

# PROVEN SOLUTIONS FOR INCREASING SCHOOL YEAR ROAD SAFETY



**ALL TRAFFIC**  
SOLUTIONS



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## CONTENTS

Introduction	3
The Increase in School Year Traffic Hazards	4
Strategies for Success	5
Mini Speed Studies	7
Baseline Traffic Studies	7
Gather Data to Secure a Grant	7
The Proven Winner: Radar Speed Signs	7
Augment Officers in School Zones	8
Strengthen Community Relations	8
Recommended Products and Solutions	9
InstAlert Variable Message Signs	10
StatTrak and SpeedLane Pro Counter Classifiers	11
TraffiCloud	11
TrafficBridge	12
Conclusion	14





## Introduction

At the beginning of every school year, law enforcement and public works agencies are flooded with complaints—from parents, school administrators, and even from motorists—regarding speeding and inattentive drivers in and around school zones.

The uptick in complaints makes sense; there's lots more traffic going to and from schools each day. With so much to do in the mornings, everybody seems to be running late and trying to rush to work, drop the kids off at school, or get to school themselves, and the result is that drivers often zip in and out of school zones, oblivious to the speed limit change.

It's not just the speeding that is worrisome. Drivers become accustomed to bus-free roadways on their way to work in the summer months, so when the busses get back on the road in the fall, making frequent stops, it slows traffic and causes considerable frustration to drivers who are in a rush. Those same drivers may also be distracted by their phones or by their kids fighting in the back seat. Throw in some roadwork, pouring rain, kids riding to school on their bikes, and it's a potentially dangerous scenario.

In this white paper, we will discuss the school year road safety challenges for law enforcement and public works departments including speed limits, crossing areas, traffic, and protecting pedestrians. We will explain how you can use data to evaluate whether a problem is real or perceived as well as how to attack the legitimate concerns to make school zones safer for pedestrians and motorists. Finally, we will highlight some strategies and innovative web-enabled traffic devices that can assist you in your mission.



## The Increase in School Year Traffic Hazards

It's no surprise that distracted driving has become more prevalent in the last few years. There are many more distractions to tempt us while we're operating a vehicle, and the situation is chronic. We're not just changing the radio station or conversing with passengers; today's drivers are talking on the phone, texting, even looking at video while the vehicle is in motion. And it's not just drivers who are distracted—look out the window in any community where there's foot traffic, and you'll see adults and children constantly looking down at their cell phones and not paying attention to where they're going. Even when they're stepping off the sidewalk or crossing the street, pedestrians are often more involved with their phone calls, their text messages and their email than they are with their surroundings—including moving vehicles and other potential dangers.

### Here are some interesting statistics from the Safe Routes to School National Partnership:

- In 1969, 50 percent of all school children and teens walked or biked to school
- In 2015, only 13 percent of all school children were walking or riding bikes to school
- As of 2015, the most popular way children got to school was by automobile—75 percent of them rode to school in a car

Outside most schools in America you can see cars lined up, bumper to bumper, waiting to drop their kids off in the morning and lined up again in the afternoon waiting to pick them up. Even though school bus routes and school buses run daily, fewer children are riding them. Studies show 30% of morning traffic is generated by parents driving their kids to school; that's a pretty substantial number.

This additional traffic puts considerable demands on law enforcement and public works agencies. Residents and school administrators want to see officers present in school zones, enforcing the speed limit. They want more stop signs and traffic lights installed. If there's a perceived speeding problem in the area, they request to have the speed limit reduced—which may not be necessary or even feasible. How can your agency respond effectively to all of these complains and demands?

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## Strategies for Success

The easiest way is to employ [radar speed signs](#), [radar message displays](#) and [variable message signs](#) to slow drivers down and make them aware of the school zone and the lower speed limit as they approach. In most jurisdictions there are already school zone signs posted, but they're visible year-round. When a sign is up for a long time, people stop noticing it. Employing a temporary portable sign or other device that will flash a light, sound an audible alert and look different than your permanent school zone sign draws their attention. If you can move that device around to different areas, it gives you flexibility as well as more bang for your buck.

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A Shield radar speed sign installed below the speed limit sign reminds drivers to slow down.

