



Ministry of Transport, Public Works  
and Water Management

# Road Safety Strategic Plan 2008-2020

From, for and by everyone





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# Preface

*Road safety is everyone's responsibility*

Road safety *affects everyone*. On any given day in the Netherlands, two people will leave home never to return. Countless others will be injured. To me that is unacceptable. We have been working hard to reduce the number of road deaths and injuries in the Netherlands. But given our ageing population and increasing mobility, we cannot take it for granted that the downward trend will continue.

And so, with the help of many partners, I have drafted the 2008-2020 Road Safety Strategy. Our aim is to improve road safety even more. That is no easy task. How can we ensure that the roads claim fewer lives in 2020? And that thousands fewer people are injured? That is where this ambitious, yet realistic, plan comes in.

Road safety *benefits everyone*. The measures set out in the Strategy are proportional. Everyone will still be free to decide when they travel, and which mode of transport they will use. But we are going to offer vulnerable road users extra protection, and take a harder line against repeat offenders.

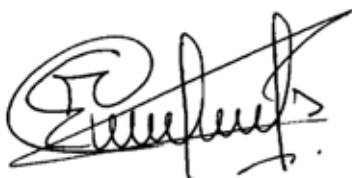
It is now the spring of 2009 and the Strategy is already yielding its first results. During talks with the local and provincial authorities, we agreed to a more ambitious objective for 2020 – to reduce road deaths to a maximum of 500, instead of 580. This plan has the Dutch parliament's full support.

And the first measures are taking shape. Soon, newly-qualified young drivers will have to be accompanied by an experienced driver until they turn 18. We are also working on plans to reduce the risk of blind spot accidents. And we are working hard to develop our alcohol ignition lock programme.

Finally, road safety *depends on everyone*. To succeed, we will have to work not only with other government authorities and law enforcement agencies, but also research institutes and civil society organisations. Each has an essential role to play. Together with its partners, the Ministry of Transport, Public Works and Water Management has drafted an action programme that explains precisely who will do what and when. It will soon be presented to parliament.

But even more important than the plan are the people who will carry it out. I hope that you too will keep working to improve road safety. Send an email to [verkeersveiligheid@minvenw.nl](mailto:verkeersveiligheid@minvenw.nl) if you want to take part in the action programme. We need you.

Because road safety is *everyone's responsibility*.



Camiel Eurlings  
Minister of Transport, Public Works and Water Management



Letter to parliament  
10 July 2008





To  
The President of the Lower House  
of the States-General  
Binnenhof 4  
2513 AA THE HAGUE

*Subject*  
Road Safety Strategy 2008 - 2020

Dear Mr President,

In this letter, I would like to inform you of the strategy for road safety in the period from 2008-2020. The following outlines the main themes of the strategy. For more detailed information, please see the Road Safety Strategic Plan 2008-2020, which is appended to this letter.

Never change a winning concept. That certainly holds true for road safety policy in the Netherlands. The number of road casualties is dropping steadily and the way our country is dealing with this issue is being followed all over the world. Therefore, we will be continuing to use public awareness campaigns, enforcement, infrastructure adaptations and new vehicle technology to make the ambitions for 2020 from the Mobility Policy Document a reality: no more than 580 deaths and 12,250 injuries in traffic, a drop of over 25% compared to 2007. But, however successful we may be, we will not achieve such a significant decrease without any effort.

Accordingly, I worked with many partners over the last year to draw up the Road Safety Strategy 2008-2020. These partners included not only other government bodies and enforcement authorities, but also knowledge institutes and civil society organisations. Calling on all those parties is something that I view as an important task for the Ministry of Transport, Public Works and Water Management. I want to organise a process and initiate measures in order to work together to continue decreasing the number of road casualties. Because road safety is everyone's responsibility.

The most important question here is how far the measures should go and at what cost. In road safety strategy, we have chosen in favour of the principles of proportionality, maintaining freedom of mobility and the existing financial frameworks. Within these frameworks, more drastic measures such as raising the motor scooter age or imposing a ban on night-time driving are neither appropriate nor necessary.

What are we proposing? First, we will be taking a tougher approach to people who cause unsafe situations. Relatively speaking, it is people who break the speed limit and people who drive after drinking alcohol who cause the most accidents. In a new development, these violators will be experiencing more direct consequences. This means: tit-for-tat, compulsory measures such as alcohol lock-out, speed limiting devices or behavioural modification course – paid for by the violator. Such measures would not be compulsory for all road users, only for drivers who do not follow the rules.

Second, we will be arranging extra protection for people who are particularly vulnerable to road safety issues. For example, it is known that the elderly, motorcyclists, cyclists and children are relatively more at risk in traffic. Taking specific measures on behalf of these groups should improve their position. In an EU context, we will stimulate the market to introduce technological innovations, invest in schooling and rewards, and engage in coalitions with associations for cyclists and the elderly, among others.

Of course the number of road casualties could be reduced far more if we were to make fundamentally different choices: free up significantly more funds for safety, or limit the freedom of drivers, cyclists and pedestrians. Those are not the choices I am making now. I am staying within the framework of the Mobility Policy Document and introducing an ambitious package of measures in that context. According to the calculations, if all the terms are met, this package will even reduce the number of deaths to 500. Accordingly, I would like to make agreements with local and provincial governments to adjust the ambition for 2020 to a maximum of 500 road fatalities per year.

## Reason: every day, fifty people do not make it home

**Road safety in the Netherlands is among the very best in the world. In ten years' time, the number of injuries has dropped by over 10% and the number of road fatalities has decreased by 30%. These figures are nothing to shrug at – especially considering the more than 20% increase in mobility during the same period.**

*At least 2 road fatalities and 45 injuries requiring hospitalisation every day*

Despite all these, the results we have achieved are still no reason to celebrate. In 2007, there were 791 fatalities from traffic accidents. And that is not even including injuries, material damages and the societal costs of accidents. Accidents cost society about 9 billion euros every year (far more than the societal costs of traffic congestion) in hospital costs, rehabilitation, loss of production, and so on.

Moreover, it cannot be casually assumed that the downward trend will continue. Passenger vehicle traffic will increase by 15 to 40% through 2020; freight transport will grow by between 15 and 80%, depending on how the economy develops. This increase could lead to more accidents. The percentage of people aged 65 and up, a vulnerable group in traffic, is expected to rise from approximately 15% in 2007 to 20% in 2020. This older group of people are more likely to suffer more serious consequences from an accident, and incur higher healthcare costs.

These facts offer more than enough reason to take a strong stance on continually pushing road safety policy. Therefore, in concert with the other government bodies, the Road Safety Strategy 2008-2020 was drawn up in the past year as an extension of the Mobility Policy Document. The strategy appended to this letter assumes a target of a maximum of 580 fatalities in 2020. I hereby announce that it is my ambition to adjust that figure downward to a maximum of 500 fatalities in 2020. I will be including this ambition in the dialogue I will conduct with local and provincial governments on this issue. In the strategy, I describe how we can achieve that reduction in road casualties. I deliberately say 'we' here, because many parties are involved in improving road safety. Municipalities, urban regions, provinces and water boards have participated in developing the strategy, through their umbrella organisations. Enforcement agencies, knowledge institutes and special interest organisations such as

the ANWB and the associations for the elderly also provided important input. This letter to the Parliament sets out my ambitions and provides a concise summary of the strategy.

## Ambition: reduce the number of casualties even further

Traffic accidents do not have the same impact as a plane crash, but the statistics still represent major human suffering. Cyclists who are run over in a lorry driver's blind spot, motorcyclists who are permanently disabled, parents who receive the report that their child wrapped their car around a tree after an evening out. In my view, this is the driving force behind the strategy.

*Another 25% less in just over ten years*

My ambition is to keep reducing the number of road casualties. That permanent improvement in road safety should benefit all drivers, cyclists and pedestrians – but it is also especially valuable for the most vulnerable groups in traffic. Research based on traffic accident records tells us that the following groups are at particular risk in traffic: pedestrians and cyclists, motorcyclists and motor scooterists, children and the elderly. They are relatively often the victim of traffic accidents. The aim is for these groups to also benefit more from improved road safety.

The Mobility Policy Document set a cap on the number of annual fatalities and injuries requiring hospitalisation in 2010 and 2020; in 2006, even more stringent maximum limits were imposed for road fatalities, when it became apparent that we were ahead of schedule.

- In 2010, traffic accidents should cause no more than 750 fatalities and 17,000 injuries.
- In 2020, traffic accidents should cause no more than 580 fatalities and 12,250 injuries.

These maximum limits represent a drop in the number of fatalities and injuries by over 25% in the coming ten years. That decrease is attainable within the basic assumptions in the Mobility Policy Document: the financial resources will not be distributed differently, and people will not face mobility restrictions.

I will accordingly be continuing to use sustainable, safe solutions, but will choose only those measures that are proportional, and will only take such measures where they are needed the most. As a result, I will stay within the frameworks of the Mobility Policy Document.

If we introduce all the measures from the Road Safety Strategy, a decrease in road fatalities to 500 may even come within our grasp. This is apparent from an analysis by the Department of Transport and Shipping (DVS) and the Knowledge Institute for Mobility Policy (KiM). However, a number of terms must be met before that is possible: not only do all the measures from the strategy have to be implemented completely and successfully, but vehicle technology also needs to fulfil the expectations and the 'Alternative Ways of Paying for Transport' project needs to be carried out according to the agreements. Accordingly, I would like to make agreements with local and provincial governments to adjust the ambition for road fatalities to a maximum of 500 per year. And we may be able to do even better. For, of course, I will keep looking for new opportunities to continue reducing the number of casualties. As new ideas arise, I will consider carefully what the financial and societal consequences of each and every one would be. And any existing ideas that currently seem unattainable may be able to obtain sufficient support in a few years, allowing us yet to achieve additional improvements in road safety.

*How far are we willing to go to prevent fatalities and injuries?*

Of course we can always set higher standards. The number of fatalities and injuries could be reduced far more if we were to make different political choices. However, this brings us to a fundamental discussion: how far are we willing to go to achieve safer roads in the Netherlands? What are we willing to give up to make it happen? And what risks are we still willing to accept? Cutting down all the trees along all the roads would prevent fatal collisions, to give one extreme example. Building flyovers at all intersections would be very effective, and introducing a ban on night driving for novice drivers would also prevent quite a few deaths. But these measures are drastic or expensive, and are not always needed if individual road users take personal responsibility for their driving.

## Approach: how do we maintain the downward trend?

In the early 1970s, the number of annual road fatalities was regrettably high: over 3000 per year. With 791 deaths in 2007, this number has already gone down significantly. This reduction is due in part to such successful measures as roundabouts, seatbelts and legal blood alcohol limits. Three cornerstones have been at the heart of road safety policy over the past years and will continue to be essential in the coming years: Sustainable Safety, cooperation and an integrated approach.

*Sustainable Safety* has been a source of inspiration for ten years now, a vision that will be continued to further reduce the risk of accidents. *Cooperation* with other government bodies, enforcement agencies and civil society organisations is also essential. Regulations that cannot be enforced are futile. Finally, we take an *integral* approach to road safety: we make cross-connections with other areas of policy. This includes the environment and accessibility (an even flow of traffic is good for preventing traffic congestion, air pollution and road accidents), spatial planning (working with the Ministry of Housing, Spatial Planning and the Environment to design residential neighbourhoods) and health care (working with the Ministry of Health, Welfare and Sport on alcohol policy and injury prevention).

It is becoming increasingly difficult to reduce the number of casualties by leaps and bounds. That is, if we consider the key principles (proportionality, resources and freedom of mobility) to be definitive. And yet there is still more to achieve. We will therefore be continuing to use the generic measures and focusing specific attention on two target groups by imposing stricter consequences on people who cause unsafe situations and protecting vulnerable groups in traffic even more effectively. I take a closer look at these three groups of measures below.

## 1

### Introducing measures for all traffic

**The generic measures rely on a hard-and-fast formula: devise the measure, launch an information campaign and enforce through additional police control. Take the BOB campaign for designated drivers: the Ministry campaigns on the issue, the police check alcohol consumption among drivers, and the 3VO road safety association makes arrangements with cafés and restaurants, taxi companies and sport clubs.**

Vehicle technology measures are extremely important to achieve the targets for 2020. This includes:

- improved brake systems (ABS);
- Adaptive Cruise Control, which helps drivers maintain sufficient distance;
- general introduction of Electronic Stability Control (ESC). The European Commission has announced proposals to make this measure compulsory for new cars sold in the EU as per 2012. ESC is already required for the transport of hazardous substances;
- SpeedAlert (an in-car system that notifies drivers of the speed limit in effect at any given point);
- the Lane Departure Warning Assistant, which warns a driver if their vehicle seems to be drifting out of the lane; and
- e-call, in which the vehicle automatically alerts emergency assistance agencies after an accident.

**Other generic measures include: targeted communication about tailgating and other anti-social or high-risk behaviour, improving accident registration and introducing self-explanatory roads (credible speed limits, narrow roads, clear road signage, rumble strips) which automatically cause drivers to maintain safer driving habits.**

## 2

### Taking a tougher approach to people who cause unsafe situations

Many accidents are caused by speeding drivers and people driving under the influence. These reckless road users will be dealt with more severely. And there are four other categories requiring targeted attention. These are: novice drivers (more likely to have accidents), delivery vans and lorries (cause more serious consequences in a collision), roads that have 50 km and 80 km speed limits (remain relatively unsafe) and situations involving single-vehicle accidents (such as a passenger vehicle ending up in the water).

*Personal responsibility: driving licence, compulsory measures and campaigns*

We want to hold drivers more personally responsible for their unsafe behaviour. Driver certification is currently considered a right, but it must become more of a licence that is subject to specific terms, i.e. following the rules (speed limits, alcohol limits and so on). The English concept of the driving licence expresses these principles far more clearly.

It should be easier to impose measures in response to gross or repeated violations by licensed drivers who exhibit irresponsible behaviour. Starting in 2010, 'alcomobilists' or drunk drivers will be required to equip their vehicles with an alcohol lock-out device (a breathalyser test linked to an ignition kill-switch: if the blood alcohol level is 0.2 or higher, the engine will not start; a pilot project is currently underway in Friesland) and speed freaks will be required to have a speed limiting device built into their car. For more minor offences, an 'educational measure' will suffice: a several-day course that teaches people

decent road traffic behaviour. The costs of the course will be charged to the driver. We assume that road users will take personal responsibility for their driving behaviour and deal severely with 'jerks and repeat offenders' who do not. Rather than choosing to introduce a ban on night driving for novice drivers (a collective measure that would keep all young people on a short leash), I choose to have structures in place that make violators follow the rules. This keeps drivers 'in the system' and under control. In the worst-case scenarios, we can revoke the driving licence.

Campaigns on the theme of 'Driving behaviour that gets you home safely' also focus on personal responsibility for road users. 'Drive with your heart', for instance, plays on respect for each other. After all, driving behaviour is the most important key to safer road traffic. This is not to say that the Ministry of Transport, Public Works and Water Management will no longer take any responsibility.

In the short term, we are contemplating the following measures: a drug test kit that shows whether drivers have used narcotics, supervised driving for learner drivers, and fatigue detectors for lorries and other long-haul transport modalities. In the longer term, we can charge the indirect costs of an accident to the party that caused it, and introduce a black box to record the driving behaviour of novice drivers. A great deal is already being done for 50 km and 80 km roads. Working with the other road management authorities, we are reviewing possibilities for expanding the package of measures. According to EuroRAP, an international organisation which awards 'Michelin stars' for road safety, the Netherlands structures its roads well. But we are committed to doing better. I am taking concrete steps to earn three stars for all national roads in 2020.

### 3 Protecting vulnerable road users more effectively

Six groups of road users have a higher chance of falling victim to road accidents. These are: pedestrians and cyclists, motorcyclists and motor scooterists (although motor scooterists also cause traffic accidents), children and the elderly. These groups accordingly receive extra attention in road safety policy. The measures I described above (against 'jerks' in traffic, for example) naturally also work out well for vulnerable road users, but we will also be introducing more targeted measures to protect these groups.

#### *Protection through schooling, technology and rewards*

Lifelong driving education is an essential part of the strategy. After traffic safety lessons in school and the requirements of the driving license test, it should also be possible for drivers to keep their knowledge and driving skills. Calls are rising for a 'return session' for licensed drivers. After all, traffic rules have changed over time, and road traffic is busier than before. However, we do not want to force drivers to incur extra costs if the measure's effectiveness has not yet been proven. Moreover, refresher courses generate a great deal of red tape, which is exactly what we all want to be cutting down on. I do encourage Internet facilities (such as online testing) and cooperation with e.g. cyclists' associations and the Central Office for Motor Vehicle Driver Testing (CBR).

Technological advances in particular also offer excellent opportunities for protection. These chances improve as the options for influencing driving behaviour are utilised more fully. This could include systems that help prevent collisions and that limit damage if collisions occur. The Ministry of Transport, Public Works and Water Management is making a strong case for such measures with the European Commission. Many innovations (such as built-in sensors in motor vehicles) can only be achieved through international cooperation. The Ministry also wants to encourage market parties to view safety as an aspect of corporate

social responsibility, which will often directly benefit the companies as well. For example, insurance companies check out transport and shipping companies using the Safety Scan, Lease Plan equips its vehicles with GPS to give drivers bonus points if they stick to the speed limit, and the Bavaria taxi was recently introduced, providing a single national phone number to call a taxi from almost anywhere in the country.

Sometimes the carrot works better than the stick. Results have already been achieved with this approach, e.g. through no-claim discounts on car insurance. The Ministry of Transport, Public Works and Water Management organises road safety contests and researches the best ways to reward appropriate driving behaviour.

In addition, I will be installing motorcycle-friendly guard rails on dangerous curves within the short term, and I want to introduce more stringent testing procedures for 'collision-friendly' vehicles in certification organisation EuroNCAP and in EU legislation. In the longer term, we are considering developing a stable bicycle for old-age pensioners, introducing a compulsory bicycle helmet for children, exchanging best practices for a safe school environment, and installing pedestrian and cyclist detection systems in vehicles.

## The next step: what happens now?

In recent months, we already started working out the details of the strategy. Like the strategy, the resulting action programme will be designed in cooperation with many parties. Together, we will institute concrete measures for the coming years. Every two years, I will evaluate the current state of affairs and notify you as to what follow-up measures result. In this way, I aim to structure my policy systematically, ensuring collectively that vulnerable road users are less vulnerable and that the people who cause the most significant unsafe road situations are dealt with. More than ever before, I will also be focusing more specifically on injuries requiring hospitalisation to see whether this target can also be adjusted downward.

I see it as my responsibility to maintain control of this process and to initiate new measures. In this context, I will naturally also be utilising the knowledge available from research institutes and knowledge platforms. I will also continue to involve civil society organisations in this process, such as associations for cyclists and the elderly. I will take on a stimulating role as needed, ensuring that all those involved remain active. The fact that involvement by other parties and by individuals will be expected is beyond discussion. Because road safety is everyone's responsibility.

Yours respectfully,

THE MINISTER OF TRANSPORT, PUBLIC WORKS AND WATER MANAGEMENT,  
Camiel Eurlings





# Road Safety Strategic Plan 2008-2020



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# Introduction

## Remain world champion

The Netherlands is 'world champion in road safety' due to its low numbers of road fatalities. We owe that title to the constant commitment of many different people and organisations, within the government and beyond.

World-class athletes sometimes decide to stop competing at the peak of their career, but we intend to keep going. We have to. Every year, traffic claims hundreds of lives and causes thousands of injuries requiring hospitalisation (791 fatalities in 2007 and 16,750 hospitalisations due to road accident-induced injuries in 2006). Because they take place over the course of a year and are considered ordinary occurrences, traffic accidents do not have the same impact as a plane crash, but the accident statistics still represent major human suffering and huge costs for society. Preventing that suffering and limiting those costs are our motivations for this plan.

