

## Comment from Sunu Valakamattom

I am concerned about the lack of regulation for vehicles to determine the maximum speed that may be safely traveled under any given circumstances. For autonomous vehicles, this must be defined by a mathematical equation, not a speed limit sign. Please remember that speed limit signs only post the theoretical maximum speed that can be safely driven by humans under ideal conditions. Even then, reading posted speed limits does not improve safety even for human drivers, as proven by the mortality rate of Montana's highways before and after speed limits were posted.

The maximum safe speed may be determined by the time it would take to brake, but how can a reasonably safe braking time be defined? There are many safety variables to consider such as visibility, room to maneuver (e.g. empty four-lane highway vs crosswalk with people on both sides), setting (highway vs rural vs urban), presence of construction, people, etc. At the very least, these factors need to have scales defined, so a mathematical equation can legally define what the expected time to be able to brake would be. Ideally, in addition, AI trained by X number of hours of real-world data would analyze the behavior of nearby vehicles and people to better define their risk factors. Although it is impossible to perfect such AI, or even define exacting standards, demonstrable software may be required to show that a bonafide attempt was made and supported.

With the expected braking time in place, the vehicle can then be expected to factor in environmental variables such as road curvature, surface conditions, and weather against its own capacity to calculate what its maximum speed should be. Posted speed limit signs should be irrelevant to autonomous vehicles - rather, they should be tested to show that they will meet expected braking times under various circumstances.