

Conditions for a Decisive Road Safety Policy

The Decision Making of the National and Regional Traffic and Transport Plans in the Netherlands as Case Studies

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Introduction

Mobility of goods and people is an important factor for a good functioning of our society and economy. A large part of the mobility takes place on roads. Every day, billions of people move to work, school, sports, or recreational places. They do so by foot, by car, on a bicycle, or in another way. Also the transportation of goods generally takes place on roads. Mobility and transportation is not only a condition for our society, it also has negative consequences. The most important and most well known consequences are those in the field of the environment and road safety. The vast majority of the movements have a happy ending in terms of safety. But sometimes, mostly because of a concurrence of circumstances, things go wrong and a crash happens. In the most favourable situation, there is only material damage, but often a crash causes physical and mental injuries or even death(s).

Every year, worldwide 1.2 million people die as a result of a crash. That is more than 3,000 people every day. Every year, worldwide 51 million people get injured as a result of a crash. That is 140,000 people every day. Besides human suffering, the costs of these crashes are high; US\$ 520 billion on an annual basis. It is expected that in 2020, these figures will have increased by 60% (Adams, 2004). Road safety is thus an important mondial theme. It was also the theme of the World Health Day 2004 on 7th April 2004: Road Safety Is No Accident. Not only does the World Health Organization state that traffic injuries can be prevented, it also mentions that the countries most successful at reducing the number of crashes did so by engaging many different groups in society. Governments, society, and industry worked together to achieve coordinated programmes for road safety. This remark of the WHO makes clear that an effective road safety policy is not only a matter of knowing what to do, but also of cooperation of important parties.

An effective road safety policy relies on sound and well-founded scientific research. But contrary to what is sometimes assumed, the outcome of research usually doesn't affect road safety policy directly, no matter how thorough the research may have been. In the process of developing road safety policy, the rationality of the decision maker repeatedly appears to differ from the rationality of the scientist. Not only objective information about, for instance, road safety measures plays a part in formulating policy, but the different interests of parties involved are at least as important. If the different interests are not weighed rationally against each other in these processes, the different interests of the parties involved will gain importance and be played off against each other. Especially in decisions about important projects, many parties with different interests are involved and depend on each other. The negotiations about these interests often put a stamp on the policy as much as the scientifically based information that is used.

Therefore, it is interesting to see how the decisionmaking process should be organized so that the interests and the negotiations contribute to a good and decisive road safety policy. In this context, a decisive policy is defined as that which is effective, efficient, and ambitious (Bax,

in press). One of the examples of large and complicated decision-making processes involving road safety is the realization of the Dutch national and regional traffic and transport plans. In these plans the traffic and transport policy for the next four years has been fixed. Accessibility, environment, public transport, goods transport, bicycle policy, and road safety can be part of the policy in the plans. Road safety has thus to "compete" with other topics in this plan.

The making of the national traffic and transport plan (NTTP) from 1997 -2002 was studied and analyzed with the following research question: which factors promote and hinder the establishment of a decisive road safety policy (Bax, 2001 and Bax, to be published).

Furthermore, a multiple case study was conducted to study the making of six regional traffic and transport plans (RTTPs) (Bax, in print). The study had an explorative character. The course of the research was as follows.

First, a report was made about the first part of the NTTP decision-making, laid down in a Perspective plan and an Intention plan. This decision-making took place from October 1997 till October 2000. On the basis of this study, a large number of factors was formulated which – if present during the decision making process – could lead to a decisive road safety policy. To see if the factors also play a role in other cases than the NTTP case, the decision-making of 6 RTTPs was studied. After that, the last part of the NTTP case, the decision-making from October 2000 till April 2002 was studied. In this period, the Intention plan was commented on by citizens, interest groups and business, a new plan was made (the Government opinion) and this new plan was presented to and discussed in the Parliament.

As a scheme, this all looks as follows:

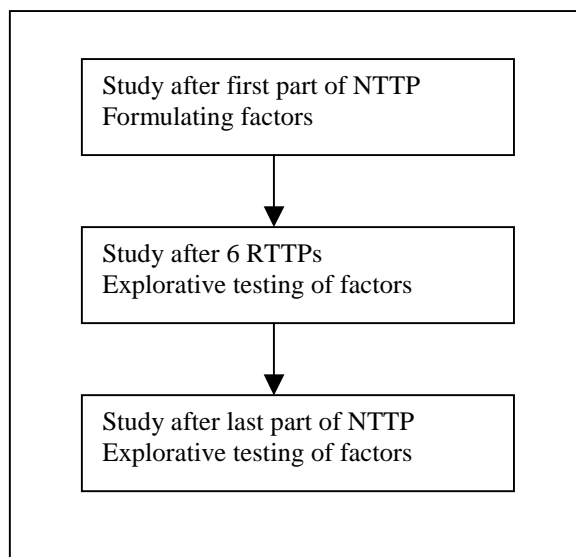


Figure 1: Scheme of the NTTP and RTTP study

Theoretical context

The study of decision-making processes in governmental organizations has been viewed differently during the last decades. Allison (1971) saw decision-making processes as a fairly rational process, in which the actors collected all necessary information and made a rational choice. He called this the "rational actor theory". In this theory the power for decision-making is vested with the central actor, the governmental body that is officially in charge of making

the decision. Although this seems a logical assumption, two main objections to this theory can be mentioned. First, decision-making is generally not as rational as some theories suggest. It does not seem realistic that an actor is able to collect all relevant information for a policy decision. The costs of collecting literally all information would be disproportional. Simon (1957) therefore stated that rational decision-making is always limited, or subjective. The decision-making is rational within given preconditions, amongst which the ambitions of the decision maker and the (in) completeness of information. Decision-making is therefore more a process of "limited rationality". This theory still assumes a central actor as decision maker, but places this in an uncertain environment.

