

The use of argumentation in transport infrastructure debates: an analysis



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Preface

This thesis is the result of six and a half months of research and can be seen as a part of the Master Systems Engineering, Policy Analysis and Management (SEPAM) at the University of Technology in Delft. This thesis is of interest to all people involved in the transport infrastructure decision making process, as it provides insight in the arguments used by politicians in transport infrastructure decision making.

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Summary

In order for politicians to be able to sufficiently judge proposed policies and/or projects in regard to transportation infrastructure, it is important that they are provided with information regarding all of the effects of a project/policy. However, it seems that currently the information provided to politicians in the Netherlands is insufficiently aligned with their information needs, causing a situation in which politicians aren't able to sufficiently judge proposed policies and/or projects. This research focussed on analysing the use of arguments by Dutch politicians in transport infrastructure decision making, as these arguments are assumed to show the information needs of politicians in practise. Based upon the outcomes, a first contribution is done on the solving of the alignment-gap between the information provided to politicians and their needs, as insight is given in the topics which should be focussed on during the development of information provision methods. For the execution of the analysis, several research questions were set up. These research questions are:

- Which arguments do politicians use in political debates on transport infrastructure?
- How often are arguments used by politicians in political debates?
- To what extend is there a difference in the use of arguments between the different political representatives?
 - o To what extend is there a difference in the use of arguments between the different political parties?
 - o To what extend is there a difference in the use of arguments between the different ministers & secretaries of state?
 - o To what extend is there a difference in the use of arguments between political parties and ministers & secretaries of state?
- Has the use of arguments in transport infrastructure decision making developed itself over time? If yes, in what direction?

In order to enable the answering of these questions, a content analysis was set up in which the different arguments used by politicians in thirteen transport infrastructure debates were identified and coded. . The analysis of debates was preferred over other analysing methods such as interviewing, as within interviews 'failure of interpretation'-possibilities arise. No such measurement failures can occur with the analysing of debates, as these show the actual usage of arguments in practice.

Twenty different arguments have been identified, which are related to transport effects, safety, liveability & environment, economic impact, costs, return on investment, social exclusion, budget, regional financing, private financing, social interest, future generations/current generations, keep promises, procedural justice, distribution of modalities, distribution of regions, distribution of modalities (favour) and distribution of regions (favour). In total, these arguments were used 1891 times by politicians. The arguments related to transport effects (624) and liveability & environment (316) proved to be used most often, whilst also arguments related to safety (150), costs (144) and economic impact (130) proved to be used quite often. Arguments related to the social interest (4) and the current & future generation (2) proved to be used least. As the distribution of the argument-usage can be assumed to show a certain degree of information need, it can be concluded that the information need in regard to transport effects is highest and the information need in regard to the current & future generation is lowest. Furthermore, right-winged parties in general show a lower relative use of the arguments related to liveability & environment and return on investments compared to the left-wing parties, whilst the relative use of the arguments related to economic impact and safety proves to be higher for the right-wing parties. This shows that the information need in regard to economic impact & safety is higher for the right-winged parties, whilst the

information need in regard to liveability & environment and return on investment is higher for the left-winged parties. Also, the relative use of the budget & return on investment arguments by minister Schultz is considered to be much higher than the use of these arguments by other ministers, showing that these two effects play an important role in the consideration process of minister Schultz. The relative use of the 'keep promises' argument by minister Peijs is also considered much higher compared to the other ministers, indicating that she finds it important to act as a trustworthy minister. Most interesting difference in the relative use of arguments between the political parties and the ministers & secretaries of state is the difference in the relative use of the budget argument, for which the relative use by ministers & secretaries of state is much higher than for the political parties. Information in regard to this aspect can therefore be considered more needed for ministers & secretaries of state. Lastly, it is also interesting to see that the use of some arguments in transport infrastructure debates has developed itself over time. Of interest in this case are the arguments related to procedural justice, regional financing and private financing, which are used more often from the year 2008 onwards. This shows that the need for information in regard to these aspects has increased over time.

In light with the findings of this research several recommendations for future research have been identified. Note that one of these recommendations is related to the assumption of argument-usage showing a need for information. The recommendations are:

- For now, no insight can be given in the exact extent to which the identified arguments reflect information needs, as politicians might have only used arguments by which they feel they can turn a discussion in their favour. In that case the identified arguments would reflect the arguments considered most powerful by politicians. In order to be able to provide more insight in the extent to which the identified arguments reflect information needs, additional research on the identified arguments and their use is advised. This can be best done by means of interviews, in which the reasoning behind (specific) arguments is discussed with politicians.
- It is interesting to see that the arguments identified with specific information reports (transport effects, liveability & environment and return on investment) are considered to be used a lot more often in the debate. For now it is unknown to what extent the current information provision plays a role in the use of arguments in transport infrastructure debates. Therefore it is advised to conduct additional research, in which politicians are interviewed in regard to the role of information in the actual use of arguments. If proven that current information provision plays a key role in the use of arguments, arguments identified with a lower use might actually reflect a higher need for (more sufficient) information compared to the arguments used more often.
- Based upon the observation that the information needs of politicians might already be well known, but not sufficiently translated in to information useable for politicians, additional research in regard to the specific information needs of politicians might be of interest. It is suggested to execute a large amount of interviews with politicians, in which the relevant information in regard to each of the identified information needs will be discussed. If more insight is provided in the information most relevant to politicians in regard to each of the information needs, information supply can be more adapted to the actual needs of politicians.

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1. Introduction

In 2011, van Wee stated that “transport is crucial for society: societies cannot function without the transport of people and goods. It enables us to participate in many activities at different locations, such as living, working, education, shopping and visiting relatives and friends” (van Wee, 2011, p. 1). Although a society without transport is currently unimaginable, transportation itself can have several positive and/or negative effects. Examples of these are effects on the environment, accessibility and safety (van Wee & Annema, 2009). In order to enable politicians to sufficiently judge proposed policies and/or projects in regard to transportation, it is of interest to inform them about all of these related effects. However, on the 12th of December 2011, Miss Wiegman-van Meppelen Scheppink (politician for the ChristenUnie, a Dutch political party) took the floor in a debate related to the future planning of large infrastructural projects in the Netherlands and said the following (Tweede Kamer, 2011):

“How do we choose our priorities? The minister has provided us with a list of projects to which she gives priority in the period up to 2028. Personally, that list doesn’t tell me a lot. How did the minister determine that project X is more important than project Y? In the Netherlands we have the national market- and capacity analysis, but that analysis just tells us where the bottlenecks in the system occur. Nowhere in the analysis I am told how large a certain bottleneck is and what the costs are of solving each bottleneck. How can the House of Parliament then decide on what project should be invested in? The House of Parliament is only informed about the indicative costs after an agreement has been reached with the local governments. How can the House of Parliament then steer the decision making process?”.

Looking at this quote, Miss Wiegman-van Meppelen Scheppink claims that she isn’t able to make a well-founded decision in regard to priorities between different transport infrastructure projects, as the information that is presented to her in the decision-making process is insufficient. Therefore she feels that she is limited in performing her main governmental duties, which are the judgement on and steering of the governmental expenditures (Tweede Kamer, 2013). In the Netherlands, politicians (political parties and ministers & secretaries of state) are provided with information by means of several information reports. Examples of these reports are cost benefit analyses and environmental impact assessments. Cost benefit analyses determine the monetary value of consequences of a policy/project to all members of society, whilst environmental impact assessments provide a systematic examination of the environmental implications (Boardman, Greenberg, Vining, & Weimer, 2011) (Glasson, Therivel, & Chadwick, 2012). Based upon the presented quote, there seems to be a gap between information supplied to politicians and their information needs. Sager and Ravlum (2005) observe that this is also an issue in Norway arguing that there seems to be little systematic dialogue between politicians and planners (information developers) with the purpose of matching the information demand of the first group with the information supply of the latter (Sager & Ravlum, 2005). In order to contribute to the solving of the apparent gap between the information supplied to politicians and their information needs, insight should be given in the actual information needs of politicians. This could be done by analysing the different arguments used by politicians in the transport infrastructure decision-making process, as the use of arguments by politicians can be assumed to reflect a certain need for information. Note that according to Propper and Bleijenbergh (1995) two types of arguments can be distinguished in political decision making: communicative arguments and strategical arguments. In the first case arguments are used to try to reach an agreement related to a certain policy, whilst strategic arguments are solely used for self-interest and the exercising of power (Propper & Bleijenbergh,

1995). Both argument-types are considered to show a certain need for information, as information is considered to be needed for the use of each of these argument-types.

To the best of the authors' knowledge, no research has yet been conducted on the arguments used by politicians in the transport infrastructure decision making process. Therefore, the main objective of this research is to analyse the arguments used by politicians in transport infrastructure decision making, which in the Netherlands consists of debates. The following four research questions have been formulated for the execution of the analysis:

- Which arguments do politicians use in political debates on transport infrastructure?
- How often are arguments used by politicians in political debates?
- To what extent is there a difference in the use of arguments between the different political representatives?
 - o To what extent is there a difference in the use of arguments between the different political parties?
 - o To what extent is there a difference in the use of arguments between the different ministers & secretaries of state?
 - o To what extent is there a difference in the use of arguments between political parties and ministers & secretaries of state?
- Has the use of arguments in transport infrastructure decision making developed itself over time? If yes, in what direction?

In order to enable this analysis, a methodological framework will be designed. Based upon this methodological framework, a quantitative data analysis will be executed on thirteen political debates related to transport infrastructure. The analysis of debates is preferred over other analysing methods such as interviewing, as within interviews 'failure of interpretation'-possibilities arise. No such measurement failures can occur with the analysing of debates, as these show the actual usage of arguments in practice.

Following on this introduction is chapter 2, which includes a literature study on (political) decision making and possible arguments used by politicians in transport infrastructure decision making. This is followed by a chapter related to the methodological framework used for the execution of this research. After this, the results of the research will be discussed in chapter 4. Chapter 5 contains the conclusion, which is followed by the discussion & recommendations in chapter 6. Lastly, a reflection is presented in chapter 7.

2. Literature: decision making, possible arguments & commission Duijvesteijn

In the introduction, the following research goal was identified: analyse the arguments used by politicians in transport infrastructure decision making. In order to understand the context of this research, the first part of this literature chapter will provide insight in the theoretical concepts related to (political) decision making. Secondly, this chapter also identifies possible arguments used by politicians in transport infrastructure decision making on the basis of literature. This is of interest, as this provides a basis for the identification of the actual arguments used by politicians in transport infrastructure debates in the next chapter. Furthermore, it is also interesting to take a closer look at the commission Duijvesteijn, as this commission conducted research on the presence of information in the political decision making process in the Netherlands.

2.1. Decision making concepts

This paragraph focusses on elaborating several theoretical concepts related to (political) decision making, so that the context of this research becomes more clear. In subsection 2.1.1, two different types of decision making models (rational and political) will be elaborated. This is followed by subsection 2.1.2., which shortly covers decision making in the political arena. The theory related to frontstage/backstage politics plays a key role in this subsection.

2.1.1. Decision making models

In regard to decision making, various models can be distinguished. This section shortly covers the rational and political decision making models, as these models have common grounds with this research.

As to be expected by the name, the rational decision model is a model that assumes that a decision maker (which could be any individual) acts rational when faced with a decision between alternatives. According to Edwards (1954), acting rational means that a decision maker has transitive preferences and that he/she chooses between alternatives in such a way that (expected) utility is maximized (Edwards, 1954). An example of rational decision making can be best provided by means of the rational voter hypothesis developed by Downs (1957), which states that a voter votes for the candidate of which the proposed policy provides the most utility to the voter (Downs, 1957). Note that this hypothesis (and also the rational decision making model in general) assumes that the voter is fully informed about the policies and their consequences and therefore is able to decide upon the best vote. However, as argued by Herbert Simon in 1979, the assumption of unbounded rationality does not reflect reality, as most of the time decision makers have limited capacity to capture all relevant information and therefore are unable to fully calculate their individual utility (Simon, 1979). Based upon this observation, the concept of satisficing in rational decision making seems to be more realistic, as this concept acknowledges the fact that a decision maker is unable to determine the outcome maximizing his/her utility and therefore aims to find a satisfying solution instead of the 'maximum utility'-solution (Simon, 1979). Whether or not a solution satisfies depends on the aspiration of the decision maker. If assuming that political decision making is conducted by a single decision maker, the concept of satisficing would also come back in political decision making. This, as politicians aren't always fully informed and therefore also are unable to seek for the 'maximum utility'-solution (see quote of Miss Wiegman-van Meppelen Scheppink in the introduction). However, political decision making is not the result of a decision made by a single decision maker, but the result of bargaining, conflicts and compromises between different departments and political officials with diverse political interests (Riemer, Douglas, & Romance, 2010). Therefore, the rational decision making model can't be applied to political decision making and instead political decision making models that acknowledge these variables in decision making play a key role in this case. Examples of

political decision making models are the garbage can model designed by Cohen, March & Olson and Kingdon's stream model. In the garbage can model several relatively independent streams within an organization are present, which are: problems, solutions, participants and choice opportunities (Cohen, March, & Olsen, 1972). Choice opportunities are defined as "occasions in which an organization (which could be a government) is expected to produce behaviour that can be called a decision" (Cohen, March, & Olsen, 1972, p. 3). In this model, decision making is based on the idea that each of the participants contributes to decision making by putting their problems and solutions in a 'garbage can' (which can be considered the choice opportunity). If the content of this garbage can matches and therefore all streams match, possibilities arise that a decision can be produced. The same concept of different (independent) streams is present in the Kingdon's stream model, which states that decision making is based upon the political, problem and the policy stream (Kingdon, 1984). Each of these streams can be best defined by the following questions:

- Political stream: are politicians willing and able to make a policy change?
- Problem stream: is something considered a problem?
- Policy stream: are there policy alternatives that can be implemented?

If these streams align, a window of opportunity occurs that enables for agenda setting and action in regard to a certain subject (Kingdon, 1984). Note that the policy window is not specific, but enables for many alternatives to have a chance in the decision making process. Furthermore, the policy window is often considered short in duration and therefore leads to political flexibility (Kingdon, 1984).

2.1.2. Decision making in the political arena

In the previous subsection, several decision making models have been discussed. This subsection focusses on shortly elaborating decision making in the political arena using the frontstage and backstage model introduced by Goffman in 1959. This model states that there is a stage where (social) behaviour is displayed in front of an audience (frontstage) and a stage where (social) behaviour is removed from the public (backstage) (Goffman, 1959). In the case of politics the frontstage covers the presentation of decisions or viewing points to the general public (which can be considered the audience), whilst the backstage covers the strategic behaviour between the different political parties. This strategic behaviour in the backstage is required, as among other things compromises between the different political parties have to be made in order to enable political decision making. This is confirmed by Ton Elias (a member of the VVD, a Dutch political party) in a debate in 2013, who stated that "we (VVD) have made a compromise with the PvdA (another Dutch political party) and this hurts. Still, I support this compromise, as the country has to be governed" (Tweede Kamer, 2013, p. 3). An example of backstage compromising in practise is shown in an article from the Telegraaf (a Dutch newspaper), in which a politician of the PvdA states the following in regard to the European refugee-crisis: "currently, the VVD is suffering losses in their supporters due to the fact that the PVV (another Dutch political party) is much more heavily spreading their aversion in regard to the accepting and housing of refugees. Therefore, they (VVD) now also use this strategy in the media to score voters. Although it is hard to explain to our supporters that our coalition partner makes these kind of statements in the media, it is the result that counts for us in this case and that is that we (PvdA) have been given control over the refugee policy in return for it" (Telegraaf, 2015). According to this article, a compromise between the VVD and PvdA was made in the backstage in regard to the frontstage behaviour of the VVD. Interesting to this example is that the complexity of political decision making is shown, in which an ongoing process of bargaining, conflicts and compromises plays in the background.

Note that in light with this research compromises made in regard to for instance immigration could also affect the decision making in regard to transport infrastructure, as parties might have involved aspects such as transport infrastructure budgets in the compromise.

2.2. Identification of possible arguments

This paragraph provides insight in possible arguments used by politicians in transport infrastructure debates on the basis of literature. The literature used for this identification is widespread and relates to the current information provision to politicians, aspects of interest during the appraisal of transport projects, policy preferences of the different political parties and to a commission (commission Elverding) that has executed research on the flaws in the decision making process in the Netherlands. Each of these different literature-topics will be covered in a separate subsections

2.2.1. Argument identification based upon current information provision to politicians

In the Netherlands, four different types of information reports in regard to the effects of transport infrastructure can be distinguished. These are: cost benefit analyses (CBA), environmental impact assessments (EIA), national market- and capacity analyses (NMCA) and specialist reports. Each of these information reports and their content will be more elaborated in this subsection. Based upon the content of them, several possible arguments used by politicians in transport infrastructure debates will be identified.

Since the appearing of the OEEI guidelines by Eijgenraam et al. in 2000, it is mandatory in the Netherlands to carry out cost benefit analyses for large projects of national interest. A cost-benefit analysis is a policy assessment method that quantifies in monetary terms the value of consequences of a policy/project to all members of society (Boardman, Greenberg, Vining, & Weimer, 2011). These consequences relate to different topics, such as travel time, nuisance and biodiversity (MKBA-informatie, 2015). If the social benefits of a project prove to outweigh the social costs, the project is deemed to be socially profitable and should be considered to invest in as it offers value for money (Guhnemann, Laird, & Pearman, 2011). Because politicians are provided with information in regard to the social costs and benefits of projects, arguments related to the (social) return on investment in regard to transport infrastructure projects are to be expected elsewhere in the decision making process. Therefore, 'return on investment' is considered to be the first possible argument used by politicians in transport infrastructure debates.

Besides cost benefit analyses, politicians are also provided with environmental impact assessments. Environmental impact assessments provide a systematic examination of the environmental implications of proposed actions and alternatives (Glasson, Therivel, & Chadwick, 2012). According to Vickerman (2000), the environmental implications of a project can consist of effects on noise, air quality, landscape, biodiversity, heritage and water (Vickerman, 2000). As politicians are provided with information in regard to the effect of a project on the liveability and environment, it is expected that arguments related to this will also be present in the debates. Therefore, 'liveability & environment' is considered to be the second possible argument used by politicians in transport infrastructure debates.

Furthermore, politicians in the Netherlands are also provided with the national market- and capacity analysis. The NMCA is an analysis executed by the Dutch government to determine bottlenecks in the current transport infrastructure. These bottlenecks are determined based upon the expected development of mobility and the (current) capacity of the transport infrastructures and therefore indicate which elements in the infrastructure systems aren't able to cope with the future changes in transport demand (Ministerie van Infrastructuur en Milieu, 2011). If capacity proves to be inadequate, this could have several effects on transportation. These effects relate to aspects such as travel time, congestion and accessibility, but also to travel comfort. It is expected that, based upon findings of the NMCA, politicians will use arguments related to transport effects in the debate.

Therefore, 'transport effects' is considered to be the third possible argument used by politicians in transport infrastructure debates.

