Paper for the International Association for Impact Assessment (IAIA) Conference in Calgary, 2013

# The long road to shorter planning and improving SEA/EIA: a reality check

Hans de Vries[a], Jeroen Weertman[a], Jos Arts[a,b]

**Abstract**

Accelerating the national road planning process was the aim of the comprehensive programme 'Faster and Better' in the Netherlands, which started in 2008. Through improved public participation, adjusted legislation and smart scoping during the early, exploratory phase, together with simplified and better tiered SEA/EIA procedures it was expected to shorten planning periods by some 50%. The 'faster' part of the programme aimed at reducing the information load by focussing on the relevant environmental issues (instead of all), discriminating the most relevant factors for selecting feasible alternatives during the exploratory phase and amending environmental regulations. The 'better' part dealt with applying an area-oriented approach (instead of focusing on only infrastructure solutions) as well as early participation of public, of market parties and of (other) government agencies. Recently started projects were evaluated this year, showing successes and difficulties in achieving the desired improvement in reality. For a number of reasons planning reality appears to differ from theory. Based on recent practice an overview is given of the main issues in the ongoing process of improving national road planning and SEA/EIA procedures.

**Introduction**

The Netherlands is one of the most densely populated countries in the world with 448 inhabitants per $km^2$ (Japan 337, UK 260, France 102, USA 33)[1]. Road density is high with 331 $km^1$/100 $km^2$ (Japan 89, UK 172, France 187, USA 67)[2]. Environmental pressure is high due to intense urbanisation and traffic[3] and there are serious conflicts of interest at utilising space. Plans and projects for the construction and expansion of roads are politically, socially and technically complex and take a very long time. Previous analyses in 2002 and 2007[4] have shown that a motorway project takes on average 14 years from start to deliverance. This duration is much longer than required on the basis of legal rules and procedures. The long duration is mainly caused by ambiguities and discontinuities in the decision-making process, new legislation which interferes with the project and a risk avoiding culture in dealing with uncertainty in planning. The preparation of a SEA/EIA costs a lot of time as well, on average three years[5]. Over the years the scope and level of detail of EIA studies has increased[6]. An example is the increased attention to the possible effects of nitrogen deposition on nature areas due to road traffic. There was no attention to this matter in EIA studies for roads until five years ago. Currently very detailed studies with complex nitrogen deposition model calculations are common practice[7].

To accelerate the decision-making process of transportation infrastructure projects a national commission has made recommendations in 2008[8], which have been adopted by the Dutch Government. Two main recommendations relate to SEA/EIA:

1. Develop a legal decision procedure with a broad explorative stage with an open scope for new issues, a comprehensive assessment and early public participation which concludes with a decision on a preferential alternative. This decision can be accompanied by a SEA.
2. Subsequently a shorter, simplified project study follows with a reduced number of research activities by using the preferential alternative as a starting point. It was expected that less (more focused) and simpler research ("Useful Impact Assessment") would suffice. This projects study stage ends with a Route Decision giving planning consent for the project, for which an EIA is almost always prepared.

Finally, in the operational stage a test is introduced to check the occurring environment impact with data derived from (general) monitoring programmes to determine whether and, if so, what additional measures, must be taken as to ensure that environmental standards will be met.

A number of transportation infrastructure initiatives have followed the new Faster and Better procedure. Because implementing laws and regulations and internal processes took place in the period 2008-2010, the effects of the new procedure took place roughly from 2010 onwards. A first snapshot of the results of the process of accelerating and improving of the decision process was made in 2012.

[a] Ministry of Infrastructure and the Environment, PO Box 5044, 2600 GA Delft, The Netherlands

[b] Faculty of Spatial Sciences, University of Groningen, PO Box 800, 9700 AV Groningen, The Netherlands

**The new procedure**

In the Netherlands, for national transportation infrastructure initiatives a SEA in the explorative stage is followed by an EIA for the formal Route Decision for the project. The idea here is that in the early stages a broad, global assessment takes place in an explorative study in which a range of possible solutions is studied for which SEA contributes to the selection of feasible alternatives. In the next stage – the project study - the preferential alternative will be elaborated and assessed more in detail (see figure).

