ACCEPTABILITY OF ISA: RESULTS FROM A LARGE SCALE SURVEY IN BELGIUM AND THE NETHERLANDS

Sven Vlassenroot
PhD Researcher, Institute for Sustainable Mobility (IDM)
Ghent University, Belgium and
Section Transport Policy and Logistics' Organisation (TLO)
Delft University of Technology, The Netherlands
Sven.Vlassenroot@UGent.be
Karel Brookhuis
Professor, Department of Psychology
University of Groningen, The Netherlands and
Section Transport Policy and Logistics' Organisation (TLO)
Delft University of Technology, The Netherlands
K.A.Brookhuis@RUG.nl.
Johan De Mol
Senior Researcher, Institute for Sustainable Mobility (IDM)
Ghent University, Belgium
Johan.Demol@Ugent.be
Vincent Marchau,
Assisting Professor, Section Transport Policy and Logistics' Organisation (TLO)
Delft University of Technology, The Netherlands
V.A.W.J.Marchau@TUDelft.nl
Frank Witlox
Professor, Department of Geography
Ghent University, Belgium
Frank.Witlox@UGent.be.

ABSTRACT

Several trials with different types of ISA have shown that ISA can be an efficient and effective way to reduce speed and speeding. In our research we ask the question will there be acceptability of ISA by the public? Different methods and theories were used to distil the most relevant determinants that could influence acceptability. Based on these determinants a web-survey was held: 6370 individuals responded in Belgium (Flanders region) and 1158

persons in The Netherlands. In our questionnaire the respondents indicated that their own driving behaviour is of great influence on accidents and traffic safety, instead of environmental issues like infrastructure or even other drivers. Even more, the respondents indicated that ITS could be beneficial to support their driving behaviour. It was noted that there is a high market potential for Advanced Driving Assistance Systems (ADAS).

95% of the respondents are in favour of ISA. Seven out of then drivers want to have an informative or warning system. Three out of ten drivers wanted to go even further and choose to have a supportive or even a restricting type of ISA. Drivers would only choose for more restricting systems if the penetration level is high enough.

INTRODUCTION

In its white paper "European Transport Policies for 2010: Time to Decide", the European Commission stated that the main challenges for sustainable mobility are: a reduction of congestion, an increase in traffic safety (a 50% reduction in fatalities in 2010 as compared to 2000), an increase in energy efficiency, and a reduction of the dependency on fossil fuels[1]. The use of different transport technologies (also known as Intelligent Transport Systems or ITS) can play a significant role in achieving these policy goals. However, in order to achieve the stated EC transport policy goals, the implementation of more advanced ITS applications is required, actively intervening in vehicle driving tasks. This category of ITS devices is also known as Advanced Driving Assistance Systems (ADAS) which (partially) take over vehicle driving tasks like distance keeping, lane keeping, overtaking, etc.

One of the most promising ADAS, aimed at reducing inappropriate speed, is Intelligent Speed Assistance (ISA). ISA is an intelligent in-vehicle device that warns the driver about speeding, discourages the driver to speed, and/or prevents the driver from exceeding the speed limit [2-4]. ISA-devices can be categorized into different types [4] depending on how intervening (or permissive) they are. An informative or advisory system displays the speed to remind the driver of the changes in speed levels. A warning or open system cautions the driver if the posted speed limit at a given location is exceeded; the driver then decides whether to use or ignore this information. An intervening, supportive or half-open system gives a force feedback through the gas pedal if the driver tries to exceed the speed limit (like the active accelerator pedal). It is however still possible for the driver to overrule the counter-pressure initiated by the accelerator pedal. A mandatory, automatic control or closed system will fully prevent the driver of exceeding the limit; hence, the driver cannot overrule the system.

In 2009 a large-scale survey was held in Flanders (Belgium) and the Netherlands about the acceptability of ISA. This paper describes the main findings of the survey.

RESEARCH BACKGROUND

Several trials with different types of ISA have shown that ISA can be an efficient and effective way to reduce speed and speeding [5-8]. However, within these trials and studies, it was also noted that *user acceptance* and *public acceptability* are two major issues or even preconditions for the implementation of ISA [9-11].

In our research a distinction is made between ISA adaptation, ISA acceptance and ISA acceptability. ISA adaptation refers to the change in driving behaviour caused by using ISA [2, 12]. We describe acceptance as the beliefs and attitudes of individuals, based on their behavioural reactions after the introduction of a measure or device [13-15]. Acceptability describes the prospective judgment of measures to be introduced in the future. The target group will not have experienced any of these measures, making ‘‘acceptability’’ an attitude construct [16, 17]

THEORETICAL CONCEPT

Different methods and theories (e.g.Theory of Planned Behaviour, Technology Acceptance Method, Motivational theory) are used to distil the most relevant determinants that could influence acceptability. In these theories and methods we tried to find out which items were related to each other. The indicators that are found, are considered to be the most relevant that can or will influence acceptability. We can make a distinction (see fig. 1) between general indicators (related to the context awareness of the system) and system specific indicators (directly related to the characteristics of the device).

