

Official Pre-Event:
Globalizing Vision Zero: Generating Scientific
Evidence for the Road Ahead



Evidence and Road Safety

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Overview of this talk

1. The road safety crisis
2. A great deal is known (by too few)
3. The evidence base is not sufficiently adopted
4. Misconceptions and errors
5. Recommendations

1. The Road Safety Crisis

- ▶ We will not meet the United Nations Decade target or the SDG targets (although there have been important achievement sin the decade)
- ▶ 2013 = 1.25 million deaths
- ▶ 2016 = 1.35 million deaths
- ▶ Simple extrapolation:.....Brutal prediction:

1. The Road Safety Crisis

- ▶ We will not meet the United Nations Decade target or the SDG targets (although there have been important achievements in the decade)
- ▶ 2013 = 1.25 million deaths
- ▶ 2016 = 1.35 million deaths
- ▶ Simple extrapolation:.....Brutal prediction:

The decade 2021 to 2030 =
17.4 million deaths and 500m+ injuries

Road crashes are the scale of a World War

2. A great deal is known (by too few)

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- ▶ Economic analysis of 5 countries by World Bank/GRSF:
What is the effect of halving deaths and injuries?
 - GDP grows faster: 7% to 22% more over 24 years
 - For some countries almost an extra 1% per year.

**Road safety =
good economic investment**

**This is vital Research for Advocacy
Other examples covered as we go**



3. The evidence base is not sufficiently adopted

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Is there any dispute on this?

Is there any doubt that it is huge problem?



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3. Misconceptions and errors (versus the evidence)

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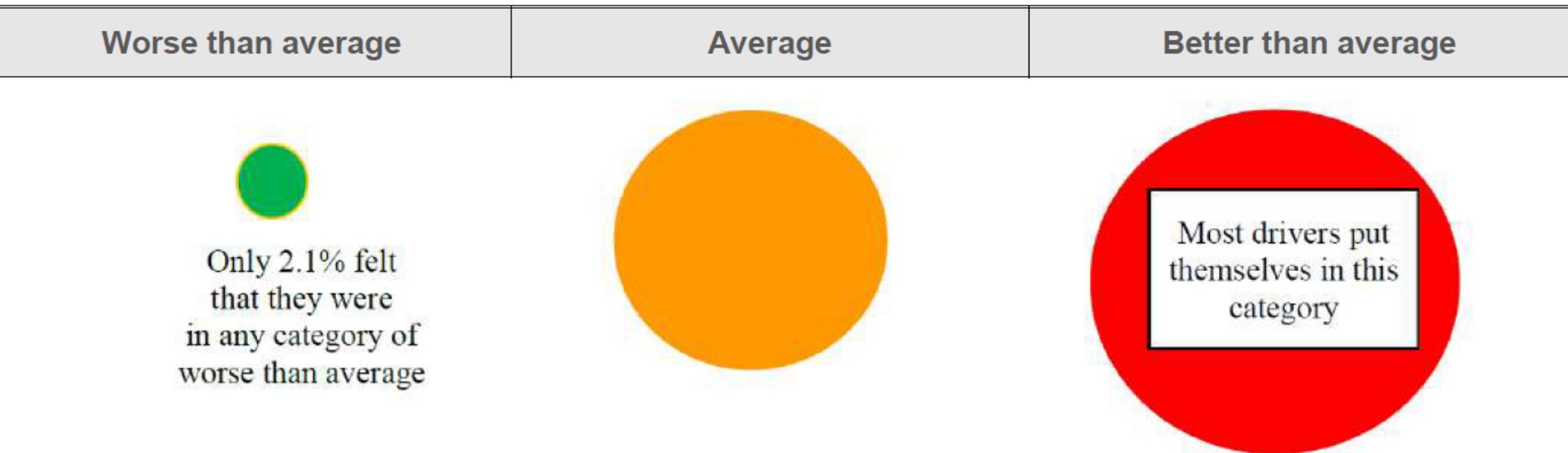
Examples which materially impact road safety delivery

- a. Misjudgment of risk
- b. Commonsense Misjudgment of trading off lives and injuries for speed (economic gain)
- c. Commonsense Misjudgment of speed and congestion
- d. Commonsense Misjudgment of differences in speed
- e. Errors in selection of interventions to improve road safety

a. Misjudgment of risk (evidence)

