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The political conflict on road safety in the Flemish Parliament (2004 2009): introducing a method for the measurement of policy conflict.

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Policy issues in general tend to be complex and ambiguous, more than often involving multiple evaluative dimensions. However, the complexity of policy debates tends to decrease significantly once it enters a parliamentary assembly. Baumgartner et. al. (2006) observed that the structure of policy conflict in US Congress is of limited dimensionality. The average number of "policy perspectives", within the policy debate in Congress tends to be low. In the majority of cases, it tends to revolve around one side proposing change, and another attempting to protect the status quo, and in the majority of cases observed policy conflict runs across partisan lines. Although parliamentary democracies offer more room for variation in the direction of conflict lines, due to their multi-party characteristics, it can arguably be expected that in the latter case a similar process of structuration of policy conflict takes place.

One the one hand, there is a body of literature emphasizing complexity in policy making (ex. Schattschneider 1960; Cobb and Elder 1983; Kingdon 1984; Baumgartner and Jones 1993), and other studies focusing on the substance of policy issues. On the other hand there is another body of literature that emphasizes structure and stability (ex. Lipset and Rokkan 1967; Zuckerman 1975; Ingelhart 1984; Bornschier 2009; Tokà and Gosselin 2010). There exists a "fundamental conundrum" (Baumgartner et. al. 2006: 2) between both, given the contrast between the diversity of substance of policy issues and the relative few feasible lines of conflict in partisan politics. This poses an interesting question, which is under-explored in literature: what is the relationship between the characteristics of a policy issue and the structure of policy conflict in a given parliamentary assembly?

The bulk this paper, as part of a research project on the debate on road safety and traffic mobility in general in the Belgian region of Flanders, one of the most densely populated, urbanized, and traffic-congested regions of Europe, mainly focuses on the construction of the dependent variable with regard to the latter question. In the next chapter a method is proposed for measuring the structure of policy conflict. In the following chapter the method will be exemplified by a number of empirical cases. The last chapter explores avenues for the identification of independent variables with regard to the question posed, as well as some methodological issues with regard to further research.

The structure of policy conflict

As noted, the conflict structure more often than not tends to run across ideological and partisan lines. For instance, in US Congress the lines of conflict predominantly run across the ideological divide between Democrats and Republicans (Baumgartner et.al. 2006). This observation is congruent with literature on political cleavage, which suggests that the way in which a society is divided and associated politically has "major, direct and specifyable consequences"(Zuckerman 1975: 232) for the structure of political conflict. Whereas in the case of the two-party system in US Congress, the ideological or partisan divide on the one hand, and the majority-opposition divide on the other fall together, the structure of policy conflict can arguably be more complex in parliamentary democracies with multi-party systems (Ex. Mújica & Sánchez-Cuenca 2006). Therefore, the constitution of the political majority and opposition[1] should also be understood as a structurating factor for political conflict. Thus, the assessment of the direction of policy conflict involves two axes: the ideological left-right axis and majority-opposition axis.

[1] Annex 1 describes the composition of the parliamentary assembly under study, and the position of the respective parties on the ideological left-right axis

Schön and Rein (1994) identify two types of policy conflict: policy disagreements and policy controversies. The former are defined as "disputes in which the parties to contention are able to resolve the questions at the heart of their disputes by examining the facts of the situation"(ibid : 3)[2]. Policy controversies are defined as policy disputes which are "immune to resolution by appeal to the facts"[3] (ibid.: 4). In the case of policy controversies, conflicting parties tend to focus on different facts or data to make their claims on a given issue. Or conversely, they tend to interpret the same facts in different ways. Korsten (2008) identifies, on the one hand, between policy controversies in which actors disagree, notwithstanding a substantial amount of knowledge available on the issue, such as for instance abortion or euthanasia. These are policy controversies pertaining to ethical questions. On the other hand he identifies what he terms "wicked problems", which relate to policy controversies on which the amount of knowledge available is limited. Examples of wicked problems are traffic mobility (Banister 2008), the nuclear energy debate (Baumgartner and Jones 1991) and health risks as a result of electo-magnetic fields (Linder 1995). Although the above draws clear conceptual boundaries between different types of policy problems, in practice, the boundaries between disagreement and controversy can be blurred. Moreover, sometimes 'disagreements' mask underlying controversies, or, more significantly, they can evolve into controversies and vice versa (Rein & Schön 1994). The latter observation implies that policy controversy is not a dichotomous state, but rather should be understood as a phenomenon that exists in various degrees.

The underlying mechanisms of policy controversies are conflicting policy frames (Rein & Shön 1994; Hart & Kleiboer 1995; Hisschemoller & Hoppe 1995). A frame can be defined, in the most parsimonious fashion as a central organizing idea with regard to a policy position (Gamson and Lasch 1983). A frame refers to "an 'assumptional basis' that lies beneath the more visible surface of language or behavior, determining its boundaries and giving it coherence" (Rein & Schön 1996: 89). Framing, as an activity, can be understood as "the process of selecting, emphasizing and organizing aspects of complex issues according to an overriding evaluative or analytical criterion" (Daviter 2007: 654). Frames can be understood as discourse, i.e. social constructs consisting of idea's, concepts and categories, giving meaning to social phenomena (Hajer 1993: 45). Or, as put by Rein & Schön (1996: 90), frames are narratives guiding analysis and action in practical situations. Hajer (ibid) defines a group of actors sharing the same social constructs, or frames, as *discourse coalitions*, and theorizes a discursive space consisting of a number of discourse coalitions, the members of which revolve around common storylines (Hajer 2002: 12).

In this research project, the structure of policy conflict in parliamentary debates is characterized by the three concepts identified above. First, the dimensionality of policy conflict is related to the number of discourse coalitions present within a discursive policy space. Secondly, the direction of policy conflict can determined by holding the composition of the respective discourse coalitions against possible division lines, such as the ideological left-right axis, or the majority-opposition divide. And finally, the intensity of policy conflict can be known by measuring the degree of controversy involved. In the following section a method is proposed in order to measure policy conflict along the lines of these concepts.

[2] Ex. Suppose we want to know the number of youths enrolled in drug rehabilitation programmes. There might be disagreement on how to define youth, on the time period, the geographic location, and what it means to be in a drug rehabilitation program. However, once these issues are resolved, it becomes clear which data and/or facts are relevant.

[3] For instance crime, welfare, abortion, poverty, etc.. (Rein & Schön 1994: 4).

MEASURING POLICY COALITIONS, CONFLICT AND CONTROVERSY IN PARLIAMENT: METHOD

Qualitative coding of parliamentary debates

The data sources are the verbatim transcripts of parliamentary debates. The texts were coded by using the basic meta-categories deduced from frame analysis literature, which envisages policy frames as *diagnosis-solution complexes*. Each policy frame has a diagnostic dimension, in which problems are identified and attributions are made focusing on blame or responsibility. Diagnostic frames contain ontological and causal assumptions that are woven together in a meaningful narrative meant to persuade and inform. Prognostic frames, on the other hand, contain a proposed solution to the problem. They tie claims for action to the diagnostic frames by suggesting public remedies. By using these frame-dimensions in the analysis of policy discourse, it is possible to separate policy preferences from their underlying assumptions and values. (Ex. Schön & Rein 1994; Linder 1995; Lenschow & Zito 1998; Benford & Snow 2000; Verloo 2005; Daviter 2007; Korsten 2008).
Although the meta-framework for coding is the result of a deductive exercise, the actual coding of the data is inductive, i.e. there are no pre-established categories on the substance of the debates which have been sought after in the data. These categories rather emerge from the data by qualitative content analysis along the lines of the meta-framework of framing theory.

Discourse network analysis

The policy debates under study were coded and analyzed through *discourse network analysis (DNA)*, which is a combination of qualitative, category-based content analysis and social network analysis (Leifeld & Schneider 2012; Leifeld & Haunss 2012; Fisher et. al. 2013; Leifeld 2013). This tool allows to analyze discourse coalitions and discursive conflict within the context of policy debates in a formal fashion. Informed by theoretical insights from frame analysis (cf. supra), and using the *discourse network analyzer* software the parliamentary debates on the policy issues under study were coded for agreement and/or disagreement with diagnostic and prognostic claims made by members of parliament. The *DNA* software allows to export the various networks of agreement and disagreement to a dedicated software package for social network analysis, such as UCINET (Borgatti et. al. 2002).
The basic network type in discourse network analysis is the *affiliation network*. This is a bipartite network, meaning that it exists out of two disjoint sets of nodes, which only are adjacent if they lie in different sets (Wallis 2007). The affiliation network in *DNA* consists of the set of actors in the policy debate under study and the set of concepts or frame elements to which the actors agree or disagree. *Fig 1.* is an example of an affiliation network connecting actors *(a1, a2, a3, a4)* with concepts *(c1, c2)*. The full line represents agreement to a concept, whereas the dashed line represents disagreement[4].

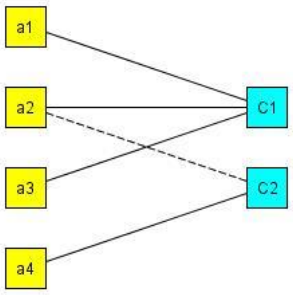

Fig. 1: affiliation network

[4] For reasons of clarity, in the illustrations of the affiliation networks analyzed, the affiliation networks with regard to agreement and disagreement respectively were separated .

As noted by (Kenis & Schneider 1991), the "alignment of actors by common claims"(Leifeld & Haunss 2012: 389) can be envisaged as a relational phenomenon. Indeed, as suggested in the example in Fig. 1, actors *(a1, a2 , a3)* belong to the set of actors agreeing with *c1*. Consequently, an undirected weighted network structure can be generated[5], connecting nodes representing actors on the basis of agreement or disagreement with the concepts in the affiliation network. In *DNA*, this network is known as the *actor co-occurence network*. In mathematical terms: since an *affiliation network* can be understood as an *n x m* matrix *X* with row actors referring to column concepts, the *actor co-occurence network* is achieved by multiplying the affiliation matrix by its transpose: $Y = X \times X^t$ (ibid.). This results in a social network structure in which the relationships between actors are constituted by their common agreement to a set of concepts. *Fig. 2* represents the co-occurrence network of actors associated with the affiliation network in Fig 1.

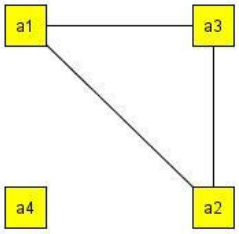

Fig 2. co-occurrence network

Whereas the latter network represents congruence between actors, the *conflict network* of a policy debate visualizes antagonistic relationships between actors. In the conflict network a relationship between nodes is established whenever a pair of actors explicitly hold adverse positions with regard to a concept. Thus, whenever actor *x* agrees on a concept, and actor y disagrees on the same concept, a link *(x,y)* is established in the conflict network (ibid.). *Fig 3*. is the conflict network associated with affiliation network in *Fig. 1*, in which actors *(a2, a4)* disagree on concept 2.

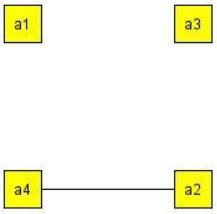

Fig 3. conflict network Example 1

Discourse network analysis allows the researcher to assess the conflict structure of a policy debate in a formal fashion. In order to do so I propose a number of indicators which should be interpreted jointly in order to assess the conflict structure associated with a given a policy debate. Key to the analysis is whether distinct groups or discourse coalitions can be identified within a debate, and how well these groups are delineated quantitatively and qualitatively.

5 The network structure is weighted: the value of the connections between actors represent the number of prognostic or diagnostic claims to which they share agreement or disagreement.

Finding and measuring discourse coalitions in policy debates

In order to identify distinct groups of discursive coalitions in the parliamentary debates under study, and to measure the level of delineation between these groups I propose a combination of hierarchical cluster analyses of the respective actor co-occurence networks with a qualitative assessment of the affiliation networks of the clusters identified. The latter step is performed in order to choose a "point along the series that gives a useful and interpretable partition of the actors into equivalence classes"(Wasserman & Faust 1994: 383), or put differently, to make sure that the categorization of the actors in distinct groups by the quantitative algorithm reflects a qualitative ideational distinction between the groups involved.

Agglomerative hierarchical clustering (from here *hierarchical clustering*) is an algorithm that groups entities, in successive steps, into subsets based on relative structural equivalence. After each step the fusion level, or the threshold value of structural equivalence becomes less restrictive, resulting in successive grouping of entities. This results in a nested structure, which can be represented by a *dendogram* or a Venn diagram. Subsequently, a decision is to be made on the appropriate number of clusters for the data (Everitt 1993). As suggested by Wasserman & Faust (1994), theory is the best guide for finding the most useful partition. Therefore, I draw on the analytical assumption that discourse coalitions are functions of ideational congruence (Leifeld & Haunss 2012) and on Baumgartner's (2006) observation that the structure of policy conflict in parliamentary assemblies tends to yield a very limited amount of policy perspectives[6], which implies parsimony. Thus, following these guidelines, and along the lines of the "informal" method suggested by Everitt (1993: 73) the difference between fusion levels in the dendogram is examined according to Baumgartner's criterium of parsimony and according to ideational congruence and/or difference. The latter is achieved by qualitative comparison of the affiliation networks of the respective subgroups.

One of the drawbacks of hierarchical clustering is the possibility of *chaining*. This refers to the construction of a large cluster by adding a single object at a time at low fusion levels, rather than adding clusters of objects (Wasserman & Faust 1994; Everitt 1993). Following Wishart (in Everitt 1993), chained objects, with degree values (cf. infra), and at relatively low fusion levels will be treated as noise points or outliers (Vadapalli et. al), and therefore will be separated from the dataset before further analysis.

Density of discourse networks

In network analysis the density measure is an index of the degree of pairwise connections within a population. It describes the level of connectedness in a network. Unweighted density is simply the proportion between all present ties *L* and all possible ties within a network With a total number of nodes g: $\Delta_u = L/[\frac{g(g-1)}{2}]$. Weighted density is calculated as the sum of the tie weights *S* divided by the number of all ties possible: $\Delta_w = S/[\frac{g(g-1)}{2}]$ (Wasserman & Faust 1994; Hanneman & Riddle 2005).

The robustness of a discourse coalition is a function of its ideational coherence in terms of arguments shared by its members (Snow et al. 1986). Success of a discourse coalition is understood as a function of, inter alia, the level of congruence within that coalition. Coalitions in which a large number of common concepts are shared are considered to have more potential than coalitions in which a wide range of arguments are dispersed and in which actor pairs rarely agree on common concepts (Leifeld & Haunss 2012). The ratio of common concepts within a coalition is expressed by the weighted within-group density Δ_{in} its actor co-occurrence network.

Following Schön and Rein's (1994) theoretization of policy controversies, it is expected that the

[6] i.e. a group of actors sharing identical policy preferences

higher the level of controversy involving a policy issue, the more *distinct* the conceptual apparatuses of the conflicting groups are, due to conflicting policy frames underlying the respective positions. The sharpness of the conceptual boundaries between coalitions in a policy debate is measured by the weighted between-group density Δ_{bet} of the actor co-occurrence network. This measure reflects the proportion of ideational overlap between groups. As a consequence, it is expected that a policy debate with a high level of controversy is characterized by a relatively high within-group density and a relatively low between-group density.
As noted, the conflict network is constituted by antagonistic relations between actors within a given policy debate. As a consequence, the total *density* of the conflict network Δ_{con} yields an index of the over-all level of antagonisms within a policy debate.

Central actors in congruence and conflict networks

Another measure used to assess the structure of policy debate refers to the relative importance of the individual actors in the policy debate under study. This is measured by calculating the *degree* centrality of the nodes in the respective networks. In the case of an actor congruence network, this measure is indicative of the central actor in the debate under study, whereas in the case of a conflict network the measure is indicative of the actor with the greatest number of antagonistic relations in the policy debate. The general measure for degree binary networks is Freeman's degree, which is calculated by counting the number of nodes adjacent to the focal node: $k_i = \sum_j^N x_{ij}$, where i represents the focal node, j all other nodes, x the adjacency matrix and N the total number of nodes (Wasserman & Faust 1994). However, as noted, discourse network analysis entails the analysis of weighted networks, meaning that the relationships between nodes can take on a value, a weight, larger than 1. Therefore, the general way of establishing degree centrality in weighted networks is by calculating the sum of the weights of the edges connected to the focal node. This variation of degree centrality is called *node strength*: : $s_i = \sum_j^N w_{ij}$, with w representing the adjacency matrix where, in the case of a connection between nodes i and j, $w_{ij} > 0$ with a value representing the weight of the tie (Newman 2004; Opsahl et al. 2010).

