

Improving Passenger Safety Case Study

LA Metropolitan Transportation Authority enlists Impact Recovery Systems, Inc.[®] to design and manufacture a custom barrier system.



Millions of people all around the world utilize commuter trains everyday as a means of transportation. While this increasingly popular transportation method may seem safe for most of the population, there are those whose safety is being compromised each time the train is at the loading platform. When this situation turned deadly for one passenger, Impact Recovery Systems, Inc. – manufacturer of high impact traffic barriers and pedestrian safety equipment in San Antonio, TX – was called into action to devise a solution to keep train passengers better protected while on the train platform.

Protecting passengers when a commuter train pulls up to the loading platform there is an open and exposed area between the train cars, large enough for a grown person to fall onto the tracks below. This area can prove very dangerous for vulnerable passengers, for example small children, distracted passengers, and the visually impaired. The Federal Transit Administration's Title 49, Part 38, Americans with Disabilities Act (ADA) Accessibility Specifications for Transportation Vehicles, states: "Where vehicles operate in a high-platform, level-boarding mode, devices or systems shall be provided to prevent, deter or warn individuals from inadvertently stepping off the platform between cars." With this directive in mind, many trains now come equipped with chains guarding the opening between the trains. However, chains are not always effective in preventing a person from falling between the cars. According to a 2009 report in the L.A. Times, a visually impaired man attempting to board a commuter train in Los Angeles, CA walked off the platform into what he believed was a train door but was in fact, a gap between train cars, causing him to fall onto the tracks below. Passengers were not able to notify the train's operator in time to stop it from leaving the station. In an effort to offer protection to their passengers, LA Metropolitan Transportation Authority ordered the immediate installation of platform mounted barriers that would deter passengers from walking between the cars and falling onto the tracks below. LA Metro enlisted Impact Recovery Systems to design and manufacture a custom barrier system for this project. While the endeavor may have appeared simple, multiple design criteria had to be taken into consideration when developing the proper system for LA Metro and other transit authorities, which included fire retardancy, weatherability, chemical and mechanical resistance, ease of maintenance, high visibility for sighted and visually impaired riders, compliance with current ADA standards, and minimal platform connection points. Accommodations also needed to be made to address the possibility of errant docking events.

Extensive testing after extensive testing to confirm compliance with the high-performance standards of LA Metro, the final product, which was named the Sentinel Between-Car-Barrier[®], was produced and approved for its ability to maintain fire and chemical retardancy, sustain extended exposure to weathering elements, and have minimum connection points to the platform – ensuring limited risk to conductivity and electrical concerns within the platform. Each Sentinel Between-Car-Barrier curb section is 36" in length and contains four 26" upright posts, spaced at 9" on Centre, each containing a reactive spring device with tension settings low enough that in the event of errant docking,



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passengers, including those in wheelchairs would be able to traverse the curbing and uprights and not be trapped in the rail car. All Sentinel components were created in safety yellow coloration to ensure high visibility for all passengers. Sentinel's light weight, easy to install, snap together design also permitted custom length curbing installations. Following the approval of California's Public Utilities Commission Office of Public Safety, the LA Fire Department, as well as the Federal Access Board, LA Metro has installed the Sentinel Between Car-Barrier Systems on all the Gold, Green, Blue and Red Lines within their system. It is their intention to embark on a plan to install Sentinel on all future lines and extensions of lines in their transit system. Thanks to the quick and cohesive efforts of LA Metro and Impact Recovery Systems, the time span between initial contact to the installation of the materials was a mere 120 days.