Excerpt from ***AB 2363 Zero Traffic Fatalities Task Force, CalSTA Report of Findings***
(emphasis added in **bold**)

Traffic Fatalities and Injuries, Speed, and Safety

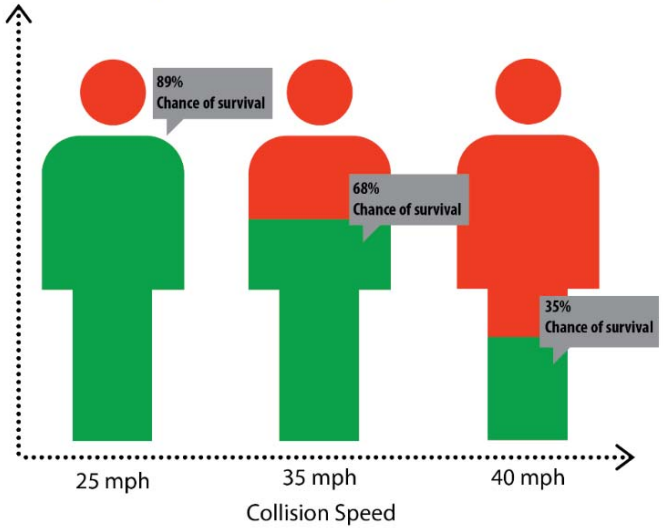
While the overarching objective of the transportation system is to provide mobility, transportation professionals dedicate significant resources to create a system that is safe for all users. Yet transportation professionals and policy makers continue to grapple with increases in road traffic fatalities, injuries, and crashes at the local, state, national, and even global levels.

According to the World Health Organization, deaths from road traffic crashes have continued to climb, reaching 1.35 million in 2016, and representing the eighth leading cause of death globally. Within the U.S. in 2017, there were 37,133 people killed in motor vehicle traffic crashes. Additionally, in the same year, 746,000 people were injured.2 Traffic crashes have economic costs as well, which was estimated at $242 billion nationally**. In California, nearly 3,600 people die each year in traffic crashes and more than 13,000 people are severely injured.** Collectively, these traffic crashes cost California over $53.5 billion.

Many factors contribute to traffic fatalities and injuries, including speeding, distracted driving, and impaired driving. However, the relationship between speeding and traffic fatalities and injuries is an increasing subject of attention. Of the 37,133 traffic fatalities in 2017, 9,717 (26%) were involved in crashes where at least one driver was speeding. Nationwide, speeding contributes to approximately one-third of all motor vehicle fatalities. It is important to note that the notation of “speeding” for the purpose of crash reporting includes vehicle speeds that are unsafe for conditions as well as in excess of the speed limit; see Section 8.2 for more information.

Recent important studies have highlighted excessive speed as a key risk factor in road traffic injuries and fatalities. According to a 2017 National Transportation Safety Board (NTSB) report, speed increases crash risk in two ways: it increases the likelihood of being involved in a crash and it increases the severity of injuries sustained by all road users in a crash. While the relationship between speed and crash involvement is complex, the relationship between speed and injury severity is consistent and direct. There is clear and convincing evidence, supported by statistical analyses, that crash severity increases with individual vehicle speed.

Exhibit 2-1 – Relationship between Vehicle Speed, Crashes, and Fatalities[11]



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(emphasis added in **bold**)

The relationship between speed and injury severity is especially critical for vulnerable road users such as bicyclists and pedestrians. In the U.S., on average, a pedestrian is killed in a motor vehicle crash every 88 minutes. **In the event of a crash between a vehicle and a pedestrian or bicyclist, the vehicle's speed will largely determine whether the person hit will survive.** Exhibit 2-1 depicts this relationship, demonstrating that the faster a vehicle is traveling, the less likely it is that the person will survive.

