

Effectiveness assessment of a warning driver assistance system for trucks to avoid accidents with pedestrians

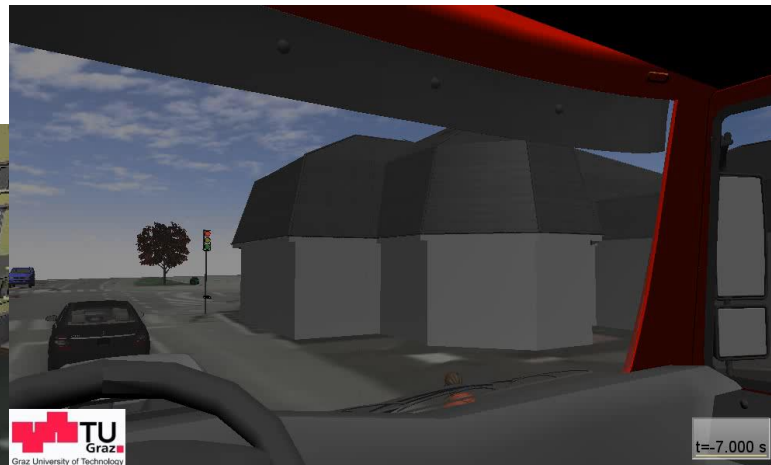
Ernst Tomasch, Stefan Smit

Vienna, 23rd June 2022

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 Österreichischer
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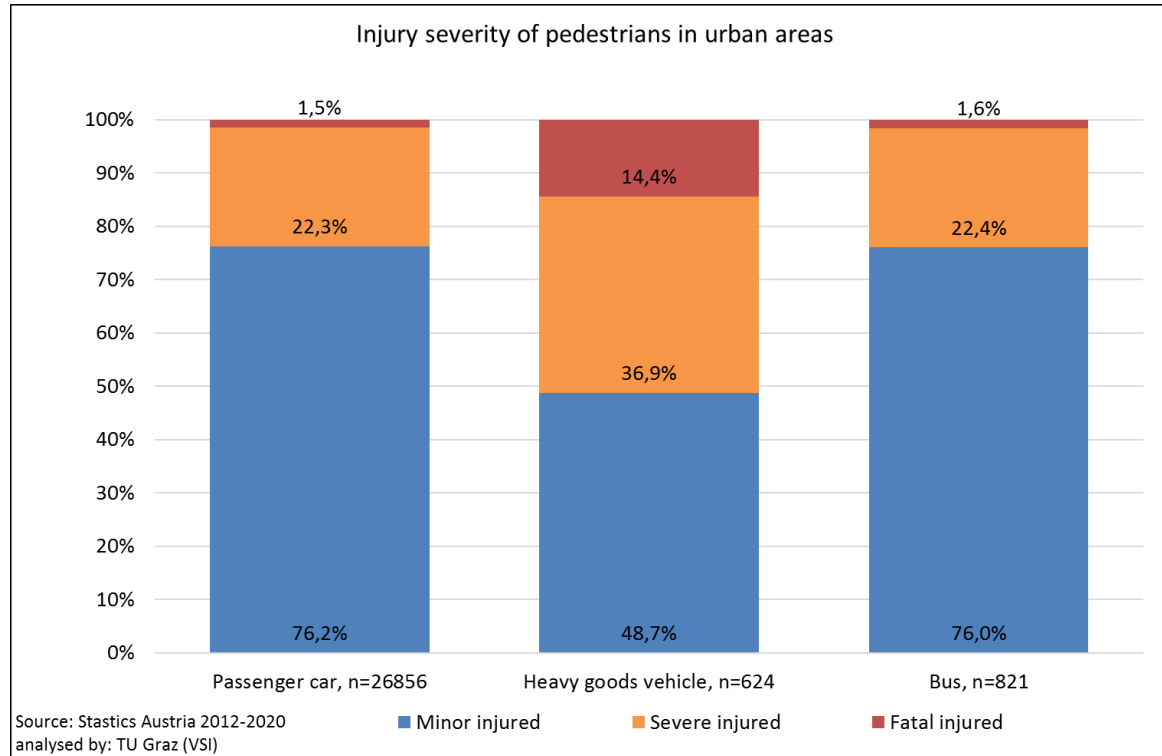
Motivation



