

Summary:

Zero traffic fatalities – from vision to reality

Vision Zero is an idea of a traffic system with no deaths or permanent injuries. It forms part of the current transport policy in Sweden, and is formulated as follows:

The long-term objective for traffic safety is that nobody shall be killed or permanently injured as a result of traffic accidents. The design of the transport system and its function shall be adapted to the requirements implicit in this.

This report discusses the possibilities for implementing a number of selected traffic safety measures which can contribute to reducing the number of fatalities and seriously injured in traffic accidents. The measures were selected as they have occupied a central place in the discussion on the possibilities of implementing Vision Zero. The report has been prepared on commission from the Swedish National Road Administration (*Vägverket*).

Conditions for implementing the measures

Vision Zero is a long-term and ideal objective for the transport system. It has, among other things, the intention of serving as an inspiration to the development of new traffic safety measures, and the stimulation of new ideas regarding the use of existing measures. It is therefore not possible to say with any degree of certainty what Vision Zero will lead to in practice. One may nevertheless point to a number of general conditions for the implementation of public policy. Based on a model for the implementation of public policy, the possibilities for implementing the various measures was evaluated with respect to the following conditions:

- ***Policy objectives***

It is simpler to implement a specific measure when it is based on clear and consistent objectives, than when the objectives are imprecise or conflicting – i.e. that the measures support one objective but counteract another.

- ***Knowledge of the effects of measures (causal theory)***

All other factors being equal, it is easier to implement measures when it is known that these are effective than when knowledge of this is unclear or disputed.

- ***Organisational responsibility***

It is easier to implement measures when a specific organisation has the responsibility for the measure than when this is not the situation.

- ***Rights to veto***

It is more difficult to implement measures when someone has the right to veto the measure than when this possibility does not exist.

- ***Attitudes of the body responsible***

It is easier to implement the measures when the responsible body supports these rather than when this authority has been obliged to commence measures which it does not wholeheartedly support.

- ***Popular support***

It is easier to implement measures that are supported in the local community and by affected parties, rather than where such measures face opposition in the community.

- ***Exogenous changes***

Every measure is based upon certain economic and social assumptions. It is easier to implement the measures when these external conditions are stable than when they are changing rapidly.

- ***Possible networks***

It is easier to implement measures which may be rooted in a network of interested parties rather than measures which represent limited interests.

- ***Potential negotiated solutions***

It is easier to implement measures that can be the subject for negotiated solutions and compromise, rather than measures which confront the parties with an “all or nothing” choice.

The selected measures are assessed with respect to how these conditions may support their implementation. It has been assumed that all measures have a documented effect on the accidents. The effects of the measures on road safety will therefore not be discussed further.

Measures which have been evaluated

The following measures have been evaluated with regard to the possibility of implementation:

- Highway planning measures in sparsely populated areas
 - Constructing motorways
 - Median barriers on wide (three lane) roads

- Speed limit measures in sparsely populated areas
 - Lowering the speed limit
 - Increased police enforcement
 - Speed cameras
- Speed limit measures in residential areas
 - Extended use of 20 m.p.h. zones
 - Speed humps
- Speed restrictions in built-up areas and towns generally
 - Environmentally adapted main roads
 - Speed cameras
 - Intelligent Speed Adaptation (ISA)
- Reminders to “buckle up” – use of safety belts
- Ignition interlock devices to prevent drinking and driving

These measures have been selected as they have occupied a central place in the discussion on what can be done to change the planning of the transport system in the direction implied by Vision Zero.

Possibilities for implementing the individual measures

Table S.1 sums up how the measures have been rated as far as the conditions for implementing them are concerned. The statements in each cell may be seen as much as hypothesis' as facts. The table can also be read in different ways. As well as starting in the upper, left-hand corner, one can start in the right-hand column and work left-wards, from possible solutions towards the other necessities.

Table S.1: Possibilities for implementing measures discussed with the basis in Vision Zero

Measure	Condition for implementation							
	Objectives (conflict or synergy)	Organisational responsibility	Veto points	Implementation attitudes	Local community support	External factors	Possible network	Negotiated solutions
Motorways	Yes/no	Good	Yes	Positive	Yes/no	Favourable	Exists	Yes
Barriers	Neutral	Good	No	Not fixed	Weak	Neutral	Weak	Yes
Speed restrictions: rural	Conflict	Good	No	Diffuse	Weak	Imposs. to say	Weak	Yes
Police control	Conflict	Good	No	Diffuse	Average	Neutral	Weak	No
ASC	Conflict	Good	No	Diffuse	Average	Neutral	Weak	Scarcely
Speed restrictions: urban	Conflict	Good	Possibly	Diffuse	Strong	Neutral	Exists	Yes
'Boulevards'	Yes/no	Good	No	Positive	Average	Favourable	Exists	Yes
ISA	Conflict	Weak	Imposs. to say	Not fixed	Weak	Imposs. to say	Exists	Possibly
Belt reminders	Neutral	Weak	Yes	Positive	Weak	Neutral	Weak	Scarcely
Alco-locks	Conflict	Weak	No	Positive	Weak	Neutral	Weak	Scarcely

The conclusions regarding how the various conditions for implementation are satisfied for each individual measure are stated strictly in verbal terms. There is no basis for a quantitative analysis of these.

