Security and control of traffic around schools

Child safety is central

INTRODUCTION

A study by the independent Belgian Traffic Safety Institute Vias (*) shows that 78% of accidents involving children and occurring during school hours occur within 300 m of the school and 5% in the school-specific 30 km/h zone. Indeed, between 2015 and 2019, it could be measured that as many as 14 children per day on their way to or returning from school were involved in a traffic accident.

So it is very important to continue working to increase the safety of children around schools.

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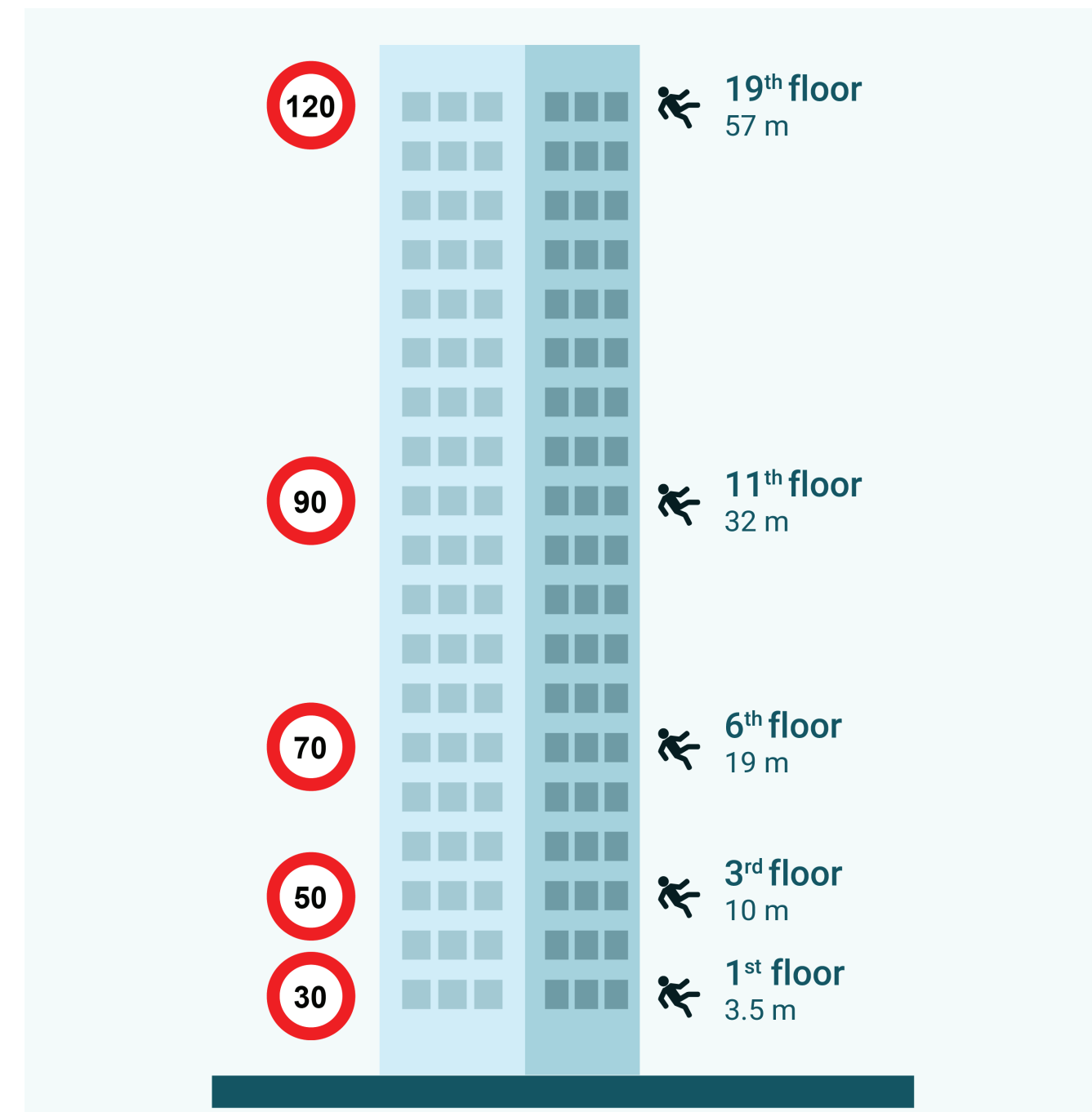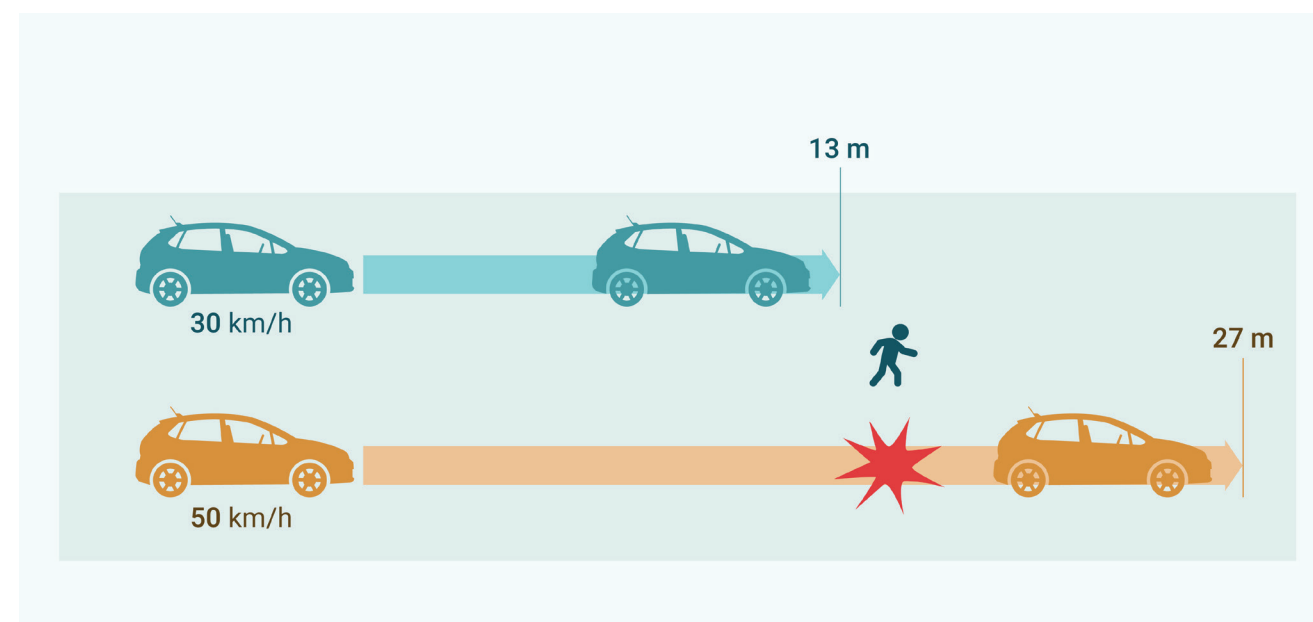
THE IMPORTANCE OF A ZONE 30

