BELGIAN RESEARCH ACTION THROUGH INTERDISCIPLINARY NETWORKS

Deliverable D6.4

Scenario Analysis

BRAIN-TRAINS

Transversal assessment of new intermodal strategies

WP6: Governance and organization
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CONTENTS

1. INTRODUCTION

This paper is a part of the BRAIN-TRAINS[1] project, which deals with the possible development of freight intermodality in Belgium. Freight intermodality is a rather theoretical concept – one that is slightly abstract, yet also one that shows some common sense logic. We understand the concept as 'combining several modes of transport during the same journey to get goods shipped from place A to place Z'. Starting point of the BRAIN-TRAINS project is the relative limited usage of this form of transport in Belgium. Therefore, the main goal of the BRAIN-TRAINS project is to see how in 2030 intermodal freight transport can become a more dominant mode of transport in Belgium.

The research project is split into various work packages. Each work package addresses a specific research question. In the first stage of the BRAIN-TRAINS project, we determined what the current strengths and weaknesses are, as well as the treats and possible opportunities to the future development of intermodal freight transport. Subsequently, future scenarios were created based on the outcomes of these SWOT-analyses. In this paper, we reflect on the coordination relations, structures, strategies and instruments (i.e. coordination architecture[2]) that are necessary to turn each of the possible future scenarios into reality. This is also the main focus of what is called work package 6 (WP6).

In order to draw some conclusions with regard to the necessary coordination architecture for each of the scenarios, we require two things: a *reference* situation that sketches the current level of integration between involved departments and agencies regarding issues of intermodal freight transport, and the *required* level of integration between involved political and administrative actors for each of the scenarios. On the basis of these insights, we can reflect on the coordination architecture that is most useful to reach the ambition level for each of the three scenarios.

In work package 6, we thus focus on the aspect of 'integration'. With the term 'integration', we mean 'the (stable) relationships and interdependencies that exist among a multitude of organizations within a particular policy subsystem[3]' (Meijers and Stead, 2009). An important distinction that has to be made for this study is the difference between 'policy-level integration' and 'administrative integration'.

Policy-level integration refers to the extent to which policy-makers try to create greater coherence in decision-making for issues that transcend the boundaries of established policy fields, and which do not correspond to the institutional responsibilities of individual departments (Meijers and Stead, 2009. Administrative integration, then, denotes the extent to which involved administrative actors (together with private or privatized companies, civil society organizations, etc.) streamline practices and activities in the policy implementation phase (Mulford and Rogers, 1982).

As such, we will identify for each of the constructed scenarios what the required level of *policy-level* and *administrative* integration is, as well as identify the current status of both forms of integration of

[1] The abbreviation stands for: **B**elgian **R**esearch **A**ction trough **I**nterdisciplinary **N**etworks on **Tr**ansversal **A**ssessment of **I**ntermodal **N**ew **S**trategies. The research project is subsidized by BESLPO through contract number BR/132/A4/BRAIN-TRAINS. In the project, scholars collaborate from various universities and research institutes. To be more specific, different scholars from the Department of Transport and Regional Economics from the University of Antwerp, as well as, researchers from the Department of Chemical Engineering and the Research Center in Quantitative Methods and Operations Management from the University of Liège were involved in the data-gathering process and scenario creation process. For more specific information on the paper and data-gathering methods, see the Vanelslander et. al. (2015) paper.
[2] Coordination architecture is here understood as the instruments and mechanisms that aim to enhance the voluntary or forced alignment of tasks and efforts of organizations in the public sector. These mechanisms and instruments are used in order to create greater coherence, and to reduce redundancy, lacunae and contradictions within and between policies, implementation or management (Bouckaert et al., 2010).
[3] A policy subsystem is an aggregation of all involved state-actors that directly or indirectly affect a specific policy area or sector.

the reference situation. With the help of these analyses, we will draw on existing academic literature, as well as findings which follow from our own case studies, to indicate what strategies and tools policy makers and government officials can use in a collaborative manner to make intermodal transport a more dominant transport mode in Belgium by the year 2030. We continue as follows in this paper. First of all, we will elaborate on the findings with regard to the current levels of integration. Subsequently, we will define the required levels of integration for the *best-case scenario*. Then, we compare these different levels of integration. Finally, we elaborate on what strategies and tools can be used to overcome the existing discrepancy between the different levels of integration, in order to turn the best-case scenario into practice by the year 2030.

It is crucial to highlight that in this WP and this report we deal in a different way with the three scenarios compared to the other WP. Whereas the other WPs seek to model for each scenario what the consequences would be from the different scenarios, in this WP we define strategies and tools to increase the level of policy integration and administrative integration in order to increase intermodal freight transport in general, and when doing so, we do not distinguish between different strategies or tools to use in the different scenarios. For a social scientist it is extremely difficult to predict what the specific policy-making and implementation issues will be or what level of policy integration and administrative integration is actually needed in a specific scenario. The strategies which we develop further in this report must be regarded as list of tools that policy-makers or government officials can use in collaborative work processes, dependent on the expected outcome and the contingencies which determine the collaborative context. The list of managerial tools can both be used to achieve policy-level and administrative within one level of government (e.g. the Walloon government) or between different governmental levels. In developing these strategies and case studies we draw extensively on three intensive case studies we conducted within WP6, next to using specialized literature on coordination and collaboration in the public sector.

Important to note is also that in this report we do not sketch a full picture of how the coordination structures to stimulate intermodal freight transport should look like, but focus on defining a set of tools and strategies, as well as process steps governments can follow to stimulate integration at policy and administrative level. Which actors should be involved in designing a cross-governmental strategy for intermodal freight transport and how to monitor the progress in policy and administrative integration, as well as additional policy recommendations for intermodal freight transport will be developed in WP 7.1 and WP7.2.

2 CURRENT LEVEL OF ADMINISTRATIVE AND POLICY-LEVEL INTEGRATION

2.1. A HOLISTIC STRATEGY FOR SUSTAINABLE AND INTERMODAL TRANSPORT

In an earlier document, we already discussed in greater detail the methodology that we use in WP6 to come to an answer to the following research question (BRAINTRAINS, 2016):

> *"How should public administration and policy-making be organized and coordinated to optimally implement intermodality under each of the future development scenarios?"*

In this previous document, we stated that in order to gain a notion of the current administrative and policy-level integration, we analyse two specific cases. The analysis of the first case, which is the attempt of the Federal Department of Transport and Mobility to establish a holistic government strategy for sustainable and intermodal mobility and (freight) transport encompassing the different

levels of government and policy sectors, was already published and validated as a research deliverable of the BRAIN-TRAINS project (BRAINTRAINS, 2014). This specific policy process started in 1997 and finished around 2010; however, the result was limited.

On the basis of this case analysis, we made a list of enablers and impediments that together explain why it was difficult to design and diffuse this particular holistic government strategy across the different levels of government in the Belgian dualistic federal state (*see* figure 1). Moreover, we made an assessment of efforts and strategies of the coordinating actor, to see why these efforts were not able to turn the tide. Overall, we concluded that in this specific case actors did not really work together, but rather 'next to' each other without much mutual interference or commitment.

To some extent, the first case served as a pilot case. It helped us to get a sense of the political and administrative debates and developments in the (freight) transport domain. However, because the first case ended in 2010, we made the decision to look at a second, more contemporary case to see whether similar research findings come up.

FIGURE 1. LIST OF ENABLERS AND IMPEDIMENTS OF THE FIRST CASE ANALYSIS (OWN COMPOSITION).

1. The willingness of the involved actors to work across organizational and governmental boundaries and the role of the coordinating actor in the constellation;
2. The inclusiveness of actors in procedures and communication;
3. Impatience, strict deadlines and the demand for quick wins;
4. The compatibility of policy orientations among involved actors;
5. The fit with operational policy plans;
6. Regionalization of transport competences;
7. The growing influence of the European Union and transnational institutions;
8. Sectorial changes and demands that have to be taken into account;
9. Political proliferation (after elections);
10. Budgetary cuts and austerity measures.

2.2. THE TRANSPOSAL OF THE EU ITS-DIRECTIVE CASE

Specifically, we studied for this second case the transposal of the EU ITS directive into the dualistic federal system of the Belgian state. This EU directive establishes a framework for the deployment of Intelligent Transport Systems (ITS) in the field of road transport and for interfaces with other transport modes. ITS-systems are advanced applications which, without embodying intelligence as such, aim to provide innovative services relating to different modes of transport and traffic management and enable various users to be better informed and make safer, more coordinated and 'smarter' use of transport networks (European Union, 2010:L207/1). More concretely, ITS integrate telecommunications, electronics and information technologies with transport engineering in order to plan, design, operate, maintain and manage transport systems.

The directive lists 6 priority actions that the EU member states are supposed to design policies and projects on. These priority actions are:

- the provision of EU-wide multimodal travel information services;
- the provision of EU-wide real-time traffic information services;
- data and procedures for the provision, where possible, of road safety related minimum universal traffic information free of charge to users;
- the harmonized provision for an interoperable EU-wide eCall;
- the provision of information services for safe and secure parking places for trucks and commercial vehicles;
- the provision of reservation services for safe and secure parking places for trucks and commercial vehicles.

Within the scope of the requirements under Article 17(2) of the 2010/40/EU directive, Belgium has in recent years put considerable effort in conforming to the expectations of this EU framework. The federal government has, for example, invested considerably in the eCall system to guarantee the highest quality for this new channel for emergency calls (FOD MandV, 2012:6; interview 1).

The competences in the transport domain in Belgium are, however, allocated across the federal and regional levels of governments. The public bus, tram and subway transport all fall, for example, under regional competences. The technical specifications of vehicles for ITS (rules and requirements), traffic safety and traffic regulations, freight transport by road, the handling of personal data and market supervision belong, in contrast, to federal competences.

Due to this complex competence division, it was decided that the federal, Flemish, Walloon and Brussels-Capital authorities are in charge of the ITS-activities on their own territories (European Commission, 2014[4]). Hence, the different governments have mainly designed their own policies and projects, which they are currently working on. The Flemish government, for example, puts in its policy plans a lot of effort in incident management, whereas the Walloon authority is busy with the WHIST-programme that is concentrated on the structuring of the road network (Ibidem). So far, no National ITS-strategy has been developed (interview 1), though some private stakeholders would prefer the establishment of such a holistic government strategy (e.g. ITS Belgium).

At the political level, the different governments do, however, from time to time get together to assure a greater coherence, and to reduce redundancy, lacunae and contradictions among the different projects, activities and policy actions of the involved administrations. The latter is necessary for three specific reasons (interview 1).

First of all, the mobility and transport problem is the outcome of the interaction of different transport/mobility modes. As the responsibility about policies on these different modes is allocated at different levels of government, there is a strong need to coordinate and work together. This also means that the federal administration is often dependent upon collaboration with regional administrations in order to attain their set goals.

Second, the 2010/40/EU directive demands EU-wide interoperability of the ITS-systems. Therefore, the projects, technical systems and procedures of the federal and regional administrations also need to be harmonized as much as possible in order to adhere to this call.

Third, there are always unintended spill-over effects of policy actions of one administration that affect the policy realities of another administration – which require a form of collective action to minimize the negative impact of these effects.

In sum, this means in terms of policy-level integration that overall the policy-makers in the case of the transposal of the EU ITS-directive work rather autonomously from each other, and only get together if this is really necessary. Up till now, there has only been very limited collaborative effort to establish a comprehensive policy strategy that transcends the different levels of government.

A similar image emerges when we take a closer look at the implementation-phase of the EU ITS-directive in the Belgian federal state, and the extent to which the responsible administrative actors from the different levels of government seek some form of integration in their practices. Figure 2 provides a visual overview of the clustering of the administrative actors in the implementation-phase. The overview was produced on the basis of a list of all the projects that were set up by the different administrations to implement actions in accordance with the EU ITS-directive.

[4] http://ec.europa.eu/transport/themes/its/road/action_plan/doc/2014_be_its_progress_report_2014_en.pdf.

Specifically, we performed a Social Network Analysis with the help of the software-program UCINET (*see* Stevens and Verhoest, 2016). In total we identified 81 projects. Subsequently, for each project it was indicated *which* actors (from government, semi-autonomous organizations, civil society and private sector) were involved. As such, a link between two actors in the visual overview represents a shared project between them, or a shared project of which they are both a part alongside various other organizations. The thickness of the line further indicates how closely linked the two actors are; i.e. the thicker the line, the more they are together a part of various projects.

If we take a closer look at figure 2, we see four big clusters of actors with the departments of Transport and Mobility from the different administrations as unique centres (*see* DG Mobilité et Voies hydrauliques Wallonie, FOD Mobiliteit en Vervoer, MOW Vlaanderen, and SPRB Bruxelles Mobilité). None of these clusters are linked through a direct line between these centres (i.e. departments of Transport and Mobility), which implies that, between the different administrations, there were no shared (implementation) projects established, except for some projects between FOD Mobiliteit, the NMBS and the regional agencies for bus/tram traffic.

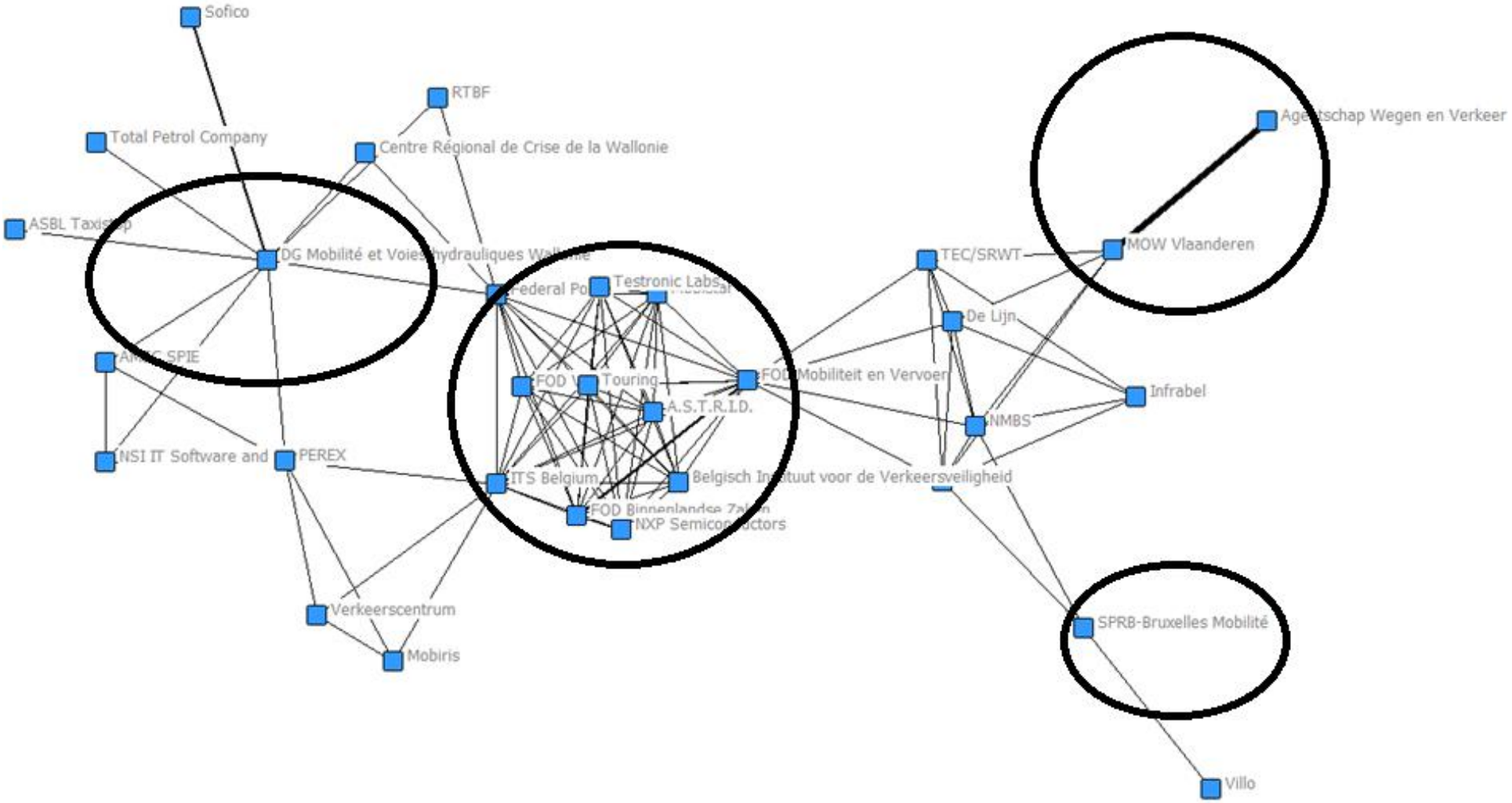
This may seem obvious considering the fact that the governments have drawn up their own policy plans. However, even in the implementation of policy actions, we oftentimes see that organizations from different administrative levels collaborate, for example, to streamline activities, share data and information, etc. Yet, this proved little to be the case in the implementation of the EU ITS-directive (interview 1). Instead, the clusters of actors are only linked through private actors or semi-autonomous organizations, as the different administrations organizations sometimes involve the same private or semi-autonomous organizations to perform certain tasks in their policy projects (*see* for an example PEREX, RTBF or TEC/SRWT).