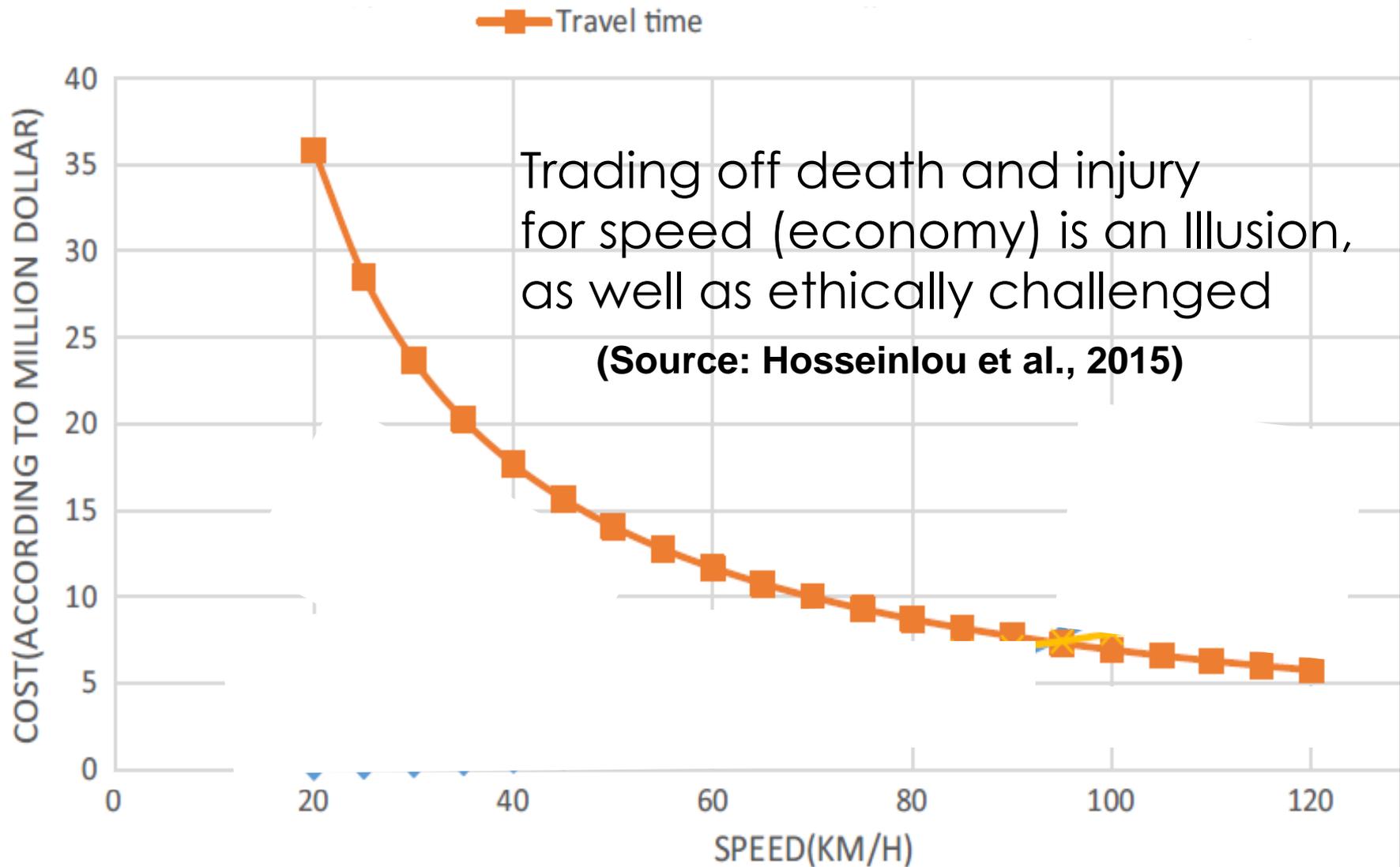
Examples:

1. Estimating low probabilities
2. Personal experience
3. Optimism bias



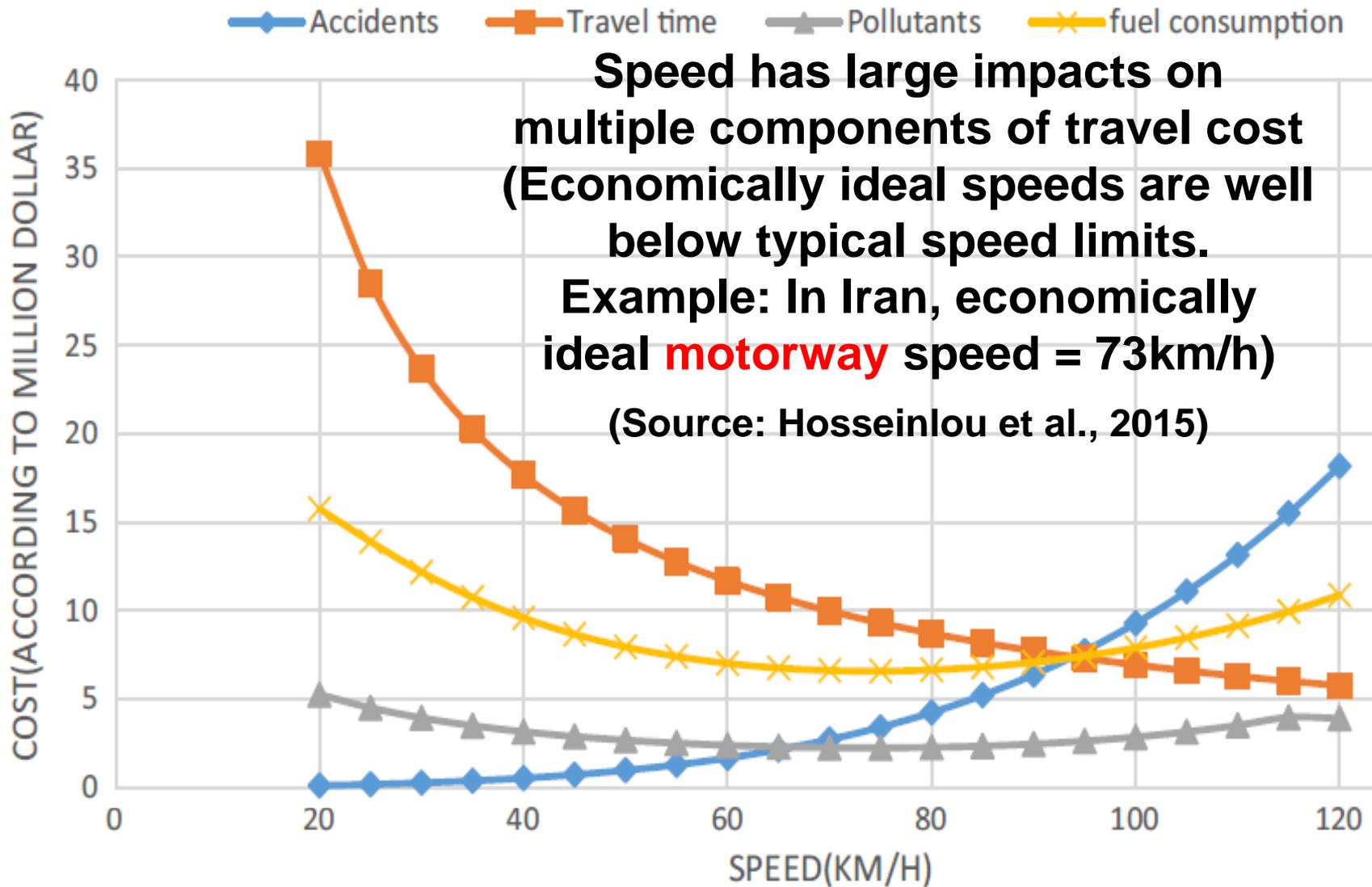
Source: Adapted from Job (1990)

