

SafeXing™

The Advanced Warning System



By Fortel Traffic, Inc.



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I. INTRODUCTION

PURPOSE, SCOPE AND PLAN

The purpose of this document is to describe the needs, uses, and features of Fortel Traffic, Inc.'s latest product SafeXing™. This document is to be read by all people intending to sell or distribute this new product. This document will follow this plan:

- I. Crosswalk Safety
- II. Losses at the Crosswalk
- III. What is SafeXing™
- IV. Additional SafeXing™ Features
- V. Conclusion

II. CROSSWALK SAFETY

Do crosswalks need to be safer?

WHO IS AT RISK?

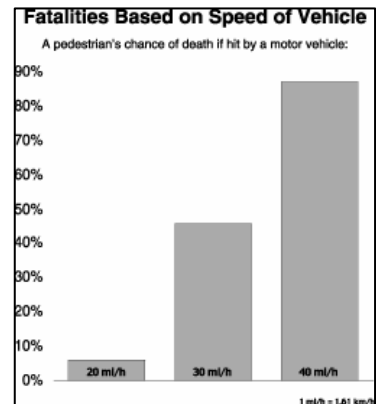
40,000 children are hospitalized by pedestrian-related car collisions every year. Four factors cause children to be among the highest at-risk pedestrians when crossing the street.

- Visibility: children are smaller and can easily go unnoticed
- Unfamiliarity: children are less aware of vehicles and they don't fully understand the danger when crossing the street and often "dart out" in front of cars.
- Frequency: especially during the school season, many children walk to and from school every day.
- Crossing time: children take longer to cross the street than adults.

WHAT IS THE DAMAGE?

If a car collides with a pedestrian, the pedestrian's survival rate depends greatly on the vehicle's speed. Scientifically, if the vehicle speed doubles (x2), the impact intensity quadruples (x4). Put in terms of mph, here is the survival rate for pedestrians at specific mph increments:

Vehicle Speed	Survival Rate
- 20mph:	95% survival
- 30mph:	55% survival
- 40mph:	10% survival



(Source: U.K. Department of Transportation, *Killing Speed and Saving Lives*, London, 1987.)

WHAT IS THE LIKELIHOOD?

Many believe that a driver is not likely to collide with a pedestrian at 40mph because they would slow down or stop before a collision. The following scenario will help illustrate the likelihood of this occurrence.

Consider a vehicle traveling at 40mph. If the driver spots a pedestrian at 100 feet, he/she is likely to hit the pedestrian at 38mph. At this speed, the pedestrian has a 17% chance of survival.

Why wouldn't the driver slow down? At 40mph, the vehicle will travel 100 feet in less than two seconds. This scenario simply takes into account the motorist's response time. Alternatively, if that same vehicle was traveling at 25mph, the driver is likely to slow down, avoid, or even stop before reaching the pedestrian.



DRIVING DISTRACTED

Other than vehicle speed, there is another factor that must be carefully considered: driving with distractions.

Autopilot

Many people, when driving to or from frequent destinations, zone out while driving. Some describe this occurrence by saying they arrive at their destination while not remembering how they got there. Drivers that consistently drive the same paths (commuters) often are driving on “autopilot.” This common occurrence is extremely dangerous for pedestrians that cross the streets within these commuters’ frequent paths. A motorist on “autopilot” generally has tunnel vision and is driving from memory. Because a driver may not see a pedestrian in a crosswalk they pass on a daily basis, driving on “autopilot” will cause them to not see a pedestrian crossing until nearly 100ft or less.

Electronic Devices

Many states and countries around the globe have banned the use of cell phones other than “hands free” devices while operating a motor vehicle. This is a great attempt to encourage safe driving practices, but it still doesn’t limit them from being distracted by:

- changing CDs or radio station
- checking or changing destinations on a GPS
- sending text messages
- browsing the web (on a web-enabled cell phone)
- eating
- searching vehicle for dropped items (including hands-free devices)

Most people have either done one or more of these while driving or at least witnessed one. Again, it’s not likely that someone will be in the crosswalk, but on the occasion that there is, these distractions make the crosswalk a deathtrap for pedestrians crossing. The likelihood of fatalities at a crosswalk is not a question of *if*, but merely a question of *when* and *how often*.



III. LOSSES AT THE CROSSWALK

Who does it affect?

40,000 CHILDREN	A hospitalized child, struggling to survive after being hit by a car may end up with a life-long limp, brain damage, or might not even make it out alive. With each occurrence, there is a family that mourns the loss. This loss could mean a broken home, lives filled with sorrow or parents longing for redemption or revenge. The siblings raised by broken-down parents may start causing trouble at school. In the long run, the siblings may develop a history of violence having dulled senses of empathy, regret, sorrow, or remorse because they buried their feelings long ago when their brother or sister was killed, mangled, or mutilated when they could do nothing about it. Each of these 40,000 families has their own story to tell that may affect generations to come.
40,000 MOTORISTS	Young Johnny had an academic scholarship and a bright future just beyond the horizon when it was literally crushed because he failed to stop before running over a child in a crosswalk who was walking home from a nearby elementary school. He was sending a text message to his girlfriend at the time while glancing at the road sporadically. He could've done great things, wanted to be a doctor, but now he's on trial for manslaughter and the parents of the child that he killed want to throw the book at him. His family is at risk of becoming just as broken as the family of the child he killed. Every year 40,000 similar stories can be told.
HOW DOES THIS AFFECT US?	Each tragedy has more than just one victim. A number can't be placed on the family of both the driver and the pedestrian, but each family has its own affect on the community around it. With 2.8 million occurrences in an average lifetime, everyone is sure to experience the effect at some point. It's everyone's hope that at least it won't happen to someone they love.
HOW CAN IT BE STOPPED?	If anyone could simply snap their fingers and end these occurrences, they would. Inherently, nobody wants to hurt or kill another innocent person. If everyone constantly contemplated the danger, pain, and suffering that could result from bad driving habits, they would drive safer or not drive at all. A solution is necessary and Fortel Traffic, Inc. presents the answer: SafeXing™ (Safe Crossing) the crosswalk safety advanced warning system.