One problem encountered by the majority of measures is that they conflict with other policy objections, i.e. other than improving road safety. This applies in particular to measures designed to reduce speed. These measures may conflict with the aim of fast traffic flow, and perhaps also conflict with environmental policy objectives. Certain measures may conflict with objectives which related to personal freedom and invasion of privacy. Pure safety measures, that is those which do not have any effects that are relevant for other policy objectives, are entered as "neutral" in table S.1.

For the majority of measures an organisation that has a formal responsibility for implementing the measures exist. Only for those measures which are at a preparatory stage is the organisational association somewhat diffuse.

Well-defined veto rights are only found for those measures where other authorities than those that have the primary responsibility for the measure, can raise objections to this. Certain veto rights exist for major highway projects where the municipality can exercise a veto, and for vehicle safety standards where the EU can apply a veto over particular national regulations applying to vehicles.

The attitudes of the body responsible for implementation are not particularly well known, but must be considered as positive as far as highway planning and development are concerned. The Police' attitude towards traffic control is considered somewhat nebulous. Officially they are positive! It is, however no secret that the Police regard their traffic operations on the one hand, and the rest of their duties on the other, as potentially conflicting. Neither is it self-evident that traffic control measures emerge victorious in the battle for scarce budgetary resources.

Support in the community for the various measures varies. There is quite strong support for those directed towards lower speed limits in residential areas, but many aimed at reducing speed elsewhere are less supported.

External factors have for some time been characterised by a tendency towards continued traffic growth, and in consequence a pressure on highway development and improved road standards. There is little to suggest that this long-term trend will change in the immediate future. Cyclical fluctuations apparently have little significance for the numbers of injured and killed in traffic. During economic recessions there is a tendency towards a reduction in the level of fatalities. Experience also shows that this can create a climate characterised by an optimism about continued decline, which in turn may lead to radical policy targets being set. Outside of these general tendencies, the external factors do not appear to have any particular positive or negative influence regarding the implementation of any of the measures considered.

A network ensuring support for measures either exists or may be established in order to gain support for a number of the measures. In general, pressure groups in society whose aim is to ensure lower transport costs appear to have more power than those working for improved traffic safety.

Negotiated settlements, both regarding the extent of the use of the measures and their more specific formulation, is relevant for several measures. The possibility of finding such solutions can facilitate the implementation of a measure, not least a partial implementation. The possibility for a negotiated settlement must be considered remote with respect to vehicle-technical measures.

From vision to reality – an impossibility?

To a certain extent a vision can never become a reality. Once a vision becomes a reality it ceases to be a vision! A vision is a description of a perfect ideal, sketched without regard to what is in the short term regarded as technically, politically or economically feasible. Many would argue that a vision cannot be dismissed, simply because the measures which can contribute to a development in the direction indicated by the vision, are considered as difficult to implement. This report has no implications regarding the question whether it is correct or not to have Vision Zero as the basis for traffic safety measures in Sweden. It lies outside scope of the research project to take an advocate that certain visions, ideals or more specific objectives should be pursued in public policy.

If one is to take a step in the direction indicated by the vision, it is nevertheless of interest to know which measures may be easily implemented and which are more problematic. An analysis of this question is, to a certain extent, hypothetical, for the real test of whether a measure can be implemented or not takes place once a serious attempt at implementation is actually made. The analyses and discussion in this report indicate, however, that none of the measures which are taken into consideration can be easily implemented.

No measures fulfil all conditions for successful implementation. Which of these conditions is most decisive for the possibility of introducing a measure is uncertain. But within a democracy it must be assumed – at least in the short term – that it is more difficult to implement measures which encounter stiff opposition in the community. Measures that do not offer any advantages in terms of, for instance,

increased power or prestige, improved business opportunities, more votes, or other advantages, can also be difficult to implement. Whether a measure supports a good purpose – one that is supported by virtually everybody – is in itself an insufficient condition for the implementation of the measure.