b. Commonsense Misjudgment of trading off lives and injuries for speed



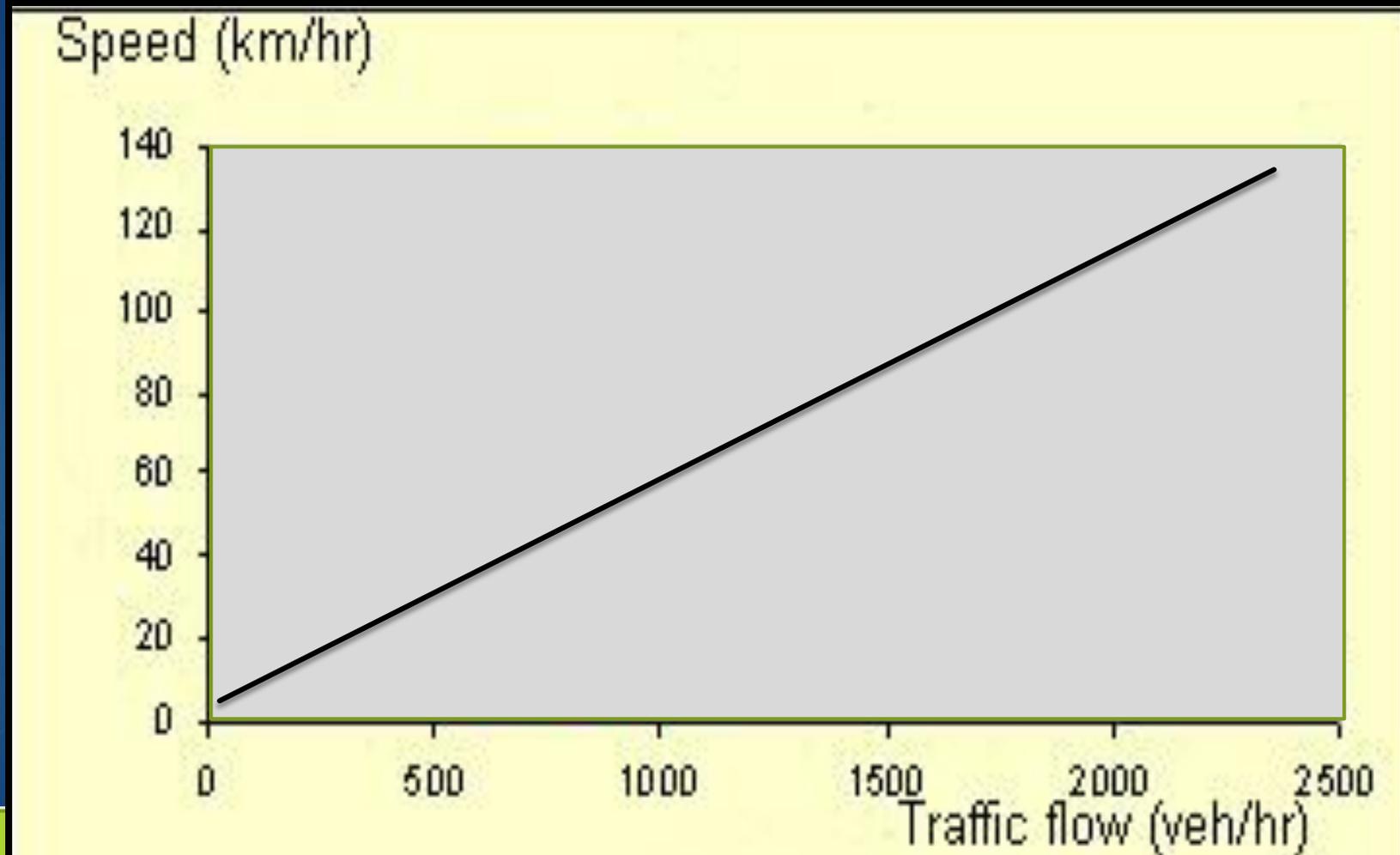
b. Commonsense Misjudgment of trading off lives and injuries for speed

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c. Commonsense Misjudgment of speed and congestion

Real relationship between speed and traffic flow (Source: OECD, 2006)