A second objection to the theory of the rational actor is the assumption of one actor taking the decision in a decision-making process. Lindblom and Cohen (1979) state that policy is not just the outcome of a decision-making process, but the outcome of a political process. In Western democracies, governmental actors do not have enough power to realize policy goals without the help and resources of other actors. These can be other governmental bodies, but also non-governmental organizations like interest groups or the business community. Actors therefore have to debate or negotiate with each other to achieve a policy. This interdependency between the actors makes them a "policy network" if they participate on a regular basis in the policy process. A policy network can be defined as: "a (more or less) stable pattern of social relations between interdependent actors, which take shape around policy problems and/or policy programmes" (Scharpf, 1978; Kickert, Klijn & Koppenjan, 1997). This definition contains the three major qualities of policy networks:

- They exist by the interdependency between the actors
- The various actors each have their own goals
- The contacts between the actors are not brief, but more or less lasting

Decision making in national and regional traffic and transport plans is a complex process. In the Netherlands, many parties are involved: the government, different Ministries, regions, municipalities, interest groups, citizens, police, the Public Prosecutor's Office, emergency services, etc. Moreover, a large number of issues are dealt with in NTTPs and RTTPs: accessibility, environment, public transport, goods transport, bicycle policy, etc. Road safety is just one of many subjects in the decision-making. The problems that need to be dealt with are not simple and do not have standard solutions. Furthermore, the authorities, the necessary money, and the necessary knowledge for drawing up an NTTP or RTTP are scattered among the various parties. For example, the national government is responsible for the national roads and the regional rules and financing, and regions are responsible for their regional roads and for financing the municipalities. The municipalities are responsible for cooperating with the regional policy and for their own roads. The police and Public Prosecutor's Office need to support the agreed safety policy, and knowledge organizations are responsible for providing the expertise. In other words: the parties are dependent on each other and together they constitute a network surrounding the decision making process.

Kickert, Klijn and Koppenjan (1997) state that, in such a situation, the various parties must cooperate in a network to initiate the policy. Because not all parties have the same (vested) interests and goals, this is not always straightforward and easy. Neither do all parties have the same possibilities to publicly promote their own interests: some parties have more personnel, money, expertise, or formal authority than others. Explicit guiding and rules are necessary to initiate cooperation, to activate the parties, and to settle the conflicts between parties that have different interests.

In this study, policy processes and decision making in a network are not only looked at in descriptive terms, but the study also links the policy process with the outcome of the process; the policy itself. Most network studies concern the question of whether the decision making process is effective or efficient. In this study the question is answered if a network approach results in an effective and efficient policy. Therefore the question is raised of which factors ensure that this complex decision making process leads to a decisive policy. However, what is a decisive road safety policy? In this context a decisive policy is defined as:

- a) one that is effective, that thus contributes to achieving the defined goals,
- b) one that is efficient, in which the benefits are higher than the costs,
- c) one that is ambitious.

Applied to road safety policy this means that with the measures in the policy plan:

- a) the goal of reducing the number of casualties will be achieved,
- b) the costs will not be higher than the benefits,
- c) there will be fewer casualties than there are now.

According to both the theory of Kickert, Klijn and Koppenjan (1997, and Klijn, Koppenjan & Termeer, 1997) and to previous research (Bax, 2001), two factors determine whether the decision-making process results in a decisive road safety policy. First of all, one or more parties must forcefully promote the road safety interest. If there are no such parties, the final policy will probably pay no attention to road safety. De Bruijn, Ten Heuvelhof and in 't Veld (1998) have elaborated this (and the following) factor(s) in more concrete organization principles. According to their theory, all relevant parties such as interest groups, citizens, research institutes, regions, municipalities, police, public prosecutor etc should be involved during the decision-making. They also must have sufficient possibilities (are allowed to have access) and means (personnel, money, expertise) to convincingly present the road safety interests. Furthermore, the process manager uses the environment of the decision-making process about road safety to gain support for the road safety interest and to urge the parties to cooperate. This can be done by inviting environmental groups to the decision-making process, by negotiating with opponents of the intended road safety measures and by making contact with other policy issues in the NTTP or RTTP. Finally, the process manager also should invest in external authority, for example by involving the administration of the region in an early stage of the decision making process.

Next to the promotion of road safety, the structure of the decision-making process must be well organized. According to De Bruijn, Ten Heuvelhof and in 't Veld (1998), there should be rules for inviting parties, the way in which decisions are made (for example in package deals to protect everyone's interest if possible), and dealing with conflicts (and their benefits). The purpose of the rules is to increase cooperation between parties; after all one is dependent on one another. These rules can be drawn up and carried out by the decision-making body itself, but, alternatively, an external bureau can be hired to do this. De Bruijn et al point out the delicate position of the decision-making body, if this body is process manager and decision maker at the same time. It plays a double role as independent process manager and as party with its own interests in the decision-making process.

In addition to these two procedural factors, another factor was included in the study that concerns more the contents of the policy: the use of information in the decision-making process. Of course, the presence of information is a necessary, but not sufficient precondition. It happens that information is available, but is not used in the decision-making process. There are four possible explanations for this mismatch between information supply and information

use (Edelenbos, 2000). First, the information offered by researchers to policy makers has to fit in terms of content to the needs in the decision-making process. This is often not the case. For a decisive policy, the information should not only contain topics within the existing policy line, but also contain new topics. Second, the shape of the information also has to fit to the needs of the decision makers. It is possible that the jargon of the scientists and the policy makers do not correspond. But there are also other mismatches: quantitative versus qualitative information, oral presentations versus written information, verbal versus visual presentation of results etc. A third possible mismatch is the timing of the information: the data has to be available on time to influence the decision-making process. Information is often presented too early or (more common) too late to decision makers. As a consequence, information has to be asked for in an early stage of the decision-making, to be ready in time to be used. Last, the information has to be authoritative for the policy makers. This means that the assumptions behind the information are undisputed. The information for example has to come from a reliable source, such as a bona fide research institute.

Figure 2 illustrates the three factors related to decisive road safety policy.