MEASURING POLICY CONFLICT IN THE FLEMISH PARLIAMENT (2004-2009): EMPIRICAL CASES

The debate on the speed limit for trucks on highways

Between 22 June and 13 December 2005 a fierce debate took place in the Flemish parliament on to the proposal of the Flemish minister for mobility, Kathleen Van Brempt (SP.A), to reduce the speed limit on highways for heavy lorries from 90km/h to 80 km/h, in order to decrease emissions and to improve road safety. Since setting speed limits is a federal competence, Van Brempt's intention was to consult her Walloon colleague André Antoine (CDH, Christian Democrats) on the issue, and, in the case of inter-regional agreement, to ask her federal counterpart and partisan Renaat Landuyt to initiate legislation. Van Brempt announced that, in absence of a regional agreement on the issue, she would use the competences of the Flemish region to provide for additional legislation on federal matters, in order to implement the measure in the region of Flanders only (De Standaard 2005)
Shortly after the announcement the proposal, a debate on the issue took place in the plenary session of the Flemish parliament of 22 June 2005. The issue created a rift between the parties left-of-center, including SP.A, the party of minister Van Brempt, and the Greens on the one hand, and all parties from center to right-of center on the other. The Social Democrats and the Greens defended the proposal on the grounds of its expected environmental benefits and its beneficial effects on traffic safety. The parties on the (center-) right hand side of the ideological spectrum CD&V,

Open VLD and Vlaams Belang collectively opposed the proposal on various grounds. First of all, the opponents dismissed the beneficiary effects of the measure with regard to the environment and to road safety. Secondly, whereas the proponents of the measure defended the proposal from a frame relating to environmental protection and road safety, the opponents dismissed the proposal on predominantly on economic grounds. Following the initial debate, the minister ordered a study to investigate the effects of the measure on emissions at the Flemish Institute of Technological Research (VITO) as well as a study on the effects on road safety at 'Steunpunt Verkeersveiligheid' (SVV), a research center for road safety issues.

In December 2005 a hearing was organized in the Committee on Mobility of the Flemish parliament, including spokespersons of the latter organizations, as well as spokespersons of the Flemish and federal business corporations for road transport[7]. The spokespersons of VITO and SVV acknowledged the over-all beneficiary effects of the measure on emissions and road safety. These findings were dismissed by the opponents on various grounds. A number of actors from the group opposing the measure accused VITO and SVV of being biased. Another set of actors in the group opposing the measure did not question the integrity of the researchers, but rather claimed that, by not investigating possible effects on the transport industry, the scope of the research commissioned by the minister was too limited and therefore insufficient to back any policy decision. However, the main argument of the group opposing the measure pertains to the putative negative effects for the transport sector and a subsequent deterioration of the image of Flanders as a transit zone within Europe.

Given the irreconcilable positions within government on the issue, the nature of this disagreement strongly resembles Schön an Rein's (1994) policy controversy. As a result of the growing controversy within the Flemish government on the issue, the federal prime minister Guy Verhofstadt, member of Open VLD, the party most vocal in its opposition against the proposal, took hand of the issue. A crisis within the Flemish Government was eventually averted by Verhofstadt's promise to organize a broad impact study to map the consequences of the measure in Flanders (Standaerdt 2005; Dua 2005). Following the hearing, the Committee on Mobility of the Flemish parliament discussed and voted a resolution favoring the measure, which was submitted by the Green party following its announcement. The resolution was rejected by all the other parties except for SP.A, the initiators of the proposal, who abstained. The proposal has not re-appeared on the Flemish or federal agenda to date.

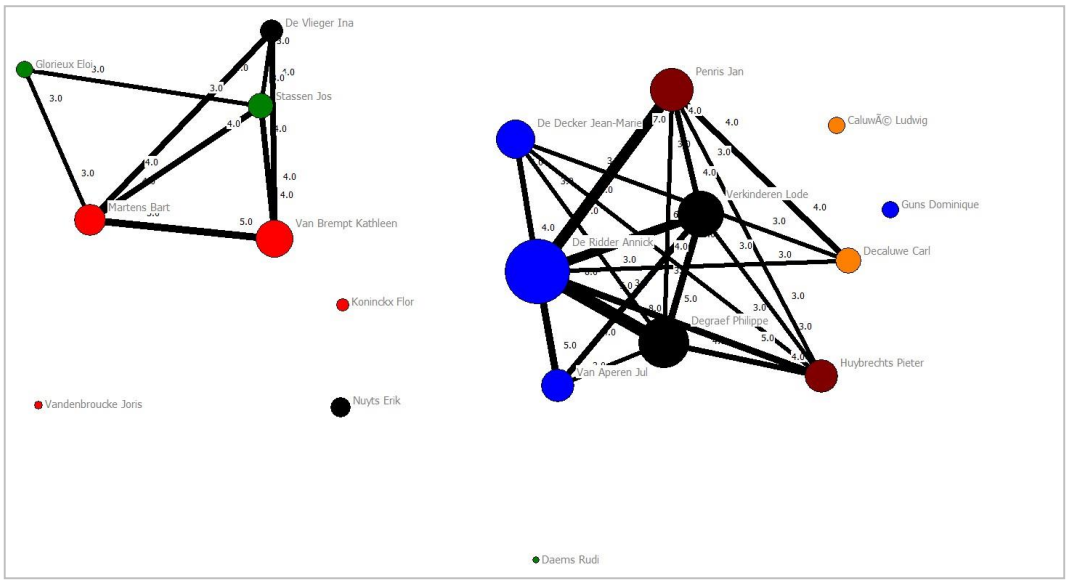

Fig.4 Actor co-occurrence network

[7] SAV and FEBETRA

The complete actor co-occurrence network for this debate is shown in Annex II, 1.2. *Fig 4* shows the actor co-occurrence network after it was filtered for displaying strong links of ideational congruence only, for reasons of clarity[8]. The structure clearly shows two separate discourse coalitions, one consisting of members of the parties left-of-center, and the spokesperson of VITO; and the other consisting of members of the parties right-of-center and the spokespersons for the transport federations. It suggests a relatively strong ideational separation between the respective discourse coalitions, which is confirmed by the calculation of the between-group density (cf. infra). The dendogram in fig 5 illustrates the results of the hierarchical cluster analysis of the actor co-occurrence network of the debate. In the subsequent analysis, the actors Vandenbroucke, Konickx, Guns and Caluwé were omitted due to the combination of chaining at relatively low fusion levels and a low node strength value. As noted above, nodes answering to these criteria are treated as noise. The resulting clusters reflect the lines of division suggested in *Fig. 4*. At threshold level 0,5 (see clustering table Annex II, 1.3) the structure is split into two clusters, reflecting the discourse coalitions involved[9]. The composition of the clusters point out that the conflict lines of the debate run straight across the center of the ideological divide. Moreover, the dendogram suggests that the conflict on the issue split the majority parties in the Flemish parliament in two camps.

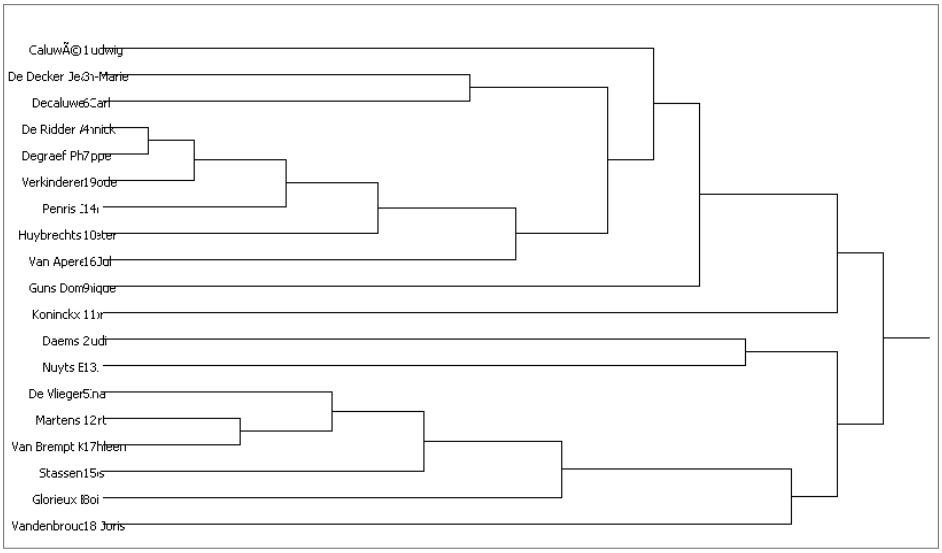

Fig 5.

Qualitative analysis of the affiliation network shows that the ideational congruence of the members of the 'proponents' cluster is limited to mutual agreement to the diagnostic elements of the environmental benefits and the safety benefits of the measure respectively, and to the prognosis that the measure should be implemented on the grounds of these diagnoses. In terms of disagreement with concepts, the congruence between the actors of this cluster is mainly constituted by their explicit opposition to the opponents' respective claims that the measure will increase emissions, to the claim that the measure has negative effects with regard to road safety, and to the claim that the scientific results were biased. In this group, at threshold level 0,6 (see clustering table Annex II, 1.3) a sub-cluster is identified consisting of Rudi Daems (Groen!, Greens) and

[8] Edges with weights smaller than 3 were omitted.

[9] CLUSTER1: (CD&V:Decaluwe) (Open VLD: De Decker, De Ridder, Guns,Van Aperen) (Vlaams Belang: Penris, Huybrechts) (FEBETRA: Degraef) (SAV: Verkinderen) // CLUSTER 2: (Groen!: Daems ,Glorieux, Stassen,) (SP.A: Koninckx ,Martens, Van Brempt,) (VITO: De Vlieger) (SVV: Nuyts)

Erik Nuyts (SVV, research center for road safety issues). Daems and Nuys agree with Van Aperen (Open VLD, member of the 'opponents') that a larger spread of vehicle velocity undermines road safety[10]. Daems uses this argument to make a plea for a uniform speed of 80km/h for all motorized vehicles on the highway, following similar regulations in The Netherlands. A prognosis which was rejected by the 'opponents'.

The analysis of the affiliation network of the 'opponents cluster' suggests that the ideational congruence of this coalition is more developed. This is confirmed by the higher within-group density of this group (cf. infra). The most prominent ideational components of this cluster are the diagnosis that the measure is damaging for the economy and the diagnosis with regard to the primacy of transport sector interests and economic interests in general. Furthermore, within this cluster there is high congruence on the presupposition that the measure will have negative effects on road safety due to a larger differences in speed. Moreover, the members of this cluster generally agree that the measure will cause a rise in the number of heavy lorries on the road, resulting in more traffic jams and in more emissions. In terms of disagreement with concepts there is relatively high congruence within this cluster with regard to the explicit dismissal of the measure in general and the assertions of the other group with regard to the beneficial effects of the measure on the environment and on road safety.

Cluster	1	2
1	2,127	0,216
2	0,216	1,571

Cluster 1: members of CD&V, *Open VLD, Vlaams Belang, LDD, FEBETRA, SAV ('opponents')*
Cluster 2: members of *Groen!, SP.A, VITO, SVV ('proponents')*

Density Table. 1.

Table 1 shows the within and between-group densities of both discourse coalitions involved. The lower within-group density of cluster 2 confirms the findings from the qualitative analysis of the affiliation network that ideational congruence is better developed in cluster 1. The between-group density is low, which refers to relatively few ideational links between the two clusters. This is an indication of the existence of two distinguishable and relatively coherent frames (Snow et. al. 1986). The existence of competing frames in a policy debate is an indication of what Schön and Rein (1994) call a policy controversy. Moreover, as noted in the case of policy controversy, the conflict cannot be resolved by recourse to the facts: while arguing on a controversial issue, conflicting actors will tend to focus on different data, or conflicting actors will tend to interpret the same data in different ways (ibid.). This is arguably the case in this debate, since one group focuses exclusively on data concerning the environment and road safety, whereas the other group emphasizes the importance of economic factors. Moreover, the results of the independent research institutions are interpreted in conflicting ways by the respective groups.

[10] However, in contrast to the 'opponents' assertions, the research of SVV suggested that this is outweighed by the benefits of a lower maximum speed for heavy lorries due to the shortened breaking distance.

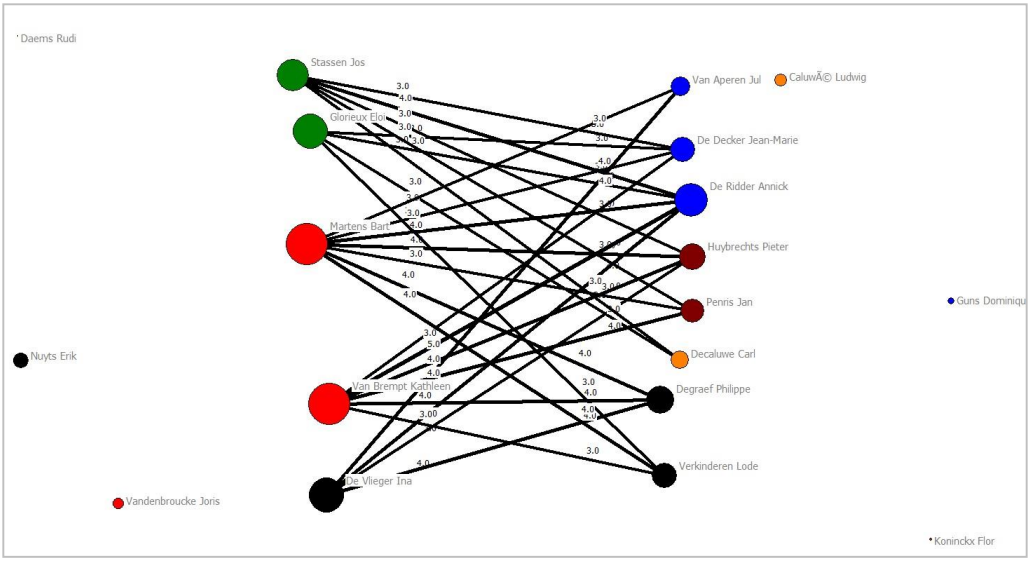

Fig 6. Conflict network

The conflict network graph, filtered for showing strong antagonisms only[11] *(Fig. 7)* has the characteristics of a bipartite graph, in which the parties within a coalition do not share any antagonistic relations, whereas the parties of the opposing coalitions share strong antagonistic relations. The density of the conflict network of this debate is high *(Δ_{con}=1,318).* The central actors in the conflict network are minister of mobility Kathleen Van Brempt (SP.A) and her partisan Bart Martens, which are the most vocal defenders of the policy *(s=30)*, and Ina De Vlieger, the spokesperson of the independent research center VITO *(s=25).* The most central actors from the 'opposition' group are Annick De Ridder (Open VLD, *s=24*) and Philippe Degraef (Febetra, *s=20*).
Given the sharp ideational division between both coalitions within this debate, which is reflected in the characteristics of the co-occurrence network, such as straightforward clustering and the low between-group density; the high density and the bipartite nature of the conflict network; and given the qualitative differences in the policy positions of both coalitions, it can be concluded that the proposal of minister Van Brempt on reducing the speed limits for heavy trucks created division lines cutting straight across the majority, characterized by a high degree of controversy in Parliament.

The debate on unmanned speed cameras

The debate on unmanned speed cameras in the Flemish parliament during the legislative period 2004-2009 consists of five debates which took place between October 2004 and August 2008. This series of debates was sparked by the announcement by the minister of mobility Kathleen Van Brempt (SPA, social democratic party) of an investment in 96 additional unmanned speed cameras by the Flemish government at the beginning of her term in October 2004 (Flemish Parliament 2004a). The debate involved two groups of parliamentary actors, who differed in whether they held a positive policy image or rather a negative policy image with regard to unmanned speed cameras. The proponents of the positive policy image, predominantly members of the majority, were favorable to the placement of additional cameras on Flemish roads, although some controversy was sparked in the press in 2008 due to initial disagreements between the two

[11] Edges with weights < 3 were omitted.

ministers competent for the policy on the desirability of additional speed cameras on highways: minister of mobility Van Brempt favored an increase in the number of speed cameras on highways, whereas the minister of public works Crevits declared in an interview that additional cameras on highways were not a priority (De Standaard 2008). Although the 'disagreement' was somewhat exploited in the media and by the opposition in the parliamentary chatter, it eventually did not prove hard to find a compromise consisting of prioritizing the placement of cameras in regions with a heightened road safety risk, using a clear-cut methodology. The actors with a the negative policy image of speed cameras viewed the policy as a hidden tax and as a mechanism of the transfer of funds to the Walloon region[12]. These actors were dismissive of speed camera policy in general. The full actor co-occurrence network for the debate is shown in Annex II, 2.1. Figure 7 displays the actor co-occurrence network after it was filtered in order to make the network of *strong* ideational links between the parliamentary actors more visible[13]. The network structure clearly shows the existence of two distinct groups, albeit connected by the most central figure in the debate, MP Annick De Ridder (Open VLD, liberal party).