The same motivations underlie the Mobility Policy Document, which asks us – government agencies and the traffic sector – to be ambitious. The targets for 2010 and 2020 require us to keep improving road safety in the Netherlands. This is a major undertaking; mobility is increasing and our country is ageing. On the one hand, we will be continuing our successful policy; on the other, we will be focusing on a number of specific areas. We will be protecting the vulnerable people in traffic and taking a tougher approach to people who cause unsafe situations.

Working in concert with all the other players in road safety, the Ministry of Transport, Public Works and Water Management is making every effort to channel mobility effectively and to limit negative consequences. The desired improvements can only be attained by coordinating and cooperating well with the dozens of parties and thousands of professionals operating in the road safety sector. We therefore repeatedly conducted intensive discussions with the most important players in the sector throughout the development of this Strategic Plan. Their valuable contribution has been incorporated into this document; the title testifies to the broad scope of outside involvement: 'From, for and by everyone'.

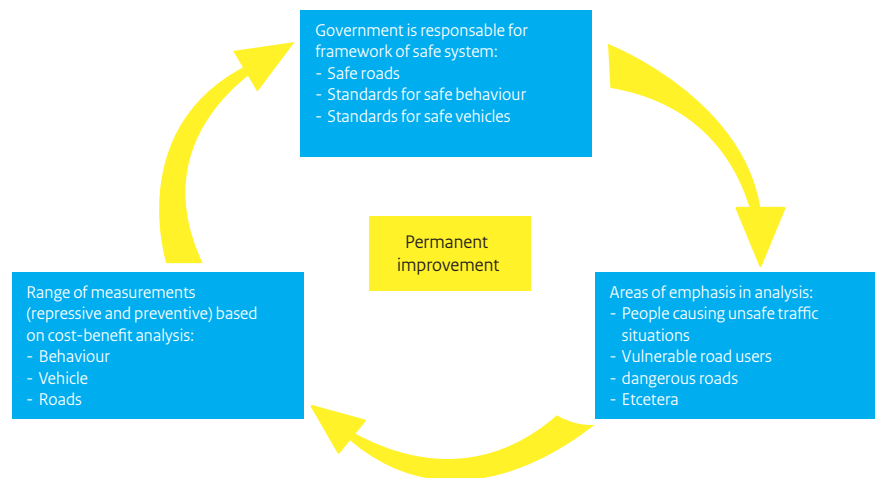
Everyone contributes to road safety in our country, because every road user is personally responsible for his own safety and the safety of others. Besides that factor of personal responsibility, the government is responsible for ensuring safety in public areas; road safety falls within the scope of that mandate. One way in which the government takes responsibility is by creating limiting conditions. We set requirements for people, vehicles and road design. The government also works at international, national, provincial and local levels to achieve safe infrastructure and rules that promote safety.

It is crucial to realise that proper participation in road traffic also benefits road users by providing them a safe space in which they can travel from one place to another, encounter others and transport goods. Free mobility thus contributes to our welfare, increasing social cohesion and strengthening the economy. Keeping the mobility system we know now is one of our key principles.

Working on road safety means making choices: how far do you want to go to further reduce the number of fatalities and injuries? The strategy shows that we can take it a lot farther. However, more drastic reductions in road casualties would be accompanied by dramatic restrictions on personal freedom of mobility and/or significant investments. We are not yet

willing to take it that far, because we feel that the advantages do not justify the disadvantages. However, we do explore the possibilities and explain our decision to continue heading in the same direction.

Working on road safety is an ongoing process. It means permanently seeking out improvements and assimilating new knowledge, insights and techniques. The figure below illustrates how that process works. We aim to evaluate the strategy every two years, recalibrating and updating the goals, assessing where we stand in consultation with the sector.



Step by step, this brings us closer to our concrete goals: a maximum of 750 fatalities and 17,000 injuries in 2010, and a maximum of 580 fatalities and 12,250 injuries in 2020.

We should not think exclusively in terms of deaths and injuries. No level of deaths or injuries can ever be considered acceptable. After all, the targets set for 2010 still mean that there will be 2 fatalities and 47 injuries from road accidents every day. Because the victims are spread out over time and geographic locations, it is increasingly difficult to keep road safety on the agenda - while human suffering and economic losses continue unabated. We face an additional challenge in maintaining sufficient focus on this topic in the coming years. For we want to remain the uncrowned world champion of road safety.

*The Hague, May 2008.*

# Summary

Road safety policy in the Netherlands has proven successful over the past years. The number of road fatalities and injuries has dropped sharply, down to 791 deaths (2007) and 16,750 injuries requiring hospitalisation (2006). Our country is therefore entitled to call itself the 'world champion of road safety'; we set a shining example for many other countries. But we cannot sit back and rest on our laurels. We constantly need to work to achieve further improvements, to ensure that as many people as possible make it home safely.

## Ambitious goals

The Mobility Policy Document set ambitious goals for the coming years: a maximum of 750 fatalities and 17,000 injuries in 2010, and a maximum of 580 fatalities and 12,250 injuries in 2020. These goals demand ambitious policies.

Road safety policy in 2008-2020 is based on the three successful cornerstones of recent years: cooperation, an integral approach and 'Sustainable Safety'. We take two approaches to these three cornerstones. The first approach uses generic measures to continue building on what we have successfully been doing for years. The second approach focuses on specific areas that require targeted attention. These focal areas were identified by analysing accident data and researching trends that may influence road safety in the coming years. The analyses clearly show a number of vulnerable groups. To reduce the risks these groups face, targeted measures will be introduced in the coming years to supplement the more generic measures. We will also be taking a tough approach to people who cause unsafe traffic situations. Innovative solutions are an integral part of the range of measures. Using new technologies helps us to realise road safety policy ambitions for the coming years.

## Basic principles

The government is responsible for ensuring that people can move safely in public areas, and that they feel safe. Road safety is part of that. A lack of safety may mean that people no longer dare to leave their homes, which has major consequences for their social lives. Safety is also important to mobility and to the economy; a lack of safety leads to major costs for society and serious human suffering. Safety is an important condition for ensuring our welfare and social cohesion.

That is why it is essential to continue improving road safety. We do so within the existing system, without dramatically reducing mobility or freedom of movement. People need to make their own decisions as to when and how they go from one place to another. We cannot lose sight of personal responsibility in this context. Every road user needs to make a contribution to their own personal road safety and the safety of others.

Measures intended to make roads safer are based on considerations of societal interests, effectiveness, proportionality and costs. Relevant questions include how far you want to go in restricting personal liberties and how much money you are willing to spend to achieve your goals. The basic assumption here is that we can achieve the objectives of the Mobility Policy Document without fundamentally changing our mobility system, within the budget set aside for the purpose.

## Successes and trends

Road safety policy in the Netherlands is successful, as evidenced by the relatively low number of road fatalities and injuries. In ten years' time, the number of fatalities has dropped by over 30% and the number of injuries has dropped by over 11%. Several trends can also be identified: ageing, the changing composition of the Dutch population, and the

growth in passenger and freight transport. In addition, our country increasingly has to deal with outside influences such as European regulations. And regarding vehicles, advanced technologies are being developed that may contribute to efficient, clean, safe roads.

### Areas of emphasis

The trends and accident statistics reveal a number of areas that require specific attention because their development is lagging behind the overall trend of improved road safety. This involves various groups of vulnerable road users, people who cause unsafe traffic situations, and categories of roads and vehicles:

- Pedestrians;
- Cyclists;
- Single-person accidents;
- Children;
- The elderly;
- Novice drivers;
- Drivers of motor scooters, mopeds and microcars;
- Motorcyclists;
- People driving under the influence of alcohol, drugs, medication or fatigue;
- Drivers who violate the speed limit;
- Roads with speed limits of 50 and 80 km;
- Lorries and delivery vans.

To reduce the risks to these groups and categories, targeted measures will be introduced in the coming years to supplement the more generic measures.

### Approach

The easy pickings have already been harvested; the simple steps have already been taken. There are not many quick wins left. But the current insights do make it possible for us to say which groups we want to protect more or deal with more strictly.

Besides continuation of the generic policies, our approach in the coming years will be geared towards identifying the stakeholders in each area of emphasis, engaging in dialogue with them and arriving at a targeted range of measures. This will make it possible for us to ensure an integral approach. For example, the use of more stable bicycles could prevent many cycling injuries among older cyclists. But we also have to help older road users understand the best ways for them to interact with other traffic.

The range of measures also includes innovative solutions, some of which will be incorporated in the future. After 2010, vehicle technologies will become increasingly important to road safety. Despite the opportunities offered by technology and improvements in infrastructure, human behaviour continues to be the most important focus in road safety policy.

### Alternatives

The policy in the coming years and the budgetary room provided will make it possible for us to meet the targets of a maximum of 580 fatalities and 12,250 injuries in 2020. If we want to reduce that number more, we will have to make fundamentally different choices. We would have to choose to a) invest thousands of millions of euros in infrastructure and limiting conditions, b) limit freedom of mobility, or c) use a combination of the two. That would make it feasible to reduce the number of road fatalities to 250 in 2020, with the added advantage of boosting road safety benefits for society.

We could make these choices now; political and societal acceptance and available financial resources are the defining factors here.





#### Collaboration with the sector

The Ministry of Transport, Public Works and Water Management is aware that the desired improvements can only be attained by coordinating and cooperating well with the dozens of stakeholders in the road safety sector. That is why the most important players in the sector were involved in the development of this strategy. This dialogue and a sound balance between caution and decisive action define the way in which we hope to continue working in concert to achieve road safety.



- The Netherlands remains world champion of road safety
- Continuing to build on success, while pursuing permanent improvement
- Cornerstones are cooperation, an integral approach and 'Sustainable Safety'
- Stronger focus on protecting the vulnerable and dealing with the people who cause unsafe traffic situations
- Innovation makes an important contribution
- Preservation of the existing mobility system
- Awareness of the crucial influence that human behaviour has
- Appropriate division of labour between central and local government bodies
- Working on respect for rules and forms of reward
- Guided by the Mobility Policy Document
- Insight into risks

# 1 Key principles and ambitions

## 1.1

### Challenging goals, challenging policies

The government is responsible for ensuring that people feel safe in public areas, and that they can move through it safely. Road safety is part of that. We're doing well on that in the Netherlands, because we are among the countries with the safest road traffic in the world. We would like to keep it that way.

The more stringent goals set by the Mobility Policy Document are ambitious: a maximum of 750 fatalities and 17,000 injuries in 2010, and a maximum of 580 fatalities and 12,250 injuries in 2020. The ambitious goals inspire and encourage the Ministry of Transport, Public Works and Water Management to set challenging policies. Policies in which we emphasise personal responsibility, in which we – the government and the sector – take a stand for the vulnerable groups and for less robust road users on our roads, and in which we take a tough approach to people who cause unsafe traffic situations. Motor vehicles have already become much safer in recent years, thanks in part to ongoing technical innovation. Now the situation outside the car also needs to become much safer – for cyclists, pedestrians, the elderly, children, and several other specific groups. These specific groups need specific measures to supplement the generic measures instituted in recent years, and they need a strict approach to dealing with people who cause accidents and exhibit antisocial behaviour. Specific policy also requires us to maintain a flexible and targeted approach to the range of tools at our disposal. That is the essence of the Road Safety Strategy for 2008-2020.

#### More drastic scenario

In road safety policy, we make strategic choices. These choices could go very far and have drastic consequences, e.g. for the landscape (all trees near all roads removed) or for costs (separate infrastructure that excludes many accidents). It is possible to come up with measures that disrupt the existing balance between freedom of movement and restrictive measures (such as a ban on mopeds) or that use technology to force road users to behave in a certain way (such as speed limiting devices in all vehicles).

Not every measure that has a positive impact on road safety is a preferred option, primarily because the financial and societal consequences would be too severe. For example, we have not chosen to prohibit young children from playing outdoors during busy times of day, nor have we opted for an alcohol lock-out for all drivers or a general ban on mopeds.

We did consider measures that went farther than the status quo: the effects they would have on road safety, the consequences for our freedom of movement, and the financial costs and benefits. Achieving more improvements in road safety would be feasible if we made fundamentally different choices. We have devoted a separate chapter of this document to these alternatives (Chapter 5).

The policy chosen by the Ministry of Transport, Public Works and Water Management for the coming years represents a choice to preserve the current mobility system. In that system, it

will be possible to achieve the target of no more than 580 fatalities and 12,250 injuries requiring hospitalisation in 2020, according to calculations by DVS (the Transport and Shipping Department of the Directorate-General for Public Works and Water Management)<sup>1</sup>. Those targets will not be met without any effort; we will have to work hard together to make it happen. And we need to stay focused on the topic of road safety, keep it on the agenda. So we will also have to look beyond just those numbers of road fatalities and injuries. If all this fails to work, then further intervention would not be inconceivable.

## 1.2

### Three cornerstones, two approaches

Road safety policy for 2008-2020 is based on the three cornerstones that made this policy successful over the past years: *cooperation*, *an integral approach* and *'Sustainable Safety'*. We will be pursuing cooperation in the road safety sector and beyond. For example, we will be joining forces with the school systems for educational activities and with the police, the Ministry of Justice and the public prosecutor's office for enforcement, including cooperation within the local 'triangle' of municipal, judicial and police authorities. But numerous civil society organisations and market parties also play a role in policy implementation.

The integral approach emerges when road safety policy helps to realise other Cabinet targets (and vice versa) in such areas as the environment, town and country planning and neighbourhood renewal. These links to other fields of policy require that the stakeholders think outside the box more often.

Two approaches can be identified in the policies for the coming years, based on the three cornerstones.

The first approach uses *generic measures* to continue building on the success of the past years, in which good results have already been achieved. 'Never change a winning team', as they say in sports; similarly, we need to maintain our successful policies in road safety.

The second approach focuses on *specific areas that require targeted attention*. These focal areas were identified by analysing accident data and researching trends that may influence road safety in the coming years. The analyses clearly show a number of groups vulnerable to accidents, but also a number of groups that cause accidents. To reduce the risk of an accident for these groups, the Ministry of Transport, Public Works and Water Management will be introducing targeted measures over the coming years, to supplement the generic measures already in effect.

Policy in the coming years will be based on these three cornerstones and follow these two approaches. The ambition is for everyone, regardless of origin, age or mode of transport, to take part in traffic with the least possible risk of having an accident – so that (nearly) everyone can make it home safely.

#### Areas of emphasis

Analysing accident data and researching trends has yielded several specific areas of emphasis. This concerns groups of road users who deserve extra attention, both victims and perpetrators. These road users run a relatively greater risk of having an accident, or did not reflect the general decrease in accident statistics as much or at all. Some categories of roads and vehicles also need extra attention.

Some groups of road users stand out because they fall victim to accidents relatively often; this includes such vulnerable road users as cyclists, pedestrians and the elderly. Other groups catch our attention because they cause unsafe traffic situations relatively often, consciously or subconsciously. This would be the case for e.g. speed violators and people driving under the influence of alcohol, drugs or medication. In the category of 'deliberate

<sup>1</sup> Effecten maatregelen Strategisch Plan, DVS, 2008.



and accidental causal agents', novice drivers – generally young people – continue to require our attention. In cases of deliberate repeat violations, we will be applying the 'causer pays' principle more frequently.

We have also designated several types of roads and vehicles as areas of emphasis. Despite every effort, the most accidents involving casualties continue to occur on roads that have 50 and 80 km speed limits. In terms of vehicles, lorries and delivery vans deserve attention, due primarily to their mass and size, which make any potential 'collision partner' particularly vulnerable.

We have identified the following areas of emphasis:

- Pedestrians;
- Cyclists;
- Single-person accidents;
- Children;
- The elderly;
- Novice drivers;
- Drivers of motor scooters, mopeds and microcars;
- Motorcyclists;
- People driving under the influence of alcohol, drugs, medication or fatigue;
- Drivers who violate the speed limit;
- 50 and 80 km roads;
- Lorries and delivery vans.

Chapter 3 (Analysis of the areas of emphasis) will discuss these areas in more detail.

### Measures and monitoring

To reduce the risks to and from these groups, targeted measures will be introduced in the coming years. These concern both preventive and repressive measures. A great deal of room has been made for education and public information; we will continue working to raise awareness among road users. Other preventive measures range from refresher training programmes for specific drivers, to stimulating the development of especially stable bicycles, benefiting the elderly in particular. There are also continuations of recent measures for novice drivers, such as licence points and the stricter standards for alcohol consumption (0.2%). For the repressive measures, we are consulting with the authorities involved to find options for keeping a closer eye on the areas of emphasis in enforcement as well.

For a number of groups of road users, such as ethnic minorities and foreign drivers, several trends could be anticipated that may influence road safety. But it is still too early to institute concrete measures. The aim here is to keep track of developments in the coming years via targeted monitoring and to investigate what consequences they have for road safety. These groups have our attention, but are not yet specific areas of emphasis.

Various regions have proposed including farm traffic in the specific areas of emphasis. A working group will be assessing whether and how this group poses a problem.

Casualties from accidents at railway crossings (12 fatalities in 2006) are also considered road casualties. However, the Road Safety Strategy does not focus specifically on this group, because railway safety has its own policy plan detailing what is being done to meet the policy target in this area as set in the Mobility Policy Document (a maximum of 24 fatalities at railway crossings in 2010).

### 1.3 Innovation

A great deal of new technology is being developed, more and more of which is hitting the market. Mobility technology is also increasingly advanced. These trends are relevant to the Ministry of Transport, Public Works and Water Management in view of the policy targets for accessibility, road safety and the environment. After all, new systems can contribute to more efficient, cleaner, safer roads.

Innovative solutions help us to realise road safety policy ambitions for the coming years. This makes innovative solutions an integral part of the range of measures. After 2010, innovative vehicle technology will play an increasingly major role, primarily because mobility is continuing to increase, while almost all the possibilities of conventional behavioural influence tactics have been exhausted.

In principle, any technology that contributes to road safety is welcome. Besides possible side effects and public support, we naturally also have to take the cost-benefit ratio into account. In context, we have to consider the fact that technical solutions sometimes have unwelcome side effects, like distracting the driver, or invite inappropriate behaviour. Some techniques also have the potential to be abused.

In our policy, we have allowed man to be the measure of all things; we primarily make room for technology that people understand, and that they are willing and able to use. And there is technology that we can use to compel 'causers' to drive appropriately.

### 1.4 The existing mobility system

Mobility is a fundamental aspect of modern society. The movements of goods and people contribute to our welfare and our well-being. But mobility also has less positive consequences. For example, unsafe traffic conditions cause human suffering and cost society huge sums of money (approx. 9 thousand million euros a year). That lack of safety may also mean that people no longer dare to leave their homes, which has major consequences for their social lives. That is why it is essential to continue improving road safety. We do so within the existing system, without dramatically reducing mobility.

The key principle is still that people need to make their own decisions as to when they go from one place to another and what mode of transport they use. In line with this principle, we will not discourage the use of mopeds and motorcycles, even if road users run relatively high risks with these transport modalities. Measures to make travel and transport safer are always based on seeking a balance between the interests of road safety and the interests of society. In the example of the moped, that consideration results in a minimum age rather than a general ban on mopeds, although the latter would yield the best results in terms of road safety alone.

### 1.5 People in traffic

People are a striking factor in traffic. Their capacity for making mistakes and being incautious or even reckless makes it tempting to consider people as the weak link. In point of fact, people are an extraordinarily strong link. Their capacity for preventing and avoiding accidents is much stronger than their capacity for allowing things to go wrong occasionally. In any case, human behaviour in traffic is extremely relevant to the choices made in road safety policy.