This procedure has been included in the planning, programming and budgeting system for infrastructure called the Long-range Programme Infrastructure, Space & Transport and regulated by law[9]. The elaboration of the procedure has taken place in accordance with the recommendations of the Commission 'Faster and Better' ('Elverding Commission') relating to the following eight points:

1. Duration of the entire initiative (no more than 7 years)
2. Governmental focussing (authorities limit the number of alternatives)
3. Prospect of funding (without reasonable budget no project development)
4. Useful Impact Assessment (an approach to focus assessment on the relevant and discriminating aspects)
5. Market scan (early involvement of market parties regarding development, construction and maintenance)
6. Appropriate public participation (early and open involvement of the public)
7. Co-operation with other authorities (in relation to integrated area-oriented development of infrastructure)
8. Chain approach (an approach in which assessment of impacts is backwards thought through and in which assessment methods are coordinated throughout the various stages of the planning cycle)

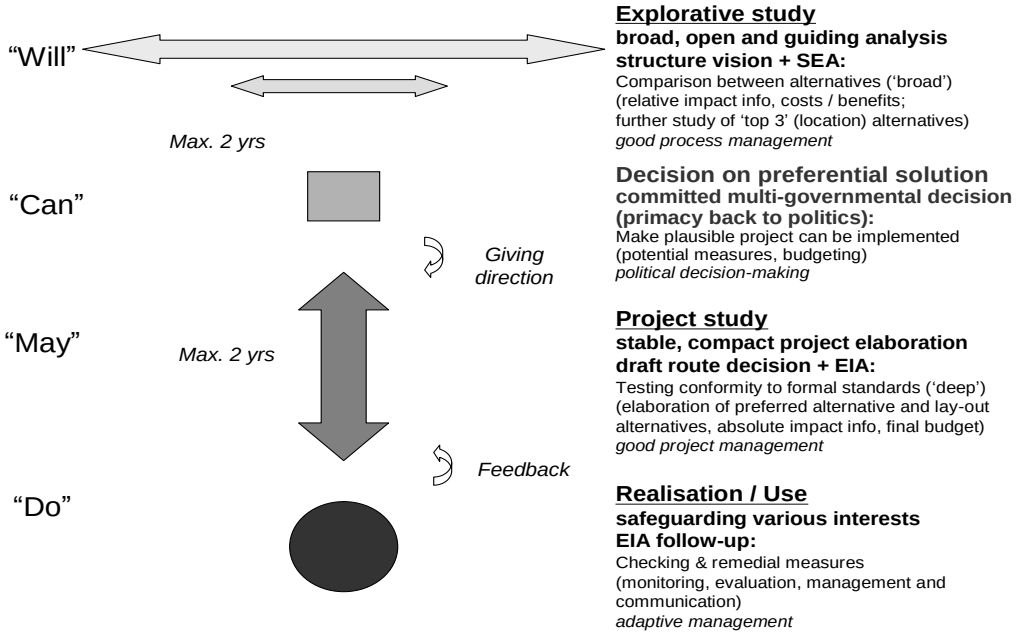



**Figure 1 The planning procedure for national infrastructure projects in The Netherlands**

**Research objective and methodology**

In 2012 the new process 'Faster and Better' was evaluated at 21 national road and waterway projects[c]. The aim was to determine whether the decision-making and the application of SEA/EIA would be improved and what further improvements could be made. A large part of these projects started before the new process was fully implemented. An investigation was made to find out whether practice was in accordance with the principles of 'Better and Faster'. This was done on the basis of interviews and screening of documents. In addition, two desk studies based on interviews qualitatively assessed the process in a number of explorative studies[10]. Two representative cases are described to further explain the relation with SEA/EIA.

[c] Main waterway initiatives: Verruiming Twentekanalen (fase 2) en capaciteitsuitbreiding Eefde, Capaciteitsuitbreiding ligplaatsen IJssel, Vaarweg IJsselmeer-Meppel, Verruiming Vaarweg Eemshaven-Noordzee, Overnachtingsplaatsen Merwedes, Capaciteitsuitbreiding ligplaatsen Beneden Lek, Lekkanaal/3e kolk Beatrixsluis, Vaarweg Boontjes (Harlingen-Kornwerderzand), Lichteren buitenhaven IJmuiden, Zeetoegang IJmond (sluis IJmuiden).
National road initatives: A27 Lunetten-Hooipolder, A9 Omlegging Badhoevedorp , A7 Zuidelijke Ringweg Groningen (2nd fase), N31 Traverse Harlingen, A7/6 Knooppunt Joure, A15 Doortrekking A15 (Ressen) naar A12 (Zevenaar), N18 Varsseveld-Enschede, N35 Zwolle-Wijthmen (Ganzepan), A27/1/28 Ring Utrecht, A1/28 Knooppunt. Hoevelaken, A13/16/20 Rotterdam.