### RADAR SPEED SIGNS

The fact is that most drivers don't intentionally speed. Many people are just lost in thought or distracted and don't even realize they've entered a school zone until they see your radar speed sign with white lights flashing to indicate they're exceeding the speed limit. That's when they realize, *This is a school zone*, instantly comply, and then change their future habits in this area as well.

Most communities don't have the luxury of deploying officers in each school zone, one at each end, to slow traffic during school zone hours. Using radar speed signs you can equip with strobe lights, like the Shield from All Traffic Solutions, to slow traffic down acts as a force multiplier for law enforcement because it reduces the staff required to patrol in school zones and high-speeding areas. The SmartZone for Schools radar speed display is equipped with Audible Alerts that sound an alarm when a driver approaches the school zone traveling over a predetermined speed, giving students warning to get to safety. (see p.9)

Statistics show that a radar speed display is the most effective traffic calming method, above speed tables, speed humps and roundabouts, and is proven to be the most effective in maintaining lower average speeds long after the sign is moved to another location. In contrast, speed tables and speed humps can encourage speeding between units because some residents actually speed up in between each one to get to the next.

A Texas Transportation Institute study reported that in one area the speed was nearly ten miles an hour over the posted speed limit prior to installation of a radar speed display. After the sign was installed, the average speed decreased by nine miles per hour, and it remained nine miles per hour lower four months after it was installed. Studies also show that after a radar speed sign is moved to a different location local traffic is still calmer months later because the sign had a positive effect on behavior, which is the main reason for traffic enforcement in the first place.

### COUNT AND CLASSIFICATION DEVICES

When using an existing Department of Transportation (DOT) traffic study, it's not always clear when the study took place. Was it conducted during peak rush hours, on a weekend evening or during the annual fall festival? With a counter classifier, you can perform a traffic study when it's needed, for example during peak vacation months or on Saturday afternoons during college football season when the traffic volume and speeds are higher.

Counter classifiers serve several purposes. First, they count vehicles so you can measure traffic volume without sending someone to the site to perform manual counts.

Second, they record classification information so you know the percentage of trucks, cars and motorcycles on the road. Third, they capture speed data so you have a clear understanding of how fast those vehicles are traveling, on what day and at what time. All Traffic Solutions counter classifiers are portable, install safely off-road so they're non-intrusive, and web-enabled for automatic data transfer to the TrafficCloud remote management service for real-time reporting. (see p.11)

### HANDHELD LIDAR

Handheld Lidar is also helpful in determining the presence and extent of a speeding issue, especially if you record and analyze the data. [DragonEye Speed Lidar](#) and DragonEye Compact Lidar can be used with an Android app that records every shot taken for use in a traffic study. Just one traffic officer deployed at a school zone with handheld Lidar can quickly determine the seriousness of a speeding problem so that appropriate action can be taken.



### MINI SPEED STUDIES

Oftentimes, when a resident makes a complaint about speeding vehicles in a school zone or elsewhere in their neighborhood, they only *perceive* that there is an issue. When you conduct a speed survey you may find that only the occasional motorist is driving 45 mph in a 25-mph speed zone or you may see a specific time when there's really an issue, such as in the morning or in the afternoon. With speed data, you can attack the problem during the hours they occur and take appropriate action on the drivers who are traveling in excess of the speed limit. You can collect speed data using a radar speed sign, a counter

classifier that also collects speed data or with handheld Lidar.

If you learn that the issue is happening frequently at all hours and days, you can then conduct a full traffic study to see if the speed limit needs to be changed.

There are specific areas where traffic congestion necessitates that the speed limit be lowered. There may be other areas where the speed limit is set too low. By collecting 85th percentile data you may discover that 85% of the vehicles on that roadway travel at a higher speed, justifying the need to raise the speed limit in that area.

### BASELINE TRAFFIC STUDIES

It's useful to run a baseline study at the start of a new traffic calming initiative so you have a benchmark to measure program success. Baseline studies can be used as proof of need when your department applies for a grant or other funding to pay for traffic equipment or additional resources. You can save expense and resources by gathering the data for your baseline study using web-enabled devices such as radar speed displays or counter classifiers that send data automatically to a central online location such as TrafficCloud, from which you can generate your traffic reports.