Besides the three reports named above, the government sometimes also commissions private consultancy companies to conduct research on other effects of a project/policy. An example of such a company is Movares, which was hired to determine the effects of several alternatives in regard to the A27 (which is a highway in the Netherlands). As the effects analysed by the consultancy companies are wide spread, no specific possible arguments are directly derivable from this type of reports.

2.2.2. Argument identification based upon aspects of interest in transport project appraisal

In this subsection, several possible arguments used by politicians in transport infrastructure debates will be identified on the basis of (scientific) literature related to the aspects of interest in transport project appraisal. This, as each of these aspects possibly contains a specific argument to why a certain decision in regard to a project has been made during the consideration process.

Bristow and Nellthorp (2000) have identified four common categories that are taken in to account during the appraisal of transport projects in the European Union. These categories are travel time savings, safety, environmental impact and regional economic impact (Bristow & Nellthorp, 2000). Interesting to see is that Vickerman (2000) has also identified three of these categories, only switching travel time savings with accessibility (Vickerman, 2000). Note that the transport effects and liveability & environment arguments have already been identified in the previous subsection. Therefore, these arguments will not be taken in to consideration in this subsection. The categories (road)safety and economic impact have not previously been identified as possible arguments. Arguments related to (road)safety address the effect of a project on the chances of (fatal) accidents occurring during the process of transportation. The economic impact of a project is best defined by Bhatta & Drennan (2003) as the effect of a project on aspects such as output, productivity, cost of production, employment & income (Bhatta & Drennan, 2003). Besides the aspects of interest named above, Sayers et al. (2003) also identify the cost of a project as an aspect of interest during the appraisal of transport projects (Sayers, Jessop, & Hills, 2003). In depth explanation of this argument is considered not to be needed.

Lastly, Church, Frost & Sullivan (2000) address social exclusion as an aspect also of interest during project appraisal (Church, Frost, & Sullivan, 2000). Therefore, also social exclusion is considered to be a possible argument used by politicians in transport infrastructure debates. Social exclusion can be best defined as "a situation in which a person geographically resident in a society is, for reasons beyond his/her control, unable to participate in the normal activities that he/she would like to participate in" (Burhcardt, Le Grand, & Piachaud, 1999, p. 229). Church, Frost & Sullivan (2000) state that "the lack of 'connection' between residents and many of the activities and opportunities that are required to participate fully in society cause social exclusion" (Church, Frost, & Sullivan, 2000, p. 203). Note that transport projects can positively or negatively affect the connection between residents and activities.

2.2.3. Argument identification based upon policy preferences of political parties

Based upon the policy preferences of the different political parties in the Netherlands (see Appendix E), the identified arguments will be enriched in this subsection. This is done by analysing the election programmes of the different political parties in the Netherlands. It is important to notice that all of the possible arguments identified in the previous subsections have also been identified in the policy preferences of the different political parties. However, this section solely focusses on identifying possible arguments that have not yet been retrieved in the previous subsections.

The first possible argument identified on the basis of the election programmes is an argument related to the distribution of the (financial) resources over the different modalities. This category is

based on the following observation: looking at the policy preferences of the CDA (a Christian democratic party) related to transportation, they state that they find investments in public transportation (projects) important (CDA, 2015). This is in line with the policy preferences of parties such as the SP (a socialistic party), Groenlinks and the ChristenUnie (a Christian party) (Groenlinks, 2015) (SP, 2015) (ChristenUnie, 2015). However, parties such as the VVD (a liberal party) and PVV (a populist party) have a policy preference for transport projects related to road infrastructure (VVD, 2015) (Partij van de vrijheid, 2012). As these preferences are contradicting, the extent of the investments in the different modalities is considered to be a possible argument used by politicians in the debates. This, as an (un)even dividing of (financial) resources over the different modalities can possibly be used as an argument to justify why (extra) investments must be done in transport infrastructure projects related to a certain modality.

The second possible argument identified on the basis of the election programmes is an argument related to the distribution of the (financial) resources over the different regions in the Netherlands. Looking at the policy preferences of the PVV and VVD, both parties advocate for more investments in the mainports (VVD, 2015) (Partij van de vrijheid, 2012). However, a party such as the CDA advocates for increasing the liveability in the regions. Furthermore the CDA also states that 'we choose for the whole of the Netherlands' (CDA, 2015) (CDA, 2015). As these preferences are once again contradicting, the extent of the investments in the different regions is also considered to be a possible argument used by politicians in the debates. This, as an (un)even dividing of (financial) resources over the different regions can possibly be used as an argument to justify why (extra) investments must be done in transport infrastructure projects in a certain region.

Besides the two arguments identified above, no other (new) arguments have been identified based upon the policy preferences of the different political parties.

2.2.4. Argument identification based upon Commission Elverding

In this subsection, the commission Elverding and its findings will be elaborated. This is of interest to this research, as the recommendations show an additional argument possibly used by politicians in transport infrastructure debates.

In 2007, minister Eurlings (minister of Transport, Public Works and Water Management in the period 2007-2010) felt that the decision making process of projects was taking too much time. Therefore, he assigned Peter Elverding (chairman of the commission Elverding) with the task to investigate how the duration of the decision making process could be decreased. On the 21th of April 2008 the commission presented the report 'sneller en beter'. This report identified that the causes of the increased duration of the decision making process could be divided in to three categories. These categories are (Commissie Elverding, 2008): preparation & government culture, decision making process and judicial aspects. Several recommendations regarding these categories were provided so that the duration of the decision making process would be decreased. Although the recommendations regarding preparation & government culture and the judicial aspects are interesting, only the recommendations regarding the decision making process will be shortly elaborated. This, as these recommendations show a new possible argument in the appraisal of transport infrastructure projects. The commission states that the duration of the decision making process can be decreased if several changes are made within the exploration phase of the decision making process. One of these changes would be to increase the involvement of different stakeholders. By doing so, all stakeholders can contribute to the project and provide insight in the usefulness and necessity of the project. Furthermore, this enables for cooperation in finding the most optimal solution within the given area (Commissie Elverding, 2008). This is interesting, as each stakeholder has different interests and will therefore have a different preferred solution. Finding the most optimal solution therefore suggests that during the decision making process, all submitted

alternatives of the different stakeholders should be tested and taken in to account. This observation is confirmed by Kees Vendrik (a member of Groenlinks, a Dutch political party), who stated the following in the transport infrastructure debate of 2009 (Tweede Kamer, 2009, p. 37): “The essence of the Elverding approach is that not only all alternatives are put on the table – there are a lot of opposing groups that have submitted several ideas for the RijnlandRoute– but that all of these alternatives are equally taken in to account and discussed”. If alternatives are not provided with a level playing field, this shows that justice isn’t done to the procedures set out by the commission Elverding. Possibilities arise that politicians feel that alternatives are not provided with a level playing field. Therefore, ‘procedural justice’ has been identified as a new possible argument used during the appraisal of transport infrastructure projects, which addresses the absence of a level playing field in the consideration process.

Concluding remark

Based upon literature related to the current information provision to politicians, aspects of interest during the appraisal of transport projects, policy preferences of the different political parties and to the commission Elverding, insight has been given in arguments possibly used by politicians in transport infrastructure debates. These arguments relate to transport effects, safety, liveability & environment, economic impact, return on investment, costs, social exclusion, the distribution of resources over the different modalities, the distribution of resources over the different regions and procedural justice. In the next chapter, the identification of arguments used by politicians in transport infrastructure decision making will be refined and completed as this (literature) method does not guarantee that 1) all arguments are identified and 2) the arguments identified are actually used in the debate.

2.3. Commission Duijvesteijn

In this paragraph a closer look will be taken at the commission Duijvesteijn and its results, as this commission conducted research on the presence of information in the political decision making process in the Netherlands.

In the 1990’s and early 2000’s, several large infrastructural projects were approved such as the hogesnelheidslijn-zuid (HSL-Zuid) and the Betuweroute. After the approval, it became clear that both projects started to exceed the assigned construction budget. As the cost increases became quite significant, the House of Parliament issued the forming of a commission in 2003 which would analyse the decision making process related to these two projects. Not only would the commission analyse the mistakes made in the decision-making process prior to the construction approval, it would also provide the House of Parliament with advice on how to prevent such (costly) mistakes from occurring again in the (near) future. The commission was installed on the 23th of November 2003 and was named after one of its members (Adri Duijvesteijn). On the 15th of December (2004) the commission presented their findings. For now, the focus of this paragraph will be on the findings of the commission related to the presence of information in de political arena. This, as this research aims to analyse the arguments used by politicians in debates related to transport infrastructure in order to contribute to the solving of the alignment-gap between the information provided to politicians and their needs.

In 2002, the Algemene Rekenkamer concluded that in 44% of the researched cases, the information provision related to large infrastructural projects had been structurally insufficient. Therefore, these projects had an increased risk of decision making based on too less information, or on information of insufficient quality (Algemene Rekenkamer, 2002). It is needless to say that decision making based on false or insufficient information could potentially lead to situations such as the HSL-Zuid and the Betuweroute. The commission Duijvesteijn concluded that there were four reasons for the insufficient provision of information to the House of Parliament (Commissie Duijvesteijn, 2004, p. 40):

1. Information is often controversial.
2. Information is used as an instrument to influence the decision making process (in this case, think for instance about the purposely providing of false information by politicians to steer the decision making process to their favour).
3. Information is unevenly divided between parties: information-asymmetry.
4. Information needed for parliamentary control can have a confidential character.

Based upon these four identified reasons, the commission proposed several changes to enhance the quality of the provision of information in the future and therefore also the quality of the decision making process in general. These proposed changes were (Commissie Duivesteijn, 2004, p. 44):

- The House of Parliament must be able to conduct independent research on the information that is provided to them.
- The House of Parliament should not be solely dependent on the information provided by the government.
- The House of Parliament should be clear about the information it wants to receive.
- All information should in principle be publically accessible.

Firstly, politicians are often confronted with contradictory information in regard to a certain project. By enabling independent research on the information provided to politicians, the quality of the information is tested (Commissie Duivesteijn, 2004). If information proves to be unreliable on the basis of this research, this information should no longer be considered of interest in the decision making process by politicians. This, as decision making will then only be based on reliable information.

Secondly, the information provided to the parliament is currently almost solely supplied by the government. According to the commission Duivesteijn (2004) the parliament itself must also be enabled to generate information, as this enables the parliament to conduct her countervailing role in a more credible way (Commissie Duivesteijn, 2004). This could further improve the quality of the decision making process.

Thirdly, it is needless to say that (high quality) decision making is only enabled if politicians are provided with all and the right information during the process of decision making. Therefore, the commission Duivesteijn advised politicians to be (more) clear in regard to the information they want to receive and to make all information publically accessible (Commissie Duivesteijn, 2004).

3. Methodology

In this chapter, the methodological framework developed to analyse the arguments used by politicians in debates related to transport infrastructure will be elaborated more closely. For the execution of the analysis, an analysing method called ‘content analysis’ will be used. According to Stemler (2001), a content analysis can be best defined as a systematic, replicable technique for compressing many words of text into fewer content categories based on explicit rules of coding (Stemler, 2001). A category can be considered a group of words with similar meaning or connotations and in order for content analyses to be effective, it is important that all categories are mutually exclusive and exhaustive (Weber, 1990) (U.S. General Accounting Office, 1996). Besides this, it is important that the classification procedures (coding rules) are reliable in the sense of being consistent (Weber, 1990). One way to ensure that the analysis is reliable is to allow outside coders to test-code (Stemler, 2001). Note that this (content) analysing method is considered ideal for this research, as one of the main advantages of this method is the fact that this method is able to deal with large volumes of data.

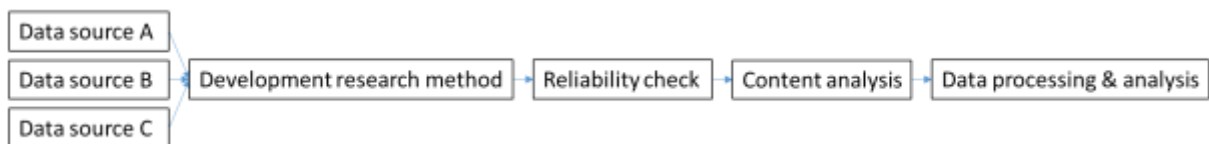


Figure 1: Different steps in the development of the methodology.

The structure of this chapter is based upon the different steps taken in the development of the methodology (see figure 1). First, an insight will be given in the data sources used for this analysis in paragraph 3.1. Next, an insight will be given in the development of the research method in paragraph 3.2. Within this paragraph the identification of the different arguments and the coding rules will be more elaborated. Paragraph 3.3 shortly describes the reliability checks that have been executed, whilst the method used for the data processing and data analysis will be explained in paragraph 3.4.

3.1. Data sources

As told in the introduction, the analysis of debates is preferred over other analysing methods such as interviewing, as within interviews ‘failure of interpretation’-possibilities arise. No such measurement failures can occur with the analysing of debates, as these show the actual usage of arguments in practice. Because there is a large variety of political debates related to transport infrastructure, it is important to determine which debates would be of most interest to execute the research on. In this case, the analysis will be executed on debates related to the ‘Meerjarenprogramma Infrastructuur Ruimte en Transport’ (MIRT). The MIRT is a political program that focusses on investments regarding governmental projects or policies related to infrastructure (Rijksoverheid, 2015). Each year, a large amount of infrastructural projects and policies is added to the program. At the end of each year, the program itself and the projects/policies in the program are discussed during a political debate (the so called ‘Nota Overleg MIRT’). During this debate, political parties provide the House of Representatives with their opinion on the projects and policies in the program, but also on the infrastructural projects and policies which are not present in the program. This is done, as all political parties have a different opinion on the infrastructural projects and policies that should be allocated to the program. As there is a large amount of projects allocated to the program and there also is a large amount of projects not allocated to the program, the political debates regarding the MIRT cover a large amount of different projects and policies. As politicians generally will try to increase or decrease the interest of a project by the use of argumentation, these debates will provide a large amount of data. Therefore, the debates regarding the MIRT are preferred over debates related to other topics, which in general cover less projects/policies.

Analysing a single debate would not provide a sufficient amount of data. Therefore, the debates related to the MIRT of the years 2003-2015 will be analysed. Note that these debates take place one year prior to the year of the actual program, therefore taking place in the years 2002-2014.

3.2. Development of the research method

Before being able to execute the research, it is important to develop a method by which the research is conducted. For this research, the development of the research method took place in several steps. First of all it is important to determine the arguments used by politicians in transport infrastructure debates. Note that this step can be seen as the identification of different categories needed for the execution of a content analysis. In the previous chapter, several possible arguments used by politicians in transport infrastructure debates were identified. Examples of such argument-codes are 'liveability & environment' and 'safety'. Although the literature provides insight in the possible arguments used in transport infrastructure debates, this does not guarantee that 1) all arguments are identified and 2) the arguments identified are actually used in the debate. Therefore, several debates (three) were test-coded to identify whether or not the identified arguments are actually used in the debate. Furthermore, the focus was also on finding new reoccurring arguments used by politicians in transport infrastructure debates that had not already been identified on the basis of literature. It is important to keep in mind that the main goal of this thesis is to analyse the arguments used by politicians in debates related to transport infrastructure, so that a contribution can be done to the solving of the alignment-gap between the information provided to politicians and their needs. Therefore, only argument-codes are taken in to account which can be tested by information. A total of 20 arguments have been identified. These will each be elaborated more thoroughly in subsection 3.2.1.

Besides identifying all arguments used during transport infrastructure debates, the test coding was also used to develop the rules that would be applied during the coding of the arguments. This is important, as these rules provide justification on why certain arguments are coded and why others aren't. If during the debate a politicians' statement satisfies the coding-rules, the argument is coded. If a politician doesn't satisfy the coding rules, the argument is not coded. The rules related to the coding will be elaborated more thoroughly in subsection 3.2.2.

3.2.1. Identified arguments

Within this subsection, all (20) arguments identified on the basis of the test-coding are discussed. For each of the codes, the content will be shortly described to ensure that no misunderstanding occurs in the interpretation of them. The identified codes are:

- *Transport effects*: arguments related to the effect of a project/policy on factors such as accessibility, travel time, travel comfort and congestion.
- *Safety*: arguments related to the effect of a project/policy on the safety of the people using the transport infrastructure, which could also be bikers or pedestrians.
- *Liveability & environment*: arguments related to the effect of a project/policy on factors related to noise, air quality, landscape, biodiversity, heritage and water.
- *Economic impact*: arguments related to the effect of a project/policy on factors such as output, productivity, costs of production, employment & income.
- *Return on investment*: arguments related to the extent of the (social) return on investment.
- *Costs*: arguments related to the costs of a project/policy.
- *Social exclusion*: arguments related to the effect of a project/policy on the connection between residents and activities.
- *Distribution of modalities*: arguments related to the distribution of the infrastructural budget over the different modalities. Three types of modalities have been identified, which are road,

train and water. A distinction can be made between statements related to a preference for the current distribution of resources over the different modalities and statements related to a preference for a different distribution of resources over the different modalities. This code covers the statements related to the preference in regard to a different distribution of resources over the different modalities.

- *Distribution of modalities (favour)*: arguments related to the distribution of the infrastructural budget over the different modalities. Three types of modalities have been identified, which are road, train and water. A distinction can be made between statements related to a preference for the current distribution of resources over the different modalities and statements related to a preference for a different distribution of resources over the different modalities. This code covers the statements related to the preference in regard to the current distribution of resources over the different modalities.
- *Distribution of regions*: arguments related to the distribution of the infrastructural budget over the different regions. Two types of regions have been identified, which are Randstad & 'other' regions. A distinction can be made between statements related to a preference for the current distribution of resources over the different regions and statements related to a preference for a different distribution of resources over the different regions. This code covers the statements related to the preference in regard to a different distribution of resources over the different regions.
- *Distribution of regions (favour)*: arguments related to the distribution of the infrastructural budget over the different regions. Two types of regions have been identified, which are Randstad & 'other' regions. A distinction can be made between statements related to a preference for the current distribution of resources over the different regions and statements related to a preference for a different distribution of resources over the different regions. This code covers the statements related to the preference in regard to the current distribution of resources over the different regions.
- *Distribution of incomes*: arguments related to the effect of a project/policy on the different income groups.
- *Utilization of infrastructure*: arguments related to the effect of a project/policy on the utilization of the current infrastructure.
- *Budget*: arguments related to the available budget for infrastructural projects.
- *Regional financing*: arguments related to the financial contribution of the regional governments to a project/policy. Note that pre-financing by the region is not considered as regional financing, as the national government will still be required to pay for the project in that case in the future (with interest).
- *Private financing*: arguments related to the financial contribution of private parties to a project/policy. Note that pre-financing by private parties is not considered as private financing, as the national government will still be required to pay for the project in that case in the future (with interest).
- *Social interest*: arguments related to the effect of a project/policy on the social component of transportation (infrastructure). An example of such a component is social interaction between relatives.
- *Future generations/Current generation*: arguments related to the effect of a project/policy on the current/future generations. This code is only coded if a politician specifically mentions that he/she is in favour or against a certain project/policy due to the effects of it on the current/future generation ('we should not implement this policy, as it has negative effects for the future generations').