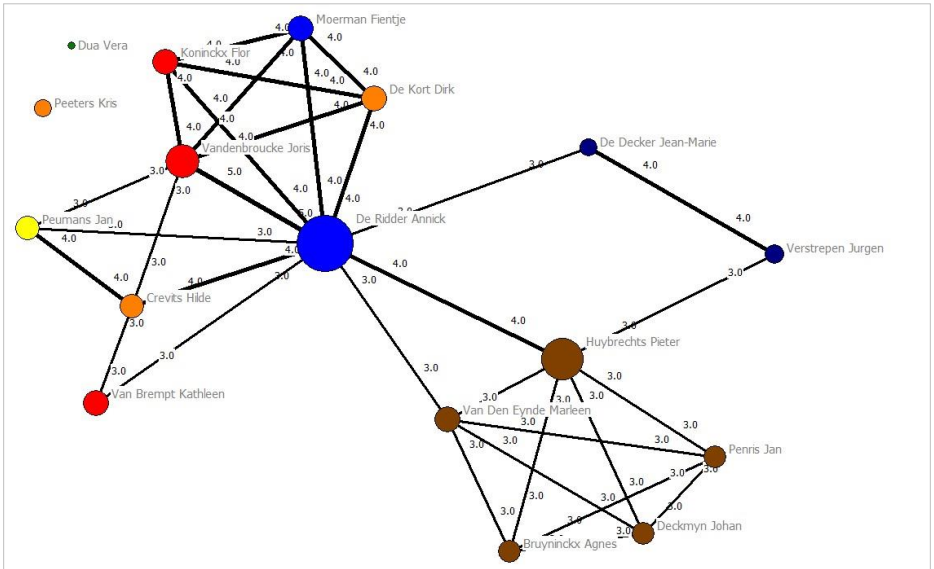

Fig. 7 Co-occurence network speed camera debate.

As the graph shows, De Ridder has a larger number of strong ideational links with one coalition than with the other[14]. The 'bridging' position of De Ridder in the network is the result of a change in position during the course of the debate. Whereas she initially radically opposed the installation of new unmanned speed cameras on highways, she took on a more nuanced stance in later stages of the legislative period. However, since the analyses of the debates in this paper are synchronic, this temporal dimension of the debate is not taken into account[15].

The dendogram for the hierachical cluster analysis of the actor co-occurrence network reflects the clusters visually identified in the network graph *(Fig. 8).* The position of Vera Dua, the only MP of the Green party involved in the debate is considered as noise due to chaining and due to its relatively low degree. The position of the Flemish minister-president Kris Peeters is omitted for

[12] Speed enforcement through cameras is a regional competence, but the collection of speeding fines is a federal competence, and speeding fines are consigned to a federal fund.

[13] Edges with weights < 3 were omitted.

[14] The sum of weights of edges connecting De Ridder to the group of the proponents *($s^{pr}=27$)* is larger than the sum of weights connected to the group of the opponents *($s^{opp}=10$)*

[15] The Discourse Network Analyzer software allows for diachronic analysis. This, however, is beyond the scope of this paper.

the same reason. After the removal of these outliers it indeed becomes clear, at the fusion level of 1,0 (see clustering table Annex II, 2.3) that the parliamentary debate on speed cameras is structured in two clusters. One cluster is exclusively constituted by members of the majority[16], whereas the other is exclusively constituted by opposition actors[17] right of center. Since the (socio-economic) left-right score[18] of the members of the 'opposition cluster' is exclusively higher than the left-right values of the others, it can be concluded that the conflict lines of this policy debate run across the ideological axis, albeit on a position further down the left-right axis than the right-of-center position of Open VLD. Moreover, it can also be concluded that the conflict lines run (in part) across the majority-opposition divide: the intervention of the Greens, the only opposition party left-of-center, is negligible, whereas the other opposition parties, right-of-center, oppose the policy.

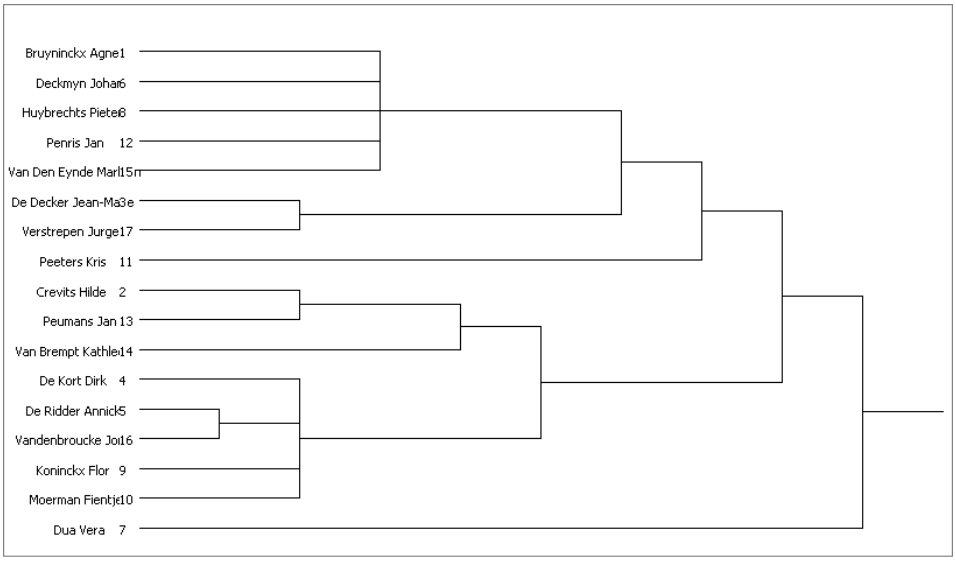

Fig 8. Cluster analysis of the debate on speed cameras in the Flemish Parliament (2004-2009)

The following description is the result of the analysis of affiliation network. The ideational difference between both clusters lies in their different positions with regard to the desirability of speeding cameras in general. Although the actors of the 'majority cluster' disagree on some aspects of the policy, they acknowledge the usefulness of speed cameras, as well as the need for additional cameras. However, the members of the 'opposition cluster' dismiss the policy as a 'hidden tax'.
Within this group two sub-clusters are identified at fusion level 1,73 (see clustering table Annex II, 2.3). The members of one sub-cluster, constituted exclusively by members of the nationalist, far-right Vlaams Belang, prefer the installation of speed cameras only as a measure of last resort, on places where it is impossible to improve safety through infrastructural measures. The members of the other sub-cluster, constituted by two members of the libertarian Lijst Dedecker (LDD) dismiss the positive effects of speed cameras on road safety altogether.
The members of the 'majority cluster' are favorable towards the speed camera policy of the Flemish government. All members acknowledge that in choosing locations for new cameras, priority should be given to places with heightened road-safety risks. This cluster consists of two sub-clusters as well . One sub-cluster is composed by the ministers Kathleen Van Brempt and Hilde Crevits, both competent for aspects of unmanned speed camera policy, and a member of the

16 (CD&V: Crevits, De Kort) (SP.A: Van Brempt, Vandenbroucke, Koninckx) (Open-VLD: De Ridder, Moerman) (N-VA: Peumans)
17 (Vlaams Belang: Bruyninckx, Deckmyn, Huybrecht, Penris) (Lijst Dedecker: De Decker, Verstrepen)
18 The socio-economic L-R score for the parties in the first cluster is higher than score for the parties in the other cluster.

nationalist N-VA, also member of the majority. The other sub-cluster is constituted by members of Open VLD (Liberals), CD&V (Christian Democrats) and SP.A (Social Democrats) . These sub-clusters only differ in the explicit preference of the members of the former sub-cluster for additional speed cameras on highways. Jan Peumans, member of the nationalist N-VA in the 'majority cluster' shares the diagnosis of his counterparts of the 'opposition cluster' with regard to the image of speed camera policy as a hidden transfer from 'North to South', which is congruent with the 'transfer discourse' of his party in the context of the inter-regional conflict in Belgium (ex. Hooghe 2004). Annick De Ridder (Open VLD) shares the 'speed cameras as hidden tax' image with the 'opposition cluster', but, as noted, this originates from a position early in the legislative term which has shifted towards a position more congruent with the government's position.
As shown in table 1., the within-density of both groups suggest that the ideological coherence of both discourse coalitions are more or less similar. The between-density of the clusters is of medium value. This reflects the ideational overlap between members of Vlaams Belang of the 'opposition' cluster and the members of the 'majority cluster' with regard to the effectiveness of speed cameras under certain conditions[19].

Cluster	1	2
1	1,929	0,583
2	0,583	2,048

Cluster 1: members of Vlaams Belang, LDD *('opposition')*
Cluster 2: members of CD&V, NV-A, Open VLD, SP.A *('majority')*

Density Table. 2.

Fig 9. shows the conflict network after filtering in order to display strong antagonisms only[20]. The central actors in the filtered conflict network, i.e. the actors holding the most antagonistic positions, are the two actors from LDD, the members of the 'opposition' cluster who dismiss the usefulness of speed cameras all together. The node strengths for LDD chair Jean-Marie Dedecker and LDD MP Jurgen Verstrepen ,with values of respectively *s=8* and *s=7* are the highest in the conflict network. This is explained by their strongly negative stance towards the purpose and effectiveness of speeding cameras, as explained above. The edges connecting the filtered conflict network run between members of the respective discourse coalitions, almost constructing a bipartite graph, except for the antagonistic link between Annick De Ridder (Open VLD) and Joris Vandebroucke (SP.A), which is explained by De Ridder's initial conflictuous position with regard to the government's policy on speed cameras (see above).

[19] Contrary to the members of LDD, the members of Vlaams Belang do not question the effectiveness of speed cameras as a tool for enforcement. However, given their negative policy image, they see the policy as a measure 'bullying' citizens, they only agree with the installment of speeding cameras as a measure of last resort at locations where it is impossible to improve road safety through infrastructural modifications.
[20] All edges with link weights < 2 were omitted.

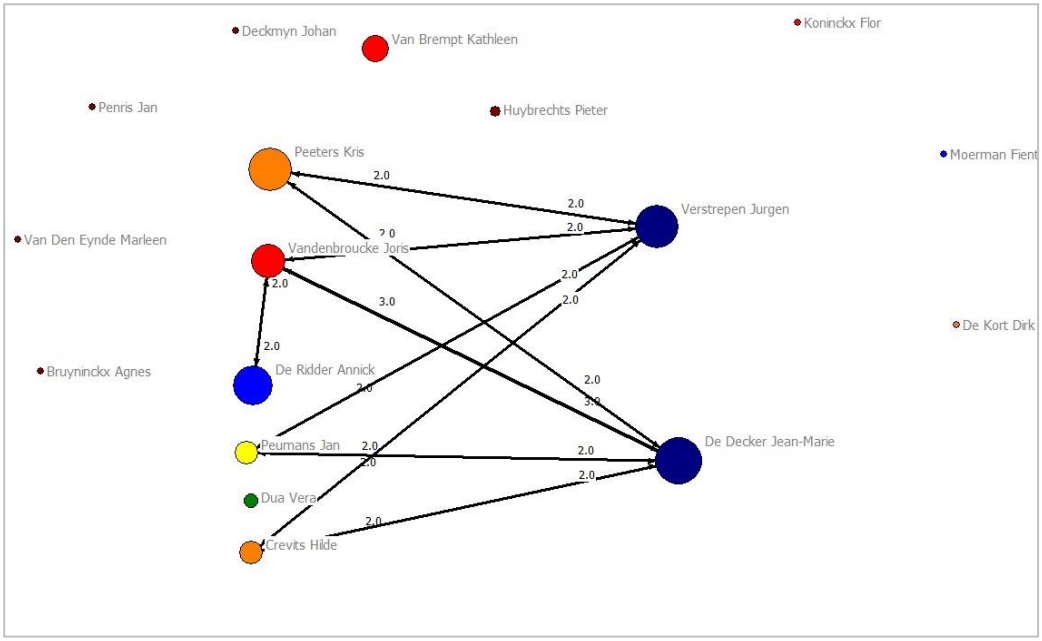

Fig. 9 Conflict network

The unfiltered conflict network yields Δ_{con}*= 0,279, w*hich is relatively low compared to the other cases under study. This is indicative of relatively few antagonistic positions in the debate. Except for the members of the LDD subgroup in the 'opposition' cluster, no other actor questioned speeding cameras in general. The debate rather involved various answers to the question on how the policy instrument could be implemented with a maximum of public support and effectiveness. According to the members of the first sub-cluster of Cluster 1, this is achieved by using it only as measure of last resort, whereas the members of Cluster 2, after resolving initial disagreements, agreed to prioritize the placement of new speed cameras at places with a heightened road safety risk. Since these viewpoints are not necessarily contradictory, the over-all level of antagonism is low. Taken all of the above into account, it can be (tentatively) concluded that the debate on speeding cameras in the Flemish Parliament in the legislative period 2004-2009 was characterized by a low degree of controversy.

The debate on the truck overtaking prohibition

On June 7th 2006 the Belgian federal government, which is competent for traffic regulation, decided to issue a general truck overtaking prohibition for trucks weighing more than 7,5 tons on roads and highways with 2x2 driving lanes, in order to improve road safety[21]. The legislation, which came into effect on January 1st 2008 allowed for exceptions on the general overtaking prohibition at the discretion of the 'road administrators', i.e. dependent on road type, the regions or the municipalities. It is in the context of the regional competence for issuing additional traffic regulation that a debate on the issue of truck overtaking prohibition took place in the Flemish Parliament between June 2006 and March 2009 (Gazet Van Antwerpen 2006).

[21] Following an initiative of the federal secretary for mobility, Renaat Landuyt (SP.A).

The debate divided Parliament into three groups. One group, mostly consisting of members of parties on the left side of the ideological axis, favored a general overtaking prohibition, with few exceptions made possible by dynamic signalization, on the grounds that the measure reduces traffic accidents and emission levels. A second group, mainly composed by members of center to center-right parties, was dismissive of a general prohibition, but favorable towards differentiated regulation, dependent upon the local situation. Members of this group disagreed with the putative general safety benefits of the measure, arguing that on busy highways, a 'wall of trucks' would create dangerous situations for drivers attempting to access the on- and off-ramps. The third group, exclusively composed by members of the far-right Vlaams Belang proved more dismissive of the policy of overtaking prohibitions in general and demanded consultation with the transport sector before any decisions were made.
Less than two years after the implementation of the measure, the secretary of mobility of the following federal government[22] took the initiative to change the regulation, on the grounds that the measure is confusing for foreign truck drivers, given the different rules in the surrounding countries (Gazet Van Antwerpen 2009). This eventually resulted in the cancellation of the overtaking prohibition for heavy trucks on highways[23].

