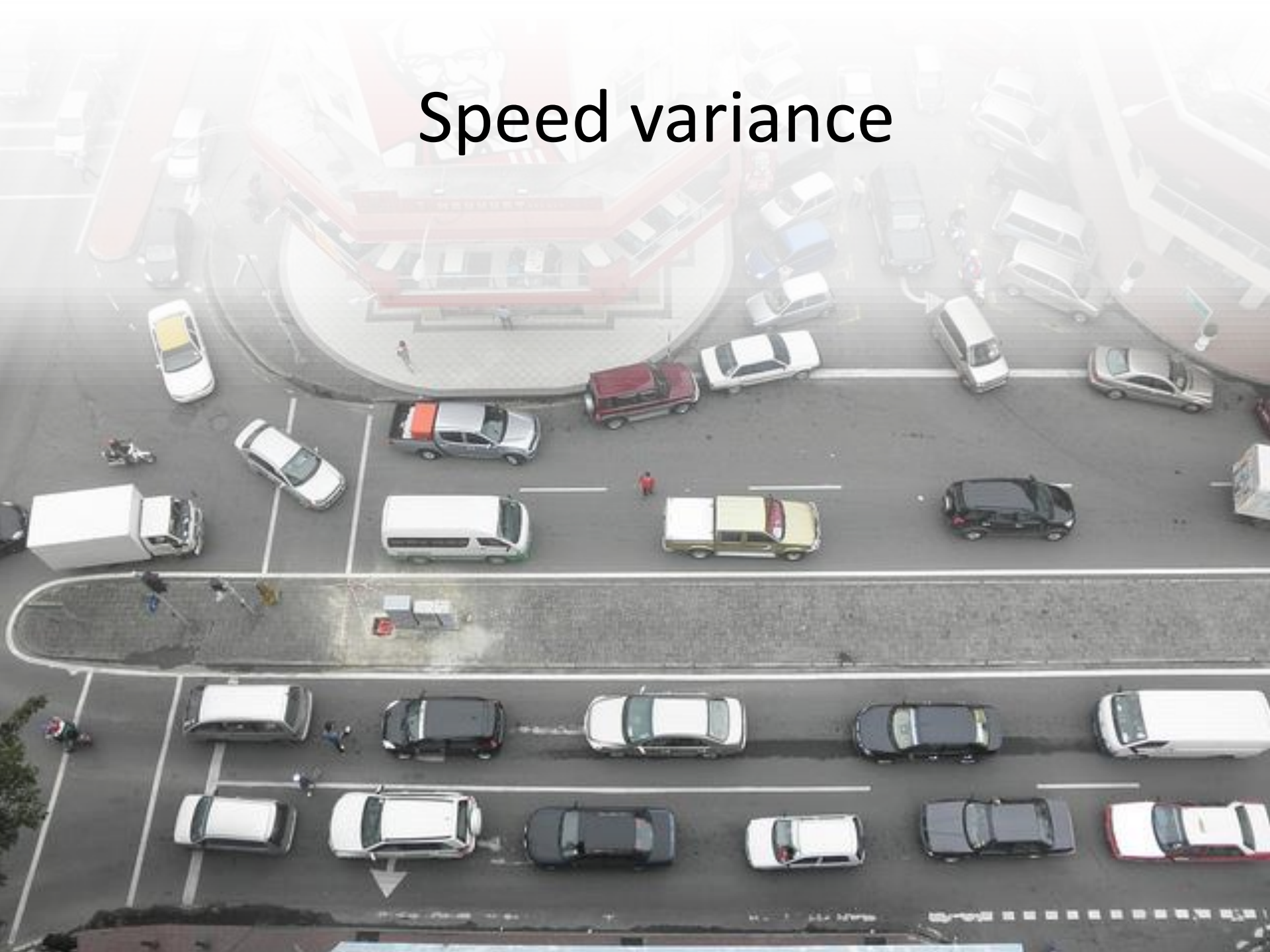
Relationship between speeds and crash risks





Elvik 2013

Speed variance



Pace and other complex tasks

How should we address speed?