**Two cases**

*Widening N35 Zwolle-Wijthmen*

For this small project an EIA is prepared. Regarding the limited magnitude of the project, a broad explorative study with SEA was considered to have no added value. On the N35, between Zwolle and Wijthmen traffic delays, especially during rush hours, occurs due to traffic growth. In addition, liveability and traffic safety need to improve. The preferred solution is an extension of 2x1 to 2x2 lanes, largely on existing routes. There is a minor bypass near Wijthmen. The speed limit has to increase to 100 km/h. At the junction an overpass is to be constructed. The project has an abridged procedure under the Dutch Infrastructure Act. Because it is a small-scale project with a known solution, no separate SEA is made[11].

Project characteristics:

- EIA
- Small project: 3,5 km road widening
- Project budget 45 million Euro
- 2009 Notification of intent
- 2011 transition to project study
- 2013 Draft Route Decision and EIA
- 2014 Route Decision, start construction
- 2015 Delivery

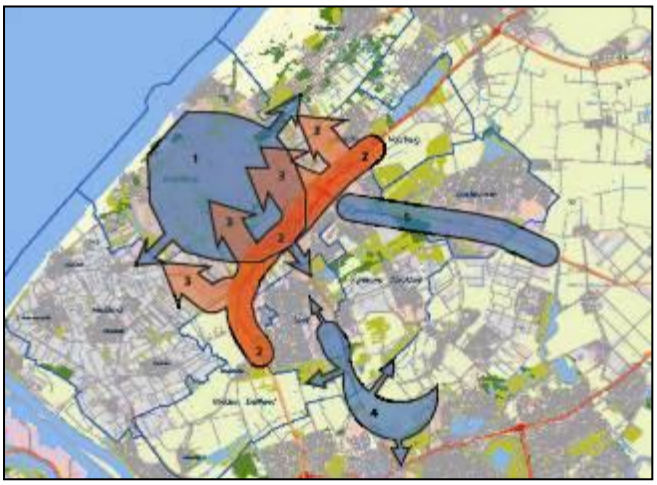

**Figure 2 The N35 road widening project Zwolle-Wijthmen**

*Broad explorative study Haaglanden*

The explorative study Haaglanden is a broad area-focused explorative study of the Haaglanden region, implemented according to 'Faster and Better'. The aim is to improve accessibility to and within the region. Of 17 issues described in the problem analysis, three are elaborated: the A4 passage near The Hague; the 'gates and piercings' (main access roads) around The Hague; and the urban public transport accessibility in The Hague. Based on further research in 2010 and 2011, authorities decided to elaborate only questions 2 and 3 as part of the explorative study Haaglanden. The other questions are problematic only after 2028 and will be elaborated later in another explorative study.

Project characteristics

- Extensive, broad, open initiative
- Area-focused approach
- Explorative study, SEA
- Project study, EIA
- Project budget 567 million Euro
- 2008 Notification of intent
- 2009 stage A problem analysis (see figure)
- 2010 stage B selecting and elaborating potential solutions, SEA
- 2012-2013 preferential decision, national spatial structure vision / SEA
- 2013-2015 EIA(s)
- 2015 realisation regional measures
- 2021 realisation national measures



*1. Improving public transportation in the Central Zone*
*2. Traffic flow improvement A4 passage*
*3. Traffic flow ramps, exits, access roads*
*4. Public transportation Technologic Innovative Cluster Delft*
*5. Public transportation quality Gouda lines*

**Figure 3 Explorative study Haaglanden**

**Results**

The table below summarizes the results of a general analysis of 21 projects that have followed the "Faster & Better" approach. An inquiry was made into determinant factors and the extent to which these factors meet the 'Faster and Better' requirements.