In the end, every measure is about human behaviour. We appeal to people to take personal responsibility; we adapt infrastructure to influence driving behaviour. And we aim for vehicle safety systems to help drivers make fewer mistakes and pay closer attention to traffic. A focus on human behaviour remains entirely appropriate, because behaviour is the number-one cause of traffic accidents. We give people a great deal of personal responsibility. We deal with people who do not accept their responsibility. And we take responsibility for protecting the vulnerable.

Despite the dominant role that cars play in today's traffic, it is not the motor vehicle but the person driving it who is the measure used in road safety policy. People walking or cycling on the road do not have the same physical protection as they would in a car. Because a motor vehicle also has high mass and speed, a collision often has major consequences. That is why this policy largely defines protection of vulnerable groups through measures affecting the car and its driver. Motorists need to be aware of how vulnerable other road users are and take that factor into account in their behaviour at all times. Measures for lorries, vans and motor cars and their drivers are directly relevant for pedestrians and cyclists. Professional transport companies can also take responsibility. They sometimes do not fully realise the actual costs of an accident. Clarifying the business advantages of accident prevention may help to create a safety culture among business owners.

The policy measures targeting human behaviour, vehicles and infrastructure are all intended to reduce the number of high-risk errors. However, not all mistakes are equally risky – or equally easy to deal with. The need to influence behaviour favourably makes it important to distinguish between deliberate violations and human error. Some choices are made deliberately, even if people are aware of the huge safety risks they entail. Driving under the influence is one of these choices. Deliberate violations cause about 15 to 30 per cent of traffic accidents. Other choices that may be just as risky are made subconsciously or are almost unavoidable, such as making the journey home after an exhausting night shift at work.



## 1.6

### The responsible government

Because the government is responsible for ensuring safety in public areas, it is also responsible for road safety. All groups of road users – young or old, rash or cautious – can therefore expect the government to institute policies and measures that promote their safety. Based on its responsibilities, the Minister of Transport, Public Works and Water Management aims to achieve fewer road fatalities and injuries: greater *objective road safety*. We also want to take *subjective safety* into account, although it is far less easy to quantify. Enforcement capacity is deployed at locations that people feel are unsafe, even if the figures do not immediately reflect a lack of safety. Working in concert with local and provincial governments and civil society organisations, like the 3VO road safety association, we want to investigate what factors lead to this sense of a lack of safety and then assess whether and how we can incorporate these factors into policy.

The division of powers and competencies between the various levels of government was agreed when road safety policy was decentralised in 2005 and set out in the *Traffic and Transport Planning Act*. The provisions of this Planning Act state that provincial and regional traffic and transport plans must contain the essential points of the policies in the National Traffic and Transport Plan. In the Netherlands, the National Mobility Council (NMB) promotes coordination between the various government authorities. The Code of Inter-administrative Relations is also taken into account; the Code was drawn up by the umbrella organisations of the municipal and provincial governments (IPO and VNG) and the Minister of the Interior. The Ministry of Transport, Public Works and Water Management directs overall road safety policy.

The Ministry ensures that agreements are reached on shared objectives. After that, each level of government (international, national, regional or local) implements the measures needed to achieve the objectives at its own level. The national government handles national measures itself. In addition, the Ministry of Transport, Public Works and Water Management represents the Netherlands in international contexts and is accordingly co-responsible for measures at the international level, particularly within Europe.

The Ministry of Transport, Public Works and Water Management also creates conditions for knowledge exchange and data management. On that basis, the Ministry pioneers efforts in improving the quality of accident data and looking for other indicators for road safety, among other activities. The Ministry also wants to work with other parties to ensure that more knowledge becomes available on what effects measures have.

Provinces and urban regions are responsible for regional policy. Along with their regional partners (municipalities, water boards, civil society organisations and the business community), they set the standards for regional and local measures.

## 1.7

### Rules, prevention, enforcement and rewards

To prevent the mobility system from falling into chaos, we have agreed among ourselves to follow a set of rules – including traffic laws. It is important for people to respect the rules (maintain certain standards) and to consider it important that the rules are followed (have certain values). The government exerts itself to make this happen through activities that are partly preventive and partly repressive in nature. Besides enforcement, the government also uses rewards.



Preventively, the government plays a key role by building and maintaining safe infrastructure, and by setting traffic laws and standards. The government also keeps road users informed through education, public information and campaigns. The government appeals to the responsibility road users have for themselves and for the other road users around them. In the most extreme scenario, repressive government involvement could lead to restrictions on the freedom of individual road users, for example by revoking the person's driving licence or confiscating the car. In the existing mobility system, the vast majority of Dutch road users move through the system according to the rules. The fact that accidents take place anyway, despite the rules, prevention and repression, can largely be traced back to how people behave in traffic – sometimes consciously, but far more often subconsciously.



### The importance of education

The government aims to ensure that people enter traffic well-prepared, supported by sufficient knowledge. The knowledge they need to have and the people who play a role in conveying that knowledge depend primarily on the stage of life. Parents have a clear responsibility to teach young children how to deal with traffic. As children reach a certain age, the schools are more involved. Young people who intend to take motor vehicles into traffic increase their knowledge through driving lessons and the driving test. In future, they will receive extra support from supervised driving. Older people may need to brush up on their driving knowledge. Civil society organisations can help make that possible, but so can families.

At every stage, the best option is to use the natural contacts with road users as effectively as possible, for example in schools, clubs and associations, garages, car dealers and importers, or in retail shops.

### Enforcement at the same level or higher

Traffic enforcement continues to be an important tool in dealing with the objective and subjective lack of safety on the roads. The Mobility Policy Document states that enforcement will be kept at the same level or higher, primarily because reducing the level of enforcement immediately leads to a drop in road safety. The emphasis in generic enforcement is on the basics: helmet, seatbelt, rear light, alcohol and speeding (the Dutch acronym is HELMGRAS).



### Possible rewards

Besides education, public information and enforcement, the Ministry of Transport, Public Works and Water Management can use rewards to stimulate safe behaviour on the roads. Research shows that reward programmes can be highly effective, especially in the short term. Operating on that basis, options for rewarding good driving behaviour have already been investigated in the past - such as the 'Reward Monitor' or *Belonitor*. Some rewards are so widely accepted that they are considered normal by now, such as rewards for professional drivers who have a 100% accident-free record (insurer TVM acclaims the '*Knights of the Road*' every year) and no-claim discounts on car insurance.

## 1.8 Mobility Policy Document

The Mobility Policy Document – adopted by the Lower Chamber of Parliament in autumn 2005 and ratified by the Upper Chamber in February 2006 – also concerns road safety policy. The policy document outlines the efforts needed to maintain the downward trend in deaths

and injuries in the Netherlands over the coming years. The 2010 road safety target for the number of road fatalities has been expressed in terms of regional targets.

The Mobility Policy Document takes two trends into consideration: the increasing age of the population and the growth in passenger and freight transport. These factors alone require extra efforts in order to maintain the desired decrease in the number of road casualties, continuing after 2010. The policy notes, targets and regional measures in the Mobility Policy Document are the basis of road safety policy in the Netherlands. Our strategy builds on those foundations; it is a more detailed and concrete expression of those policies, to some extent representing an update of the Mobility Policy Document.

Since the Mobility Policy Document was debated in Parliament, the targets have been adjusted downward to a maximum of 750 deaths and 17,000 injuries requiring hospitalisation in 2010. The target for 2020 is no more than 580 fatalities and 12,250 injuries requiring hospitalisation. This is not where road safety policy aims to stop; rather, these targets represent milestones on the road of permanent safety improvements.

We have already passed one milestone for the number of injuries requiring hospitalisation; there were only 16,750 injuries in 2006, bringing us under the target for 2010 (maximum of 17,000 injuries). That makes this an excellent time to sit down with the stakeholders to discuss and determine a new target, but we will not be taking that step until we have a new definition of what constitutes an injury requiring hospitalisation. At this point, those figures include people who are not actually injured, but are taken to hospital and admitted for observation.

### Expanding the focus

Due to the quantity-based target for road fatalities, the focus is on reducing that number. As a result, the qualitative goals for permanent improvement and awareness of the number of injuries requiring hospitalisation seem to fade into the background. Emergency room visits, material damages and other inconveniences are not included in the figures at all, let alone people feeling unsafe, reduction of societal suffering and the economic expense of accidents. That oversight is not good for overall road safety. Those aspects should also be important driving forces behind the aim to increase road safety. We should not feel like we are 'done' here if no road fatalities occur in a region over several years. Road safety will continue to be important. Everyone should be able to make it home safely.



## 1.9 Risk management

The Road Safety Strategy is subject to the key principles from the Mobility Policy Document. But what happens when these key principles are jeopardised, or seem to be heading that direction? Or when other risks become relevant?

The following overview of the key principles (**colored**) offers insight into the possible risks and how we will manage them (*italics*).

### **Enforcement capacity remains at least the same.**

Reprioritisation in the Ministry of Justice and the police force may put pressure on capacity. Less capacity means less effective regulation, so more road casualties will occur. *Constant contact and consultation with the Ministry of Justice and the police force is needed to monitor this aspect.*

### **National introduction of a per-kilometre price for all motor vehicles, differentiated by time and place and by environmental and safety specifications of the car.**

If 'Alternative Ways of Paying for Transport' (AbvM) is implemented in some other way, the effect may be a smaller decrease in the number of road casualties. *It is important to keep monitoring which AbvM scenarios are being considered and what the associated effects would be for road safety.*

### **Vehicle measures ensure 200 fewer deaths and 1,900 fewer injuries requiring hospitalisation in 2020.**

If it proves impossible to agree to a sufficient extent on vehicle policies in a European context, the effect on the drop in the number of victims will not be achieved. *This requires continuous attention in the European Union for setting the agenda, increasing support, etc.*

### **The financial terms of the Mobility Policy Document apply (€ 80 million annually in broad-based targeted state subsidy schemes for local and regional road safety policy).**

If insufficient financial resources are available, not all the measures can be carried out. *It is important to constantly clarify that the objective can only be achieved with these financial resources.*

### **The measures have sufficient political support.**

There is a risk that the proposed measures will not make it through Parliament. *This requires clear communication of the relationship between the policy objectives and the measures (and their effects). If no alternative measures are available, it may – in the most extreme scenario – be necessary to adapt the objective.*

### **The measures have sufficient support in society.**

There is a risk that people will not feel sufficiently called to take personal responsibility. *This requires as much communication as possible on why the policy and measures have been instituted, clarifying what people will gain from safe behaviour. Setting up a public forum for citizens will help here.*

Road safety is high on the agenda, even in municipalities where there are almost no road casualties.

Because there is a strong focus on the number of road fatalities, the urgency could decrease if there have been no deaths for years in certain regions.

*This requires expanding the focus from just the number of road fatalities to include a qualitative target and the number of injuries requiring hospitalisation, also expressed in the regional objectives.*





- Road safety policy has been successful for years
- Figures reveal areas of emphasis
- Influences of the ageing population
- Strong growth in passenger traffic by 15-40%
- Strong growth in freight traffic by 15-80%
- Effects of the multicultural society
- Role of Europe and foreign road users
- Increasing use of intelligent transport systems
- Changed relations between citizens and the government

## 2 State of the art and trends

### 2.1

#### Successful policy

The drop in the number of road casualties can in part be traced back to years of effort and a vast array of tangible measures in terms of engineering (road design and vehicle technology), education and enforcement: the three Es of international renown.

This three-way approach is monitored closely when measures are taken. If a measure is implemented to reduce alcohol consumption among drivers, for instance, public information is provided and adequate enforcement is ensured. Examples include the successful designated driver campaign (BOB), the campaign for bicycle lights and the campaigns for wearing seatbelts or helmets. An example from the enforcement field is the priority assigned to the basics: helmet, seatbelt, rear light, alcohol and speeding (HELMGRAS). Other examples of good initiatives – in the form of laws and regulations, public campaigns, education and enforcement – include the stricter blood-alcohol limit for novice drivers, public information campaigns, the back-seat seatbelt requirement, licence plates for mopeds, and intersections replaced by roundabouts.

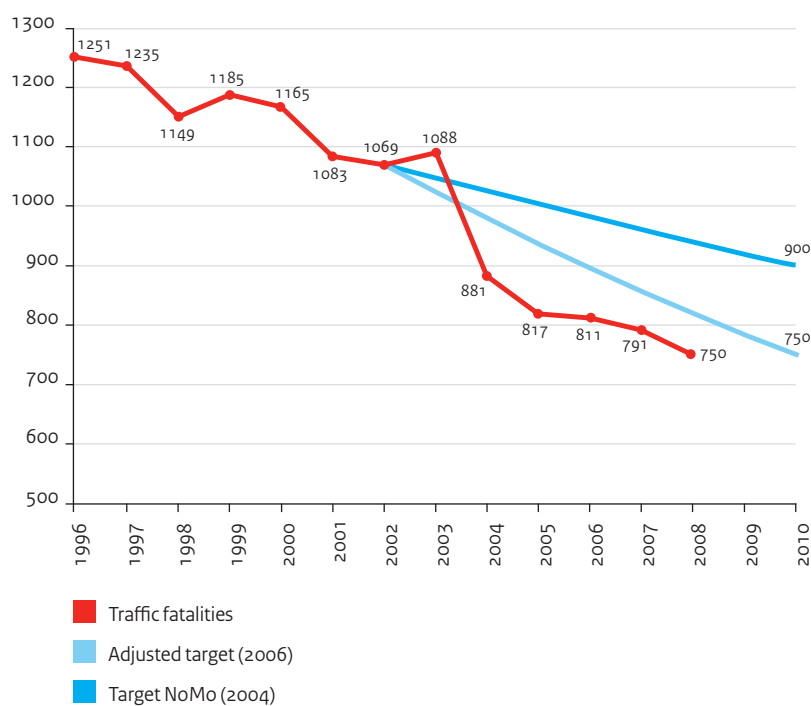
The most important successes in recent years are:

- Infrastructure guidelines according to the principles of ‘Sustainable Safety’;
- Road categorisation;
- Introducing more 30 km and 60 km zones;
- Improving intersections by installing roundabouts;
- Adding finishing touches to the driving licence system (nearly all vehicle categories involve a compulsory driving test or will soon have one, driver training has been improved, the test has been expanded to include risk recognition);
- Introduction of required child protection equipment, such as child safety seats and seatbelts;
- Introduction of back-seat seatbelt requirement;
- Various campaigns aimed at public information and human behaviour, supported by enforcement (designated driver, working lights, wearing helmets or seatbelts);
- Ban on handheld phone calls while driving a motor vehicle, moped or microcars;
- Introducing more stringent generic requirements for motor vehicles, such as the ban on bull bars (with a view to pedestrian safety), required ABS (Anti-lock Braking System) for lorries, and ESC (Electronic Stability Control) for transporting dangerous materials;
- Adapting regulations to clear the way for innovative technologies, for example in the field of lighting;
- EuroNCAP collision programmes and the surrounding publicity encourage manufacturers to invest in safety;
- Reinstatement of the rule that all traffic coming from the right has the right of way;
- Mopeds on the normal roadway.

## 2.2 Accident figures

The success of the policy and the measures is reflected in the substantial drop in the number of road casualties in recent years. 2006 and 2007 showed a (slight) drop in the number of fatalities from 817 in 2005 to 811 in 2006 and 791 in 2007; the number of injuries requiring hospitalisation dropped significantly in 2006 (by 5.3% to 16,750 injuries).

Figure 1: Traffic fatalities 1996-2008



In ten years' time, the number of fatalities in traffic decreased by over 30% and the number of injuries requiring hospitalisation dropped by over 11%<sup>2</sup>. The graph shows the development in the number of road fatalities and injuries requiring hospitalisation.<sup>3</sup>

### Positive developments

Further analysis of the accident figures reveals many positive facts and developments, despite increasing mobility. A few of the relevant developments include the following<sup>4</sup>:

- The decrease in the number of accidents occurs in nearly all age groups and nearly all vehicles;
- The chance of a fatal accident per one thousand million vehicle kilometres was nearly halved between 1997 and 2006 (from 11 to 6.1);
- The risk of accidents among the elderly also dropped between 1994 and 2004;
- The number of fatalities among pedestrians dropped in the years leading up to 2004, especially among children;
- Despite an increase in traffic intensity, the number of road fatalities dropped on 50 km and 80 km roads in particular (primarily due to measures introduced in infrastructure);
- Road users are better equipped for their driving responsibilities, primarily through improved driving skills in combination with good enforcement;
- The number of motorcyclists who died in traffic accidents has dropped sharply.

<sup>2</sup> Key figures on road safety, 2007 edition<sup>3</sup> Aantal verkeersdoden stabiel, SWOV press release on 23 April 2007

<sup>3</sup> Aantal verkeersdoden stabiel, SWOV press release on 23 April 2007

<sup>4</sup> Source: SWOV, De top bedwongen; Balans van de verkeersonveiligheid in Nederland 1950-2005



### Negative developments

- These successes require some qualification though. In some areas, accident figures appear to be stabilising or even increasing, or the risk of accidents remains relatively high. Facts and developments giving reason for concern include the following:
- The number of fatal accidents among the vulnerable groups of cyclists and the elderly increased in 2006, particularly among older cyclists;
- Single-person accidents involving cyclists are increasing<sup>5</sup>;
- Motor scooters and mopeds are seven times more likely to have an accident than bicycles; they represent a small percentage of total transport figures, but contribute to a considerable percentage of the number of fatalities and injuries requiring hospitalisation;
- Compared to experienced drivers, drivers aged 18 to 24 are nearly three times as likely to have a fatal accident;
- Motorcyclists remain a high-risk group: they are 24 times more likely to have a fatal accident than automobile drivers;
- Alcohol, drugs and medication continue to be an important factor in fatal accidents;
- Speeding and unsafe traffic situations go hand in hand;
- Roads that have a speed limit of 50 or 80 km continue to be the most important accident-prone roads;
- The number of road fatalities due to an accident with a lorry or delivery van is decreasing less quickly than the total number of road fatalities. As a result, their relative involvement is increasing.

## 2.3 Ageing population

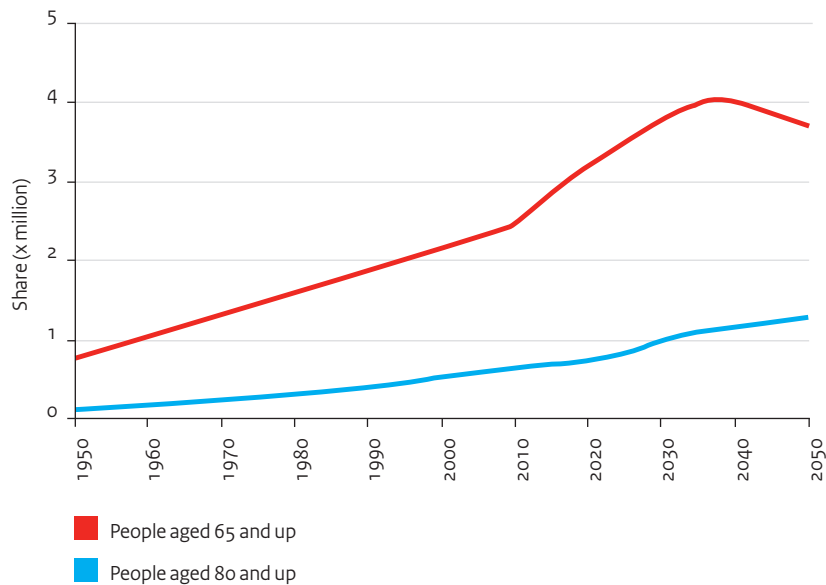
The increasing age of the Dutch population is relevant to road safety policy in the coming years. Because the elderly are among the vulnerable road users, it is unsurprising that it would have a negative impact on the development of the accident figures. The fact that the ageing population in the Netherlands is also reflected in declining numbers of children has a positive impact on the accident statistics. After all, children are also one of the vulnerable groups. In addition, a decreasing number of children also means a gradual decline in the number of novice drivers. On balance, however, these developments lead to an increasing lack of safety.