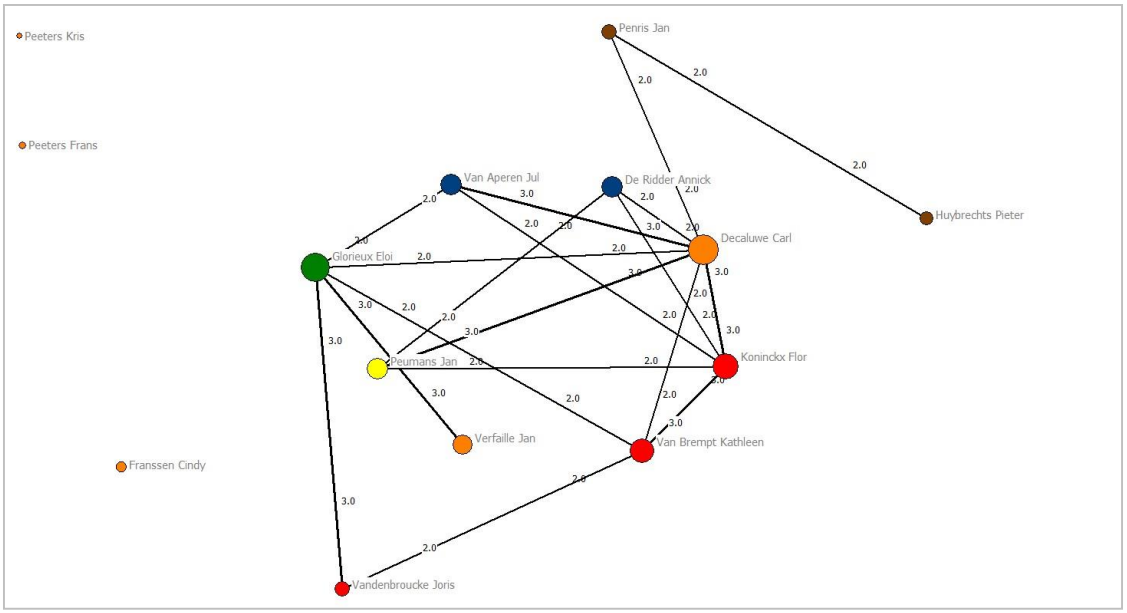

Fig 10. Co-occurrence network

Fig 10. shows the actor co-occurrence network for the debate on the overtaking prohibition filtered for displaying strong ideational links only[24]. The visual interpretation of this network graph is not as straightforward as in the preceding cases. As a consequence, the hierarchical cluster analysis below demonstrates its usefulness for the interpretation of ambiguous network graphs.
The dendogram of the hierarchical cluster analysis *(Fig 11.)* shows the occurrence of three clusters between fusion levels 1,67 and 1,0 (see clustering table annex II, 3.3). The actors Kris Peeters, Frans Peeters and Cindy Franssen were considered as noise points and subsequently omitted. The first cluster, consisting of actors dismissive of the general overtaking prohibition, but favorable to a differentiated solution is constituted predominantly by actors of center and right-of- center parties, except for Flor Koninckx (SP.A). In contrast with his partisans from the other group, he agrees with members of the first cluster on, inter alia, a differentiated approach and on the necessity

[22] Etienne Schouppe (CD&V)
[23] However, the overtaking prohibition for heavy trucks on secondary roads was maintained.
[24] All edges with < 2 were omitted.

of combining an overtaking prohibition with pulling up the legal minimum speed on highways from 70km/h to 80km/h. Most members of the second cluster agree that a general prohibition will improve road safety, whereas the members of the first cluster are dismissive of the putative safety benefits of the measure.
Not only the Social Democratic party was split on the issue. Whereas CD&V member Carl Decaluwe makes it explicitly clear that he prefers the status quo, i.e. no general prohibition, his partisan Jan Verfaille explicitly favors a general overtaking prohibition. This is also reflected in the results of the hierarchical cluster analysis.

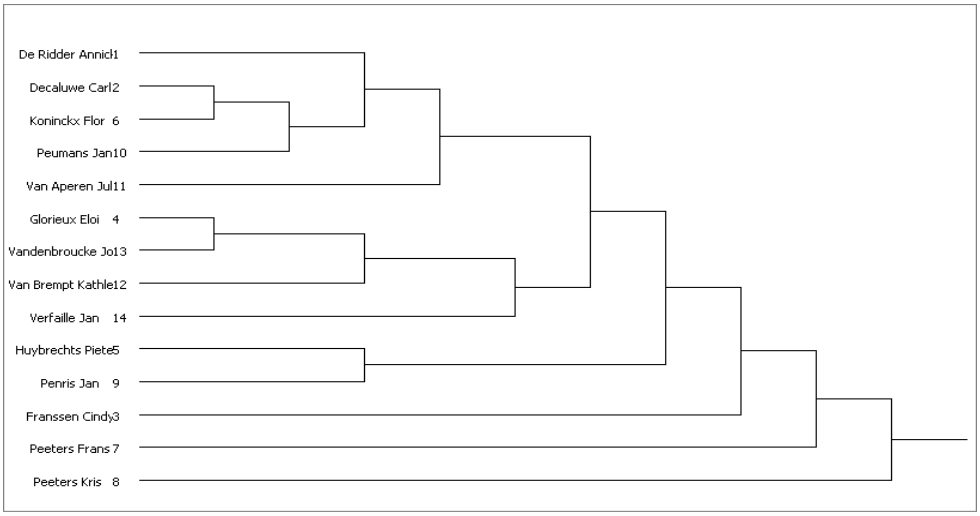

Fig 11.

At a slightly lower fusion level the abovementioned clusters are joined by a third cluster consisting of two members of the far-right Vlaams Belang. The members of this group, similar to the first group, are dismissive of the general overtaking prohibition. However, contrary to the first group, they frame the issue in terms of possible economic loss for the transport sector as a result of the measure, and they assert that every decision on the issue should be taken in consultation with the representatives of the road transport sector.

Cluster	**1**	**2**	**3**
1	**2,1** *1,1**	**1** *0,25**	**0,7** *0,7**
2	**1** *0,25**	**2** *1,5**	**0,25** *0,25**
3	**0,7** *0,7**	**0,25** *0,25**	**2** *2**

Cluster 1: members of SP.A, CD&V, *Open VLD, N-VA*
Cluster 2: members of *Groen!, SP.A, CD&V*
Cluster 3: members of Vlaams Belang
** Densities of clusters in actor co-occurence network without 'DI: onduidelijke signalisatie problematisch voor naleving door (buitenlandse) chauffeurs' – 'DI: unclear signalisation is problematic for compliance by (foreign) truck drivers'*

Density table. 3.

The density table (3) shows that the ideational congruence within groups (bold) is more or less the same for all groups. The readings of the between-group density seem puzzling at a first glance: although the qualitative analysis of the affiliation network points out that the coalition left-of-centre (cluster 2) conceptually distinguishes itself most clearly from the other two coalitions , the

between-group densities suggest larger ideational congruence between clusters 1 and 2 than between clusters 1 and 3 *($\Delta_{(1,2)}$= 1, $\Delta_{(1,3)}$= 0,7)*. This is a result of the widespread agreement amongst members of clusters 1 and 2 to the assertion that that, in any case, ambiguous signalization with regard to overtaking rules results in poor compliance, specifically by foreign truck drivers. Indeed, after removing the concept in question from the network and recalculating the densities of the clusters in the actor co-occurrence network, a density table more congruent with the qualitative analysis *(Density table 3, italics)* is generated. Apart from a larger variation in within-group densities, the figures in this table point out that the ideational congruence between the groups opposing a general overtaking prohibition is relatively high *($\Delta_{(1*,3*)}$= 0,7)*, whereas the densities, and therefore the ideational overlap, between the group favoring a general prohibition and the other two groups are low *($\Delta_{(1*,2*)}$=0,25; $\Delta_{(2*,3*)}$=0,25)*.

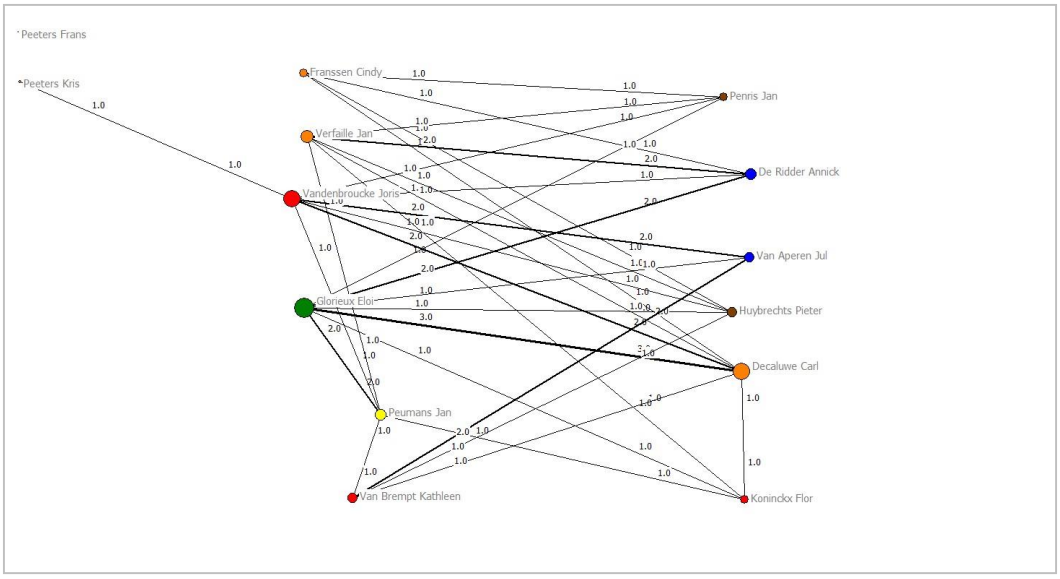

Fig 11

The conflict network, of this debate is shown in fig 10. It is characterized by a bipartite graph structure between members of the coalition favoring a general overtaking ban (cluster 2), and members of the first cluster. The central actor in this graph is Eloi Gloriex of Groen! *(s= 7)*. The over-all density of the conflict network on the level of actors is *Δ= 0,434,* which is a medium value. The analysis leads to the conclusion that the debate on the overtaking prohibition for trucks in the Flemish parliament has split the majority across ideological lines, albeit not in a straightforward fashion. The ideological division lines between clusters 1 and 2 are somewhat blurred, given the dispersion of the members of the parties at the center amongst both clusters. The relatively low density levels between the group favorable of the measure on the one hand and between the groups dismissive of the measure on the other, pointing out low ideational congruence between these groups, are indicative of a certain degree of controversy. Given density of the conflict network, it can be concluded that debate on is issue involved a medium level of controversy.

ON ISSUE CHARACTERISTICS AND THE STRUCTURE OF POLICY CONFLICT

This section considers how this research is to be taken further. As noted, the main purpose of this paper is to present a method for measurement of discursive policy conflict. This was done in order to construct the dependent variable with regard to the research question on the relationship between the characteristics of a policy issue and the structure of discursive policy conflict. The goal of the

larger research project is to measure a larger number of policy conflicts, and to subsequently use fuzzy-set Qualitative Comparative Analysis (fsQCA) (Ex. Rihoux 2006; Ragin 1987 ; Schneider & Wagemann 2012) to look for causal factors. This technique, based on set-theory and boolean algebra, is designed for the analysis of (multiple) causation and interaction effects with small to medium datasets. The method allows for maximizing the number of comparisons across cases in order to find the *sufficient* and/or *necessary* conditions for a given qualitative condition of the dependent variable. Contrary to crisp-set QCA, which only allows the dependent variable to have a dichotomous qualitative condition *(Y=1 or Y=0)*[25], fsQCA allows for varying degrees of set membership[26]. The next step in this research therefore would be, for each case to translate the parameters for policy conflict into fuzzy-set variables with a value between 0 and 1. Consider the results of the empirical examples:

	SPEED LIMIT TRUCKS	***SPEED CAMERAS***	***OVERTAKING PROHIBITION TRUCKS***
DISCOURSE COALTIONS	CL1: pro status-quo CL2: pro change	CL1: restrictive/dismissive position CL2: pro additional cameras	CL1: pro differentiated prohibition CL2: pro general prohibition CL3: primacy economic interests on policy choice
CONFLICT IDEOLOGICAL ***(socio-economic L-R axis)***	Line of division cutting across ideological axis. Split between (left-of center) <==> (center to right-of center).	Line of division cutting across ideological axis. Split between (left of center to right of center) <==> (far right of center).	Line of division cutting across ideological axis. Dividing line lies in center but is blurred.
CONFLICT MAJORITY-OPPOSITION	*Conflict splitting the majority.*	Conflict between majority and opposition right-of- center.	Conflict splitting the majority.
Δ WITHIN GROUP	Δ(1) = 2,13 Δ(2) = 1,57	Δ(1) = 1,93 Δ(2) = 2,03	*Δ(1) = 1,10** *Δ(2) = 1,50** *Δ(3) = 2,00**
Δ BETWEEN GROUP	Δ(1-2) = 0,22 [LOW]	Δ(1-2) = 0,58 [MEDIUM]	Δ(1-2) = 0,25 [LOW] Δ(2-3) = 0,25 [LOW] Δ(1-3) = 0,70 [HIGH]
Δ CONFLICT NW	Δ = 1,32 [HIGH]	Δ = 0,28 [LOW]	Δ = 0,43 [MEDIUM]

Table 4.

The general research question of the project refers to the relationship between issue characteristics and conflict structure. The former are considered as the independent variables, whereas the latter is de dependent variable. As noted above, the structure of policy conflict can be understood as constituted by three sub-variables: the dimensionality of conflict, referring to the various frames at play; the intensity of the conflict, referring to the level of antagonisms; and the direction of conflict.

In all three cases, the conflict runs across the ideological axis, with variations with regard to the location of the division lines and their 'sharpness'. However, policy conflict can also exclusively run across the majority-opposition divide[27]. This leads to a first sub-question with regard to the

[25] For example, set membership for democratic countries Y=1; for non-democratic countries Y=0

[26] In fsQCA, Y > 0,5 are supposed to have the same qualitative set membership as Y = 1 in csQCA. For instance, a country with Y = 0,6 is a democratic country, since its membership of the set of democratic countries (0,6) is larger than its membership in the set of non-democratic countries (0,4). However, a country with Y=0,8 is considered to be more democratic than the former.

[27] For instance, the heated debate in the Belgian federal parliament on the nature of the parliamentary inquiry

over-arching research question: what conditions with regard to the characteristics of a policy issue are sufficient and/or necessary for a given direction of conflict? A subsequent step with regard to the dependent variable therefore would be to develop a theoretically informed algorithm in order to translate findings on the direction of policy conflict into a fuzzy-set value.
The second sub-question refers to variations in the degree of controversy, or the intensity, of a policy conflict, since the observed variation leads to the question to what conditions with regard to the characteristics of a policy issue are sufficient and/or necessary for a given condition of the controversy variable (ex. low vs. high). A number of parameters were presented which, taken together, are indicative of the degree of policy controversy[28]. Therefore, another subsequent step in this research is to develop an algorithm that translates these, and possible other[29], parameters into a fuzzy-set value for the degree of policy controversy.
As noted, the independent variables, *conditions* in QCA terms, pertaining to the general research question are the characteristics of a policy issue. The literature on public policy studies offers a range of possibilities, of which a number are described below. The following is the result of a limited literature review, which will need more elaboration in order to develop a mature model. For instance, one characteristic of a policy issue is type of *policy change* proposed: Peter Hall (1993) presents three categories of policy change: first-order change, which only involves the calibration of the settings of the policy instrument involved; second-order change, which involves a change of the basic category of policy instrument; and third order change, referring to an alteration of the policy goals. In a simplified fashion, the question on the type of policy change refers to whether the means or rather the ends of a policy are prone to change.
Another characteristic of a policy issue is the type of *policy instrumen*t involved. Literature offers a range of categorizations for the policy tools a government can deploy. Christopher Hood (1986), for example, proposes four broad categories of governing resources: 'nodality', which refers to the capacity of a government to collect and issue information[30]; 'authority', which refers to the legal powers of government[31]; 'treasure', referring to the capacity of government to collect and issue money[32]; and 'organization', which refers to government's capacity to provide goods and services[33].
Yet another possible condition is the type of *policy choice*. Howlett & Ramesh (2003) distinguish between 'positive decisions' altering the status quo, 'negative decisions' in which the status quo is consciously upheld, and 'non-decisions', involving the systematic exclusion from options deviating from the status quo. Also, policy issues are characterized by the *interests* involved. The presence of economic interests deserves extra consideration given 'the structural power of capital' (Lindblom 1977), i.e. business' unmatched power to influence public policy. An interrelated factor relates to the characteristics of the policy subsystem, the 'sub-government' involving routinized action between societal and state actors. Finally, the division of powers with regard to a policy issue is characteristic, given the complex institutional setting of the Belgian federal state.
The paragraph above sums up a number of characteristics of policy issues found in literature. A more advanced review of public policy literature is beyond the scope of this paper. Nevertheless, the data matrix with regard to the abovementioned issue characteristics, albeit limited, provides a number of interesting insights with regard to the thee cases under study. The analysis below is

commission involved sharp divisions between majority and opposition (Knack 2011).
[28] Between-group and within-group density, conflict network density.
[29] A third network type generated by DNA is the concept congruence network, which connects the concepts forwarded in the debate on the basis of co-occurence within the discourse of one single actor or group. This network has the potential of providing additional indicators for ideational congruence and coherence. However, the development of additional indicators needs further exploration and falls beyond the scope of this paper.
[30] Ex. An advertising campaign on the consequences of drunk driving.
[31] Ex. The imposition and/or enforcement of speed limits.
[32] Ex. Road tax, toll charges.
[33] Ex. The construction of infrastructure.

limited to an interpretation of the conceptual matrix in *Table 5*[34].