During recent years there has been a notable increase in "Zone 30" in all cities & towns. This is of course no coincidence, almost everywhere where you as a car driver share the road with many cyclists and pedestrians you are not allowed to drive faster than 30 km/h. The slower you drive, the more alert you are to what is happening to your left and right. Thus, you have a much wider field of vision, your stopping distance is a lot shorter (13m on a dry road surface, 15m on a wet road surface) and the chance of survival in an accident is simply much higher.
The image below from VSV (Vlaamse Stichting Verkeerskunde) illustrates how much smaller the stopping distance really is for someone driving 30km/h versus someone driving 50km/h.

Another comparison that can be made is that of the blow that comes at you when you take a free fall. The faster you drive, the higher that free fall becomes. For example, an impact at 50km/h against a solid object is equivalent to falling from the third third floor of a building (about 10m).

With the image below, you can clearly see that the hit of 30km/h is the most survivable.

The best way to control a 30 zone are route controls. Macq, in collaboration with PoliVisu, conducted a large-scale study of these section controls. This study showed that 2 years after the start of the section controls, up to 4 times

fewer speeding violations occur within the distance of those controls. If we want to keep the 30 zone under control, section controls are the ideal solution.

30 km/h — 13 m

50 km/h — 27 m

Speed	Floor	Height
120	19th floor	57 m
90	11th floor	32 m
70	6th floor	19 m
50	3rd floor	10 m
30	1st floor	3.5 m

## 12 AND 16 YEARS APPEAR TO BE THE GREATEST RISK AGES

In children between the ages of 11 and 12, the risk of a traffic accident increases by as much as 80%. Cause? This is the age when many children start going to school independently. They are not yet used to paying close attention in traffic, are too casual about it or simply were not prepared well enough.

Young people between the ages of 15 and 16 often begin to travel to school by other means of transportation, including mopeds. On top of this, they also adopt riskier behavior, including towards other road users. As a result, the risk of a traffic accident at this age increases by more than 60%. At the age of 16, the risk for boys is also 45% higher than for a girl.

SPEED IS THE MAIN CULPRIT

Speed is the risk factor that weighs most heavily on the severity of injuries in a traffic accident. But there are also other factors that affect accident risk. For example, using a cell phone while driving increases reaction time by 30 to 70% and thus braking distance.

Raising awareness of public road hazards for youth can also be done in the school environment through digital information screens.
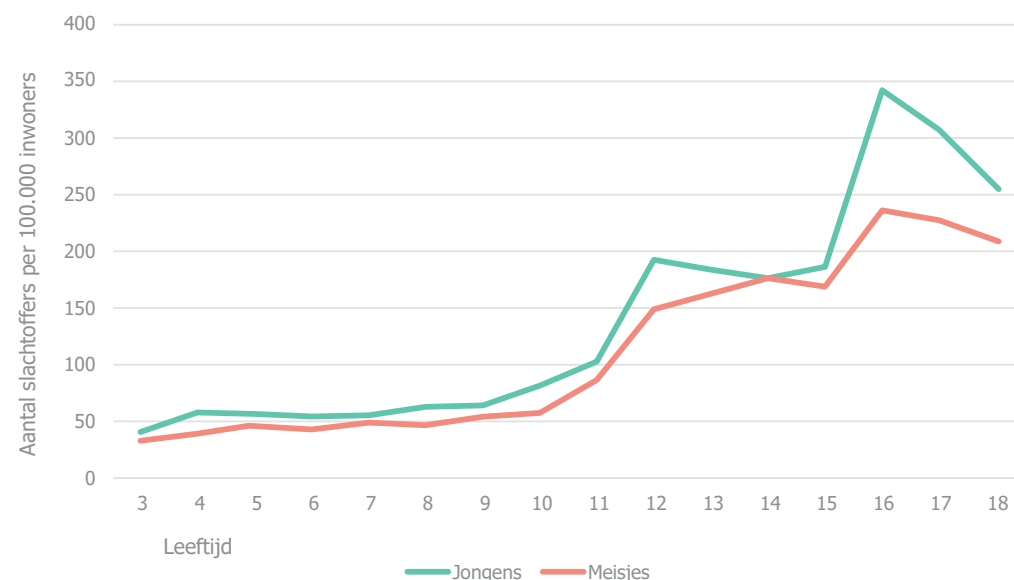
SCHOOL SAFETY SOLUTIONS

THE CONCEPT

School Safety Solutions is a platform that uses various intelligent systems to dynamically and efficiently increase the safety of a school environment. Dynamic traffic signs can activate temporary speed limits. Smart cameras at the beginning and at the end of the school environment can monitor whether vehicles are obeying the speed limit or check whether unauthorized vehicles, such as heavy traffic, are entering the zone. This intelligent "hardware" is paired with a high-performance IoT platform where a city or town can measure trends and take targeted action.