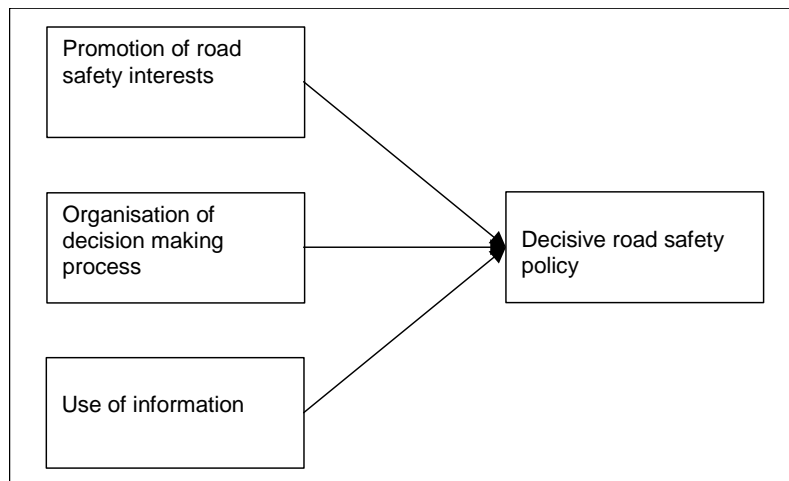


Figure 2: Scheme of factors relevant for a decisive policy

Method: Operationalization of the three factors

As already stated, in this study the aim is to answer the question of which factors promote and hinder the establishing of a decisive road safety policy. The explorative study tries to distinguish these factors by comparing cases with a more and less decisive road safety policy. Three factors which can create a decisive policy are investigated: the promotion of road safety interests, the organization of the decision-making process, and the use of information. The three factors are subdivided and operationalized into a number of items that can be individually assessed. It is assumed that the decision-making process must comply with these items to result in a decisive policy. The factors were made operationable on the basis of the organizational principles in the theory of de Bruijn, Ten Heuvelhof and in 't Veld (1998) and on the basis of a previous study (Bax, 2001) on the decision-making of the NTTTP. In this last study, items which were thought to influence the NTTTP policy in a positive way were looked at in an exploratory and inductive way. This way a large list has been developed. The last part of the NTTTP study and the RTTP study with its six cases investigated if, in a structured way, a distinction can be made between more and less relevant items, to shorten the above-mentioned list.

As far as promotion of road safety interests is concerned, we expected that, for example, the following items would contribute to a decisive policy.

1. Sufficient money, personnel, and expertise for parties promoting road safety interests
2. The organization of the Ministry of Transport is in good order
3. All actors receive the same information about the decision-making process
4. Road safety is a top priority in the perception of the actors
5. Participation in the decision-making process of as many relevant parties as possible
6. The involvement of the administration in an early stage of the decision-making process
7. Early negotiation with opponents of the intended road safety measures
8. The use of conflicts by municipalities, CCRS and water boards to achieve their road safety goals
9. Active participation of a platform for road safety interests, such as the CCRS

As far as the organization of the decision-making is concerned, we expected a positive effect from the following items:

10. Organization of the decision-making process by an independent third party
11. Parties with road safety knowledge actually writing the policy
12. Agreement of road safety with other subjects in the NTTP or RTTP
13. Interest groups for the environment and for bicycles are explicitly involved in the decision-making
14. Perceptions of actors are aligned with package deals

As far as the use of information is concerned, we expected that for example the following matters would contribute to a decisive policy. These items are based on the theory of Edelenbos (2000) and the previously mentioned study on the NTTP (Bax, 2001).

15. Information outside the existing policy line is used
16. Information about other subjects than infrastructure and crash numbers is used
17. Information of other non-governmental organizations is used
18. Information older than 1 year is used
19. Information is actively asked for in the decision-making
20. If information is asked for, this happens in an early stage of the decision-making
21. Time for collecting information is given in an early stage of the decision-making process
22. Research institutes are involved in the meetings

Interviews and document analysis were used to assess the presence of the items. To prevent the researcher from prejudice, the examination of the three factors was conducted at an earlier moment than the examination of the decisiveness of the policy. Furthermore, a qualitative database program (MaxQDA) was used to classify the data fragments. In this way, a complete image of the data file was constructed, to avoid bias of the researcher by using only his memory while analysing the data.

Method: Operationalization the decisiveness of the policy

The decisiveness of the road safety policy was already defined as an effective, efficient and ambitious policy. A policy is effective if the goals set in the policy are reached. For this, the goal of the policy in the NTTP and RTTP was listed (number of casualties saved) and it was estimated if the measures in the policy led to the goals set. The calculation of the casualties

saved is described in detail in the paragraph about the results. For the NTTP case, the effectiveness was scored qualitatively (yes, no, etc), in the RTTP cases, a 5 points scale was used to make a comparison possible between the cases. The efficiency was measured by the relationship between the costs of the policy and the benefits. Therefore the costs of the measures were calculated and divided by the presumed number of casualties saved by the policy when applied, as calculated in the effectiveness. Further details are given in the paragraphs below. The rating scales were the same as for the effectiveness. Ambition was defined as involving the level of the goals of the policy, and the guarantees for implementation. For this last item, it was more specifically looked at the available budget and the mentioning of an implementation period in the policy. For the RTTP cases, a three points scale was used (one point for every item); a qualitative description was used for the NTTP case.

Description of the decision-making of the NTTP

The NTTP is a part of a system of Traffic and Transport Plans, as laid down in the Transport Plan Act. Every four years, a NTTP is formulated. In this plan, the headlines of the traffic and transport policy are defined. These headlines have to be observed by the regional and local governments. It is compulsory to involve the regional and local communities and the water boards in the decision-making of the NTTP. The regional governments, in turn, have to make their own RTTPs every four years, taking into account the national policy. In practice, the decision-making about the NTTP has taken a long time, and the regions have already drawn up their RTTPs, without waiting for the forthcoming of the NTTP.

The decision-making process of the NTTP can be divided in three main stages. In the first stage (1997-1999), an explorative plan, the Perspective plan, was made by the government, helped by the regional and local governments. After consultation in the parliament, a more definite plan was made, the Intention plan. Citizens can react on this plan, and on the basis of this participation, a third plan is made, the Government opinion. This is the definite plan that has to be approved by parliament.