### GATHER DATA TO SECURE A GRANT

If you've ever applied for a grant you know you are required to provide evidence of the issue, explain how you will address that issue, list the equipment you'll need to resolve the issue, and explain how you will measure effectiveness. As mentioned earlier, whether it's slowing traffic in a school zone or increasing driver awareness





in a problematic area to reduce the number of crashes, it's always advisable to collect baseline data before program implementation so you can benchmark against your results throughout the year.

If the equipment you're applying for has Internet capability, you can make the case that using the equipment will save resources.

For example, if you want to purchase ATS traffic devices, you can make the case that you will have the ability to access and monitor all equipment remotely from any Internet connection and browser to download real-time traffic data, check battery status and location, and perform periodic equipment safety checks to make sure that no tampering has taken place. These features allow you to save cost and deploy personnel elsewhere in the field, rather than having them drive to each sign for monitoring and data collection. You can also show that your department will save considerable administrative time by eliminating data file management.

### AUGMENT OFFICERS IN SCHOOL ZONES

Portable radar speed displays are an effective way to augment officer enforcement in different school zones, at different locations and in different neighborhoods, enabling officers to be where they need to be—patrolling the neighborhood—rather than sitting in a school zone. In fact, the data doesn't show that an officer's presence is actually required in a school zone at all. The radar speed display serves as a friendly reminder to drivers, without having to get a citation, that they need to slow down. It frees up officers and maximizes your budget by eliminating the need to pay overtime for officers to come in early in the morning and again in the afternoon just to do speed enforcement in a school zone.

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### STRENGTHEN COMMUNITY RELATIONS

Radar speed displays allow your town to clear complaints without having to physically deploy staff to perform a traffic study. You can place a sign in the area and collect data for a full week. This gives you a solid amount of data to generate a report that shows average speeds, high and low speeds, the 85th and 50th percentile speeds, and speed and volume by time and day down to the hour. With this information in hand you can report back to the complainant with bar charts and graphs of accurate data from the speed display that shows either there is a problem and action will be taken, or that it is simply a perception issue.

You can post data reports on your website to share with residents, which may save you from fielding additional complaints, and it shows the community all that your agency is doing to address speeding.



## Recommended Products and Solutions

### SMARTZONE FOR SCHOOLS RADAR SPEED DISPLAY

According to Safe Kids Worldwide study,\* one in five high school students and one in eight middle school students cross the street while distracted by technology. In Chicago, between 2007 and 2011, nearly 1700 children from ages five to 18 were struck by a vehicle within one block of a school. School zones can be dangerous unless effective measures are put in place to alert students as well as drivers of potential unsafe situations.

Designed specifically for school zones, SmartZone for Schools gives child pedestrians and bike riders the precious seconds they need to get to safety. The Audible Alerts and flashing beacons (you can easily integrate beacons you already have) grab the attention of speeding drivers so they can immediately slow down before tragedy strikes. These web-enabled speed signs make it easier for school districts, municipalities and law enforcement to optimize safety and protect students in school zones.

An amber beacon flashes the preset speed limit. The radar speed sign below it displays “Your Speed” in yellow. It includes Audible Alerts to sound an audible warning to give pedestrians and crossing guards time to respond.

Remote access allows users to set schedules for that sign. Along the same stretch of road, the elementary school traffic may run from 7:30 to 8:30, the middle school from 8:30 to 8:45 and the high school from 9:00 to 10:00 in the morning. With remote access, you can schedule the same sign to start at different times. When to reduce the speed limit, when to flash the beacon, when to flash a strobe, when to use the Audible Alerts—all these features can be set individually.

Another benefit is that when school is out of session for spring break or a long holiday, you can remotely turn those signs off so motorists aren’t confused. You can always gather data from any of them and see if there’s a continuing problem and if the signs are enough to slow traffic—or if you need to take additional action.

\*[“Teens and Distraction: An In-Depth Look at Teens’ Walking Behaviors”](#)





## INSTALERT VARIABLE MESSAGE SIGNS

*Repaving Begins Aug 3  
Allow Extra Travel Time*

*Lot A Full Drive  
Ahead To Lot B*

*SAT Testing in  
Gym 5/1 9AM*

It's often necessary to communicate with drivers and pedestrians in a specific area near the school, whether it's to direct vehicles to parking at a football game or graduation, divert drivers away from an accident or simply share important information. Deploying resources to direct traffic is not cost-effective or necessarily feasible, which is why portable variable message signs can be invaluable to have on hand. InstAlert variable message displays can help you to relieve congestion, send time-sensitive school cancellation alerts and share emergency information fast.