School Safety Solutions offers the solution to minimize the risk of accidents and dramatically increase safety around schools. Through a dasboard that centralizes all relevant data, visualizes and manages variable signs in real time, a city or a municipality can implement policies in a very transparent and simple way.

SOME EXAMPLES:

1 Monitoring of temporary, restricted Traffic Zones in which only certain vehicles are allowed to operate.

2 Management of variable message signs (VMS) that alert road users to the presence of children during certain periods.

3 Encourage good driving behavior thanks to smart cameras.

4 Monitoring "kiss & ride" areas and tracking road users who spend too long in these areas (short-term parking).

5 Display educational statistics and information that increase awareness of child accident risk.

6 Monitoring campaigns new mobility by being able to detect the different types of road users.
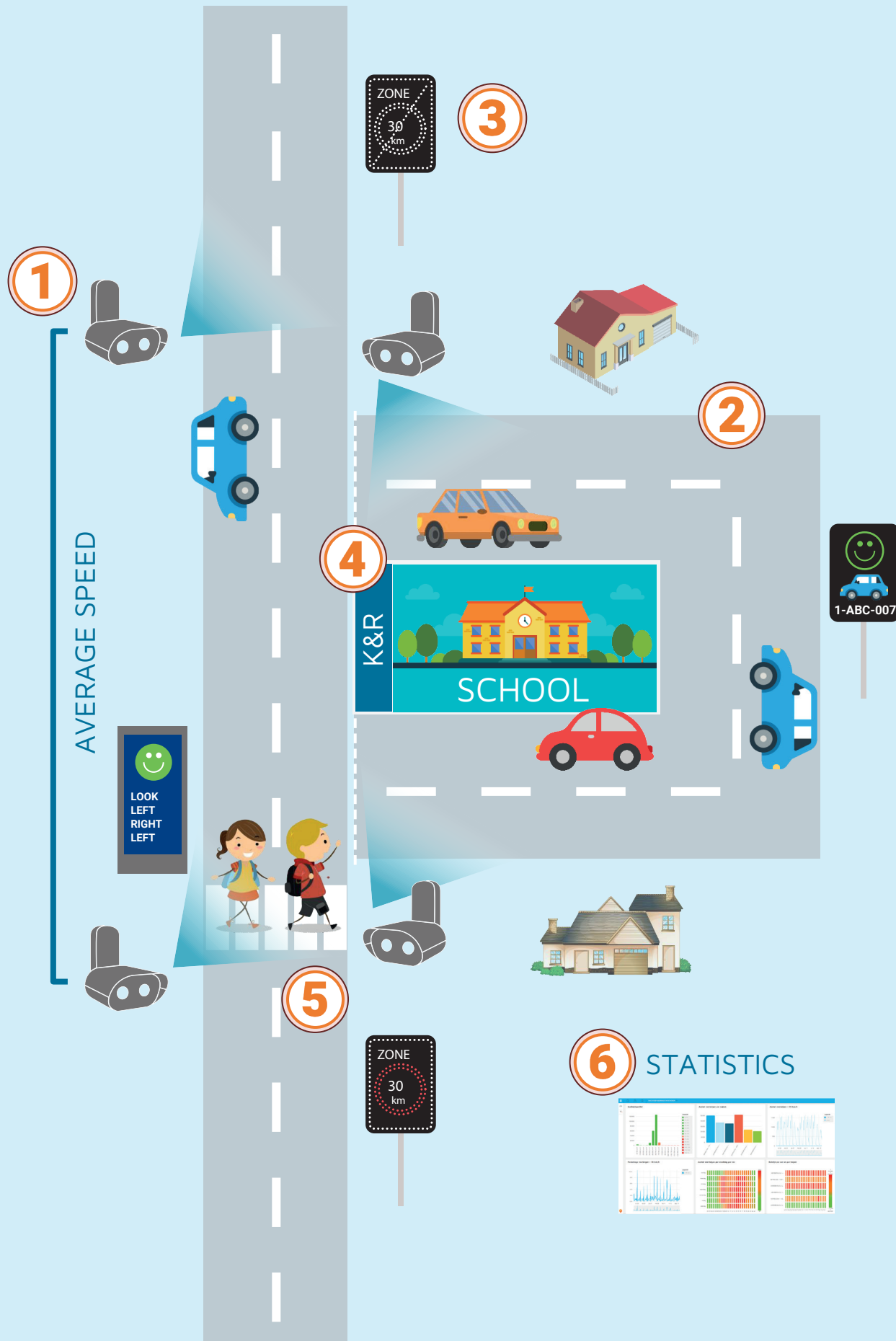
WHAT IS A SCHOOLSTREET?