Perspective plan

The process starts with consultation of the lower governments, to make a list of topics to be discussed in the Perspective Plan. Road safety is one of the issues, together with market forces, integration of traffic policy with spatial planning, and chain mobility. To organize the decision-making, a project team is set up, existing of officials of various ministries and the local and regional governments. In start-up conferences, social organizations, private enterprise and research organizations got the opportunity to put forward ideas and possible subjects. The Minister of Transport stressed the participative approach of the decision-making process. As a follow-up, several theme groups were started, consisting of people from social groups, business, research institutes, and governments, which all discuss a different subject. Subjects were for example accessibility, environment, government, and market, Europe etc. Road safety is not a subject in these groups. The high officials in the Department of Transport had a different vision on the possible subject in the NTTP, so they decided to make a vision of their own. In this vision, safety had a prominent place and cost-effectiveness of road safety measures was an important issue.

In the summer of 1998, a new government took office, and with it, a new Minister of Transport. She has a different vision on the decision-making process: it should be less interactive, and the Ministry should produce the NTTP. She asked for two new studies to take place, and for a fresh view. In both advices, road safety takes a prominent place. On the basis of these studies, the Ministry and the project team design a Perspective plan, which they only

occasionally discuss with other organizations than governments. The Road Safety Interest Group "3VO" promotes road safety. Especially the question of who is responsible for road safety is an important issue for the Ministry. Concrete measures or safety visions are not mentioned in this plan. When the Perspective plan is presented in the Parliament, it is not received with enthusiasm. The Parliament does not see the perspective in the Perspective plan. The left-wing parties, but also organizations outside the parliament such as the lower governments and the interest groups for road safety and environment complain that safety is hardly an issue. However, approval by parliament is not required for this Perspective plan and the plan thus remains unchanged.

Intention plan

During the discussion about the Perspective plan in parliament, the project team has already started turning the plan into an Intention plan. Very quickly, a number of study groups were formed, which will elaborate the different important themes of the Intention plan. Environment, public transport, accessibility, and infrastructure are themes, but safety is also a separate group, thanks to the lobby of the regional governments. The groups consists, contrary to the former period, only of representatives of the different governments.

The Safety group started slowly. Because of reorganizations in the Ministry of Transport, it was for some time not clear which ministerial official is responsible for road safety. A quick state of the art of road safety research was made, and the group discussed the concept of Sustainable Safety (a connected package of policy measures), goals of safety, costs of road safety, and road safety in relation to accessibility. Because of the reorganization, the representative of the road safety division of the Ministry of Transport did not have an active role in the group. The most active representatives were those of the regional governments and of the Transport division of the Ministry. The Safety study group pleads for the Sustainable Safety vision on road safety with attention for infrastructural measures as well as educational and enforcement measures. More responsibility for local and regional governments, for organizations outside the government, and for the citizens themselves will improve the road safety policy.

On the basis of the reports of the study groups, the project team made a new policy plan, which was discussed with the local and regional governments and, less frequently, with the social and business organizations. Noticeable here is that the officials of the road safety traffic and – transport divisions of the Ministry both asked the project team to outsource the writing of them. In cooperation they wrote the road safety texts in the policy plan themselves. All the rest of the plan was written by the project team. Meanwhile, the local and regional governments brought out their own package of wishes, in position papers. Road safety was a spearhead in their papers. At the end of 1999, the Minister herself radically revised the texts. She pointed out three main themes: accessibility, environment, and safety, and wanted the texts to be more specific, shorter, and brighter. Road safety appeared as a separate chapter in the plan. Furthermore, the department asked the SWOV Institute for Road Safety Research to investigate the costs and effects of the road safety measures mentioned in the concept NTTP, and calculate if this measures met the goals of the policy. This investigation took till September 2000.

In April 2000, a new concept Intention plan was ready, which was discussed with lower governments and other organization at a very high tempo. The organizations and governments had hardly any time to consult their backings. The ministry decided not to integrate the budget for road safety in the normal estimate, but to ask subsidy for these plans out of a special fund,

filled with the profits of the Dutch natural gas. The profits in this fund are very insecure. At the final moment, just before completing the concept NTTP, two earlier mentioned reports appeared. An earlier requested report from the Advisory Council for Transport, Public Works and Water Management was largely based on SWOV-studies, and states that the ambition of the road safety policy can be much higher than is the case now. Instead of dropping the number of fatal crashes from 1000 to 750 per year, the number can be dropped by 750, to 350 per year. Measures to realize this are known already and they are all cost-effective. The Ministry reacted to the report with the remark that their policy, given the available budgets, was very ambitious and that there was no reason to change the plans. Aside from this, the SWOV-report about the costs and effects of the road safety measures and the feasibility of the road safety goals was published in September 2000. The SWOV calculated that the goals set will be reached with the programme proposed by the Ministry, and added some measures to further improve the package. The Ministry did not adopt these extra measures. One last important decision was taken by the Minister. In the past few years, the various governments have tried to come to a covenant about the implementation of some measures within Sustainable Safety. This has been a long and ongoing process of defining the exact measures and negotiating about the money and responsibilities for implementation. Just before the finishing of the Intention plan, the Minister decided that the covenant should be integrated within the NTTP. By doing so she restricted the liberty of the local and regional governments, because the NTTP is, in contrary to the covenant, not something to negotiate about. In October 2000, the Intention plan was presented. From this moment, citizens, and all kinds of organizations have the right to participate in the public enquiry procedure.

Government opinion

The participation procedure does not have many surprises, most of the reactions are already known. The lower governments, the road safety interest group 3VO and the Dutch AA (ANWB) are supporters of road safety. SWOV stresses again the mission of the Advisory Council: with the current level of knowledge, the ambition can be much higher. SWOV does this, for example, in a round-table conference, in which the main stakeholders for road safety participate. The Netherlands Bureau for Economic Policy Analysis brings out a report about the economical effects of the NTTP. It states that preventing road safety crash is also profitable in economical terms. The remarks in the participation round are input for the revised concept NTTP, which has to be finished quickly, because of the promise of the Minister to Parliament to publish the NTTP one month earlier than planned. Again, officials from the road safety and transport safety divisions of the Ministry write the changes and communicate them with the project team. In spring 2001, the Consultative Committee Road Safety debated about the concept NTTP. This Committee consisted of representatives of governments, business, and interest groups and advises the Ministry about her road safety policy. They had discussed the plan earlier, but could not reach a conclusion. Now, they state that the plan is not ambitious enough. The Ministry is not happy with the comments and warns that they are too late to be incorporated in the concept plan. The concept Government opinion is discussed in the Cabinet Subcommittees and the government, where the lack of financial backing for the road safety policy is stressed. The incomes in the natural Gas fund are still not clear.

