

Saving Lives at Storefront Parking

If you think there's been an increase in the number of reports about storefront crashes, pedal error accidents and cases where sidewalk dining areas have been overrun by out-of-control vehicles, you're right.

Causes for Storefront Parking Accidents



41% Pedal Error



17% Lost Control



14% DUI

Cases where cars jump over curbs and end up in convenience stores and restaurants, retail stores or insurance offices are in the many hundreds per week.

In one ten-day stretch in December 2013, a national coffee chain suffered multiple incidents that resulted in sixteen injuries. In recent months, such storefront accidents have received increasing notice from academics, engineering bodies, retailers and the news media.

Pedal Error Causes Storefront Crashes

A recent study conducted by the Texas Traffic Institute (TTI) and published by Texas A&M University analyzed data compiled from media reports, public records, legal proceedings and volunteers from the Storefront Safety Council. Their conclusions were startling: such accidents could number as high as 60 to 80 per day, with as many as 20 storefront crashes per day into convenience stores alone.

The study noted that the largest percentage of such crashes were into stores, restaurants and other businesses, and that the most common cause for such accidents was pedal error—where the driver mistakenly presses the gas instead of the brake, and usually during the act of parking and unparking.

Parking Lot Designs Should be Reviewed

Pedal error accidents have long been known to be common, with drivers under age 25 and over age 70 the most likely to have a pedal error accident.



11% Medical



5% Intentional



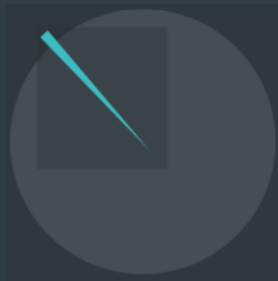
3% Rollaway



6% Brakes



3% Speed



1% Asleep

“Pedal error is the cause of more than 40 percent of storefront crashes. The highest risk locations are those where parking spaces and drive lanes are pointed directly toward storefronts where patrons and store workers are most likely to be exposed.”

Analysis of data showed that pedal error was the cause of more than 40 percent of these storefront crashes, and a review of incident photos indicated that the highest risk locations are those where parking spaces and drive lanes are pointed directly toward storefronts and areas where patrons and store workers are most likely to be exposed: entrances, exits, dining areas and sales counters.

With the growing awareness that such accidents number in the tens of thousands annually, retailers and developers have begun taking measures to reduce the toll from these crashes. The two most common solutions include:

- Eliminate head-in parking spaces from storefronts or pedestrian areas, or

- Install a protective device such as a tested barrier or bollard that will prevent an out-of-control vehicle from jumping the curb and causing damage and injury.

Simple Solutions Not Always Popular

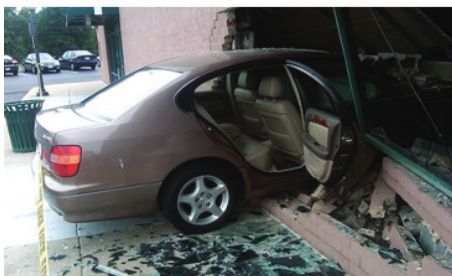
High traffic locations hesitate to move parking spaces away from entrances out of fear that patrons might go elsewhere.

Some retailers believe that such changes might make their storefronts appear less inviting, and both developers and property owners are often hesitant to incur additional expenses. Yet the cost of not dealing with this problem is much higher than not taking these simple steps.

Safety is Good Business

Warren Vander Helm is a managing partner of the Parking Design Group, a consultancy that works with property owners and developers to improve operations, reduce costs and develop sustainable designs and practices of parking garages and lots nationally.

In accepting NPA’s 2013 Innovative Sustainability Project Award in Chicago, he noted that “there is a growing recognition that nothing is either environmentally sustainable or commercially sustainable if customers feel unsafe, if customers or pedestrians are injured or if costs (including the costs associated with these accidents) are higher than revenues can sustain.”



Age of Drivers Most Likely to Have a Pedal Error Incident

Under 25 years



Over 70 years

Barrier Testing Begins

As the problem gains recognition, many states are enacting ordinances that require the installation of safety barriers in lots where traffic is pointed directly at storefronts.

The American Society for Testing and Materials (ASTM) International has begun work on a testing protocol for barriers designed to protect people and property at “parking lot speeds” from 10 MPH to 30 MPH. Once approved, this test standard will form the basis for additions to building codes, says Dean Alberson, PhD, PE, co-author of the TTI study and co-chair of the ASTM committee.

“These tests will provide architects, engineers and building officials with the tools needed to select effective safety systems for their projects. In turn, accidents will be reduced and safety will be improved for everyone.”

ASTM International will publish additional results from the TTI study in spring 2014, and the committee is tracking to finalize the standard by October 2014.

Parking Design Subject to Scrutiny

With so much media attention focused on the problem as a result of high profile accidents, it is clear that the parking industry needs to look at current

practices with the prevalence of such accidents in mind.

The increased documentation of storefront crashes is bringing more scrutiny of parking design practices wherever and whenever these accidents occur. Most pedal error incidents can be prevented by simple and affordable measures such as realignment of parking spaces or proper installation of tested and effective devices.

Clients, insurance companies, the legal community and the public will look to the parking industry to take the lead in protecting people where they work, play and shop. ■



Rob Reiter is an expert in perimeter security and pedestrian safety and is a co-founder of the Storefront Safety Council. He is also co-chairman of the ASTM F12-10 committee writing the low speed vehicle barrier standard and a co-author on the TTI study. Email him at rob.reiter@storefrontsafety.org.