In Belgium today, there is a similar initiative called "School Street." This is brand-new in the highway code and allows do to make a part of the public road safer by keeping out some of the traffic.

A School Street is designated by a C3 traffic sign and a special "school street" sub-sign. Experience shows that more parents choose to come on foot or by bike instead of by car. The environment around the school gate becomes quieter, more pleasant and consequently safer and healthier!

A very effective solution to the traffic problem in the school environment would be to introduce a restricted traffic zone activated every was day starting 30 minutes before and 30 minutes after the start and end of school. During these times, only authorized vehicles will have access to this zone, such as school buses, teachers and so on.

This shows positively for the safety and livability of the school environment. Let's not forget that through traffic such as trucks and shortcuts are a very big risk.

Therefore, it is important to keep them out of the school environment during peak periods near the school. Thanks to the combination of clear signage with the use of smart cameras, it is possible to tackle this problem easily and efficiently

SCHOOL SAFETY SOLUTIONS

CHILD SAFETY IS CENTRAL

Discover it here

CONTROL THE TYPE OF ROAD USER IN A SCHOOL STREET

1

MEASURE

Intelligent cameras recognize different types of road users (including pedestrians, cyclists, cars, tractors and trucks). This data is automatically processed in a central database, providing insight into traffic flows.

MAINTAIN

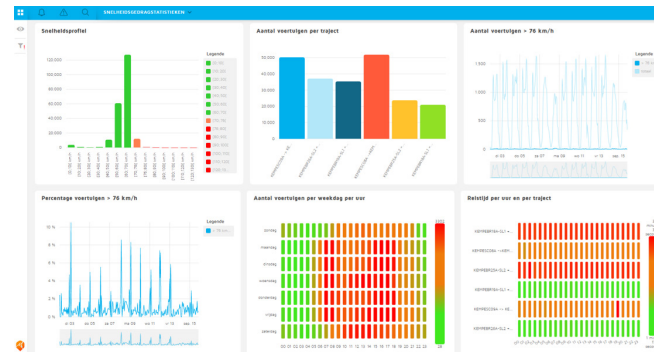Heavy traffic is recorded and may be fined.

SENSITIZE

Through the measured data, the local government and or school community can set up actions to promote and reward desired behavior. E.g. If the number of cyclists increases by 20% during x period, the children receive a reward.

Furthermore, the data can be used for policy decisions and shared on a public website.

The zone can also be provided with variable message signs to indicate the start and end of School Street.

2 CONTROL SPEED ON A SCHOOL STREET

MEASURE

Control speed by taking measurements within a school environment through sensors and smart cameras can measure the average speed of vehicles entering and leaving the zone.

SENSITIZE

The measured data can be used to interactively communicate with road users through a variable message board and through a public website.

MAINTAIN

Using the dashboard, policy decisions can be made. When sensitization does not have the desired effect, enforcement can be substantiated. The effects are visible in real time.

3 MANAGE THE KISS 1 RIDE ZONE AT THE SCHOOL

We all know how it goes; dropping your kids off at school every morning, only to drive on quickly.