- *Keep promises*: arguments related to promises made between different political institutions. An example could be ‘we feel that this project can’t be terminated, as an agreement between the minister and a local government was made several months ago that ‘.
- *Procedural justice*: arguments related to the presence or absence of a level playing field in the assessment of different alternatives.

3.2.2. Coding rules

Together with the codes, the rules related to the coding form the basis of this research. Note that also the rules related to the coding have changed during the test-coding. During the first test-debates, coding was done based on politicians mentioning certain aspects related to a project such as safety. However, this proved not to be very effective, as these statements would not always prove to be an argument or show a preference of the politician regarding the project. Based on that observation, the following criteria were set to determine whether or not a comment related to a project/policy would be coded:

- the politician must have a preference,
- regarding a specific project or policy,
- stated by the use of an argument,
- the statement must be specific, enabling for control by the use of information.

It is important to understand that if one of these four criteria is not fulfilled, the statement of the politician will not be coded. An example of this is provided below:

- An example of a statement of a politician that would not be coded: *‘Do you also consider the liveability?’*
- An example of a statement of a politician that would be coded: *‘I prefer project A more than project B, as the liveability is better if project A is executed’.*

In the first case, there is no specific preference for a certain project or policy and there is no argument. Therefore, that statement would not be coded. In the second case, the politician mentions a preference for project A, stated by the use of an argument (the liveability is better if project A is executed) and the statement enables for the control by the use of information. Therefore this statement would be coded. Furthermore, it is important to notice that situations could occur in which a statement contains two arguments/codes. An example of this is: *‘I prefer project A as it is the cheaper option and also increases the liveability of nearby residents’.* In that case, the statement is used and coded twice (both costs and liveability).

Although this all seems quite straightforward, there are some codes for which other coding rules apply. Test-coding has proven that some codes are commonly lacking a real argument when used in the debate. In terms of codes we are talking about ‘distribution of incomes’, ‘distribution of modality’, ‘distribution of regions’, ‘private financing’, ‘regional financing’ and ‘procedural justice’. Looking more closely at the first three codes shows that they all have a common underlying argument: (preference regarding) the dividing of resources. Therefore, these codes can be assumed to be a more specific coding of the argument ‘the dividing of resources’ when used in the debate. The same concept of an underlying argument applies for the private/regional financing codes. In this case, regional/private parties will only be willing to invest in a project/policy if they feel that the project/policy has a significant amount of value for their community/company. By using the financing comment, politicians therefore try to show the (extra) importance of a project to society, hopefully increasing the interest in the project. Lastly, the coding rules also differ for the procedural justice code. Politicians often raise questions regarding the procedural (in)justice of the decision making process. Raising a question regarding procedural (in)justice just addresses the current situation and

possible flaws in the decision making process. However, questions raised in regard to this contain the underlying argument that the level playing field between alternatives is questioned. The codes named above are assigned if, and only if, the following criteria are fulfilled:

- the politician must have a preference,
- stated by a comment regarding the dividing of resources, public/private financing or procedural (in)justice,
- the statement must be specific, enabling for control by the use of information.

If one of these three criteria is not fulfilled, the statement of the politician isn't coded. An example of a statement satisfying the criteria named above is: *'For the upcoming years the minister is only going to invest in road infrastructure. There are hardly any investments in the rail infrastructure. Why isn't the money divided more evenly between the different modalities? We think there should be more investments in the rail infrastructure.'* Note that the private/regional financing comment always contains the identified underlying argument if used by political parties, as they will try to increase the interest in the project to the minister or secretary of state by using this type of comment. However, test-coding has proven that the underlying argument is most of the time not present in the case of ministers and secretaries of state. In order to prevent mistakes in the coding and therefore inefficiency of the dataset in the case of these codes, the decision was made to not code comments related to private/regional financing in the case of ministers and secretaries of state.

Besides the specific rules related to the coding of statements, there also are some general coding rules which apply to all codes. First of all, often situations occur in which politicians start a discussion with another politician about his/her viewing point on a certain project/policy. Within these small 'interruption' debates, politicians often repeat their statement/argumentation related to a certain project/policy. The decision was made to only code the statement once per debate per politician, as otherwise arguments would be coded double (or even more). Possible information regarding the use of arguments would then be inaccurate, as statements would be overrepresented in the dataset. Furthermore, only the first term of the politicians and the minister in the debate are taken in to account. This has been done, as in the second term most politicians once again highlight their most important statements of the first term and the minister once again replies on them. Coding these statements would again cause double coding and inaccuracy in the dataset. It is important to highlight that the minister is also considered to be a politician and that therefore arguments used by the minister are also taken in to account in this research. Lastly, arguments related to projects and policies which have already been executed have not been taken in to account. This is done, as the argumentation used for these projects no longer has any substantive value, as the argument can no longer affect the outcome of the decision making process.

3.3. Reliability check

According to Singletary (1993), content analyses can only be trusted if the coding is reliable (Singletary, 1993). In order to check if a content analysis can be considered reliable, a reliability check such as an intercoder reliability check should be executed. Intercoder reliability checks show "the extent to which independent judges make the same coding decisions in evaluating the characteristics of messages" (Lombard, Snyder-Duch, & Bracken, 2002, p. 587). If differences in coding prove to be too big, the content analysis is considered unreliable, just as its accompanying results. In this case, an (small scale) intercoder reliability test has been executed on two debates by a supervisor. For the coding instructions used for this reliability test, see appendix A. Differences in coding proved to be very slim (at most a handful of codes) and therefore the executed content analysis and its results can be considered reliable. Note that this research method does not fully guarantee not missing out on

some codes, but this method represents the most optimal technique for the execution of this research in the set time and scope for the research.

Although it can't be considered a reliability check, it is important to notice that a supervisor has also test coded several debates during the development of the research method. Based upon a debate coded by the researcher, the supervisor would also code the debate to see whether or not he would agree with the coding rules and codes used/identified. This process was executed three times, in which the coding rules and codes would be adjusted according to the new insights after each test-coding. In the first two test-coded debates, differences in coding were quite common. This was due to the fact that some new codes had been identified and due to the fact that coding-rules were still changing. The third test-coded debate proved to show almost no differences, thereby enabling the execution of the final coding as the developed method was considered complete and sufficient.

3.4. Method used for data processing & data analysis

Besides the actual coding, it is important to understand how the statements and arguments are processed and analysed once identified. As shown in figure 2, the name of the politician, the political party he/she represents, the year of the debate, the page number of the page where the argument was found, the related code and the statement itself are all written down. The program used for the storage of the data is Microsoft Excel.

| | A | B | C | D | E | |
|---|-----------------|-----------------|----------------|------|-------------------------------|-----------------------------|
| | Name politician | Political party | Year of debate | Page | Code | Statement |
| 1 | | | | | | |
| 2 | Dijkema | PvdA | 2002 | 3 | Quality of life & environment | Via bestuurlijk overleg is |
| 3 | Dijkema | PvdA | 2002 | 4 | Economic interest | De Spoedwet wegverbre |
| 4 | Dijkema | PvdA | 2002 | 4 | Quality of life & environment | Ik weet niet of de minist |
| 5 | Dijkema | PvdA | 2002 | 4 | Quality of life & environment | Ik kom bij Friesland, voor |
| 6 | Dijkema | PvdA | 2002 | 5 | Transport effects | Cloik in Drenthe zijn er ee |
| 7 | Dijkema | PvdA | 2002 | 5 | Transport effects | Vervolgens Overijssel; he |
| 8 | Dijkema | PvdA | 2002 | 5 | Quality of life & environment | Door een rekenfout van |

Figure 2: Example of coding

There are several reasons for this approach. First of all, writing down the page number, year of the debate and full statement enables to easily find and access the code again without having to read the whole debate again. Secondly, by creating the dataset in Excel, the data is easy to analyse. This is possible by means of several calculation functions which are present in Excel.

Based upon the acquired dataset, the data will be analysed on several ways. First of all the total use of the different arguments in the debates can be determined. Furthermore, also the total use of arguments by each of the different political parties and ministers & secretaries of state can be identified. Note that for the comparing of the differences in arguments used between the political parties mutually an additional method has to be used. During the debates, all political parties have a certain amount of speaking time. Parties with more seats in the parliament are generally acquired with more speaking time than parties which have less seats. Counting the amount of codes used by a political party would therefore not provide insight in differences in arguments used, as parties with more speaking time would in general have more time to use (different types of) arguments. An example of this is the following:

- Party A uses the code liveability & environment 15 times in the debates and has a total of 150 minutes speaking time.
- Party B uses the code liveability & environment 15 times in the debates and has a total of 50 minutes speaking time.

Just looking at the amount of codes used, the conclusion would be drawn that no differences occur in the use of the liveability & environment argument. However, although party B used the code as frequently as party A, party B did so in just one third of the time. In order to remedy this issue, the total amount of arguments coded at each code for each political party will be divided by the total

amount of speaking time of the accompanying political party. By doing so the relative use of the arguments per minute (or five minutes) of speaking time is determined, enabling the comparison of the usage of arguments between the political parties. Although this seems quite straightforward, some issues occurred during the finding of the speaking times. According to Herbert Degens from the Centraal Informatiepunt of the House of Parliament, data related to the debates of the years 2002 – 2007 was not yet stored in an online database (Degens, 2015). Therefore the speaking times of these debates are not retrievable. This does affect the execution of the analysis, as this makes it impossible to analyse the relative argument usage of the political parties over the course of 2002 – 2014 with the exact speaking times. In order to still enable this analysis the decision was made to use a different (combined) method. During each debate, several situations occur in which the chairman of the debate suspends the debate, for a lunch break for instance. Within the written debates, the time of suspension and the re-starting time are shown. By counting the pages of text related to each party and the total amount of time spoken by all political parties, an estimation can be done on the total amount of speaking time per political party. Although this method does not provide the exact speaking times of the parties, it is considered second best. Note that while using this method only the pages have been counted in which the political party itself was making statements related to projects. Interruptions of other parties and reactions of parties on these interruptions were not taken in to account for the speaking time. This is logical, as during the actual debates interruptions and reactions are also not taken in to reduction on the speaking time of the political parties. The estimations of the speaking times for each of the different political parties for the years 2002 – 2007 and the exact speaking times for the years 2008 – 2014 are shown in table 1. Note that all parties are affected by this (inevitable) variance in speaking time, so no parties are discriminated in the analysis. The determination of the speaking times of the different political parties for the years 2002 – 2007 is shown in Appendix B.

| Year | VVD | PvdA | CDA | SP | GL | D66 | PVV | CU | SGP | PvdD | LPF | 50PLUS | Oudenallen | Total: |
|---------------|-----|------|-----|-----|-----|-----|-----|-----|-----|------|-----|--------|------------|--------|
| 2002 | 16 | 18 | 30 | 10 | 11 | 11 | 0 | 10 | 8 | 0 | 11 | 0 | 0 | 125 |
| 2003 | 19 | 22 | 19 | 13 | 10 | 11 | 0 | 5 | 8 | 0 | 10 | 0 | 0 | 117 |
| 2004 | 20 | 19 | 21 | 14 | 9 | 8 | 0 | 6 | 6 | 0 | 6 | 0 | 0 | 109 |
| 2005 | 20 | 20 | 18 | 11 | 9 | 9 | 0 | 7 | 0 | 0 | 7 | 0 | 0 | 101 |
| 2006 | 17 | 17 | 19 | 8 | 10 | 0 | 0 | 0 | 4 | 0 | 9 | 0 | 4 | 88 |
| 2007 | 23 | 24 | 28 | 23 | 13 | 0 | 13 | 18 | 0 | 0 | 0 | 0 | 0 | 142 |
| 2008 | 27 | 33 | 38 | 32 | 15 | 13 | 15 | 14 | 9 | 0 | 0 | 0 | 0 | 196 |
| 2009 | 36 | 51 | 60 | 41 | 16 | 13 | 0 | 14 | 8 | 0 | 0 | 0 | 0 | 239 |
| 2010 | 22 | 22 | 17 | 14 | 11 | 11 | 19 | 8 | 8 | 0 | 0 | 0 | 0 | 132 |
| 2011 | 22 | 22 | 19 | 17 | 15 | 15 | 20 | 12 | 0 | 0 | 0 | 0 | 0 | 142 |
| 2012 | 19 | 19 | 11 | 11 | 6 | 11 | 11 | 6 | 0 | 6 | 0 | 6 | 0 | 106 |
| 2013 | 15 | 15 | 8 | 8 | 5 | 8 | 8 | 5 | 5 | 0 | 0 | 0 | 0 | 77 |
| 2014 | 17 | 17 | 9 | 9 | 5 | 9 | 9 | 5 | 5 | 5 | 0 | 0 | 0 | 90 |
| Total: | 273 | 299 | 297 | 211 | 135 | 119 | 95 | 110 | 61 | 11 | 43 | 6 | 4 | 1664 |

Table 1: speaking times of the different political parties over the years in the first term of the debate (in minutes) (Tweede kamer, 2008) (Tweede kamer, 2009) (Tweede kamer, 2010) (Tweede kamer, 2011) (Tweede kamer, 2013) (Tweede kamer, 2013) (Tweede kamer, 2014).

Furthermore note that for the comparing of the different arguments used between the ministers & secretaries of state mutually and for the comparing of the different arguments used between the political parties and the ministers & secretaries of state also an additional method has to be used. As the speaking time of the ministers & secretaries of state is impossible to retrieve sufficiently, the

method used for the comparison of the different political parties cannot be used in this case. In this case, a comparison in regard to the differences in arguments used will be based on the relative use of an argument over the total amount of arguments. An example of this is provided below:

- The political parties use the code liveability & environment 50 times in the debates. A total of 600 codes were coded for the political parties.
- The ministers & secretaries of state use the code liveability & environment 50 times. A total of 300 codes were coded for the ministers & secretaries of state.

In the case of the political parties, the code liveability & environment is used in 8.3% of the arguments. In the case of the ministers & secretaries of state, this percentage is 16.6%. This shows that the argument related to liveability & environment is relatively used more by ministers & secretaries of state in the debate. Executing this analysis on all identified arguments should provide insight in the differences in arguments used between the ministers & secretaries of state mutually and between the political parties and ministers & secretaries of state.

4. Results

Based upon the identified arguments and the developed method of research, an analysis has been conducted on several MIRT debates. This chapter presents the results of the executed analysis. The results will be presented based upon the research questions formulated prior to the execution of the research. First, the identified arguments and their total use will be discussed in paragraph 4.1. This is followed by a paragraph that discusses the differences in argument usage between the different political parties mutually. Furthermore, also the differences in argument usage between the ministers & secretaries of state mutually and the differences in argument usage between the political parties and ministers & secretaries of state are discussed in this paragraph. Lastly, the development of the use of arguments over time will be discussed in paragraph 4.3.

4.1. Arguments and their use

In this paragraph, the results in regard to the first two research questions will be provided. As listed in paragraph 3.2.1 and shown in table 2, 20 different arguments have been identified. For full explanation on the identified arguments, see paragraph 3.2.1. In total, the identified arguments have been used 1891 times. Table 2 shows the distribution of these arguments over the different identified codes.

| Code | Amount of times code used |
|-------------------------------------|---------------------------|
| Transport effects | 624 |
| Liveability & environment | 316 |
| Safety | 150 |
| Costs | 144 |
| Economic impact | 130 |
| Return on investment | 116 |
| Distribution of modalities | 95 |
| Keep promises | 67 |
| Regional financing | 62 |
| Distribution of regions | 46 |
| Budget | 41 |
| Procedural justice | 23 |
| Distribution of modalities (favour) | 19 |
| Better utilization | 15 |
| Social exclusion | 11 |
| Distribution of income | 10 |
| Distribution of regions (favour) | 9 |
| Private financing | 7 |
| Social interest | 4 |
| Current & Future generation | 2 |
| Total: | 1891 |

Table 2: total use of arguments and distribution of the arguments used.

What immediately catches the eye is the use of arguments related to transport effects and liveability & environment. Both arguments are used much more often than the others codes. Furthermore it is interesting to see that besides arguments such as safety and costs, which would be expected to be used quite often by politicians, also distribution of modalities-arguments are commonly used by politicians. Arguments related to the current & future generation and social interest are used least. Within the identified argument-codes, some codes are present that contain several components. These codes are: transport effects (accessibility, travel time, travel comfort and congestion),

liveability & environment (noise, air quality, landscape, biodiversity, heritage, and water), distribution of modalities (road, rail/public transport/water) and distribution of regions (Randstad/regions). For the last three codes, a closer look will be taken at the distribution of the use of the argument over each of their components. This proved not to be possible for the transport effect code, as these arguments in most cases weren't considered specific enough to identify the use of a specific component.

Table 3 shows the distribution of the liveability & environment arguments over the related components. Note that situations occurred in which two components were used in one single argument. Both aspects have than been taken in to account separately, in order to ensure a correct analysis. Furthermore, liveability and environment have each been considered to be a separate component in this analysis as well, as sometimes politicians state that they are in (dis)favour of a project because it increases/decreases the general liveability or condition of the environment. Lastly, also nuisance is considered an aspect, as sometimes politicians state that they are in (dis)favour of a project because it increases/decrease the nuisance people experience, without stating the specific type of nuisance.

| Aspect | Amount of times aspect used |
|---------------|-----------------------------|
| Noise | 31 |
| Air | 70 |
| Landscape | 69 |
| Biodiversity | 1 |
| Heritage | 0 |
| Water | 5 |
| Liveability | 98 |
| Environment | 56 |
| Nuisance | 21 |
| Total: | 351 |

Table 3: distribution liveability & environment arguments over the related components.

In the case of the liveability & environment argument, the effects of a project on the general liveability & environment of (local) residents is used in 43.9% of the arguments. Adding the general nuisance aspect shows that in 49.9% of the cases politicians seem to not address specific components that cause liveability & environment issues (such as air & noise). Interesting as well is that components such as biodiversity, heritage and water are rarely addressed.

Table 4 shows the distribution of the use of the 'distribution of modalities' arguments related to each of the different modalities.

| Code | Amount of times code used |
|--------------------------------------|---------------------------|
| Distribution of modalities (road) | 13 |
| Distribution of modalities (rail/PT) | 57 |
| Distribution of modalities (water) | 25 |
| Total: | 95 |

Table 4: distribution of the distribution of modalities arguments over the different modalities.

Interesting to see is that in 60% of the cases, politicians use the 'distribution of modalities (rail/PT)' argument. However, looking at the use of these different arguments by the different political parties (note that some parties are not present in the table as they have not used this type of argument) shows something interesting (see table 5).

| Code / Political party | VVD | PvdA | CDA | SP | GL | D66 | PVV | CU | SGP | PvdD | LPF | Total: |
|--------------------------------------|-----|------|-----|----|----|-----|-----|----|-----|------|-----|--------|
| Distribution of modalities (road) | 5 | 0 | 2 | 0 | 0 | 0 | 4 | 0 | 0 | 0 | 2 | 13 |
| Distribution of modalities (rail/PT) | 2 | 6 | 1 | 15 | 16 | 2 | 0 | 12 | 2 | 1 | 0 | 57 |
| Distribution of modalities (water) | 3 | 1 | 0 | 11 | 0 | 1 | 0 | 5 | 3 | 0 | 1 | 25 |

Table 5: use of the distribution of modalities argument by different political parties.

