



Mitigating the Risk of Auto-Pedestrian Collisions in Parking Lots

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Injuries and deaths in shopping center parking lots and garages remain mostly unreported; unless there is a fatality, most law enforcement agencies do not submit crash reports to state DMV data banks. However, we know that pedestrian-auto collisions do occur in shopping center parking lots and garages. Since these events occur regularly in parking lots and parking garages across the United States, they are in legal terminology “foreseeable.”

Most states impose a legal duty on property owners and property managers to eliminate or at least mitigate “foreseeable” dangerous conditions that are present in shopping centers and malls. Under premises liability law, property owners and managers have a legal duty to take reasonable action to make their premises safe for their customers, who are considered “invitees.” The premises include all mall and shopping center common areas, walkways, roadways, parking lots, and parking garages.

Auto-pedestrian injuries and fatalities in parking lots and garages caused by drivers can be divided into three categories of causation: (1) Unsafe Speed, (2) Impairment, and (3) Distraction. Distraction can be sub-divided into four primary categories:

- Visual: Looking at something other than the roadway.
- Auditory: Hearing something not related to driving.
- Manual: Manipulating something other than the steering wheel.
- Cognitive: Thinking about something other than driving.

Driver distraction in parking lots and garages is a dangerous problem. In a distracted driving public opinion poll conducted in March 2016 by the National Safety Council, 66 percent of drivers admitted to using their cellphones and 56 percent admitted to texting while driving through parking lots and parking garages. Cellphone use reduces a driver's ability to observe and avoid striking pedestrians.

Property managers and security teams should consider pedestrian distractions as an additional risk factor leading to auto-pedestrian injuries and fatalities in parking lots and garages. I recorded drivers and pedestrians at three large shopping centers in Austin, Texas in August of 2022. My conclusions are based on observing the drivers of 500 cars in three different shopping center parking lots, and 7.25 percent of the drivers were holding, talking, or texting on their cellphones while driving. This percentage is much lower than the self-reported numbers in the National Safety Council 2016 poll, which may be due to Bluetooth technology, which allows for hands-free use of cellphones while driving. Bluetooth technology was introduced into vehicles by Chrysler in 2000 and other automakers followed suit after that. Although a driver may not be holding a cellphone anymore, the cognitive distraction remains present, and presents a risk to pedestrians on your property.

Additionally, I observed 100 pedestrians in these three shopping centers: 24 percent were holding and looking down at their cellphones while walking through parking lots or crossing roadways in these shopping centers. This would be classified as pedestrian distraction. Pedestrian distraction and inattention are additional risks to pedestrian safety, especially when they are crossing driveway areas and walking through parking lots or in garages. These are another causative factors in auto-pedestrian collisions.

With the advent of technology and saturation of smartphones in our society, there has been a substantial uptick in driver distraction and distraction of pedestrians. In busy downtown metroplexes, pedestrians visually and cognitively wrapped into their cellphones step out in front of vehicles quite often.

In an article published in the Journal of American Medical Association on December 5 of 2019, "Head and Neck Injuries Associated With Cell Phone Use" by Roman Povolotskiy, Nakul Gupta, and Adam Leverant, these researchers quantified emergency room data during a 20-year period [1998-2017] and discovered that the incidence of cellphone distraction injuries in the United States has increased steadily. They noted a sharp increase "in 2007 at 8.99 new cases per 1 million persons, followed by a much steeper increase to a peak of 29.19 new cases per 1 million persons." Their data points to a 300 percent increase in cellphone distraction injuries from 1998 to 2017.

However, the ability to deter pedestrians' use of cellphones while walking on your property is virtually impossible, so we must focus our risk reduction activities on vehicle drivers.

Solutions to Slow Down Drivers

The most effective—and least expensive—speed mitigation devices are speed bumps. Speed bumps are constructed of concrete, asphalt, or rubber, and placed at appropriate distances before pedestrian crossings to ensure that motor vehicles reduce their speed to a “walking speed” which is approximately 3 miles per hour.

Speed bumps significantly reduce vehicular speed on roadways, parking lots, and parking garages. When speeds of vehicles are reduced the risk of crashes are also reduced between motor vehicles and pedestrians and between motor vehicles and bicyclists.

A 3 mph collision generates about one ninth (11 percent of) the kinetic energy of a 9 mph collision. This is because speed/velocity is the most significant factor in the generation of force. $KE = \frac{1}{2} \text{ mass} \times \text{velocity}^2$. With speed bumps, even if there was an auto-pedestrian collision, it would most likely be survivable at 3 mph.

In addition to the installation of highly visible, reflective painted speed bumps placed 15-30 feet before and at all pedestrian crossings, here is a list of other mitigation devices:

- High-contrast LED flashing signs stating “pedestrian crossing ahead.”
- Stop signs at all pedestrian crossings.
- High-visibility and high-contrast painted crosswalks
- Inside parking garages, increasing lighting to help see pedestrians.

Property owners and property management companies have a legal duty to warn customers of latent dangers in their parking lots and garages. They have a duty to take reasonable steps to eliminate these dangerous conditions, including distracted and speeding drivers. Commercial property owners should not ignore safety issues of racing, speeding, impaired, and distracted drivers, which are present in all parking areas and roadways.

Signs alone are not the answer. Signs can be ignored by reckless, distracted, and impaired drivers. The single best deterrent to speeding and reckless drivers are speed bumps. Speed bumps force drivers to slow down to a crawl—they can't be ignored. Speed bumps save lives.



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Kevin Madison has six years of experience as a police officer and has served as a patrol officer and police chief. He also has eleven years of experience as a security supervisor, and over twenty years as an EMS first responder. He serves as an expert witness in cases throughout the United States involving parking lot and parking garage safety, security issues, and police issues. He is a licensed attorney and holds board certifications as an Investigator (PCI) and Certified Protection Professional (CPP) from ASIS International.