

SAFECYCLE...

... is an EU-funded project that investigates how intelligent transport systems (ITS) and ICT applications can be used to increase the safety of cyclists in Europe.

... is documenting the state of the art of e-safety applications for cyclists.

... 89 already in use or under development.

... interviewed 20 experts who came up with another 34 ideas for applications.

... selected 30 applications for SWOT analysis, to determine the most promising ones.

... is looking for cycling, ITS and road safety experts to perform a SWOT analysis. Please contact us if you are interested.

... is holding a meeting in Brussels on the afternoon of Thursday 16th February 2012. Together with the participants we will perform a SWOT analysis of the 30 selected applications.

... will carry out an impact assessment of at least 10 promising e-safety applications selected following the SWOT analysis.

... will work on recommendations for standardization/harmonization and a research agenda.

... will hold its final conference in the fall of 2012.

The first results of the state of the art will be on our website soon!

Project partners...

Mobycon, The Netherlands

IMOB, Belgium

CTL, Italy

CDV, Czech Republic

Laser...

consists of four adaptable components that are attached to a bicycle using adhesive tape. Each component comprises a plastic case, a laser light, a distance sensor, a spherical head to regulate the light, three horns, and a rechargeable battery. The batteries are recharged by the movement of the bicycle, via a dynamo mounted on the wheel.



The laser light projects an ellipse on the floor, making the bicycle appear bigger to other road users. If the sensor detects a vehicle entering the laser-generated ellipse, the laser

light changes from green to red and all the horns start to scream, alerting both the cyclist and the encroaching vehicle. As soon as the vehicle leaves the ellipse, the light turns back to green.



Laser is intended to give cyclists the same rights and obligations as car drivers, and to encourage car owners to respect the rights of cyclists.

Source: www.coroflot.com

Divera Twisk (The Netherlands)...

... is a road safety researcher at the Dutch Institute for Road Safety Research (SWOV), and coordinates the SWOV studies on cycling safety. Although the Netherlands is well known for its high level of road safety for cyclists, there is still room for improvement. In particular, the potential of ITS systems to improve cycling safety is largely unknown. She is therefore very interested in the SAFECYCLE project.



Divera explains that there are all kinds of existing ICT/ITS applications, and more ideas can be developed. "But", she says "in order to understand which of these systems may improve cycling safety, we first have to learn more about the critical factors in cycle crashes. While we have invested large sums of money in understanding motor vehicle crash characteristics and driver behaviour, we have invested next to nothing in similar research on cycling." Without this knowledge base, we run the risk of developing ITS applications for non-existent safety problems, and vice versa. This does not mean that ITS/ICT applications are currently of little value for cycling safety. However, instead of focussing solely on ITS applications as 'soluti-

ons', Divera argues that ITS/ICT applications may have valuable contributions to make in innovative studies on cycling safety.

Ideas include the registration of conflicts via a mobile app; a website where users can report 'danger spots'; the development of a test bicycle with cameras and other equipment to measure the behaviour of different cyclists and document how road users interact with cyclists and how cyclists deal with difficult situations. Traffic surveillance cameras installed high above junctions and roundabouts can contribute to research results by making it possible to observe and analyse the behaviour of cyclists. The last recommendation is that bicycles (and pedestrians) and their safety issues should be integrated in all models and simulations that are already used when planning for the construction of new roads.

Traffic Eye (Zurich, Switzerland)...

... is an e-safety application that adapts traffic-light phasing to allow cyclists to pass a tram stop and intersection safely.

Many main roads in Zurich are used by trams and cars, and there is not always room for a cycle lane. In the past it was considered too dangerous for cyclists to share a lane with trams, so they had to follow alternative routes, involving substantial detours. To enable cyclists to follow more direct and logical routes, the city has been seeking a solution which would allow cyclists and trams to share the same road space. During a six-month trial (spring–autumn 2011), the city of Zürich allowed cyclists to use the tram lane which passes in front of the Opernhaus tram stop, thus enabling them to use the shortest legal route between the city centre and the Seefeld district.

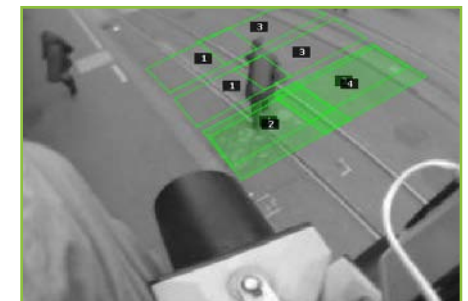
The traffic light was fitted with a “Traffic Eye”: a camera that detects approaching cyclists and gives them a green light as soon as possible, thereby minimising potential conflicts with trams or buses coming behind them. By making it safe for them to share the tram lane, cyclists were given a more direct route to and from the city. The situation also improved for pedestrians, and for public transport passengers waiting for a bus or tram, as cyclists no longer use the sidewalks. The test project was monitored for 6 months, and the results were



A cyclist approaching an intersection gets a green light to minimize the conflict with a following tram.



The traffic light is equipped with a camera that detects approaching cyclists. An object is defined as ‘cyclist’ if it moves through certain fields but not others (see picture below).



very positive. Traffic Eye has now received official approval and will be installed at more locations where cyclists and trams need to share road space.

Marco Contadini (Rome, Italy)...

... is responsible for cycling issues at the Municipality of Rome. He has been working in the field of cycling and road safety for several years. Cycling is a very risky activity in a city like Rome, for a number of reasons: design of the road network (developed primarily for cars and public transport), volume of motorized traffic (cars and motorcycles), distances to be covered. Developing an adequate network of cycle lanes is difficult and will take time. The use of ITS can hopefully help make it safer to cycle in Rome and encourage people to take up cycling as a means of transport.

Marco thinks that SAFECYCLE has the potential to provide good results and indications for the future development of cycle mobility. „The use of ITS has been investigated for many years, resulting in systems which will certainly be used more and more in the near future. But little attention has been paid to ITS for cycling. SAFECYCLE can boost research in this field.” There are several interesting applications that should be analysed, such as GPS

applications identifying the most dangerous intersections, technologies helping cyclists to cross intersections and roundabouts safely, signals on cycle paths, systems increasing cyclists’ visibility and their perception by other road users. On-board applications should be avoided, as cyclists cannot afford to buy bicycles having too many systems (partly because such systems make bicycles more attractive to thieves).

“The most promising directions for e-safety in cycling are probably applications such as routers for cyclists and motor vehicles, lights for better perception of cyclists, and airbags mounted on the front of cars,” Marco says. One of his recommendations is to pay attention to the acceptability of applications by users. “Cyclists will only accept certain ITS if the market can guarantee their availability and if they are not too costly”.