| Assessment aspects 'Faster & Better' | Initiatives | |
|---|---|---|
| | Roads | Waterways |
| Duration of the entire initiative | + | + |
| Governmental focussing | - | - |
| Prospect of funding | 0 | 0 |
| Useful Impact Assessment | 0 | 0 |
| Market search | 0 | 0 |
| Appropriate public participation | - | 0 |
| Co-operation with other authorities | - | 0 |
| Chain approach | - | 0 |

Table 1Assessment aspects 'Faster & Better'
yellow is insufficient, green is sufficient according to new methodology 'Faster & Better'
+ = enhances, – = deteriorates, 0 = remains on same level

Based on interviews and a review of the planning documents more in-depth insight has been gained for the N35 project study and the Haaglanden broad explorative study.

The N35 study has started with three spatial alternatives: a north, middle and south alternative. These alternatives have been explored in the study. There were no other measures or alternatives explicitly included n the study because it was assumed that increasing road capacity could be seen as the only realistic solution. Public transportation measures are insufficient to solve the problems on the N35. Moreover, there is much support in the region for addressing the N35 problems. Therefore, early on the scope of the study was delineated as a single focus problem with a single focus objective. The investigation into the three spatial alternatives aimed to achieve a publicly supported preferential decision. The study is characterized by a very short first stage: the broad, explorative analysis. The investigation of the three alternatives is stage 2, which was following the Useful Impact Assessment method. The alternatives are all calculated using a regional traffic model. This model is more intricate than the national traffic model. For the aspects traffic noise, air quality and external safety there have been made model calculations. Other aspects such as nature, landscape and cultural heritage are examined on the basis of available information, rules of thumb and a spatial analysis. As a result the N35 explorative study is limited. The 'Faster and Better' approach is perceived by the project organisation as too extensive and complex. The study resulted in a governmental preference for a global route, whereas the choice for short or long version near Wijthmen remains open. In other words there are still some choices to be made at subsequent the route / project decision stage for which an EIA will be done. Due to political and governmental pressure the project study stage started, while there was the administrative preference to spent more time exploring in order to start with a more delineated preferential alternative.

State and regional authorities work together in the Haaglanden explorative study. The aim of the study is a politically and publicly supported preferential decision concerning measures to effectively design the mobility system to preferred spatial developments[12]. The Haaglanden study is implemented in separate stages. The Verdaas' Ladder is used[d]. Some steps of this ladder have been rapidly taken, based on earlier decisions and policies. Alternatives other than upgrading or expanding of road infrastructure were dropped because these options are not effective given the issues, or because the investments to modify or expand infrastructure are disproportionate. This was determined on the basis of available information, rules of thumb and expert judgment, such as the rule of thumb that investments in public transport are effective if they lead to at least 5% decrease in car traffic. The SEA elaborated several alternatives to road infrastructure on the basis of a uniform global assessment framework (focusing on goal achievement, costs and "project killers" – insurmountable obstacles"). This assessment framework is set out in the scoping decision. The assessment was based on available information and expert judgment. So called "project killers" (such as significant impact on Natura 2000 areas) were mapped. The alternatives selected after phase 1, consist of various measures and variants, which are more or less effective. In phase 2, two integrated alternatives (for the road) were further explored. The result of phase 2 is a preferential

[d] Verdaas' Ladder: A fixed order of measures to be considered when solves a problem of mobility comprising: spatial planning, road pricing, public transport, mobility management, utilization, adjustment existing infrastructure, new infrastructure.

decision. In phase 2 a SEA was prepared. Phase 2 was much more driven politically leading to more (new) questions and discussion from (local) authorities than anticipated. Confusion and discussion were the result of the lack of a fixed and transparent assessment framework. Discussions after phase 1 led to more research and additional explanation of previous choices. A more (pro-)active attitude of government and politicians was needed here. The information in the explorative stage is needed for different stakeholders. This implies that traffic and environment experts need more information than government officials need for their decision.