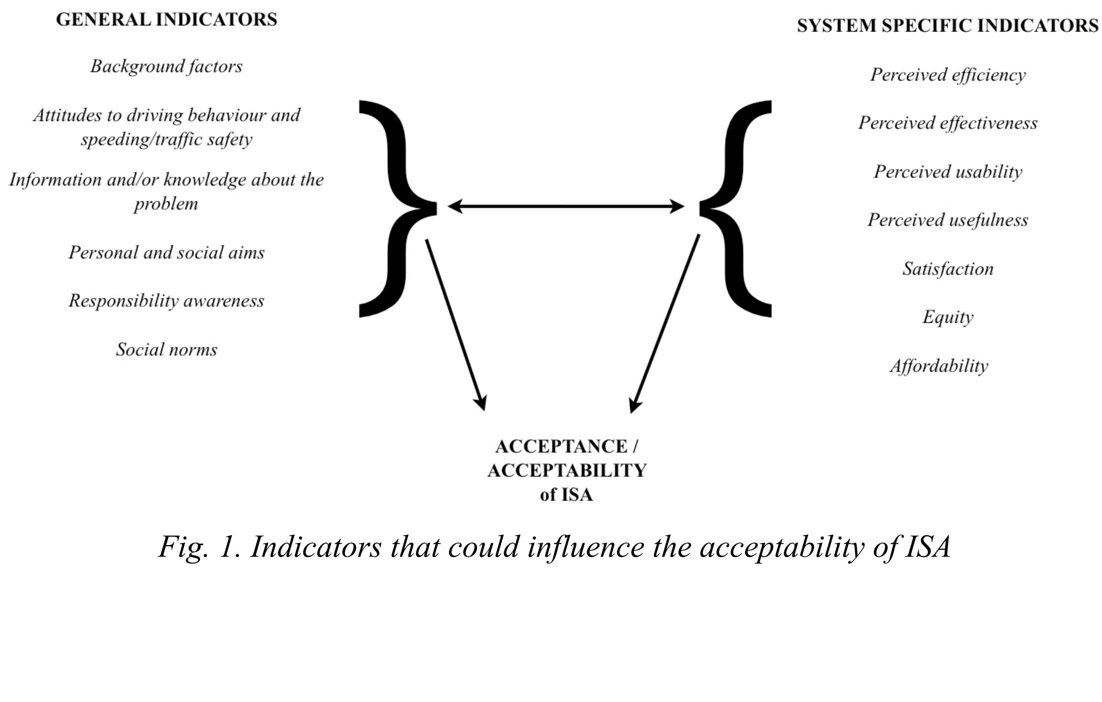

Fig. 1. Indicators that could influence the acceptability of ISA

.

SURVEY SETUP

A web-survey was made with the open source program 'Limesurvey' and spread for the first time to some colleagues. Using their comments, especially about the user-friendliness, a pilot test-survey was made and spread around by mail and the popular network-website 'Facebook'. The goal was to reach 150 respondents. Based on the answers of these respondents some modifications were made to improve the survey and some first data were processed to find out if the questions would cover the described indicators (main variables).
In a second phase only the questions that were relevant to define the indicators were withheld. Around 60 questions were found as relevant. A first survey was made, based on these questions. Some of the questions were redefined and only the best-valued questions were taken into account. A reduction to 36 main questions was made

The questions can be categorized into questions about personality characteristics (1), questions about problem recognition related to speed and speeding (2), questions about the use and integration of the actual methods to counter speeding (3) and questions about the use of the new technology (ISA) to counter speed and speeding (4). These clusters made it possible to identify similar questions and to redefine some questions. The earlier mentioned 14 indicators were also positioned in these clusters.

Finally the definitive web-survey was put online at the end of September 2009. The goal was to have minimal 1000 respondents in Belgium (Dutch speaking part) en 1000 in The Netherlands. The web-address of the survey was spread by the Flemish and Dutch car-users organisation. In Flanders an email newsletter was send to their members. In the Netherlands, the link to the survey was first announced on their website. Because of the low response rate in the Netherlands also an email newsletter was send to a certain category of their members.
In the next part some of the main results on the different indicators will be described.