2.3. ASSESSMENT OF THE TWO 'CURRENT-LEVEL' CASES

On the basis of the insights that follow from the two discussed cases, we argue that in practice political and administrative actors of the transport domain in the Belgian federal state, most often work independently of each other, unless that there is a real need or urgency to coordinate political and administrative activities. This implies *in terms of policy-level* and *administrative integration*, that the practices of the federal and regional governments and their administrative organizations are only to a very limited extent coordinated.

This overall conclusion of the current level of policy-level and administrative integration, will in the remainder of the document also be the reference point to which we compare the desired levels of integration, if the best-case scenario has to be turned into reality by the year 2030. Yet, before we can make recommendations about the most useful coordination architecture for the three different scenarios, we specify the foreseen levels of policy-level and administrative integration of the best, medium and worst case scenario in the next sections.

FIGURE 2: ADMINISTRATIVE INTEGRATION IN EU ITS-DIRECTIVE CASE.



3 DESIRED LEVELS OF INTEGRATION FOR THE SCENARIOS

3.1. HIGH LEVEL OF AMBITION FOR THE BEST CASE SCENARIO

Figure 3 is a table that was created in the scenario-development phase. It shows the scenario values compared to the reference values that are considered in the BRAIN-TRAINS project. As can be noted in the last column of the table (the *change* percentage column), we foresee a high level of ambition in the best case scenario. By 2030, there is an expected reduction in the values of transport emissions (CO_2, NO_2, SO_2, NHMC and Dust), energy consumption, infrastructure and maintenance costs, noise exposure and operational costs, even though the amount of transported tkm increases by 70 per cent (see figure 4).

FIGURE 3: SCENARIO VALUES BEST-CASE SCENARIO.

	Parameters			Reference value		Scenario value		%
BEST-CASE	Transport emissions	CO_2	Road	72	g/tkm	58	g/tkm	-20%
			Rail (electric)	18	g/tkm	11	g/tkm	-40%
			Rail (diesel)	35	g/tkm	21	g/tkm	-40%
		NO_x	Road	0,553	g/tkm	0,445	g/tkm	-20%
			Rail (electric)	0,032	g/tkm	0,019	g/tkm	-40%
			Rail (diesel)	0,549	g/tkm	0,330	g/tkm	-40%
		SO_2	Road	0,090	g/tkm	0,072	g/tkm	-20%
			Rail (electric)	0,064	g/tkm	0,039	g/tkm	-40%
			Rail (diesel)	0,044	g/tkm	0,027	g/tkm	-40%
		NMHC	Road	0,054	g/tkm	0,043	g/tkm	-20%
			Rail (electric)	0,004	g/tkm	0,002	g/tkm	-50%
			Rail (diesel)	0,062	g/tkm	0,037	g/tkm	-40%
		Dust	Road	0,016	g/tkm	0,013	g/tkm	-20%
			Rail (electric)	0,005	g/tkm	0,003	g/tkm	-40%
			Rail (diesel)	0,017	g/tkm	0,010	g/tkm	-40%
	Energy consumption		Road	1082	kJ/tkm	975	kJ/tkm	-10%
			Rail (electric)	456	kJ/tkm	365	kJ/tkm	-20%
			Rail (diesel)	530	kJ/tkm	425	kJ/tkm	-20%
	Infrastructure and maintenance costs		Rail	0,0698	EUR/tkm	0,0555	EUR/tkm	-20%
			IWW	0,0219	EUR/tkm	0,0198	EUR/tkm	-10%
	Noise exposure			?	?	?	?	?
	Market players and links			12	(3 links)	17	(5 links)	-
	Rail tkm			7300	mio tkm	17000	mio tkm	+133%
	Network charges			?	?	?	?	?
	Operational costs		Road (long haul)	0,070 - 0,020	EUR/tkm	0,063 - 0,018	EUR/tkm	-10%
			Road (short haul)	0,100 - 0,040	EUR/tkm	0,090 - 0,036	EUR/tkm	-10%
			Rail	0,025 - 0,019	EUR/tkm	0,018 - 0,013	EUR/tkm	-30%
	O-D matrix			-	-	-	-	+15%
	Road taxes			?	?	?	?	?
	Passenger traffic			?	?	?	?	?
	Monopoly/Duopoly			Not present		Not present		-

3.2. CHANGES IN MODAL SPLIT AND TKM VALUES IN BEST CASE SCENARIO

The latter expected increase in tkm is not only foreseen in road transport, but also in the modes of rail and inland waterway transport. Figure 4 shows the exact rise in the values of modal split and tkm (per mode of transport) in the best-case scenario. As the figure further shows, a rise in modal split is particularly expected in the modes of rail and inland waterway transport. Within many of the policy documents of the federal and regional governments, these two modes of transport are considered to be

more 'environmental-friendly'. Hence, we argue – given the ambition level of the scenario values and the projected changes in modal split – that by 2030 the federal and regional governments have to invest in 'more' and ambitious (perhaps even 'radical') sustainable solutions in *all* modes of transport in order to turn the best-case scenario into reality.

FIGURE 4: SCENARIO MODAL SPLIT VALUES AND RISE IN TKM.

		Total transport	Road	Rail	IWW
REFERENCE	tkm	50,000	32,100	7,300	10,400
	modal split	**100%**	**64%**	**15%**	**21%**
BEST	tkm	85,000	47,000	17,000	21,000
	% rise in tkm	**70%**	**46%**	**133%**	**102%**
	absolute rise	35,000	14,900	9,700	10,600
	modal split	**100%**	**55%**	**20%**	**25%**
MEDIUM	tkm	71,500	41,500	12,000	18,000
	% rise in tkm	43%	29%	64%	73%
	absolute rise	21,500	9,400	4,700	7,600
	modal split	100%	**58%**	**17%**	**25%**
WORST	tkm	57,000	36,500	8,000	12,500
	% rise in tkm	14%	14%	10%	20%
	absolute rise	35,500	4,400	700	2,100
	modal split	100%	**64%**	**14%**	**22%**

This assignment is not something obvious. In fact, the earlier discussed cases in section 2 reveal that the federal and regional governments mainly work within their own governmental silos. However, the competence division in the transport domain is such that the competences are spread across the different levels of government. Specifically, the federal departments and agencies are mainly responsible for the developments in the rail sector, whereas the regional departments, each within their jurisdiction, are responsible for the developments in the domains (and modes) of road and inland waterway(s).

This means that in order to bolster an ambitious and radical sustainable shift in all modes of transport (instead of a small shift), policy-makers should look beyond their own policy objectives and see what is in the best interest of Belgium as a whole, and administrative actors should seek for more cooperation, coordination and collaboration across conventional and governmental boundaries.

3.3. AMBITION LEVEL OF MEDIUM CASE SCENARIO

FIGURE 5: SCENARIO VALUES MEDIUM-CASE SCENARIO.

	Parameters			Reference value		Scenario value		%
MIDDLE-CASE	Transport emissions	CO_2	Road	72	g/tkm	58	g/tkm	-20%
			Rail (electric)	18	g/tkm	14	g/tkm	-20%
			Rail (diesel)	35	g/tkm	28	g/tkm	-20%
		NO_x	Road	0.553	g/tkm	0.445	g/tkm	-20%
			Rail (electric)	0.032	g/tkm	0.026	g/tkm	-20%
			Rail (diesel)	0.549	g/tkm	0.44	g/tkm	-20%
		SO_2	Road	0.090	g/tkm	0.072	g/tkm	-20%
			Rail (electric)	0.064	g/tkm	0.051	g/tkm	-20%
			Rail (diesel)	0.044	g/tkm	0.035	g/tkm	-20%
		NMHC	Road	0.054	g/tkm	0.043	g/tkm	-20%
			Rail (electric)	0.004	g/tkm	0.003	g/tkm	-25%
			Rail (diesel)	0.062	g/tkm	0.050	g/tkm	-20%
		Dust	Road	0.016	g/tkm	0.013	g/tkm	-20%
			Rail (electric)	0.005	g/tkm	0.004	g/tkm	-20%
			Rail (diesel)	0.017	g/tkm	0.014	g/tkm	-20%
	Energy consumption		Road	1,082	kJ/tkm	920	kJ/tkm	-15%
			Rail (electric)	456	kJ/tkm	388	kJ/tkm	-15%
			Rail (diesel)	530	kJ/tkm	450	kJ/tkm	-15%
	Infrastructure and maintenance costs		Road	0.218	EUR/tkm	0.208	EUR/tkm	-5%
			Rail	0.0698	EUR/tkm	0.0698	EUR/tkm	-5%
			IWW	0.0219	EUR/tkm	0.0219	EUR/tkm	-5%
	Noise exposure	Major road	Lden > 55 dB	250	people/km	200	people/km	-20%
			Lden > 65 dB	116	people/km	93	people/km	-20%
			Lden > 75 dB	10	people/km	9	people/km	-10%
		Major Railway	Lden > 55 dB	321	people/km	290	people/km	-10%
			Lden > 65 dB	92	people/km	83	people/km	-10%
			Lden > 75 dB	10	people/km	9	people/km	-10%
	Unlinked active intermodal players			6	(+3 linked)	4	(+0 linked)	-
	Rail tkm			7,300	mio tkm	12,000	mio tkm	+64%
	Operational costs		Road (long haul)	0.070 - 0.020	EUR/tkm	0.063 - 0.018	EUR/tkm	-10%
			Road (short haul)	0.100 - 0.040	EUR/tkm	0.090 - 0.036	EUR/tkm	-10%
			Rail	0.025 - 0.019	EUR/tkm	0.022 - 0.017	EUR/tkm	-10%
			IWW	0.0076 -0.0381	EUR/tkm	0.00684 - 0.03429	EUR/tkm	-10%
	Road taxes			0.11 - 0.14	EUR/km	0.121 - 0.165	EUR/km	+10%
	Monopoly/Duopoly			Not present		Dominant players		-

In comparison to the parameters of the best-case scenario, the ambition levels of the medium-case scenario are less high but still challenging. Also in the medium case scenario, policy makers and government officials seek to achieve a reduction in the values of transport emissions (CO_2, NO_2, SO_2, NHMC and Dust), energy consumption, infrastructure and maintenance costs, noise exposure and operational costs, in a situation where the amount of transported tkm increases by 64 per cent (see figure 5). The goals for a more 'sustainable transport' are, nonetheless, lower than in the best-case scenario.

3.4. CHANGES IN MODAL SPLIT AND TKM VALUES IN MEDIUM CASE SCENARIO

The increase in tkm in the medium-case scenario is expected in all modes of transport. Figure 4 shows the exact rise in the values of modal split and tkm (per mode of transport) in the medium-case scenario. As the figure indicates, a rise in modal split is mainly expected in inland waterways transport, and only to a

lesser extent in the mode of rail transport. In the medium-case scenario, the dominance of road transport as main mode of transport is higher than the best-case scenario.

The regional governments are, each within their own territory, responsible for the developments in the modes of road and inland waterways. The federal government is mainly responsible for the developments in the rail sector. To achieve the lower levels of ambition regarding the sustainable developments in the transport domain, the collaboration *between* the levels of government can be more loosely coupled as compared to the policy situation in the best-case scenario. That is to say, a partial integration between the federal and regional level is sufficient to reach the ambition levels of the ambition levels of this scenario. Most of the efforts of the governments can be done within their own jurisdictions. Most integration, perhaps, should be between the regional governments, because inland waterways do not stop at the borders of the jurisdiction of a regional authority.

3.5. AMBITION LEVEL WORST CASE SCENARIO

FIGURE 6: SCENARIO VALUES WORST-CASE SCENARIO.

	Parameters			Reference value		Scenario value		%
WORST-CASE	Transport emissions	CO_2	Road	72	g/tkm	43	g/tkm	-40%
			Rail (electric)	18	g/tkm	16	g/tkm	-10%
			Rail (diesel)	35	g/tkm	32	g/tkm	-10%
		NO_x	Road	0.553	g/tkm	0.330	g/tkm	-40%
			Rail (electric)	0.032	g/tkm	0.029	g/tkm	-10%
			Rail (diesel)	0.549	g/tkm	0.495	g/tkm	-10%
		SO_2	Road	0.090	g/tkm	0.054	g/tkm	-40%
			Rail (electric)	0.064	g/tkm	0.058	g/tkm	-10%
			Rail (diesel)	0.044	g/tkm	0.040	g/tkm	-10%
		NMHC	Road	0.054	g/tkm	0.033	g/tkm	-40%
			Rail (electric)	0.004	g/tkm	0.004	g/tkm	0%
			Rail (diesel)	0.062	g/tkm	0.056	g/tkm	-10%
		Dust	Road	0.016	g/tkm	0.010	g/tkm	-40%
			Rail (electric)	0.005	g/tkm	0.004	g/tkm	-20%
			Rail (diesel)	0.017	g/tkm	0.015	g/tkm	-10%
	Energy consumption		Road	1,082	kJ/tkm	755	kJ/tkm	-30%
			Rail (electric)	456	kJ/tkm	410	kJ/tkm	-10%
			Rail (diesel)	530	kJ/tkm	475	kJ/tkm	-10%
	Infrastructure and maintenance costs		Road	0.218	EUR/tkm	0.240	EUR/tkm	+10%
			Rail	0.0698	EUR/tkm	0.0768	EUR/tkm	+10%
			IWW	0.0219	EUR/tkm	0.0241	EUR/tkm	+10%
	Noise exposure	Major road	Lden > 55 dB	250	people/km	150	people/km	-40%
			Lden > 65 dB	116	people/km	70	people/km	-40%
			Lden > 75 dB	10	people/km	6	people/km	-40%
		Major Railway	Lden > 55 dB	321	people/km	290	people/km	-10%
			Lden > 65 dB	92	people/km	83	people/km	-10%
			Lden > 75 dB	10	people/km	9	people/km	-10%
	Unlinked active intermodal players			6	(+3 linked)	2	(+2 linked)	-
	Rail tkm			7,300	mio tkm	8,000	mio tkm	+10%
	Operational costs		Road (long haul)	0.070 - 0.020	EUR/tkm	0.063 - 0.018	EUR/tkm	-10%
			Road (short haul)	0.100 - 0.040	EUR/tkm	0.090 - 0.036	EUR/tkm	-10%
			Rail	0.025 - 0.019	EUR/tkm	0.030 - 0.023	EUR/tkm	+20%
			IWW	0.0076 - 0.0381	EUR/tkm	0.00912 - 0.04572	EUR/tkm	+20%
	Road taxes			0.11 - 0.14	EUR/km	0.11 - 0.14	EUR/km	0%
	Monopoly/Duopoly			Not present		Present		-

The ambition levels of the worst-case scenario are the least challenging of the three developed scenarios. Nevertheless also in the worst case scenario, policy makers and government officials seek to achieve a reduction in the values of transport emissions (CO_2, NO_2, SO_2, NHMC and Dust), energy consumption, infrastructure and maintenance costs, noise exposure and operational costs, in a situation where the amount of transported tkm increases by a small ten per cent (see figure6).