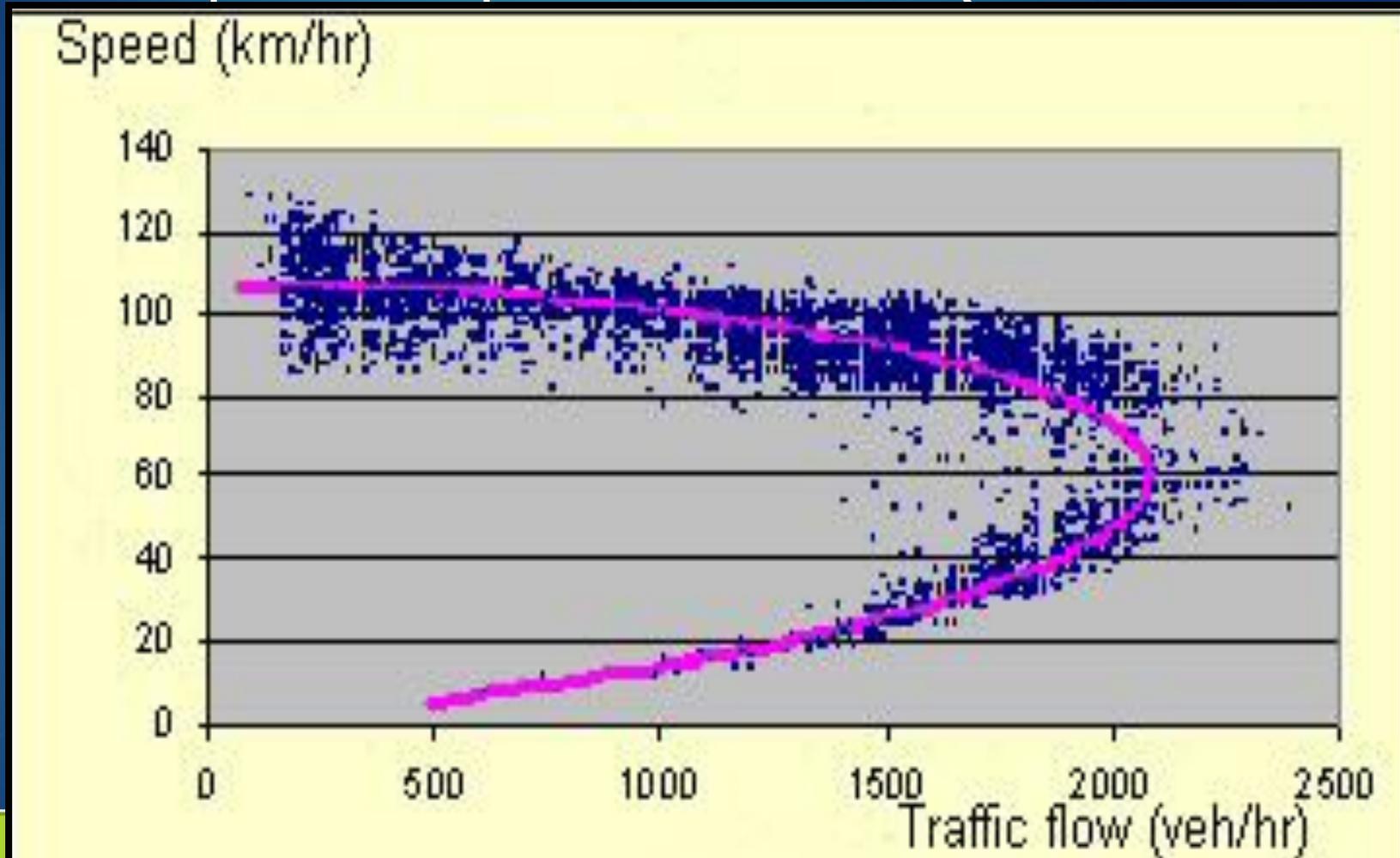
c. Commonsense Misjudgment of speed and congestion

Real relationship between speed and traffic flow (Source: OECD, 2006)



c. Evidence on speed and congestion

Real relationship between speed and traffic flow (Source: OECD, 2006)



d. Commonsense Misjudgment of differences in speed

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MISTAKE:

10kmh difference at the start = 10kmh difference at the of stopping
(not very important)

EVIDENCE

10kmh difference at the start (100kmh versus 110kmh)