RESULTS

RESPONDENTS

Individual factors

6370 individuals responded on the web-survey in Belgium (Flanders region) and 1158 persons in The Netherlands. 5599 responses of car drivers were further used in the analyses. The majority of respondents were male (79% - female, 21%). 2% of the respondents were younger than 25 years, 27% between 25 and 45 years, and 71% of the respondents were older than 45 years. In our survey we reached older drivers. This can be explained by the fact that more elder people have a membership of the car-users organisations. One out of two drivers had a higher education. This was expected because a web-survey was used where it is common that more people with a higher education would participate.

Driving behaviour

90% of the respondents drove in their own bought vehicle. 13% of the respondents had a company vehicle (some of the respondents had more than one vehicle). 30% of the respondents drove 10 000 km/year, 48% between 10 000 and 25 000 km/year and 22% more tan 25 000 km/year. 76% of the drivers were involved in an accident: 77% had only small damages, 18% had an accident with light injured people, 4% with severe injured people and 1% were involved in an accident with casualties.

51% will use the car to go to work or school. 73% will use their vehicle to do the shopping and 74% will use a car in their spare time.

Information about ISA

One out of two drivers had ever heard about systems that can give a warning or information about the posted speed limits. 60% of the respondents were aware that speed limit advice can be found in navigation systems. 14% knew what ISA was and 20% was familiar with the term speed alert systems. Only 5% of the respondents knew about the trials held in Ghent or in Tilburg

GENERAL INDICATORS

Problem perception

The respondents were asked to value which traffic offenses would have an impact on traffic accidents (table 1).

According to the respondents, ‘driving under influence’ is the number one cause of an accident (89% said it has a high influence), followed by ‘taking risks’ (65%), ‘inappropriate speed’ (57%), ‘no distance keeping’ (51%) and ‘fatigue’ (50%). Most of the drivers would explain the cause of an accident in their own behaviour instead of other (environmental) influences like bad weather (26%), bad infrastructure (24%) or other drivers (27%).

The drivers were asked how often they would drive faster in different speed areas. One out of two drivers indicated that ‘sometimes’ they would drive faster. 30% drives regularly to fast outside urban area and on highways. 22% would drive faster in 30 areas, while only 10% drive faster in urban area. The respondents had also give the best and safest speed for the different areas. Related to this question they had to indicate when a speeding offense is made which maximum speed would be tolerable ("mistake") and from which speed it could be considered as irresponsible and as a huge crime (table 2).

Table 1. The influence of traffic offences on accidents

	No Influence 1	2	3	4	High influence 5
Driving under influence of alcohol or drugs	,1	,5	2,9	7,6	88,8
Less driving experience	,3	5,5	24,8	36,6	32,7
Inappropriate speed	,5	3,5	11,0	27,9	57,2
Other less experienced drivers	,5	7,2	28,1	37,1	27,2
Bad weather conditions	,2	5,7	29,8	38,4	25,9
Mobile phone use (without using a car-kit)	,9	5,8	18,3	31,5	43,6
Bad infrastructure	,7	10,7	30,5	34,1	24,1
Taking risks	,1	,9	7,0	27,5	64,5
Fatigue	,1	,8	10,4	39,3	49,5
No distance keeping	,3	1,8	11,4	35,8	50,7

Table 2. Response on safest speed, tolerable and irresponsible speeding offenses

Speed zone (official limit)	Safest indicated speed (median in kph)	Tolerable speeding offense (median in kph)	Irresponsible speeding offense (median in kph)
Residential area (20 kph)	30	30	50
30 area (30 kph)	30	40	60
Urban area (50 kph)	50	60	80
Outside urban area (80 or 90 kph)	90	100	120
Highway (120 kph)	130	130	160

Except for residential areas and highways, the drivers indicated the legal posted limit as the best and safest speed. Most of the drivers stated that driving 10 kph more than the posted limit is tolerable. Driving more than 30 kph in residential, 30 and urban area and more than 40 kph outside urban area and highways were noted as irresponsible offenses. This margin is rather high. We can conclude that our drivers indicated that they would not speed very often, although they are relatively tolerable about the driven speed to be concerned as an irresponsible speeding offense.

Personal and social aims

The respondents were given some descriptions of situations wherein they could choose to maintain the speed, drive slower or harder. One out of two drivers will slow down if they think that they could endanger other road users, in the other situations they would maintain the speed or drive faster. 60% of the respondents will drive faster in the situation of being in a hurry for an appointment and in the situation if there is nobody else on the road. One out of two drivers would speed during the night. 44% will drive to fast if the roads are familiar and they know the way. 41% would speed if they are certain that there is no or little speed control, 58% would maintain the speed in this situation.