3.6. CHANGES IN MODAL SPLIT AND TKM VALUES IN WORST CASE SCENARIO

The increase in tkm in the worst-case scenario is expected in all modes of transport. Figure 4 shows the exact rise in the values of modal split and tkm (per mode of transport) in the worst-case scenario. As the figure further indicates, a change in model split is not really expected. In the worst-case scenario, road transport remains the dominant mode of transportation, and the growth of inland waterway transport and rail transport is minimal to none. This means that in the worst-case scenario the different levels of government do not plan a substantive effort to make the transportation of goods by the year 2030 more sustainable. Each within their jurisdictions the governments will plan to cope with the substantial rise in tkm and adhere to the set scenario values regarding transport emissions and costs. Integration, both at the administrative and political level, is not really necessary; perhaps, only a shared plan at national level to adhere to the call of the European level to present a Belgian strategy for sustainable freight transport.

4 A TOOLBOX FOR POLICY-LEVEL AND ADMINISTRATIVE INTEGRATION

There is a rich literature on inter-organizational collaboration and integration and in the research for WP 6 we additionally conducted three case studies to increase knowledge about the processes to design and implement innovative policies through collaboration between public and private actors and across governments at different levels. In this section, we will draw on the lessons from existing literature to develop a toolbox for administrative and policy-level integration. Several of the recommendations and the instruments are also derived from the case studies we have conducted in this BRAIN-TRAINS project. For a social scientist it is extremely difficult to predict what the specific policy-making and implementation issues will be. Hence, the strategies which we mention in the next paragraphs must be regarded as list of tools that policy-makers or government officials can use in collaborative work processes, dependent on the expected outcome and the contingencies which determine the collaborative context. The list of managerial tools can both be used to achieve policy-level and administrative within *one* level of government (e.g. the Walloon government) or between different governmental levels. The latter is particularly necessary for issues of intermodal freight transport, as responsibilities and authority are dispersed across different levels of government. We will first elaborate in this section on how at the political level actors can enhance their collaboration across conventional sectoral and governmental boundaries, and then we will deal with the question of how administrative organizations can intertwine their activities across organizational and governmental borders.

Please see the notes we make on page 4 of this report in order to understand what we aim to do here and what will additionally follow in WP7.1 and WP7.2.

4.1. STEPS TOWARDS POLICY-LEVEL INTEGRATION

In Belgium, often intergovernmental networks are established to foster the development of policies across different governmental levels. These can be networks between Ministers, cabinet members, or

even senior civil servants who represent their governmental organizations in the policy design phase. An example of such a network is the ICMIT (*better known as* Interministeriële Conferentie voor Mobiliteit, Infrastructuur en Telecommunicatie), which is an intergovernmental network between the responsible Ministers of Transport, Infrastructure and Telecommunications of the federal and regional levels of government established with the purpose to seek more unison and alignment in big policy dossiers like the GEN, issues of multimodality, etc.

In these sorts of policy design networks, interactions between policy-makers can be extremely difficult as they can have different policy preferences, opinions, policy goals and jargon. For all policy-makers at the beginning of the network process, this results in a high degree of uncertainty about how the process will be handled and how the interaction with other policy-makers will develop (Klijn and Koppenjan, 2016). A goal for coordinators or 'network managers' of these networks then is to reduce the amount of uncertainty that the network participants experience and move these participants into a position from where they can collaboratively, through dialogue and persuasion, work towards the development of integrated policy solutions for intertwined policy problems.

There is a long and rich tradition of academic literature on how coordinators or network managers can optimally facilitate collaborative policy design networks (Milward and Provan, 2006; Koppenjan and Klijn, 2004; Agranoff, 2006; Sørensen and Torfing, 2012; Torfing, 2017). Generally, scholars indicate that the management of collaborative processes of policy design encompasses six different stages or process steps (*see* for instance Chrislip, 2002). First of all, at the start the network manager has to get a good understanding of the political dynamics and policy context. Secondly, the network manager has to identify, select and convene the relevant stakeholders for the collaboration. Thirdly, the network manager has to set the institutional groundwork in which the collaboration can unfold. Fourthly, the network manager has to manage the dialogues and discussions between network participants. Fifthly, the network managers has to find appropriate ways of spurring learning activities in the deliberations between involved stakeholders. Sixthly, and finally, the network manager has to funnel the discussions in such a way that eventually a shared agreement is reached on an integrated policy proposal. For each of these stages, we will present in the following paragraphs helpful managerial tools to accommodate the collaborative decision-making processes between policy-makers in search for integrated policy solutions for intertwined policy problems.

4.1.1. Step 1: Analysing the political and policy context

Before the network manager launches a collaborative process it is important that the network manager has a clear understanding of the political dynamics in which the collaboration takes place, as well as the specific dynamics of the policy problem. A network manager needs to know, for example, what levels of government and government organizations are involved, which policy-makers are involved and how these individuals relate to one another, which policy sectors the policy issue affects, what the different perceptions of the policy-makers are towards the nature of the problem and of possible solutions, and how non-governmental actors want to see the policy changed (Koppenjan and Klijn, 2004; Ansell and Torfing, 2014: 10). Hence, Chrislip (2002) argues that as a kind of 'getting-started phase' a network manager of a policy design process has to shift attention from the content of a policy issue to the political challenges which surround the policy problem. For this Chrislip developed a specific analysis methodology – the political context scan.

This scan, which has to be performed upfront the collaborative process at the political level, consists of three specific questions (Chrislip, 2002:65). The first question is: what has, so far, made coordination and collaboration between involved policy-makers difficult/easy on this specific policy issue? This question will give the manager more background on the history of the policy issues that still has a lingering effect on policy discussions. This effect of the past still having on influence on future decisions is within the academic literature understood as 'path-dependency' (Pierson, 2000). According to Mahoney (2000) specific attention should be devoted to four specific factors in this first question: utilitarian factors (i.e. the self-interest of policy-makers), functionalist factors (i.e. positive intended and negative unintended consequences of previous policies), cost-benefits ratios in relation to working alone or working together (i.e. how much value does it create for individual actors to work together instead of working alone on an issue), legitimation factors (i.e. what is most appropriate in accordance with laws and jurisprudence). The second question provides the network manager with an initial idea of the conflicts between the political stakeholders, as the network manager has to find a response to the question: what is the level of conflict among the political stakeholders? Lastly, the scan addresses the question of: what is the perceived need of policy-makers to address the issue in a collaborative manner?

Within our empirical cases this scan was done by having small interviews with policy-makers who had shown interest in being a part of a collaboration to design integrated policy solutions related to issues of spatial planning, coastal protection and sustainable freight transport (Stevens and Agger, 2017; Stevens, 2017; Stevens and Verhoest, 2016a). Besides these questions which are proposed by Chrislip (2002), from our cases we learned that it is further important in this initial 'political dynamics scan' that the following questions are addressed by a manager who seeks policy-level integration between a number of stakeholders:

- Are there currently other initiatives at the federal level or the regional levels that address the issue on which the policy-makers seek coherence?
- What are the results, or what were the results of these initiatives?
- Who were the primary players in these initiatives?
- What was the appropriate locus of work in these initiatives (neighbourhood, region, federal-level)?

For some people the aforementioned political dynamics scan might seem obvious. Some people might even argue that performing such a scan is not necessary. However, we think it is extremely relevant to do such a scan. In the case of the development of a National Plan for Sustainable Transport (Stevens and Verhoest, 2016a) we for example noted that a recurring theme in all of the political discussions was how the coordination initiative would affect the authority and power of the regional levels of government. This discussion had to do with the dualistic federal structure of Belgium and the tendency of regional governments to solve policy issues as much as possible within their own jurisdictions (Billiet et al., 2006: 3). This stresses the importance of understanding the political dynamics and the actor constellation, because if a manager does not know the background of certain political discussions, it will not be able to intervene in the right manner – without touching on politically sensitive subjects.

Apart from getting an understanding the political dynamics, it is of vital importance that in an earlier stage the manager of a collaboration, and its collaborative partners, have a clear view on what the 'end-users' (being citizens, particular interest groups, transport companies, or businesses) expect from the

government. Or as Chrislip (2002: 66) states, "comprehending how citizens and end-users think about public issues provides valuable information for initiating a collaborative process." Looking at the transport sector, including end-users and transportation organizations in the decision-making process is even more important compared to other policy sectors, as much of the policy implementation will take place within the end-users' organizations (like, NMBS, Lineas, etc.).

Within the literature there are different scholars that have elaborated on how to engage non-political stakeholders and end-users in decision-making processes (Warren, 2008), especially by scholars who are fan of the ideas of deliberative- and participatory democracy. In their view an inclusive and interactive community process can spark new ideas and enlighten problems that were otherwise unknown to policy-makers. In the region of Flanders, the policy-makers had set up a long process of stakeholders' engagement in the beginning of the design process of the new Flemish Plan of Spatial Planning. In our view this is a perfect example of how to set-up a process and collecting information from end-users in a structured manner (see: https://www.ruimtelijkeordening.be/NL/Beleid/Beleidsontwikkeling/Beleidsplan-Ruimte-Vlaanderen/Historiek).

We do realize, however, that for some policy-making processes investing in stakeholders' engagement is quite expensive, and sometimes there is too little time to engage in all the process-steps as for example they did in the aforementioned case of the development of the Flemish Spatial Planning Plan. Yet, in order to still get an understanding about how end-users think about a specific policy issue we advise policymakers to set up interviews or conduct a focus group with at least 10 to 15 people (Chrislip, 2002: 66). The group of people has to be selected in such a way that a richness of perspectives is included in the interviews of focus-group. The policymakers have to prepare an interview protocol to avoid that the discussions are not focussed. Nonetheless, the questions should at the same time not be guiding questions in the sense that the policymakers get the answers to the questions that they want to hear. An often used methodology is Appreciative Inquiry. This method has been developed by Cooperrider and Srivastava (1987).

The general Appreciative Inquiry approach is often described in terms of an ongoing four-D cycle (Cooperrider and Whitney, 2001). This is organized around an affirmative topic, that is, something that the political level wants to address. The first phase is about 'discovering' 'the best of what is'. The central aim during this phase is to find out and appreciate what gives life and energy to people, their work and their organization. The focus is, therefore, on positive stories that reflect peak experiences. The second D stands for 'dreaming' about 'what might be'. In this phase, the aim is to dream or envision how the policy context ideally might look in the future.

The aim of the third phase, 'designing', is to propose organizational structures, processes and policy solutions that support the dream as articulated in the previous phase. In the design phase the emphasis shifts from dreaming about what might be to co-constructing what should be. 'Destiny' is the last phase. Its aim is to sustain the developments and innovations of the inquiry process and to nurture a collective sense of destiny. Of course, this is a broad and abstract outline of the Appreciative Inquiry process. There are no firm rules and each process emerges in a different way. Furthermore, the four-D cycle is viewed as a continuous cycle in which the destiny phase leads to new discoveries of community strengths, so beginning the process anew. Hence, besides a good methodology to include end-users in an early stage in

the decision-making process, the appreciative inquiry methodology can be used in various stages of the deliberation process.

4.1.2. Step 2: Identifying the relevant stakeholders

One recurring conclusion in our empirical papers was that in collaborative decision-making processes some policy-makers sit in positions where the involvement of their organization accrues power within the collective (Stevens, 2017; Stevens and Agger, 2017). The latter is also something that Agranoff (2006: 61) noted. In his inductive study, including discussions with more than 150 public officials, he found amongst other things that 'despite the cooperative spirit and aura of accommodation in collaborative efforts, networks are not without conflict and power.' In a similar vein, Burt (1992: 67) reports in his study that, "it appears that in networks actors occupy different role positions and carry different weights." Hence, it is important that from the beginning onwards the network manager is aware of the different power-asymmetries between policy-makers in the collaborative arrangement. A perfect managerial tool to become aware of the power-(im)balances in a collaborative process of decision-making is the 'actor-mapping methodology' developed by Koppenjan and Klijn (2004).

The actor-mapping methodology' aims to determine who the active policy-makers are in the decision-making process, what their problem perceptions are, and what their power position is (Koppejan and Klijn, 2004:135). The actor-mapping methodology does show some similarities to the political dynamics scan of Chrislip (2002). As a starting point for the actor analysis, a first step is to formulate a tentative problem.

This tentative problem formulation is important as it demarcates the boundaries of the analysis and indicates what aspects have to be included in the analysis and which not. Though, here a first challenge can be expected. As Patton (1997) has indicated, there is no 'authoritative' problem definition in processes in which multiple actors participate, i.e.: different actors will have different views of the problem and may, in fact, be defining different problems. As a result, a person who is performing an actor analysis must be clear on which perspective will be used for further analysis (Koppenjan and Klijn, 2004:135). Patton (1997) envisions two possibilities to work around this analytical problem. The first is to select a position of a specific actor and give this position the status of provisional problem identity. The second, which is most often used, suggests that the analyst has to formulate an initial problem situation on the basis of a substantive problem exploration[5].

The second step of the actor analysis is to make an inventory of the policy-makers and their public sector organizations that are involved in or will be affected by the deliberations on an intertwined policy solution. An immanent problem emanates when analysts are confronted 'compound actors'. 'Compound actors' are organizations which are represented by more than one unit in the multi-actor constellation. A Ministry of Transport and Mobility can, for example, be represented by both the Department of Fluvial Transport as well as the Department of Rail Transport in multi-actor policy games on issues intermodality and sustainable mobility (Stevens and Verhoest, 2015). To assure the retrieval of the right amount of actors in the second step of the actor analysis and avoid possible confusion on compound actors, Koppenjan and Klijn propose the following rule of thumb (2004:139): select an 'organizational' or

[5] This substantive problem exploration will be guided by the following questions: *what does the current and expected situation look like if the policy continues in similar fashion? What are the (undesirable) consequences that derive from this situation? What can be considered as the causes for the situation and what can be considered as the 'desired' situation?*

'aggregation' level as high as possible, without losing information or including irrelevant objectives into the analysis.

Pivotal in the third step of the actor analysis is the *construction* of the problem perceptions of involved policy-makers. This step is more labour-intensive and time-consuming than the prior steps of the actor analysis. A problem perception, according to Patton (1996), consists of a number of aspects, these are: the 'standards' that actors use to assess problem situations, the 'interpretation' of the existing and expected situation and possible 'starting points' for intervention. The problem perceptions held by the different policy-makers can vary with regard to each of these aspects (Koppejan and Klijn, 2004:139). Often actors' perceptions will not be explicitly documented. They rather exist in the minds of those involved (Ibidem). Therefore, it can be a challenge to reveal the real motives and intentions of an involved actor. Most of all, an analyst must be cautious not to fill in issues for an actor since it might be the case that an actor has not even thought about a certain aspect of a problem or simply has no opinion about it (Idem:140). On the basis of interviews and the revision of policy documents, an analysist can try to ascertain the problem perceptions of involved policy-makers.

The fourth step of the actor analysis is to determine the 'power' position of the public sector organization in the multi-actor constellation. Koppenjan and Klijn (2004:144) recommend to look at the resources that actors have at their disposal and see what these resources mean to other policy-makers. Within the academic literature a variety of resources are distinguished (Aldrich, 1979). Koppenjan and Klijn (2004: 144) focus on five[6] types of resources, to mention: financial resources, production resources, competencies, knowledge and legitimacy. When the organizational resources are mapped (for example, on basis of the decree of existence of the organizations), the degree of dependence of the resource are to be analysed.