<sup>5</sup> Source: SWOV, Gewonde fietsers in het ziekenhuis, 2008.

From 2011 on, the post-war baby boom generation will be passing the age of 65, so the number of people aged 65 and up will increase from 2.37 million in 2007 (14.5%) to 3.28 million in 2020 (19.6%). The figure below shows the projected developments.<sup>6</sup>

Figure 2: Share of people aged 65 and up, 80 and up



This means that the group of road users in which relatively large numbers of casualties may be expected will increase significantly in the coming years. In addition, an accident in this group involves relatively major consequences and high healthcare costs<sup>7</sup>.

If we look at the age spectrum in traffic, we can see that the causes of their relatively significant involvement in accidents are almost diametrically opposed. Older people are more often at risk without being the actual source of danger, whereas the behaviour of novice drivers often makes them the risk factor. The challenge we face is to find measures that affect both groups and to prevent them from causing injury or damage to themselves and others. A different approach is taken to each group.

## 2.4 Growth in passenger traffic

<sup>6</sup> Source: CBS Bevolkingsprognose / [www.rivm.nl](http://www.rivm.nl), theme 'vergrijzing' (ageing)

<sup>7</sup> Kwetsbare verkeersdeelnemers. Rapportage over de kennisbasis voor een effectief beleid voor een veilige mobiliteit van kwetsbare verkeersdeelnemers, Rotterdam: Adviesdienst Verkeer en Vervoer, 2003; Aandacht voor kwetsbare verkeersdeelnemers levert iets op!, Rotterdam: Kennisplatform Verkeer en Vervoer, 2006

<sup>8</sup> Key figures on road safety, 2007 edition, p. 20

Transport by road will increase significantly in the coming decades. The Mobility Policy Document assumes a growth in passenger traffic of approximately 20% between 2000 and 2020. According to the scenario study for Welfare and Physical Environment published later by the Netherlands Bureau for Economic Policy Analysis (CPB), the Netherlands Bureau for Spatial Research (RPB) and the Netherlands Environmental Assessment Agency (MNP), we should now assume a growth of 15 to 40%, depending on economic developments. This means that the roads will get busier and the chance of road accidents will increase proportionately. The fact that the trend also emerges within built-up areas will primarily affect the road safety for such vulnerable road users as pedestrians, cyclists and the elderly. For many years now, we have seen that approximately one-third of fatal accidents take place on 50 km roads<sup>8</sup>. The more motorised traffic drives on these local roads, the more difficult it becomes to achieve the ambition of improving these statistics.

## 2.5

### Growth in freight traffic

Through 2020, freight traffic will grow between 15 and 80%, depending on international and economic developments, according to the Mobility Policy Document. These growth scenarios have now also been updated on the basis of the Welfare and Physical Environment study. If the economy flourishes, freight traffic – both lorries and delivery vans – will increase more rapidly than passenger traffic, shifting the ratio of freight to passenger traffic. The increase in heavy traffic will have an extra impact on traffic safety. Although heavy vehicles are involved in accidents relatively less frequently, the injuries in such accidents are generally more serious, and the incidents are more likely to cause fatalities.



## 2.6

### Multicultural society

Statistics Netherlands (CBS) expects the total percentage of Western and non-Western ethnic minorities in the Dutch population to reach approximately 21.5% in 2020.<sup>9</sup> In 2007, that percentage was 19.4%.

Based on research on the mobility of people of Turkish, Moroccan, Surinamese, Antillean and Dutch descent in the fifty largest cities in the Netherlands<sup>10</sup>, the Netherlands Institute for Social Research (SCP) concludes that people from non-Western ethnic minorities are less mobile. They travel less frequently than the indigenous Dutch population and travel fewer kilometres in approximately the same time period. They also use public transport more often when they travel. The group of ethnic minorities included in the study showed a clearly lower use of cars and bicycles than the indigenous Dutch population, although this is beginning to change.

In general, the travel behaviour among Dutch people from ethnic minorities is good for road safety. Investments in the quality of public transport would be an appropriate step towards maintaining this positive balance, as would consideration of public areas from a pedestrian's perspective.

Due to the ongoing integration and emancipation of ethnic minorities, their traditionally limited participation in motorised and other traffic will presumably increase. This expected trend towards a wider use of bicycles and cars in the country deserves our attention.

<sup>9</sup> J. Garssen, H. Nicolaas, A. Sprangers, Demografie van de allochtonen in Nederland, in: Statistics Netherlands, Bevolkingstrends derde kwartaal 2005

<sup>10</sup> L. Harms, Anders onderweg: de mobiliteit van allochtonen en autochtonen vergeleken, The Hague, Sociaal Cultureel Planbureau, 2006

What all this means in relation to road safety is not yet entirely clear. However, the trend is important enough to warrant keeping an eye on how it develops and conducting further research on its consequences for road safety. We need to prevent road users from ethnic minorities from becoming a risk group.

## 2.7 Internationalisation

The international importance of road safety is apparent from the ongoing globalisation of the topic. The Global Road Safety Week organised jointly by the UN and the WHO in April 2007 illustrated this trend. Worldwide interest arose from the concern about the costs society pays for unsafe traffic conditions and human suffering as a result of accidents. Moreover, the expectation is that the number of road casualties will continue to grow worldwide, particularly in developing countries<sup>11</sup>. Road safety in developing countries is the number-one cause of death among young people aged 15 to 21.

As 'world champion of road safety', the Netherlands should act as a role model; working in concert with other countries that do well in this area, we can and should help the countries that are not doing as well.

### European Union

The European Union is gaining influence as an executive body and as a regulatory authority. In some areas, such as vehicle technology, the Netherlands is highly dependent on Europe. Accordingly, the Netherlands is making every effort – in conjunction with other member states, organisations and the European Commission – to keep increasing motor vehicle safety. This is increasingly important because a considerable percentage of road safety improvements – and our ability to meet the 2020 targets – are expected to come from (new) vehicle technology.

The accession of more countries with relatively unsafe traffic has lowered the EU's overall performance on road safety. The European objective to reduce the number of road casualties by half in the period through 2010 (compared to 2003) is under pressure as a result. Countries with relatively unsafe roads are still in a position to institute the most obvious measures and hence take much greater strides towards achieving the objective than front-runners like the Netherlands. However, the Netherlands could still benefit from exchanging best practices with other countries in Europe that are doing well on road safety. Working in concert with those countries, we could also lead the way for countries that have farther to go.

### Foreign road users

In the Netherlands, foreign road users represent over 10% of the traffic violations. Since the opening of the inner borders in the EU and the increase in road traffic throughout Europe, the number of foreign road users in the Netherlands has been increasing.

Driving licence requirements have been equalised in the European Union by now, but not all countries train and test their drivers as thoroughly as the Netherlands. In particular, some drivers are relatively unfamiliar with the prominent role that cyclists play in Dutch traffic, which can have unfortunate consequences. We will be focusing extra attention on this aspect with public information and campaigns. Conversely, we can pay more attention to Dutch drivers abroad. By providing accurate information, we can help to prevent accidents in foreign countries.

<sup>11</sup> World report on road traffic injury prevention, WHO 2004

## 2.8 Technology

A great deal of new technology is currently being developed, more and more of which is hitting the market. Mobility technology is also increasingly advanced. This trend is relevant to the Ministry of Transport, Public Works and Water Management in view of the policy targets for accessibility, road safety and the environment. After all, new systems can make the traffic system more efficient, cleaner and safer.

We see a clear trend towards a car filled with sensors. They make driving easier, warn the driver of risks and/or intervene on their own initiative if danger occurs. For example, Anti-lock Braking Systems (ABS) and Electronic Stability Control (ESC) keep the car under control under difficult conditions, such as sudden evasive manoeuvres or braking sharply on a slick surface. By now there are also applications that help drivers control the car on an ongoing basis. This includes keeping the right distance from the vehicle ahead (ACC), stay in the same lane (LDWA) and maintain a safe speed (ACC). Technology is also taking on a more important role along the roadside, such as peak-hour lanes, ramp meters and traffic management. This development in technology will continue strongly in the coming years.

In deciding whether or not to introduce new technology, due consideration should be given to potential side effects that might distract drivers from what they are doing, such as navigation systems or on-board diagnostics. Another development is the arrival of entertainment devices in cars, such as DVD players. If this presents a danger to road safety, it will need to receive more attention.

Public support is important. Experience shows that innovative products are generally used voluntarily at first, followed by gradually growing support. In the long term, an innovative application becomes standard usage out of habit, either on its own or in response to a statutory requirement.



## 2.9

### Relations between citizens and the government

Relations between citizens and the government have changed dramatically in the past few decades. The Dutch have become more articulate and are more aware of the power they possess as consumers, due in part to increasing Internet use. The government is aware of this development (as evidenced e.g. by the *Andere Overheid* or 'Different Government' programme) and therefore aims to be more reserved in what it regulates and how. The government wants to rely on forces within society more often, providing room for articulate, engaged citizens who are able to arrange things for themselves.<sup>12</sup>

This development requires a government that positions itself as an ally to society, wants to be reliable and works with citizens to find solutions. The aim is to have a different philosophy of government with better, customer-oriented services, less bureaucracy and a more effective government structure. In its new role, the government also focuses more attention on dialogue, on listening to and working with citizens, for example by making it possible to submit ideas via Internet. The government needs to trust people, allow room for them, and equip them to participate fully and bear responsibility. The government needs to have a helpful attitude and put the citizens in the spotlight. Rules are still necessary and must be followed - but it is important at all times to keep a close eye on whether a rule is actually productive.

This requires a reduction in 'administrative hassle', better methods of governance and an intensive dialogue with society. Not imposing blueprints from above, but seeking out public support, remaining open to private initiatives, pursuing solutions tailored to the situation, and decentralising where possible. The government does have responsibilities of its own. But this in no way diminishes the fact that policy that emerges from a dialogue will lead to greater engagement. That does promote feasibility and leads to better results.

Trust is the foundation of any well-functioning government. The government *gives* trust to citizens and to professionals and implementing organisations in the public sector, whose expert knowledge is crucial. The government *earns* trust by providing good service, engaging in dialogue with citizens and maintaining a good balance between meticulous care and decisive action.

This is how the government wants to operate, on its own and in cooperation. The Ministry of Transport, Public Works and Water Management expressed that desire in developing the Road Safety Strategy; it also aims to do so in implementing road safety policy.

<sup>12</sup> Actieprogramma  
'Andere Overheid',  
see [www.andereoverheid.nl](http://www.andereoverheid.nl)







- groups of road users require extra attention
- categories of roads and vehicles present particular problems



# 3 Areas of emphasis in analysis

The decision to focus on areas of emphasis that call for a specific approach in the coming years is based largely on the analysis of the accident data (Chapter 2). This analysis underlines the fact that some groups of road users are systematically more at risk in traffic, relatively speaking. The figures also show that some groups have benefited less or not at all from the improved road safety over the past years. They also confirm that some road types, vehicles and other aspects of mobility are relatively more likely to lead to problems. Several other areas of emphasis are based on trend analysis (Chapter 3).

It would seem obvious for the road users who have traditionally been vulnerable to be amply represented in the areas of emphasis. Their vulnerability is primarily related to the following factors: the extent to which their vehicle protects them in traffic, their competence, the mass differential and the speed differential between the road user and the 'collision partners'.<sup>13</sup>

The vulnerable road users include pedestrians, cyclists, children and the elderly. Road fatalities and injuries requiring hospitalisation among cyclists and pedestrians represent nearly half (47%) of total road casualties. There is no need to explain why these groups are among the areas of emphasis in the coming years.

## 3.1 Pedestrians

Pedestrians move through public areas without any protection. Research by the SWOV road safety research institute shows that children aged 5 to 11 and adults aged 75 and over run the highest risk of being involved in a traffic accident.<sup>14</sup> Most accident victims in this category are involved in accidents within the built-up area (84%), 75% of which are on 50 km roads. The most important 'collision partner' on these roads is the passenger vehicle; at speeds above 30 km, the likelihood of the accident ending in a fatality increases very sharply. A significant percentage (41%) of the serious accidents involving (older) pedestrians takes place on or near pedestrian crossings.<sup>15</sup> Accidents involving children are often related to their age: playfulness, lack of knowledge and experience, and an inability to assess traffic situations accurately (yet).

## 3.2 Cyclists

Cyclists also move through traffic with almost no protection, at limited speed and mass. In 2006, cyclists were involved in a quarter of the traffic accidents that ended in fatalities. Cyclists represent 47% of the total road casualties (fatalities, injuries requiring hospitalisation, and injuries treated in the emergency room). The general trend is decreasing, but the

<sup>13</sup> SWOV-Factsheet Kwetsbare verkeersdeelnemers, Leidschendam, SWOV 2007

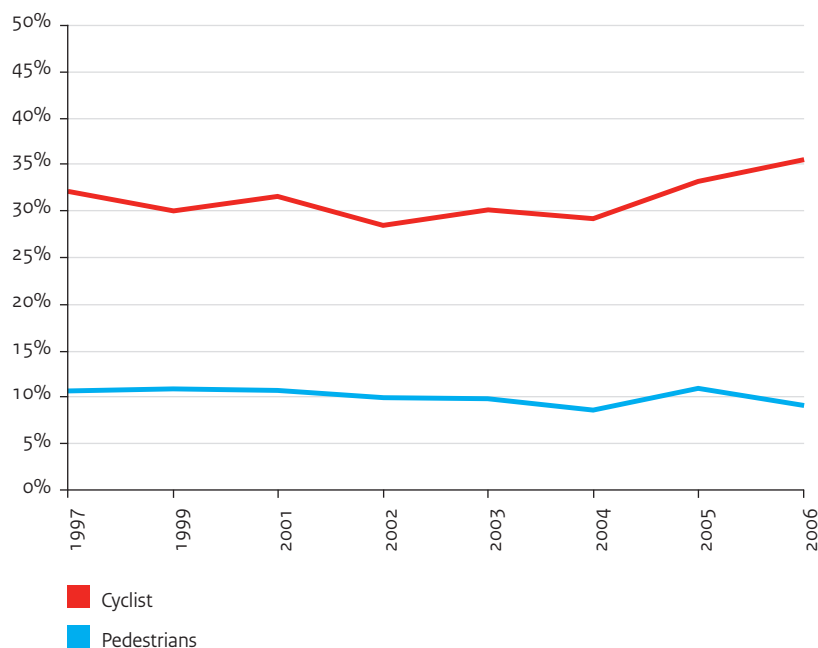
<sup>14</sup> SWOV-Factsheet Voetgangers, Leidschendam, SWOV 2006

<sup>15</sup> SWOV-Factsheet Voetgangers, Leidschendam, SWOV 2006

number of fatal accidents involving cyclists has risen sharply in recent years: from 180 in 2004 to 216 in 2006. Most of the road fatalities among cyclists are in the category of 60 years and up (76 in 2005, 106 in 2006). Young people aged 12 to 17 are also overrepresented here (17 in 2005 and 21 in 2006).

Cycle accidents primarily take place at intersections within the built-up area, particularly at crossings with 50 km roads.<sup>16</sup> The most important 'collision partner' is the passenger vehicle, especially in situations in which the cyclist and the car are crossing the intersection and going straight. Cycle accidents also involve a notable percentage of single-person accidents.

Figure 3: Share of pedestrians and cyclist in total amount of traffic fatalities



### 3.3 Single-person accidents

<sup>16</sup> F. Wegman, L. Aarts (eds), *Door met Duurzaam Veilig*, Leidschendam, SWOV 2005, pp. 184 ff.

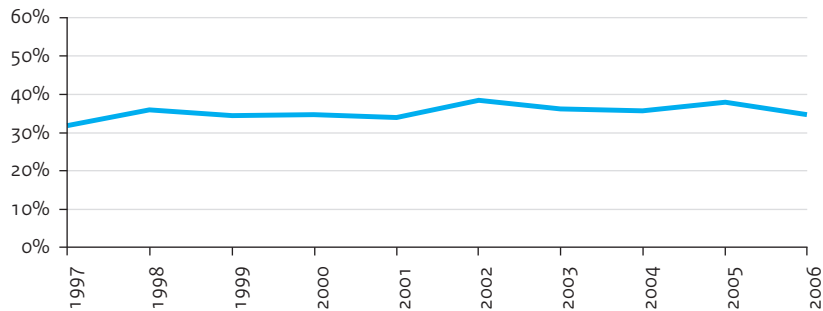
<sup>17</sup> combination of sources: accident register for the Netherlands (Bestand Registratie Ongevallen Nederland - BRON), the national medical registration system (Landelijk Medisch Registratiesysteem - LMR) and the injury information system (LetseL Informatie Systeem - LIS)

<sup>18</sup> R. Methorst, M. van Essen, M. Ormel, *Letselongevallen van voetgangers en fietsers. Van 'verkeersongeval' naar 'verplaatsingsongeval'?*, Adviesdienst Verkeer en Vervoer, April 2007, p. 58

60% of cycle accidents in 2000 involved a single-person accident on a cycle path: a fall or a collision with an obstacle. There can be no doubt that not all such incidents are registered. A recent study on accidents resulting in injuries among cyclists and pedestrians<sup>17</sup> confirms – in contrast to the prevailing opinion – that the majority of injuries requiring hospitalisation among cyclists and pedestrians occur in accidents that do not involve any motorised traffic at all. Accordingly, any policy focusing exclusively on managing conflicts between cars and slow-moving traffic will not offer a solution to this problem.<sup>18</sup>

Registration centres for poorly maintained cycle and/or walking paths may help reduce the number of single-person accidents. This certainly applies to the vulnerable group of the elderly, who on average are more susceptible to problems on uneven pavement. Many municipalities have been setting up such initiative for years, as have the ANWB and the Dutch cyclists' association. These initiatives should be followed and duplicated.

Figure 4: Share of traffic fatalities as a result of single-crash accidents



### 3.4 Children

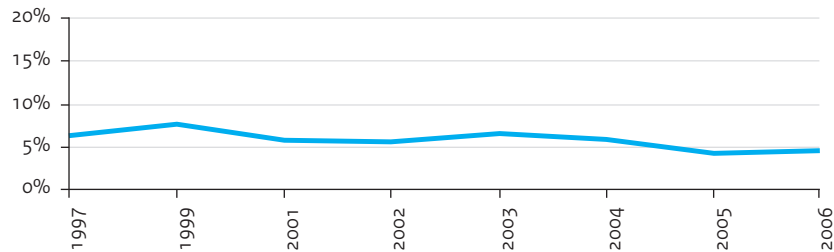
Children are a vulnerable group, simply because they are children and are still developing the skills they need to take part in traffic independently. Child fatalities in traffic generally occur among pedestrians, cyclists or car passengers; in nearly all cases, motor vehicles are the 'collision partner'. Overall, children travel the most kilometres as car passengers (75% of their travel kilometres); cycle kilometres represent 14% of the total number. The greatest risk is among children aged 10 to 14 who start cycling in traffic on their own.<sup>19</sup> That development is rapid; the group of children aged 12 to 14 travel one-third of the total number of kilometres cycled in the Netherlands. As the number of kilometres cycled by children grows, the number of kilometres that the children travel as car passengers decreases. The increase in mortality among young cyclists is due to this shift.