Considering

judgement time

reaction time

braking deceleration

= **? kmh** difference at the end



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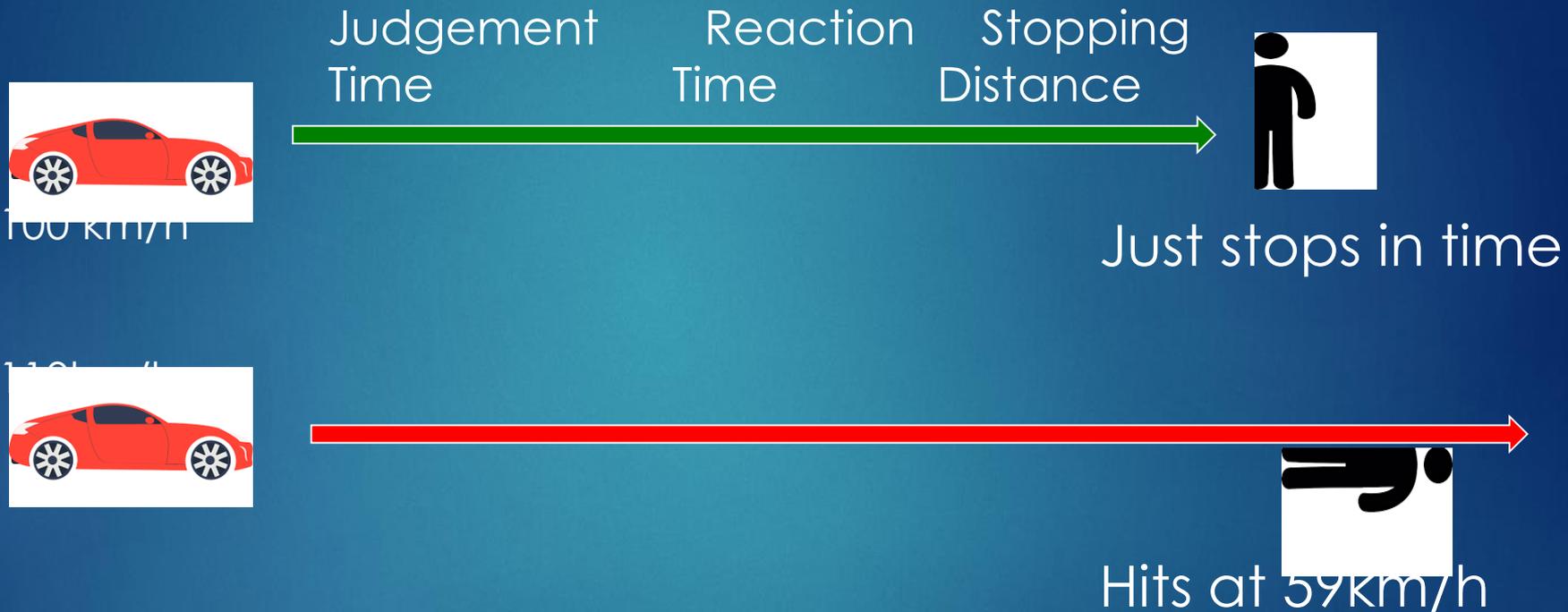