InstAlert messages can be set up to let people know to expect congestion in advance of events or road work, to direct drivers to the admissions office or

student orientation location, to relieve congestion by giving motorists location information before they make a wrong turn, and to prevent drivers from circle for parking or having to stop and ask for directions.

It's easy to program conditional messaging to multiple InstAlert message signs and SpeedAlert radar speed displays. For example, you can simultaneously push an Amber Alert to every sign in your inventory in under a minute with just a few clicks of a button or program variable speed limits depending upon the level of traffic congestion.

Variable message signs are valuable for public works departments. In a construction zone, instead of having a worker standing behind your work crew, you can display chevrons pointing left and a brief explanation on the sign: "Road Work. Speed Limit 25" to slow drivers passing through.

The signs can connect to sensors, such as flood sensors on roads. As the flood sensor detects rising water it sends a message to the sign to display: "Turn around. Road flooded ahead."





SPEEDLANE PRO



STATTRAK

## StatTrak and SpeedLane Pro Counter Classifiers

These are covert units for collecting vehicle count and classification data. They tend to provide more accurate information because drivers don't know they're being monitored when these devices are in use.

StatTrak mounts quickly on any size pole or on the center median and collects speed data, vehicle counts and vehicle classifications. StatTrak counts up to two incoming/two outgoing lanes. It connects to TrafficCloud for

easy data download and reporting, as well as Bluetooth, so you can pull up close to the device and download data. It's a great device to quell complaints and because it is covert you get truer speed data.

If you need greater lane coverage, SpeedLane Pro will track speed, vehicle counts and detailed vehicle classification, and it can collect data in up to sixteen lanes at once.

## TraffiCloud™

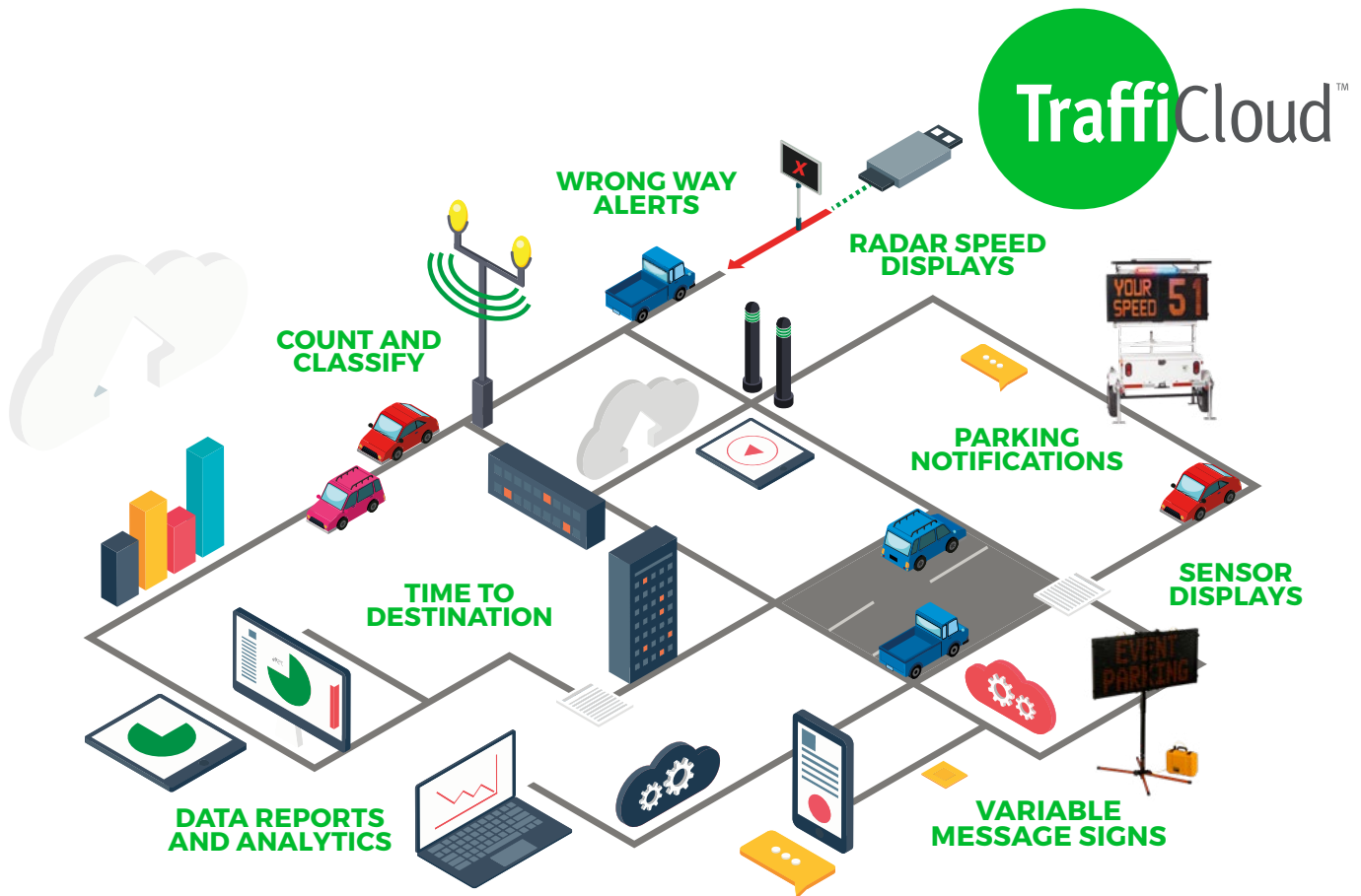
TraffiCloud is a secure, web-based ecosystem that makes it easy to access, monitor and manage all your traffic data and devices from any Internet connection.