Discussion and decision by parliament

Once the plan has passed the government, it is submitted to Parliament. After a hearing with stakeholders for traffic and transport (road safety is hardly an issue here), written questions are asked by Parliament. On the road safety field, questions are asked about the goals and the ambition of the plan, the costs of crashes, enforcement and the execution of Sustainable

Safety. Meanwhile, a large evaluation report is published, which evaluates the road safety covenants. Recommendations are more attention for the education and information measures, integration of the different measures, a uniform execution of the infrastructural measures, and attention for the participation of citizens and interest groups in the decision-making.

Parliament discussed the plan in November 2001 and January 2002. Road safety is not the major dispute, but still gets some attention from the parties. The right-wing party wants fewer infrastructural measures, the Christian party stated that the ambition was too low, another party asked questions about the finances for the road safety policy. Surprisingly, the left-wing parties did not mention road safety. The minister did not change the road safety part of the plan in reaction to the debate in the Parliament. In spring 2002, the Government fell because of a study after the responsibility of the government for the fall of Srebrenica (Bosnia). This made the competition between the (governmental) parties stronger (because of approaching elections), and the parties were less willing to follow the agreements made in the government. Due to this, the (governmental) right-wing party voted against the NTTP plan in Parliament, and, after a surprised look, the opposition parties followed. The right-wing party stated that the ambition for the accessibility was too low, and that the financial funding for the plan was not good. The plan was defeated, and the government and Ministry of Transport could start the process all over again.

Description of the decision-making about the RTTPs

In the meantime, the regions in the Netherlands did not wait for the NTTP to be ready. They made their own RTTPs, before the decision-making about the NTTP was completed. All tried to anticipate on the texts in the concept NTTP. To see if the factors formulated would also play a role outside the NTTP case, in six regions the decision-making about the RTTPs was studied. These were the provinces Noord-Holland, Friesland, Flevoland, and Limburg, and the regions Arnhem-Nijmegen and Twente. The decision-making processes of the NTTP and the RTTPs have a lot in common. Road safety is in both cases just one issue in the TTP, amongst mobility, environment etc. In both decision-making processes a lot of actors are involved: many governmental actors, but also citizens, interest groups, and business partners with equally many interests. In both situations they depend on each other to make and implement a road safety policy: the national or regional government cannot do this alone. Of course the decision-making processes are not identical: the policy of the regions are on a smaller scale, they are bound by the rules and the money of the national government and therefore cannot determine the policy all by themselves. The RTTPs are a bit more general, and the road safety component is elaborated in a separate road safety plan (which is not taken into account in this study). Furthermore, most interest groups have more people, money and information on the national level than on the regional level. Therefore, they are able to function better in the national decision-making. At the regional level, the interest groups mostly consist of volunteers.

The making of the RTTPs in most cases took two to three years, in the period 1997 till 2002. Most frequently, a Perspective plan or something likewise was made and discussed with citizens, interest groups and business. In most cases, there is only one official specialized in road safety. He usually does not write the road safety paragraph in the RTTP. On the other hand, the Provincial Road Safety Board has in most cases a role in the decision-making. This body consists of representatives of the region, of municipalities, police, the public prosecutor, and of various interest groups. This body sometimes writes the education and enforcement paragraph or at least the texts are intensively discussed. In two cases, an external bureau organized the decision-making. In most regions, working groups were set up, to elaborate several issues in the RTTP. Only in one case, 'safety' was a separate working group. In almost

all regions, safety was an obvious subject in the RTTP. Only in one region, safety was not mentioned in the beginning of the decision-making process, but was added later, initiated by road safety officials.

Results: Decisiveness of the road safety policy: NTTP

One part of the study was to assess the decisiveness of the road safety policy in the different stages of the NTTP. It was examined if the policy had contributed to the road safety goals that the government had set itself (effectiveness) and whether the costs of the measures were lower than the benefits (efficiency). It was also examined how ambitious the road safety policy plan was.

The overall goal for road safety in the plan does not change in the three different stages. The goal is to bring the number of casualties down from more than 1000 to 750 deaths (minus 30%) and from about 18,500 to 14,000 in-patients (minus 25%) in 2010. What does change is the budget for road safety measures. In the Perspective plan and the Intention plan, no budget is mentioned. Therefore, no assessment could be made of the ambition of these plans (Table 1). In the Government opinion, a budget of 5 billion Dutch guilders is mentioned (about €2,2 billion), to execute the policy as described in the plan. The lower governments have to contribute the same budget. Unfortunately, the budget is not integrated in the normal estimate, but subsidy is requested for these plans out of a special fund, filled with the profits of the Dutch natural gas. Not only is the amount of money in this fund insecure, but the number of applications for the fund is much higher than the expected budget available. The third criterion for an ambitious policy is the mentioning of an implementation period. In the Perspective plan, no such period is mentioned for road safety measures. The Intention plan and the Government opinion both mention a period till 2010 to implement the policy. However, all concrete road safety measures mentioned in the plans have an implementation period until 2002 at the latest. Some concrete measures do not have an implementation period at all. Intentions for new policy development or research development have no implementation time schedule. Because the guarantees for implementation were assessed as "negative", despite an ambitious goal in terms of casualties, the plan as a whole was assessed as not ambitious (Table 1).

