Vision Zero - what is it about?

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What speed would the red car be at when the blue car has stopped?

60 km/h
50 km/h
Basic physics

Kinetic energy = \( \frac{m \times v^2}{2} \)

\( m = \) mass

\( v = \) velocity
Stopping distance and collision speed

Fast reaction time 1 second and hard breaking on dry asphalt (retardation 0.8 g)
Usain Bolt – the fastest man on earth

100 m: 9.58 sec
Mean speed: 38 km/h

Photo: SVT
Risk to be killed at different collision speeds

Risk to be killed, %

Collision speed, km/h

Pedestrians

Side-on collision

Head-on collision
Design speed for modern cars

- 80 mph: Head-on
- 40 mph: Pedestrians
- 70 mph: Side
- 40 mph: Rear-end
- 110 mph: Large animals
Vision Zero

An ethical standpoint that no-one should be killed or suffer lifelong injury in road traffic.

Road users will always make errors.

The level of violence that the human body can tolerate without being killed or seriously injured shall be the basic parameter in the design of the road transport system.
Shared responsibility

**System designers** are responsible for the design, operation and the use of the road transport system and are thereby responsible for the level of safety within the entire system.

**Road users** are responsible for following the rules for using the road transport system set by the system designers.

**If the users fail to comply** with these rules due to a lack of knowledge, acceptance or ability, the system designers are required to take the necessary further steps to prevent people from being killed or injured.
Controlling on-coming traffic
Intersections to roundabouts
A modern camera system
Example of a safe "hourglass" bus-stop
Fence and speedbump
Safe bus-stop
Typical speedbump in a residential area