With TrafficCloud you can access your signs and pull data, change the messages they display, change the settings and run reports without having to physically go out to the sign, which is significant if you have ten or 15 signs because it saves considerable time and money. Also, TrafficCloud allows you to compile a report and send it out via email whenever you like. If your mayor or some city council members are concerned about speeding in a certain area, you could set a sign out on Monday and on Tuesday access that sign to run a preliminary report,

which you can then email to prove that your department is responding to their concerns and working toward a solution.

Because TrafficCloud is web-based, it can send you a text message or an email when a device battery is getting low. Because all ATS signs have accelerometers inside, they detect motion. If a vandal is tampering with the sign, you will receive a text or email alert immediately. With internal awareness cameras built in, ATS equipment will begin snapping photos if someone starts tampering with your sign and text or email the evidence to you. All signs have GPS, so if a sign is relocated, you'll be able to track its position using Google Maps and recover it quickly.





## TrafficBridge

Because we understand you may have already invested significant funds with other traffic management equipment, All Traffic Solutions offers TrafficBridge. This system allows you to leverage the power of TraffiCloud across all your external data, sensors, signs and devices—regardless of manufacturer—to get a complete picture of

your traffic program. TrafficBridge allows you to make the most of all your equipment, even somewhat outdated models, by bridging it with modern cloud-based technology. TrafficBridge could be the key for enhancing safety, calming traffic and improving conditions in and around the school zones in your municipality.

## Conclusion

For law enforcement and public works departments, school zones and school year traffic present a unique set of challenges. By utilizing web-enabled traffic devices combined with data and analytics, you can increase road safety in your community and free up resources and budget for other important programs.



Ask us for a personal demo of **TraffiCloud™**, our traffic management solution that lets you control your traffic devices and data from any Internet-ready device 24/7, providing a new level of awareness while reducing the amount of time needed to manage your equipment and information.

Call 866 366 6602 or email us at [sales@alltrafficsolutions.com](mailto:sales@alltrafficsolutions.com) or visit [online](#).



**ALL TRAFFIC**  
SOLUTIONS



All Traffic Solutions delivers cloud-based traffic management solutions, including radar speed and variable message displays, imaging products and intelligent transportation systems for law enforcement, transportation and communities.

Our innovative **TraffiCloud™** traffic management platform is changing the way communities solve their most complex traffic, transportation and parking challenges by allowing them to manage all their traffic equipment remotely, as well as leverage data to increase traffic safety, streamline their operations and achieve lasting results.