	C	T	P	E	F	G	X	Y	Z
SPEED LIMIT	1st order	Authority: regulation	POS	YES	F + R	1	IDEOLOGICAL (center // sharp)	HIGH	2
SPEED CAMERA	1st order	Authority: enforcement	POS	NO	R	2	MAJORITY-OPPOSITION + IDEOLOGICAL (right-of-center ⇔far right-of center // sharp)	LOW	2
OVERTAKING	1st order	Authority: regulation	POS	NO	F+R	1	IDEOLOGICAL (center // blurred)	MED	3

C: category of policy change
T: type of policy instrument
P: type of policy choice
E: economic interests
F: allocation competences (federal and/or regional)
G: allocation competences within Flemish government
X: nature and direction of division lines
Y: degree of policy controversy
Z: dimensionality

Without jumping to general conclusions, in both cases involving a medium to high degree of controversy, the overtaking and the speed limit issues respectively, the conflict lines cross the center of the ideological axis rather than the majority-opposition divide. These cases involve issues for which both regional and federal government are competent. Both cases involved only the social-democratic minister as the competent government member on the issue, whereas the case involving a low level of controversy, the speed camera case, involved two ministers, namely the former social democrat minister and the Christian democratic minister for public works Hilde Crevits. The issue with the highest level of controversy, involving the speed limit for trucks, is characterized by the explicit involvement of economic actors in the debate. All issues pertain to the general policy instrument of 'authority' (Hood 1986), but the speed camera issue involves enforcement, whereas the other issues involve regulation. And finally, all issues under study related to 1st order types of policy change (Hall 1993).
In order to make conclusions on causal relationships, a greater number of case is needed. However, the matrix above does provide some cues for the further selection of cases. For instance, since all cases analyze involve 1st category policy change, policy instruments relating to the government's capacity to issue rules and regulations ('authority'), and 'positive' policy choices, new cases arguably should be selected on the basis of maximum variation of all conditions[35].

Conclusion

The structure of discursive policy conflict can be measured by conceptualizing shared agreement and/or disagreement on concepts within a policy debate as a linking actors in a discourse network. Within the meta-framework of policy framing theory, the systematic coding of policy debates for agreement and disagreement can be translated into an affiliation network linking actors to the concepts to which they agree or disagree. This process is facilitated by using the DNA software.

[34] An inquiry into sufficient and necessary conditions with regard to the independent variables X, Y, Z would require three separate QCA procedures, one for each variable.
[35] The final choice of conditions will be the result of an iterative process involving an ongoing dialogue between empirical data and theory. Therefore, a presentation of an exhaustive list of conditions would be premature.

The affiliation network can be transformed into an actor co-occurrence network, which links actors in a policy debate on the basis of shared agreement or disagreement. The agglomerative hierarchical cluster analysis of this network allows for the identification of distinct coalitions within the policy debate. The number of distinct coalitions identified is referred to as the *dimensionality* of a policy conflict. The within- and between-group densities are indicative of the ideational coherence of individual clusters and the ideational overlap between clusters respectively. Literature suggests that high ideational coherence and low ideational overlap points to the existence of distinct policy frames, which is a condition underlying policy controversy. The conflict network is constituted by antagonistic links between actors. The density of this network is a measure for the over-all level of disagreement in a policy debate. The interpretation of the density measures discussed leads to an assessment of the *degree of policy controversy*.

Apart from dimensionality and degree of controversy, the structure of policy conflict is also characterized by its *direction*. As argued, a conflict can run across the ideological divide, or it can involve a split between majority and opposition and. Moreover, as observed in the case of the debate on speed cameras in the Flemish Parliament, the direction of conflict can be two-dimensional.

Dimensionality, degree of controversy and direction are constitutive of the structure of policy conflict. The usefulness of the method for the analysis of policy conflict was demonstrated by the analysis of three cases. In further research, pertaining to the question on the relationship between issue characteristics and the structure of policy conflict, these concepts will be understood as the dependent variables. As argued, the independent variables will be developed through a back-and-forth process from public policy theory to empirical analysis and vice-versa. An inquiry into causal relations between independent and dependent variables will be conducted by using a number of models for Qualitative Comparative Analysis.

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ANNEXES

Annex 1: Party positions in the Flemish Parliament for the period under study

The cases analyzed pertain to the legislative period 2004-2009. After the regional elections of June 13th 2004, the Parliament of Flanders, one of the three regions of the federal state of Belgium, was composed as illustrated in the table below.

Party	seats	Description
Vlaams Blok	32	Far-right nationalist
CD&V	29	Christian Democrats
VLD-Vivant	25	Liberals
SP.A-Spirit	25	Social Democrats
N-VA	6	'Moderate' nationalists
Groen!	6	Greens
Union des Francophones	1	Unity list: collaboration French speaking parties for Flanders

During this legislative period a number of changes in composition took place. In January 2007 Jean-Marie Dedecker lefts Open VLD and created his own party *de facto*, Lijst Dedecker (LDD) with two MP's defecting from Vlaams Belang (Jurgen Verstrepen, Monique Moens). LDD has an outspoken libertarian socio-economic agenda. After the federal elections of June 2007 Dedecker was elected for the federal parliament and left the Flemish assembly. He was replaced by Patrick De Klerck of Open VLD. After other changes, amongst which the abolition of cartels, the fusion of parties and a number of name changes, the final composition of the assembly is shown in the table below (Vlaams Parlement 2013).

Party	seats	Description
Vlaams Belang	29	Far-right nationalist
CD&V	29	Christian Democrats
Open VLD	25	Liberals
SP.A	22	Social Democrats
N-VA	5	'Moderate' nationalists
Groen!	7	Greens
Union des Francophones	1	Unity list: collaboration French speaking parties for Flanders
Independents	6	Amongst which 3 LDD members

The following table is indicative of the left-right placement of the political parties. These results originate from the Partirep questionnaire (Deschouwer & Depauw, forthcoming), in which all Belgian MP's were asked to position their parties on the ideological left-right scale, in the context of the 2009 regional elections. A few modifications were made: since N-VA, belonging, the smallest parties during the legislative period 2004-2009 constituted a cartel with CD&V, the score for CD&V is adopted to position the CD&V-NVA cartel (*). No representative data is available in the Partirep database on the positioning of LDD. Therefore, a score was adopted (**) from the internetpanel for the 2007 elections from the MP2 research group of the University of Antwerp (Van Aelst et. al. 2007).

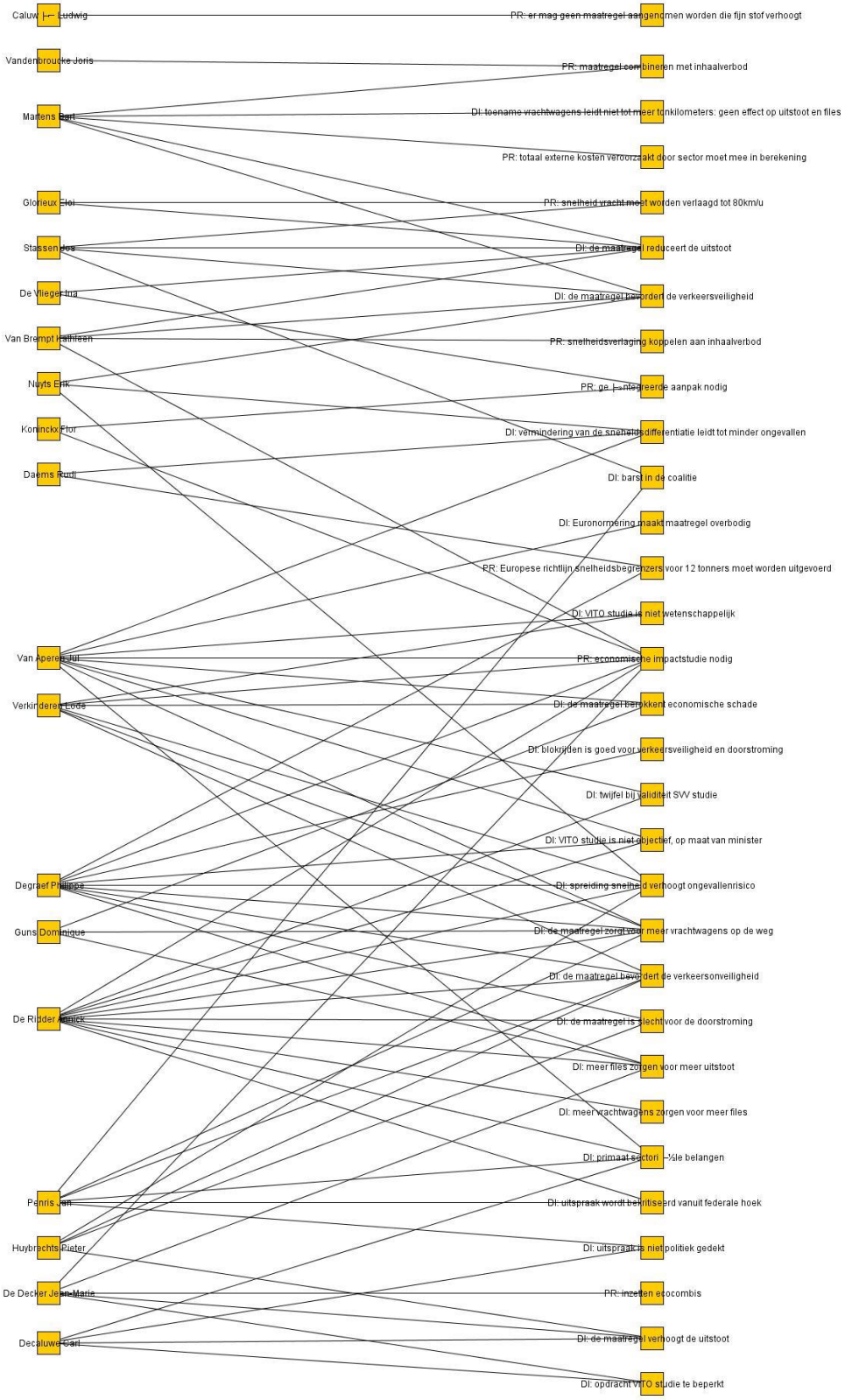
Party	Score L-R scale (1-10)
SP.A	2,70
Groen!	3,20
CD&V N-VA	*5,40**
Open VLD	6,00

LDD	*6,8***
Vlaams Belang	8,50

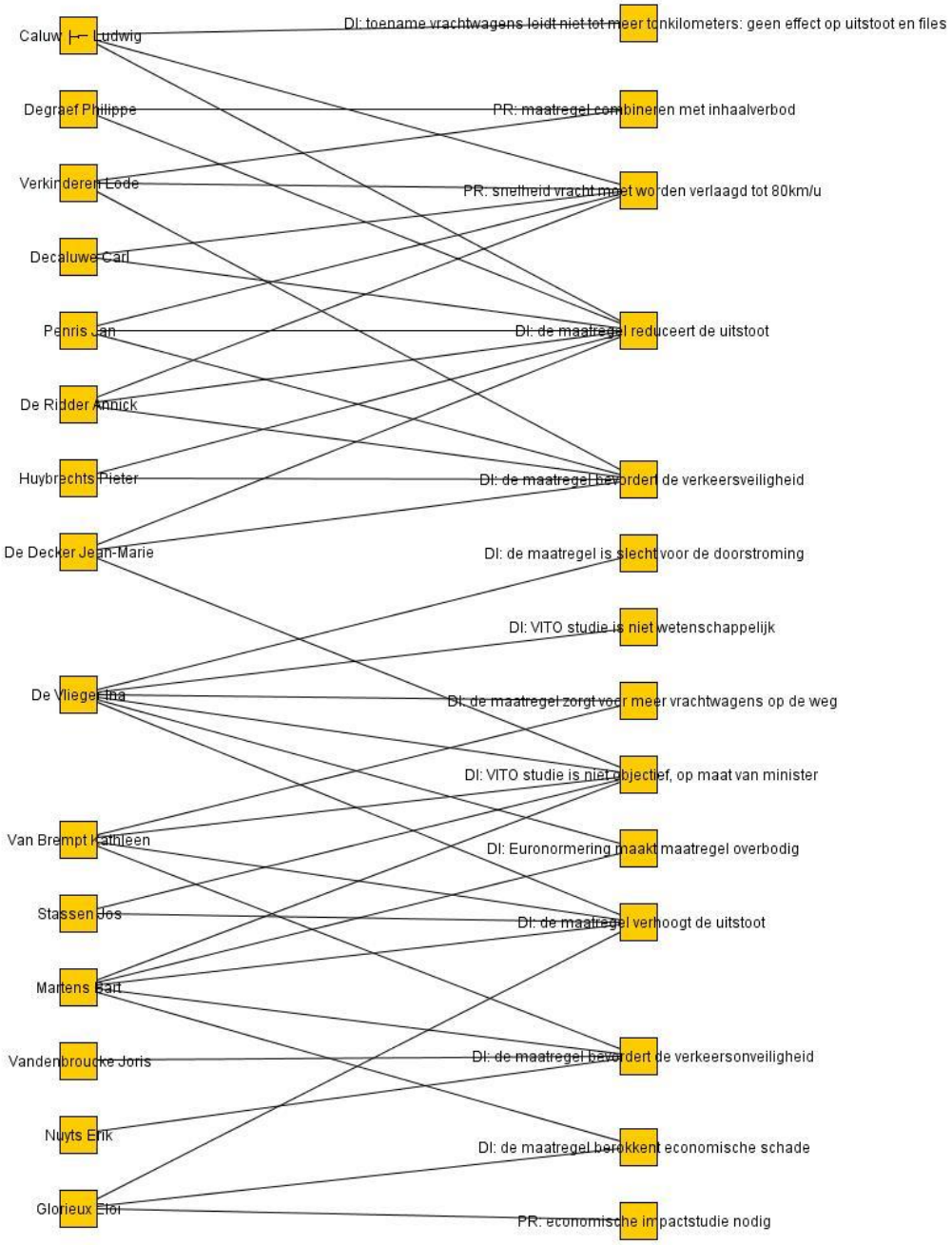
ANNEX 2. ***CASE1: THE DEBATE ON THE SPEED LIMIT FOR TRUCKS ON HIGHWAYS*** *(Flemish Parliament 2004-2009)*

1.1 Affiliation network

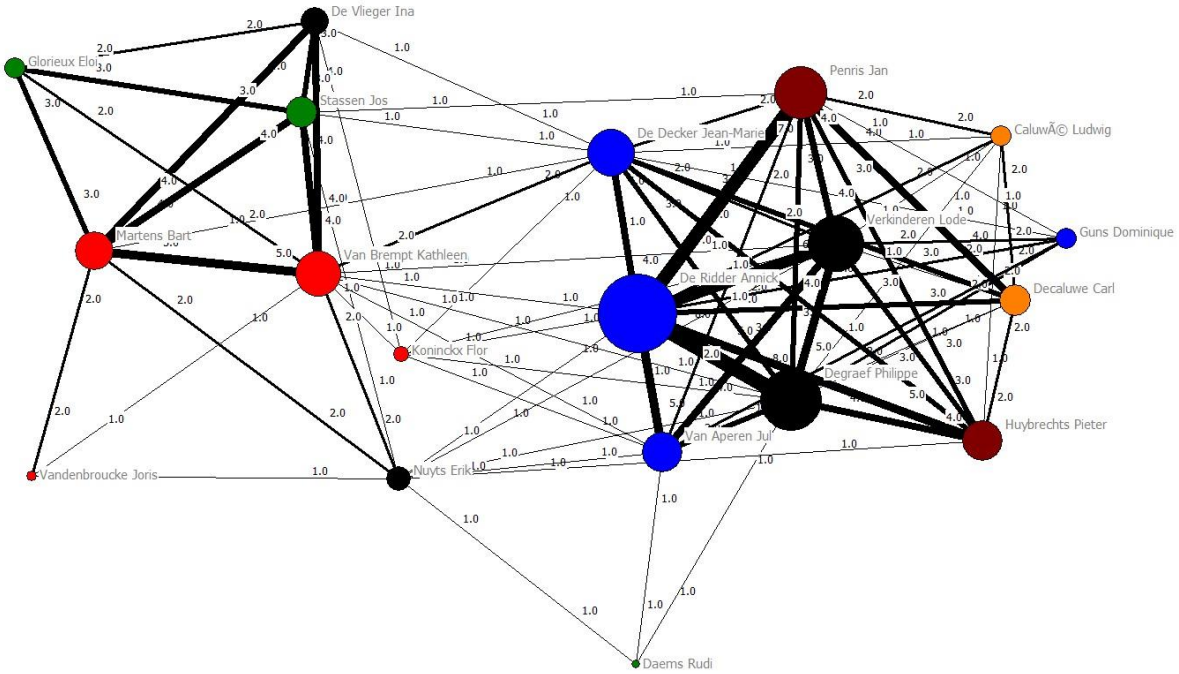
AGREEMENT



DISAGREEMENT



1.2 Actor co-occurrence network



WEIGHTED DEGREE CENTRALITY

	Degree	Share
De Ridder Annick	45	0,125
Degraef Philippe	34	0,094
Verkinderen Lode	31	0,086
Penris Jan	29	0,081
De Decker Jean-Marie	26	0,072
Van Brempt Kathleen	25	0,069
Huybrechts Pieter	22	0,061
Van Aperen Jul	22	0,061
Martens Bart	21	0,058
Decaluwe Carl	17	0,047
Stassen Jos	17	0,047
De Vlieger Ina	15	0,042
Nuyts Erik	12	0,033
CaluwÃ© Ludwig	10	0,028
Glorieux Eloi	10	0,028
Guns Dominique	10	0,028
Koninckx Flor	7	0,019
Vandenbroucke Joris	4	0,011
Daems Rudi	3	0,008