For this the taxonomy of Scharpf (1978) is most often used. In this 1978-book called *Interorganizational Policy Studies*, Scharpf states "that the position of the actors in collaborations depends on the *importance* of the resource that an organization possessed and the *substitutability* of it. Basically, the first aspect considers whether the resource that an organization possesses is necessary for the realization of a collaborative policy strategy and the second looks at whether the resource can also be acquired by one or more of the other policy-makers involved. Hence, policy-makers can be more or less dependent on the resources of others. For example, if a policy-maker with formal authority from the federal level withdraws itself from the deliberations on a new policy plan, than it will be more difficult to establish a new policy program that encompasses the different levels and various sectors of government. In this way, the *importance* and *substitutability* of a resource that an actor possesses determines what actors are more critical, and as such have a stronger bargaining position, for the fulfilment of an intertwined policy solution than others. Hence, an analyst needs to make a good assessment of (1) how much value each of the policy-makers attribute to the resources of other involved policy-makers and corresponding public sector organizations and (2) whether these resources can be acquired in another way by involving other policy-makers. On the following webpage an actor-analysis tool of the Flemish government can be retrieved: www.imagotoolbox.be/wp-content/uploads/2017/01/actoranalyse_uitgebreid.pdf.

[6] For definitions on the five different types of resources that Koppejan and Klijn identify, see pages 144 and 145 of the 2004-edition.

4.1.3. Step 3: Setting up a strong groundwork from where the collaboration can unfold

The previous managerial tools are mainly used 'before' the real collaboration in decision-making processes takes place. Yet, just before the network manager focusses on the interactive dynamics (i.e. dialogues and discussions between policy-makers), it is important that the network manager sets a strong groundwork from where the collaboration can unfold (Stevens and Agger, 2017). A first aspect of setting up a strong groundwork entails setting the goal of collaboration. This should not be unilaterally decided by the coordinator, this can best be done by mutual agreement between the involved partners/government levels. Figure 7 presents the possible types of outcomes that be produced. Metcalfe (1994) developed the scale for collaboration between Ministries. Of course, the fragmented institutional set-up of the transport sector requires that coordination and collaboration is sought across different levels of government. Ultimately a shared government strategy is eventually strived for over levels of government, however, in some situations a 'mere' information- or data exchange is already a difficult puzzle to solve. Hence this classification as presented in figure 7 can be applied for setting the goal for intra-governmental collaboration but mutatis mutandis also for setting the goal for intergovernmental collaboration.

FIGURE 7: DIFFERENT DIMENSIONS OF POLICY-LEVEL INTEGRATION.

9. Government strategy
8. Establishing central priorities
7. Setting limits on ministerial action
6. Arbitration of policy differences
5. Search for agreement among ministries
4. Avoiding divergences among ministries
3. Consultation with other ministries (feedback)
2. Communication to other ministries (information exchange)
1. Independent decision-making by ministries

Source: Metcalfe (1994, p. 218).

A collaborative decision-making process further needs financial resources to support it. Hence, the network manager needs to see to it that interested network parties (all) contribute to the collaborative endeavour, and that all necessary network operations can be performed. Most likely, a collaborative budget has to be established that covers the following expenses: administrative expenses (including salaries and office expenses for staff), meeting expenses (for example, meeting rooms, meals or refreshments, equipment, transportation, field trips, etc.), process expertise (including fees and expenses for consultants that help facilitating the process), and content expertise (including fees and expenses for experts or scientists that are consulted in the collaborative process). The credibility of a collaborative initiative depends in part of the credibility of its funding sources. Multiple funding sources help mitigate the perception that organizations making larger contributions have an inordinate voice in the outcome of the process. When funds are secured the convening group should develop a means for allocating financial resources in a clear and transparent way. It is important to note, however, that there is a difference between the budget necessary for the collaborative decision-making process and the implementation of

the integrated policies. Regarding the latter, more information will be given when we elaborate on management tools for securing administrative integration.

Besides aspects of funding and defining the goal of the collaboration, the network manager has to decide (perhaps, together with the participating policy-makers) additionally on how they as a group will agree on decisions. Normally, collaborative initiatives seek consensus, an overwhelming agreement – or even unanimity – about what to do. Defining consensus (e.g.. 50%+1) or overwhelming agreement (e.g. 67%), specifying how it will be measured or tested and identifying how decisions will be made if consensus cannot be reached will prevent potential misunderstanding later in the deliberative process.

Different scholars, like McKearnan and Fairman (1999: 329) have argued, that "groups should seek consensus but not require it to reach closure on the group's decisions." The goal of unanimity may allow one or a few policy-makers to hold the group hostage to their demands. After due diligence efforts to research consensus, it is therefore often enough to settle for an overwhelming agreement. Other scholars, however, believe that consensus should be the only goal and that groups should continue working through issues until initial unanimity is reached. This requires skilful facilitation (see step 4) and strong facilitative leadership to prevent a few people from exerting too much influence in the decision-making process.

To avoid the latter, the network manager can make use of a so-called 'agreement-scale', developed by Kaner (1996), to check from time to time the level of agreement on certain subjects. Kaner suggests an eight-point scale: endorsement, endorsement with a minor point of contention, agreement with reservations, abstain, stand aside, formal disagreement but willing to go along with the majority, formal disagreement with request to be absolved of responsibility for implementation, and block or veto. When a high level of support for a decision exists with few reservations or objects, consensus can be acknowledged. Low levels of support indicate the need for further efforts to build consensus or fall back on an alternate method of decision-making.

Especially Chrislip (2002) recommends managers of collaborative decision-making processes to work with a fall-back decision-making rule of consensus cannot be reached. Sometimes another decision-making body of group of actors can be designated to make a formal decision, for example if as a first attempt a group of senior administrative leaders try to reach a consensus in a decision-making process but when this fails the Ministers will sit together to seek for unison. Other fall-back decision-making rules use some form of voting. Such a rule defines what a majority means: e.g. 51 percent or two-thirds majority. Often the decision to vote may itself require a vote. A vote to vote rule usually sets a high threshold, for example, an 80 percent majority might be required in order to prevent premature or overuse of voting. For many network members the threat of deferring to the fall-back decision-making option motivates them to keep working toward consensus (Chrislip, 2002:80).

A fourth aspect which needs to be considered by the network manager when setting the groundwork from where the collaboration can evolve is the establishment of certain ground rules. In the case of the development of the Flemish Sustainable Spatial Planning Policy Plan these ground rules were documented to ensure that every network member of the collaborative decision-making process could be held accountable for their possible non-collaborative behaviour in the policy arrangement (Stevens and Agger, 2017). These were general rules which are continuously used in the deliberative policy-making process.

Nonetheless, this does not mean that the rules have a mere symbolic value and that the network manager should not strictly see to it that each network participant respects these rules. In the case of the aforementioned Flemish policy plan the following ground rules were defined: *respect* for the people, manager and process, *fairness* with regard to equal speaking time for all network members, *listening* to the contributions of all policy-makers, *openness* towards others' points of view, *confidentiality* in terms of what has been said within the four doors of the general meeting, and *commitment* to be present at the meetings and doing a decent effort to reach a shared agreement.

The last aspect of setting a clear groundwork has to do with the planning or process-steps of the collaboration. From the empirical cases of this project it became clear that in emergent collaborations, policy-makers in some instances found players at the decision-making table with different preferences, expectations and working routines. Some people knew each other from other collaborative process, whereas other network members were complete strangers. Furthermore, most of the network members had in the beginning no idea of the process steps of the collaborative process or working methods. The only certainty they had was that the eventual agreement could act as a game-changer and alter the way in which the departments operate, relate to, and interact with each other. Hence, most network participants looked expectantly to the network manager about how the collaborative process would proceed.

The main task of the network manager with regard to making clear process-steps is to avoid that the collaboration becomes a free-for-all. A perfect response to avoid such a free-for-all is to conduct the collaborative work in an orderly fashion, building deeper and more meaningful and elaborate agreements in each succeeding stage. The design of the process-steps must in the beginning not be all-encompassing. There still needs to be room and space for the policy-makers themselves to take initiative and create their own 'decision-making rounds'. Nonetheless, in the end the policy-makers should at the start of a collaborative process understand what they are getting in to. In particular, the design of the process entails the following steps: selecting an appropriate approach to discuss an issue or concern, defining the work flow of the process, planning an initial number of meetings to get things started, making a time-line with intermediate deadlines, and identifying the tracks of activity (Chrislip, 2002:81).

4.1.4. Step 4: Managing the collaborative process

In recent years, we have seen a gradual rise in the number of papers that focus on the management of decision-making processes in collaborative networks (Ansell and Gash, 2008). In many of these studies, scholars have argued that managers of these collaborative decision-making processes do not 'command' in the same way as they might do in hierarchical organizations. The reason for this is that collaboration is typically voluntarily. In addition, as Bryson, Crosby and Middleton Stone (2006) have indicated, collaboration operates in a 'shared power' world in which different stakeholders control specific resources and have their own distinct bases of power and authority. Hence, Ansell and Gash (2013: 5) argue that the key adjective that can be used to describe the management of decision-making processes in collaborative networks is 'facilitative', i.e. managers may bear responsibility for steering colaborations toward efficient service delivery, consensus or creative problem solving, but they must work within the constraints imposed by voluntary action and shared power.

In specifying different management styles and strategies, scholars have mainly taken a contingency approach for explaining the behaviors of managers in collaborative networks. The contingency approach assumes that there is no single best way to exercise the management of collaborative networks; because,

different tasks, goals, and contexts, place distinctive kinds of demands on managers (Agger and Sørensen, 2016). In some collaborations, for example, the primary challenge of the manager may be to cultivate sufficient trust among the stakeholders in the collaborative network. In other situations, the core task of the manager can be to help an already functioning collaboration of stakeholders to be more creative or innovative.

The concept of network management has been a widely debated subject in the public management and governance literature. Network management can be understood as, "the endeavors and interventions of a central actor ('the network manager') to facilitate collaborative networks, by shaping the conditions under which these governance networks operate and involved actors interact with each other" (Voets, Verhoest and Molenveld, 2015:983). In the last 15 years, we have, amongst other things, increased the insights how network managers can spur dialogue in a collaborative network, translate between different experiences and perceptions of task of network members, or reformulate multi-actor conflicts into dilemmas which can be balanced and settled (Agranoff, 2006; Koppenjan and Klijn, 2004).

In these studies, different taxonomies of management roles and tasks regarding the facilitation of collaborative decision-making processes have been developed. Agger and Sørensen (2016: 5), for example, developed a taxonomy of management roles and tasks managers can perform to bring about 'collaborative advantage' for involved partners. More specifically, they argue that a manager of a collaborative decision-making process must act as *pilot*, to give direction to the collaboration and keeping it on track, as *whip* to ensure that network members are not reluctant to participate in a collaborative manner in the decision-making process, as *culture-maker* to normalize creativity and innovative behaviour in the collaborative arrangement, and as *communicator* to spur dialogue and learning in the collaborative arrangement and connect network partners.

In a similar vein, Agranoff and McGuire (2003) suggest that network managers must *activate* network members to collaborate, *frame* discussions, *mobilize* individuals to make a commitment to the joint undertaking, and *synthesize* the network by creating the environment and enhancing the conditions for favourable, productive interactions among network participants. Other taxonomies of management roles are: the network management triangle (Stevens and Verhoest, 2016a), the role of network manager as 'therapist' (Stevens, 2017b), the Innovative-Leadership Model of Termeer and Nooteboom (2014), the four public design attitudes of Bason (2014), and the Model of Facilitative Leadership of Ansell and Gash (2013).

Many of these taxonomies of management roles are relevant and a good reminder for network managers about how they ought to behave in collaborative decision-making processes. However, the management roles are also not very specific, that is to say, they do not give specific micro-level management strategies that can be used to foster interactions between network participants in collaborative political discussions. As a part of this BRAIN-TRAINS project we have contributed by examing three exemplary cases about how specific micro-level management strategies can foster the development of innovative and intertwined policy solutions between a multitude of policy-makers (Stevens and Verhoest, 2016; Stevens and Agger, 2017; Stevens, 2017a). In addition, Koppenjan and Klijn (2004) have on the basis of intensive empirical research offered a list of micro-level management strategies that can help network managers facilitate decision-making process. The combination of the micro- level management strategies that emerge from

our empirical cases as well as the strategies offered by Koppenjan and Klijn are discussed and presented in the following paragraphs.

According to Koppenjan and Klijn (2004:10) there are three specific sorts of uncertainties that a network manager has to tame in collaborative decision-making processes: substantive, strategic and institutional uncertainty. Substantive uncertainty has to do with uncertainty with regard to the (different interpretations the actors involved have of the) nature of complex problems and possible solutions. In addition to substantive uncertainty, there is strategic uncertainty. This stems from the strategic choices the involved actors make with regard to articulating their preferences. Finally, networks are characterized by institutional uncertainty. That is to say, the involved actors in the network will have different institutional backgrounds in terms of how they usually address issues, organize their processes, make decisions, arrange their activities, etc. This has its consequences for what specifically these policy-makers expect with regard to how discussions and the process itself in networks are organized and accommodated. For each of these types of uncertainty, we list micro-level management interventions that can help overcome these different sorts of uncertainty.

4.1.4.1. Overcoming substantive uncertainty

Substantive uncertainty, thus, is about differences in perception between policy-makers involved in the network about the nature of the policy problem and thereby possible ways to tackle it. To avoid substantive fixation (i.e. a situation in which policy-makers will remain in their fixed positions and do no effort to move closer to a shared policy understanding and a collaborative approach to tame the issues), the management of substantive uncertainty should not focus on the *ex-ante* creation of an authoritative problem and objective formulation that guides the process of problem solving (Koppenjan and Klijn, 2004: 245). Instead, network managers are advised to work with the variety of perceptions and objectives. There are various strategies a network manager can use to overcome substantive uncertainty among policy-makers in networks.

4.1.4.1.1. Furtherance of goal intertwinement

A first strategy is understood as the 'furtherance of goal intertwinement'. Dealing with the plurality of perceptions does not necessarily mean that actors always have to develop consensus and that they have to agree about their objectives to arrive at a joint solution. The probability of gaining support for a solution is greater when the parties are willing to accept differences, i.e. when solutions are developed that aim at the simultaneous realization of diverging or apparently conflicting objectives. Management aimed at goal intertwinement is thus about creating win-win solutions that succeed in doing justice to the various perceptions and goals of actors involved (Dery, 1984; Stevens and Agger, 2017). When a solution is able to achieve this, it successfully binds parties together without requiring them to reach substantive agreement on problem definitions or objectives. There are various ways in which goal intertwinement can be reached.

Goal intertwinement can be furthered through package deals (Klijn and Koppenjan, 2016). In the Netherlands, for example, in developing measures to control the rise of the water levels in the sea and rivers to deal with anticipated impacts of climate change, the Dutch government did not define specific measures like heightening assigned dykes, which might be met with resistance by local and environmental groups. Rather, it started a programme in which a wide set of measures could be discussed and combined among planners, local governments, water authorities, property owners, residents, farmers and local

businesses, as long as they could all contribute to outcomes that would address the problem of rising water levels. The result was a programme that included a package of solutions, including higher dykes, water retention areas, innovative construction of building and evacuation measures. Sometimes, solutions or package-deals manage to combine a number of objectives, but at the same time they can produce negative effects for others. In these situations, goal intertwinement can be spurred by proposing and discussing mitigating and compensation measures.

The opportunity to intertwine objectives and find compensation measures is related to the perception of the scope of the space within which a solution is sought. Conscious decisions regarding the delineation of this scope are referred to as scope optimization, which provides an instrument for achieving goal intertwinement. Scope optimization means that the definition of the problem situation must be enlarged to achieve unison.

Klijn and Koppenjan (2016: 136) give in their book an example of a highway project which was initially perceived as an answer to a traffic problem. Eventually, however, the highway project was framed as an issue of area development. In consequence, the room for goal intertwinement was considerably enlarged. Through the enlargement of the scope, more issues and solutions could be brought together; which in turn created new opportunities and intertwined policy proposals which could not have been developed if the highway project was simply perceived as a traffic measure. This caused that the problem-solving was given a new momentum – and that eventually the involved actors could more easily agree on shared solutions.