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Reality of Physics

Small differences at start =

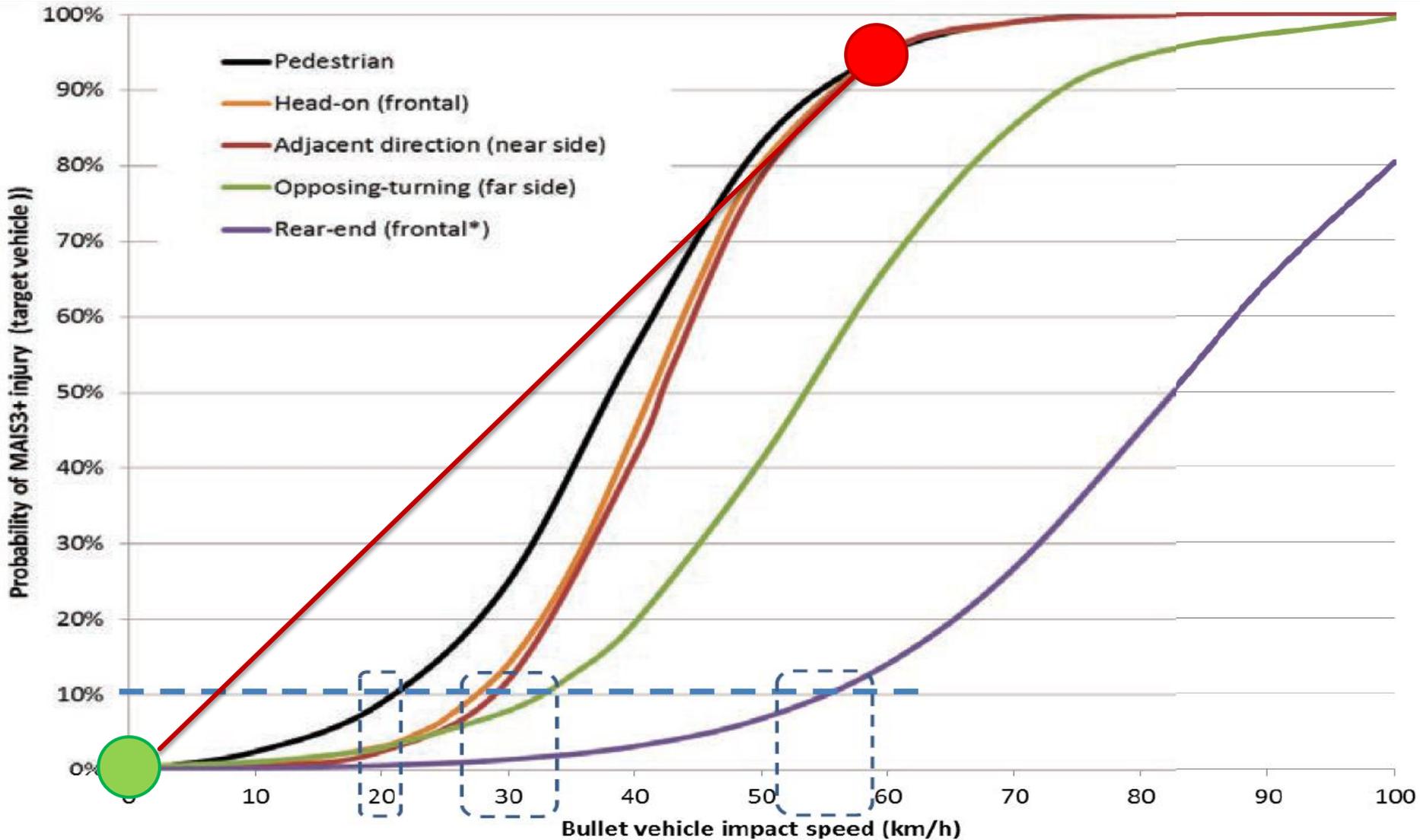
LARGE difference at end



SPEED is critical for pedestrians:

Speed of impact and probability of Major Injury

Best available analysis (Jurewicz et al., 2016)





Mistake: People don't want speeds down, don't want speed humps

Community resistance limits actions

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e. Errors in selection of interventions to improve road safety

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Error: The best road safety intervention is teaching school children

Evidence: Minimal value (except two specific instances)

Error: Vehicle handling skills training saves crashes (including for school children)

Evidence: No it does not (it may increase crashes)

- ▶ **Cochrane Library Review fo school-based driver training:** “The results provide no evidence that driver education reduces road crash involvement, and suggest that it may lead to a modest but potentially important increase in the proportion of teenagers involved in traffic crashes.”
- ▶ **O’Neill (2020) review:** “The consistent findings from these studies have been that high school driver education does not reduce crashes.”

Error: Road safety (in respect of road users) is a skill and knowledge problem

Reality: Road safety (in respect of road users) is a motivation problem

**Desert Highway in Chad:
Road surface and designated purpose of the road
are key in setting speed limits and managing safety**



Rest of my Photo: It's a shopping Centre

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Take Home Messages & Recommendation's

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- ▶ There is a massive body of relevant evidence
- ▶ The evidence is known to too few people
- ▶ The evidence base is often not used to guide road safety decisions

Recommendations:

- 1. We need more research on how to get the evidence-base for road safety adopted**
- 2. We need more advocacy to the community for what works**
- 3. We need more education of decision makers on the expertise required**
- 4. Road safety must be led by experts**



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from the British people



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Thank you for your attention