Responsibility awareness

The respondents indicated that the highest responsible for speeding are themselves (81%), followed by the police (77%), other road users (73%), the politicians (63%) and the road authorities (54%). It is again noted that the drivers would recognise their own behaviour as the most influencing factor on speeding.

Efficiency of speed measures

According to the respondents, they believed that the best measures against speeding are police controls (81%) and speed cameras (78%), followed by the use of technology in the vehicle (69%). Speed bumps (48% noted as effective) and road safety campaigns (15% noted as effective) were not believed to be very effective.

The drivers recognized that technology could help to reduce speed offenses or even help to maintain the speed. In the following section of the results we will focus more on ITS and ISA.

DEVICE SPECIFIC INDICATORS

Efficiency of technology

In table 3 the results are given of the evaluation on efficiency for the drivers on different ITS systems. Instead of the name of a certain ITS system the description on what the device could do was given to the respondents. It is noted that the drivers are certainly interested in different kinds of ITS systems. The alcohol-lock is found the most efficient (45%), followed by the alcohol-warning systems (38%) and the collision warning systems (37%). If the scores on 4 and 5 are combined, at least 40% prefer a certain system: 62% is in favour of a collision warning system: 59% for the alcohol-lock. Even the black box is found efficient for 43% of the drivers.

Table 3. Valuation on efficiency of different ITS by respondents

	Not efficient 1	2	3	4	Very efficient 5
Following Distance Warning (FDW)	18,7	11,7	19,8	24,3	25,5
Active Cruise Control (ACC)	22,4	14,1	18,2	20,6	24,7
Collision Warning systems	10,3	9,3	18,3	25,0	37,1
Seat belt reminder: Car would not start if the driver does not wear the seat belt	24,8	10,3	15,5	17,5	31,9
Seat belt reminder: Car would not start if everybody in the car is not wearing seat belt	25,1	11,7	16,5	18,1	28,6
Alcohol-warning: Gives only a warning-signal when intoxicated	20,5	8,6	14,8	18,1	38,0
Alcohol-lock	21,7	8,2	11,3	13,9	45,0
Black box: Monitoring of different driving aspects	27,1	11,6	18,0	19,9	23,4

The respondents were also asked which ISA-system they preferred. Only the description of the system was given: e.g a system that would give information about the speed limit. 30% was in favour of an informative system. 38% preferred a warning system, 12% a supportive system (active accelerator pedal) and 15% a closed. Only 5% indicated that they did not want ISA. 27% of the drivers indicated that they would choose to have a more interfering type of ISA than just to have a warning or information. The drivers who chose to have a certain ISA were asked to evaluate their choice on usefulness and satisfaction (Van der laan-scale).

Perceived usefulness and satisfaction

In figure 2, the respondents' opinion on usefulness and satisfaction has been scaled. The respondents could only evaluate the system from which they choose in a previous asked question. E.g. who chose to have a closed ISA could only scale the 9 items on satisfaction and usefulness about a closed system.

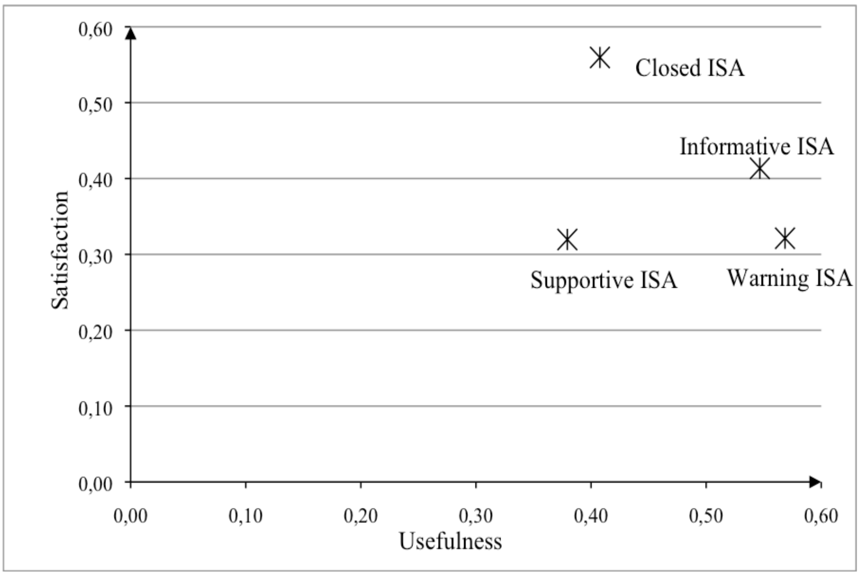

Figure 2: Drivers' opinion of ISA scaled on usefulness and satisfaction

All four systems were positive evaluated. Drivers who chose to have closed ISA find it more satisfying. Respondents on warning ISA find it more useful. The supportive system has been evaluated less satisfying and useful related to the other systems. It is assumed that it would be more difficult to evaluate a supportive system because it is far more difficult to imagine how it would work, or how it would feel. For the other three systems it is easier to imagine how they would work. Also the less intervening the systems are, the more useful they were evaluated. Morsink et al. [4] described this as the 'acceptance versus effectiveness' paradox: the more effective ISA is on road safety (e.g. restricting ISA), the less accepted it would be by the users.