4.1.4.1.2. Promotion of substantive variety

Given the variety of perceptions, opinions and ideas present in decision-making processes, a second way to deal with substantive complexity is the promotion of substantive variety. For some people, this idea of promoting different solutions in parallel decision-making processes might sound like a crazy idea. However, processes of designing policies often display a remarkable lack of solutions. It is precisely the fixation on one single solution that can trigger conflict between parties and disputes on content. Therefore, the scope for seeking goal intertwinement can be stimulated through 'creative competition' (Koppenjan and Klijn, 2004).

Creative competition, particularly, entails that a problem owner (or a group of problem owners) organizes a competition in which various design teams participate. Each of these teams develops a solution on the basis of a general description of a problem analysis or a programme of demands. Options for decision-making are thus held open as long as possible during the process and alternatives are developed simultaneously. Policy-makers can eventually decide on which of the alternatives best addresses the selected policy problems. It might be the case that partners disagree on which solution is most suitable for the targeted policy problem. In this situation, the designers can be asked to adapt their solutions and incorporate ideas of the 'other design teams'. This activity of creative competition can stimulate congruence among actors in complex decision-making processes.

4.1.4.1.3. Breaking through asymmetrical policy discussions

Discussions about the solution of complex societal problems can easily develop into an asymmetric policy debate. Parties try to convince one another of their own position, whereas in reality they are talking past one another or becoming entangled in a dialogue of deaf, where every effort to break through

disagreements only leads to further conflict. Asymmetry can take different forms. In many so-called NIMBY ('Not in my Backyard') projects aimed at the realization of infrastructures, like roads, railways, ports, dykes, etc., local stakeholders resisting these facilitates are often unable to provide a full-fledged alternative to the option developed by the government. They limit themselves to listing objections to various parts of the government's proposals. They exercise their hindrance power by making their objectives known through hearings and appeal procedures. This often results in delays and government taking extra measures to alleviate some of these objections on certain point. However, in these situations no serious alternative plan is brought forward. As a result, it is hard to find innovative solutions that intertwine various goals and result in win-win situations.

One important underlying cause of these asymmetrical debates is the closed planning method used by government that takes societal actors by surprise and leaves them little time to develop comparable alternatives. In addition to this, most interest groups have limited capacities for developing full-fledged alternatives that can compete with those of public policymakers (van Eeten, 1999). Management attempts to foster joint-image building should therefore also be aimed at reducing asymmetry in debates about problems and their solutions.

There are different management strategies for overcoming asymmetrical policy discussions. In the empirical case on the Flemish spatial planning initiative (Stevens and Agger, 2017), the network manager tried avoid asymmetrical policy discussions and to break new ground by developing a shared language between the policy-makers. The manager noticed that during the discussions certain words seemed normal for some policy-makers, while they were jargon for others. The term 'quality of space' or 'mobility nodes', for example, had different meanings for network members. Therefore, at the end of each meeting, the manager added new words with definitions to a glossary. This way, the policy-makers created a shared interpretation of specific terms. The manager believed that, if they had more time, this glossary could have served as a roadmap to further develop new concepts or paradigms that better fit and defined the intertwined nature of spatial planning policies.

Another way to deal with asymmetries in debates is to confront the dominant storyline, about what the problem is and its causes and what measures must be taken, with a full-fledged and credible *counter voice*: an alternative storyline or vision that does not consist of a causal collection of critiques of parts of the dominant argumentation, but a unique storyline that elaborates and argues a new solution based on an alternative problem formulation (Hajer, 1995). This requires a substantial investment of resources and intellectual attention in processes of problem solving that not all parties are able to provide. Thus, management strategies can be focused on supporting these parties and thus indirectly furthering the development of a counter-voice.

This motive often forms the basis for subsidizing interest groups organizations so that they can become more professional. This type of strategy is a form of network structuring – i.e. allowing new actors to become a part of a policy discussion. The earlier mentioned method of creative competition is one of the ways to pursue the development of competing, full-fledged policy alternatives. The dominance of a single solution in problem-solving processes can be considered as an asymmetry in extreme. Through the simultaneous development of a comparable alternative and keeping options open as long as possible, the debate can acquire a more symmetric argumentation structure.

4.1.4.1.4. Research to facilitate decision-making

Besides aforementioned management strategies of a network manager, 'research' can play an important role in facilitating decision-making between policy-makers that look quite differently at policy situations. Research can demonstrate the consequences of certain policy ideas, show the bandwidth within which solutions can be generated, suggest new angles, etc. Network managers are advised to not use research for settling knowledge conflicts, but rather as a facilitating instrument to stimulate discussions. Specifically, this means that research outcomes must not be seen as decisive. It helps a lot if research efforts are commissioned jointly. In this way, parties can mutually adapt expectations and demands with regard to research questions, assumptions, methods, scope, length and the selection of researchers.

In one of our empirical cases, the network manager made the decision to make use of a so-called LABO-format. A LABO-format is an often used policy design instrument which allows civil servants to think about long-term policy plans and solutions without having to consider existing policy plans, law texts, and jurisprudence. Such a LABO-format is a perfect research instrument to discuss radical policy solutions, like new coastal protection policy solutions, without too much interference from politicians, like Ministers or cabinet members. A perfect example of how to integrate research in the decision-making process is the LABO study of 'Metropolitaan Kustlandschap 2100'. More information on the specificities of this project can be retrieved from: https://vlaamsbouwmeester.be/nl/instrumenten/labo-ruimte/metropolitaan-kustlandschap-2100.

4.1.4.2. Overcoming strategic uncertainty

Where the coordination of substantive uncertainty is focussed on 'understanding each other', or even 'getting a shared understanding', the management of strategic uncertainty is more zooming in on the (strategic) actor behaviours in the discussions and collaborative activities. Every policy-maker makes strategic (behavioural) choices that influence the debates and collaborations in networks. Collaborations in networks bloom when actors do not perceive each other as opponents, but rather as 'collaborators' and 'partners'. Specifically, strategies aimed at 'managing the game' between policy-makers can spur collaboration, and reduce the impact of strategic actor behaviour on the decision-making process. 'Managing the game' – or process management (Klijn and Koppenjan, 2016: 138) – encompasses three different aspects: (1) connecting or disconnecting actors, (2) designing rules of the game, and (3) the facilitation of interactions. From our case results, it further becomes clear that engaging with individual network members and using playful working methods to avoid conflicts are two other valuable managerial interventions to overcome strategic uncertainties. We will elaborate on each of these aspects of process management in the following sections.

4.1.4.2.1. Connecting or disconnecting actors

When policy processes stagnate because actors use go-alone strategies or become entangled in conflict-inducing or avoidance strategies, process management can take the shape of selectively connecting or disconnecting actors (Hanf and Scharpf, 1978). Connecting consists of bringing together actors who are involved in the articulation of a problem situation or the development or promotion of a policy solution. When parties are brought into contact with one another, new opportunities can emerge for them to coordinate their activities and achieve an outcome that is an improvement for all.

Connections between actors will initially be made on an ad hoc basis, by informing and inviting actors, by motivating them to join the interaction process, and by bringing them together and facilitating their

conversations. When actors prove interested in continuing their interactions, it may become important to anchor their connections in one way or another. A light arrangement can consist of making agreements between parties to serve as a basis for voluntary information exchange. Such an arrangement can have the nature of a gentleman's agreement. A more substantial coupling is created when parties engage in more frequent interaction in the context of handling a problem so that a new arena is created or a new game initiated. Through letters of intent, cooperation agreements, or even contracts, connections can be anchored and their sustainability safeguarded (Keast et al., 2007).

As far as making connections is concerned, process management consists of bringing parties together by making contacts, motivating them, giving them the opportunity to consider the advantages and disadvantages of connections, and supporting them in seeking ways to arrange their connections. Connections are, however, not necessarily fruitful and do not always offer the prospect of opportunities for intertwinement and profit. They can also be dysfunctional. Therefore, instead of actors being drawn into an impasse or conflict in a parallel process, disconnecting them may help to give a new momentum to a process. This can be done by asking actors to withdraw voluntarily from interaction processes (not easy!), by terminating or not prolonging collaborations, processes or agreements, or by de-intensifying interactions between actors. However, ending interactions may often prove to be at least as difficult as getting them started. Often, external events or interventions from outside are needed to legitimize the disconnection of activities. Since process managers do not have hierarchical means to exclude actors from interaction, they often simply have to wait for the right moment before actors, arenas, and games can be disconnected (Klijn and Koppenjan, 2016: 156-157).

4.1.4.2.2. Designing the rules of the game

Interaction between parties will only come about when actors perceive the costs and risks of the collaboration as acceptable. This presupposes that the interaction process between parties has to some extent been organized; in other words, that agreement has been reached about the rules of the game that will reduce the strategic complexities involved in interaction. For the process manager, this means that, in addition to looking at the functional and dysfunctional interactions between network members, he/she has to invite participants to discuss the way they are going to arrange their interactions. This can be done by providing them with a set of process rules about how they will behave during the process. Actors may be asked to agree beforehand, or during the initial stages of the process, upon this set of rules and commit themselves to them. We call these agreements about the rules of the game the 'process design'. A process design is an agreement between actors by which they bind themselves to a set of rules that will guide their interaction aimed at the joint realization of a certain outcome, the investment of resources, and the fulfilment of activities to accomplish that outcome (Bryson et al., 2006; Ansell and Gash, 2008).

In step 3, we already elaborated on what can be discussed regarding the design of the game rules (we called this the step of setting a strong and clear groundwork). As a reminder, we advised network managers to urge network members to agree on the objective of collaborating, rules concerning participation (e.g. entrance and exit rules), rules concerning conflict mediation, rules concerning the planning of the process, rules about the work methods, and rules about information-sharing and decision-making in the collaborative arrangement.

4.1.4.2.3. Actively intervening in the network interactions

A third way, according to Klijn and Koppenjan (2016), to reduce the amount of strategic uncertainty in collaborative work processes is to actively intervene in the interactions between network members in the collaborative arrangement. Klijn and Koppenjan (2016: 173-174) developed a long-list of actions a network manager has to adhere to in order to successfully facilitate the interactions between network members. They argue that process-managers, acting as being one of the network participants, have to:

- …explore and explicate profit opportunities for parties, connect and disconnect actors, and recruit and motivate parties to participate in the interaction process;
- …provide meeting facilities, draw up the agenda and keep it up to date, administer the interaction, and provide the necessary information and information systems;
- …invest in the social aspects of cooperation and further the creation of a favourable climate in which parties meet;
- …improve interaction by asking actors for understanding of one another's values, perceptions, and objectives. They articulate the concerns that parties have and seek ways of accommodating these;
- …help to determine process agreements, and to that end explore the expectations and objectives of parties, their differences of opinion, and their shared interests. They also ensure that agreements are written down, signal whether they are functioning properly, report their observations to the parties involved, and propose changes;
- …prevent early substantive standpoints and further the creation of substantive variety;
- …raise questions to clarify discussions, signal misunderstandings, social asymmetries, and differences in language, and try to find solutions for these;
- …signal contradictions, fixations, conflicts, and impasses, and take care of mediation.
- …if necessary, propose arbitration for the solution of conflicts, e.g. by appointing a committee of `wise persons' and ask them to come up with solutions to break the impasse.
- …protect the external legitimacy and embeddedness of the process by assessing which insights and decisions in the process must be shared with parent organizations, constituencies, third parties, and the public at large;
- …ensure the creation of a level playing field by signalling information differences between network members and create ways to ensure equal access to data and documents.

The qualities of facilitators or process managers who actively intervene in network interactions and discussions are, to a large extent, in the area of empathy, diplomatic skills, tacit knowledge, procedural creativity, motivation, and integrity (Klijn and Koppenjan, 2016: 174). Affinity with the content of the problem area is also necessary in order to identify substantive profitable opportunities and negotiated nonsense. Too great a substantive expertise, however, can be counterproductive: facilitators should not identify themselves with a particular problem formulation or solution direction or act like an expert. If this happens, they will lose the trust parties have in them and thus their authority. All in all, facilitating and actively participating in network interactions is labour intensive (Sørensen, 2014). This is often underestimated by the parties involved. There is a danger that facilitators lack sufficient capacity and succumb to the created information overload during the interaction process.

4.1.4.2.4. Engaging with individuals

From our empirical cases, two other useful strategies were distilled. The first one entails connecting with individual network members. When it comes to the management of collaborative decision-making processes, the interventions that are proposed by scholars do not yet focus extensively on how to engage with 'individuals'. Most of the time scholars speak of how the network or process as a whole can best be facilitated. Often little attention is given to how individual network members think, behave and act in collaborative processes of decision-making, and how in consequence the network manager can best address them in order to have an impact on their individual actor behaviour.

From the empirical cases, however, it becomes clear that there is no general kind of actor behaviour. In fact, we have seen a multitude of behaviours and different personality traits that characterize individual network members. In addition, especially as described in the articles on the development of the Flemish Plan of Sustainable Spatial Planning and the Flemish Plan of Coastal Protection, the network managers used an adaptive management style to target single persons in the hope to change their way of acting.

To elucidate, within the case of the development of the Flemish Plan of Sustainable Spatial Planning, humour proved to be a powerful weapon to silence the 'dominant' representatives in the administrative network. By making a quip about someone's rigid behaviour or rituals, the manager tried to let these dominant representatives know, in a clear but friendly manner, that there were also other representatives involved in the deliberations. It was not the manager's intention to offend the representatives with his funny remarks. As such, he used this management strategy sparingly and only used it on those who appreciated this form of communication. Alternatively, the manager would take a dominant or rigid representative aside 'in the corridors' to let him or her know that he did not appreciate their behaviour in the general meetings.

For 'introvert' representatives in the network, the manager had another method. In bilateral talks or conversations with a small number of other representatives, the manager tried to create 'safe-spaces' for introverts to help them feel comfortable sharing their opinions and thoughts. Another strategy was to directly ask the shy representatives their opinion on a specific matter during the general meetings. Very occasionally, as a last resort, the manager would contact a very shy representative's senior leaders to inform them the interests of their organization were not well-represented in the interorganizational arrangement. The manager hoped that, with a little push from the home-organization, the shy representative would feel more pressure to actively engage in the discussions of the collaborative network.

In the case of the development of the Flemish Coastal Protection Policy Plan, the network manager was even more specific by distinguishing four types of people in the collaborative arrangement: visionary representatives, devil's advocates, specialists, and pulse-takers. For each type of personality the network manager used a different management approach to ensure that each network member became comfortable with their expected roles and positions in the collaborative decision-making process.

The visionary representative were the people who were capable of telling clear stories about how the big transformations within the policy field of coastal planning could look like by the year 2050 and beyond. The visionary people were in the final stages of the collaborative process very important to connect (discussed) innovative ideas of earlier meetings into coherent policy stories. The disadvantage of these

visionary representatives, however, was that their contributions were oftentimes very abstract and non-specific. Hence, as soon as network members started to look for more detailed policy solutions to turn the broad policy stories into reality, the network manager was more strict on the contributions of these visionary representatives to the dialogues.

The devil's advocates were the representatives who always wondered what all these out-of-the-box ideas would cost and what in practice these innovative solutions meant for the way in which the government had to reorganize itself. The antagonism of the devil's advocates was a valuable tool to check whether an innovative idea was a great solution to coastal problems, or whether these were just solutions for made-up problems. Hence, the network manager 'used' these devil's advocates to keep questioning the necessity and possible succes of proposed innovative policy ideas.

The specialist were the representatives who knew everything about laws, parliamentary decrees, political tensions, or technological developments. According to the case's network manager, "achieving intertwined policy solutions is not just about thinking out-of-the-box – at a certain point in the design-phase the discussion turns into whether the policy idea can be implemented in the current policy constellation, and if not, what changes are necessary to make the policy happen." At these moments in the deliberations, it is great to have specialists on board, as their expert knowledge helped the administrative network to propose solutions that were not mere 'policy dreams' but which also included a structured and logical roadmap of how these ideas could be implemented.