Education/social marketing

Cone Zone Campaign 2018

Design and infrastructure

Traffic calming, roundabouts, transition zones

Self-explaining, self-enforcing roads

Speed limit setting

- 85th percentile
- Geometric design
- Roadside development
- Minimize travel costs
- Biomechanical energy humans can tolerate (Vision Zero)

“Vision Zero” speed limits

Table 1. Possible long term maximum travel speeds related to the infrastructure, given best practice in vehicle design and 100% restraint use.

Type of infrastructure and traffic	Possible travel speed (km/h)
Locations with possible conflicts between pedestrians and cars	30
Intersections with possible side impacts between cars	50
Roads with possible frontal impacts between cars	70
Roads with no possibility of a side impact or frontal impact (only impact with the infrastructure)	100+

Tingvall & Haworth 1999

Road safety policies: neighbourhood 30

Changing speed limits

Enforcement techniques

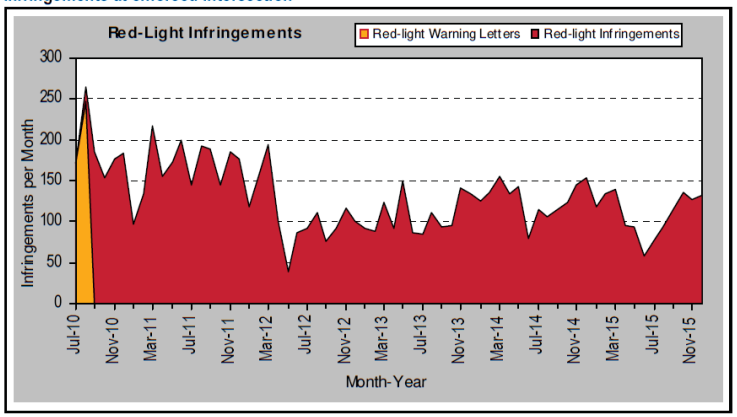
No Surprises

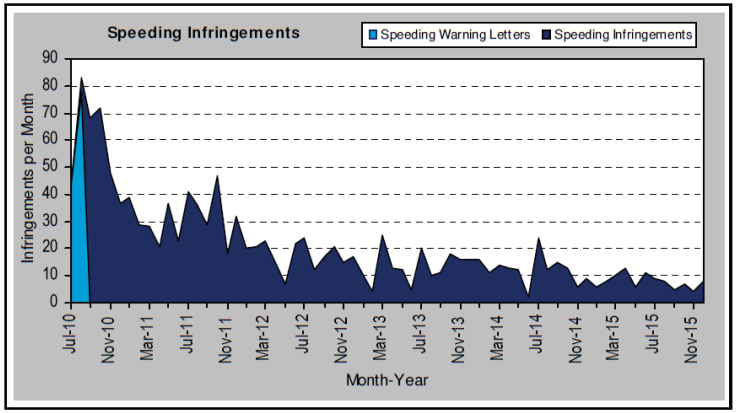
Prendergast 2015

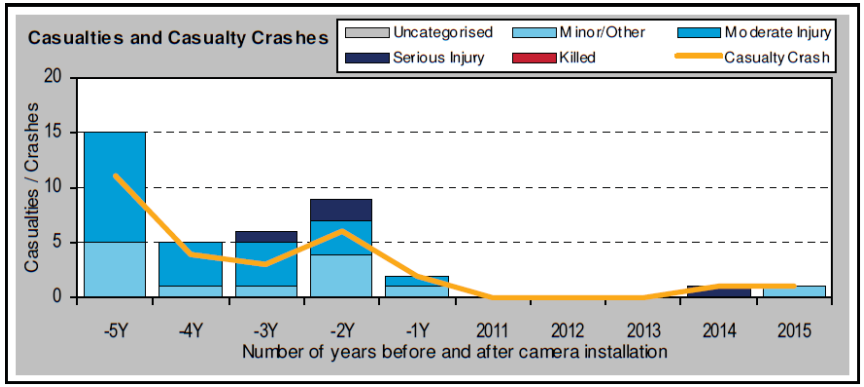
Revenue transparency

Site selection and evaluation

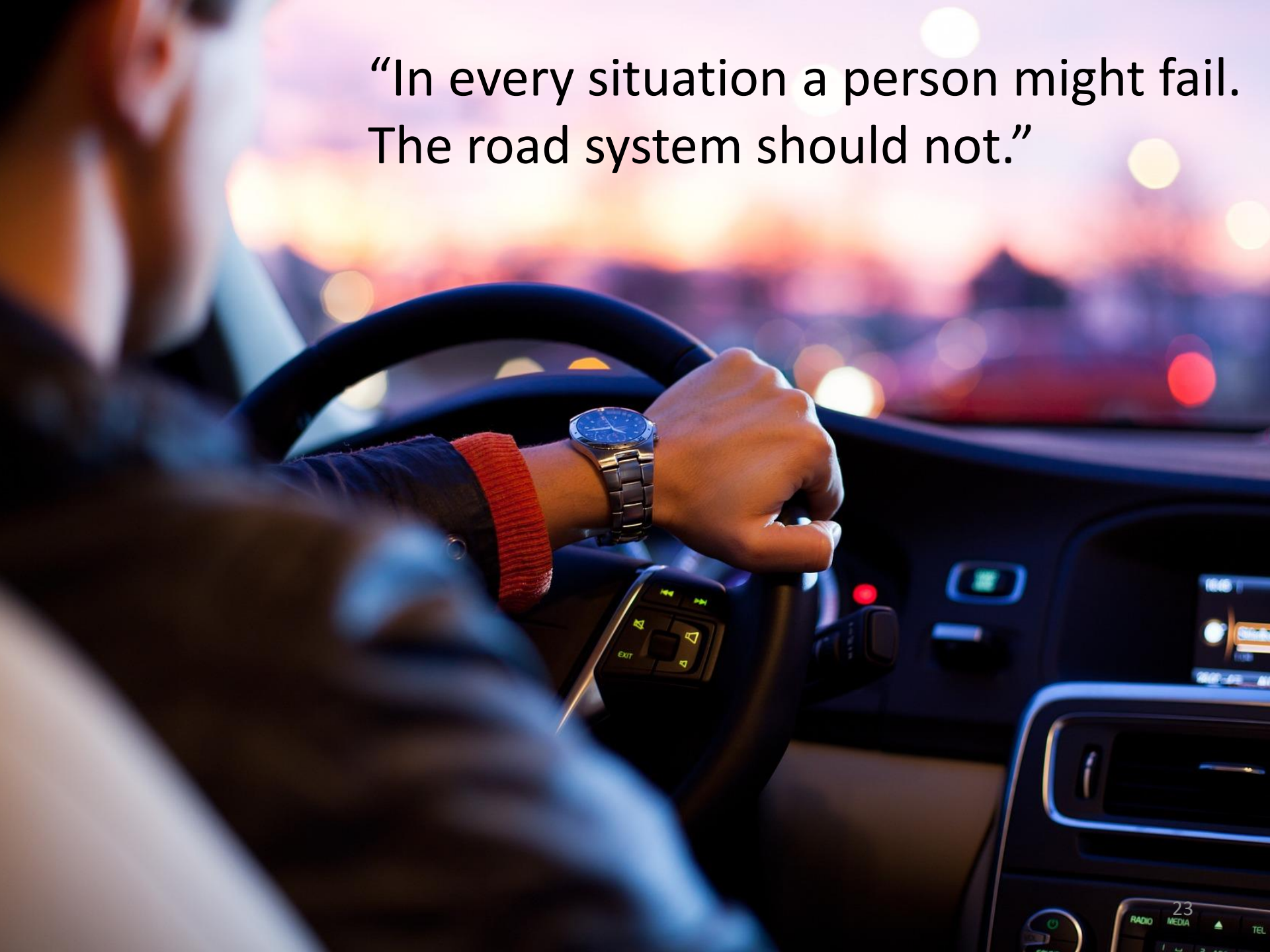
Infringements at enforced intersection







Community Engagement


“In every situation a person might fail.
The road system should not.”