On the basis of literature, parties such as the ChristenUnie, SP and Groenlinks were identified as parties in favour of investments in rail/public transport (see Appendix E). Looking at the use of the 'distribution of modalities (rail/PT)' argument shows that these parties (combined) are responsible for 75.4% of its use. On the other hand, parties identified as favouring investments in road infrastructure (PVV and VVD) are responsible for 69.2% of the use of the 'distribution of modalities (road)' argument.

Table 6 shows the distribution of the use of the 'distribution of regions' arguments related to each of the different regions.

| Code | Amount of times code used |
|------------------------------------|---------------------------|
| Distribution of regions (Randstad) | 8 |
| Distribution of regions (regions) | 38 |
| Total: | 46 |

Table 6: distribution of the distribution of region arguments over the different regions.

Interesting in this case is that the 'distribution of regions (regions)' argument is almost solely used in this case (82,6%). Table 7 shows the use of this argument over the different political parties (once again some parties are not present in the table as they have not used this type of argument). Note that this argument was also used three times by ministers & secretaries of state. However, these are not shown in table 7. In the literature, the CDA was identified as a party that advocates for more investments in the regions. This comes back in the results, as the CDA is responsible for 28,9% of the 'distribution of regions (regions)' arguments used by the political parties.

| Code / Political party | VVD | PvdA | CDA | SP | GL | D66 | PVV | CU | SGP | LPF | Oudenallen | Total: |
|------------------------------------|-----|------|-----|----|----|-----|-----|----|-----|-----|------------|--------|
| Distribution of regions (Randstad) | 1 | 1 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 1 | 5 |
| Distribution of regions (regions) | 2 | 3 | 11 | 7 | 2 | 4 | 0 | 5 | 3 | 1 | 0 | 38 |

Table 7: use of the distribution of regions argument by different political parties.

4.2. Differences in use of arguments between political representatives

In appendix C, the distribution of all arguments over the different political parties and ministers & secretaries of state is shown. Based upon these results, this paragraph will provide insight in the differences in arguments used between the different political representatives. The methodology used for this has been described in paragraph 3.4. First, the differences in argumentation usage between the political parties will be discussed in section 4.2.1. This is followed by the discussing of the differences in argument usage between the ministers & secretaries of state in section 4.2.2. Lastly, the differences in argument usage between the political parties and the ministers & secretaries of state will be discussed in section 4.2.3.

4.2.1. Differences in relative use of arguments between political parties

Based upon the distribution of the arguments over the different political parties and the speaking times of each of these parties, the relative use of arguments by the different political parties per five minutes of speaking time has been determined. The results of this are shown in table 8. Note that parties such as the PvdD, 50PLUS and Groep van Oudenallen are not taken in to account in this analysis, as their speaking time proved to be too slim to produce credible results. Furthermore, as the methodology used for this research ‘produced’ a population, no statistical tests have been executed on these results. In order to provide some additional insight in the table, the top three arguments relatively used most per political party has been marked with different colours. The argument relatively used most by a political party is marked **green**, the argument used second most is marked **blue** and the argument used third most is marked **red**. Other interesting observations not shown by the top three of the different political parties have been marked **pink**.

| Code / Political party | VVD | PvdA | CDA | SP | GL | D66 | PVV | CU | SGP | LPF |
|-------------------------------------|------|------|------|------|------|------|------|------|------|------|
| Transport effects | 1.47 | 0.85 | 1.09 | 1.78 | 0.59 | 1.68 | 2.32 | 2.09 | 1.72 | 1.51 |
| Liveability & environment | 0.37 | 0.48 | 0.45 | 1.23 | 1.74 | 1.55 | 0.37 | 0.68 | 1.07 | 0.58 |
| Return on investment | 0.16 | 0.15 | 0.17 | 0.43 | 0.33 | 0.38 | 0.21 | 0.27 | 0.00 | 0.81 |
| Better utilization | 0.00 | 0.02 | 0.00 | 0.09 | 0.07 | 0.13 | 0.00 | 0.05 | 0.08 | 0.00 |
| Social exclusion | 0.00 | 0.00 | 0.00 | 0.19 | 0.07 | 0.04 | 0.00 | 0.00 | 0.00 | 0.00 |
| Current & Future generation | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Safety | 0.48 | 0.17 | 0.39 | 0.33 | 0.11 | 0.17 | 0.37 | 0.18 | 0.66 | 0.12 |
| Costs | 0.31 | 0.08 | 0.25 | 0.78 | 0.26 | 0.42 | 0.26 | 0.41 | 0.25 | 0.00 |
| Economic impact | 0.49 | 0.18 | 0.45 | 0.09 | 0.11 | 0.21 | 0.58 | 0.23 | 0.57 | 0.70 |
| Social interest | 0.00 | 0.00 | 0.02 | 0.02 | 0.00 | 0.00 | 0.00 | 0.00 | 0.08 | 0.00 |
| Budget | 0.00 | 0.02 | 0.02 | 0.00 | 0.00 | 0.00 | 0.05 | 0.00 | 0.00 | 0.00 |
| Keep promises | 0.13 | 0.17 | 0.15 | 0.05 | 0.26 | 0.04 | 0.05 | 0.09 | 0.25 | 0.00 |
| Regional financing | 0.16 | 0.25 | 0.34 | 0.05 | 0.04 | 0.00 | 0.11 | 0.32 | 0.49 | 0.00 |
| Private financing | 0.02 | 0.02 | 0.02 | 0.00 | 0.00 | 0.00 | 0.11 | 0.05 | 0.08 | 0.00 |
| Procedural justice | 0.00 | 0.07 | 0.00 | 0.02 | 0.22 | 0.13 | 0.05 | 0.32 | 0.00 | 0.00 |
| Distribution of income | 0.00 | 0.03 | 0.00 | 0.17 | 0.00 | 0.00 | 0.05 | 0.00 | 0.00 | 0.00 |
| Distribution of modalities | 0.18 | 0.12 | 0.05 | 0.62 | 0.59 | 0.13 | 0.21 | 0.77 | 0.41 | 0.35 |
| Distribution of regions | 0.05 | 0.07 | 0.19 | 0.17 | 0.07 | 0.21 | 0.05 | 0.23 | 0.25 | 0.12 |
| Distribution of modalities (favour) | 0.04 | 0.00 | 0.07 | 0.00 | 0.00 | 0.04 | 0.00 | 0.00 | 0.00 | 0.00 |
| Distribution of regions (favour) | 0.00 | 0.02 | 0.03 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |

Table 8: Relative use of arguments per five minutes of speaking time per political party.

A clear distinction between parties can be made looking at the liveability & environment argument, as parties such as Groenlinks, SP and D66 really stand out in their relative use of this argument. Interesting to see is that parties who tend to have a high preference for arguments related to transport effects in general seem to be less interested in using the liveability & environment argument. This can be best shown by looking at the differences between these two codes for the VVD, PVV & ChristenUnie on one side and Groenlinks on the other side. Note however that this is not always the case, as the SP and D66 use both arguments quite regularly per five minutes of speaking time. Also, parties such as the SP, Groenlinks and ChristenUnie prove to relatively use the argument related to the distribution of modalities much more often than other parties. Note that their interest in regard to this topic was also identified in the previous paragraph. Furthermore the relative use of arguments related to social exclusion and the distribution of incomes by the SP stands out, as the relative use of these arguments by other parties is very little. Next, also the relative usage of the procedural justice argument by Groenlinks and the ChristenUnie compared to the other parties stands out. Other things that stand out are:

- High relative usage of return on investment argument by LPF;
- High relative usage of safety argument by SGP;
- High relative usage of cost argument by the SP;
- High relative usage of economic impact argument by LPF;

Besides different parties mutually, it is also interesting to take a quick look at the overall differences between the parties considered left- and right-wing. In the Netherlands, the VVD, CDA, SGP, LPF and PVV are considered right-wing parties, whilst the PvdA, SP, D66 and Groenlinks are considered left-wing parties (Parlement, 2015). The ChristenUnie is not considered to be a party defined as left- or right winged. Note that the arguments used by ministers & secretaries of state related to the different parties have not been taken in to account in this analysis, as their role differs compared to the other Members of Parliament.

Interesting to see is that the right-winged parties in general show a lower relative use of the arguments related to liveability & environment and return on investments compared to the left-wing parties, whilst on the other hand the relative usage of the arguments related to economic impact and safety proves to be higher for the right-wing parties.

Additional result

Based upon the total use of arguments and the speaking times of the different political parties, insight can be given in the total amount of arguments used per political party per five minutes of speaking time. This is interesting to see, as this shows which parties use their time most effective if just looking at the use of argumentation. The results in regard to this are shown in table 9.

| Usage arguments / Political party | VVD | PvdA | CDA | SP | GL | D66 | PVV | CU | SGP | LPF |
|-----------------------------------|------|------|------|------|------|------|------|------|------|------|
| Usage arguments | 4.47 | 2.94 | 4.39 | 6.80 | 5.56 | 5.63 | 5.68 | 6.09 | 6.15 | 4.53 |

Table 9: total usage of arguments per political party per five minutes of speaking time.

Interesting to see is that the use of arguments in general is much higher for the parties that have a much smaller amount of speaking time. Therefore, political parties with less speaking time prove to be more effective in the use of arguments. The reason for this could be that the larger political parties tend to reflect on (larger) projects longer than the smaller political parties, as they have more time to do so.

4.2.2. Differences in relative use of arguments between ministers mutually

In this section, the results in regard to the differences in argument usage between the ministers & secretaries of state will be presented. Looking at the arguments used by the different ministers & secretaries of state shows that for only three ministers (Peijs, Eurlings and Schultz) more than 20 statements have been coded during the data obtaining. As data about the other ministers & secretaries of state is considered to be too shallow to enable the full comparison of usage of arguments between them, only results in regard to the (relative) use of arguments by Peijs, Eurlings and Schultz will be taken in to account in this section. For clarification purposes: Karla Peijs was the minister of Transport, Public Works and Water Management in the period 2003-2007, whilst Melanie Schultz van Haegen was so for the period 2010-present (Parlement, 2015) (Parlement, 2015). The relative use of arguments for each of these three ministers is shown in table 10 (see next page).

| Code | Minister Peijs | Minister Eurlings | Minister Schultz |
|-------------------------------------|----------------|-------------------|------------------|
| Transport effects | 31.63% | 44.44% | 33.17% |
| Liveability & environment | 18.37% | 14.53% | 8.29% |
| Return on investment | 6.12% | 4.27% | 9.76% |
| Better utilization | 0.00% | 0.00% | 0.98% |
| Social exclusion | 0.00% | 0.00% | 0.00% |
| Current & Future generation | 0.00% | 0.85% | 0.00% |
| Safety | 9.18% | 11.97% | 11.22% |
| Costs | 8.16% | 7.69% | 8.29% |
| Economic impact | 5.10% | 3.42% | 6.34% |
| Social interest | 0.00% | 0.00% | 0.49% |
| Budget | 6.12% | 0.85% | 11.22% |
| Keep promises | 11.22% | 4.27% | 2.93% |
| Procedural justice | 0.00% | 0.00% | 0.00% |
| Distribution of income | 0.00% | 0.00% | 0.00% |
| Distribution of modalities | 0.00% | 0.00% | 0.00% |
| Distribution of regions | 0.00% | 0.00% | 0.00% |
| Distribution of modalities (favour) | 0.00% | 0.00% | 0.00% |
| Distribution of regions (favour) | 0.00% | 0.85% | 0.98% |

Table 10: relative use of argument for the minister Peijs, Eurlings and Schultz.

Several interesting observations can be done on the basis of these results. Eye-catching is the difference in relative use of the budget argument by minister Eurlings and minister Schultz. The relative use of this argument is very low for Eurlings, whilst for Schultz the relative use of this argument is much higher. Furthermore, also the return on investment argument is relatively used much more often in debates by Schultz. A possible explanation for this is that minister Schultz had (and still has) to cope with the consequences of the financial crisis, causing the deteriorating of the available infrastructure budget. Therefore it seems logical that aspects such as the available budget and return on investment play a big(ger) role in regard to project appraisal, explaining the high relative use of these arguments in the debate. Also interesting to see is that minister Peijs relatively uses the keep promises argument a lot more often than the other two ministers. Apparently Peijs finds it important to honour the promises and agreements made between the different political institutions and act as a trustworthy minister. Lastly, it is also interesting to see that the relative use of the liveability & environment argument is much lower for minister Schultz compared to the other two ministers.

4.2.3. Differences in argumentation usage political parties and ministers & secretaries

In this section, the results in regard to the differences in arguments used between the political parties and ministers & secretaries of state will be presented. The method used for the obtaining of these results has already been explained in paragraph 3.4. The relative use of the arguments for both the political parties and ministers & secretaries of state is shown in table 11 (see the next page). Note that the arguments related to regional and private financing have not been taken in to account in this analysis, as these arguments weren't coded for the ministers & secretaries of state (see paragraph 3.2.2 for the reasoning behind this).

| Code | Relative use political parties | Relative use ministers & secretaries of state |
|--|--------------------------------|---|
| Transport effects | 29.22% | 35.43% |
| Liveability & environment | 16.51% | 12.37% |
| Return on investment | 5.20% | 7.34% |
| Better utilization | 0.77% | 0.63% |
| Social exclusion | 0.71% | 0.00% |
| Current & Future generation | 0.06% | 0.21% |
| Safety | 6.55% | 10.06% |
| Costs | 6.68% | 8.39% |
| Economic impact | 6.87% | 4.82% |
| Social interest | 0.19% | 0.21% |
| Budget | 0.19% | 7.97% |
| Keep promises | 2.70% | 5.24% |
| Procedural justice | 1.48% | 0.00% |
| Distribution of income | 0.64% | 0.00% |
| Distribution of modalities | 6.10% | 0.00% |
| Distribution of regions | 2.76% | 0.63% |
| Distribution of modalities (favour) | 0.45% | 2.52% |
| Distribution of regions (favour) | 0.19% | 1.26% |

Table 11: Relative use of argument for political parties and ministers & secretaries of state.

What immediately catches the eye is the relative use of the **budget** argument by ministers & secretaries of state. The relative use of this argument is much higher for the ministers & secretaries of state compared to the political parties. This seems logical, as one of the tasks of the ministers is to make sure that the planned investments in infrastructure don't exceed the available budget. Another thing that catches the eye is the difference in the use of the arguments related to the distribution of modalities/regions and the arguments related to the distribution of modalities/regions (favour). The relative use of the distribution of modalities/regions (favour) arguments is higher for the ministers & secretaries of state, whilst the use of the distribution of modalities/regions argument is much higher for the political parties.

Furthermore, it is interesting to see that arguments related to transport effects, liveability & environment, safety and costs are arguments relatively used most by both the ministers & secretaries of state and the political parties. Note however that relatively the use of arguments related to safety and transport effects is quite a bit higher for the ministers & secretaries of state, whilst the relative use of the arguments related to liveability & environment and economic impact is quite a bit higher for the political parties. Lastly, the relative use of the keep promises argument is quite a bit higher in the case of the ministers & secretaries of state.

4.3. Development of the use of arguments over time

In this paragraph, the total use of arguments over time will be discussed, just as the most eye-catching developments for specific arguments. Note that for all specific arguments their development in time is shown in Appendix D.

The total amount of arguments used over time is shown in table 12. For clarification purposes, also the amount of speaking time of the political parties has been added to the table.

| Year | Total amount of arguments used | Amount of speaking time political parties |
|---------------|--------------------------------|---|
| 2002 | 126 | 125 |
| 2003 | 133 | 117 |
| 2004 | 110 | 109 |
| 2005 | 105 | 101 |
| 2006 | 74 | 88 |
| 2007 | 182 | 142 |
| 2008 | 189 | 196 |
| 2009 | 189 | 239 |
| 2010 | 186 | 132 |
| 2011 | 184 | 142 |
| 2012 | 176 | 106 |
| 2013 | 116 | 77 |
| 2014 | 121 | 90 |
| Total: | 1891 | 1664 |

Table 12: use of arguments over time.

Of most interest is the fact that from the year 2007 onwards, a big increase in the use of arguments occurs. Looking at the speaking times of the political parties this is not unexpected, as the speaking time is much higher from 2007 onwards compared to the previous years. Interesting to see however is the fact that in the years 2010-2012 the speaking time is much lower than the three previous years, but the amount of arguments used in the debate isn't. Lastly, it is also interesting to see that in the years 2013 and 2014 the speaking time is considered to be much lower than the previous years, just as the amount of arguments used. Although the speaking times of the political parties might provide some insight in the reasoning behind an increase/decrease in the use of arguments, it is important to notice that no conclusions in regard to that relation can be drawn. This is mainly based on the fact that the speaking times of the ministers & secretaries of state are unknown and not added in these numbers, which self-evidently plays a role in the usage of arguments in the debate as well.

Taking a look at some specific arguments shows some interesting developments for the arguments related to procedural justice (table 13), regional financing (table 14) and private financing (table 15). Looking at the use of the procedural justice argument shows that the usage of this argument in the debate was very marginally prior to 2009. Interesting to see is that from 2009 onwards the procedural justice argument is used more often in the debates. Keeping in mind that the report of the commission Elverding was published in 2008, these results show that political parties might have increased their interest in this aspect within the decision making process as a result of this commission.

| Year | Total amount of arguments used | Relative use of the argument | Year | Total amount of arguments used | Relative use of the argument |
|------|--------------------------------|------------------------------|------|--------------------------------|------------------------------|
| 2002 | 1 | 0.8% | 2009 | 3 | 1.6% |
| 2003 | 1 | 0.8% | 2010 | 3 | 1.6% |
| 2004 | 0 | 0.0% | 2011 | 7 | 3.8% |
| 2005 | 1 | 1.0% | 2012 | 4 | 2.3% |
| 2006 | 1 | 1.4% | 2013 | 0 | 0.0% |
| 2007 | 0 | 0.0% | 2014 | 2 | 1.7% |
| 2008 | 0 | 0.0% | | | |

Table 13: use of procedural justice argument over time.