1.3 Actor co-occurrence network: hierarchical cluster analysis

```
JOHNSON'S HIERARCHICAL CLUSTERING
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Method:                         WTD_AVERAGE
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HIERARCHICAL CLUSTERING
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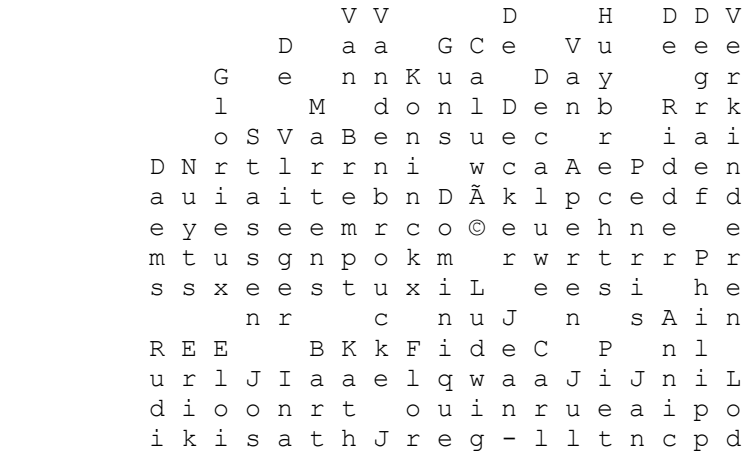

Measures of cluster adequacy

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Eta	0.346	0.458	0.497	0.586	0.620	0.677	0.718	0.724	0.746	0.757	0.785	0.749	0.715	0.712	0.679	0.559
Q	-0.049	-0.025	-0.006	0.023	0.057	0.093	0.138	0.148	0.171	0.214	0.243	0.264	0.283	0.288	0.299	0.312
Q-prime	-0.052	-0.027	-0.006	0.024	0.061	0.100	0.150	0.162	0.190	0.241	0.278	0.308	0.339	0.360	0.399	0.624
E-I	0.911	0.789	0.733	0.578	0.489	0.322	0.200	0.167	0.011	-0.100	-0.400	-0.511	-0.622	-0.633	-0.667	-0.789

Size of each cluster, expressed as a proportion of the total population clustered

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
CL1	0.053	0.053	0.053	0.053	0.053	0.053	0.053	0.053	0.053	0.053	0.053	0.474	0.526	0.526	0.526	0.579	1.000
CL2	0.053	0.053	0.053	0.053	0.053	0.053	0.053	0.053	0.053	0.053	0.053	0.053	0.053	0.105	0.105	0.421	
CL3	0.053	0.053	0.053	0.053	0.053	0.053	0.053	0.105	0.105	0.105	0.421	0.263	0.263	0.263	0.316		
CL4	0.105	0.158	0.158	0.211	0.211	0.263	0.263	0.263	0.316	0.316	0.263	0.053	0.053	0.053	0.053		
CL5	0.053	0.053	0.053	0.053	0.158	0.158	0.211	0.211	0.211	0.263	0.053	0.053	0.053	0.053			
CL6	0.053	0.053	0.053	0.053	0.053	0.053	0.053	0.053	0.053	0.053	0.053	0.053	0.053				
CL7	0.053	0.053	0.053	0.053	0.053	0.053	0.053	0.053	0.053	0.053	0.053	0.053					
CL8	0.053	0.053	0.053	0.053	0.053	0.053	0.053	0.053	0.053	0.053	0.053						
CL9	0.053	0.053	0.053	0.053	0.053	0.053	0.053	0.053	0.053	0.053							
CL10	0.053	0.053	0.053	0.053	0.053	0.053	0.053	0.053	0.053								
CL11	0.053	0.053	0.105	0.105	0.053	0.053	0.053	0.053									
CL12	0.053	0.053	0.053	0.053	0.053	0.053	0.053										
CL13	0.053	0.053	0.053	0.053	0.053	0.053											
CL14	0.053	0.053	0.053	0.053	0.053												

```
    CL15   0.053 0.053 0.053 0.053
    CL16   0.053 0.053 0.053
    CL17   0.053 0.053
    CL18   0.053

Actor-by-Partition indicator matrix saved as dataset
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Output generated:  08 apr 13 15:51:24
Copyright (c) 1999-2008 Analytic Technologies
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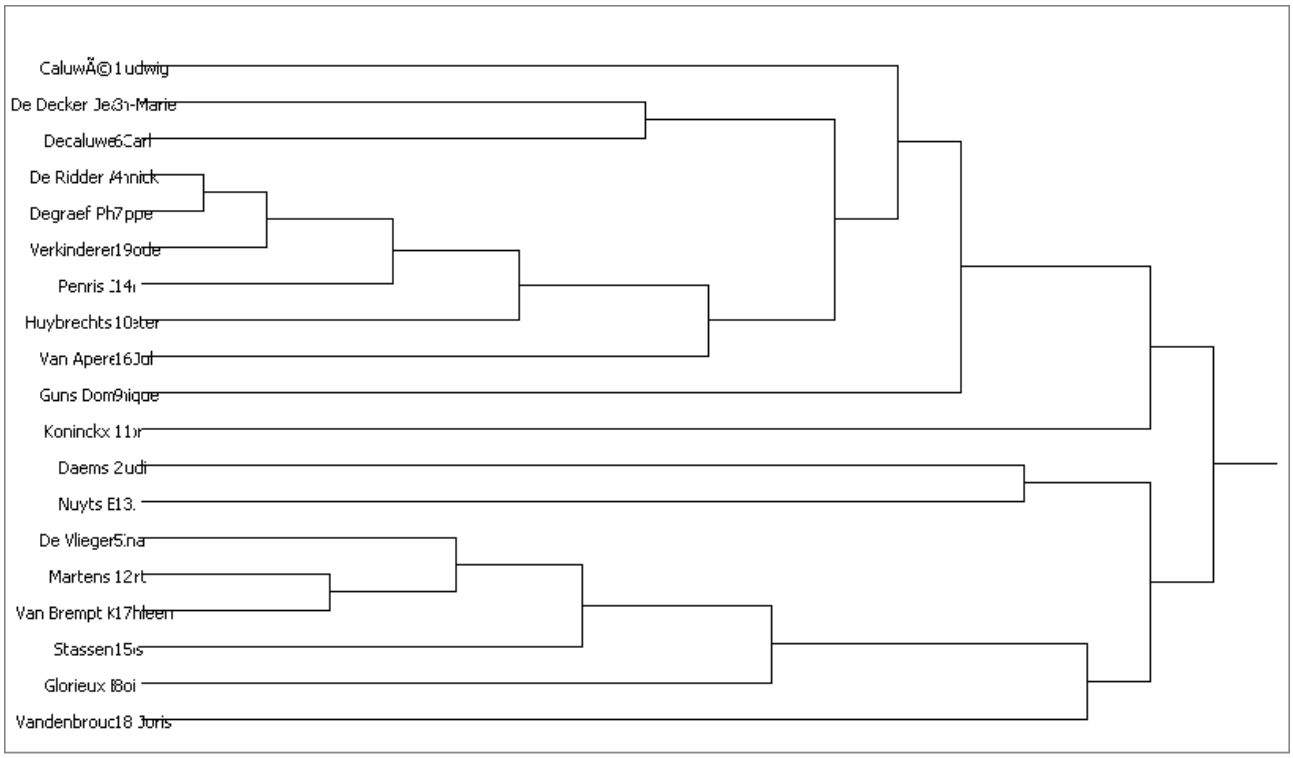


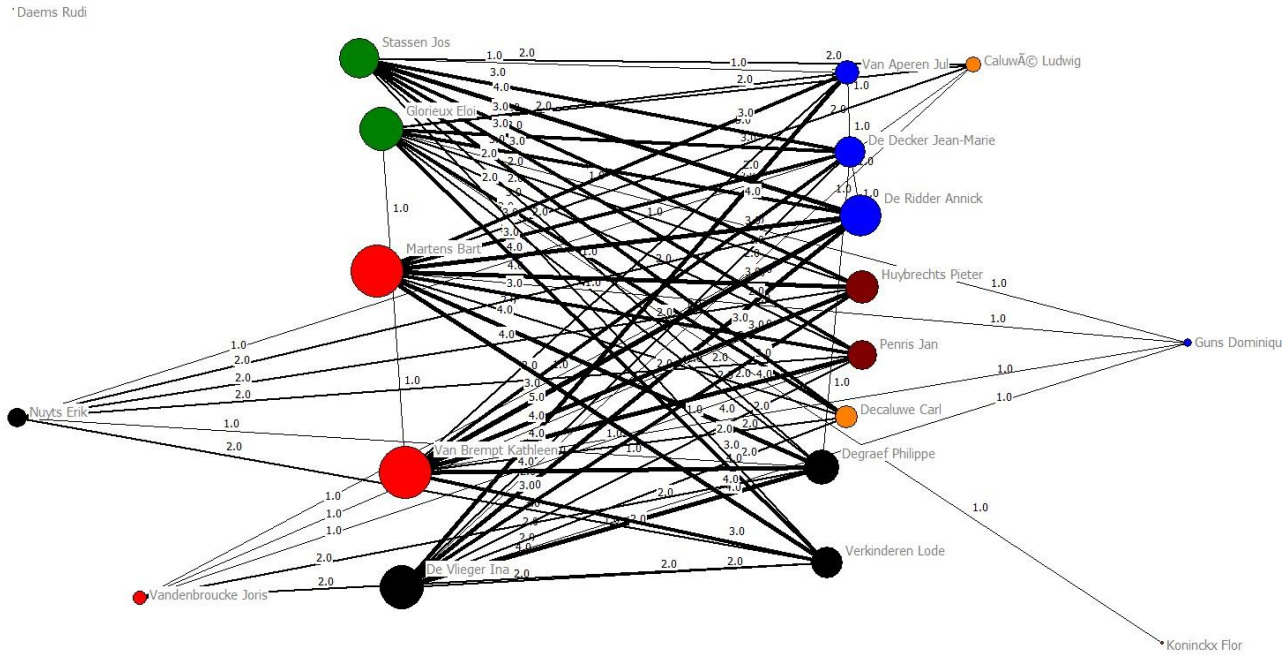
1.4 Within- and between-group densities

Cluster	1	2
1	2,127	0,216
2	0,216	1,571

Cluster 1: members of CD&V, *Open VLD, Vlaams Belang, LDD, FEBETRA, SAV ('opponents')*

Cluster 2: members of Groen!, SP.A, VITO, SVV ('proponents')

1.5 Conflict network



Δ= 1,32

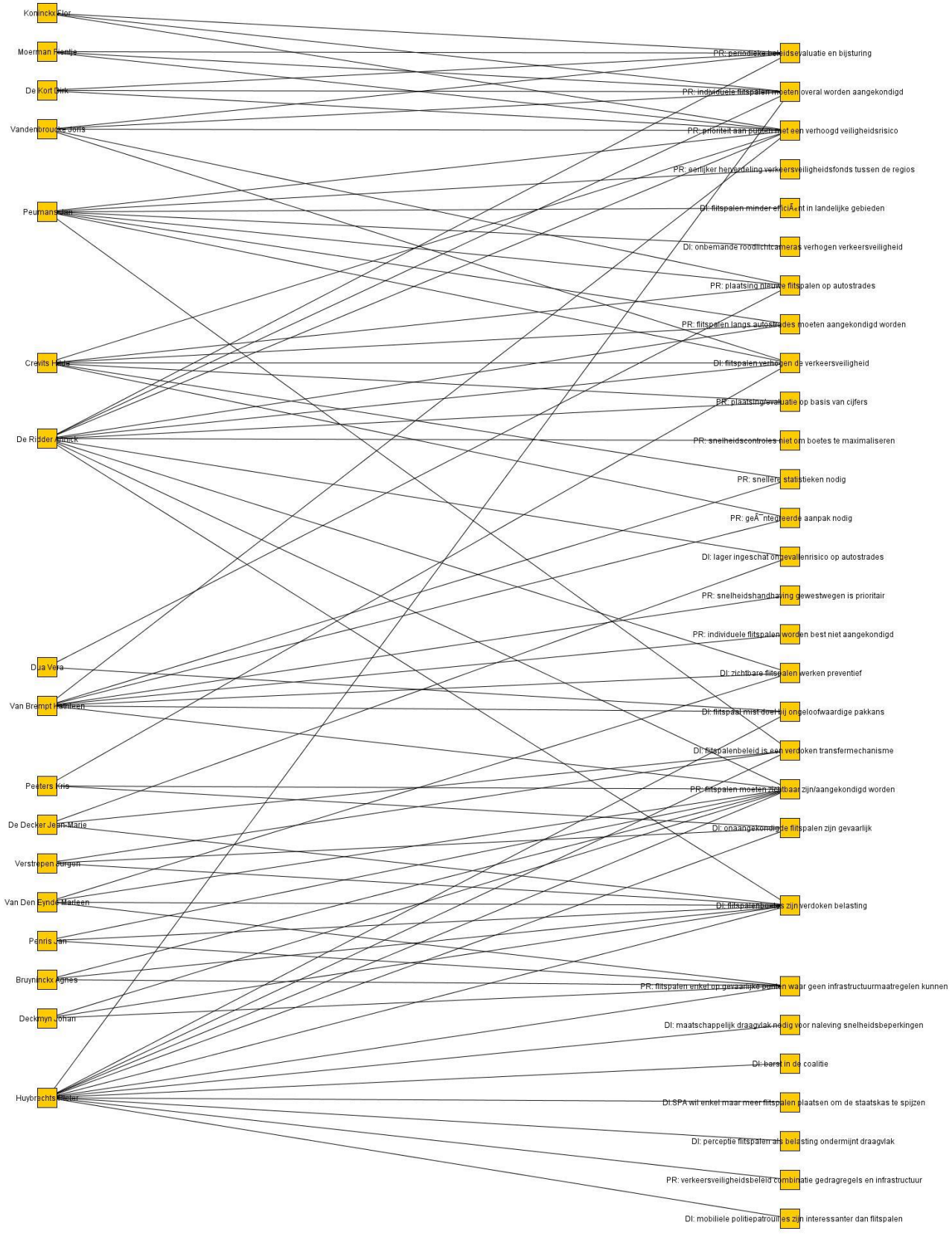
WEIGHTED DEGREE CENTRALITY

	Degree	Share
Martens Bart	30	0,099
Van Brempt Kathleen	30	0,099
De Vlieger Ina	25	0,082
Glorieux Eloi	25	0,082
De Ridder Annick	24	0,079
Stassen Jos	23	0,076
Degraef Philippe	20	0,066
Huybrechts Pieter	19	0,063
De Decker Jean-Marie	18	0,059
Verkinderen Lode	18	0,059
Penris Jan	17	0,056
Van Aperen Jul	13	0,043
Decaluwe Carl	12	0,039
Nuyts Erik	10	0,033
CaluwÃ© Ludwig	8	0,026
Vandenbroucke Joris	7	0,023
Guns Dominique	4	0,013
Koninckx Flor	1	0,003
Daems Rudi	0	0,000