Effectiveness

The drivers were asked to indicate which system would be the most effective in different speed zones and for different reasons.

Warning ISA has been considered as the most effective in all speed zones (38% in residential and 30 kph area, 41% in urban area, 40% outside urban area, and 36% on highways). The higher the speed zone, the more a less restrictive system was chosen. In low speed zones, the restricting ISA had some better support (20% in residential and 30 kph zones). The respondents indicated that an informative system would be the most sufficient to reduce fuel consumption (40%) and C02 emissions (43%). A warning system would increase safety the best (32%) and would help the most to reduce getting speeding tickets (37%).

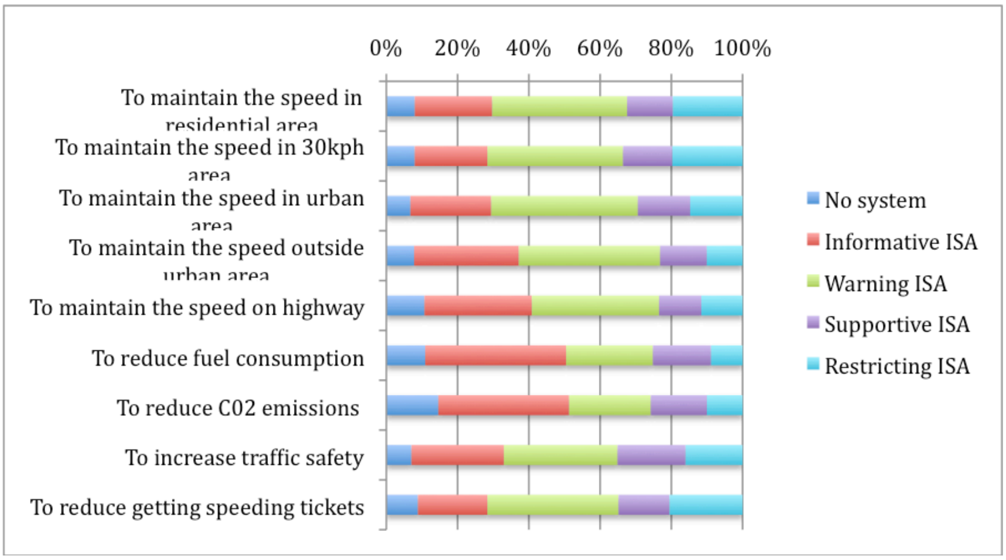

Figure 3: Valuation on effectiveness of different types of ISA in different speed area

The drivers preferred a warning ISA the most –which was also noted in a previous question -, although studies indicated that the more restrictive a system is, the better it would be for traffic safety and the environment. It assumed that the respondents would choose these systems that still give a certain feeling of freedom, but also would be beneficial for their own driving behaviour.

Equity

Equity was measured by asking the questions when they would install a certain ISA system and for whom a certain system would be the best.

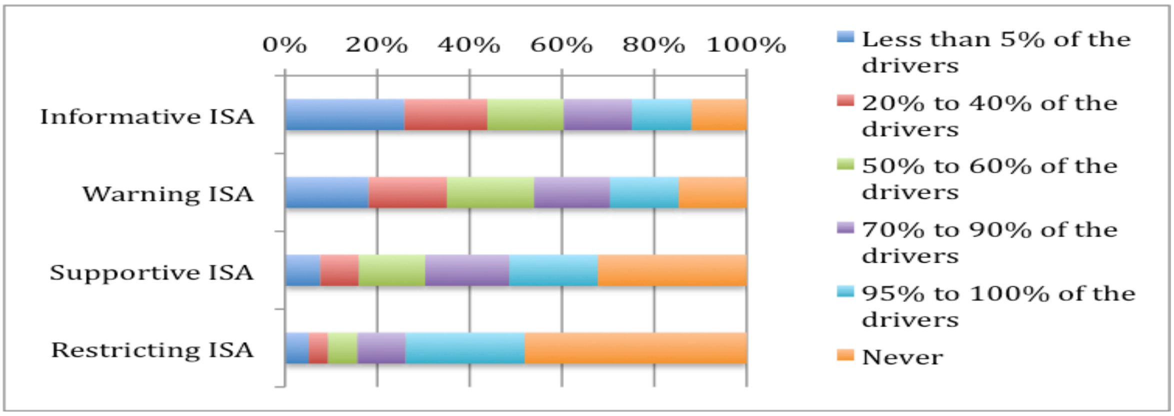

Figure 4. Level of penetration that would influence the drivers' choice on a certain ISA system