Looking at the use of the private and regional financing arguments shows that the usage of these arguments in the debate was very marginally prior to 2008. The use of the regional and private financing argument has however also increased over time (see tables 14 and 15). An explanation for this can possibly be found in the occurring of the financial crisis. As the available infrastructure budget deteriorated due to this crisis, it seems logical that arguments related to co-financing are used more often, as co-financing enables the construction of infrastructure projects even if the available budget can be considered much smaller.

| Year | Total amount of arguments used | Relative use of the argument | Year | Total amount of arguments used | Relative use of the argument |
|------|--------------------------------|------------------------------|------|--------------------------------|------------------------------|
| 2002 | 1 | 0.8% | 2008 | 6 | 3.2% |
| 2003 | 1 | 0.8% | 2009 | 14 | 7.4% |
| 2004 | 4 | 3.6% | 2010 | 9 | 4.8% |
| 2005 | 2 | 1.9% | 2011 | 9 | 4.9% |
| 2006 | 2 | 2.7% | 2012 | 6 | 3.4% |
| 2007 | 3 | 1.6% | 2013 | 3 | 2.6% |
| | | | 2014 | 2 | 1.7% |

Table 14: use of regional financing argument over time.

| Year | Total amount of arguments used | Relative use of the argument | Year | Total amount of arguments used | Relative use of the argument |
|------|--------------------------------|------------------------------|------|--------------------------------|------------------------------|
| 2002 | 0 | 0.0% | 2008 | 0 | 0.0% |
| 2003 | 0 | 0.0% | 2009 | 3 | 1.6% |
| 2004 | 0 | 0.0% | 2010 | 2 | 1.1% |
| 2005 | 0 | 0.0% | 2011 | 1 | 0.5% |
| 2006 | 0 | 0.0% | 2012 | 0 | 0.0% |
| 2007 | 0 | 0.0% | 2013 | 1 | 0.9% |
| | | | 2014 | 0 | 0.0% |

Table 15: use of private financing argument over time.

5. Conclusions

In the Netherlands, the decision making process regarding transport infrastructure consists of MIRT-debates. In these debates, an alignment-gap has been identified between the information supplied to politicians and their information needs. This research has focussed on contributing to the solving of this gap by analysing the use of arguments in the debate, as the use of arguments is considered to reflect the information needs of politicians in the decision making process. In order to enable the analysis, several research questions were formulated. These questions are:

- Which arguments do politicians use in political debates on transport infrastructure?
- How often are arguments used by politicians in political debates?
- To what extent is there a difference in the use of arguments between the different political representatives?
 - o To what extent is there a difference in the use of arguments between the different political parties?
 - o To what extent is there a difference in the use of arguments between the different ministers & secretaries of state?
 - o To what extent is there a difference in the use of arguments between political parties and ministers & secretaries of state?
- Has the use of arguments in transport infrastructure decision making developed itself over time? If yes, in what direction?

Twenty different arguments have been identified. These arguments are related to: transport effects, safety, liveability & environment, economic impact, costs, return on investment, social exclusion, budget, regional financing, private financing, social interest, future generations/current generations, keep promises, procedural justice, distribution of modalities, distribution of regions, distribution of modalities (favour) and distribution of regions (favour). In total these arguments were used 1891 times in the debate. The arguments related to transport effects (624) and liveability & environment (316) proved to be used most often, whilst also arguments related to safety (150), costs (144) and economic impact (130) proved to be used quite often. Arguments related to the social interest (4) and the current & future generation (2) proved to be used least. As the distribution of the argument-usage can be assumed to show a certain degree of information need, it can be concluded that the information need in regard to transport effects is highest and the information need in regard to the current & future generation is lowest. Also interesting to see is that politicians prefer the use of the general liveability & environment argument over the use of arguments with specific components. This could indicate that the assessing of specific effects in regard to liveability & environment proves to be (too) hard for politicians, questioning whether or not the information currently provided to politicians (EIA reports) in regard to this aspect is sufficient.

It is important to notice that the usage of arguments differs between the different political representatives. Looking at the political parties shows that right-winged parties in general show a lower relative use of the arguments related to liveability & environment and return on investments compared to the left-wing parties, whilst on the other hand the relative usage of the arguments related to economic impact and safety proves to be higher for the right-wing parties. Based upon this observation it can be concluded that the information need in regard to economic impact & safety is higher for the right-winged parties, whilst the information need in regard to liveability & environment and return on investment is higher for the left-winged parties. Also of interest is the fact that parties such as the SP, Groenlinks and ChristenUnie have a relatively higher use of the argument related to the distribution of modalities compared to the other political parties and that the arguments related to social exclusion and distribution of incomes are almost solely used by the

SP. Apparently information needs in regard to these aspects can be considered higher for these parties.

Interesting differences in the usage of arguments between the ministers & secretaries of state prove to be the relative use of the budget, return on investment and keep promises arguments. For the first two arguments the relative use by minister Schultz is considered to be much higher compared to the other ministers, by which it can be concluded that these two aspects play an more important role in the consideration process of minister Schultz (apparently a financial oriented minister). On the other hand, minister Peijs seems to find it important to act as a trustworthy minister, as her relative use of the keep promises argument is considered much higher compared to the other ministers.

Most interesting difference in the relative use of arguments between the political parties and the ministers & secretaries of state is the difference in the relative use of the budget argument, for which the relative use by ministers & secretaries of state is much higher than for the political parties. This shows that information needs in regard to this aspect can be considered higher for the ministers & secretaries of state. Other noteworthy differences in relative use occur for the arguments related to safety, keep promises, distribution of modalities and distribution of regions.

Lastly, the use of some arguments in the transport infrastructure debates has developed itself over time. Of interest in this case are the arguments related to procedural justice, regional financing and private financing, which are used more often from the year 2008 onwards. It can therefore be concluded that the political interest in regard to these aspects has increased over time.

6. Discussion & Recommendations

In the previous chapter, the conclusions in regard to the executed analysis have been drafted. Firstly, this chapter provides a scientific (6.1) discussion in regard to the results and conclusions. Secondly, a methodological (6.2) discussion is provided in which the assumptions and notable observations done in regard to the methodology are discussed. Based upon methodological discussion, recommendations for further research are provided.

6.1. Scientific discussion

Within this paragraph, a discussion in regard to the results of this research will be provided. Questions that play a key role in this paragraph are:

- What were the expectations in regard to the results?
- Do the results actually show what they were expected to show?
- What is the added value of these results to science?

In Dutch politics, each political party can be considered to have different core principles in regard to transport infrastructure (see appendix E). Prior to the execution of this research it was expected that the information needs of the different political parties would reflect these core principles. This, as political parties were expected to mainly use arguments related to their core principles. Interesting to see is that indeed there is a lot of overlap in the statements used most by the different political parties and their core principles. Examples of this are for instance the ChristenUnie, SP, CDA and Groenlinks standing out in the use of the 'distribution of modalities (rail/PT)'-argument and the high use of the economic impact argument by the VVD & LPF. However, because the research produced a lot of similarities compared to the literature (appendix E), questions arise to what extent a single literature study would have been sufficient enough to produce the same results/conclusions in regard to information needs. Note however that identification on the basis of literature doesn't guarantee that the identified core principles actually reflect an information need in practise, whilst identification on the basis of debate-analysing does. Therefore, the used methodology can be considered a more complete way of information need identification. This is also shown in the results, as on the basis of literature the information need in regard to liveability & environment by the PvdA would be considered high. However, the results show that this argument is used relatively little by the PvdA, indicating that the information need might not be as big as expected. Furthermore, also several information needs have shown to be present that would not have been identified on the basis of literature, such as the return on investment argument by the LPF.

In order to be able to address the added value of the results in general, it is interesting to first once again shortly provide insight in some of the knowledge in regard to the presence of information in political decision making. Enthoven (2011) for instance has conducted research on the information relation between the House of Parliament and members of the government. He, out of many other things, concluded that members of coalition parties often have an information advantage compared to other members of Parliament and that a common information deficiency is that information is considered insufficient and misleading (Enthoven, 2011). Interesting is that this was also concluded by the Commission Duijvesteijn in 2004, which suggests that no changes have yet been made over time to improve information provision (Commissie Duivesteijn, 2004). As politicians are most of the time not fully informed due to misleading and insufficient information, they are most of the time unable to seek for the 'maximum utility'-solution. According to Simon (1979) the concept of 'satisficing' applies to situations like that, in which the decision maker determines a satisfying solution instead of the 'maximum utility'-solution (Simon, 1979).

Note that the identification of argument-usage in transport infrastructure debates in practise can be considered the main contribution of this research to science (as this was not yet done). However, as this research has identified the different information needs of politicians by doing so, the reduction of the identified alignment gap between the information provided to politicians and their information needs is also enabled. This, as information planners can now be provided with insight in the needs to which the information must be designed. Interesting is that by means of this research politicians are therefore also enabled to better seek the maximum-utility solution, as they are considered to be better informed in the future. Although full information can be considered unrealistic in the case of politics, each additional part of (sufficient) information contributes to the diminishing of the information gap. By doing so, single politicians are enabled to make decisions more rational, possibly increasing the quality of the decision making process as projects are more thoroughly considered.

6.2. Methodological discussion

This methodological discussion covers a discussion in regard to some elements of the methodology. Firstly, the assumption in regard to the use of argumentation and the corresponding need for information will be discussed. Secondly, the lack of differences in the argument-types identified on the basis of literature and on the basis of test-coding will also be discussed.

6.2.1. Argumentation assumption

As stated in the introduction, arguments can be divided in to communicative and strategic arguments. In the first case arguments are used to try and reach an agreement related to a certain policy, whilst strategic arguments are solely used for self-interest and the exercising of power (Propper & Bleijenbergh, 1995). Within this research the use of both argument-types has been assumed to show a certain information need, as information is assumed to always be required for the use of an argument. Based upon this assumption, differences in argument-usage would reflect a certain degree of information need for the execution of the debate. Arguments used most would reflect the information most needed for the execution of the debate and arguments used least would reflect the information least needed for the execution of the debate. However, it is important to notice that politicians in some cases only use arguments by which they feel they can turn a discussion in their favour. This would mean that the results of this research might not fully reflect the exact information needs of politicians, but (in some degree) reflect the arguments considered most powerful by politicians in regard to transport infrastructure decision making. For now, no insight can be given in the exact extent to which the identified arguments reflect information needs. Therefore it is advised to conduct additional research on the identified arguments. This can be best done by means of interviews, in which the reasoning behind (specific) arguments is discussed with politicians. Based upon the obtained results, the extent to which the results of this research reflect the actual information needs of politicians should become more clear. In addition, the results of the additional research might also provide some extra insight in the different argument-types used most for strategic purposes.

Furthermore, it is interesting to see that the arguments identified with specific reports (transport effects, liveability & environment and return on investment) are considered to be used a lot more often in the debate. This might be the case due to the fact that information in regard to these aspects is most present to politicians, thereby enabling the increased use of arguments related to them. For now it is unknown to what extent the current information provision plays a role in the use of arguments in transport infrastructure debates. Therefore it is advised to conduct additional research, in which politicians are interviewed in regard to the role of information in the actual use of arguments. If proven that current information provision plays a key role in the use of arguments,

arguments identified with a lower use might actually reflect a higher need for (more sufficient) information compared to the arguments used more often.

6.2.2. Differences in argument identification

In order to determine the different argument-types present in transport infrastructure debates, firstly an orienting literature study was conducted on possible aspects of interest during transport project decision making. This was followed by a final identification on the basis of test-coding, performed on several transport infrastructure debates. Looking at the differences between both argument-identification methodologies shows that only eight out of the twenty identified codes were additionally identified on the basis of test-coding. Two reasons for this can be identified:

1. The researcher has conducted the literature study too specific.
2. The gap between the information actually needed and the information needed according to literature is considered (very) small.

In the first case, the researcher could already have had an idea on the argument-types occurring in political debates. Literature-identification would then possibly only be conducted on literature related to these ideas instead of on more widespread literature, increasing the chances of overlap between the two methodologies. This reason is invalidated for this research, as the argument-identification on the basis of literature was conducted on widespread literature. As unrelated literature such as scientific literature and political literature in some cases also showed overlap in possible argument-types, the second reason for the relatively high amount of overlap in argument-types seems to be more logical. Apparently it is quite clear what type of information politicians actually require in transport infrastructure decision making. This is of interest, as this indicates that alignment issues between the information provided to politicians and their information needs might not be present due to the fact that information needs itself are unknown, but due to the fact that the information needs are not sufficiently translated in to information useable for politicians. This also seems to be confirmed by the quote of Miss Wiegman-van Meppelen Scheppink, in which the following was stated: *“In the Netherlands we have the national market- and capacity analysis, but that analysis just tells us where the bottlenecks in the system occur. Nowhere in the analysis I am told how large a certain bottleneck is and what the costs are of solving each bottleneck”*.

Based upon the above observation, additional research in regard to the information needs of politicians might be of interest. It is suggested to perform a large amount of interviews with politicians, in which the relevant information in regard to each of the identified information needs will be discussed. If more insight is provided in the information most relevant to politicians in regard to each of the information needs, information supply can be more adapted to the actual needs of politicians.

7. Reflection

Within this chapter, a short reflection will be provided in regard to the research process. It is of interest to mention that originally it was the idea to conduct a research on thresholds for cost-benefit ratios and their impact on cost-benefit analyses. Unfortunately the data for this research proved to be too hard to obtain, whereby the topic of research was altered to the use of cost benefit analyses in political debates. As after test-coding the data for this research proved to be too slim, the research topic was altered once again. This led to the setting up of this research, which was originally set up to determine the use of information by politicians in debates related to transport infrastructure.

Based upon the original goal of this newly set up research, a methodology was developed which was thought to enable the measurement of information usage in political debates. Within this methodology the use of arguments in transport infrastructure debates would be coded, just as the use of information during these arguments. Based upon the total amount of arguments and the amount of arguments used in combination with information, insight was thought to be given in the usage of information in transport infrastructure debates by politicians. However, during the data processing it struck to mind that the developed methodology had to be considered insufficient for the determination of information usage by politicians, as the absence of information in the debate doesn't guarantee that information wasn't actually used by politicians. Situations could occur in which politicians use information, but don't use it in the debate due to for instance time constraints. This led to the altering of the original research goal into the current research goal, which was considered to be viable with the already developed research methodology. Only the codes in regard to information usage had to be removed from the dataset, whilst all other identified arguments could still be used for the altered research. Note that also the use of framing was taken in to account in the original methodology, as the use of framing was considered a type of argument used to influence the decision making in regard to certain transport infrastructure projects. However once the research goal was changed the decision was made to no longer take in to account the framing arguments, as they were not considered to reflect a certain need for information.

Looking back at the total research process, the process itself can be considered a great example of the trial and error concept. Not only does this concept perfectly apply to the creation of this research, it also applies to the development of the research methodology itself in which a lot of test-coding and adjusting took place. Although at times the ongoing changes were considered undesired, the whole process of setting up a research, developing the methodology and executing the research has really provided the researcher with a lot of insight in regard to the complexity of scientific research. In light with the current SEPAM study in which a lot of consultancy reports had to be written, this thesis is considered to show a more scientific approach. Because this scientific approach is different in regard to other reports written in the study, this thesis and the accompanying research process is considered of much additional value to the knowledge developed during the SEPAM study.

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Appendix A: Coding instruction for intercoder reliability check

Within this appendix, the coding instructions used for the execution of the intercoder reliability test are shown in figures 3 and 4. In regard to the codes identified with the presence of ‘real’ arguments, the following coding instructions apply:

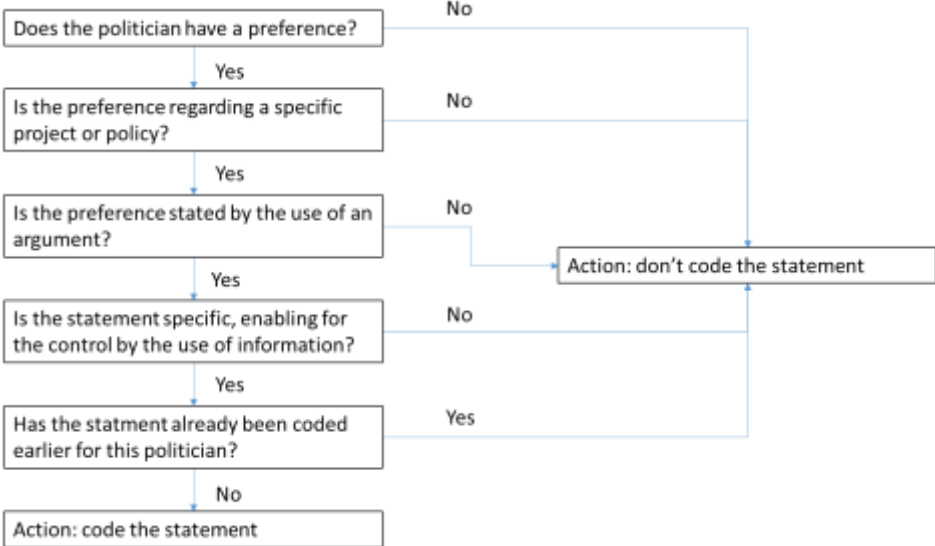


Figure 3: coding instructions for codes with the presence of ‘real’ arguments

In regard to the codes (‘distribution of incomes’, ‘distribution of modality’, ‘distribution of regions’, ‘private financing’, ‘regional financing’ and ‘procedural justice’) identified with the presence of underlying arguments, the following coding instructions apply:

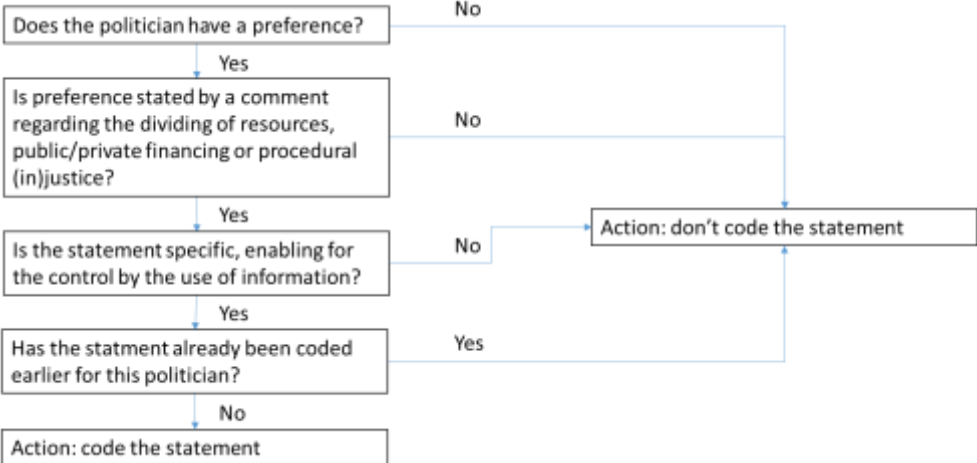


Figure 4: coding instructions for codes with the presence of underlying arguments.

Appendix B: Speaking times of the political parties

This appendix covers the speaking times of the political parties in the first term of the debate for the period 2002 - 2007. Tables 16 and 17 show the calculation method used for the determination of the speaking times for the years 2002 – 2007, table 18 shows the speaking times of the different political parties for the years 2002 – 2007 based upon this method.

| Year | Total number of pages | Total minutes of speaking time | Speaking time per page |
|-------------|-----------------------|--------------------------------|------------------------|
| 2002 | 37 | 270 | 7.3 |
| 2003 | 42 | 325 | 7.7 |
| 2004 | 38 | 285 | 7.5 |
| 2005 | 31 | 230 | 7.4 |
| 2006 | 14* | 105* | 7.5* |
| 2007 | 35* | 285* | 8.1* |

Table 16: determination of speaking time per page for the years 2002 – 2007.