<sup>19</sup> SWOV-Factsheet  
Verkeersveiligheid van kinderen  
in Nederland, Leidschendam,  
SWOV July 2004

This breaks with the trend in the past: Between 1994 and 2002, the number of cycling and pedestrian kilometres for children decreased by 10% and 20%, respectively; the number of car kilometres in those years rose by 10%.<sup>20</sup>

Figure 5: Share of children in total amount of traffic fatalities



### 3.5 The elderly

All those involved in road safety are responsible for ensuring that the elderly can participate in traffic safely. The options for older people to stay mobile for longer are increasing. Because this group is vulnerable regardless, the attention for this group should emphasise protection, information, education and support.

The OECD states its key principle for road safety for the elderly as follows: *'the elderly are not risky, they are at risk'*.<sup>21</sup> Considering their age and experience, there is generally nothing wrong with the traffic behaviour and risk perception of the elderly: they often compensate for reduced competence by exercising extra caution. They cause relatively few traffic accidents.<sup>22</sup> The fact that the elderly still represent a relatively high percentage of traffic accidents is related to their physical vulnerability, but also to other road users and their behaviour.

According to the SWOV, the risk of death per kilometre travelled is six times higher than average for people aged 75 and up.<sup>23</sup> The risk of death is particularly high for cyclists aged 75 and up: approximately twelve times as high as for the average cyclist. The age category of 65 and up is also overrepresented, both in road fatalities (approx. 30% of the total)<sup>24</sup> and in injuries requiring hospitalisation (approx. 20%).

Important causes of the increased risk include functional disorders and physical vulnerability.<sup>25</sup> The decline in motor functions results in slower movement, reduced muscular strength, reduced fine motor coordination and a significantly reduced ability to adapt to sudden changes in posture. The final factor is particularly relevant to maintaining balance on a bicycle. In addition, older people are more physically vulnerable than younger people: in the same collision impact, the elderly are more likely to have a serious injury. Most of the accidents involving the elderly occur during left turns (older drivers and cyclists) and while crossing the street (older pedestrians and cyclists).<sup>26</sup>

Initiatives that help the elderly increase their awareness of their role and position in traffic offer opportunities for strengthening their position in traffic. In addition, vehicle technology could be used that supports the elderly during driving.<sup>27</sup>

<sup>20</sup> SWOV-Factsheet Verkeersveiligheid van kinderen in Nederland, Leidschendam, SWOV July 2004

<sup>21</sup> Aging and transport. Mobility needs and safety issues, Paris: OECD 2001

<sup>22</sup> Ouderen en ITS: samen sterk(er)?, Leidschendam, SWOV 2004

<sup>23</sup> SWOV-Factsheet Ouderen in het verkeer, Leidschendam, SWOV, July 2005

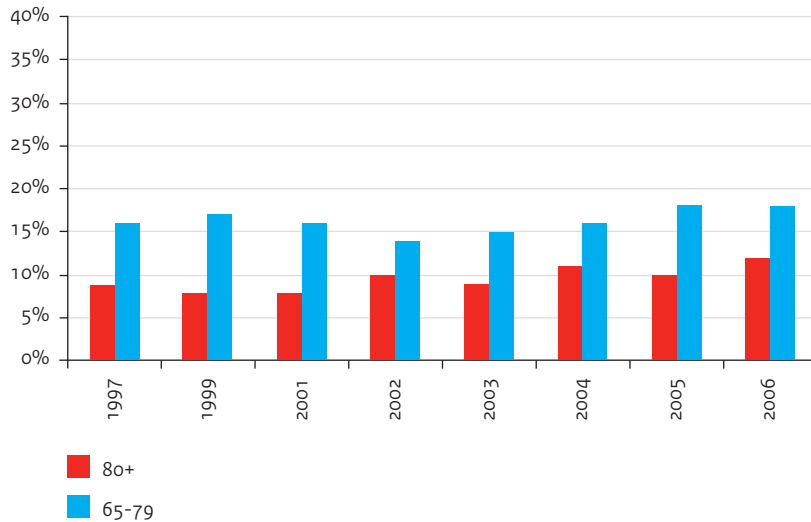
<sup>24</sup> Key road safety figures, 2007 edition

<sup>25</sup> SWOV-Factsheet Ouderen in het verkeer, Leidschendam, SWOV, July 2005

<sup>26</sup> SWOV- Factsheet Ouderen en infrastructuur, Leidschendam, SWOV 2005

<sup>27</sup> R. Davidse, Assisting the older driver, SWOV, 2007, pp. 202 ff.

Figure 6: Share of older persons in total number of traffic fatalities



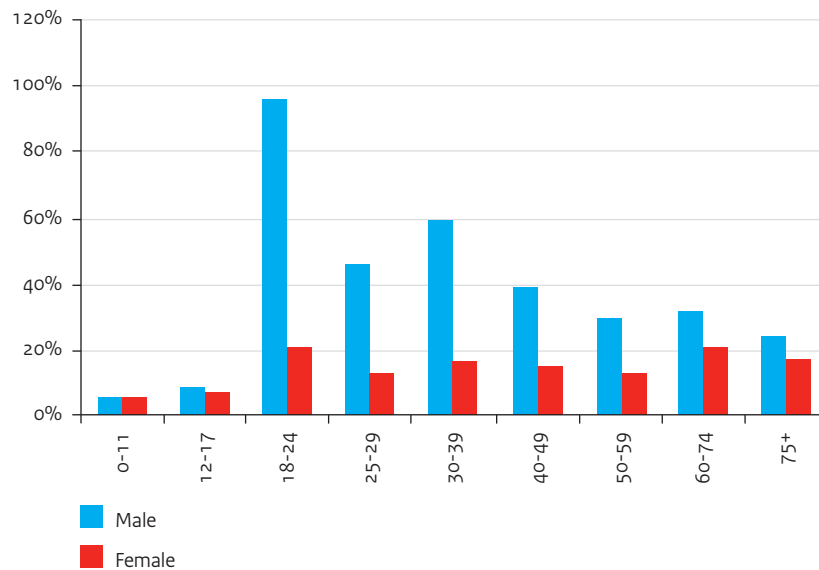
### 3.6 Novice drivers

Novice drivers have a high risk of accidents, in the first years and especially the first months after they obtain their driving licence. Compared to experienced drivers, drivers aged 18 to 24 are nearly three times as likely to be involved in serious accidents. Some causes are related to such age-specific factors as overconfident behaviour, risk acceptance, overestimation of personal skill, lack of risk perception and insufficient recognition of danger. The lack of experience in traffic also presents problems for this group. Driving experience is a key factor in driver safety. Frequent repetition of actions, as well as driving many kilometres in various areas, helps drivers to 'automate' their actions, making them safer road users. Novice drivers have not yet had enough time to develop such automatic reflexes.



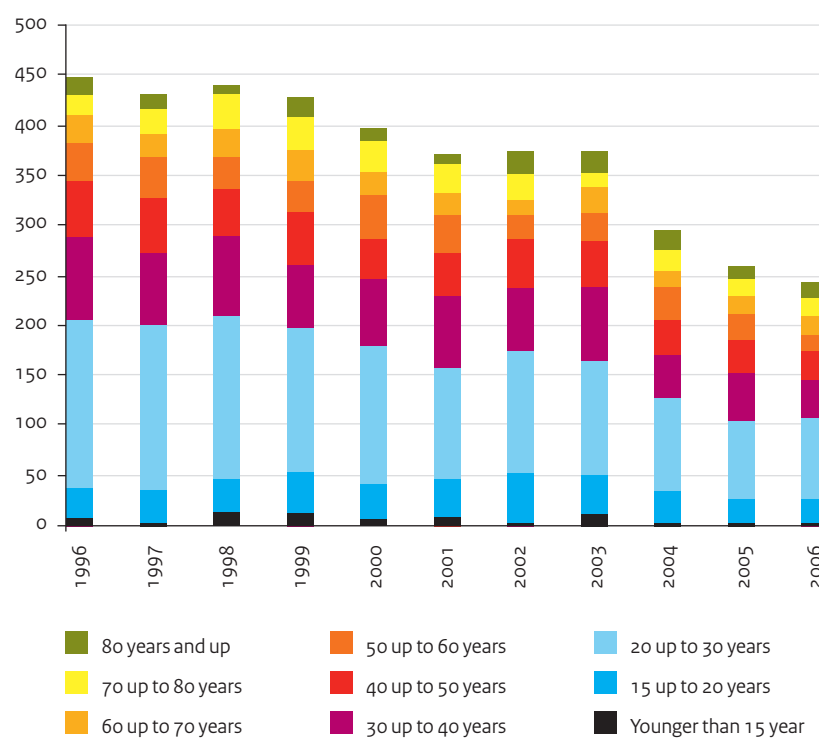
The graph above shows that men in all age categories are more frequently involved in fatal car accidents than women are; the difference is greatest in the 18-24 year age category (about 5:1).

Figure 7: Share of traffic fatalities in car crashes 1997-2006 by age



This graph of the last decade shows that young men represent by far the highest percentage of road fatalities among men in passenger vehicles.

Figure 8: Average number of male traffic fatalities in vehicles



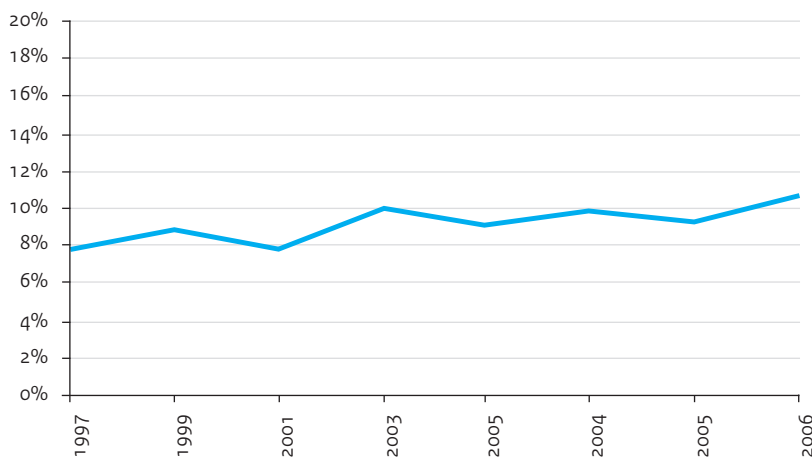
### 3.7

## Motor scooters, mopeds and microcars

People who ride motor scooters and mopeds have a high risk of having an accident: 91 deaths per one thousand million kilometres travelled (motorists and cyclists represent 3 and 12 deaths per one thousand million kilometres travelled, respectively).<sup>28</sup> The report 'Continuing Sustainable Safety' therefore asks whether motorised two-wheelers can be included within the scope of Sustainable Safety.<sup>29</sup> The report does not consider it possible to reduce the risks to, for example, the level of cars without instituting draconian measures. Recent figures support this belief. Despite every effort, the number of fatal accidents involving motor scooters and mopeds has in fact increased (from 77 in 2005 to 87 in 2006).<sup>30</sup>

The causes of the high risk of accidents are related in part to the vehicle: its greater instability, manoeuvrability and acceleration. The vehicles are smaller and therefore less noticeable. Other causes are related to how these vehicles are used and the people who use them. For example, other road users appear to be less able to assess what they will do next. Among motor scooter and moped riders, young people aged 16-17 are a notorious high-risk group due to the aforementioned age-based factors.<sup>31</sup> That is why a practical driving test will be introduced for mopeds and motor scooters. Besides young people, people aged 70 and up are also among the road fatalities in this category. A practical driving test will also be introduced for microcar drivers.

Figure 9: Share of motor scooters, mopeds and microcars in total amount of traffic fatalities



<sup>28</sup> F. Wegman, L. Aarts (eds), Door met Duurzaam Veilig, Leidschendam, SWOV 2005, pp. 193 ff.

<sup>29</sup> F. Wegman, L. Aarts (eds), Door met Duurzaam Veilig, Leidschendam, SWOV 2005, p. 193

<sup>30</sup> Key figures on road safety, 2007 edition, p. 16

<sup>31</sup> SWOV-Factsheet Jonge Bromfietzers, Leidschendam, SWOV 2006

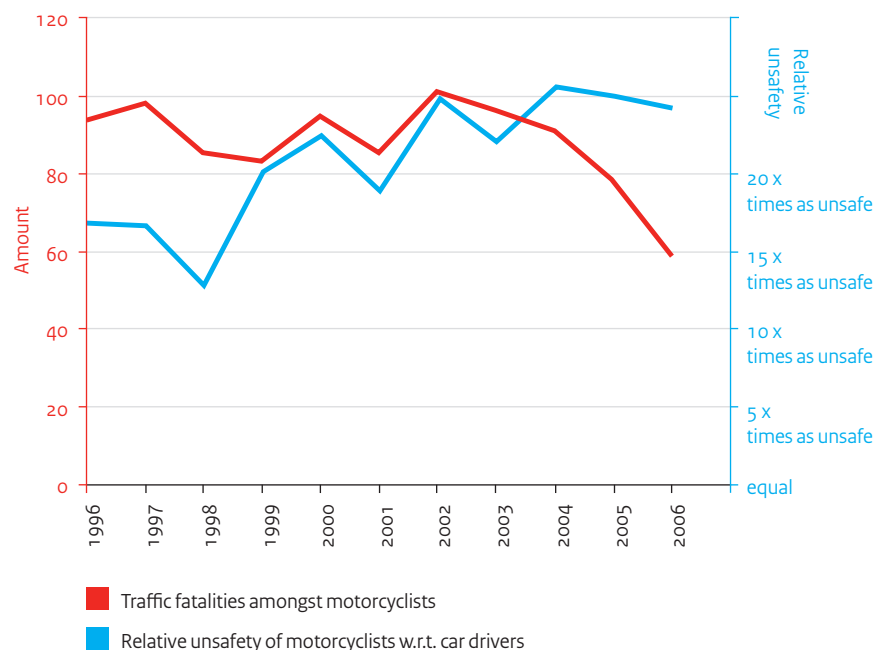


## 3.8 Motorcyclists

Since 1986, the number of motorcycles in the Netherlands has quadrupled; there are now more than half a million motorcycles. The most significant increase in motorcycle use was noted among people in their thirties and fifties. However, the number of motorcyclists up to age 25 is decreasing. Strikingly, the number of kilometres travelled by motorcycle has remained almost constant since 1986 (around 1 thousand million), while the number of kilometres travelled by car has increased by about 50%. The motorcycle is increasingly viewed as a recreational vehicle. Although the number of accidents involving motorcyclists has been dropping for several years now, the relative lack of safety compared to motorists remains high. In 2006, 59 motorcyclists died as the result of a traffic accident; that figure was 78 the year before. A motorcyclist is 24 times more likely to have a fatal accident than a person driving a car.

The graph above illustrates the sudden drop in road fatalities among motorcyclists in 2006. The graph below compares the relative lack of safety per one thousand million kilometres travelled, looking at various modes of transport.

Figure 10: Unsafety of motorcyclists



The interaction between motorcyclists and other road users is an important factor in accidents. The international MAIDS<sup>32</sup> study subscribes to this view and notes that in many accidents, the person driving the car had not seen the motorcyclist. The SWOV<sup>33</sup> attributes a quarter of the accidents to motorists failing to give motorcyclists the right of way. According to SWOV surveys<sup>34</sup>, the motorcycle must have been within the motorist's field of view in most of the accidents. The surveys show that many motorists slowed down, looked around or even stopped altogether prior to the accident.

Although nearly all motorcyclists use daytime lights, 70% of the car drivers noticed the motorcycle too late or not at all. Nearly 70% of the motorcyclists had seen the other vehicle but (wrongly) did not expect any problems. Motorcycle visibility plays a major role in

<sup>32</sup> See the ACEM website

<sup>33</sup> Kampen en Schoon, 2002

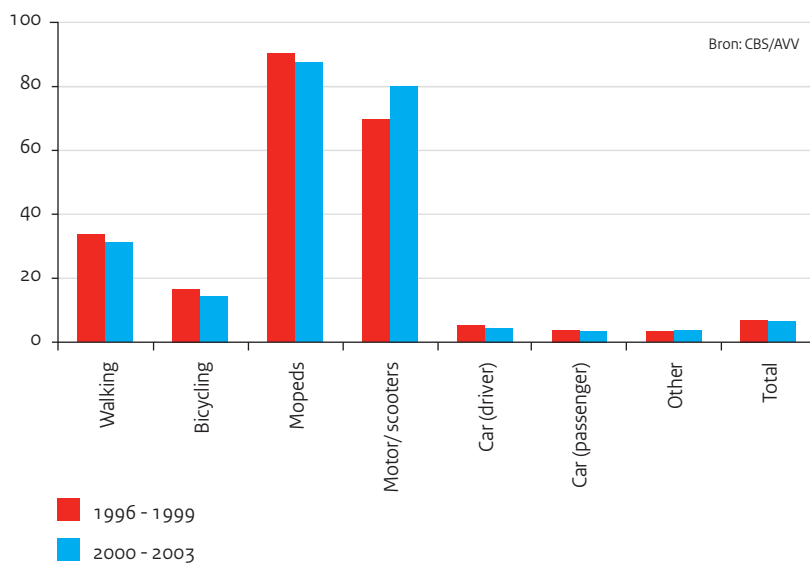
<sup>34</sup> Vis, 1995



accidents. Although the automobile driver does bear responsibility here, motorcyclists, on their part, should also keep their poor visibility in mind. That is why the Ministry of Transport, Public Works and Water Management and the Dutch Motorcycle Platform are launching a joint campaign on visibility – ‘*Look sharp, attract attention*’ – targeting both motorcyclists and motorists.

As far as speed goes, the motorcyclist also needs to make the next move. According to their own statements, half of motorcyclists drive faster than the maximum speed limit on 50 km roads; 40% do so on 80 km roads.<sup>35</sup>

Figure 11: Average number of traffic fatalities per billion kilometers travelled



### 3.9 Driving under the influence

The use of substances that have a negative influence on driving ability – alcohol, drugs and medication – is an important cause of unsafe traffic conditions. Although the number of registered victims<sup>36</sup> is lower, scientists estimate that there are approximately 200 fatalities and 2000 injuries requiring hospitalisation every year due to alcohol consumption in traffic. About 10% of the total number of road casualties can be attributed to drug use, including medication. This represents about 80 deaths a year. In all, substance use is estimated to cause approximately 280 road fatalities per year: nearly 40% of all road fatalities. As a result, the police and the public prosecutor’s office have instigated stricter checks for driving under the influence.

Accurate testing for alcohol consumption is possible. The technical equipment is reliable and has proven its worth in recent years. There are no adequate ways to test for drug and medication use, at least not yet. Research to find quick, reliable methods of detection has been done for years, but no satisfactory tester is available yet. In practice, this makes it almost impossible to check for drugs and medication. Police and addiction experts believe that the use of alcohol alone or drugs alone (single-substance use) occurs less frequently. Increasingly, it is the combination of substances that causes problems, often in conjunction with fatigue. This development requires new methods and measures, in detecting and in dealing with the problem.

<sup>35</sup> Source: SWOV

<sup>36</sup> In single-person accidents involving fatalities, alcohol consumption is only checked if there is a question of liability; since this is frequently not the case, blood-alcohol levels are not checked in the majority of these accidents.



Besides enforcement, public information campaigns will need to continue playing an important part in the approach to this area of emphasis. The guiding principle should always be that we address each target group in the most appropriate way for that target group.

### Fatigue

Internationally, driver fatigue is increasingly widely acknowledged as a major factor in accidents. Exact figures are not known, but it is estimated to be so in about 15% of accidents. Fatigue is often already at play before people decide to enter traffic. Various causes are involved, but driver fatigue often involves a lack of sleep (sometimes due to sleep disorders) or poor physical condition (lack of exercise, poor nutrition, alcohol). In addition, human biorhythm causes fatigue to occur at various moments of every day. It is important to note that people are generally not aware of the correlation between fatigue and the risk of an accident. In addition, people often do not realise that they are already tired when they get behind the wheel.