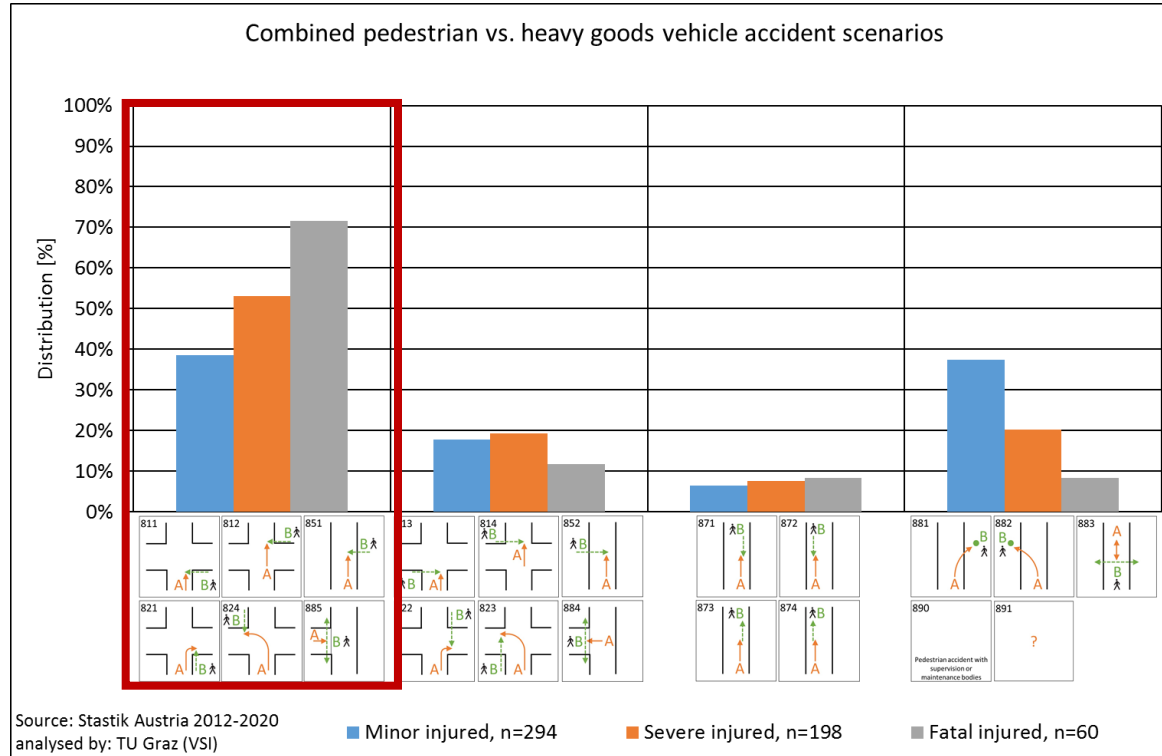
Research question

What is the effectiveness of a warning driving assistance system for trucks in preventing accidents or injury mitigation in pedestrian accidents?