IV. WHAT IS SAFEXING™

The ultimate crosswalk safety solution

HOW DO WE MAKE CROSSWALKS SAFE?

Two factors discussed previously contribute to danger at crosswalks: speeding and not paying attention. In order to make crosswalks safer, traffic must be slowed down and drivers must be more aware of crosswalk conditions. SafeXing™ is designed to do both.

SLOWING DOWN TRAFFIC

SafeXing™ is built upon an existing Fortel Traffic, Inc. product VCal™VMS which uses a proven method to slow down traffic. In places where VCal™VMS is installed, using advanced data analysis, nearly 100% of cases show that more than 50% of vehicles will slow down when exceeding the speed limit. This is achieved by making drivers aware of their speed when driving too fast for conditions.

SafeXing™ uses an alphanumeric LED display that can display a message like: “limit 25” to let vehicles know what the speed limit is. As a vehicle approaches the sign, if the vehicle is exceeding the speed limit, it can display the vehicle’s speed (ex: “32 mph”). Once a motorist realizes they are traveling at an unsafe speed, their instinct is to slow down.



ENCOURAGING DRIVER AWARENESS

When drivers are on “autopilot” or are distracted by some other means, they focus only on the road directly in front of them. This is called “tunnel vision.” When driving under this condition, street signs and pavement marking are ignored. The driver may notice a pedestrian crossing the street, but because they are only focused on the road in front of them, it will be too late to avoid a collision. The picture to the right illustrates how the road appears to these drivers.



In order to communicate with a driver that has tunnel vision, a sign must get their attention by being dynamic and displaying information that is useful and important to the driver at the time he/she sees it. SafeXing™ can display the speed limit, the driver's speed, or warn the driver of pedestrians in an upcoming crosswalk. This way the information is always current and important to the driver making the sign impossible to ignore.



**UNLIMITED
VERSATILITY**

SafeXing™ is a perfect solution for any crosswalk scenario because of its design and versatility. Existing methods to make crosswalks safer have flaws and challenges that limit their abilities and uses. Flashing beacons on overhead mast arms are expensive and difficult to install. In-

pavement lighting is nice but still provides no advanced warning and will not help in crosswalks around corners or over hills/inclines. SafeXing™ can be placed up to 1000 feet from a crosswalk giving the drivers plenty of warning time. The SafeXing™ sign also has the ability to be triggered in 4 different ways to add even more versatility





V. ADDITIONAL SAFEXING™ FEATURES

More reasons why SafeXing™ is the perfect solution

<p>4 WAYS TO ACTUATE</p>	<p>The sign can be triggered in four different ways:</p> <ol style="list-style-type: none"> 1. Radar: Three different speed thresholds can be programmed each causing the sign to display its own unique message. 2. PPB actuation: Actuator boxes with pedestrian push buttons placed on both ends of the crosswalk will trigger the sign to display a custom message when either button is pushed. 3. Motion Sensor: Can be placed near the actuator boxes to trigger the sign when motion is detected at the crosswalk. 4. RFID: A microchip placed inside an object: backpack, horse saddle, golf cart, etc. causes the sign to display a unique message when in proximity to the actuator box.
<p>EASY INSTALLATION</p>	<p>A complete system has two actuator boxes and two signs (for drivers and pedestrians crossing in both directions). Each piece is lightweight and Unistrut mountable. Each piece is powered by its own solar panel so the entire installation is equivalent to installing four stop signs. No power hookups, cement pouring, or expensive installation poles are necessary.</p>
<p>DATA ACQUISITION</p>	<p>Vehicle speed counts are stored onto an SD card and can be used with the included software to generate graphs and other statistical data about the vehicle traffic passing the sign.</p>
<p>WIRELESSLY PROGRAMMABLE</p>	<p>Using an optional wireless IP modem the sign can be programmed online using Fortel Traffic, Inc.'s online software. The modem also allows the online software to download the vehicle count and statistical data daily so you can retrieve your sign's data quickly via an internet connection.</p>
<p>ULTRA VISIBLE</p>	<p>The sign uses high intensity directional LEDs individually aligned to point directly at the motorists maximizing visibility where it is needed. This makes the sign non-invasive and non-distracting for residents and businesses in the area.</p>



VI. CONCLUSION

SafeXing™ is the ultimate solution

A SOLUTION IS NEEDED

Improvements in crosswalk safety are absolutely necessary. Everyone in a community where a SafeXing™ sign is installed will benefit from its life saving ability.

VERSATILITY IS KEY

Many unsafe crosswalk situations have unique scenarios. One product with the ability to adapt to each one is essential.

AFFORDABILITY

Compared to other methods used to make crosswalks safer, SafeXing™ is the most affordable of its kind.

THE ANSWER

Considering the need for pedestrian safety and evaluating all other optional products, SafeXing™ is the best, and in many cases the *only* viable solution that will **save lives** by making crosswalks safe.