**Conclusions / Discussion**

1. The new method 'Faster and Better' has led to a clearly defined explorative stage; a preferential decision is achieved faster. Whereas in the past on average five years was needed to achieve this decision, now 2-4 years seems to be feasible. More precisely, the process of shifting and selecting in order to find a preferential alternative by the end of the explorative stage appears to be effective. Contrary to expectations, however, for larger, complex projects already in the explorative stage, more detailed studies were made to provide "adequate certainty" about the choices made. For complex projects, this takes more time than expected, while for small, single-focus projects the new method seems to be more comprehensive than necessary.
2. A clear judgment on the success of the new approach cannot yet be given on basis of the available assessments. The new approach was not entirely implemented in a number of project studies, because these studies already started before 'Faster and Better' was fully implemented. Anyhow the new method was appreciated for the broad scope and the contribution to public support and commitment from participating parties.
3. The question arises whether the 'Faster and Better' method is not too extensive and complex for small, single-focused projects. While, in some cases it was found that the 'Faster and Better' method is not in every aspect applicable (too general) for large complex projects.
4. Regarding the manageability of the Useful Impact Assessment method as part of 'Faster and Better' the following can be noted:
   - An intake decision with defined scope, problem definition and prospect of funding is not needed to create support. The broad process itself, in which various parties are involved may lead to acceptance.
   - The information resulting from the explorative study serves different audiences with different requirements on the content and level of detail of the information, especially with regard to the design and costing. First, authorities need to be provided with sufficient information for the (preferential) decision. Second experts within and around the project ask for more and more detailed information. This mainly happens to define scope and budget and to make arrangements on the financing, but also to get more certainty for the public about the environmental impact.
5. Under governmental and political pressure, the explorative stage could be ended too soon. This has been the case with some recent studies.
6. Due to the high level of detail, SEA studies tend to grow into just EIA studies. For that reason in the project study / EIA duplication or overlap (with SEA) can be the result.
7. Meanwhile, a large number of projects in the Netherlands are deferred due to the financial crisis. Shorter planning durations apparently have less priority now. Longer interruptions in phase transitions, however, such as from explorative stage to project study stage, can lead to greater risk of outdated information and the need to redo research.
8. Based on the available information, it is assumed that the process of planning of infrastructure projects has been improved and accelerated without compromising careful implementation of SEA and EIA. Ongoing research is needed to confirm this assumption.
9. Decision-making and SEA/EIA should be better co-ordinated and aligned to each other. Improving aligning and co-ordinating the various phases will benefit the process and make it more efficient.
10. It is important to take more time to make political choices regarding complex projects. Sticking to choices does not happen enough. The question is how to improve Dutch political culture regarding decision-making.

## References

[1] http://upload.wikimedia.org/wikipedia/commons/0/02/Population_density_Europe.png and http://nl.wikipedia.org/wiki/Lijst_van_landen_naar_bevolkingsdichtheid

[2] http://data.worldbank.org/indicator/IS.ROD.DNST.K2

[3] http://www.eea.europa.eu/data-and-maps/figures/pressures-from-urbanisation-and-transport-on-semi-natural-areas/map_13_1_only.eps/image_original

[4] Rijkswaterstaat TMC. Onderzoek doorlooptijden. Delft. 2002, 2007.

[5] http://www.rijksoverheid.nl/bestanden/documenten-en-publicaties/rapporten/2008/04/21/bijlage-bij-rapport-commissie-elverding/webversiebijlagenrapportelverding.pdf

[6] Driessen, P.P.J., E.J.M.M. Arts, H.A.C. Runhaar, F. van Laerhoven. Naar een toekomstbestendige m.e.r., p 86.

[7] Searching "stikstofdepositie" [nitrogen deposition] at http://www.commissiemer.nl/zoeken?uitgebreid=on 1993-2007.

[8] http://www.rli.nl/sites/default/files/Better is faster 05-2010 summary.pdf

[9] https://zoek.officielebekendmakingen.nl/dossier/31546

[10a] Weelden, Peter van & Christiaan Elings. Sneller en Beter: Evaluatie Verkenningen Nieuwe Stijl. 2012.

[10b] DHV. Kwaliteitsborging in Verkenningen. reg.nr. MD-AF20112491. 2012.

[11] http://www.rws.nl/images/Verkenning%20N35%20Zwolle-Wijthmen%20januari%202010_tcm174-301320.pdf

[12] http://www.mirtverkenninghaaglanden.nl/doc.php?id=24