There is no reliable equipment available to determine the level of fatigue. However, we can help road users be more aware of the risks. For example, we can give drivers tips on how to prevent fatigue in traffic, how to recognise fatigue while they are driving, and what they can do about it. In mid-2008, the Ministry of Transport, Public Works and Water Management will accordingly be launching a public information campaign on this topic, involving participation from many different organisations.

## 3.10 Speeding drivers

Appropriate speed is important to road safety, traffic flow and the environment. Research shows that there would be 25-30% fewer injuries from accidents in the Netherlands if all motorists kept to the speed limits.<sup>37</sup> The combination of high speeds and significant differences in direction and mass cause particularly many casualties. The accident register shows that the combination occurs primarily on 50 and 80 km roads.

<sup>37</sup> Snelheid en snelheidsbeheersing;  
Drs I.N.L.G. van Schagen  
R-2006-13, p. 30

### 3.11

## 50 km and 80 km roads

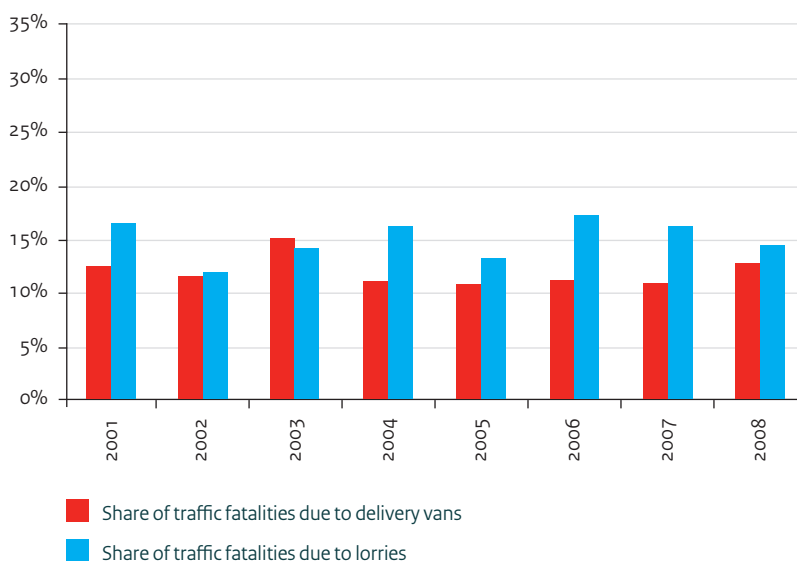
The relative lack of safety on these roads has been known for many years. Measures have already achieved a great deal: a clear decrease in the number of accidents can be observed. And yet, over half of road fatalities still occur on 80 km roads, and 33% on 50 km roads. Nearly half of accident injuries requiring hospitalisation occur on 50 km roads, and a quarter on 80 km roads.<sup>38</sup> Points of departure for policy focus on road design, on adopting and mastering appropriate road behaviour (based on public information, education and enforcement), and possibly on introducing vehicle-based devices (such as the Lane Departure Warning Assistant or LDWA).

### 3.12

## Lorries and delivery vans

The increase in freight traffic, both lorries and delivery vans, and the ageing population are trends that reinforce each other's negative impact on road safety. Through 2020, freight traffic will grow between 15 and 80%, depending on international and economic developments, according to the Mobility Policy Document. The aim is to reduce the contribution that lorries and delivery vans make to unsafe traffic conditions; this contribution will no longer be excessive in 2010 and will continue to be reduced after 2010. In recent years, the number of road fatalities<sup>39</sup> due to an accident with a lorry or delivery van has been decreasing less quickly than the total number of road fatalities. However, the inequality compared to 'collision partners' is what causes the most damage. Road users driving a motorised vehicle that involves a major risk of injury and death to other road users due to the vehicle's weight and size can be expected to do their very best to prevent accidents.

Figure 12: Share of lorries and delivery vans in total number of traffic fatalities

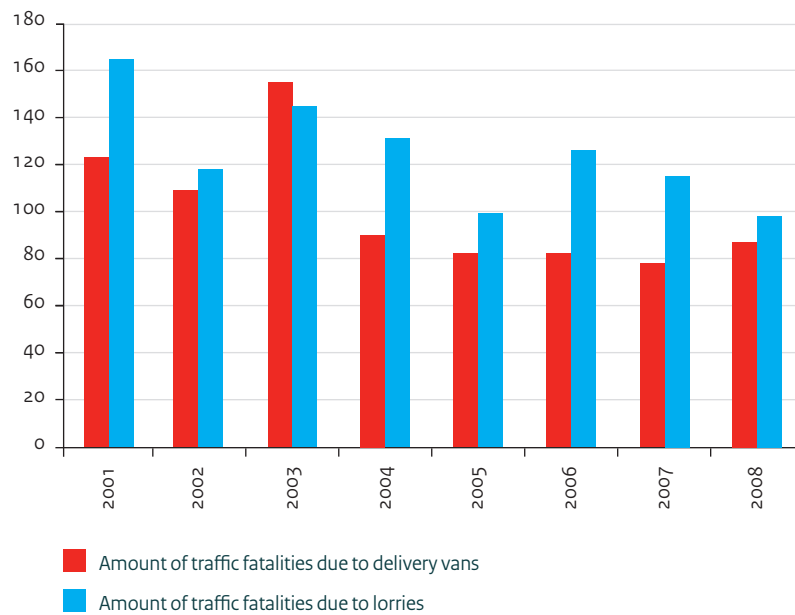


<sup>38</sup> Source: AVV key figures

<sup>39</sup> When counting accidents with lorries and delivery vans, casualties from accidents that involved both a lorry and a delivery van are counted twice. As a result, these two categories seem slightly larger than their actual size. In 2006, the overlap in these categories was 2%.

Delivery vehicles characteristically vary widely in terms of vehicle dimensions, ranging from small passenger vehicles adapted to transport goods, through to cars that closely resemble small lorries. This diversity is also reflected in how the vehicles and drivers are used, from occasional trips by house painters to frequent use by courier services. The corporate culture in the lorry and delivery van sector overlaps in many ways with freight traffic, which offers an important lead for finding a solution.

Figure 1 3: Traffic fatalities lorries and delivery vans (registered)









- Continuing to build on the cornerstones of road safety policy
- Sustainable Safety approach; prioritisation based on risks
- Balance between central control and local/provincial responsibility
- Enforcement will continue unabated
- Rewards as incentives
- Lifelong traffic education
- Continuing to develop knowledge
- Responding to and using human behaviour
- Interaction between man and technology
- Using recognisable infrastructure
- Applying innovative solutions
- Generic measures for everyone
- Specific measures targeting areas of emphasis
- Keeping a close watch on developments until 2020

# 4 Approach

In the chapter on key principles and ambitions, we stated that the tougher targets from the Mobility Policy Document for 2010 and 2020 are feasible within the current mobility system. The Ministry of Transport, Public Works and Water Management currently sees no need to make fundamental changes to this system. All the measures we institute balance out the advantages and disadvantages. They seek out the limits of freedom in our mobility system, exploring where to intervene in that freedom, and where not. A good example of this is the discussion on raising the driving age for motor scooters to 17.

The tough targets spur us to invest extra efforts in road safety. The good results in recent years were achieved primarily by building on the three cornerstones of our policy: cooperation, an integral approach and 'Sustainable Safety'. These three policy principles are expressed in all our measures, which can be categorised into measures dealing with infrastructure, vehicles and people.

## 4.1 Three cornerstones

In road safety policy in the coming years, the Ministry of Transport, Public Works and Water Management will be building on the three cornerstones that the Minister mentioned in May 2007 in a letter to the Lower House of Parliament: cooperation, an integral approach and 'Sustainable Safety'.

*Cooperation* is indispensable in a policy theme that is in everyone's best interests, even if only in the capacity of a road user. We pursue cooperation according to the motto of 'local where possible, central where necessary', because the central government does not bear full responsibility for everything. For that reason, the Ministry of Transport, Public Works and Water Management cooperates with provinces, urban regions, municipalities and water boards to implement policy, also working with other government ministries and the police and Public Prosecution Service. Many civil society organisations also contribute to improving road safety. 'Working together for a safer Netherlands with safer roads' has been the motto in recent years, and it has yielded results.

The second cornerstone of our policy is the *integral approach*. The Ministry of Transport, Public Works and Water Management does not focus on road safety as an isolated issue. We view it in a broader context. Connecting this topic to the targets in other fields of policy ensures added value. For example, the approach to alcohol in traffic also contributes to public health objectives, and vice versa. Pro-active, systematic public information policy, often focusing on specific target groups, is defined by coordination with civil society organisations, police and the Public Prosecution Service. Working from a collective campaign calendar, we coordinate public information and enforcement activities. Good cooperation with other government authorities is and will continue to be important. Good examples of cooperation include traffic enforcement, education, injury prevention, and alcohol and drugs in traffic. No other country coordinates regulation and the possibilities (or impossibilities) of enforcing those regulations as effectively as the Netherlands. Cooperation with the Public Prosecution Service and the police on enforcement is also necessary at a local level. Traffic education is part of what is taught in schools; for example,



a physics class might calculate the braking distance at various speeds. An initiative by the Ministry of Health, Welfare and Sport has launched an inter-sectoral study on injury prevention (encompassing injuries from accidents, violence and suicide attempts); if common determinants are identified, prevention can be dealt with together. In relation to alcohol and drugs, we cooperate with the Ministry of Health, Welfare and Sport and the Ministry of Justice, as evidenced by the policy document on alcohol that was published recently.

The third cornerstone is *Sustainable Safety*. The concepts underlying Sustainable Safety will be specifically included in policies for the coming years, not as a dogma but as a source of inspiration. The concept has been contributing to the success of Dutch road safety policy for over ten years. Among other results, Sustainable Safety led to a new categorisation of roads, identifying arterial roads and residential areas, and to a significant expansion in the number of 30 km and 60 km areas. Sustainable Safety gives road managers ways to incorporate identifying marks into roads, immediately showing road users what kind of road they are driving on. Road managers will be including these 'essential recognisability features' in road management and maintenance through 2020.

## 4.2 Sustainable Safety approach

In recent years, working according to the principles of Sustainable Safety has yielded results. The shift towards a specific approach for areas of emphasis does not abandon these principles. The road network will continue to be built, managed and maintained in accordance with Sustainable Safety. The five principles of Sustainable Safety will continue to be the key principles in infrastructure design: functional, homogeneous, forgiving, recognisable and acknowledging status.

It will be important in the coming years to keep a close eye on effectiveness and on social support for measures in the framework of Sustainable Safety. For example, removing all the trees along all the roads in the Netherlands might be effective in terms of road safety, but it would not benefit living conditions.



We consider risk-based prioritisation to be the most productive approach. Within that framework, the approach based on the areas of emphasis is the defining factor. In this approach, in areas where many older people live priority may be assigned to the elderly. And in places where many young people pass by on their way to school or sports clubs, this group may be given priority. The aim here is for road users to take responsibility for ensuring that traffic flows smoothly. The concept of *Shared Space*, in which a road primarily serves a social purpose (i.e. intended for encounters between people) may work well in certain situations. Local partners are reviewing the circumstances in which this concept could work well with a view to road safety; the Ministry of Transport, Public Works and Water Management is happy to help consider the possibilities.

The success of Sustainable Safety is due in part to cooperation and an integral approach - cooperation between organisations in the sector and government authorities, and an integral approach by linking different fields of policy and different policy objectives. The next two sections discuss this in more detail.

## 4.3 Cooperation

We are pursuing cooperation in the road safety sector and beyond. We are joining our efforts to police, the Ministry of Justice and the Public Prosecution Service (enforcement), or to schools (education). Numerous civil society organisations, special interest groups and market parties also play an important role in policy implementation.

Several topics where cooperation is clearly evidenced are discussed here:

- Cooperation between central, regional and local government bodies;
- Enforcement;
- Rewards;
- Lifelong traffic education;
- Knowledge development;
- The market.

### Central/ regional and local

In principle, the division of responsibilities in road safety was clearly defined in 2005 when road safety policy was decentralised, as well as in the Traffic and Transport Planning Act (see also Section 1.6). That does not change the fact that the allocation of roles among government authorities and other stakeholders is always open to improvement. For this reason, and because of its wish to establish and reinforce links with other policy areas, the Ministry of Transport, Public Works and Water Management takes an interest in the division of powers and competencies between the various levels of government in other decentralised fields of policy, such as youth care or land-use planning.

In accordance with the agreements made in 2005, the Ministry of Transport, Public Works and Water Management leaves a great deal of leeway for regional and local road safety policy. However, the Ministry retains responsibility for good progress in the overall process. Since the regions have accepted their responsibilities effectively, the Ministry of Transport, Public Works and Water Management sees no need to change how the roles have been assigned.

If things are not going well on a local level, if excessive fragmentation is occurring, or if there is a danger that areas will be missed, then the Ministry will step up. Initially, Ministry involvement could simply be a matter of acting as a catalyst in processes that are running less than smoothly. If progress is still insufficient, or if a situation is having a negative influence on road safety, stronger central control may become necessary. If the issue is infrastructure, the Ministry can impose regulations of a more compulsory nature. If the

issue is lifelong traffic education, we can help regional parties develop a more structured approach without assuming responsibility ourselves.

### Enforcement

Traffic enforcement is and continues to be an important tool in dealing with unsafe roads. Current enforcement capacity will continue at the same level or higher, as needed.

However, enforcement cannot be considered an autonomous policy instrument. A coherent approach to prevention (infrastructure and communication) and repression (enforcement) is crucial. Enforcement needs to be paired with information for road users regarding the relevant traffic law and the risks involved in violating it. The correlation between prevention and repression is improved in coordination with the authorities involved (Ministry of Transport, Public Works and Water Management, road manager, Traffic Enforcement Bureau, police). In providing information about enforcing speed limits, it is important to emphasise that enforcement of the law contributes not only to road safety, but also to other government objectives, in the area of the environment, for instance, as well to the free flow of traffic.

#### *Traffic violations, road users and locations*

Efficient enforcement requires risk analyses to establish the factors that define the safety – and the lack of safety – on the roads. At least three types of factors can be identified: traffic violations, road users and locations.

The police approach to traffic violations, focusing on a number of key themes (the ‘HELMGRAS’ list and the top 10 pet peeves), has made an important contribution to improving road safety. These key themes will remain in effect.

As far as road users are concerned, a target group approach would also be possible. If segmentation is possible, enforcement would focus primarily on protecting the most vulnerable road users (like cyclists and pedestrians) and on dealing with the most important groups that cause unsafe traffic conditions. Novice drivers will receive particular attention. In addition, the Traffic Enforcement Bureau (BVOM) has initiated a study on the possible relationship between traffic violations and the commission of other crimes by young people, making it possible to take targeted, preventive measures at an early stage. The third factor concerns the most unsafe locations, known as the ‘black spots’. These locations are selected based not only on confirmed accident statistics, but also on the local population’s subjective sense of a lack of safety. Enforcement at the unsafe locations mentioned most frequently, such as school entrances and 30 km zones, will be intensified.

#### *Enforcement resources and the chance of getting caught*

Research shows that the objective and subjective (perceived) chance of getting caught has a considerable impact on how much traffic behaviour conforms to statutory standards. We can increase the objective chance that people will get caught by using new technology, making it easier to detect traffic violations. An additional advantage is that digital formats make it less labour-intensive and more efficient to process traffic violations. Current ‘smart’ enforcement resources, such as route-monitoring systems (fixed or mobile) and digital speeding cameras, will be installed on more roads to replace the old systems.

Besides using automated enforcement resources, the police will also continue pulling over road users. The police need to stop drivers in order to confirm certain violations (such as driving under the influence). In addition, there is an important preventive effect in talking to the violator, having a police officer take the offender to task and visibly verbalising the violation for other road users.

We also aim to achieve greater support for speed enforcement on main roads, on the assumption that this will lead to improved adherence to the standards. Important factors here include the choice of enforcement tool (such as route monitoring versus speed gun) and communication about the traffic standards, the safety risks if those standards are violated, and the measurement method used.

New detection equipment (such as automatic licence plate recognition) combined with databases (e.g. traffic violators) offers the opportunity for road checks to focus on risk groups. Research is being done on the effectiveness, feasibility and usability of this approach, particularly with a view to privacy aspects related to its usability.



The Public Prosecution Office and the police are also conducting an exploratory study on the options that traffic enforcement offer for fighting communal crime, focusing on traffic flows and junctions (nodal orientation) and on the connections between dealing with unsafe traffic conditions and improving overall safety, including in residential areas. The attention paid to communal crime-fighting will not detract from police deployment for traffic enforcement and traffic safety.

Besides the current research being done by the Traffic Enforcement Bureau (BVOM) on enforcement monitoring (the perception studies), it is also important to know the effect of sanctions imposed in response to traffic violations. The BVOM has therefore commissioned a study on the causal relationship between the various sanctions and traffic behaviour. Besides punishing traffic violations, rewarding people for following traffic laws can also have a positive impact on traffic behaviour. Whether the private sector might be able to play a role here is being investigated, as well as the extent to which government cooperation would be desired and feasible. Such measures could include supplying traffic violation data for a no-claim system operated by insurance companies, in which road users could participate on a voluntary basis.

#### *New enforcement resources*

In the coming years, motor vehicles are expected to be equipped more and more frequently with on-board computers (accident data recorders). This will allow the recorded data to shed light on what caused an accident, possibly revealing new information. Important considerations in this technological development include system integrity (fraud protection), influence on driving behaviour, and the issue of who owns the data. If necessary, these developments will be embedded in a statutory framework.

#### *Police involvement*

One of the successful aspects of enforcement is police involvement (by the Traffic Police department of the National Police Services Agency, the regional traffic enforcement teams, and enforcement as part of basic police care). This form of enforcement will continue. For the sake of clarity, both in terms of implementing the policies of the Public Prosecution Service and in terms of visibility for the public, traffic enforcement needs to stay in police hands. There is room for the municipalities to assign their own special investigating officers for enforcement related to unpaid parking, illegal parking and minor, non-hazardous traffic violations.

#### **Rewards**

Rewards are more successful when campaigns are specifically geared towards relatively small target groups. This is in line with the strategic decision to choose measures targeting specific areas of emphasis. In developing the reward instrument, we can use previous analyses of behavioural influence, such as the 'avoiding tailbacks' project on the A6 bridge (*Hollandse Brug*). In-car technology and navigation systems can also be used to provide reward-based incentives. We are also working on finding forms of reward for cyclists. In the coming time, the Ministry of Transport, Public Works and Water Management will be designing an organisational framework to develop and shape the reward instrument. Intermediary organisations and special interest groups will have an important role here. The government can work with intermediary organisations for this purpose to utilise ideas that emerge from the market. The anti-traffic congestion programme (*FileProof*) is a good example of such an initiative. The programme gave individuals, businesses and civil society organisations the opportunity to suggest ideas for how to deal with traffic congestion. Several ideas then received support so they could be developed. Further research on influencing behaviour by offering rewards would be advisable. We will be setting up a programme in the coming time which will give everyone the opportunity to help think of possible solutions.

#### **Lifelong traffic education**

The responsibility for traffic education has been decentralised to nineteen provinces and urban regions (local administrators) in the Netherlands. They are closer to the local problems and know the region better. In implementing behavioural influence programmes, some local administrators work together in Regional Road Safety Boards. Others have incorporated their responsibility for carrying this aspect of road safety policy into their own organisation. Working with numerous public and civil society organisations, the range of traffic education on offer is structured based on the principles of lifelong traffic education.