Schools today are investing more and more in the construction of a Kiss & Ride Zone. Facing a school parking lot is a very positive thing, since a parking lot is certainly not the safest solution for our children. Constantly crossing with maneuvering cars coming and going? This problem is gone with the introduction of a Kiss & Ride Zone, where you can serve as many people with a whole lot less space.

However, there is a major problem that arises here. Often parents and local residents park in this zone longer than the time allowed.

A sensor in the parking lot keeps track of how long a car has been parked in the same spot and counts down to 0. Then the dynamic countdown timer starts counting up in red. This makes it immediately obvious to both the wrong-way parker and the surrounding area that a violation is taking place. At that moment, the local parking officers are also automatically notified and can proceed with a possible fine.

De Safety-safe zorgt voor minder hardrijders en meer sociale cohesie

4 COMMUNICATE IN THE SCHOOL STREET

The variable message boards are a crucial component within the Safe School System. It is a digital communication medium that allows you to inform and sensitize road users in a very dynamic way. Using these variable message signs, it is possible to display messages to road users moving within and around a school environment

Using variable message signs, it is possible to display messages intelligently to road users. For example, it is possible to display a message for good driving behavior based on measured speed.
In addition, variable message boards can also be used for campaigns organized by the school where the school can actively manage the boards .

SCHOOLSTRAAT

5 AVOIDING DANGEROUS SITUARIONS IN THE SCHOOL STREET

In areas where dangerous situations may arise, it is possible to install defined "warning systems. These systems warn the driver in real time of the presence of pedestrians so that he can adjust his driving behavior in time.

An example of a warning system is alerting heavy traffic approaching a safe school area. By means of the license plate, it can be checked whether or not the registered vehicle is allowed to enter the safe school area. If it is not allowed, a message can be displayed on variable message signs telling the vehicle to take a different route.

6 INSIGHTFUL DATA OF YOUR SCHOOL ENVIRONMENT

Thanks to the data and statistics stored by the smart cameras within the nearby school environment, the behavior of a road user in a school environment can be better understood and more targeted measures can be taken

This will give the school and the cities and municipalities more insight into the effect of certain measures taken, and can subsequently use these results to adjust policy and create awareness among students, parents and the environment. It is important to get an insight on the evolution of the speed behavior of through traffic, on the efficiency of the Kiss & Ride Zone, etcetera.

In addition, it is appropriate to display meaningful statistics to passersby, students and their parents to increase

awareness of the risk of accidents involving children.

THIS WHITEPAPER IS BROUGHT TO YOU BY TRAFIROAD, Q-LITE & MACQ

TRAFIROAD

Trafiroad originated as a family business producing road signs. Under the leadership of Glenn Janssens, operations expanded and the company evolved into the ambitious SME it is today. The growth strategy is to provide solutions in all aspects of making public spaces safer, smarter and more enjoyable.

Q-LITE

Q-lite is the largest full-service organization in digital information display and associated software in the Benelux. With more than 100 colleagues spread over four strategically located offices and factories in Western Europe, we are always close to our customers. We have been developing and producing digital information screens for cities and municipalities in Baarle-Hertog/-Nassau since 1990. Meanwhile, Q-lite has become the market leader in Belgium and the Netherlands with more than 40,000 digital information screens operational at various cities and municipalities all over Belgium and the Netherlands.

MACQ

The more than 130-strong team at Macq designs and develops products to increase people's protection, safety & security on the one hand, and improve their quality of life, health and environment on the other. Founded in 1923 in Brussels, the heart of Europe, Macq's ambition is to ensure their leading position in the Belgian ITS & Smart Mobility market. In addition, Macq is determined to become a reliable, valued and preferred business partner not only in Europe, but worldwide. The global market of ANPR and AI cameras for Smart Mobility is growing rapidly. In fact, we expect the market volume to double in size within 4 years.

Macq focuses on forging international partnerships and building new, compelling & outstanding solutions for our key customers. This is why research and development represents as much as 30% of our sales revenue!