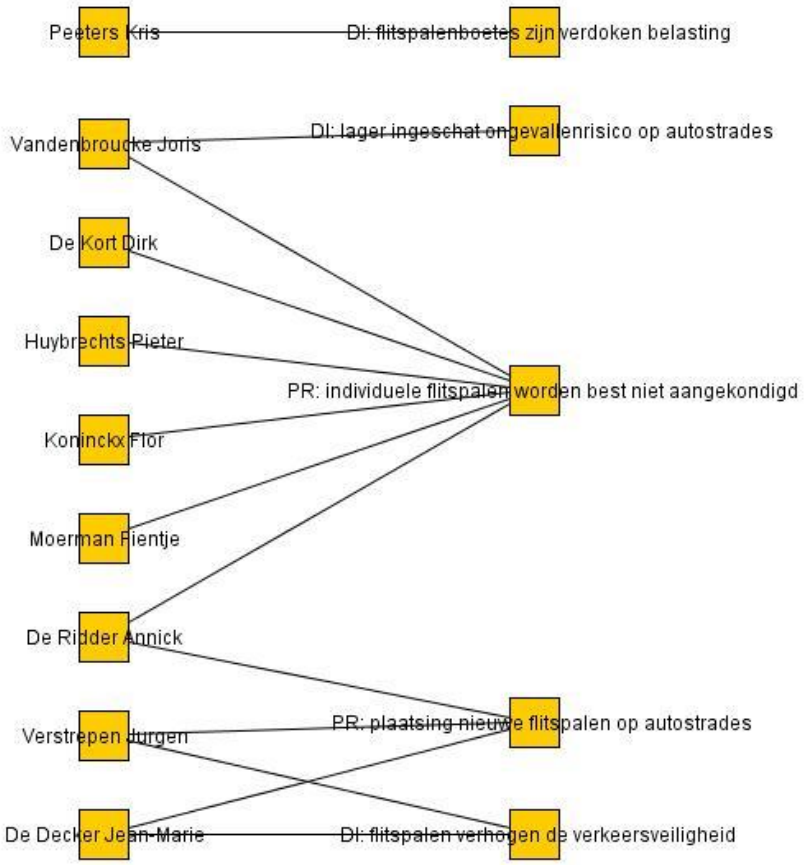
CASE 2: THE DEBATE ON SPEED CAMERAS *(Flemish Parliament 2004-2009)*

2.1 Affiliation network

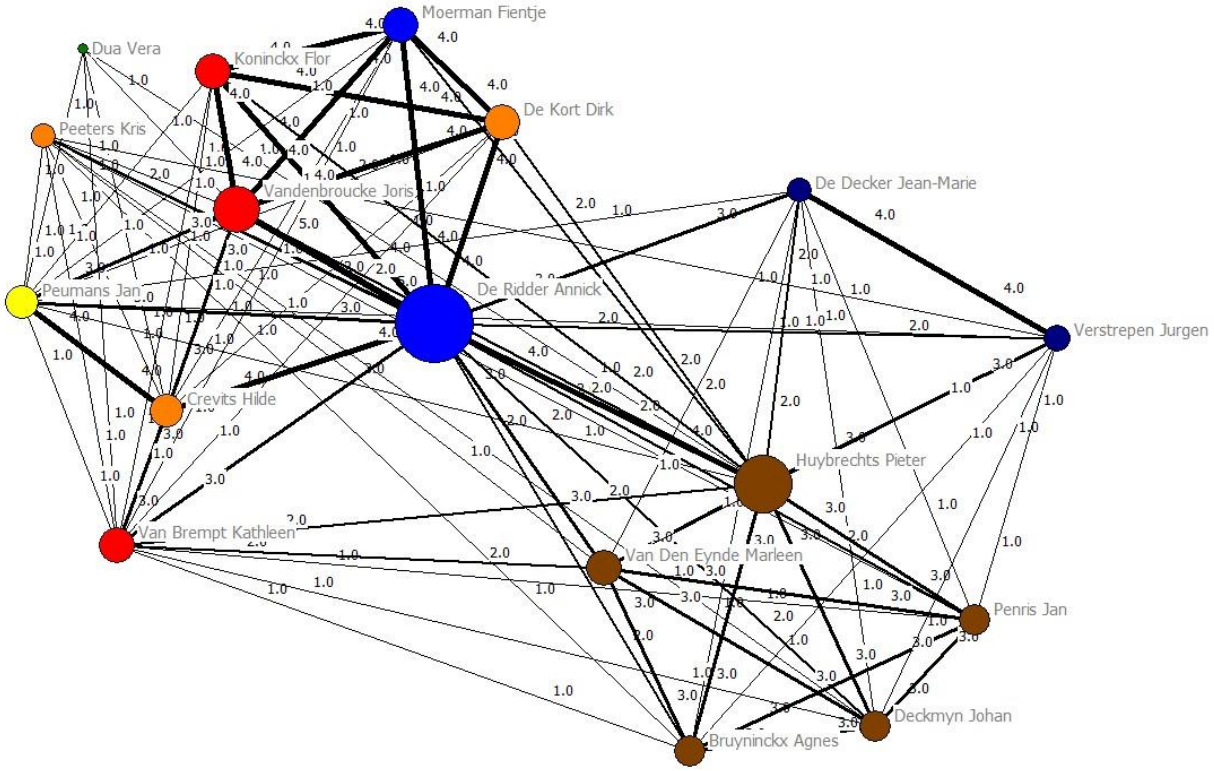
AGREEMENT



DISAGREEMENT



2.2 Actor co-occurrence network



WEIGHTED DEGREE CENTRALITY

	Degree	Share
De Ridder Annick	47	0,134
Huybrechts Pieter	35	0,099
Vandenbroucke Joris	28	0,080
De Kort Dirk	21	0,060
Koninckx Flor	21	0,060
Moerman Fientje	21	0,060
Van Brempt Kathleen	20	0,057
Van Den Eynde Marleen	20	0,057
Crevits Hilde	19	0,054
Peumans Jan	19	0,054
Bruyninckx Agnes	18	0,051
Deckmyn Johan	18	0,051
Penris Jan	18	0,051
Verstrepen Jurgen	15	0,043
De Decker Jean-Marie	14	0,040
Peeters Kris	13	0,037
Dua Vera	5	0,014

2.3 Actor co-occurrence network: hierarchical cluster analysis

JOHNSON'S HIERARCHICAL CLUSTERING

```
Method:                         WTD_AVERAGE
Type of Data:                   Similarities
Input dataset:                  ACTOREN matrix
(C:\Users\Allan\Desktop\ONDERZOEK\Dossier
Verkeersveiligheid\flitspalen\DNA\network export\discourse coalition
```

analysis\ACTOREN\ACTOREN matrix)

HIERARCHICAL CLUSTERING

```
                V     M D V   B   H   V D V
                a     o e a   r   u   a e e
          C     n   K e   n   u D y   n   r
          r       D o r R d P y e b     D s
          e P B e n m i e e n c r   D e t
          v e r   i a d n e i k e P e c r
          i u e K n n d b t n m c e n k e
        D t m m o c   e r e c y h n   e p
        u s a p r k F r o r k n t r E r e
        a   n t t x i   u s x   s i y   n
          H s       e A c     J   s n J
        V i   K D F n n k K A o P   d e J
        e l J a i l t n e r g h i J e a u
        r d a t r o j i   i n a e a   n r
        a e n h k r e c J s e n t n M - g

           1 1     1   1 1       1 1   1
 Level   7 2 3 4 4 9 0 5 6 1 1 6 8 2 5 3 7
------   - - - - - - - - - - - - - - - - -
5.0000   . . . . . . . XXX . . . . . . . .
4.0000   . XXX . XXXXXXXXX . . . . . XXX
3.0000   . XXX . XXXXXXXXX . XXXXXXXXX XXX
2.0000   . XXXXX XXXXXXXXX . XXXXXXXXX XXX
1.7333   . XXXXXXXXXXXXXXX . XXXXXXXXX XXX
1.3000   . XXXXXXXXXXXXXXX . XXXXXXXXXXXXX
1.0000   . XXXXXXXXXXXXXXX XXXXXXXXXXXXXXX
0.6563   . XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
0.3125   XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
```

Measures of cluster adequacy

	1	2	3	4	5	6	7	8
Eta	0.231	0.630	0.732	0.727	0.691	0.651	0.613	0.260
Q	-0.063	0.081	0.176	0.186	0.205	0.228	0.239	-0.000
Q-prime	-0.067	0.089	0.205	0.224	0.256	0.304	0.358	-0.001
E-I	0.943	0.443	0.102	0.057	-0.239	-0.386	-0.466	-0.943

Size of each cluster, expressed as a proportion of the total population clustered

	1	2	3	4	5	6	7	8	9
CL1	0.059	0.059	0.294	0.294	0.294	0.412	0.471	0.941	1.000
CL2	0.059	0.118	0.118	0.176	0.471	0.471	0.471	0.059	
CL3	0.059	0.118	0.118	0.118	0.118	0.059	0.059		
CL4	0.059	0.294	0.294	0.294	0.059	0.059			
CL5	0.118	0.059	0.059	0.059	0.059				
CL6	0.059	0.059	0.059	0.059					
CL7	0.059	0.059	0.059						
CL8	0.059	0.059							
CL9	0.059	0.059							
CL10	0.059	0.059							
CL11	0.059	0.059							

```
    CL12  0.059
    CL13  0.059
    CL14  0.059
    CL15  0.059
    CL16  0.059

Actor-by-Partition indicator matrix saved as dataset
C:\Users\Allan\Desktop\ONDERZOEK\Dossier
Verkeersveiligheid\flitspalen\DNA\network export\discourse coalition
analysis\ACTOREN\analyse\cluster analysis\Hierarchical Part

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Copyright (c) 1999-2008 Analytic Technologies
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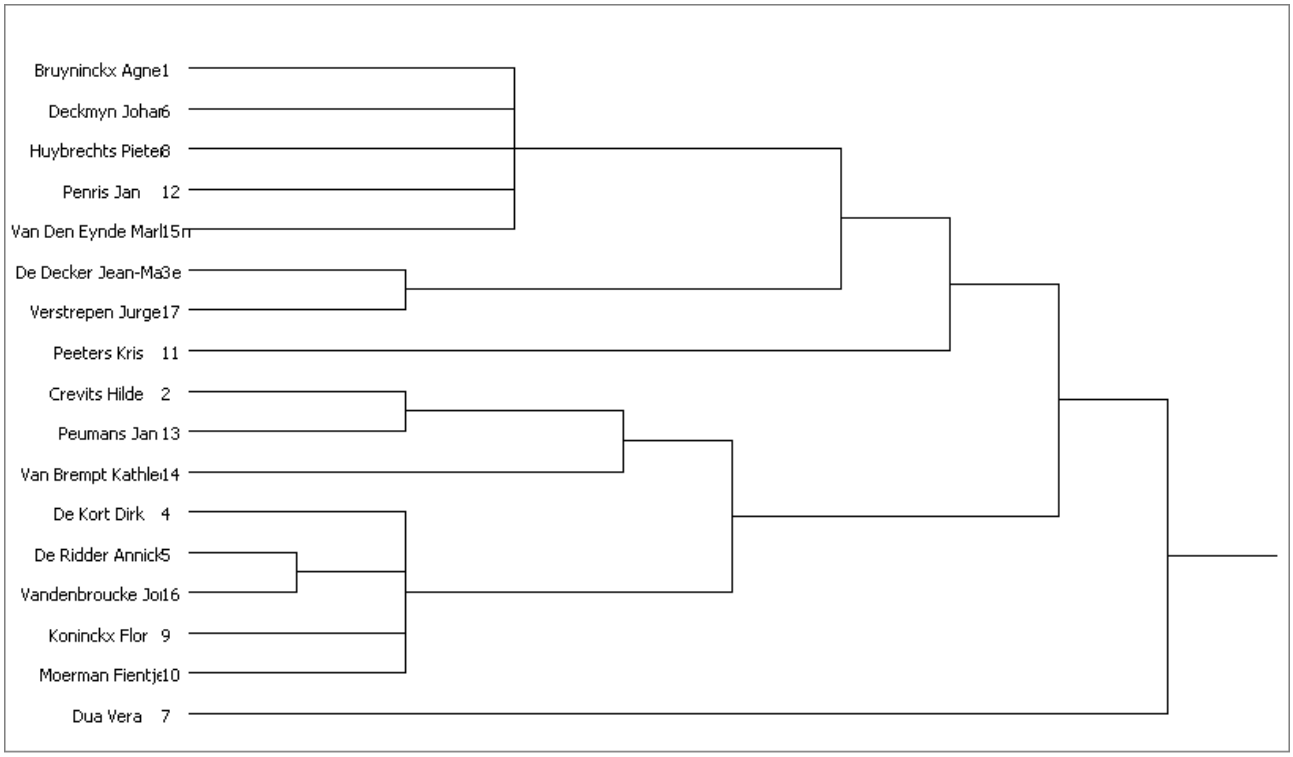
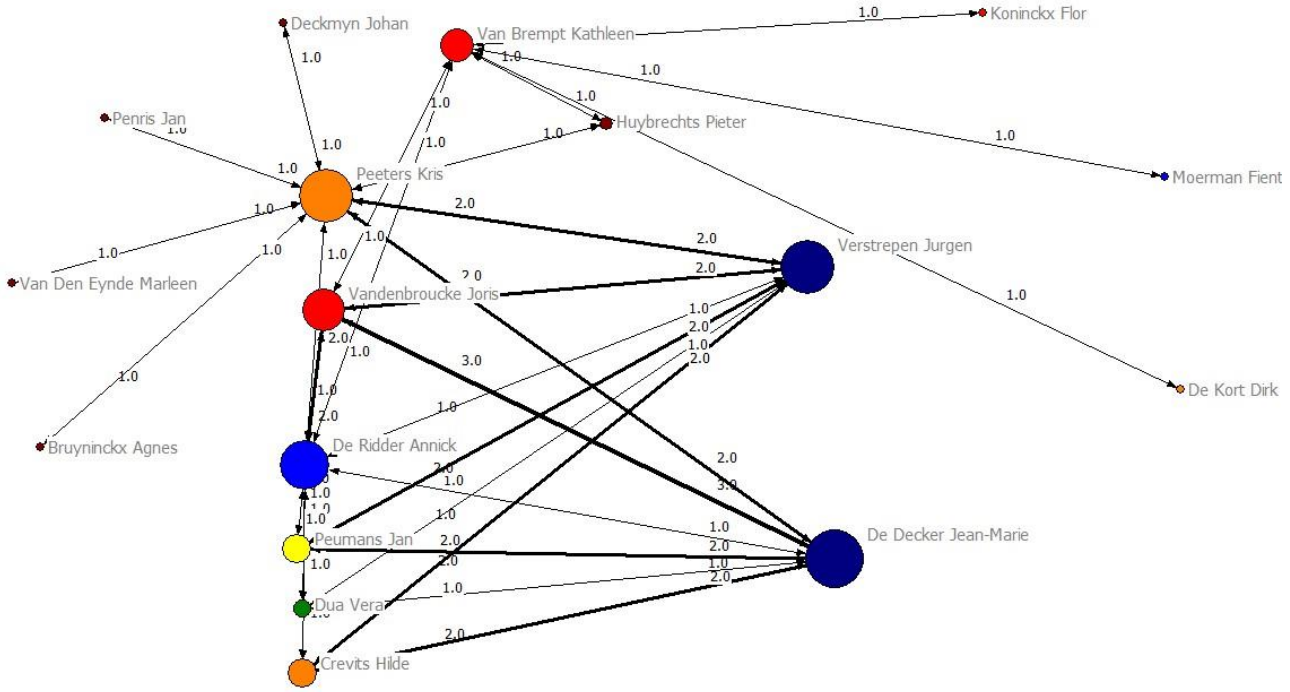


2.4 Within- and between-group densities

Cluster	1	2
1	1,929	0,583
2	0,583	2,048

Cluster 1: members of Vlaams Belang, LDD *('opposition')*
Cluster 2: members of CD&V, NV-A, Open VLD, SP.A *('majority')*

2.5 Conflict Network



Δ = 0,28

WEIGHTED DEGREE CENTRALITY

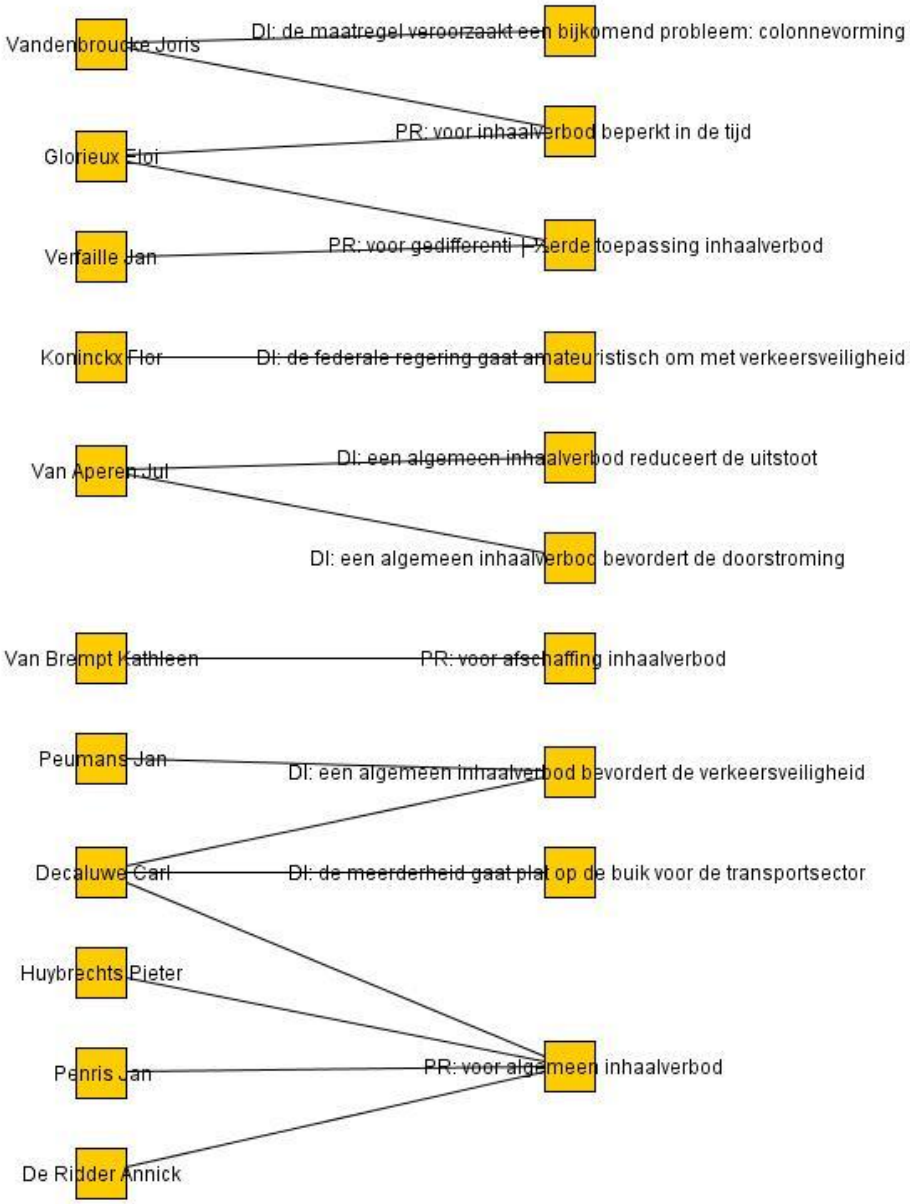
	Degree	Share
De Decker Jean-Marie	11	0,145
Peeters Kris	10	0,132
Verstrepen Jurgen	10	0,132
De Ridder Annick	9	0,118
Vandenbroucke Joris	8	0,105
Van Brempt Kathleen	6	0,079
Crevits Hilde	5	0,066
Peumans Jan	5	0,066
Dua Vera	3	0,039
Huybrechts Pieter	2	0,026
Bruyninckx Agnes	1	0,013
De Kort Dirk	1	0,013
Deckmyn Johan	1	0,013
Koninckx Flor	1	0,013
Moerman Fientje	1	0,013
Penris Jan	1	0,013
Van Den Eynde Marleen	1	0,013

CASE 3: THE DEBATE ON THE TRUCK OVERTAKING PROHIBITION *(Flemish Parliament 2004-2009).*

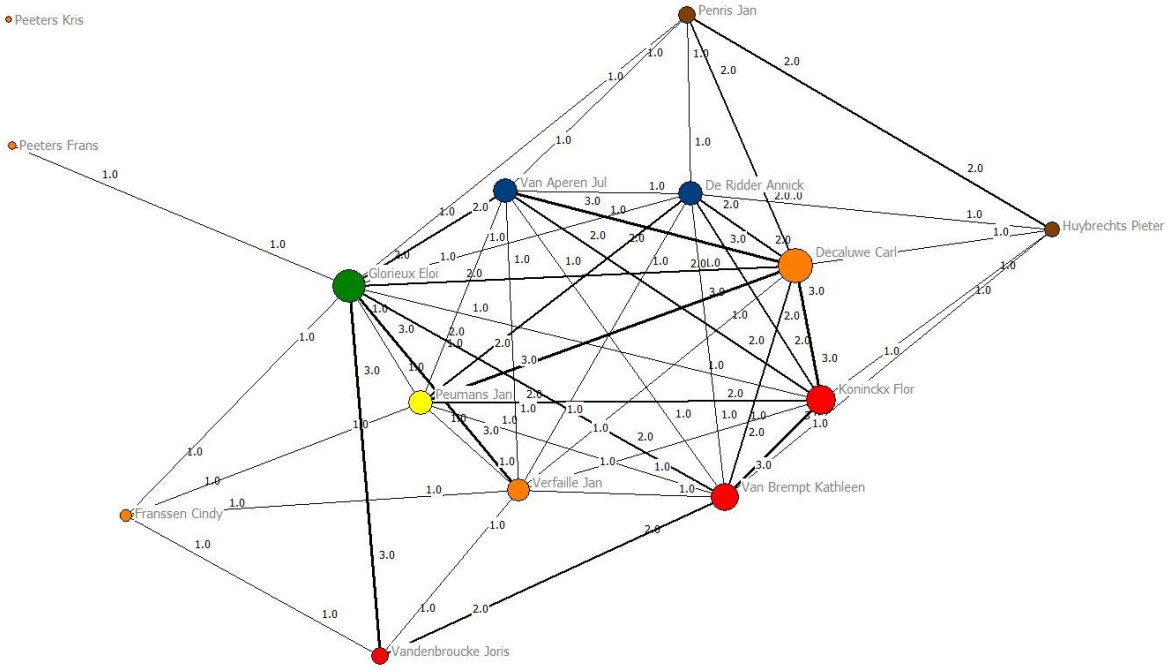
3.1 Affiliation network

AGREEMENT

DISAGREEMENT



3.2 Actor co-occurrence network



WEIGHTED DEGREE CENTRALITY

	Degree	Share
Decaluwe Carl	19	0,138
Glorieux Eloi	18	0,130
Koninckx Flor	15	0,109
Van Brempt Kathleen	14	0,101
De Ridder Annick	12	0,087
Peumans Jan	12	0,087
Van Aperen Jul	12	0,087
Verfaille Jan	11	0,080
Penris Jan	7	0,051
Vandenbroucke Joris	7	0,051
Huybrechts Pieter	6	0,043
Franssen Cindy	4	0,029
Peeters Frans	1	0,007
Peeters Kris	0	0,000

3.3 Actor co-occurrence network: hierarchical cluster analysis