The 'pulse-takers'were the people who had an eye for the human factor. During the discussions on innovative new policy plans, most representatives talked about the economic activities, infrastructure, and residential areas in the coastal areas. However, they sometimes forgot when they, for example, discussed possibilities to flood certain villages for the protection of the rest of the Flemish coast, that in these villages citizens lived. The network manager, therefore, frequently asked the pulse-takers to comment on whether the discussed proposals were relevant for the citizens living in the coastal areas. Furthermore, the pulse-takers orgaznied field trips to give the other network partners a better sense of the problemacy and living conditions in the coastal area.

To some extent, the network manager in the latter empirical case performed some kind of puppet-play, where she as a puppet-master, moved the right persons in the right positions at the right moments in the deliberations to ensure that innovative ideas were turned into coherent and comprehensive policy stories. The network members had different ways to communicate and different personality traits. Eventually, by connecting the right network members, or terminating interactions when necessary, the network manager was capable to ensure that the transformative ideas of all network members were in the case not diminished to unimaginary and conventional policy compromises. This teaches us that 'people knowledge', and the right use of this knowledge in connecting or terminating relationships, is another helpful managerial asset to catalyse the production of shared policy solutions in collaborative deicsion-making processes.

4.1.4.2.5. Playful working methods to reduce conflict

From the empirical studies of this BRAIN-TRAINS project, it further became clear that all was not harmony in the collaborative decision-making processes. Numerous examples of conflicts over organizational turf, the contribution of resources, staff time devoted to the inter-organizational process, the location of

meetings, etc. were mentioned in the case studies. These struggles represent the hidden aspects, or the 'dark side', of collaborations. Many of these conflicts had to do with the issue of 'power'.

Although some network scholars look at collaborative networks as coequal, interdependent, patterned relationships (Klijn, 1996), we could simply not escape the notion that in the empirical cases different actors occupied different role positions and carried different weights. In addition, some network members even adapted their behaviour in accordance with the 'perceived' power asymmetries in the collaborative network. For example, several actors acted as 'core' players by exploiting their powerful position to control network exchanges (Rowley, 1997: 903). Other network members, in contrast, showed a certain kind of 'Hermit-like[1]' behaviour in the network interactions. Again others, tried to get the most out of their 'mediocre' position by navigating between the different interests of the 'core' actors in the decision-making process. By striving for parity among strong competing interests, these actors created room to articulate their own concerns in the deliberations (Rowley, 1997: 902; Oliver, 1991: 157).

These power imbalances were not a real obstacle to collaboration, as long as the 'little players' had the feeling that network alters listened to them and incorporated their ideas. What particularly helped the network managers to deal with the power imbalances were, what I labelled in the case of the development of the Flemish Coastal Protection Policy Plan, as 'playful working methods'.

To elucidate, many representatives in this empirical case supported collaboration. They saw it as a fantastic opportunity to find better solutions to tackle complex and intertwined policy problems. Yet, one of the big problems was that many network members thought that they were experts in *collaborating,* while in fact they were not. They insisted that the collaboration occurred in the setting of a regular meeting – meaning that everybody was taking notes, waiting for their turn to speak and deliberate in an orderly manner. In consequence, every network member mainly used 'their time to speak' to articulate their organizational interests and look for flaws in the positions of their network alters. As a result, many of the deliberations turned into organizational trenchwars.

However, when the network manager introduced less ordinary – and more dynamic – working methods, the network members began to develop a sense of community, since they were not only searching for innovative ways to deal with future challenges of coastal protection, but also innovating their working methods to achieve collaborative results. In the emprical case, two particular playful working methods seemed to have a positive effect on the collaborative atmosphere in the adminsitrative network.

First of all, the network manager started several of meetings with sharp and edgy statements. Examples of these statements were: how can we protect the Flemish coast if half of it will be flooded by 2050, or which coastal regions will give us the most economic growth if we can only invest a limited amount of money in our coastal areas? These statements urged the network members to look beyond their 'organizational logics' and express their personal issues about certain policy problems.

[1] Hermit-like behaviour refers to an Avoidant Personality Disorder (AvPD). This is a cluster C personality disorder recognized in the Diagnostic and Statistical Manual of Mental Disorders. Individuals afflicted with the disorder are often described as people that feel unwanted and isolated from others. They possess feelings of inadequacy, are extremely sensitive to negative evaluation and quite often avoid social interaction. When translated to organizational behaviour, Hermit-like behaviour should be understood as the likeability to adopt a solitarian role and position in the interactions on a shared policy solution.

Secondly, a particularly effective method to move beyond entrenched organizational positions and identify joint interests turned out to be the technique of persuasive dialogue. The network members had to move around the room and seek for information about the network alters' underlying core beliefs, goals, desires and preferences. The conversations were supplemented with experts in identified subject areas who presented certain facts and figures about discussion issues. This conversation technique helped network members realize that their views, and those of their network alters, were often not grounded in facts but in emotions and routines. Hence, with these persuasive dialogues members discovered the true causes of their conflicts, which, in turn, allowed them to search for possible ways of moving forward.

Of course, by introducing playful working methods not all power struggles and challenges to collaboration will be eliminated. Actors who really want to preserve the status-quo or have a strong preference for a particular policy solution will certainly exercise their power and try to block the decision-making process or shape the policy design in accordance with their ideas and preferences. The case studies have, however, shown that playful working methods can at least reduce the blunt display of direct power in actor interactions and motivate network members to work more closely together towards the development of intertwined policy solutions. Therefore, we argue advice network members to think of playful working methods in collaborative processes, as these will decrease the probability of a collaborative decision-making process running aground due to conflict and power asymmetries.

4.1.4.3. Overcoming institutional uncertainty

The management of strategic uncertainty has already partially considered the institutional uncertainty surrounding collaborations in networks. To repeat, institutional uncertainty is about how to deal with clashes of different institutional regimes in networks and how therefore the interaction between policy-makers will develop. Parties who interact from different institutional backgrounds and do not share a common frame of reference and who act according to different rules, can thus be facilitated by making agreements about the rules of the game before dealing with the problem(s) at hand.

Strategic and institutional uncertainties, however, can also be managed by influencing factors at the institutional level through, what we call 'institutional design'. This may be necessary when it is clear that the institutional bottlenecks are so systematic that they inhibit interaction and problem solving, especially in the long run. Institutional design involves changing the institutional characteristics of a network: i.e. the relational patterns and the institutional rules that support these relations. By adapting institutional arrangements, the nature and stake of concrete decision-making games around complex problems can be altered significantly. It might change actor participation or stimulate actors to select different strategies given the changes in the frames of reference or the reward structure that guide them. In short, the conditions under which the decision-making process is played can change through institutional measures.

There are different strategies network manager can deploy to try and change the institutional setting of collaborative processes. Most of these instruments have to do with the *redesign* of established rules and expected outputs. Specifically, the literature mentions that the redesign can focus on three different aspects. First of all, a network manager can choose to change the network rules that focus on the composition of the collaborative networks. These can be changes of rules regarding the number of actors involved , their positions, entry/exit rules, and the degree of self-regulation by the network members in the collaborative arrangement (i.e. how much freedom the network members have as a whole) (Voets et

al., 2015; Klijn and Koppenjan, 2016: 187). Secondly, a network manager can opt to change the network rules regarding the process steps, forms of interaction and expected outputs. For example, he or she can choose to change the reward in evaluation rules, adjust the (intermediate) deadlines which were set at the beginning of the process, or adjust the normative guidelines regarding actors' behaviour. Thirdly, a network manager can redesign the network rules that focus on guiding the interactions between network members. That is to say, a network manager can choose to adjust the arrangements that regulate the interaction of actors in the collaborative processes such as conflict regulation mechanisms, procedures, information-sharing processes, etc.

Ultimately, institutional redesign is not necessary as this would imply that among network members there is a lack of trust to collaborate. When present, trust can be an important force for action in situations of complexity. A high degree of trust provides relative certainty that other actors will not abuse initiatives to interact in order to realize their own objective at the cost of other participants. Trust provides a safe environment for the joint search for intertwined policy solutions. Most scholars speak of 'spontaneous trust' to indicate its gradual nature and its lack of intentionalism (Fox, 1974). The difficulty with trust is that it can be damaged quickly: that is to say, trust arrives on foot and departs on horseback. Hence, network managers should only choose for an institutional redesign if they are sure that these changes will not jeopardize the trust of the network members in each other and in the process, otherwise it will be even more difficult for the network manager to fix the decision-making process.

4.1.4.4. Improvising

For some people, the aforementioned sections might give them the idea that a shared solution for a complex policy problem can be reached by following a clear course of managerial action. By simply reducing the amount of substantive, strategic and institutional uncertainty, a shared agreement will in no time be reached. What surprised us in the case-study research for the BRAIN-TRAINS project, however, was when we asked network managers and members how they eventually were able to forge agreement and arrive at a mutually beneficial course of action, they responded that there was no clear course of action. They remembered a lot of elements that contributed to arriving at a shared agreement, but what the exact causal chain of managerial actions and interactions was turned out to be a huge question mark for most of the network participants.

According to the network manager of the Flemish administrative FCPPP network, besides some rational elements of steering, like having discussion statements, providing the network members with homework, or making minutes of meetings, a lot of the managerial activity was improvised. Improvised, in the sense, that problematic collaborative situations which needed immediate solving (e.g. stalemates, trench-wars, or knowledge expansion) were instantly dealt with by drawing on past experiences, intuition, and an element of creativity. She believed that in many situations applying improvisational practices may not have led to the 'right' decision; however, at that time the decisions made deemed to be the most appropriate given the context and interactive dynamics.

For some the notion of *improvisation* as a form of network management may sound like an oxymoron (i.e. an epigrammatic effect by which contradictory terms are used in conjunction). Management presupposes the 'orderly' arrangement of collaborative processes, whereas improvisation is perceived as the conception of action as it unfolds, by a network manager or network members, drawing on the available material, cognitive, affective and social resources (Pina e Cunha et. al., 1999: 302).

Improvisation has for some years now been a part, or at least recognized in, the organisation theory. Remarkably, in early studies improvisation was perceived as an unintended outcome (March and Simon, 1958) or as an managerial and organizational design failure (MacKenzie, 1986). More recently, the perception of improvisation has moved from being an outcome of 'getting things wrong', to being seen as a positive skill in making meaningful decisions and achieving results within a limited time-scale, without optimum information and resources (Leybourne, 2007: 231). Our perception of (the value of) improvisation aligns with the latter view of Leybourne, as we believe that mastering the skill of improvisation is essential for dealing with the chaotic and non-linear, process that characterizes the dynamics in collaborative processes of decision-making.

The first articles that looked at aspects of improvisation within organizational and network settings have used jazz performances as metaphor (Barrett, 1998). A central theme in the jazz performance metaphor is the notion of competence. Improvising requires a base level of competence. Just like jazz players do not have the same levels of competence, this is equally true for network managers.

On the basis of the managerial dynamics in tour empirical cases, we would argue that what makes a manager good at improvisation includes an ability to quickly analyse and understand what is happening in the network, and a facility for inventing things that appropriately fit in with what is happening in the collaborative policy design network. Furthermore, besides these skills, it is very helpful to have a deep knowledge of the policy issues that one is trying to tackle with the policy-makers. In fact, substantive knowledge and vision is probably essential to improvisation. In other words, a network manager needs experience both in terms of process management and substantive knowledge. Hence, we argue that it is important that a network manager is selected for managing the process in collaborative decision-making processes who has the experience and confidence of being able to improvise in times that the dynamics are far from stable and orderly. In these times, improvisation can help to turn, especially, dysfunctional deliberations into new opportunities to catalyse or reboot the decision-making process.

4.1.5. Step 5: Stimulating learning activities in collaborative decision-making processes

When talking about collaborations, scholars implicitly or explicitly refer to the mechanism of learning (see, for example, the focus on the generative mechanism of learning in the studies of the Ansell and Torfing' s 2014-book). More specifically, a central theme in collaborative governance studies is that network-based interactions triggers socialization, problem-solving, reflexivity, deliberation – and possibly even mutual and collective learning processes (Torfing, 2017). So far, only a handful empirical studies on learning in collaborative decision-making settings exists (e.g. Bressers, 2014). This makes it difficult to assess how actors learn individually and collectively in collaborative decision-making processes, and how network managers can spur learning activities among network members. For that reason, we devoted quite a lot of attention in the BRAIN-TRAINS project to what explains learning interactions among individuals in collaborative networks, and how learning can be enhanced through management.

Within the empirical cases, two ways of engaging between policy-makers could be distinguished. In some situations it looked as if the network members acted as mutual learners (Sørensen and Torfing, 2012: 852). In these situations, ideas, concerns and interests were discussed and shared in an atmosphere of mutual trust. As a result, some involved network members got a shared understanding of the fundamental problems (Vinke-de Kruijff et. al., 2014), and eventually arrived through an open dialogue on the most appropriate and supported solution for a targeted issue (Sørensen and Torfing, 2011: 852).

This 'mutual-learning process' might sound like the ideal interactive dynamics for policy-making processes. This activity of mutual learning closely aligns with what Argyris (1977) has called 'double-loop learning' or what Piaget (1976) has defined as 'accommodative cognitive processes'. Just like in these two processes, the basic assumptions and understandings of involved network members ('the learners') are challenged and altered through the interactions with network alters (Sørensen and Torfing, 2011).

These mutual learning processes in the empirical cases often occurred in four evolutionary phases – and showed much similarities with the phases model of Iyer (2002). In the first phase, learning between network members was largely unilateral. Actors began to gain a notion of the intentions, concerns and goals of the other involved actors. Within the second phase, considered by Iyer as *exploration*, the 'partners' tentatively started preparing for collaboration by 'setting ground rules for future interactions' (Dwyer, Schurr and Oh, 1987:17). Learning was still unilateral and experiential; however, elements of mutual learning began to emerge. The third phase, that of *expansion*, was characterized by greater trust and an increased 'investment' for mutual benefit between the actors. In the fourth phase, by Iyer (2002) classified as *commitment*, the actors moved beyond 'probing each other', towards the mutual development of new ideas and solutions for severe policy problems.

Besides the mutual learning dynamics, in other situations the interactions between the network members in the empirical cases for this BRAIN-TRAINS project looked more like a strategic game. Learning was not apparent. Instead, through negotiation, turf wars, and struggles, the network members worked towards certain some policy goals and solutions. The existence of this strategic dynamics in collaborative decision-making processes has earlier been recognized by Aagaard (2010: 5) and Torfing (2013: 308). For us the strategic dynamics showed many similarities with the Rounds Model of Teisman (2000).

Teisman argues that collaborations are in fact 'battle of interests'. In his model, Teisman (2000:939) understands the strategic actor interactions as an intertwined clew of a series of decisions taken by the various actors. The interactive process is assumed to consist of different decision-making rounds. In each round, all actors bring forward their problem perceptions, possible solutions and political judgments (Teisman, 2000:939). All network members can score points in each round, in terms of a leading definition of the problem and the (preferred) solution. At the same time, a new round can rapidly 'change the direction of the match' (Teisman, 2000:938-939). Despite the strategic intentions of the organizations, the actors will during the process have some sort of recognition of their mutual dependencies (ibidem). That is to say, in the back of the heads of the actors there will be the awareness that none of the organizations has sufficient action potential to unilaterally solve the complex, dynamic and diversified policy problems (Rhodes, 1996:657).

Therefore, actors will in the course of the 'strategic game' look for a compromise that represents the most optimal outcome for their interests. According to Teisman (2000:946), "progress is thus made when a 'compromised' solution is adopted and supported by a majority of relevant actors." This statement induces that, if actors do reach an agreement, there will be certain winners and losers at the end of the decision-making process. Yet, the outcome cannot be considered as final or permanent. The compromise will only last until one or more of the actors are dissatisfied with the outcome and start a new decision-making round (Teisman, 2000:947). This strategic dynamics was particularly apparent in the first empirical paper we wrote for this BRAIN-TRAINS project (Stevens and Verhoest, 2016).