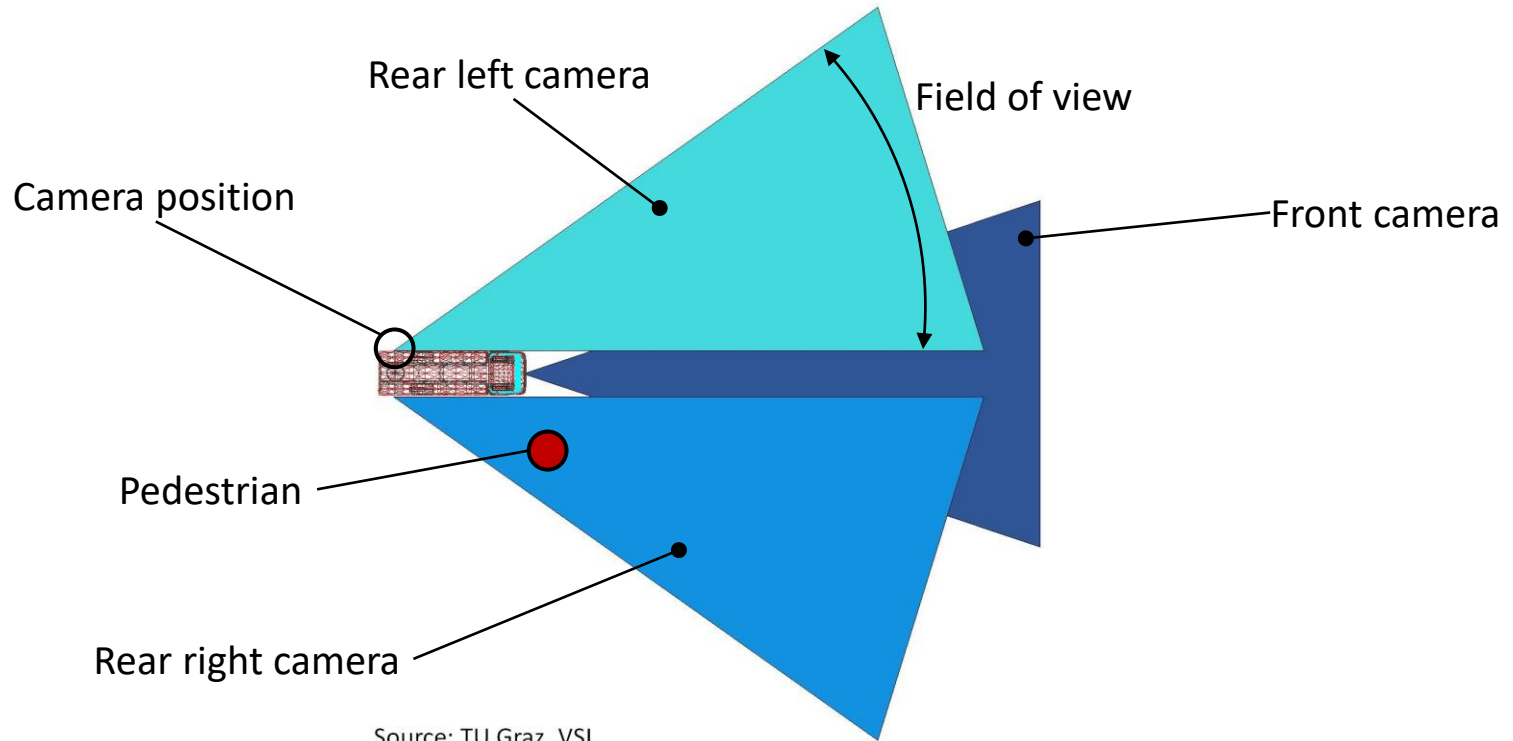
Injury severity of pedestrians in urban areas