*In this case, no end time of the first term of the minister was provided. Therefore the speaking time per page has been derived from the first term of the political parties.

| Year / Political party | VVD | PvdA | CDA | SP | Groenlinks | D66 | PVV | ChristenUnie | SGP | PvdD | LPF | 50PLUS | Oudenallen |
|------------------------|-----|------|-----|-----|------------|-----|-----|--------------|-----|------|------|--------|------------|
| 2002 | 2.2 | 2.5 | 4.2 | 1.4 | 1.5 | 1.5 | 0 | 1.4 | 1.1 | 0 | 1.5 | 0 | 0 |
| 2003 | 2.5 | 2.8 | 2.5 | 1.7 | 1.3 | 1.4 | 0 | 0.7 | 1 | 0 | 1.3 | 0 | 0 |
| 2004 | 2.7 | 2.5 | 2.8 | 1.9 | 1.2 | 1.1 | 0 | 0.8 | 0.8 | 0 | 0.8 | 0 | 0 |
| 2005 | 2.8 | 2.8 | 2.4 | 1.5 | 1.3 | 1.3 | 0 | 1 | 0 | 0 | 1 | 0 | 0 |
| 2006 | 2.3 | 2.3 | 2.5 | 1 | 1.3 | 0 | 0 | 0 | 0.5 | 0 | 1.25 | 0 | 0.5 |
| 2007 | 2.9 | 3 | 3.5 | 2.9 | 1.6 | 0 | 1.6 | 2.2 | 0 | 0 | 0 | 0 | 0 |

Table 17: amount of 'speaking time'-pages used per political party in the first term for the years 2002 – 2007.

| Year / Political party | VVD | PvdA | CDA | SP | GL | D66 | PVV | CU | SGP | PvdD | LPF | 50PLUS | Oudenallen | Total: |
|------------------------|-----|------|-----|----|----|-----|-----|----|-----|------|-----|--------|------------|--------|
| 2002 | 16 | 18 | 30 | 10 | 11 | 11 | 0 | 10 | 8 | 0 | 11 | 0 | 0 | 125 |
| 2003 | 19 | 22 | 19 | 13 | 10 | 11 | 0 | 5 | 8 | 0 | 10 | 0 | 0 | 117 |
| 2004 | 20 | 19 | 21 | 14 | 9 | 8 | 0 | 6 | 6 | 0 | 6 | 0 | 0 | 109 |
| 2005 | 20 | 20 | 18 | 11 | 9 | 9 | 0 | 7 | 0 | 0 | 7 | 0 | 0 | 101 |
| 2006 | 17 | 17 | 19 | 8 | 10 | 0 | 0 | 0 | 4 | 0 | 9 | 0 | 4 | 88 |
| 2007 | 23 | 24 | 28 | 23 | 13 | 0 | 13 | 18 | 0 | 0 | 0 | 0 | 0 | 142 |

Table 18: speaking time in first term per political party per year for the period 2002 - 2007.

Note that all speaking times are even numbers, as this is also the case in the debates from which the speaking times were known.

Appendix C: Results coding political representatives

Within this appendix, the results of the coding in regard to the political representatives are shown. First, the distribution of the arguments over the political parties is shown in table 19. Next, the distribution of the arguments over the ministers & secretaries of state is shown in table 20.

| Code / Political party | VVD | PvdA | CDA | SP | GL | D66 | PVV | CU | SGP | PvdD | LPF | 50PLUS | Oudenallen | Total: |
|-------------------------------------|------------|------------|------------|------------|------------|------------|-----------|------------|-----------|-----------|-----------|----------|------------|-------------|
| Transport effects | 80 | 51 | 65 | 75 | 16 | 40 | 44 | 46 | 21 | 1 | 13 | 3 | 0 | 455 |
| Liveability & environment | 20 | 29 | 27 | 52 | 47 | 37 | 7 | 15 | 13 | 5 | 5 | 0 | 0 | 257 |
| Return on investment | 9 | 9 | 10 | 18 | 9 | 9 | 4 | 6 | 0 | 0 | 7 | 0 | 0 | 81 |
| Better utilization | 0 | 1 | 0 | 4 | 2 | 3 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 12 |
| Social exclusion | 0 | 0 | 0 | 8 | 2 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 11 |
| Current & Future generation | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 |
| Safety | 26 | 10 | 23 | 14 | 3 | 4 | 7 | 4 | 8 | 2 | 1 | 0 | 0 | 102 |
| Costs | 17 | 5 | 15 | 33 | 7 | 10 | 5 | 9 | 3 | 0 | 0 | 0 | 0 | 104 |
| Economic impact | 27 | 11 | 27 | 4 | 3 | 5 | 11 | 5 | 7 | 1 | 6 | 0 | 0 | 107 |
| Social interest | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 3 |
| Budget | 0 | 1 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 3 |
| Keep promises | 7 | 10 | 9 | 2 | 7 | 1 | 1 | 2 | 3 | 0 | 0 | 0 | 0 | 42 |
| Regional financing | 9 | 15 | 20 | 2 | 1 | 0 | 2 | 7 | 6 | 0 | 0 | 0 | 0 | 62 |
| Private financing | 1 | 1 | 1 | 0 | 0 | 0 | 2 | 1 | 1 | 0 | 0 | 0 | 0 | 7 |
| Procedural justice | 0 | 4 | 0 | 1 | 6 | 3 | 1 | 7 | 0 | 0 | 0 | 1 | 0 | 23 |
| Distribution of income | 0 | 2 | 0 | 7 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 10 |
| Distribution of modalities | 10 | 7 | 3 | 26 | 16 | 3 | 4 | 17 | 5 | 1 | 3 | 0 | 0 | 95 |
| Distribution of regions | 3 | 4 | 11 | 7 | 2 | 5 | 1 | 5 | 3 | 0 | 1 | 0 | 1 | 43 |
| Distribution of modalities (favour) | 2 | 0 | 4 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 7 |
| Distribution of regions (favour) | 0 | 1 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 |
| Total: | 211 | 161 | 219 | 254 | 121 | 122 | 91 | 125 | 72 | 11 | 36 | 4 | 1 | 1428 |

Table 19: distribution of coded arguments over the different political parties.

| Code / Minister & secretary of state | Minister de Boer | Minister Peijs | Minister Eurlings | Minister Schultz | Minister Cramer | Secretary of state Schultz | Secretary of state Huizinga-Heringa | Secretary of state Mansveld | Total: |
|--------------------------------------|------------------|----------------|-------------------|------------------|-----------------|----------------------------|-------------------------------------|-----------------------------|--------|
| Transport effects | 2 | 31 | 52 | 68 | 4 | 1 | 6 | 5 | 169 |
| Liveability & environment | 2 | 18 | 17 | 17 | 4 | 1 | 0 | 0 | 59 |
| Return on investment | 1 | 6 | 5 | 20 | 2 | 0 | 0 | 1 | 35 |
| Better utilization | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 1 | 3 |
| Social exclusion | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Current & Future generation | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 |
| Safety | 1 | 9 | 14 | 23 | 0 | 0 | 1 | 0 | 48 |
| Costs | 3 | 8 | 9 | 17 | 0 | 0 | 2 | 1 | 40 |
| Economic impact | 0 | 5 | 4 | 13 | 1 | 0 | 0 | 0 | 23 |
| Social interest | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 1 |
| Budget | 3 | 6 | 1 | 23 | 1 | 1 | 2 | 1 | 38 |
| Keep promises | 2 | 11 | 5 | 6 | 1 | 0 | 0 | 0 | 25 |
| Regional financing | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Private financing | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Procedural justice | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Distribution of income | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Distribution of modalities | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Distribution of regions | 0 | 0 | 1 | 2 | 0 | 0 | 0 | 0 | 3 |
| Distribution of modalities (favour) | 2 | 2 | 1 | 6 | 0 | 0 | 1 | 0 | 12 |
| Distribution of regions (favour) | 0 | 1 | 2 | 2 | 0 | 0 | 1 | 0 | 6 |
| Total: | 16 | 97 | 112 | 200 | 13 | 3 | 13 | 9 | 463 |

Table 20: distribution of coded arguments over the different ministers & secretaries of state.

Appendix D: Development of the use of arguments over time

Within this appendix, the use of the different arguments over time by the political representatives is displayed (see table 21).

| Code / Party | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | Total: |
|-------------------------------------|------|------|------|------|------|------|------|------|------|------|------|------|------|--------|
| Transport effects | 42 | 32 | 35 | 27 | 29 | 78 | 82 | 56 | 58 | 64 | 45 | 39 | 37 | 624 |
| Liveability & environment | 25 | 30 | 14 | 32 | 8 | 27 | 35 | 30 | 31 | 27 | 18 | 19 | 20 | 316 |
| Return on investment | 3 | 9 | 7 | 8 | 6 | 6 | 10 | 9 | 13 | 12 | 12 | 8 | 13 | 116 |
| Better utilization | 1 | 2 | 0 | 0 | 0 | 2 | 0 | 1 | 1 | 3 | 1 | 2 | 2 | 15 |
| Social exclusion | 0 | 1 | 1 | 0 | 2 | 1 | 0 | 4 | 2 | 0 | 0 | 0 | 0 | 11 |
| Current & Future generation | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 2 |
| Safety | 6 | 10 | 9 | 7 | 7 | 21 | 17 | 13 | 10 | 10 | 19 | 6 | 15 | 150 |
| Costs | 9 | 12 | 7 | 10 | 7 | 11 | 15 | 15 | 8 | 18 | 16 | 11 | 5 | 144 |
| Economic impact | 9 | 7 | 9 | 4 | 2 | 10 | 8 | 13 | 11 | 8 | 25 | 8 | 16 | 130 |
| Social interest | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 2 | 0 | 4 |
| Budget | 3 | 4 | 1 | 1 | 1 | 3 | 1 | 1 | 7 | 8 | 6 | 3 | 2 | 41 |
| Keep promises | 8 | 12 | 7 | 5 | 4 | 2 | 7 | 7 | 3 | 1 | 8 | 2 | 1 | 67 |
| Regional financing | 1 | 1 | 4 | 2 | 2 | 3 | 6 | 14 | 9 | 9 | 6 | 3 | 2 | 62 |
| Private financing | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 2 | 1 | 0 | 1 | 0 | 7 |
| Procedural justice | 1 | 1 | 0 | 1 | 1 | 0 | 0 | 3 | 3 | 7 | 4 | 0 | 2 | 23 |
| Distribution of income | 1 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 2 | 2 | 0 | 1 | 1 | 10 |
| Distribution of modalities | 10 | 9 | 13 | 5 | 2 | 12 | 4 | 10 | 9 | 6 | 8 | 5 | 2 | 95 |
| Distribution of regions | 4 | 1 | 0 | 2 | 1 | 1 | 1 | 6 | 14 | 5 | 4 | 5 | 2 | 46 |
| Distribution of modalities (favour) | 3 | 1 | 2 | 1 | 1 | 1 | 0 | 2 | 3 | 2 | 2 | 0 | 1 | 19 |
| Distribution of regions (favour) | 0 | 1 | 1 | 0 | 1 | 2 | 2 | 0 | 0 | 0 | 1 | 1 | 0 | 9 |
| Total: | 126 | 133 | 110 | 105 | 74 | 182 | 189 | 189 | 186 | 184 | 176 | 116 | 121 | 1891 |

Table 21: use of arguments over the time by the political representatives.

Appendix E: Core values political parties regarding transportation

Within this paragraph, the core values in regard to transport infrastructure are shortly displayed for each political party. These displayed values are based upon the election programmes of the different political parties and their accompanying websites.

VVD

The VVD (Volkspartij voor Vrijheid en Democratie) is a liberal party that has been founded in 1948 (VVD, 2015). Looking at their policy preferences related to transportation it stands out that the VVD has a preference for mainly road infrastructure projects. Although public transportation is also addressed, most of the viewpoints are related to road infrastructure. Furthermore, also the high interest in (road) safety stands out. Also interesting to see is the fact that the VVD defines infrastructure as the spine of the economy. That is also the reason why they feel it is important to invest in mainports such as Schiphol and the Port of Rotterdam (VVD, 2015).

PvdA

The PvdA (Partij van de Arbeid) is a social democratic party that has been founded in 1946 (PvdA, 2015). In regard to policy preferences related to transportation, the PvdA states the following: 'the PvdA is in favour of good accessibility, also by car. Therefore we support the construction of new roads and the widening of roads if necessity has been proven and the impact on the environment is limited'. However, a little later they also state that 'we want to increase investments in smart accessibility-solutions and less in new roads' (PvdA, 2015). Therefore, it can be stated that the PvdA is not a political party with a specific preference for investments in road infrastructure or public transport infrastructure.

CDA

The CDA (ChristenDemocratisch Appèl) is a Christian democratic party that has been founded in 1980 (CDA, 2015). Looking at their policy preferences related to transportation, it is interesting to cite the following: 'we advocate for the strengthening of current infrastructure, whereby different forms of transport are connected. Good public transport can increase the quality of life in the cities and in the regions. Also, public transport has a social function, which we may not forget' (CDA, 2015). Looking at the citation of the CDA, it states that they want to increase the quality of life in the regions. Note that preferring investments in the regions is opposite to the preference of the VVD that wants to invest in the mainports. Further research on the website of the CDA shows that one of their statements is that 'we choose for the whole of the Netherlands' (CDA, 2015).

D66

D66 (Democraten 1966) is a democratic party that has been founded in 1966 (D66, 2015). Looking at their policy preferences, it is interesting to see that they have a clear preference for a focus on the environment and public transportation (D66, 2015). No other preferences really stand out in relation to infrastructure.

Groenlinks

Groenlinks is political party that has been founded in 1990 (Groenlinks, Geschiedenis, 2015). Besides having a clear preference for public transportation, Groenlinks also is known for their

preference for policies that affect the quality of life and the environment in a positive way (Groenlinks, 2015).

ChristenUnie

The ChristenUnie is a Christian political party that has been founded in 2000 (ChristenUnie, 2015). On their website, the ChristenUnie states the following opinion in regard to transportation: 'the ChristenUnie chooses for quality of life and safety and therefore wants to stimulate the use of public transport, the use of the bike and transport over water' (ChristenUnie, 2015). This statement clearly shows the policy preferences of the party.

PvdD

The PvdD (Partij van de Dieren) is a political party that has been founded in 2002 (PvdD, 2015). As the name of the party already suggests (the political party for the animals), the PvdD is a political party that mainly focusses on the environment, but also feels that the quality of life is very important.

LPF

The LPF (Lijst Pim Fortuyn) is a political party that was founded in 2002 by Pim Fortuyn, after he decided to leave another political party named Leefbaar Nederland. The LPF had an explosive start to its political career due to the fact that on the 6th of May 2002 (just a few weeks prior to the elections) Pim Fortuyn was shot down and killed by an environmentalist. Although the party had such an incredible start (mainly based on votes related to the killing of Pim Fortuyn), the success was just short given. After the elections of 2006 the LPF disappeared from the political arena, as they had not acquired any seats in the House of Parliament during the elections (Parlement, 2015). Looking at the political preferences at the time of existence, the LPF had no real preference in relation to a certain modality. However, what does stand out is the opinions in regard to the economy and the environment (Lijst Pim Fortuyn, 2002).

SGP

The SGP (Staatskundig Gereformeerde Partij) is an Orthodox-Reformed political party that has been founded in 1918 and therefore currently is the oldest political party (SGP, 2015). In regard to transportation, the SGP states the following: 'the SGP chooses for a policy in which both road and public transport play a role. On the other hand, mobility can't be increased unrestricted, as this would affect the quality of life of people, their safety, but also their environment' (SGP, 2015). This statement clearly shows the policy preferences of the party.

PVV

The PVV (Partij van de Vrijheid) is a political party founded in 2006 by Geert Wilders and is in general known as a populist political party (Parlement, 2015). Taking a closer look at their election program clearly shows several policy preferences. First of all the PVV feels that infrastructure is of vital importance to the Dutch economy. Furthermore they state that more investments in road infrastructure should be done, as these support the economy. Interesting to see is that the PVV also mentions the investments in mainports such as Schiphol and the Port of Rotterdam and therefore clearly 'relates' to the VVD. However, the most interesting preference can be drawn from the following quote: 'Durability is expensive. Of course the PVV is in favour of the environment and quality of life, as we don't want to go back to the 1960's in which we

were coping with a lot of air pollution ' (Partij van de vrijheid, 2012). Analysing this quote shows that there is some focus of the PVV on aspects such as environment, but not at all costs.

SP

The SP (Socialistische Partij) is a socialistic political party which was founded in 1972 (SP, 2015). Priorities in relation to infrastructure lie in public transportation and water infrastructure, as the SP feels that investments in this type of infrastructure has been neglected in the past. Furthermore the SP also prefers policies that affect the environment in a positive way, as stated in the following quote: 'the SP chooses for a lower maximum speed around the big cities, as this decreases the amount of emissions and increases the flow of traffic' (SP, 2015). As the SP is a socialistic political party, social impact seems to be of interest to the SP as well. However, looking at the policy preferences of the SP, another interesting preference stands out. In relation to the quality of the public transportation, the SP states that 'public transportation in sparsely populated areas must be kept intact. There should be a benchmark for the minimum distance of a house to a public transportation stop' (SP, 2015). According to this statement, the SP thinks that it is important that facilities in relation to public transportation are accessible for everyone, even in sparsely populated areas. This indicates that they feel that no one should be excluded from the possibility to travel. Therefore, social exclusion is also identified as a core value of the SP in regard to transportation infrastructure.

50PLUS

50PLUS is a political party founded in 2011 that mainly focusses on the interest of elderly people (Parlement, 2015). Interesting to see is that in the election program of 50PLUS, almost all policy preferences are related to policies related to elderly people. No real preferences in regard to transportation are provided (50PLUS, 2012). Based upon this observation, no policy preferences in regard to transportation can be distinguished for 50PLUS.

The use of argumentation in transport infrastructure debates: an analysis

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Abstract

Currently, the information provided to politicians in the Netherlands with regard to transport infrastructure projects seems to be insufficiently aligned with their information needs, causing a situation in which politicians aren't able to sufficiently judge proposed policies and/or projects. In order to contribute to the solving of the alignment gap, a content analysis was set up to determine and analyse the arguments used by politicians in transport infrastructure debates. Twenty different information needs have been identified on the basis of these arguments, of which the extent differs between the different political representatives. Future research is needed to assess the relevant information in regard to each of the identified information needs.

Keywords: decision making process, transport infrastructure, argumentation, content analysis, parliamentary debates.