The effectiveness was calculated with the help of the SWOV study on the effectiveness of the NTTP program (Schoon, Wesemann & Roszbach, 2000). The basis for this study were the measures as mentioned in the Policy Intention plan. SWOV calculated that the sum of the casualties saved is just as high as the goal the government has set herself: in 2010 a maximum of 750 deaths and 14,000 in-patients. Compared with the Policy Intention plan, the Perspective plan is far less concrete; only three possible strategies are presented, without any elaboration. Therefore it was assessed as not resulting in an effective policy (Table 1). In the Government intention plan, the policy is nearly the same as in the policy intention plan. However, some measures have been cut out of the plan, and in total the savings of the measures do just not match the goal any more. Therefore, in Table 1 the effectiveness was assessed as "nearly yes". According to the efficiency, in the Perspective plan no budget is mentioned (as said before), so calculating the efficiency is not possible. In the Policy intention plan as well as the Government intention plan, the benefits of the measures are larger than the costs of the measures, so the policy is assessed to be efficient (see Table 1).

	Effectiveness	Efficiency	Ambition	Total
Perspective plan	No	No budget entioned	Could not be determined	No
Policy intention plan	Yes	Yes	Could not be determined	Yes
Government intention plan	Nearly Yes	Yes	No	Nearly Yes

Table 1: Decisiveness of the NTTTP road safety policy

Combining the results of the assessments on effectiveness, efficiency and ambition, leads to an overall assessment of the Perspective plan as not being decisive, due to the fact that the plan was judged as not effective and the other two criteria could not be determined. The Intention plan was judged as decisive, because it was assessed as both effective and efficient (although ambition could not be determined). The results were assessed as nearly decisive with regard to the Government opinion, because one criterion (efficient) was judged to be met, another (ambition) was judged not to be met and the third one (effectiveness) nearly to be met (Table 1).

Results: Decisiveness of the road safety policy: RTTPs

In the study into the RTTPs, the decisiveness of the road safety policy in the RTTPs was judged in a similar way, but scaled in a different manner. Here it was also examined if the policy had contributed to the road safety goals that the six regions had set themselves (effectiveness) and whether the costs of the measures were lower than the benefits (efficiency). It was also examined how ambitious the road safety policy plans were.

All regions had the same goal: 30% fewer road deaths and 25% fewer injured in 2010, in comparison with 1998 (similar to the target set on a national level). To assess the effectiveness it was necessary to know the concrete road safety measures that the regions intended to take in order to achieve this goal. These measures were only briefly described in the RTTPs. All six contained a concrete implementation of these plans, using the Road Safety Explorer programme developed by SWOV (Janssen & Wesemann, to be published). Using this programme, for every RTTP it was estimated how many casualties the road safety policy would have 'saved' by 2010. This made it possible to calculate the effectiveness of the policy much more precise than the effectiveness of the NTTTP. On average, the Arnhem-Nijmegen and Twente regions had the most effective policy; their policy can be expected to save the most casualties. The Friesland policy was assessed as the least effective. None of the six are expected to fully achieve their goal with the intended policy: an estimated reduction in the number of casualties of 71% to 92% compared to their goals will be achieved (Table 2).

The costs of the measures were also calculated by means of the Regional Road Safety Explorer. The ratio between costs and casualties saved, the efficiency, was highest in the Twente region, in the Arnhem-Nijmegen region, and in Flevoland. Friesland and Limburg were assessed to be the least efficient. In Table 2, the efficiency is presented in €100,000 per victim saved. The smaller the figure, the better the score on efficiency.

To judge the level of ambition of the road safety plans in the RTTPs, the goals that the six regions had set themselves were examined, and whether the implementation of the plans was guaranteed. It was tested if a budget and an implementation period for the road safety policy were mentioned. For every factor present, one point was awarded, so the maximum is three points (Table 2). All six had set themselves the same goal; only Flevoland explicitly expressed its fear beforehand of not achieving it because of a more rapid than average increase in mobility in the province. Only Friesland and Flevoland mentioned a budget and an implementation period in their plans.

The scores on the three criteria for a decisive policy (effectiveness, efficiency and ambition) were converted to a total decisiveness score. For the criteria effectiveness and efficiency a

five-point scale was used, a three-point scale was used for ambition. The points for effectiveness were divided between 70 and 95 percent effectiveness, for every 5% effectiveness, one point was rewarded. For efficiency, the five points were divided between 1.5 and 0.5 x €100,000 per victim saved. For every €20,000 less, 1 point was rewarded. The more points a region scores, the more decisive the policy is. As far as the decisiveness of their policy, the Arnhem-Nijmegen region, the Twente region, and Flevoland score a high total; the scores in Limburg, Noord-Holland, and Friesland are lower.

Region	Effectiveness		Efficiency		Ambition	Total decisiveness
	% of goal reached	Score on 5 point scale	€100,000 per victim saved	Score on 5 point scale	Score on 3 point scale	Sum score (max =13)
Friesland	71%	1	1.41	1	3	5 (Low)
Flevoland	87%	4	0.68	5	2	11 (High)
Limburg	86%	4	1.44	1	1	6 (Low)
Noord-Holland	90%	4	0.99	3	1	8 (Low)
Arnhem-Nijmegen	95%	5	0.68	5	1	11 (High)
Twente region	92%	5	0.67	5	1	11 (High)

Table 2: Effectiveness, Efficiency and Ambition

Results: Presence of factors in NTTP and RTTPs

Earlier in this paper, a long list of possible influences on the decisiveness of the road safety policy was presented. In the study, the presence of these items comprising the three factors (promotion of road safety interest, organization and use of information) was looked at. Also was studied if differences in the presence of the items corresponded to differences in the decisiveness of the policy. Because of the explorative nature of the study, it is not possible to draw causal conclusions out of the correspondence, but it is possible to detect plausible explanations.

The presence or absence of a large number of those items did not change in the three different stages of the NTTP decision-making process. The numbers 7, 8, 10, 12, 13, 14, 18, and 21 were not present in all three stages. Because the items were formulated primarily on the basis of the literature, the items were ideal types. Because the assessment of these items did not differ, a comparison cannot be made. Although the relationship between the presence of the items and the decisiveness of the policy is the central point, a comparison between the cases is necessary. Both the individual items as well as the decisiveness are naturally variable. So the results of just one case are not enough to give a judgement about the role of these items for the policy. This is the reason why only those items that vary between the three stages, are elaborated below. Further research is necessary to be able to judge the other items. The same goes for the items number 1, 17, 19, and 20. These items were present in all three stages.