Within the scholarly literature, both the learning and the strategic perspective have gained traction among collaborative governance scholars. To some degree, the perspectives can be considered as two extremes of the same continuum. The learning perspective is quite prescriptive. It inhabits a strong view about how actors ought to behave. The behaviour of actors and their interactions are guided by certain norms (e.g. circulation of ideas, joint ownership, etc.) and it seems inappropriate to challenge these. At the other end of the spectrum, the strategic approach puts much emphasis on the individual gains and losses of actors. These scholars mainly conceive the actors as strategic agents that seek to defend or even improve their position no matter the costs. Arguably, the strategic approach tends to regard free-riding and shirking behaviour as conventional in processes of collaborative decision-making.

We believe, however, that the usual or normal behaviour of policy-makers in collaborative decision-making processes falls within the grey zone of the aforementioned continuum. Within the empirical cases it could be observed that through management the network dynamics can be turned into a selective context that favours certain actor behaviours (particularly learning activities) over others. In consequence, policy-makers calculated and selected their possible strategic moves in the light of an appreciation of this selective context. From our empirical analyses different managerial interventions could be distinguished that help foster learning activities between network members in collaborative decision-making processes.

First of all, the network manager can stick to the message that learning will only happen through genuine 'dialogue' instead of 'debate'. The concept of debate assumes that there is a right answer. Each policy-maker will argue that they possess 'the right policy answer'. The task of the network manager, however, then is to repeat that each actor has a part of the answer to a specific policy problem, and therefore network participants must in collaborative processes through dialogue work towards a common understanding of a policy issue and explore common ground. This can only happen through active listening and creating shared meaning. Hence, a network manager has to see to it that network participants are not only defending their own assumptions as truths, or are only searching for flaws and weakness in the positions of network alters. Because this will only discourage further conversation, as the collaborative atmosphere will be turned into a game of winners and losers. Therefore, the network manager further has to try and see all sides of a policy issue, keep the discussion topics open, and not seeking closure of a particular policy discussion but instead try to create new venues and policy discussions that can bring a dialogue forward.

Secondly, it is very important that network managers particularly foster learning activities between 'opposing parties', if they want to develop intertwined policy solutions that move beyond existing practices and routines. Agger and Sørensen (2016: 5) suggest that this can, for example, be done by translating between different perceptions and experiences or reformulating conflict into dilemmas that through bargaining and negotiation can be settled. Ultimately, such a management approach activates actors to get to know each other and from thereon expand, with more background and appreciation for the others' points of view, their group activities to develop an innovative and intertwined policy plan.

Thirdly, the network manager has to reward exemplary, or good, behaviour in collaborative decision-making processes. That is to say, the ERGM analyses empirical paper of Stevens (2017) of this BRAIN-TRAINS project reveals that representatives were more likely to ask questions of clarification to network members that did go out of their way to bring the collaboration to a good end. In addition, the

representatives of the FSSPP network were likely to 'return the favour', if a network alter asked questions of clarification or shared relevant information and ideas with them.

These findings are similar to those of scholars who empirically studied the concept of 'collaborative costs' (Agranoff, 2006; Bardach, 1998). They commonly claim that there has been much emphasis on the benefits that emerge from collaborative efforts. However, collaboration also brings along certain 'costs', e.g. time and personnel costs resulting from a protracted decision-making process as a consequence of the unwillingness, strategic-ness or risk-averseness of actors involved (Agranoff, 2006). Following this line of thought, it can be assumed that good behaviour reduces the amount of collaborative 'transaction' costs in networks, and makes actors more willing to engage with a representative who shows such a kind of exemplary learning behaviour.

For that reason, we thus advice managers of collaborative decision-making processes to reward and celebrate individuals who show exemplary learning behaviour and set norms in the collaborative arrangement that see creativity, collaboration and learning not as barriers but as drivers for decision-making (Ansell and Torfing, 2014, p. 10). Such a management approach canonizes the ability to make hard new choices as the road to success. In addition, it makes it easier for a group of actors to find a modus vivendi where the focus is on creating a 'collaborative advantage' (Kanter, 1994), instead of on the individual and organizational gains and losses.

The *fourth*, and final, advice to foster learning in collaborative decision-making processes is to actively see to it that in discussion and learning activities all participants' ideas and concerns are given enough weight and attention. To elucidate, from the ERGMs of two of the empirical papers of this BRAIN-TRAINS project (Stevens, 2017a; Stevens and Dorren, 2017) it became clear that policy-makers, who represent organizations which are regarded by most of the other policy-makers as 'very necessary' (this is also a part of the actor analysis) to tackle a policy problem, receive a lot of information and ideas from these other representatives. To some extent this indicates that 'power' in collaborative decision-making processes attracts information, and 'weaker' individuals 'strategically' try to influence the frames of 'powerful' policy-makers by providing them with information and ideas.

The latter is also something that Agranoff (2006: 61) noted. In his inductive study, including discussions with more than 150 public officials, he found amongst other things that 'despite the cooperative spirit and aura of accommodation in collaborative efforts, networks are not without conflict and power.' In a similar vein, Burt (1992: 67) reports in his study that, 'it appears that in networks actors occupy different role positions and carry different weights.' Hence, it would be wise that the manager of collaborative decision-making processes actively sees to it that in discussion and learning activities all participants' ideas and concerns are given enough weight to avoid that eventually in the discussions certain interests, concerns and ideas prevail over others in dialogues and learning activities.

Besides these managerial lessons that follow from our empirical studies of this BRAIN-TRAINS project, there are also two particular powerful tools that can help network participants get more appreciation for others' points of view, and through learning, develop more responsive solutions to intertwined policy problems: the SWOT analysis and Scenario Development. Because, the danger with learning activities is that they reduce the learning dialogues to mere the interpretations and interests of the involved policy-makers. However, new – to be developed – policy visions and strategies should, as mentioned in step 1 of

this toolbox, connect history, reality and desired future state. Hence, to avoid that shared decisions are eventually disconnected from both current reality and the vagaries of an uncertain future a SWOT analysis can give insight in the strengths, weaknesses, opportunities, and threats (SWOT-analysis) which surface the policy context in the near term. In addition, developing scenarios can help expose the deep uncertainties inherent in any future context and highlight alternate possibilities for how a policy future might unfold.

Businesses have used the SWOT analysis as a tool for strategic planning for decades. Now more and more policymakers use the methodology of the SWOT analysis in the public domain. Also in this BRAIN-TRAINS project, we as scholars have made use of the SWOT methodology. Strengths and weaknesses describe features of the policy context that help or hinder its capacity to deal with the presenting policy issues. Opportunities and threats define features of the current and future contextual environment that can affect the policy problem in positive or negative ways. Understanding the implications of these features helps inform other aspects of collaborative work, such as developing scenarios, collaborative problem solving, visioning, and strategic planning.

Chrislip (2002:103) has a particular protocol to create a SWOT-analysis in a collaborative setting. He argues that such a collaborative effort consists of four process steps. *First of all*, the network manager has to ask every participant to make a list of each of the SWOT-elements from their own perspective. *Second*, through processes of dialogue in groups of two or three people, network members try to get a shared understanding of their SWOT perspectives, and subsequently refine and prioritize their lists. *Third*, each person selects the top three or four points of their list, and write them down on large sticky notes. These notes are collected by the network manager and placed on the wall in the categories of four SWOT categories. Further grouping of the ranked elements helps emphasize particularly significant features. *Fourth,* analyse the information. That is to say, strengths describe assets or features of the policy context that support future action. Weaknesses define challenges or barriers that must be compensated to make progress. Opportunities identify features of the contextual environment that can be used to advantage. Potential treats may undermine efforts to move ahead. Hence, after identifying each of these features, network members must as a fourth step consider the implications of these features for future action. Overall this methodology helps to identify the boundaries in which future action can take place to deal with a complex and intertwined policy problem.

The questions in the SWOT analysis thus help network members understand the current and near-term features of the policy context and actor environment. Understanding a future fraught with uncertainty is, however, more challenging. The key variables and driving forces affecting the future of a policy within a certain community are generable unpredictable or out of control (e.g. economic globalization, developments in new technology, population growth, shifting tax bases, etc.). Beyond a few years out, forecasting will be inaccurate or impossible. Hence, many policymakers find it always easier to assume that the future will very much be like today rather than consciously considering unpredictability. This limited understanding of the future context can lead to unresponsive and unground decisions with potentially harmful consequences. There are, nonetheless, tools which can help policy-makers work with the unpredictability of the future. Scenario-analysis is perhaps the most known methodology. Scenario analysis combines aspects of creativity, intuition and insight to develop stories about possible futures of a policy context. These coherent policy stories can subsequently help policy-makers to propose future

strategies and policy actions that best fit the alternative future projections which follow from the scenario analyses.

Basically, a scenario process starts with identifying the structural uncertainties – the driving forces- affecting the future of a policy context. Then, internally consistent stories based on different assumptions about these forces describe possible future contexts. Each story describes a larger world in which a policy community may have to live or work with. Unlike traditional research approaches focussing on forecasts or predictions, scenario analysis presents alternative images instead of an extrapolation of current trends. The Global Business Network has written a document about how in the non-profit sector scenario analysis has to be conducted. This document can be retrieved from: https://community-wealth.org/content/what-if-art-scenario-thinking-nonprofits. In addition, Horn and Weber (2007) have developed guide steps for developing scenarios for messy, intertwined and wicked policy issues (*see* http://www.strategykinetics.com/New_Tools_For_Resolving_Wicked_Problems.pdf).

4.1.6. Step 6: Developing and agreeing on an strategic plan for implementation

So far, we have discussed steps and tools that help network members gain a better understanding and appreciation for each other's points of view. Learning, for example, stimulates the mutual exchange of ideas and knowledge. In addition, scenario analysis and SWOT analysis are methodologies that look at policy issues and problems from a holistic perspective. However, at a certain point in the collaborative process the deliberations have to be *narrowed down*. That is to say, a process has to be finalised and network members have to try to come to an agreement. This is often a very delicate process which requires network managers, on the one hand, to steer for unison, whereas, on the other hand, network members must experience that they have the freedom to make their own choices without being pushed by the network manager.

Ultimately, the network members develop through learning a shared vision, i.e. common ground from which they develop further strategies that can help them realize their common goals. The best visioning process is organic and emergent rather than logical and rational. It taps both the hart and the mind of network members. As in other collaborative processes a visioning process moves from a generative phase – an opening phase where all policy visions are presented – to an evaluative phase – the narrowing down of policy discussions – to an alignment or agreement phase – the closing part of the deliberations on what the goal of collaborating will be.

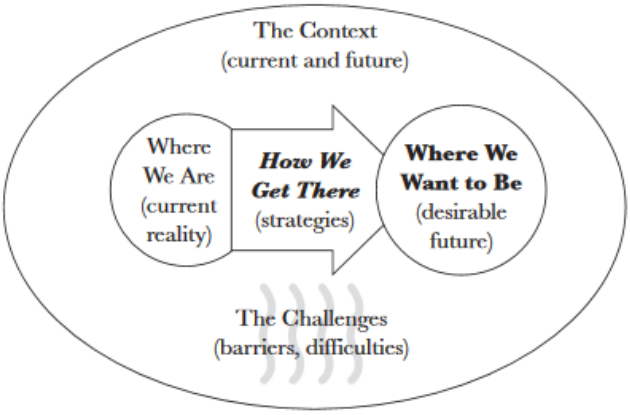
A very useful methodology to structure the visioning and collaborative problem solving process is the strategic planning methodology. The methodology provides a means for creating a shared plan while concurrently building support for it. In the strategic planning process strategic goals and objectives are defined, as well as specific actions necessary to achieve them. The plan itself becomes a means of communication and a structure for management and control. The earlier discussed scenario methodology can complement the strategic planning methodology under conditions of great uncertainty. A strategic plan provides a rationale for future action, sets priorities and describes how work will be done.

Over the years, the practice of strategic planning has evolved into a collective endeavour. In the past, policy analysts would study an issue and use their intelligence and education to develop optimal strategies or policies. The increasing complexity of public issues and diversity of political perspectives, however, makes this 'old practice' very difficult. In an age of uncertainty and complexity, optimal solutions no

longer exist. Sound strategy requires a skilful strategy process capable of accomplishing adaptive work, not a cadre of experts (Chrislip, 2002: 110). Sound strategies mobilize the assets necessary to tackle a problem in a multi-actor setting and lead to synergistic combinations of programs and services that produce high-quality and effective results.

A skilful strategy process builds sound strategy by improving the match between the evolving needs of end users in a policy and the capacity of government and semi-public and private actors to respond to these needs. It informs and facilitates a strategic conversation among stakeholders that leads to alignment and commitment. It uses a wide range of techniques and tools to help actors define the concerns and issues that eventually need to be addressed, identify the challenges and barriers to action, analyse the contextual environment, describe current reality, envision a desirable future, and develop strategies for achieving this future. Figure 8 describes the framework Chrislip (2002: 111) developed to explain his strategic planning methodology.

FIGURE 8: STRATEGIC PLANNING METHODOLOGY OF CHRISLIP.



Specifically, the methodology of Chrislip entails a five-step process. First of all, the strategic questions which will be addressed during the strategic planning process must be defined. As earlier mentioned, a skilful strategy process responds to particular needs. Identifying theses needs and defining the questions that need to be answered about these concerns determines the focus of strategic planning. Often, in the earlier stages of a deliberation process the different needs and interests have already been discussed. Thus this first step builds on the outcomes of the learning processes, and possibly trenchwars, that were already a part of the decision-making procedure.

Secondly, the current and future context has to be described. This includes understanding the challenges and barriers to dealing with presenting issues, identifying the relevant structural uncertainties affecting the future of the policy context, and analysing the current and possible future contexts in which the community can develop itself (in this context the transport community). The SWOT analysis and the scenarios can help inform this work.

Thirdly, network members must agree on the situation in which they currently are. This is the so-called t_0-situation. On the basis of this t_0-situation, the network members can decide on where they want to be in

five, ten or say perhaps thirty years' time. A description of the t_0-situation includes an assessment of the current capacity of the multi-actor constellation to meet critical needs and an analysis of its capacity for change. These aspects can be included for assessment in the SWOT-analysis.

Fourthly, the network members have to envision the desired future (i.e. where do we want to be). A vision of a desired future defines the target for strategy development. A skilful process ensures that the vision is robust, that is, it will be viable in a range of plausible future environments. This step is of vital importance, as personal visions of actors can differ. Therefore network managers are advised to identify the personal visions of the network members, expand and refine these, to ensure that in the end a mutual agreement is reached about the desired future state of the policy.

A way to identify personal visions is to ask individual network members to create a compelling image of a desirable future relevant to presenting issues and concerns that is personally meaningful and fulfilling and serves the needs of society. Have them describe this compelling image in terms of what I would look and feel like, and how they would experience it. Subsequently, ask the network members to define the values that inform and support their personal vision. Have them identify any personal concerns or aspirations. Ask them to see their vision in the present as if it had been achieved and to capture particular images of success. When finished, ask them individually to circle key themes and images of their personal visions.

These key themes and images can, then, be used to start the discussion about shared themes and images. For the latter, the discussion technique of persuasive dialogue turned out in our research to be a valuable methodology. In our case on the development of an innovative Flemish strategy for coastal protection, the network members had to move around the room and seek for information about the network alters' underlying core beliefs, goals, desires and preferences. The conversations were supplemented with experts in identified subject areas who presented certain facts and figures about discussion issues, According to the respondents of this case, this conversation technique helped network members realize that their views, and those of their network alters, were often not grounded in facts but in emotions and routines. Hence, with these persuasive dialogues members discovered the true causes of their conflicts, which, in turn, allowed them to search for possible ways of moving forward. Eventually, the goal of the persuasive dialogue is that participants draft a vision statement that includes all different images and themes that are relevant for the future that all network members try to achieve.