1. Introduction

In 2011, van Wee stated that "transport is crucial for society: societies cannot function without the transport of people and goods. It enables us to participate in many activities at different locations, such as living, working, education, shopping and visiting relatives and friends" (van Wee, 2011, p. 1). Although a society without transport is currently unimaginable, transportation itself can have several positive and/or negative effects. Examples of these are effects on the environment, accessibility and safety (van Wee & Annema, 2009). In order for politicians to be able to judge proposed policies and/or projects in regard to transportation infrastructure, it is important that they are provided with information regarding all of the effects of a project/policy. However, in the Netherlands, a politician from the ChristenUnie (Miss Wiegman- van

Meppelen Scheppink) concluded in 2011 that the information provided to her is insufficiently aligned with her information needs. Therefore she feels unable to sufficiently judge proposed policies and/or projects (Tweede Kamer, 2011). Sager and Ravlum (2005) observe that this is also an issue in Norway arguing that there seems to be little systematic dialogue between politicians and planners (information developers) with the purpose of matching the information demand of the first group with the information supply of the latter (Sager & Ravlum, 2005). This paper aims to contribute to the solving of the apparent gap between the information supplied to politicians and their information needs by analysing the use of arguments in debates related to transport infrastructure. This, as the use of arguments by politicians can be assumed to reflect a certain need for information. Note that also differences in

the use of arguments between the different political representatives and the use of arguments over time have been analysed. The analysis of debates is preferred over other analysing methods such as interviewing, as within interviews 'failure of interpretation'-possibilities arise. No such measurement failures can occur with the analysing of debates, as these show the actual usage of arguments in practice.

First, the methodology used for the execution of the research will be more elaborated. After this the results related to the analysis will be presented, which is followed by the conclusions. Lastly, a discussion and recommendations will be provided.

2. Methodology

For the execution of the analysis, the content analysis methodology has been used. According to Stemler (2001), a content analysis can be best defined as a systematic, replicable technique for compressing many words of text into fewer content categories based on explicit rules of coding (Stemler, 2001). A category can be considered a group of words with similar meaning or connotations and in order for content analyses to be effective, it is important that all categories are mutually exclusive and exhaustive (Weber, 1990; U.S. General Accounting Office, 1996). In this case, the different categories consist of the different arguments used by politicians in debates. The identification process of these categories consisted of two phases, one being the identification of possible argument-categories based upon literature and the second being the identification of final argument-categories based upon test-coding of debates. This, as identification by means of literature does not guarantee that the identified arguments are 1) all arguments used in the debates and 2) are

actually used in the debate. It is important to keep in mind that the aim of this paper is to contribute to the solving of the apparent gap between the information supplied to politicians and their information needs. Therefore, only arguments are taken in to account which can be tested by information. In total, twenty different argument types have been identified, which relate to transport effects, safety, liveability & environment, economic impact, costs, return on investment, social exclusion, budget, regional financing, private financing, social interest, future generations/current generations, keep promises, procedural justice, distribution of modalities, distribution of regions, distribution of modalities (favour) and distribution of regions (favour). For full explanation of these argument types, see Appendix A.

Besides the category-identification, a content analysis also requires classification procedures (coding rules) by which the categories are coded. Based upon the test-coding, the following coding rules were set to determine whether or not a comment related to a transport project/policy would be coded:

- the politician must have a preference,
- regarding a specific project or policy,
- stated by the use of an argument,
- the statement must be specific, enabling for control by the use of information

Note however that in some cases the coding rules differ, as some codes proved to lack the use of an argument when used in the debate. This relates to the codes about the distribution of incomes, distribution of modality, distribution of regions, private

financing, regional financing and procedural justice. However, looking at these codes in the debates showed that all of the comments related to these codes have an underlying argument when used in the debate. Therefore the coding rules for these codes were set as following, in order to enable the involvement of these underlying arguments in the analysis as well:

- the politician must have a preference,
- stated by a comment regarding the dividing of resources, public/private financing or procedural (in)justice,
- the statement must be specific, enabling for control by the use of information

According to Singletary (1993), content analyses can only be trusted if the coding is reliable (Singletary, 1993). One way to ensure that the analysis is reliable is to perform an intercoder reliability test (Stemler, 2001). Intercoder reliability checks show “the extent to which independent judges make the same coding decisions in evaluating the characteristics of messages” (Lombard, Snyder-Duch, & Bracken, 2002, p. 587). If differences in coding prove to be too big, the content analysis is considered unreliable, just as its accompanying results. In this case, several reliability checks have been executed by an outside coder whereby differences in coding proved to be very slim. The coding instructions used for the intercoder reliability test can be seen in appendix B.

Data analysis took place in different ways in order to enable the comparison of the use of arguments between the different political representatives. As speaking times differ for the different political parties, it isn't possible to compare the usage of arguments between political parties based

upon the amount of times an argument has been used by the different parties. In order to remedy this issue, the amount of arguments used by a political party has been divided by the total amount of speaking time of the accompanying party. By doing so, the relative use of an argument is determined, enabling the comparison of the usage of arguments between the political parties mutually. As the speaking times of the political parties for the years 2002 – 2007 proved not to be retrievable by means of official documentation, the speaking times of these debates were estimated by means of the following method: during each debate, several situations occur in which the chairman of the debate suspends the debate, for a lunch break for instance. Within the written debates, the time of suspension and the re-starting time are shown. By counting the pages of text related to each party and the total amount of time spoken by all political parties, an estimation can be done on the total amount of speaking time per political party. Note that while using this method, only the pages have been count in which the political party itself makes statements related to projects. Interruptions of other parties and reactions of parties on these interruptions were not taken in to account for the calculation of the speaking time. This is logical, as during the actual debates interruptions and reactions are also not taken in to reduction on the speaking time of the political parties. Although this method does not provide the exact speaking times of the parties, it is considered second best. Note that all parties are affected by this (inevitable) variance in speaking time, so no parties are discriminated in the analysis. For the speaking times of the different political parties, see appendix C.

In order to enable the comparison of the usage of arguments between ministers & secretaries of state mutually and between the political parties and the ministers & secretaries of state, this method proved not to be achievable. This, as the speaking times of the ministers & secretaries of state are not retrievable. Therefore, in order to enable the comparison between these political representatives, the use of an argument over the total amount of arguments has been used in this case, as this shows which arguments have been used relatively most.

3. Results

In total, 1891 arguments have been coded during the analysis of (thirteen) transport infrastructure debates. The arguments related to transport effects (624) and liveability & environment (316) proved to be used most often, whilst also arguments related to safety (150), costs (144) and economic impact (130) proved to be used quite often. Arguments related to the social interest (4) and the current & future generation (2) proved to be used least (see appendix D). Also interesting to see is that politicians prefer the use of the general liveability & environment argument over the use of arguments with its specific components (see appendix D).

It is important to notice that the usage of arguments differs between the different political representatives. Looking at the political parties shows that right-winged parties (VVD, CDA, SGP, LPF and PVV) in general show a lower relative use of the arguments related to liveability & environment and return on investment compared to the left-wing parties (PvdA, SP, D66 and Groenlinks), whilst on the other hand the relative usage of the arguments related to economic impact and safety proves to be higher for the right-wing

parties (see appendix E). Also of interest is the fact that parties such as the SP, Groenlinks and ChristenUnie have a relatively higher use of the argument related to the distribution of modalities compared to the other political parties and that the arguments related to social exclusion and distribution of incomes are almost solely used by the SP.

Interesting differences in the usage of arguments between the ministers & secretaries of state prove to be the relative use of the budget, return on investment and keep promises arguments (appendix E). For the first two arguments, the relative use by minister Schultz (minister of Transport, Public Works and Water Management in the period 2010-present) is considered to be much higher compared to the other ministers, showing that these two aspects play an important role in the consideration process of minister Schultz (financial oriented minister). On the other hand, minister Peijs (minister of Transport, Public Works and Water Management in the period 2003-2007) seems to find it important to act as a trustworthy minister as her relative use of the keep promises argument is considered much higher compared to the other ministers.

Most interesting difference in the relative use of arguments between the political parties and the ministers & secretaries of state is the difference in the relative use of the budget argument, for which the relative use by ministers & secretaries of state is much higher than for the political parties (appendix E). . This seems logical, as one of the tasks of the ministers is to make sure that the planned investments in infrastructure don't exceed the available budget. Other noteworthy differences in relative use occur for the arguments related

to safety, keep promises, distribution of modalities and distribution of regions.

Lastly, it is also interesting to see that the use of some arguments in transport infrastructure debates has developed itself over time. Of interest in this case are the arguments related to procedural justice, regional financing and private financing, which are relatively used more often from the year 2008 onwards (see appendix F).

4. Conclusions

As the distribution of the argument-usage can be assumed to show a certain degree of information need, it can be concluded that the information need in regard to transport effects is highest and the information need in regard to the current & future generation is lowest. Furthermore, the fact that the general liveability & environment arguments are preferred over the more specific components could indicate that the assessing of specific effects in regard to liveability & environment proves to be (too) hard for politicians. This would question the sufficiency of the information currently provided to politicians (EIA reports) in regard to this aspect.

Based upon the fact that the relative use of the liveability & environment and return on investments argument is higher for the left winged parties and based upon the fact that the relative use of the economic impact & safety argument is higher for the right winged parties, it can be concluded that the information need in regard to economic impact & safety is higher for the right-winged parties, whilst the information need in regard to liveability & environment and return on investment is higher for the left-winged parties. Also the information need in regard to distribution of income and social exclusion is considered higher for the SP compared to the other political parties, whilst the information need in regard to the

distribution of modalities argument is considered higher for the SP, Groenlinks and ChristenUnie.

Furthermore, as the relative use of the budget argument can be considered much higher for the ministers & secretaries of state, it can be concluded that the information need in regard to this aspect can be considered higher for the ministers & secretaries of state compared to the political parties.

Lastly it can be concluded that the political interest in regard to procedural justice, regional financing and private financing has increased over time.

5. Discussion & recommendations

In order to be able to address the added value of the results in general, it is interesting to shortly provide insight in some of the knowledge in regard to the presence of information in political decision making. Enthoven (2011) for instance has conducted research on the information relation between the House of Parliament and members of the government. He, out of many other things, concluded that members of coalition parties often have an information advantage compared to other members of Parliament and that a common information deficiency is that information is considered insufficient and misleading (Enthoven, 2011). Interesting is that this was also concluded by the Commission Duijvesteijn in 2004, which suggests that no changes have yet been made over time to improve information provision (Commissie Duivesteijn, 2004). As politicians are most of the time not fully informed due to misleading and insufficient information, they are most of the time unable to seek for the 'maximum utility'-solution. According to Simon (1979) the concept of 'satisficing' applies to situations like that, in which the decision maker determines a satisfying

solution instead of the 'maximum utility'-solution (Simon, 1979). Note that the identification of argument-usage in practise can be considered the main contribution of this research to science (as this was not yet done). However, as this research has identified the different information needs of politicians by doing so, the reduction of the identified alignment gap between the information provided to politicians and their information needs is also enabled. This, as information planners can now be provided with insight in the needs to which the information must be designed. Interesting is that by means of this research politicians are therefore also enabled to better seek the maximum-utility solution, as they are considered to be better informed in the future. Although full information can be considered unrealistic in the case of politics, each additional part of (sufficient) information contributes to the diminishing of the information gap. By doing so, single politicians are enabled to make decisions more rational, possibly increasing the quality of the decision making process as projects are more thoroughly considered.

Note that this research has assumed that the use of arguments in debates reflects a certain information need. However, it is important to notice that politicians in some cases only use arguments by which they feel they can turn a discussion in their favour. This would mean that the results of this research might not fully reflect the exact information needs of politicians, but (in some degree) reflect the arguments considered most powerful by politicians in regard to transport infrastructure decision making. For now, no insight can be given in the exact extent to which the identified arguments reflect information needs. Therefore it is advised to conduct additional research on the identified arguments. This

can be best done by means of interviews, in which the reasoning behind (specific) arguments is discussed with politicians. Based upon the obtained results, the extent to which the results of this research reflect the actual information needs of politicians should become more clear. Furthermore, it is interesting to see that the arguments identified with specific reports (transport effects, liveability & environment and return on investment) are considered to be used a lot more often in the debate. This might be the case due to the fact that information in regard to these aspects is most present to politicians, thereby enabling the increased use of arguments related to them. For now it is unknown to what extent the current information provision plays a role in the use of arguments in transport infrastructure debates. Therefore it is advised to conduct additional research, in which politicians are interviewed in regard to the role of information in the actual use of arguments. If proven that current information provision plays a key role in the use of arguments, arguments identified with a lower use might actually reflect a higher need for (more sufficient) information compared to the arguments used more often.

Lastly, the gap between the arguments identified on the basis of literature and on the basis of test-coding proved to be very small. As unrelated literature such as scientific literature and political literature in some cases also showed overlap in possible argument-types, it seems that apparently it is quite clear what type of information politicians actually require in transport infrastructure decision making. This is of interest, as this indicates that alignment issues between the information provided to politicians and their information needs might not be present due to the fact that

information needs itself are unknown, but due to the fact the fact that the information needs are not sufficiently translated in to information useable for politicians. Based upon the above observation, additional research in regard to the information needs of politicians might be of interest. It is suggested to perform a large amount of interviews with politicians, in which the relevant information in regard to each of

the identified information needs will be discussed. If more insight is provided in the information most relevant to politicians in regard to each of the information needs, information supply can be more adapted to the actual needs of politicians.

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Appendix A: Content of the different identified arguments

This appendix shows the different identified arguments (except framing). For each of these arguments, a short insight is given in the content related to the argument-type.

- *Transport effects*: arguments related to the effect of a project/policy on factors such as accessibility, travel time, travel comfort and congestion.
- *Safety*: arguments related to the effect of a project/policy on the safety of the people using the transport infrastructure, which could also be bikers or pedestrians.
- *Liveability & environment*: arguments related to the effect of a project/policy on factors related to noise, air quality, landscape, biodiversity, heritage and water.
- *Economic impact*: arguments related to the effect of a project/policy on factors such as output, productivity, costs of production, employment & income.
- *Return on investment*: arguments related to the extent of the (social) return on investment.
- *Costs*: arguments related to the costs of a project/policy.
- *Social exclusion*: arguments related to the effect of a project/policy on the connection between residents and activities.
- *Distribution of modalities*: arguments related to the distribution of the infrastructural budget over the different modalities. Three types of modalities have been identified, which are road, train and water. A distinction can be made between statements related to a preference for the current distribution of resources over the different modalities and statements related to a preference for a different distribution of resources over the different modalities. This code covers the statements related to the preference in regard to a different distribution of resources over the different modalities.
- *Distribution of modalities (favour)*: arguments related to the distribution of the infrastructural budget over the different modalities. Three types of modalities have been identified, which are road, train and water. A distinction can be made between statements related to a preference for the current distribution of resources over the different modalities and statements related to a preference for a different distribution of resources over the different modalities. This code covers the statements related to the preference in regard to the current distribution of resources over the different modalities.
- *Distribution of regions*: arguments related to the distribution of the infrastructural budget over the different regions. Two types of regions have been identified, which are Randstad & 'other' regions. A distinction can be made between statements related to a preference for the current distribution of resources over the different regions and statements related to a preference for a different distribution of resources over the different regions. This code covers the statements related to the preference in regard to a different distribution of resources over the different regions.
- *Distribution of regions (favour)*: arguments related to the distribution of the infrastructural budget over the different regions. Two types of regions have been identified, which are Randstad & 'other' regions. A distinction can be made between statements related to a preference for the current distribution of resources over the different regions and statements related to a preference for a different distribution of

- resources over the different regions. This code covers the statements related to the preference in regard to the current distribution of resources over the different regions.
- *Distribution of incomes*: arguments related to the effect of a project/policy on the different income groups.
 - *Utilization of infrastructure*: arguments related to the effect of a project/policy on the utilization of the current infrastructure.
 - *Budget*: arguments related to the available budget for infrastructural projects.
 - *Regional financing*: arguments related to the financial contribution of the regional governments to a project/policy. Note that pre-financing by the region is not considered as regional financing, as the national government will still be required to pay for the project in that case in the future (with interest).
 - *Private financing*: arguments related to the financial contribution of private parties to a project/policy. Note that pre-financing by private parties is not considered as private financing, as the national government will still be required to pay for the project in that case in the future (with interest).
 - *Social interest*: arguments related to the effect of a project/policy on the social component of transportation (infrastructure). An example of such a component is social interaction between relatives.
 - *Future generations/Current generation*: arguments related to the effect of a project/policy on the current/future generations. This code is only coded if a politician specifically mentions that he/she is in favour or against a certain project/policy due to the effects of it on the current/future generation ('we should not implement this policy, as it has negative effects for the future generations').
 - *Keep promises*: arguments related to promises made between different political institutions. An example could be 'we feel that this project can't be terminated, as an agreement between the minister and a local government was made several months ago that '.
 - *Procedural justice*: arguments related to the presence or absence of a level playing field in the assessment of different alternatives.

Appendix B: Coding instruction for intercoder reliability check

Within this appendix, the coding instructions used for the execution of the intercoder reliability test are shown in figures 1 and 2. In regard to the codes identified with the presence of 'real' arguments, the following coding instructions apply:

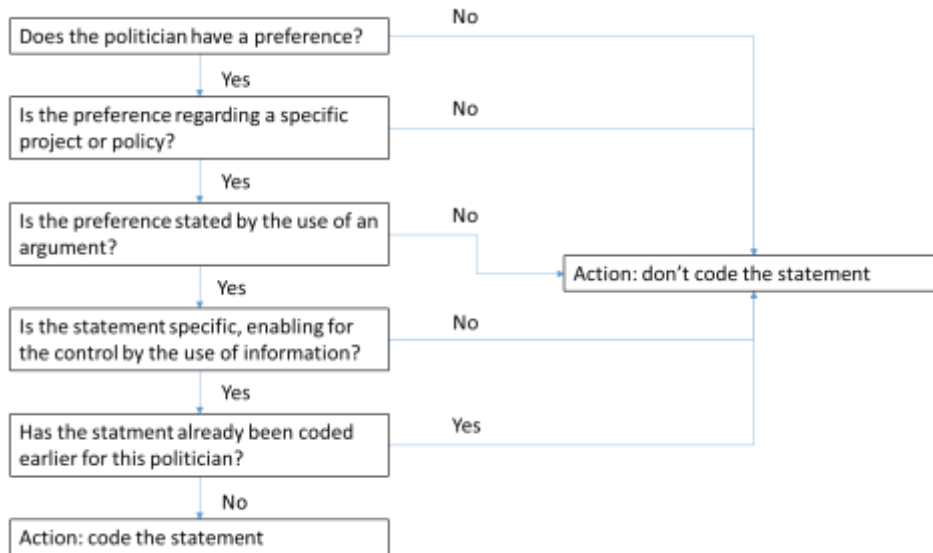


Figure 1: coding instructions for codes with the presence of 'real' arguments

In regard to the codes ('distribution of incomes', 'distribution of modality', 'distribution of regions', 'private financing', 'regional financing' and 'procedural justice') identified with the presence of underlying arguments, the following coding instructions apply:

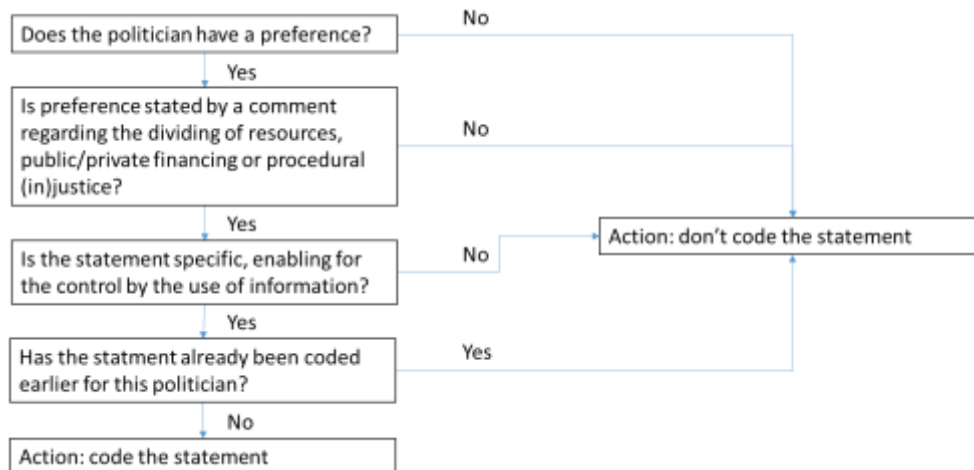


Figure 2: coding instructions for codes with the presence of underlying arguments.