The drivers were asked to indicate how many people (in percentage) should have a certain device before they would decide to install a certain type of ISA. One out of four drivers would install informative ISA if only 5% of the population would have this kind of system. 48% of the drivers indicated that they would rather not choose to have restrictive ISA. It is noted that the more intervening a system is, the higher the penetration level has to be before a driver would choose to have it.

Eight out of ten drivers indicated that frequent speeders or problem drivers should be using restrictive ISA (see figure 5). At least one out of two respondents stated that professional drivers should use intervening systems like supportive and restrictive ISA. This also gives a certain indication about the safety and 'speeding' image of these professional drivers. Also young drivers should be equipped with more intervening systems: (52% are in favour of restrictive ISA). It is also noted that 97% stated that ISA is beneficial for all drivers (24% informative ISA, 42% warning ISA, 18% supportive ISA and 12% restrictive ISA).

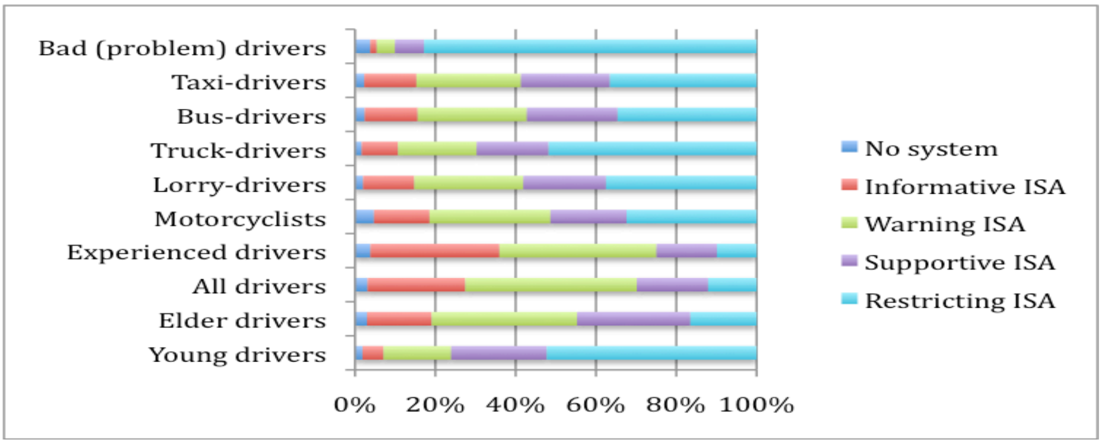

Figure 5. Indications given by the respondents for whom a certain type of ISA would be the most beneficial.

Affordability

The four different ISA were given to the respondents. The respondents could indicate under which financial condition they would buy a certain system.

For almost every type of ISA a certain specific strategy could be used. Although a free placement is the most preferred for every system, the most respondents are willing to pay for informative (30%) or warning ISA (24%) if the price is fair. Supportive ISA still got some high resistance (36%) but a smaller insurance fee (15%) and subsidies (14%) could convince people to install it. The best strategy for a restrictive type of ISA would be free placement (19%), but still one out of two drivers would not want to have it.