But a number of other items did change during the three stages, and a comparison is therefore possible. Below, these 10 items are discussed one by one.

With regard to the factor "promotion of road safety interest" the presence or absence of the following items changed over the various stages:

No 2: The organization of the Ministry of Transport is in good order

The organization of the Ministry was not in good order during the first half of the decision-making process: during the Perspective plan and the first half of the Intention Plan. This resulted in less attention for the subject of road safety and a minor contribution of the traffic part of the Ministry in the study groups in summer 1999. When the reorganization was over, in autumn 1999, the officials of the Ministry directed the policy again and the texts improved. The presence of this item seems to make a real difference. In the RTTP cases, the organization of the region was in good order in all cases.

No 3: All actors receive the same information about the decision-making process

The decision-making process was primarily focused on the different governmental levels. During the process, the governments have had much more information about the course of the process than the other parties. The further the progress in the decision-making, the less information the parties outside the government got. For example, the newsletters about the process appeared less frequently and consultation lessened. The organizations themselves also state that the process was not clear to them and that the amount of information was not enough. For the different governmental levels, the information was best organized during the decision-making about the Intention Plan. During the Perspective plan, road safety was hardly an issue, and information about the road safety policy was scarce. During the Intention plan, the governments participated in the study group about safety and different versions of the plan were discussed with the governments. This was less frequent the case in the making of the Government opinion. How much does this criterion matter in the decision-making about road safety? Does it matter if governmental organizations or non-governmental organizations have enough information? The idea behind this item was that parties that have enough information will have the best opportunity to participate. Therefore, it is important that the parties that support the road safety interest have enough information. In this case, the lower governments were strong supporters for the road safety interest, as was the road safety interest organization 3VO. Although the latter did not receive enough information, the governments did. In the period that the information supply was at its top, the policy was seen as the most decisive (intention plan). In the RTTP cases, this item was a moderate predictor of the decisiveness of the policy, in the majority of the cases the prediction was right, but not in all cases. This item could be of importance for the decision-making of a decisive road safety policy, but it is assumed to be more important that actors with a large impact on the road safety policy have enough information than that all actors should have the same information.

No 4: Road safety is a top priority in the perception of the actors

In the first half of the decision-making process, especially during the Perspective plan, the urge to put road safety on the agenda was not felt. During the decision-making about the Intention Plan, this need increased, given the set up of the study group Safety. The presence of this item corresponds with the decisiveness of the policy. The RTTP cases were indistinctive on this point.

No 5: Participation in the decision-making process of as many relevant parties as possible

The item about the involvement of many different parties develops as follows during the decision-making process. In the Perspective plan process, the umbrella organization for road safety and other non-governmental organizations with an interest in road safety were present (according to minutes of meetings), but did not put their subjects forward. In the second and third part of the decision-making, their participation is even less: the results of the writings are discussed with different organizations, but often in a late stage. The organizations themselves

do not bother themselves very much in participating. They do bring out position papers, and participate in the public enquiry procedure. We see the same here as in item number 3: governmental organizations do participate in the process, mostly in the second part of the decision-making. While they are strong supporters of road safety, this interest is well represented, although the non-governmental organizations were not represented. In the RTTP cases, the expectation that the participation of many parties led to a more decisive policy was also met. It is concluded that this item can be of relevance.

No 6: The involvement of the administration in an early stage of the decision-making process

The Minister was actively involved in different stages in the decision-making and had a crucial influence. The change in government and Minister in 1998 was crucial for the overall decision-making process: less interactive, more directed to the national and lower governments. Simultaneously to the change of minister, road safety became a topic in the Perspective plan. During the Intention Plan, the Minister put road safety into a separate chapter. This improved the texts and made road safety more visible and consistent. In the last part of the decision-making, the minister kept the goals for road safety in the texts, and introduced the Sustainable Safety Covenant in the NTTP texts. Overall the minister has had a positive influence on the assessed decisiveness of the road safety policy. Parliament has not had a big influence on the road safety policy: road safety was not an important issue in the debates about the NTTP and Parliament did not suggest changes in the road safety texts. This item only seems to apply as far as the minister is concerned. The RTTP cases give a careful indication that this item can be of relevance, as far as the member of the Provincial Executive is concerned, in most cases the prediction was right, but not in all cases.

No 9: Active participation of a platform for road safety interests, such as the CCRS

The participation of the Consultative Committee Road Safety (CCRS) increased gradually. In the Perspective plan, they were not mentioned at all in the papers, minutes etc. In the Intention Plan, the Committee was involved, but at a rather late stage, after the study group results were ready and after the concept Intention Plan was ready in June 2000. After that, the Committee was involved much earlier, during the reformulation of the concept NTTP (December 2000). However, it did not reach a conclusion and recommendations before the beginning of March 2001. At that moment, the Ministry states that the recommendations are too late, and that large changes in the NTTP texts are not appreciated. So, although the participation of the Committee increased, their influence did not and stayed low during the process. The Committee does not seem to be indispensable for a decisive road safety policy. Why is this? A possible explanation can be that most organizations participating in the Committee are already involved in the process in other ways. This is especially the case for the governmental organizations and organizations like the Dutch AA. In theory, the Committee is an elegant way to involve different parties in the process in an integrated way. In practice, this seems not to be necessary in the (restricted) field of road safety. The RTTP cases give a careful indication that the factor can be relevant. This deviation towards the NTTP case can be caused by the fact that the regional boards have more and clearer tasks. Amongst others, they implement the education and enforcement policy in the region. Therefore, they are by definition more involved in the policy process.

