

The Safe System (SS) approach to transport networks originated with the “Safe Road Transport System” model developed by the Swedish Transport Agency. In its essence, the approach migrates from the view that accidents are largely and automatically the driver’s fault to a view that identifies and evaluates the true causes for accidents. Through the categorization of safety into the safety of three elements (vehicle, road, and road user), SS minimizes fatalities and injuries by controlling speeds and facilitating prompt emergency response. The model has been widely adopted since its introduction and is currently motivated by the WHO as a basis for road safety planning, policy-making, and enforcement.

An illustration of the model is provided in Figure [1](#). A central emphasis is given to speed in the SS approach as it is the strongest and most fundamental variable in the outcome of fatality. The fragility of the human body makes it unlikely to survive an uncushioned impact at a speed of more than 30 km/h, with lower speeds resulting in either death or serious injury [3, 4]. The objective of the SS approach is that the three model elements should be designed and monitored to proactively prevent deadly speeds from happening and allow for a reduced emergency response time in the event of an accident.

Elements of the Safe System approach are as follows.

- (1) *Safe Vehicle*. Emphasis on vehicle safety is verified through mandated regulatory testing and rating, as well as technologies such as electronic stability control.
- (2) *Safe Road*. The assessment of road (or road network) safety is multifaceted. Road inspection enables clear and direct observation of the state of the road and assesses the need for repairs or modifications.
- (3) *Safe Road User*. There are several aspects to road user safety, including measures for education and awareness, travel distance, exposure, licensure, enforcement, and sober driving .