Citations and Selected Resources

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Photo citations

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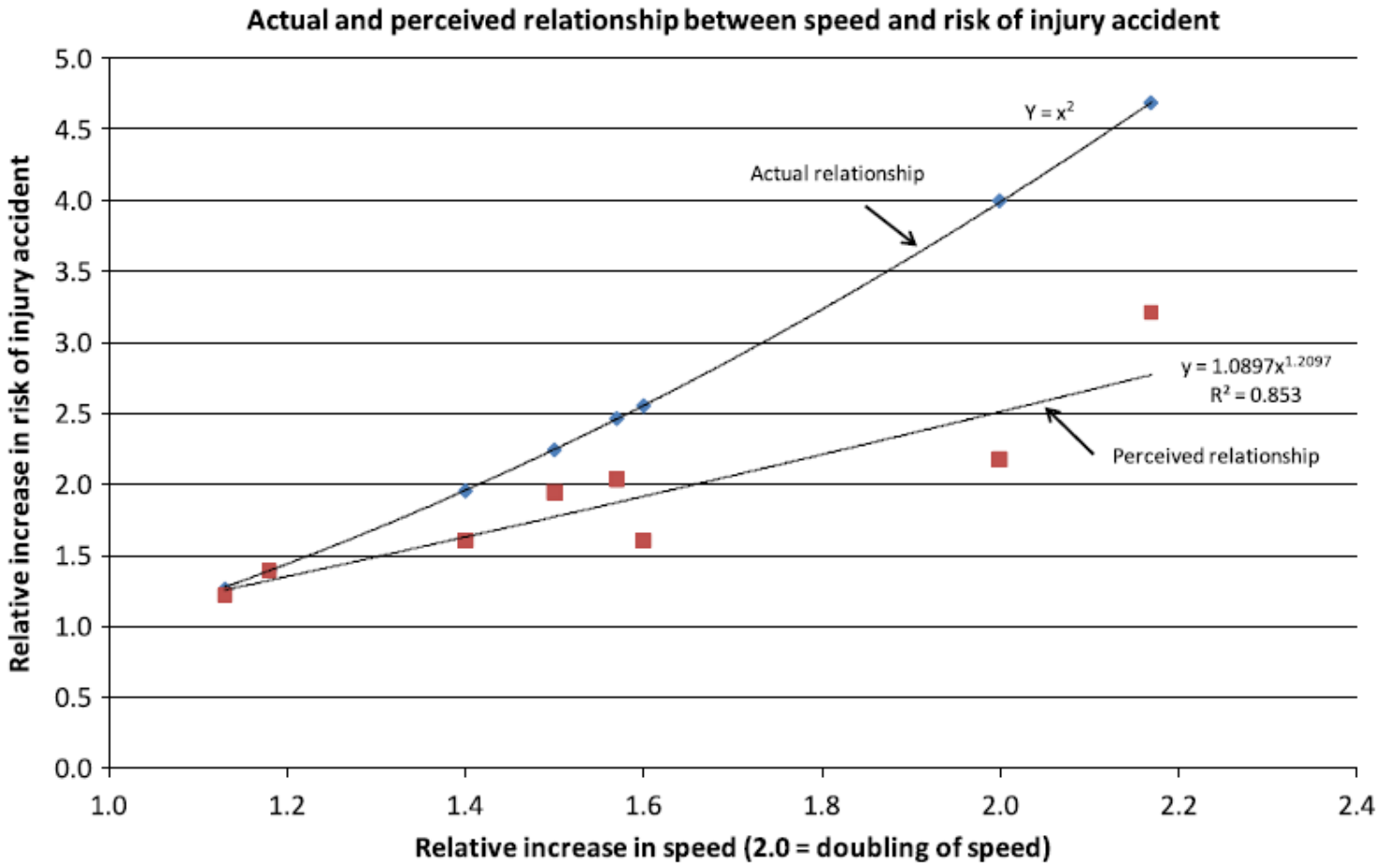
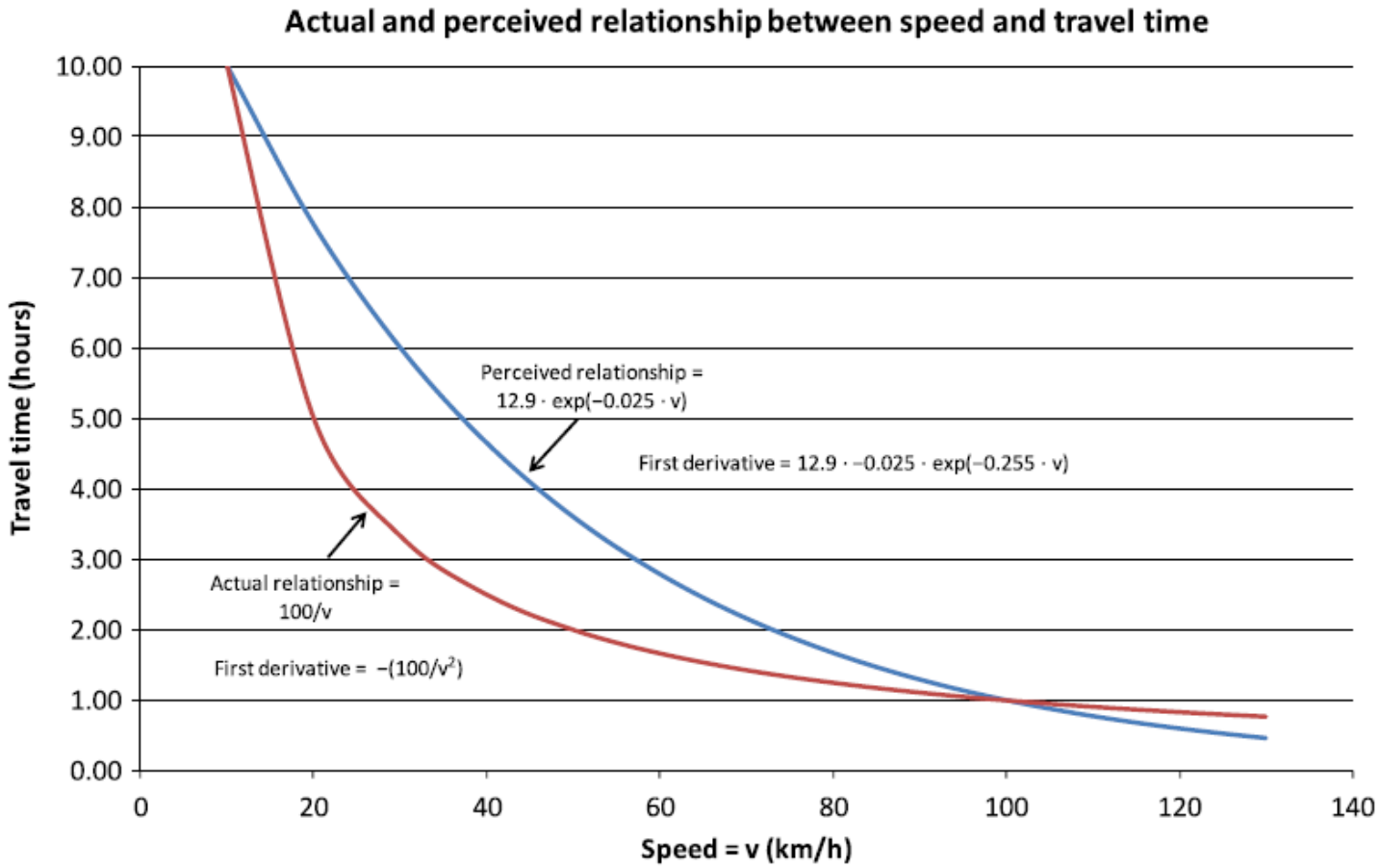
Speed misperceptions



Elvik 2009

More speed misperceptions



Elvik 2009

Variable speed limits

Types of automated enforcement

- Red light cameras and “speed-on-green”
- Single point stationary speed cameras
- Mobile cameras
- Point-to-point or “section control”
- Range of settings
- Can be passively or manually operated

Large source of mortality and morbidity

- Burden of disease in Canada:
  - 3% of YLLs
  - 2% of DALYs
  - #1 cause of YLLs for ages 1-44