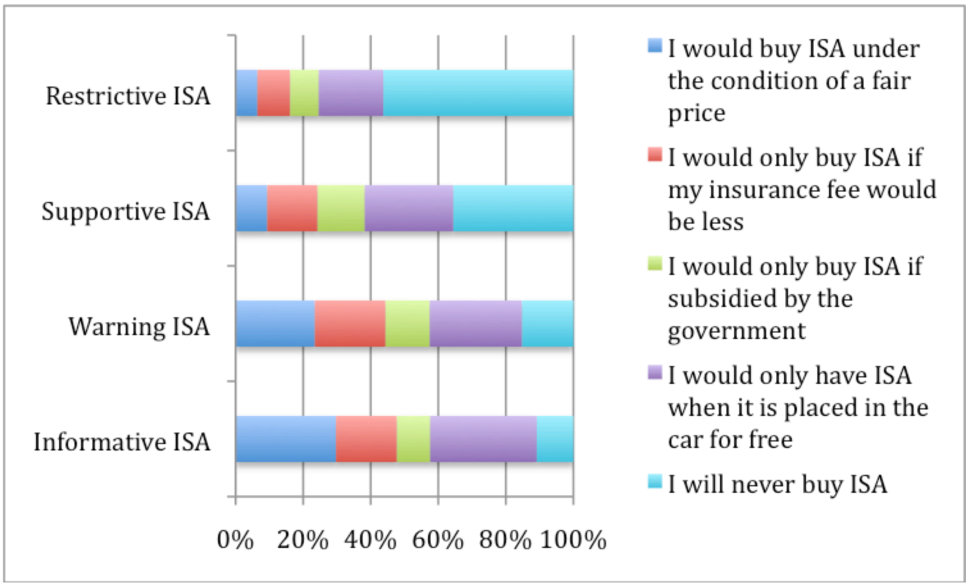

Figure 6. Level of incentives needed to buy a certain type of ISA

CONCLUSION AND DISCUSSION

Driving under influence, taking risks and inappropriate speed are considered as the top three causes of an accident. In our questionnaire the respondents indicated that their own driving behaviour is of great influence on accidents and traffic safety, instead of environmental issues like infrastructure or even other drivers. Related to this it was noted that our respondents were in favour of certain ITS devices like the alcohol-lock, collision warning systems and active cruise control; even four out of ten drivers were in favour of a black box. This indicates that there can be a high market potential for Advanced Driving Assistance Systems (ADAS).

95% of the respondents are in favour of ISA. Seven out of then drivers want to have an informative or warning system. Three out of ten drivers wanted to go even further and choose to have a supportive or even a restricting type of ISA. Warning ISA was evaluated the most useful while restricting ISA was found the most satisfying. The respondents indicated that warning ISA would be the most effective. It is noted that the more restrictive a system is, the better it is for road safety. It is assumed that the respondents decided to have a system that would be helpful enough to maintain the speed but that would not restrict their 'freedom or driving experience.'

Drivers would only choose for more restricting systems if the penetration level is high enough, although with a penetration rate of 95%, only one out of two would like to have restrictive ISA. Therefore it is needed to stimulate drivers to get ISA. Supportive ISA would only be successful if it was placed for free in the car. It was also noted that the respondents indicated that professional drivers should use ISA. Restrictive ISA is even indicated to be the best. This could mean that professional drivers like truck and lorry drivers have a rather bad image if it comes to excessive speed.

This research showed that ISA is acceptable for most of the drivers. Warning ISA is the most favourite, but still strategies should be developed to promote the use of more intervening types of ISA that have a higher influence on road safety. Future steps in this research are to create a model, which define how the different indications are related to each other. The understanding of the defined indications may support decision makers in developing an appropriate implementation strategy. Through the construction of this future model, we want to provide decision makers with a method and procedure that is easy to use and understand.

REFERENCES

1. European Commission, White paper "European Transport Policies for 2010: Time to Decide", in COM(2001) 370 final. 2001: (ISBN: 92-894-0341-1) Italy
2. Brookhuis, K. and D. de Waard, *Limiting speed, towards an intelligent speed adapter (ISA).* Transportation Research Part F: Traffic Psychology and Behaviour, 1999. **2**(2): p. 81-90.
3. Regan, M.A., et al., *On-Road Evaluation of Intelligent Speed Adaptation, Following Distance Warning and Seatbelt Reminder Systems: Final Results of the TAC SafeCar Project* 2006, Monash University Accident Research Centre Victoria. p. 270.
4. Morsink, P., et al., *Speed support through the intelligent vehicle*. 2006, SWOV.
5. Adell, E., A.s. V·rhelyi, and M. Hj‰lmdahl, *Auditory and haptic systems for in-car speed management - A comparative real life study.* Transportation Research Part F: Traffic Psychology and Behaviour, 2008. **11**(6): p. 445-458.
6. Harms, L., et al., *Effects Of ISA On The Driving Speed Of Young Volunteers: A Controlled Study Of The Impact Information And Incentives On Speed*, in *6th European Congress on Intelligent Transport Systems and Services.* 2007: Aalborg, Denmark.
7. Morsink, P., et al., *Speed support through the intelligent vehicle : perspective, estimated effects and implementation aspects.[Deliverable of the Intelligent Vehicles project, part of the Traffic Management project within TRANSUMO (TRANsition to SUstainable MObility).]*. 2006, SWOV Institute for Road Safety Research: Leidschendam. p. 119.
8. Carsten, O.M.J. and F.N. Tate, *Intelligent speed adaptation: accident savings and cost-benefit analysis.* Accident Analysis & Prevention, 2005. **37**(3): p. 407-416.
9. Garvill, J., A. Marell, and K. Westin, *Factors influencing drivers' decision to install an electronic speed checker in the car.* Transportation Research Part F: Traffic Psychology and Behaviour, 2003. **6**(1): p. 37-43.
10. Molin, E.J.E. and K.A. Brookhuis, *Modelling acceptability of the intelligent speed adapter.* Transportation Research Part F: Traffic Psychology and Behaviour, 2007. **10**(2): p. 99-108.