For the purposes of crash reporting, “speeding” is used to identify vehicles that are traveling at speeds which are: 1) unsafe for conditions or 2) exceed the speed limit. Speeds that are unsafe for conditions are based on basic speed law which is defined as driving at a speed greater than is reasonable or prudent considering weather, visibility, traffic, and roadway conditions. Because the definition of speeding includes these two different conditions, it is unknown to what degree exceeding a posted or statutory speed limit contributes to the total number of speeding-related crashes.

In addition to the impact of absolute vehicle speed on both crash severity and crash frequency, speed variance within a traffic flow is often cited as contributing to crash risk. However, the University of California Institute of Transportation Studies (UC ITS) Research Synthesis commissioned specifically for this report found that research on speed variation and safety is limited and generally inconclusive. Furthermore, there is an absence of research related to speed variation impacts on crash frequency or severity of collisions involving pedestrians and bicyclists in urban environments.

Given the rise in traffic fatalities and injuries, the contributing role of excessive speed to those crashes, and the particular vulnerability of pedestrians, bicyclists, and scooter users, transportation professionals and policymakers in the U.S. are struggling to find solutions to make roadways safer. The issue of speed limits and speed management is an increasingly important topic among stakeholders as speeding has been repeatedly demonstrated to be a main factor in crash injury and severity.

Speeding, however, is a multi-faceted problem. There are many factors that can influence how fast drivers choose to operate their vehicles. These include the design of the roadway, the road’s posted speed limit, the enforcement of speed limits, and the driver’s behavior. In their efforts to get drivers to slow down, practitioners use multiple tools, including lowering speed limits, increasing enforcement, and changing the roadway infrastructure. Ultimately “any measures that can achieve reductions in average operating speeds, including lower speed limits, enhanced enforcement, and communications campaigns, as well as engineering measures, are expected to reduce fatal and injury crashes.”

While many consider road design and engineering the effective countermeasure to reduce operating speed, many cities, including Portland, Seattle, and New York City, have also lowered the posted speed limits on their roadways. Although some subject matter experts maintain that lowering posted speed limits does not cause drivers to slow down, recent research has indicated that this approach is effective. The UC ITS research synthesis found that research studies clearly indicate speed limit changes cause changes in drivers’ speed. Moreover, “reducing vehicle speed limits will likely reduce vehicle speeds and improve safety across most road environments.”

UC ITS concluded that “even though reducing speed limits may only have a small effect on vehicle speeds, those changes in speed result in meaningful safety improvements” especially for vulnerable road users such as bicyclist and pedestrians.” Other studies support the finding that even a small change in vehicle operating speed can have large safety impacts. According to one, **“a reduction of 3 mph in average operating speed on a road with a baseline average operating speed of 30 mph is expected to produce a reduction of 27% in injury crashes and 49% in fatal crashes.”**

Excerpt from ***AB 2363 Zero Traffic Fatalities Task Force, CalSTA Report of Findings***
(emphasis added in **bold**)

Furthermore, since pedestrians and bicyclists are particularly vulnerable to severe injury and death when struck by higher-speed vehicles, **"countermeasures aimed at reducing vehicle speeds have the potential to save lives."**

National research results, as well as the results of the UC ITS research synthesis, support the notion, which is advocated by many California cities and local governments, that **lowering speed limits will make streets safer.** In California and the rest of the U.S., establishing the speed limit is based on a long-standing methodology known as the 85th percentile speed. This methodology is discussed in Section 3.0 of this report. However, it is important to note that studies have shown that using the 85th percentile speed to establish speed limits has actually increased drivers' operating speeds as an "unintended consequence." This approach creates a phenomenon known as "speed creep," in which higher speed limits prompt motorists to drive faster, which in turn prompt higher speed limits.

While recent research has shown that changing speed limits is an effective method for reducing vehicle operating speeds and increasing road safety, the absolute magnitude of operating speed changes from speed limit changes alone are small but meaningful. Further, there are many broader trends and contexts to consider, including the inherent trade-off between speed and safety, the safety advances presented by emerging vehicle technologies, and recent statewide developments related to safety and transportation. These trends and contexts are discussed in the next section.