Safe behaviour in traffic is a matter of knowledge, ability and willingness. If one or more of these aspects is no longer present at a level sufficient to ensure safe behaviour (existing or





expected), than the principles of lifelong traffic education state that a refresher course is needed. Because the environment, the rules and the people themselves change constantly, it truly is a matter of lifelong learning. The different points at which education takes place cannot be seen as separate from earlier or later schooling. The effect is maximised if these points in time link to knowledge, skills or motivation gained in the past.

Lifelong traffic education identifies six target groups: 0 to 4 years, 4 to 12 years, 12 to 16 years, novice drivers (aged 16 to about 25), licensed drivers (aged about 25 to about 60) and older drivers (from about 60 years and up). Detailed learning outcomes have been formulated for each target group. To determine the extent to which existing traffic education products and projects are in line with the learning outcomes as defined, the 'Lifelong Traffic Education Toolkit' was developed (see [www.kpvv.nl](http://www.kpvv.nl)). The current toolkit is a good first step in structuring and steering lifelong traffic education.

Lifelong traffic education products need to be developed, adapted and implemented. As the toolkit becomes increasingly complete, it will become necessary to set quality standards for the tools included in the toolkit. However, there is no 'educational standard' for the various products yet. The development of such a standard is an important requirement for continuing to develop lifelong traffic education and the toolkit. There is also a need for knowledge about the effectiveness of educational measures.

Traffic education policy is implemented in cooperation with many organisations and partners. Local administrators, regional road safety boards, public organisations, civil society organisations, companies and other parties all contribute to improving road safety. The national government, local administrators, public partners and civil society partners benefit from an overarching approach across the regions, in order to ensure connections between the various age groups, target groups and areas of emphasis and to prevent fragmentation. A central coordination point has been organised for enforcement (Traffic Enforcement Bureau – BVOM), infrastructure (Centre for Legislation and Research into Groundwork, Hydraulic and Road Engineering, and Traffic Engineering – CROW), public information (Ministry of Transport, Public Works and Water Management) and knowledge and research (Expertise Centre for Traffic and Transport – KPVV and Road Safety Research Institute – SWOV). Following from these examples, research is being done to see whether and how such a central point can be organised for lifelong traffic education. The aim is to ensure quality, cooperation and an integral approach; it would seem logical in this context to join forces with existing organisations.

### Knowledge development

Knowledge is needed to maintain effective and efficient safety policy: knowledge on trends that are relevant to road safety, on the size and background/causes of accidents, and on the effects of road safety measures, among other things. Knowledge needs to be available to the right actors at the right time: the policy makers/public administrators at national, regional and local levels. This requires proper research programming and a focus on distributing the knowledge.

The Ministry of Transport, Public Works and Water Management finances the institutes that develop knowledge at a national level: the Road Safety Research Institute (SWOV), TNO and the Expertise Centre for Traffic and Transport (KPVV). The Ministry monitors, generally directs and provides input for the programming of these knowledge institutes. There are also many other sources and institutes that may possess relevant knowledge. Due to the desired expansion of road safety policy and the search for opportunities in other fields of policy, we will be pursuing more specific cooperation with universities in the coming years (e.g. in behavioural psychology), the Trimbos Netherlands Institute of Mental Health and Addiction, and the Netherlands Consumer Safety Institute. In the years ahead, the KPVV will be working in cooperation with the CROW and others, targeting knowledge at the regional level and more specifically at the local level (municipalities). In 2007, the SWOV already set up a programme for the regions.

It is important to scan the area regularly to assess aspects of road safety. This task has been assigned to the SWOV (Balances and Exploratory Studies) and to planning agencies like the Netherlands Bureau for Spatial Research (RPB) and the Social and Cultural Planning Office (SCP). TNO plays a role here with regard to technology. Meetings of the 'Think Tank' of the Ministry of Transport, Public Works and Water Management provide input from scientific research and the business community. In 2008, we will also be reviewing what we might be able to learn from safety policy in other sectors, such as aviation and the chemical industry.

Further research will also be done on mobility among the elderly in relation to road safety. In that context, we will primarily be focusing on technology that can specifically support the elderly while they are driving.

#### *Knowledge about the sizes and causes of accidents*

In order to monitor properly and identify starting points for new policy or new areas of emphasis, we need more information about accidents. To that end, the Ministry of Transport, Public Works and Water Management implemented the 'quality improvement accident register' in 2008. The register is intended to lead to better, more uniform accident registration by the police. Linking all sorts of data files related to accidents (vehicle, road features, incident management, ambulance data and meteorological data) may lead to a better understanding of the circumstances. 2008 and 2009 will see studies and research findings on single-vehicle car accidents, accidents in which the blind spot for lorries plays a role, and single-person cycle accidents.

#### *Knowledge about the effects of measures*

A fair amount of knowledge is already available on the expected (ex ante) effects of infrastructure-related measures, so it is possible to calculate anticipated results for similar measures at other locations. However, more knowledge is still needed on the effects that measures actually have (ex post). Local government authorities in particular need more knowledge about how effective local and regional measures are. Much less is known about the effects of behavioural measures.

Together, we need to invest in gaining more knowledge in these fields. More research on influencing behaviour through rewards is also advisable; psychologists consider this more effective than influencing behaviour through punishment.



## **The market**

Private parties can play an important role in realising the targets for 2010 and 2020. Their role will be defined along the following lines:

- Meeting consumers' needs. Bringing safety in line with the market principles of profit, convenience and pleasure. This makes it interesting to market parties.
- Ensuring that companies and organisations can profile themselves on the market and create distinctive market value. One example of this is the EuroNCAP. Consumer buying behaviour should lead to a situation in which the different automobile manufacturers



cannot afford not to keep up with each other. Another example is the location policy for deciding where to build schools; a safe traffic environment may make a school more appealing.

- Reflecting on costs and hidden cash flows. What costs do accidents entail for the transport sector? What costs are entailed in slow or not-in-time accident response? Insurers and lease companies have opportunities to earn money from road safety.
- Where can the government offer help by taking concerns off other people's hands while simultaneously increasing road safety?
- What does the government have that the business community would consider interesting and is eager to deploy or trade for?

## 4.4

### Integral approach

Road safety is related to many other areas of policy. Many tools and policy instruments can be used effectively to achieve various policy objectives. For example, there is a clear connection between the policy objectives for the environment, accessibility and road safety. Instruments associated with these fields include measures that ensure:

- A good, even flow of traffic (such as flyovers, timed green lights);
- Maintaining a steady distance and speed (SpeedAlert, Automatic Cruise Control);
- Choosing efficient routes (information and navigation systems);
- Avoiding accidents (anti-tipping systems, Lane Departure Warning Assistant, etc.);
- Reducing transport needs by offering alternative or more efficient organisation (telecommuting, carpooling, public transport, 'City Box' loading units for urban distribution).

Outside its own field of operations, the Ministry of Transport, Public Works and Water Management also cooperates with other government ministries.

For example, Economic Affairs has a common interest in facilitating free market operations and increasing the opportunities for Dutch companies in the ITS/automotive sector. It is important to the Ministry of Transport, Public Works and Water Management that new technology continues to be made available as a result of innovation, stimulated by the Ministry of Economic Affairs.

We cooperate with the Ministry of the Interior and Kingdom Relations on eCall. Better processing of 112 emergency assistance calls increases efficiency for emergency aid workers, facilitates provision of better assistance to accident victims and reduces the inconvenience to others.

Common interests can also be observed in major traffic inspections, which increasingly check a longer list of possible offences (driving licence, insurance, technical faults, unpaid fines, tax debts, outstanding criminal sentences, etc.).

#### *Example: injury prevention*

A good example of cooperation between government ministries is the study on injury prevention. An initiative by the Ministry of Health, Welfare and Sport has launched an inter-sectoral study on injury prevention, the results of which will be available soon. Accidents, acts of violence and suicide attempts are major causes of injuries and deaths among citizens. Therefore, the study examined various types of injuries from a public health perspective: injuries due to traffic accidents, industrial accidents, falls among the elderly and suicide attempts. The study researched whether it was possible to identify common determinants for these types of injuries, in order to facilitate joint prevention activities.

The following discusses several topics that clearly demonstrate the integral approach:

- Influencing human behaviour;
- Man and technology in the vehicle;
- Infrastructure design;
- Innovations and experiments.

### Influencing behaviour

Human behaviour is still one of the primary causes in traffic accidents. Road users therefore need to be aware at all times what impact their choices and their behaviour will have on safety. An awareness of their own vulnerability is also essential, especially for cyclists, motor scooter riders, pedestrians, motorcyclists and the elderly. To achieve targeted influence, we will be looking into whether we can utilise contacts with road users more effectively. These points of contact take place in and around showrooms, garages, petrol stations and cycle shops, for example. At those points, we can highlight important aspects of safe behaviour on the roads in appealing ways, for example in the form of public information, educational traffic quizzes and contests.

#### *Focus on people who cause unsafe traffic*

In terms of people who cause accidents, (deliberate) speeders and drunk drivers show up as particularly negative in the analysis of the figures. Repeat offenders certainly deserve a tough approach, and we will be applying the 'causer pays' principle more frequently. Repeat offenders deliberately disrupt the safe environment that the government wants to offer, causing risks for themselves and for other road users. The more serious their offences or the resulting consequences are, the more drastically we can limit the freedoms of the offender within the traffic system; in this framework, we can also use new technology, such as speed limiting devices or alcohol lock-out systems. However, we also look at how the road is used and at how it is constructed and managed. A lack of safety is not related exclusively to how people drive; it can also be due to faulty road design or insufficient maintenance.

#### *Antisocial behaviour*

Besides a tougher approach to people who repeatedly violate traffic laws, there is a specific focus on antisocial, high-risk driving. This includes such offences as cutting people off, tailgating, driving much too fast, endangering other road users and road construction workers, etc. An Educational Measure for Behaviour will enter into effect for these antisocial road users in 2008: after a police report, the offender will have to take a course to learn appropriate behaviour. We will also be exploring whether such traffic violations can be incorporated into the points system. For novice drivers, such offences are already part of the points system for the initial licence.

Public campaigns will also specifically target antisocial behaviour. Finally, we will be reviewing the situation in the coming years to see whether additional measures will be needed to deal with antisocial behaviour in traffic.

#### *Treating the licence as a permit*

The driving licence is currently seen as a fundamental right. People sometimes forget that the document also involves obligations and responsibilities. Having a driving licence means that a driver must be constantly aware of his responsibilities, always keeping to the associated terms and requirements. It would be good for the driving licence in the Netherlands to be considered more like a permit. A permit is granted if the applicant meets certain requirements; it is revoked if the permit holder no longer meets the required standards. On a linguistic note, the Dutch term 'rijbewijs' – driving *certificate* – does not quite express this idea as clearly as the English term 'licence'.

To obtain a driving licence, a prospective driver must demonstrate driving skills and overall suitability. But these requirements do not apply only to the actual driving test; a licensed driver constantly has to make sure that he has the right driving skills and is fit to drive. If it

becomes apparent that a driver cannot handle that responsibility and deliberately seeks out risks or causes danger, it should be easier to revoke the driving licence – after a warning and/or required re-education. The points licence is an example in line with this framework.

#### *Optimal use of traffic education*

Working on behaviour requires focused efforts in traffic education. In the coming years, we will continue to find ways to make optimal use of this option. For example, the Ministry of Transport, Public Works and Water Management has already started developing an Internet course. Like other initiatives to prevent accidents, we have to carefully balance the costs against the effects, keeping proportionality firmly in mind. Huge investments and/or interventions that have a limited impact on the number of fatalities and injuries are difficult to justify.

### **Man and technology in the vehicle**

Vehicle safety instruments have always been very much focused on reducing the consequences of an accident and the severity of those consequences (e.g. seatbelts, airbags, crumple zones). Accident prevention measures are also gaining popularity; this includes such measures as improved braking systems (ABS) and Electronic Stability Control (ESC). Many developments are still taking place in this field. For example, better sensors make it possible to see accidents coming and mitigate their consequences. Systems can intervene when collision becomes inevitable and the driver no longer has time to respond effectively. Drivers also receive increasing support during everyday driving, both in normal situations and in the event of possible danger. Some systems give drivers information or warnings; others intervene if drivers are less competent (alcohol lock-out, speed limiter). Man-vehicle interaction is constantly taking on new dimensions.

Interaction between the vehicle and road is still relatively limited. However, technical options are being introduced to link vehicles to a maximum speed, corresponding to the situation on that specific road. Within the (near) future, all this and much more will become possible with telecommunications.

#### *Technology in context*

The Ministry of Transport, Public Works and Water Management assesses new technical applications in their overall context. The introduction of ABS has shown how relevant context is. From a purely technical perspective, ABS had great potential to contribute to



safety. However, the phenomenon of risk compensation led to poorer results in practice than had initially been anticipated. In context, we also have to consider the fact that technical solutions sometimes have unwelcome side effects, like distracting the driver, or invite inappropriate behaviour. Some techniques also have the potential to be abused. Finally, acceptance and public support also play a role. A policy in which man is the measure of all things must primarily make room for technology that people understand, and that they are willing and able to use.

#### *Acceptance for innovative systems*

Acceptance for new functions can be promoted by combining innovations with existing systems. It would be difficult and expensive to launch a function like SpeedAlert on its own; if it is integrated into navigation systems, introduction will undoubtedly be cheaper and easier. In response to developments and to habituation among the general public, the limits of what technology can do and what people consider acceptable will keep expanding. We can see that the limits of acceptability are constantly widening in such developments as the growing acceptance of the automatic transmission. The expectation is that we will gradually consider assistance in operating a vehicle 'more normal', and that such assistance will keep extending farther. In thirty years, it may be difficult to explain to children all the different actions that driving a car 'used to' involve.

#### *Driver-technology ensemble*

The way that new systems in vehicles work in concert with the driver is relevant for public support. Does the system simply warn the driver, does it actively provide assistance, or does it intervene automatically? Independent intervention by technical applications is in principle justified where it involves protecting drivers or other road users in high-risk conditions (slick roads) or emergencies (e.g. ABS and ESC).

In generic terms, the Ministry of Transport, Public Works and Water Management is not a proponent of compulsory intervention in normal driving, unless drivers choose to implement such intervention on their own. For example, the time has not yet come to mandate general installation of speed limiters based on Intelligent Speed Adaptation (ISA) technology. However, we do want to make ISA compulsory for road users who repeatedly fail to stay within the speed limits. In considering whether to introduce such compulsory systems via generic measures, the choice of whether the good should suffer along with the bad becomes relevant. If this is how drivers perceive the introduction of such a measure, then caution would seem appropriate.

#### *Warning, informing and advising*

Where normal driving is concerned, technology should in principle be limited to providing information and advice, as SpeedAlert does for speed. In itself, it can be useful if a system lets the driver know the maximum speed at any given location. However, information and advice are more valuable as they become more tailored to the actual circumstances and/or the driver's specific preferences. The complexity of the environment in which the car moves makes it far from simple to provide advice tailored to the situation. Determining a recommended safe speed requires a well-considered interpretation of a complex interplay of environmental factors. Many more factors are involved than just the local maximum speed limit, which could be used to warn that a car is going too fast. Huge strides are being made in the field of interpreting environmental factors.

In the coming years, systems that automatically report accidents (eCall) can contribute to quicker emergency assistance response. Not only does this benefit assistance provided to accident victims, it also ensures that the road is cleared more quickly.

#### *Example: driving at the right speed*

Driving evenly at the right speed is good for traffic flows, safety and the environment.

This can be achieved by designing the road in such a way that the right speed is also the logical choice for the driver, by advising the driver of the speed from inside the car, and by enforcing the legal speed limit.

The best results and broadest public support are achieved when the different measures are in balance. A legally required speed limiting device would be very effective and would not cost the government anything, but there would be little public support for such a measure. Strict enforcement on a road where it seems that you could easily drive much faster also encounters little sympathy. The point here is combining the perception that certain behaviour is logical, that acting accordingly is not entirely voluntary, and that conditions are created in which the driver can meet the standards.

### Infrastructure design

A project is currently underway to give all roads new line markings, known as the 'essential recognisability features'. The line markings fit into the road categories as we know them. In 2010 the line markings will have been updated on all national roads; line markings on other roads will be completed in 2015.

Road users regularly complain about how maximum speed limits are posted. Drivers often do not think it is clear enough, particularly on 60 km and 80 km roads. The Ministry of Transport, Public Works and Water Management will be researching how justified these complaints are and what measures might be needed as a result.

N-roads or national roads are known to be less safe than A-roads or motorways, even if they are designed well. A programme is currently underway to work on remaining weaknesses in these roads. If the approach yields positive effects, the next step may be to expand the scope to include provincial roads.

European automotive associations, including the ANWB, took the initiative several years ago to introduce a system that gives road managers and road users insight into road design safety. It is known as EuroRAP. The method is gaining popularity, spreading within Europe and beyond. The Dutch main roads have also been mapped in EuroRAP by now. Although our main roads generally score well, there are still some weak points. Eliminating these weak areas is a priority.



Road safety receives a great deal of attention in the management and maintenance policies of the Directorate-General for Public Works and Water Management (Rijkswaterstaat). This varies from a daily cursory inspection of the roads to a policy of buying collision-friendly road furniture. Road safety is always taken into consideration in building new roads or expanding existing roads. The Ministry of Transport, Public Works and Water Management will periodically review the entire chain of policy and implementation to check whether traffic safety is (still) receiving enough attention in every link of the chain.

### Innovations and experiments

Innovative solutions are needed to realise the ambitions of road safety policy in the coming years. Innovations could be technological or organisational. Stronger crumple zones, better head supports, an extra manoeuvre during the driving test or more traffic lights could all be extremely worthwhile, but we do not consider these to be innovations; collision avoidance systems and supervised driving are innovations.

In our strategy, innovative solutions are an integral part of the range of measures. After 2010, innovative vehicle technology will play an increasingly major role, primarily because mobility is continuing to increase, while almost all the possibilities of conventional behavioural influence tactics have been exhausted by now. There is still more than enough room to develop new technology. Infrastructure could also be improved even more using innovative methods. These methods could be incorporated integrally into measures for better accessibility, such as building parallel routes along the main road network. Mutually advantageous connections between safety and accessibility can also be achieved in land-use planning. How the road network will develop in the coming decade has already been determined to a large extent, but there are still opportunities available in plans for urban renewal and expansion.

In principle, any technology that contributes to road safety is welcome. Besides possible side effects and public support, we naturally also have to take the cost-benefit ratio into account. Many initiatives are picked up by the market, while others are initiated and/or stimulated by the government. We choose to leave as much as possible up to the market, including vehicle safety improvements. If the market does not take advantage of high-potential initiatives or if the results fail to meet expectations, we can provide incentives, e.g. through government research or European regulation.

#### *Support for research and experiments*

Because good ideas should have the chance to develop and prove themselves, the national government supports knowledge institutes like SWOV, as well as the Transumo Foundation – a consortium of private companies, government, national research and development institutes, and the academic world, working together to develop knowledge in the field of sustainable mobility. The Ministry also creates room for experimentation. Experiments with such promising innovations such as alcohol lock-outs and supervised driving may take place in 2008. These pilot projects will have to show whether the good results achieved abroad would also be feasible in the Netherlands. In the framework of the *FileProof* anti-traffic congestion programme, the Ministry of Transport, Public Works and Water Management organised pilot projects for in-car technology in recent years. An in-car testing field will also be set up for pilot projects initiated by the Ministry and by other parties. The Ministry wants to encourage and support good initiatives, including through a contest for experiments that improve road safety and could be introduced on a larger scale.