```
JOHNSON'S HIERARCHICAL CLUSTERING
--------------------------------------------------------------------------------
---

Method:                         WTD_AVERAGE
Type of Data:                   Similarities
Input dataset:                  ACTOREN matrix no dup
(C:\Users\Allan\Desktop\ONDERZOEK\Dossier Verkeersveiligheid\Inhaalverbod
vrachtwagens\DNA\discourse coalition analysis\ACTOREN\ACTOREN matrix no dup)
```

HIERARCHICAL CLUSTERING

```
                H   D         V   V
              F u   e       V a   a
            P r y     K D   a n G n V
          P e a b   R o e   n   l d e
          e e n r   i n c P   B o e r
          e t s e P d i a e A r r n f
          t e s c e d n l u p e i b a
          e r e h n e c u m e m e r i
          r s n t r r k w a r p u o l
          s     s i   x e n e t x u l
            F C   s A     s n     c e
          K r i P   n F C     K E k
          r a n i J n l a J J a l e J
          i n d e a i o r a u t o   a
          s s y t n c r l n l h i J n

                          1 1 1   1 1
 Level    8 7 3 5 9 1 6 2 0 1 2 4 3 4
------    - - - - - - - - - - - - - -
3.0000    . . . . . . XXX . . . XXX .
2.5000    . . . . . . XXXXX . . XXX .
2.0000    . . . XXX XXXXXXX . XXXXX .
1.7500    . . . XXX XXXXXXXXX XXXXX .
1.6667    . . . XXX XXXXXXXXX XXXXXXX
1.0000    . . . XXX XXXXXXXXXXXXXXXXX
0.5000    . . . XXXXXXXXXXXXXXXXXXXX
0.3636    . . XXXXXXXXXXXXXXXXXXXXXX
0.0833    . XXXXXXXXXXXXXXXXXXXXXXXX
0.0000    XXXXXXXXXXXXXXXXXXXXXXXXXX
```

Measures of cluster adequacy

	1	2	3	4	5	6	7	8	9
Eta	0.366	0.465	0.590	0.643	0.679	0.657	0.546	0.482	0.337
Q	-0.051	-0.022	0.053	0.081	0.109	0.031	-0.002	-0.000	0.000
Q-prime	-0.056	-0.024	0.061	0.095	0.131	0.039	-0.003	-0.000	0.000
E-I	0.826	0.681	0.333	0.130	-0.014	-0.594	-0.855	-0.971	-1.000

Size of each cluster, expressed as a proportion of the total population clustered

	1	2	3	4	5	6	7	8	9	10
CL1	0.071	0.071	0.286	0.357	0.357	0.643	0.786	0.857	0.929	1.000
CL2	0.143	0.214	0.071	0.071	0.071	0.071	0.071	0.071	0.071	
CL3	0.071	0.071	0.214	0.214	0.286	0.143	0.071	0.071		
CL4	0.143	0.143	0.143	0.143	0.143	0.071	0.071			
CL5	0.071	0.071	0.071	0.071	0.071	0.071				
CL6	0.071	0.071	0.071	0.071	0.071					
CL7	0.071	0.071	0.071	0.071						
CL8	0.071	0.071	0.071							
CL9	0.071	0.071								
CL10	0.071	0.071								
CL11	0.071	0.071								
CL12	0.071									

```
Actor-by-Partition indicator matrix saved as dataset
C:\Users\Allan\Desktop\ONDERZOEK\Dossier Verkeersveiligheid\Inhaalverbod
vrachtwagens\DNA\discourse coalition analysis\ACTOREN\analyse\cluster
analysis\Hierarchical Part

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Copyright (c) 1999-2008 Analytic Technologies
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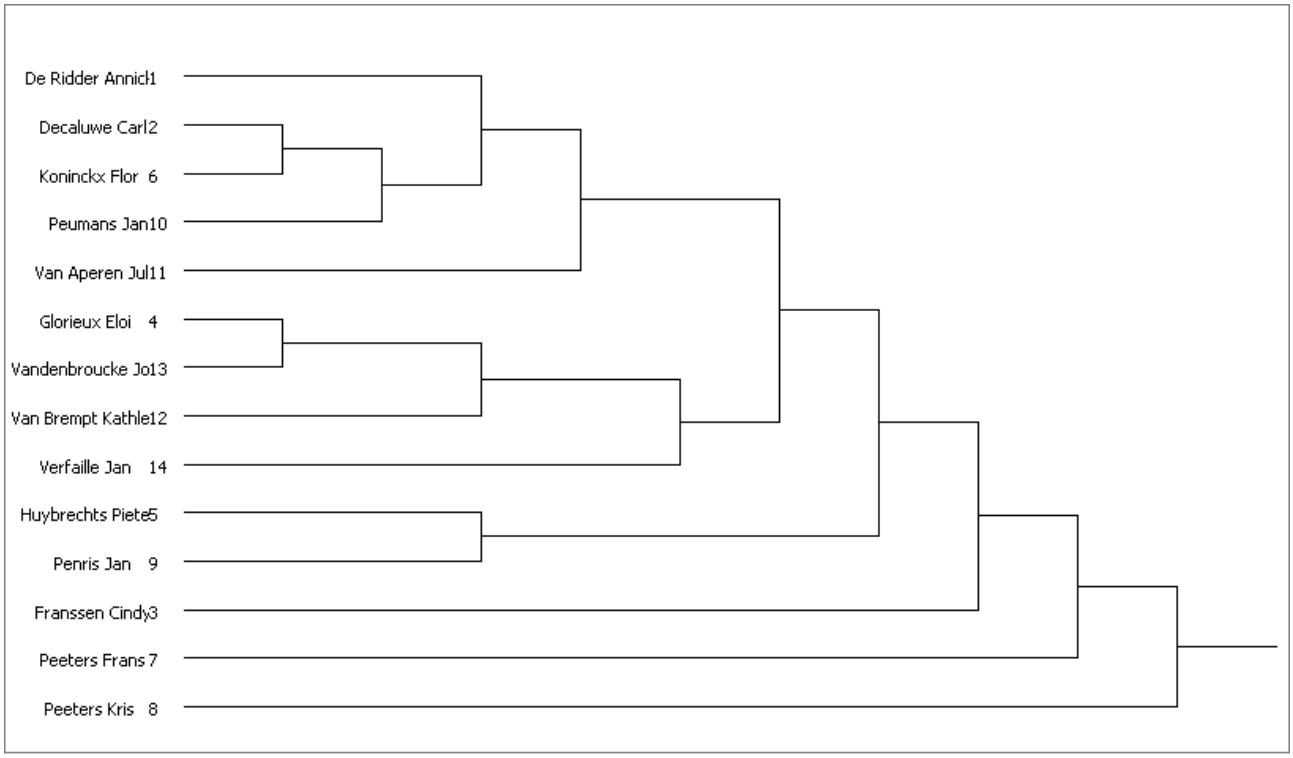
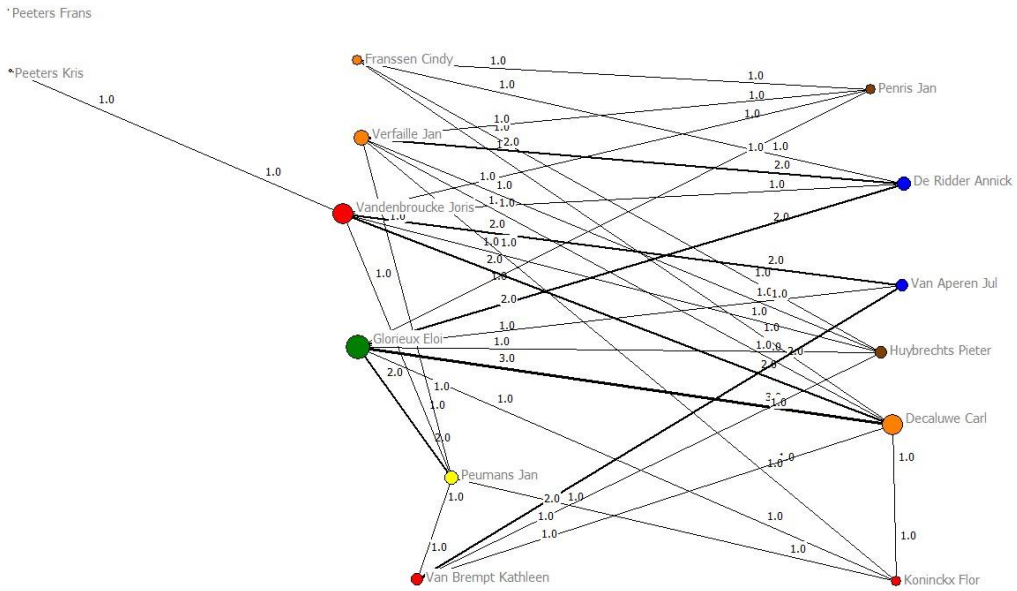


3.4 Within- and between-group densities

Cluster	**1**	**2**	**3**
1	**2,1** *1,1**	**1** *0,25**	**0,7** *0,7**
2	**1** *0,25**	**2** *1,5**	**0,25** *0,25**
3	**0,7** *0,7**	**0,25** *0,25**	**2** *2**

Cluster 1: members of SP.A, CD&V, *Open VLD, N-VA*
Cluster 2: members of *Groen!, SP.A, CD&V*
Cluster 3: members of Vlaams Belang
** Densities of clusters in actor co-occurence network without 'DI: onduidelijke signalisatie problematisch voor naleving door (buitenlandse) chauffeurs' – 'DI: unclear signalisation is problematic for compliance by (foreign) truck drivers'*

3.5 Conflict network



Δ = 0,43

WEIGHTED DEGREE CENTRALITY

	Degree	Share
Glorieux Eloi	11	0,1447368413
Decaluwe Carl	9	0,1184210554
Vandenbroucke Joris	9	0,1184210554
Verfaille Jan	7	0,092105262
De Ridder Annick	6	0,0789473653
Peumans Jan	6	0,0789473653
Huybrechts Pieter	5	0,065789476
Van Aperen Jul	5	0,065789476
Van Brempt Kathleen	5	0,065789476
Franssen Cindy	4	0,0526315793
Koninckx Flor	4	0,0526315793
Penris Jan	4	0,0526315793
Peeters Kris	1	0,0131578948
Peeters Frans	0	0