Combined pedestrian scenarios



Virtual forward simulation – position of the sensors/cameras



Source: TU Graz, VSI

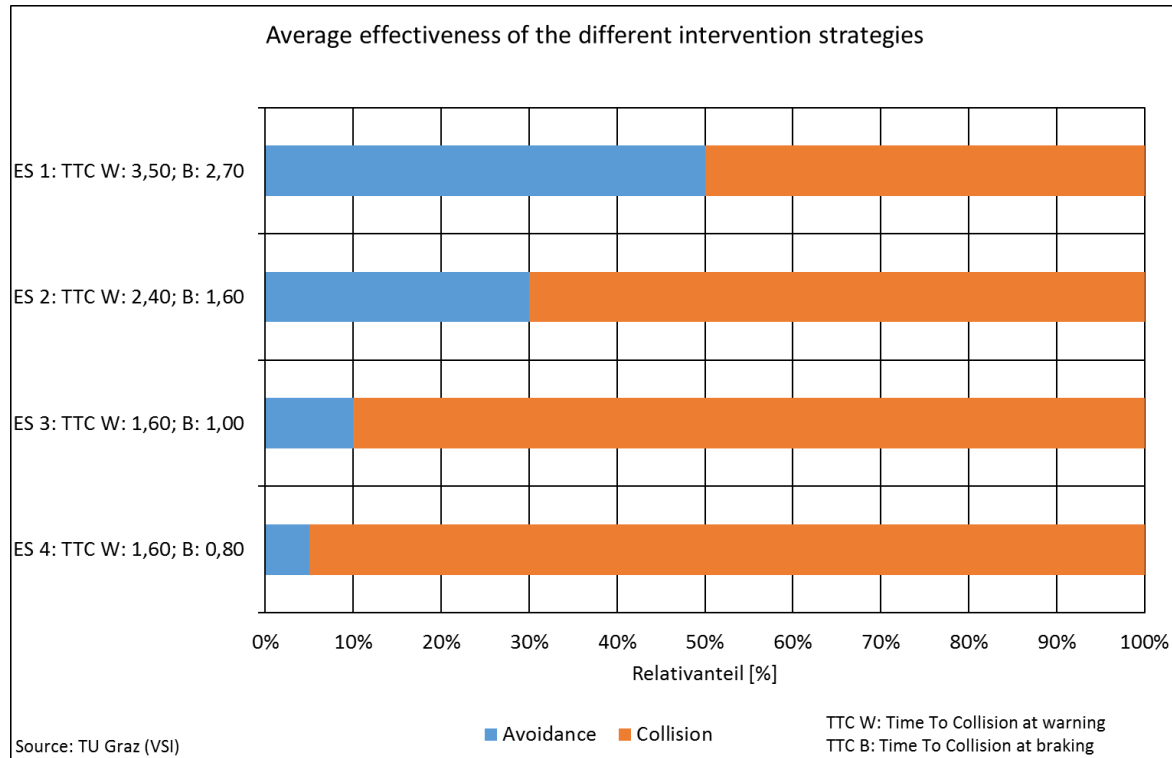
Real accident – Baseline



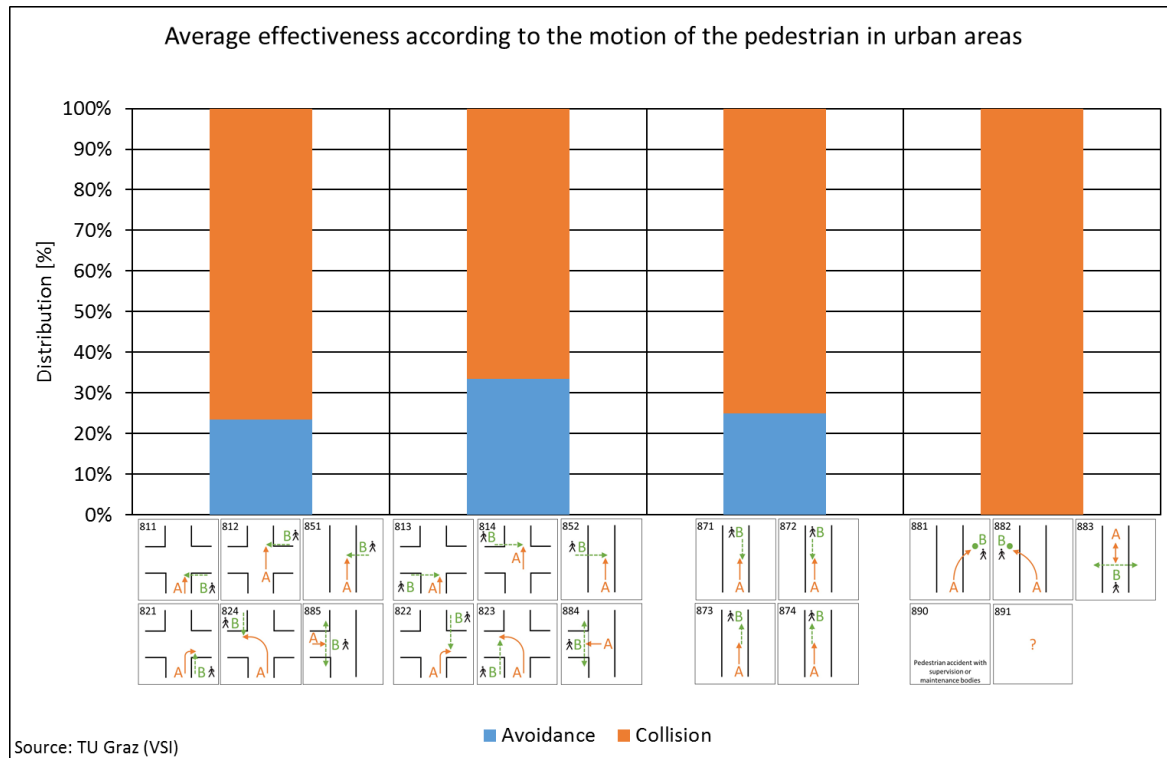
Evaluierung Realunfall – Treatment



Average effectiveness of the different strategies



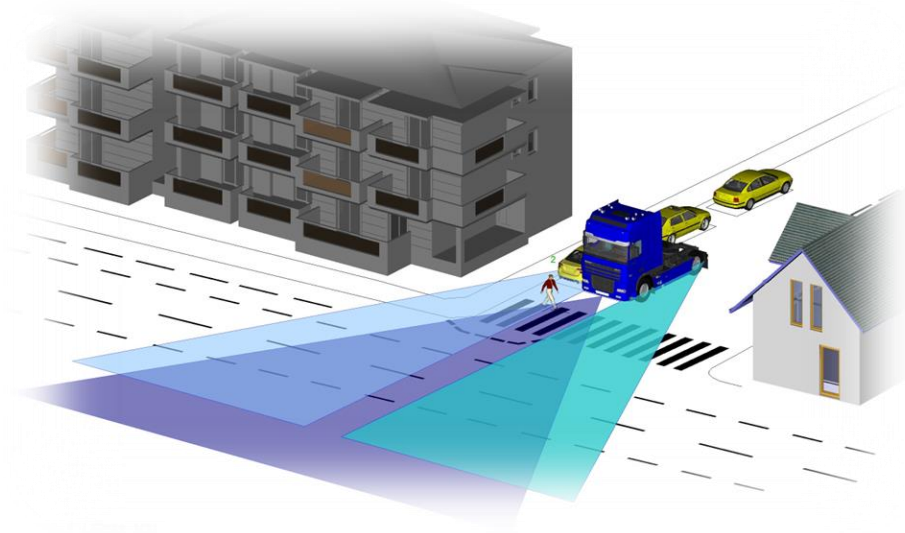
Average effectiveness according to the motion of the pedestrian



Virtual effectiveness assessment - summary

- A warning driver assistance system would have a effectiveness of 15-24% on average (depending on the strategy)
- Higher effectiveness for situation in which the pedestrian is longer in the field of view, i.e. pedestrian enter road from left
- A collision with pedestrian entering the road from right, i.e. very short conspicuity, can not be avoided with a warning driver assistance system
- Scenarios in which the collision can not be avoided the collision speed is reduced

Contact



Vehicle Safety Institute

Graz University of Technology

Inffeldgasse 23/1

8010 Graz Austria

www.vsi.tugraz.at

Ernst TOMASCH

+43 316 873 30313

ernst.tomasch@tugraz.at