Capacity and money has been made available to identify opportunities for innovation, in part at the request of local and regional governments, but also to test and evaluate such opportunities and to explore options for increasing the scale. The Ministry of Transport, Public Works and Water Management will incite action to support the initiative of a company of pioneers in the field of road safety called 'Samen uit, samen thuis in 2020' (SUST).



In order to identify opportunities for innovation, it is important to conduct a systematic exploratory study of the surroundings and the opportunities it offers. This could be done by organising meetings, by utilising existing networks (particularly knowledge institutes and international, regional and interministerial networks) and by linking to the strategic knowledge agenda of the Ministry of Transport, Public Works and Water Management.

## 4.5 Generic measures

A joint Action Programme will be launched, in which we specify who will be responsible for each measure. It will be a dynamic programme, adjusted periodically. The total range of measures can be grouped into generic measures and specific measures targeting the areas of emphasis. The most important generic measures and activities from the Action Programme are:

### *Vehicle*

- Constantly updating EuroNCAP; including consideration of whiplash and active safety systems (ESC, ISA, etc.);
- General introduction of Electronic Stability Control (ESC);
- Stimulating introduction of SpeedAlert (informative ISA);
- Expanding options for driver support, such as Adaptive Cruise Control (ACC) and Lane Departure Warning Assistant (LDWA). Particular focus on the Man-Machine Interface here;
- Daytime use of vehicle lights.

### *Behaviour*

- Public information (partly in the form of campaigns) provided on the basis of long-term agreements with partners in public administration and civil society;
- Traffic education (all ages);
- Traffic enforcement;
- Introduction of an Educational Measure for Behaviour;
- Penalty point system.





#### *Infrastructure*

- Stimulating regional and local measures via broad-based targeted state subsidy schemes;
- Approach to small changes in national road network, not requiring environmental impact assessment;
- Implementing CROW guidelines;
- Introducing essential recognisability features on non-motorways (national and secondary roads).

#### *Research*

- Research on accident causes, including single-person cycle accidents;
- Ex-post effects of measures;
- Options for supporting measures in the area of ITS for the elderly; (follow-up study)
- Basic safety requirements for microcars;
- Airbags for motorcycles;
- Analysing types of accidents on 50 and 80 km roads;
- Developing vehicle innovation monitor for Dutch vehicle fleet;
- Work-related travel;
- Improving passive safety, collision compatibility and testing methods;
- Using trip recorder and accident data recorder;
- Drug testers;
- Measures to limit aggression in traffic (road rage);
- Limiting single-vehicle accidents.

## 4.6 Approach to the areas of emphasis

The areas of emphasis, as described in Chapter 3, are not kept in isolation. Experience shows that the most effective option is a coherent approach using measures that tackle a problem on more than one front. That is why cyclist safety, for example, is considered from the perspectives of car and lorry (collision compatibility), behaviour (driver training, danger recognition, cycling school) and infrastructure (separate cycle paths and road maintenance).

The process of expressing areas of emphasis in terms of specific measures primarily considered the effectiveness of the measures and the extent of public support for the measures. The balance between man, machine and road was also considered, as well as the connection between preventive and curative aspects. In relation to lorries and delivery vans, a great deal is being done on giving chauffeurs and companies information on e.g. driving behaviour and fatigue (the human component). At the same time, vehicles are becoming safer as a result of underrun protection systems and required ESC (the vehicle component). Moreover, effective routes for freight traffic are being considered, as well as ways to prevent the use of non-preferred routes. Finally, the proportionality and the cost-benefit ratio were defining factors in compiling the range of measures.

Several specific measures and activities are listed below for each area of emphasis.

#### *Pedestrians*

- Improving collision-friendly passenger car features for pedestrians and cyclists by instituting more stringent testing procedures in EuroNCAP and in EU legislation;
- Ensuring safe crossing situations;
- Encouraging voluntary introduction of pedestrian detection systems in motor vehicles.

#### *Cyclists*

- Encouraging voluntary introduction of cyclist detection systems in motor vehicles;
- Improving collision-friendly passenger car features for pedestrians and cyclists by instituting more stringent testing procedures in EuroNCAP and in EU legislation;
- Ensuring safe crossing situations;
- Required bicycle helmet for children;
- National cycle teacher training school;
- Systematic approach to cycle path maintenance;
- Information on the use of bicycle lights and reflection;
- Information on drivers' blind spots.

#### *Single-vehicle accidents*

- Car in the water: information, requirements for door locks, infrastructure changes;
- Motorcycle-friendly guide rail on dangerous curves;
- General introduction of ESC;
- Road shoulder measures.

#### *Children*

- Required bicycle helmet for children;
- Contest on 'best idea for improving road safety for children';
- Child protection equipment: child safety seat information and testing;
- Information on drivers' blind spots;
- Exchange of best practices for safe school environment.

#### *The elderly*

- Contest on designing a stable bicycle for the elderly;
- Supplementary information provided via cooperation with associations for the elderly and other civil society organisations (e.g. caravan for the elderly and information on safe travel choices for the elderly);
- Increasing safety at street crossings (draw up new guidelines, simplify left-turn options, active encouragement and information);
- Information on medication in traffic;
- Account for the needs and habits of the elderly in land-use planning and design: reduce home-hospital and home-shop distances.



#### *Novice drivers*

- Supervised driving;
- New, improved driving test;
- Practical test for motor scooters and microcars;
- Voluntary trip recorder combined with insurance discount;
- Team Alert projects targeting young people in traffic;
- Graduated access to motorcycles via third driving licence guideline;
- Particular attention in traffic enforcement.

#### *Drivers of motor scooters, mopeds and microcars*

- Introducing practical test;
- Information to motor scooter riders on usage and responsible driving behaviour (e.g. speed).



#### *Motorcyclists*

- Motorcycle-friendly guide rail on dangerous curves;
- ABS for motorcycles;
- Information on personal options for improving visibility, and the Motor Platform's code of conduct for motorcyclists in traffic congestion;
- Drawing up an action plan with the sector.

#### *Driving under the influence*

- Introducing alcohol lock-out for serious violations and repeat offenders;
- Educational measure for alcohol in traffic (EMA);
- Lower blood-alcohol limits (EMA-light);
- Tougher alcohol limit in claims procedure;
- Legislation (+enforcement/public information) on drug use in traffic;
- Continuing campaigns on alcohol in traffic (designated drivers);
- Providing information to drug users on the risks of drug use in traffic (with Team Alert);
- Information on using medication in traffic;
- Information on fatigue.

#### *Speeding drivers*

- More use of smart enforcement, such as route monitoring and digital speed traps;
- Educational measure for behaviour (EMG);
- Strict ISA for notorious speeders;
- 'Self-explanatory roads': credible speed limits, narrow roads, clear road markings, rumble strips on regional access roads;
- Stimulating introduction of SpeedAlert (informative ISA);
- Information on responsible speeds on high-risk roads and locations inside built-up areas and beyond.

#### *50 and 80 km roads*

- To be determined later, in consultation with local and regional road managers.

#### *Freight traffic*

- Tougher safety standards for lorries, including measures targeting tyres;
- Facilitating information exchange on suitable navigation equipment for lorries;
- Pilot project with anti-accident systems for lorries in the framework of the FileProof anti-traffic congestion programme (in cooperation with the sector);
- Information on the blind spots for drivers in the freight transport sector;
- In-depth analysis of blind-spot accidents, in order to facilitate better preliminary analysis of how effective measures will be;
- Stimulating the development and use of extra structural criteria in regional freight transport networks.

#### *Delivery traffic*

- Encouraging drivers to follow driving style training;
- Expanding BE licence;
- Improving seatbelt use through communication;
- Stimulating a safety culture;
- Developing, testing and implementing a speed monitor consisting of:
  - Registration of speed violations by the employer;
  - Warning for the driver in response to speeding on all road categories;
- Strictly enforced limit at 120 km.

## 4.7 Looking ahead to 2020

The goal is set: we will continue full speed ahead in the direction we have chosen, with the ambition to remain among the best in the world in terms of safety and to achieve the objectives for 2020 as stated in the Mobility Policy Document: no more than 580 deaths and 12,250 injuries requiring hospitalisation. Our course is also set: between now and 2020, we will be instituting measures to offer extra protection to the most vulnerable groups and to deal with the people who cause unsafe traffic conditions; these measures will supplement the generic measures and the continuation of our current, successful policies.

The road traffic system is an open system that offers a great deal of freedom. If people cannot handle the responsibilities associated with such freedom, then they should (temporarily) be excluded from that system and/or specific restrictions should be imposed on their freedom. The vulnerable road users cannot always take full responsibility; they are also dependent on other road users. We keep a close watch to ensure that these road users also have the freedom to participate in the mobility system, and that they keep that freedom.

Calculations show that our goal and our chosen course are realistic. With the wind at our backs, we will achieve that goal more quickly; if we encounter obstacles, we may have to change tacks, in which case everyone will have to work harder to make the targets in time. If there are setbacks, it may be necessary to introduce more generic compulsory measures for the introduction and use of new technology in vehicles (rather than restricting compulsory introduction to specific groups).

Therefore, it is necessary to keep a close eye on how things develop, to ensure that we can make the right considerations together and take the associated decisions to keep road safety moving ahead on the right course and speed.

Of course our considerations will be based on monitoring trends and developments and on the results of the many national and international studies and the available knowledge. The result may be that target groups change and/or that new innovative measures become available, which we can use to adjust how we move towards 2020 or introduce more stringent guidelines. We will naturally also use this information to constantly review whether current policy requires a different approach to such areas as communication, enforcement, regulation and information.

We do all these things together: government authorities, civil society organisations, private parties and road users. *From, for and by everyone.*

Our efforts continue to be geared towards following the key principle of ‘local where possible, central where necessary’. In this area, too, we constantly work together to ensure that the national government and the regional organisations do what is required of them. We need to keep each other on our toes. The Mobility Policy Document already laid out the crucial importance of civil society organisations and special interest groups. These parties – and of course the road users themselves – are absolutely crucial in working together to develop measures and generate public support. We also deliberately focus on the role of the market, with the aim of allowing market parties to play a bigger part in improving road safety.







# 5 Alternatives

The Mobility Policy Document set a target for 2020: no more than 580 road fatalities and 12,250 injuries requiring hospitalisation. The Road Safety Strategy explains how we want to meet this target within the existing mobility system and within the financial frameworks of the Mobility Policy Documents, and the measures we will use to do so. In this context, we primarily looked at such criteria as effects, costs and proportionality. In some sense, we accept in our choice that traffic will still claim nearly 50 lives a month on average in 2020. We consider it the collective price we pay for our freedom.

## Other choices

Anyone who is not satisfied to accept that risk and wants to reduce the number of road fatalities even further would need to make different choices. In that case, an alternative scenario of no more than 250 road fatalities in 2020 is both feasible and realistic – if we make different choices *now*. These choices would include:

- Investing thousands of millions of euros in limiting conditions, especially in infrastructure, by applying the Sustainable Safety principles strictly;
- Restricting freedom of mobility: preventing accidents by limiting or completely banning mobility for target groups that involve a high risk of accidents (causer and/or victim);
- Some combination of option a and option b.

In this scenario, cost efficiency and proportionality are subordinate to the primary aim of ensuring the safety of the road users: the effectiveness of the measures.

## Mixture of measures

Restricting freedoms and investing thousands of millions of euros, primarily in infrastructure, would make it possible to make traffic in the Netherlands even much safer. Instead of assuming fully that road users have personal responsibilities, many measures would testify to our dedication to eliminating any possible risk.

This could include building infrastructure that completely separates slow traffic from fast traffic: roads that have safely separated lanes, making collisions almost impossible. This could also include an infrastructure in which all roads from 80 km on have flyovers at intersections. Trees and other hard obstacles along roads would be removed and replaced by gravel pits. All roads would be designed to have credible speed limits, and the routes along which vehicles travelled would have no surprises for the drivers. Maintenance of roads and walking paths would also be a much higher priority. A good, reliable traffic information system would be available, and public transport would be an attractive alternative for many more people.

Vehicles would also change. Every car would be equipped with an automatic speed limiter, an alcohol lock, a drug lock and a driving licence lock. A fatigue detector and a black box would also be built into the vehicle. Cars would be equipped with reliable bicycle detection, and the front would be designed to minimise the impact of collisions with pedestrians and cyclists. There would be an arrangement for old cars without built-in airbags to be junked.

Making effectiveness the highest priority would mean placing restrictions on some freedoms in traffic. Helmets would be required for all cyclists. Some road users and groups of road users would be subject to a general ban on riding bicycles or any other two-wheeled vehicles. A bicycle brigade would ensure good traffic education in all schools. Young people

would not be allowed to ride a motor scooter or drive a car until later in life. Adults would receive periodic refresher training in the form of mobility courses. Older cyclists would have to take regular bicycle competence tests; if their skills dropped below a certain level, they would no longer be allowed to ride a bicycle – but they would have free access to public transport. Drivers under the age of 24 would not be allowed to have passengers in their cars, or drive at night in the weekend. Compulsory medical exams and driving tests would determine which vehicles a person would be allowed to use, or what additional terms would have to be set (e.g. only cars with an automatic transmission, or a more stable bicycle).

### Advantages

Such an approach costs a great deal, but it also has many advantages. The benefits can primarily be expressed in terms of reduced human suffering, but the economy would also benefit. The Transport Research Centre (AVV) and SWOV calculated that traffic accidents in 2003 cost society approximately € 12 thousand million. The number of road casualties has gone down since then; if the same calculations are applied to the figures for 2006, traffic accidents cost society about € 9 thousand million in that year. A drop in the number of road fatalities to 250 would reduce the costs to society even further, to less than € 3 thousand million a year.

In other words, dramatic intervention in infrastructure and in freedom of mobility do not just cost money; it would also have its benefits. A high-intervention scenario that leads to a maximum of 250 road fatalities per year (instead of 580 in 2020) would yield over € 3.5 thousand million in extra benefits to society.

### Start immediately

A scenario involving a maximum of 250 road fatalities per year is not unrealistically futuristic<sup>40</sup> and we can start making it a reality now. Political and societal acceptance and the available financial resources decide what happens here. In short: it is a choice.

<sup>40</sup> Effecten maatregelen  
Strategisch Plan, DVS, 2008.







# 6 The making of ...

This chapter describes the process by which this Road Safety Strategy was created.

The 'Making of' the Road Safety Strategy for 2008-2020 started in 2006. In that year, the Ministry of Transport, Public Works and Water Management initiated a process to develop the principles of the Mobility Policy Document for road safety. From the beginning, the many parties operating in the sector were involved in developing the strategy. The Ministry aimed to acknowledge the expertise and experience of the dozens of organisations directly or indirectly involved in road safety, from a conviction that this knowledge and experience would provide clear added value for the strategic plan. The process of cooperation in creating the strategy also served its purpose: it contributed to comprehension, support and commitment.

## Step 1. Trends and developments

The Ministry started out by interviewing various organisations, asking them their views on developing road safety and what trends and development they considered essential in that development. This resulted in the report entitled 'Towards a strategic plan for road safety: trends and developments' (November 2006).

## Step 2. Initial concept, summary and discussion paper

In part on the basis of the report on trends and developments, an initial version of the strategy was drafted. This draft strategy contained a direction and an approach. The draft was written especially for the purpose of the discussion on whether this was the right direction and approach to take, and whether it could be done differently (and better). Nearly fifty talks were held with people working in the sector at this stage. Besides these interviews, the draft strategy was also widely distributed to various parties. Their responses were compiled until mid-2007, after which feedback was provided and discussed during a stakeholders' meeting on 30 October 2007 in the Museum for Communication in The Hague. Twenty organisations were invited to this meeting, on the basis of their responses; they delegated some 25 road safety experts to give feedback.

### Support for the general themes

During the discussions, it became apparent that the main themes of the draft strategy could count on widespread support. However, comments were made on some aspects, and various parties requested more attention for specific themes. A report of the meeting was published on the web portal on the website of the Ministry of Transport, Public Works and Water Management, which was set up specifically to promote interaction on the Strategy.<sup>41</sup> The results of the discussions were then summarised in a synthesis paper, with comments from the Road Safety Department. This report also indicated which comments and preferences were incorporated into the strategy.

### Adding depth during four working sessions

During four regional sessions, dozens of representatives from various organisations worked on adding depth to several specific topics. The meetings were held in Utrecht (14 November),

<sup>41</sup> [www.verkeerenwaterstaat.nl/onderwerpen/verkeersveiligheid/verkeersveiligheid\\_2020](http://www.verkeerenwaterstaat.nl/onderwerpen/verkeersveiligheid/verkeersveiligheid_2020)



Rosmalen (22 November), The Hague (28 November) and Zwolle (29 November). Important themes for discussion included the 50 and 80 km roads, the division of roles in road safety (control and direction), enforcement, incentives for experimentation, the concept of subjective safety, and the possibilities and impossibilities of a self-regulating system.



### Feedback

The results of the working sessions were presented to the partners from the previous stakeholders' meeting during a partner session on 19 December 2007 in The Hague. The results and reports were published on the web portal and taken into consideration in compiling the next draft of the plan. While the strategy was being developed, the Ministry of Transport, Public Works and Water Management also took written contributions from various parties into account.

## Step 3. Towards a definitive strategy

Drawing from the documents referred to above and the input from the various sessions, a draft strategy was then written entitled '*Road Safety Strategy 2008-2020. From, for and by everyone*'. The National Mobility Council (NMB) discussed this version on 27 March 2008. On the basis of the comments made on that occasion, a final version was generated and presented to Parliament in spring 2008.

### Organisations involved

The following organisations were involved in the interaction between the Ministry of Transport, Public Works and Water Management and the parties from the sector. They sent delegates to the meetings referred to above, responded in writing to the draft plans, or demonstrated their involvement in other ways.

Provinces, municipalities, urban regions, water boards, ANBO lobby group for over-50s, Dutch automobile association (ANWB), BOVAG, Traffic Enforcement Bureau of the Public Prosecution Service (BVOM), Dutch Driving Test Organisation (CBR), De Coninck Traffic Management, Corgwell Visser Copini, CSO (umbrella organisation for senior citizens), Cyclomedia, DHV research bureau, Dräger, DTV Consultants, EVO, Dutch Cyclists' Union, GoudappelCoffeng consultancy, Heijmans Infra, IBKI/Innovam, Innovative Partners, Association of Provincial Authorities (IPO), Amsterdam Department of Infrastructure, Traffic and Transport (IVV), Expertise Centre for Traffic and Transport (KpVV), Royal Dutch Transport (KNV), the Ministry of the Interior and Kingdom Relations (BZK), the Ministry of Justice, the Directorate-General of Housing, Communities and Integration (WWI), National Council for the Elderly (PCOB), Sustainable Mobility Platform, the Netherlands Police, Police Academy, Rabobank Netherlands, RAI Vereniging, RDW, the Directorate-General for Public Works and Water Management (Rijkswaterstaat), regional training colleges, regional/provincial road safety boards, Centrum (Overijssel association for the elderly), STIVA (Foundation for responsible alcohol consumption), SkVV (urban regions cooperating on traffic and transport), SOM (Institute for Education Guidance in mid-Brabant), Foundation for the Development of Mileage Insurance Policies (STOK), Institute for Road Safety Research (SWOV), Team Alert, Dutch Employers Organisation on Transport and Logistics (TLN), TNO, TomTom, Delft University of Technology, the Association of Water Boards (UvW), Veenstra & Van Berkel, Dutch Association of Self-Employed Transporters (VERN), Dutch Association of Insurers, insurance companies, VIA (Dutch road safety specialist), Vialis, Association of Netherlands Municipalities (VNG), Volvo Netherlands, Dutch Traffic Safety Association (3VO) and strategic advisor W. Wessels.



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