11. Van Der Laan, J.D., A. Heino, and D. De Waard, *A simple procedure for the assessment of acceptance of advanced transport telematics.* Transportation Research Part C: Emerging Technologies, 1997. **5**(1): p. 1-10.
12. Dragutinovic, N., et al., *Behavioural effects of Advanced Cruise Control Use – a meta-analytic approach.* European Journal of Transport and Infrastructure Research, 2005. **5**(4).
13. Ausserer, K. and R. Risser, *Intelligent transport systems and services - chances and risks.*, in *ICTCT-workshop*. 2005: Helsinki.
14. Goldenbeld, C., *Publiek draagvlak voor verkeersveiligheid en veiligheidsmaatregelen. Overzicht van bevindingen en mogelijkheden voor onderzoek*. 2002, Stichting Wetenschappelijk Onderzoek Verkeersveiligheid SWOV: Leidschendam.
15. Schade, J. and M. Baum, *Reactance or acceptance? Reactions towards the introduction of road pricing.* Transportation Research Part A: Policy and Practice, 2007. **41**(1): p. 41-48.
16. Schade, J. and B. Schlag, *Acceptability of urban transport pricing strategies.* Transportation Research Part F: Traffic Psychology and Behaviour, 2003. **6**(1): p. 45-61.
17. Vlassenroot, S., et al. *ISA acceptance and acceptability: Definitions and underlying factors*. in *4th International Conference on Traffic & Transport Psychology. Opportunities and New Challenges for Traffic and Transport Psychology. Abstract Book.* 2008.
18. De Mol, J., et al., *Naar een draagvlak voor een voertuigtechnische snelheidsbeheersing binnen een intrinsiek veilige verkeersomgeving* 2001, Centre for sustainable development/Ghent University—BIVV: Ghent, Belgium.
19. Parker, D. and S. Stradling, *Influencing driver attitudes and behaviour*, in *Road safety research reports*, D.f. Transport, Editor. 2001, Department for Transport: London. p. 23.
20. Stradling, S., et al., *THE SPEEDING DRIVER: WHO, HOW AND WHY?*, in *Transport Research Series*. 2003, Scottish Executive Social Research: Edinburgh. p. 222.
21. Ajzen, I., *Attitudes, personality and behaviour*. 2 ed. 2002, Buckingham: Open University Press.
22. Steg, L., et al., *Private car mobility. Problem awareness, willingness to change, and policy evaluation: A national interview study among Dutch car users*, in *Studies in Environmental Science*. 1995, Elsevier Science B.V. p. 1173-1176.
23. Eriksson, L., J. Garvill, and A.M. Nordlund, *Acceptability of travel demand management measures: The importance of problem awareness, personal norm, freedom, and fairness.* Journal of Environmental Psychology, 2006. **26**(1): p. 15-26.
24. Young, K.L., et al., *Acceptability of In-vehicle Intelligent transport systems to Young Novice Drivers in NEw South Wales*. 2003, Monash University Accident Research Centre (Muarc): Victoria. p. 192.
25. Landwehr, 2005.
26. Vlassenroot, S., et al., *Driving with intelligent speed adaptation: Final results of the Belgian ISA-trial.* Transportation Research Part A-Policy And Practice, 2007. **41**(3): p. 267-279.
27. Biding, T. and G. Lind, *Intelligent Speed Adaptation (ISA), Results of Large-scale Trials in Borlange, Lidkoping, Lund and Umea during the periode 1999-2002.* 2002, Vägverket: Borlange.

28. Hjalmdahl, M. and A. Varhelyi, *Speed regulation by in-car active accelerator pedal: Effects on driver behaviour.* Transportation Research Part F: Traffic Psychology and Behaviour, 2004. **7**(2): p. 77-94.
29. Lahrmann, H., et al., *Spar Paa Farten. An Intelligent Speed Adaptation Project In Denmark Based On Pay As You Drive Principles* in *6th European Congress on Intelligent Transport Systems and Services.* 2007: Aalborg, Denmark.
30. Schuitema, G. and L. Steg, *The role of revenue use in the acceptability of transport pricing policies.* Transportation Research Part F: Traffic Psychology and Behaviour, 2008. **11**(3): p. 221-231.