With regard to the factor "organization of the decision-making process" the only item that changed over the different stages is the following:

No 11: Parties with road safety knowledge actually writing the policy

In the first part of the decision-making, the Perspective Plan, the road safety texts are not written by officials specialized in road safety policy. But the Intention Plan and the Government Opinion are. This corresponds with the improvements of the texts in the Intention Plan and the Government opinion. The deployment of the road safety officials has paid off. The RTTP cases were clearly in contradiction with the results of the NTTP case. In the regions, the writing by road safety experts was not associated with a decisive policy. An explanation for this finding might be the fact that the road safety paragraphs in the RTTPs are much smaller and more general than the road safety paragraph in the NTTP.

With regard to the factor "use of information" the following items changed over the different stages:

No 15: Information outside the existing policy line is used

Information outside the existing policy line is used in the Perspective plan and the Government Opinion. In the decision-making about the Perspective plan, a change of Ministers took place. This resulted in the asking for new reports. In the Intention plan, only information in line with the existing policy was used. The report from the Advisory Council for Transport, Public Works and Water Management was ignored, as were the extra cost-effective measures SWOV proposed. In the Government Intention, the same report of the Advisory Council did lead to a change in the text: the goals for the period 2010-2020 were determined. Furthermore, the reaction of the Motor drivers Group led to a change in the texts: motor drivers get more attention in the road safety measures. All in all, we cannot conclude that the use of information outside the existing policy line is associated with a more decisive policy. In the RTTPs information outside the policy line was not used at all.

No 16: Information about other subjects than infrastructure and crash numbers is used

In the beginning of the process, during the Perspective plan, new visions were asked for by the new minister. After that, officials elaborated on these visions and did not ask for other information outside their scope any more. The use of information outside the normal scope was directly linked to the coming of a new minister. Therefore, we cannot easily draw a conclusion about the influence of this item on the decisiveness of the policy. Apparently there were still enough measures present to develop a policy that meets the road safety goals. Perhaps only when these measures are exhausted, the use of new information is essential to meet the goals set for the road safety policy. In the RTTPs, a conclusion about this item could not be drawn; the prediction of this factor was in three cases right and in three cases wrong.

No 22: Research institutes are involved in the meetings

The knowledge institutions were frequently asked to perform studies, but were only at the end of the decision-making process invited in round table conferences to give their opinion. Therefore, we cannot conclude that this factor is essential to the development of a decisive policy. In the RTTP research, the factor was also clearly not important for a decisive policy.

Discussion and conclusion

This study aimed at finding factors that promote and hinder establishing a decisive road safety policy. This was examined by looking at both one large national decision-making process (the National Traffic and Transport Plan) and six regional decision making processes (Regional Traffic and Transport Plans).

Some remarks can be made about the evaluation of the study itself. Relatively many items comprising the three factors did not vary between the three stages of the NTTP decision-making process. This has two causes. On the one hand this is caused by the fact that the items were chosen on the basis of a theory. Therefore, they were ideal types of circumstances in the decision-making process, not realistic expectations, and some of the items were thus not present in the three stages. Second, the three phases in the NTTP process are not independent. They are phases in a continuing process, and the previous stages influence the later ones. This is the reason why the phases are not treated as independent cases in this study, but it also causes a lack of variety for some items. This problem is partly tried to be overcome by the addition of six regional cases. To some extent, this is a useful practice, because the amount of cases is increased. But on the other hand, the cases are not fully comparable. Differences are for example these: texts about road safety in RTTPs are more general than in the NTTP, but are elaborated in special road safety plans (which were not studied here). The regions have fewer road safety officials than the national government. All kinds of interest groups function better at the national level than at the regional level, due to differences in professional employees, knowledge and information supply, and contacts with governments. Furthermore, the regions are to some extent dependent on the national governments for their budgets and because of some national rules. A last important difference between the regional and national government is the existence of a Provincial Road Safety Board in the regions, which fulfils tasks on educational and enforcement measures. While this organization exists of not only various representatives of governments, but also of interest groups, policy, public prosecutor, and sometimes business organizations, this is a natural platform to discuss road safety texts. The previous remarks make clear that this study cannot claim firm results, but is explorative.

The study tries to systematically link factors of the decision making process to the results of this process, the policy. This is seldom done in network studies. An advantage of the applied method of (qualitative) assessment of the presence or absence of factors and criteria of decisiveness is that it very systematically attempts to associate individual items of the decision process to the outcome of this process (the policy). This is seldomly done in network studies. To simplify the presentation and comparison of the findings, the results of the systematic exploration are summarized as scores or yes/no qualifications. Although in this way the results can be phrased very concise, a disadvantage is that (as is quite common in this type of research) it is not always possible to adhere simple labels to complicated concepts without losing nuance or 'richness' of the qualifications. Therefore the paper contains elaborate descriptions of the context and rationale of the qualifications used.

Considering the above-mentioned remarks, the following finding can be reported. We can conclude that, on the basis of the NTTP and RTTP cases, there are indications that some of the items matter more for a decisive policy than others. Of course, while this is an explorative case study, this claim cannot be statistically founded.

The following factors seem to matter for a decisive road safety policy in a TTP, because their absence or presence vary with the decisiveness of the policy.

With regard to the factor "promotion of road safety interest" it seems to optimize the chance on a decisive policy when the organization of the Ministry of Transport is in good order. Furthermore, it can be tentatively concluded that there must be sufficient information for important supporters of the road safety policy and they must actively participate in the decision-making process. They should not be deprived of information. An obvious conclusion can be that the perception of road safety in the NTTP matters; when it is considered a top priority, the chance on a decisive policy is larger. The involvement of the administration, especially the Minister, in an early stage of the decision-making process also seems to matter

for a decisive policy. An active participation of a platform for road safety interests, such as the CCRS, might be a good idea if it has an active role in the normal policy making processes (as is the case in the regions), or if parties in the committee do not participate in the NTTP decision-making process on their own.

With regard to the factor "organization of the decision-making" the writing of the policy by road safety officials seems to matter in case of the NTTP, but not in case of the RTTP. The other items comprising this factor did not change over the various stages.

Finally, concerning the third factor, the use of information, using information outside the existing policy line and involving research institutes in meetings do not seem to be decisive factors. We assume that the timely request for information is an important factor here, but on the basis of this study, we are not able to pronounce upon that.

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