Appendix C: speaking times of the political parties

This appendix covers the speaking times of the political parties in the first term of the debate for the period 2002 - 2007. Tables 1 and 2 show the calculation method used for the determination of the speaking times for the years 2002 – 2007, whilst table 3 shows the calculated speaking times of the different political parties for the years 2002 – 2007. Table 4 shows the total speaking time of the different political parties for the period 2002 - 2014.

| Year | Total number of pages | Total minutes of speaking time | Speaking time per page |
|-------------|-----------------------|--------------------------------|------------------------|
| 2002 | 37 | 270 | 7,3 |
| 2003 | 42 | 325 | 7,7 |
| 2004 | 38 | 285 | 7,5 |
| 2005 | 31 | 230 | 7,4 |
| 2006 | 14* | 105* | 7,5* |
| 2007 | 35* | 285* | 8,1* |

Table 1: determination of speaking time per page for the years 2002 – 2007.

*In this case, no end time of the first term of the minister was provided. Therefore the speaking time per page has been derived from the first term of the political parties.

| Year / Political party | VVD | PvdA | CDA | SP | GL | D66 | PVV | CU | SGP | PvdD | LPF | 50PLUS | Oudenallen |
|------------------------|-----|------|-----|-----|-----|-----|-----|-----|-----|------|------|--------|------------|
| 2002 | 2,2 | 2,5 | 4,2 | 1,4 | 1,5 | 1,5 | 0 | 1,4 | 1,1 | 0 | 1,5 | 0 | 0 |
| 2003 | 2,5 | 2,8 | 2,5 | 1,7 | 1,3 | 1,4 | 0 | 0,7 | 1 | 0 | 1,3 | 0 | 0 |
| 2004 | 2,7 | 2,5 | 2,8 | 1,9 | 1,2 | 1,1 | 0 | 0,8 | 0,8 | 0 | 0,8 | 0 | 0 |
| 2005 | 2,8 | 2,8 | 2,4 | 1,5 | 1,3 | 1,3 | 0 | 1 | 0 | 0 | 1 | 0 | 0 |
| 2006 | 2,3 | 2,3 | 2,5 | 1 | 1,3 | 0 | 0 | 0 | 0,5 | 0 | 1,25 | 0 | 0,5 |
| 2007 | 2,9 | 3 | 3,5 | 2,9 | 1,6 | 0 | 1,6 | 2,2 | 0 | 0 | 0 | 0 | 0 |

Table 2: amount of 'speaking time'-pages used per political party in the first term for the years 2002 – 2007.

| Year / Political party | VVD | PvdA | CDA | SP | GL | D66 | PVV | CU | SGP | PvdD | LPF | 50PLUS | Oudenallen | Total: |
|------------------------|-----|------|-----|----|----|-----|-----|----|-----|------|-----|--------|------------|--------|
| 2002 | 16 | 18 | 30 | 10 | 11 | 11 | 0 | 10 | 8 | 0 | 11 | 0 | 0 | 125 |
| 2003 | 19 | 22 | 19 | 13 | 10 | 11 | 0 | 5 | 8 | 0 | 10 | 0 | 0 | 117 |
| 2004 | 20 | 19 | 21 | 14 | 9 | 8 | 0 | 6 | 6 | 0 | 6 | 0 | 0 | 109 |
| 2005 | 20 | 20 | 18 | 11 | 9 | 9 | 0 | 7 | 0 | 0 | 7 | 0 | 0 | 101 |
| 2006 | 17 | 17 | 19 | 8 | 10 | 0 | 0 | 0 | 4 | 0 | 9 | 0 | 4 | 88 |
| 2007 | 23 | 24 | 28 | 23 | 13 | 0 | 13 | 18 | 0 | 0 | 0 | 0 | 0 | 142 |

Table 3: speaking time in first term per political party per year for period 2002 - 2007.

Note that all speaking times are even numbers, as this is also the case in the debates from which the speaking times were known.

| Year / Political party | VVD | PvdA | CDA | SP | GL | D66 | PVV | CU | SGP | PvdD | LPF | 50PLUS | Oudenallen | Total: |
|------------------------|-----|------|-----|-----|-----|-----|-----|-----|-----|------|-----|--------|------------|--------|
| 2002 | 16 | 18 | 30 | 10 | 11 | 11 | 0 | 10 | 8 | 0 | 11 | 0 | 0 | 125 |
| 2003 | 19 | 22 | 19 | 13 | 10 | 11 | 0 | 5 | 8 | 0 | 10 | 0 | 0 | 117 |
| 2004 | 20 | 19 | 21 | 14 | 9 | 8 | 0 | 6 | 6 | 0 | 6 | 0 | 0 | 109 |
| 2005 | 20 | 20 | 18 | 11 | 9 | 9 | 0 | 7 | 0 | 0 | 7 | 0 | 0 | 101 |
| 2006 | 17 | 17 | 19 | 8 | 10 | 0 | 0 | 0 | 4 | 0 | 9 | 0 | 4 | 88 |
| 2007 | 23 | 24 | 28 | 23 | 13 | 0 | 13 | 18 | 0 | 0 | 0 | 0 | 0 | 142 |
| 2008 | 27 | 33 | 38 | 32 | 15 | 13 | 15 | 14 | 9 | 0 | 0 | 0 | 0 | 196 |
| 2009 | 36 | 51 | 60 | 41 | 16 | 13 | 0 | 14 | 8 | 0 | 0 | 0 | 0 | 239 |
| 2010 | 22 | 22 | 17 | 14 | 11 | 11 | 19 | 8 | 8 | 0 | 0 | 0 | 0 | 132 |
| 2011 | 22 | 22 | 19 | 17 | 15 | 15 | 20 | 12 | 0 | 0 | 0 | 0 | 0 | 142 |
| 2012 | 19 | 19 | 11 | 11 | 6 | 11 | 11 | 6 | 0 | 6 | 0 | 6 | 0 | 106 |
| 2013 | 15 | 15 | 8 | 8 | 5 | 8 | 8 | 5 | 5 | 0 | 0 | 0 | 0 | 77 |
| 2014 | 17 | 17 | 9 | 9 | 5 | 9 | 9 | 5 | 5 | 5 | 0 | 0 | 0 | 90 |
| Total: | 273 | 299 | 297 | 211 | 135 | 119 | 95 | 110 | 61 | 11 | 43 | 6 | 4 | 1664 |

Table 4: speaking times of the different political parties over the years in the first term of the debate (in minutes) (Tweede kamer, 2008) (Tweede kamer, 2009) (Tweede kamer, 2010) (Tweede kamer, 2011) (Tweede kamer, 2013) (Tweede kamer, 2013) (Tweede kamer, 2014).

Appendix D: distribution use of arguments

Within this appendix, the distribution of the coded arguments over the different argument-types is shown in table 5. Table 6 shows the distribution of the use of the liveability & environment argument over its different components.

| Code | Amount of times code used |
|-------------------------------------|---------------------------|
| Transport effects | 624 |
| Liveability & environment | 316 |
| Framing | 212 |
| Safety | 150 |
| Costs | 144 |
| Economic impact | 130 |
| Return on investment | 116 |
| Distribution of modalities | 95 |
| Keep promises | 67 |
| Regional financing | 62 |
| Distribution of regions | 46 |
| Budget | 41 |
| Procedural justice | 23 |
| Distribution of modalities (favour) | 19 |
| Better utilization | 15 |
| Social exclusion | 11 |
| Distribution of income | 10 |
| Distribution of regions (favour) | 9 |
| Private financing | 7 |
| Social interest | 4 |
| Current & Future generation | 2 |
| Total: | 2103 |

Table 5: total use of arguments and distribution of the arguments used.

| Aspect | Amount of times aspect used |
|---------------|-----------------------------|
| Noise | 31 |
| Air | 70 |
| Landscape | 69 |
| Biodiversity | 1 |
| Heritage | 0 |
| Water | 5 |
| Liveability | 98 |
| Environment | 56 |
| Nuisance | 21 |
| Total: | 351 |

Table 6: distribution liveability & environment arguments over the related aspects.

Appendix E: relative use of arguments for the different political representatives

Within this paragraph, the relative use of arguments per five minutes of speaking time is shown for the different political parties (table 7) and for the ministers and secretaries of state (table 8). Note that parties such as the PvdD, 50PLUS and Groep van Oudenallen are not taken in to account in this analysis, as their speaking time proved to be too slim to produce credible results. Also, only three ministers (Peijs, Eurlings and Schultz) had more than 20 statements coded during the data obtaining, so therefore only results in regard to the (relative) use of arguments by Peijs, Eurlings and Schultz have been used. Table 9 shows the relative use of arguments between the political representatives.

| Code / Political party | VVD | PvdA | CDA | SP | GL | D66 | PVV | CU | SGP | LPF |
|-------------------------------------|------|------|------|------|------|------|------|------|------|------|
| Transport effects | 1,47 | 0,85 | 1,09 | 1,78 | 0,59 | 1,68 | 2,32 | 2,09 | 1,72 | 1,51 |
| Liveability & environment | 0,37 | 0,48 | 0,45 | 1,23 | 1,74 | 1,55 | 0,37 | 0,68 | 1,07 | 0,58 |
| Return on investment | 0,16 | 0,15 | 0,17 | 0,43 | 0,33 | 0,38 | 0,21 | 0,27 | 0,00 | 0,81 |
| Better utilization | 0,00 | 0,02 | 0,00 | 0,09 | 0,07 | 0,13 | 0,00 | 0,05 | 0,08 | 0,00 |
| Social exclusion | 0,00 | 0,00 | 0,00 | 0,19 | 0,07 | 0,04 | 0,00 | 0,00 | 0,00 | 0,00 |
| Current & Future generation | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 |
| Safety | 0,48 | 0,17 | 0,39 | 0,33 | 0,11 | 0,17 | 0,37 | 0,18 | 0,66 | 0,12 |
| Costs | 0,31 | 0,08 | 0,25 | 0,78 | 0,26 | 0,42 | 0,26 | 0,41 | 0,25 | 0,00 |
| Economic impact | 0,49 | 0,18 | 0,45 | 0,09 | 0,11 | 0,21 | 0,58 | 0,23 | 0,57 | 0,70 |
| Social interest | 0,00 | 0,00 | 0,02 | 0,02 | 0,00 | 0,00 | 0,00 | 0,00 | 0,08 | 0,00 |
| Budget | 0,00 | 0,02 | 0,02 | 0,00 | 0,00 | 0,00 | 0,05 | 0,00 | 0,00 | 0,00 |
| Keep promises | 0,13 | 0,17 | 0,15 | 0,05 | 0,26 | 0,04 | 0,05 | 0,09 | 0,25 | 0,00 |
| Regional financing | 0,16 | 0,25 | 0,34 | 0,05 | 0,04 | 0,00 | 0,11 | 0,32 | 0,49 | 0,00 |
| Private financing | 0,02 | 0,02 | 0,02 | 0,00 | 0,00 | 0,00 | 0,11 | 0,05 | 0,08 | 0,00 |
| Procedural justice | 0,00 | 0,07 | 0,00 | 0,02 | 0,22 | 0,13 | 0,05 | 0,32 | 0,00 | 0,00 |
| Distribution of income | 0,00 | 0,03 | 0,00 | 0,17 | 0,00 | 0,00 | 0,05 | 0,00 | 0,00 | 0,00 |
| Distribution of modalities | 0,18 | 0,12 | 0,05 | 0,62 | 0,59 | 0,13 | 0,21 | 0,77 | 0,41 | 0,35 |
| Distribution of regions | 0,05 | 0,07 | 0,19 | 0,17 | 0,07 | 0,21 | 0,05 | 0,23 | 0,25 | 0,12 |
| Distribution of modalities (favour) | 0,04 | 0,00 | 0,07 | 0,00 | 0,00 | 0,04 | 0,00 | 0,00 | 0,00 | 0,00 |
| Distribution of regions (favour) | 0,00 | 0,02 | 0,03 | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 |
| Framing | 0,60 | 0,25 | 0,71 | 0,78 | 1,07 | 0,50 | 0,89 | 0,41 | 0,25 | 0,35 |

Table 7: Relative use of arguments per five minutes of speaking time per political party.

| Code | Minister Peijs | Minister Eurlings | Minister Schultz |
|-------------------------------------|----------------|-------------------|------------------|
| Transport effects | 31,63% | 44,44% | 33,17% |
| Liveability & environment | 18,37% | 14,53% | 8,29% |
| Return on investment | 6,12% | 4,27% | 9,76% |
| Better utilization | 0,00% | 0,00% | 0,98% |
| Social exclusion | 0,00% | 0,00% | 0,00% |
| Current & Future generation | 0,00% | 0,85% | 0,00% |
| Safety | 9,18% | 11,97% | 11,22% |
| Costs | 8,16% | 7,69% | 8,29% |
| Economic impact | 5,10% | 3,42% | 6,34% |
| Social interest | 0,00% | 0,00% | 0,49% |
| Budget | 6,12% | 0,85% | 11,22% |
| Keep promises | 11,22% | 4,27% | 2,93% |
| Procedural justice | 0,00% | 0,00% | 0,00% |
| Distribution of income | 0,00% | 0,00% | 0,00% |
| Distribution of modalities | 0,00% | 0,00% | 0,00% |
| Distribution of regions | 0,00% | 0,00% | 0,00% |
| Distribution of modalities (favour) | 0,00% | 0,00% | 0,00% |
| Distribution of regions (favour) | 0,00% | 0,85% | 0,98% |
| Framing | 2,04% | 0,85% | 2,93% |

Table 8: relative use of argument for the minister Peijs, Eurlings and Schultz.

| Code | Relative use political parties | Relative use ministers & secretaries of state |
|-------------------------------------|--------------------------------|---|
| Transport effects | 29,22% | 35,43% |
| Liveability & environment | 16,51% | 12,37% |
| Return on investment | 5,20% | 7,34% |
| Better utilization | 0,77% | 0,63% |
| Social exclusion | 0,71% | 0,00% |
| Current & Future generation | 0,06% | 0,21% |
| Safety | 6,55% | 10,06% |
| Costs | 6,68% | 8,39% |
| Economic impact | 6,87% | 4,82% |
| Social interest | 0,19% | 0,21% |
| Budget | 0,19% | 7,97% |
| Keep promises | 2,70% | 5,24% |
| Procedural justice | 1,48% | 0,00% |
| Distribution of income | 0,64% | 0,00% |
| Distribution of modalities | 6,10% | 0,00% |
| Distribution of regions | 2,76% | 0,63% |
| Distribution of modalities (favour) | 0,45% | 2,52% |
| Distribution of regions (favour) | 0,19% | 1,26% |
| Framing | 12,72% | 2,94% |

Table 9: relative use of argument for political parties and ministers & secretaries of state

Appendix E: Development of use of arguments over time

Within this appendix, the use of the different arguments over time by the political representatives is displayed (see table 10).

| Code / Party | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | Total: |
|-------------------------------------|------|------|------|------|------|------|------|------|------|------|------|------|------|--------|
| Transport effects | 42 | 32 | 35 | 27 | 29 | 78 | 82 | 56 | 58 | 64 | 45 | 39 | 37 | 624 |
| Liveability & environment | 25 | 30 | 14 | 32 | 8 | 27 | 35 | 30 | 31 | 27 | 18 | 19 | 20 | 316 |
| Return on investment | 3 | 9 | 7 | 8 | 6 | 6 | 10 | 9 | 13 | 12 | 12 | 8 | 13 | 116 |
| Better utilization | 1 | 2 | 0 | 0 | 0 | 2 | 0 | 1 | 1 | 3 | 1 | 2 | 2 | 15 |
| Social exclusion | 0 | 1 | 1 | 0 | 2 | 1 | 0 | 4 | 2 | 0 | 0 | 0 | 0 | 11 |
| Current & Future generation | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 2 |
| Safety | 6 | 10 | 9 | 7 | 7 | 21 | 17 | 13 | 10 | 10 | 19 | 6 | 15 | 150 |
| Costs | 9 | 12 | 7 | 10 | 7 | 11 | 15 | 15 | 8 | 18 | 16 | 11 | 5 | 144 |
| Economic impact | 9 | 7 | 9 | 4 | 2 | 10 | 8 | 13 | 11 | 8 | 25 | 8 | 16 | 130 |
| Social interest | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 2 | 0 | 4 |
| Budget | 3 | 4 | 1 | 1 | 1 | 3 | 1 | 1 | 7 | 8 | 6 | 3 | 2 | 41 |
| Keep promises | 8 | 12 | 7 | 5 | 4 | 2 | 7 | 7 | 3 | 1 | 8 | 2 | 1 | 67 |
| Regional financing | 1 | 1 | 4 | 2 | 2 | 3 | 6 | 14 | 9 | 9 | 6 | 3 | 2 | 62 |
| Private financing | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 2 | 1 | 0 | 1 | 0 | 7 |
| Procedural justice | 1 | 1 | 0 | 1 | 1 | 0 | 0 | 3 | 3 | 7 | 4 | 0 | 2 | 23 |
| Distribution of income | 1 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 2 | 2 | 0 | 1 | 1 | 10 |
| Distribution of modalities | 10 | 9 | 13 | 5 | 2 | 12 | 4 | 10 | 9 | 6 | 8 | 5 | 2 | 95 |
| Distribution of regions | 4 | 1 | 0 | 2 | 1 | 1 | 1 | 6 | 14 | 5 | 4 | 5 | 2 | 46 |
| Distribution of modalities (favour) | 3 | 1 | 2 | 1 | 1 | 1 | 0 | 2 | 3 | 2 | 2 | 0 | 1 | 19 |
| Distribution of regions (favour) | 0 | 1 | 1 | 0 | 1 | 2 | 2 | 0 | 0 | 0 | 1 | 1 | 0 | 9 |
| Total: | 126 | 133 | 110 | 105 | 74 | 182 | 189 | 189 | 186 | 184 | 176 | 116 | 121 | 1891 |

Table 10: use of arguments over the time by the political representatives.