The fifth, and last step, of the strategic planning process that Chrislip (2002: 111-112) foresees is the most essential step. In this final step, the strategies are defined that help network members to move to the desired policy situation. Essentially, in this phase the blueprint is formulated that will gives structure and stability to the implementation of the shared government strategy. Specifically, the network members need to find an answer to the following questions: What are the desired results or outcomes? When do these outcomes have to be reached? What strategies are deployed to reach these outcomes? What processes will be used to engage all relevant organizations in the implementation phase? Who is responsible for the diffusion shared policy strategy? And how is progress monitored?

In fact, in this final stage action plans need to be developed. Action plans specify what work needs to be done, who will do it, and when it will be done. An effective action plan consists of several elements. First, specific action steps relate directly to achieving the desired results. The steps themselves are clear and unambiguous, and each party understands their intent and meaning. Second, action steps define the roles

and responsibilities of each involved organization. Everyone knows what each party is expected to do. Sometimes a type of job description formalizes these arrangements. Third, a schedule or time line describes the sequences of expected events. Fourth, resources needs are specified and budgets or other control mechanisms are established. Securing resources thus becomes a part of the action plan. Fifth, accountability standards facilitate managing and evaluating the eventual implementation work. Finally, action plans need to be communicated to all parties responsible for implementation for review and approval. If this step is done properly, policy-makers and their departmental organizations can move from deliberation to action.

4.2. STEPS TOWARDS ADMINISTRATIVE LEVEL INTEGRATION

Administrative integration is defined as the extent to which involved administrative actors (together with private or privatized companies, civil society organizations, etc.) streamline practices and activities in the policy implementation phase (Mulford and Rogers, 1982). Even if political actors do reach unison at a certain policy-level, it does not immediately imply that administrative integration is evident. In fact, many studies in the public administration and implementation sciences have elaborated on various aspects of implementation and administrative failures, such as goal-displacement, mistrust, lack of accountability, administrative inconsistencies, policy alienation, etc.

A first question is what instruments will be used to coordinate the activities of the different involved administrative actors at the different levels of government. Stimulating the use of intermodal freight transport involves the collaboration of many different administrative actors, involved in policy implementation, market regulation (incl. regulation of the different transport modes), as well as service delivery. In a next deliverable within BRAIN-TRAINS, we will elaborate more on the policy and administrative actors to be involved in such processes.

Once appropriate coordination instruments are selected and in place, a second question is which success factors are needed to enhance the collaboration between the actors involved. As we will discuss further, such success factors relate to three dimensions, being mandate of actors, systems for governance, accountability, resource allocation and performance monitoring, as well as behaviours of actors.

4.2.1. Instruments for coordinating administrative actors [7]

In this section, we elaborate on which coordination instruments governments can use to coordinate the actions of the administrative and other actors involved in policy implementation, market regulation and service provision. The instruments discussed below add further to the toolbox which governments can use to enhance intermodal freight transport as transversal and intergovernmental policy issue. The instruments can be grouped in four groups of instruments, being network-based instruments, instruments related to chain (management), market-type instruments, and instruments based on hierarchy (Bouckaert et al. 2010; Verhoest and Bouckaert 2007). Coordinating policy implementation to enhance intermodal

[7] As the empirical case study work conducted within the project predominantly focused on how a joint strategy for transversal policy issues like intermodal freight transport can be formulated, and less on coordination in the policy implementation phase, this section mainly draws from previous and other research by the involved researchers on coordination and private actors between public and private organisations in service provision, regulation, and policy implementation (see e.g. Six and Verhoest 2017; Mathieu, Verhoest and Matthys 2017; Voets, Verhoest and Molenveld 2015; Molenveld and Verhoest 2015; Aubin and Verhoest 2014; Bouckaert, Peters, and Verhoest 2010; Verhoest and Bouckaert 2005). In this section some re-formulation still needs to be done.

freight transports will involve optimally a combination of the four groups of coordination instruments, as each group of instruments has its own strengths and weaknesses which complement those of other groups of instruments (Meuleman 2008).

4.2.1.1. Using network-type instruments to coordinate policy implementation

As elaborated in section 4.1., the nature of relations between governmental actors involved in policies on intermodal freight transport is mostly of a non-hierarchical kind with different levels of government and several (semi-) autonomous agencies involved. Creating and stimulating networks between these actors has been highlighted as a major form of coordination. A general definition of networks would be '(more or less) stable patterns of cooperative interaction between sovereign and mutually dependent actors around specific issues of policy (or management)' (based on Kickert et al. 1997: 6, Klijn & Koppenjan 2000).

Rather than having coordination imposed 'vertically' from above depending primarily on authority to achieve its purposes, horizontal coordination in network-type arrangements tends to depend upon bargaining, negotiation and mutual cooptation among the participants (Peters 2003). What forms may network-type coordination take? Alexander refers to different strategies for coordination that may be relevant in this context. Cooperative strategies involve voluntary interaction and collaboration through bargaining and resource exchange, co-sponsorship and cooptation. Communicative strategies, information-based and persuasive strategies build on mutual awareness of interdependence and common interests, on common values or partisanship. And cultural strategies depend on compatibility between goals or core values of organizations (Sharpe 1985, Alexander 1995: 36-37). Hence, when coordinating through network-type instruments, one searches for the establishment of common knowledge, common values, and common strategies between partners. The fundamental resources, which are employed by governments who coordinate by networks, are information, norms and to a lesser extent mutual cooptation and bargaining.

The concept of 'network management' refers to 'the coordination of the strategies of organizations with different goals and interests around a specific problem or policy issue within a network of interorganizational relations'. A distinction is made between 'process management' and 'network constitution' (Klijn and Koppenjan 2000: 140-141, Kickert et al 1997: 170). In section 4.1. the process of setting up, managing and facilitating a network for joint policy-making has been detailed. Basically similar network management techniques as shown in section 4.1.3 and 4.1.4 can be used to create and manage networks of administrative actors involved in enhancing intermodal freight transport. In this section we focus more on the different structures and instruments governments at the different levels can jointly use to coordinate the actions of their administrative agents to stimulate intermodal freight transport.

Several network-type coordination structures could be considered (see also Bouckaert, Peters and Verhoest 2010). First, the *creation of systems for information exchange and sharing* between administrative actors at different levels of government may induce them to take into account actions of each other by processes of mutual adjustment (Galbraith 1977, Alexander 1995, Pollitt 2003 for 'joint information gathering', OECD 1996 for informed decision making). Through new or reoriented flows and systems of information, decision-making organisations are better informed regarding the latest developments and activities by other organisations. This helps them to adjust their activities to those of

other organisations. Through systems and arrangements for information exchange, the information flows and exchange can be organised. One could think of the development of interoperable/interconnected IT systems and databases (Pollitt 2003). There are several basic ways to structure information exchange systems in interorganizational networks, like the 'estafette' model and the spin model.

A further coordination instrument is the *creation of consultation or negotiation bodies* which do not have formal decision making power in which the different administrative actors involved in policy implementation, regulation of markets and transport modes, and service delivery are represented (Galbraith 1973, Lawrence and Lorsch 1967). Whereas 'information systems' as coordination instrument focuses on the material ICT and other impersonal systems for information exchange, in these consultation and negotiation bodies, representatives of different organisations exchange information in one or both direction. Organisations can mutually adjust their activities based on the exchanged information. Besides information exchange, issues, relevant for the different organisations can be discussed and bargained, and even joint strategies can be elaborated. Decisions made by such bodies have to be ratified and implemented by the different member organisations or by the involved governments before the decision takes effect. Advices are binding to different degrees (legally, morally or politically).

Entities for collective decision making represent even a higher level of cooperation between different administrative actors. In contrast to 'concertative bodies', these entities can make decisions that have a binding effect for the member organisations. An example is the governing board of a one stop delivery agency with representatives from the collaborating organisations or governmental levels. In some countries (in the Netherlands with 'Bestuursraden' and in Flanders with the 'Beleidsraad'), strategic decision making boards consisting of senior officials of the different organisations that belong to a policy domain (departments and/or agencies) were created in order to collectively set out the strategy and control the implementation of it. Such joint decision making bodies enable joint planning and joint working more easily than weaker forms of cooperation. In the private sector this form is prevalent in the case of strategic alliances (6, 2004).

The most extreme form of cooperation is the *creation of a joint organisation*. In this form of coordination two or more organisations create a common organisation that is controlled by the different 'parent' organisations in order to perform joint tasks. 6 (2004) refers to project-linked joint –ventures, satellites or unions (see also Alexander 1995). Other examples are a public private partnership organisation; or jointly owned organisations working for different levels of government (intergovernmental agencies cfr. ViA Pass in the field of electronic traffic levies).

A somewhat different way of classifying network structures and increasing levels of network coordination is developed by Provan and Kenis (2007). They distinguish three basically different network governance forms. First, there are networks where the *governance is shared among the different participating organisations* (participant-led networks with shared governance). For example, networks can decide to alternate the role of chair and secretariat between the different partners, so that each partner over the lifetime of a network has held this role for a specific period. All members are involved in the network management and in decentralized decision-making by consensus. The strengths of such self-governing networks are that all members participate equally, that such networks are formed easily and that commitment by members is enhanced because they are co-responsible for the governance of the

network. Such networks can foster mutual trust between partners to a high extent, but they also need a high level of trust to function well. However such networks have potential drawbacks related to inefficiency, because frequent meetings are necessary, it might be difficult to reach 'consensus' for all decisions, and the network has no clear profile or representation towards to the outside world (Provan and Kenis 2007; Milward and Provan 2005). Also, it cannot easily cope with networks with many members.

A second form is where the network is *governed through a lead organization*, meaning that one of the participating actors takes up the fixed role of chair, network management and administrative support/secretariat. In such network decision making is centralized, and emphasis is on efficiency as the lead organization can define a clear network direction. However, because such networks run the risk of being totally dominated by the lead organization, they might suffer a severe lack of commitment by network members. Trust from participants towards the lead organization needs to be high, but mutual trust between the non-leading participants may be rather low. If other participants lose their trust in the lead organization and its 'agenda' for the network, then such a network loses its dynamics.

A third form is a network in which the different partners decide to create a *joint administrative organization/secretariat* to support the network partners. This model basically combines decentralized and centralized decision-making. The joint administrative organization is monitored by all partners in order to ensure the administrative organization fulfils its role in supporting the smooth functioning of the network and to avoid that this organization exceed its mandate beyond what the different network members wants it to do. Such a network governance can deal with large networks with many participating organizations. It is normally efficient in terms of day-to-day management, but at the same time all network members are involved in strategic decisions of the network. However, the perception might grow between the network partners that a new hierarchy is being installed, with high cost of operation and complex administration (Provan and Kenis 2007; Milward and Provan 2005).

Table 1 (based on Provan and Kenis 2007) in figure 9 depicts the three kinds of networks with their respective key predictors for network effectiveness. Each of the three network governance forms could be relevant to govern the collaboration between policy implementing, regulating, and service providing administrative actors in order to enhance intermodal freight transport.

FIGURE 9: Three kinds of network and predictors of network effectiveness

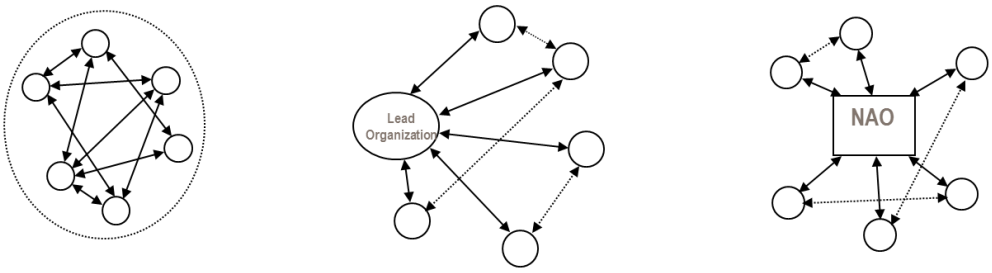


Table 1
Key Predictors of Effectiveness of Network Governance Forms

Governance Forms	Trust	Number of Participants	Goal Consensus	Need for Network-Level Competencies
Shared governance	High density	Few	High	Low
Lead organization	Low density, highly centralized	Moderate number	Moderately low	Moderate
Network administrative organization	Moderate density, NAO monitored by members	Moderate to many	Moderately high	High

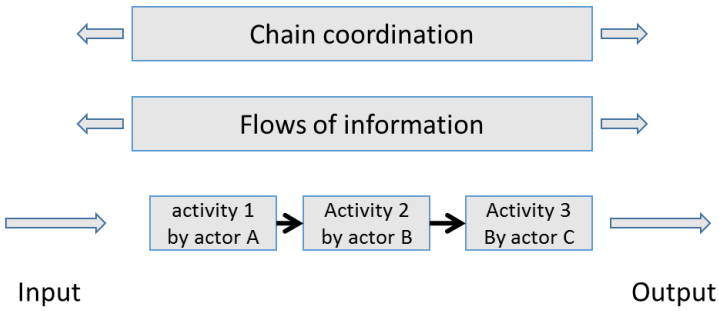
Bron: Keith Provan & Patrick Kenis (2007) 'Modes of Network Governance: Structure, Management, and Effectiveness'. *Journal of Public Administration Research and Theory.*

4.2.1.2. Using chain management instruments to coordinate policy implementation

Besides these more general network-type coordination structures (i.e. systems for information exchange, advisory and negotiation bodies, entities for collective decision making and joint organisations), one can also define a more specific subset of structured networks. Chain management structures refer to structural devices that are used to coordinate a network of different organizations involved in subsequent steps of the production of a good, a service or a policy (van Dalen in Duivenboden et al. 2000). The organisations in such a chain are interdependent, their actions are sequential, and each step adds value to the end product. Within the public sector, one could define different kinds of chains, depending on the level they function on, like policy chains vs. implementation chains. Or distinguish chains with respect to the product they aim to create: logistic chains (e.g. in defence), information- or knowledge chains (e.g. in the social security field), or chains focussing on individuals (e.g. in local social policy). In the Netherlands, for example, chain management structures and procedures have been set up in the policy areas of food safety; agriculture, asylum policy, and water management (Duivenboden et al. 2000). One can also use the chain management logic to analyse societal dynamics underlying a complex policy issue, like intermodal freight transport. In intermodal freight transport, the challenge is to create optimal and efficient chains between public and private providers of different transport modes (freight shipping, rail freight transport, road transport). Using the logic of chain management to analyse, optimise and govern such intermodal freight transport chains can be highly relevant for policy-implementing, regulating and service-providing public actors.

Figure 10 shows the chain of different actors performing specific activities, in which coordination and flows of information between and across the involved actors optimise the added value of each step.

Figure 10. Chains as specific networks (De Wit, Rademakers, Brouwer (2000) in van Duivenboden, van Twist et al. (2000))



Bron: Wit, B. de, M. Rademakers, M. Brouwer (2000), Ketenstrategie: van virtuele naar reële ketens, in: Duivenboden, H. van, M. van Twist, M. Veldhuizen, R. in 't Veld (2000), Ketenmanagement in de publieke sector, Lemma, Utrecht.

When analysing chains for intermodal freight transports, one would look at optimising the value added by each actor and activity (link) in the total chain, as well as the contextual factors influencing this. Specific attention is given to the capacity and positioning of links, distinguishing between narrow links (few organizations delivering that activity/low capacity); broad links (many organizations delivering that activity/high capacity); links with an allocating role (link in which a choice is made between different suppliers in the next link); links with a selecting role (link in which a choice is made in the offer of different suppliers in the previous link). One can distinguish between more simple and more complex chains, depending on different criteria like whether there is little or much overlap between the responsibilities of involved organizations, high or low power concentration, or a stable or very dynamic supplier-field.

The level of complexity of a chain determines which kind of chain management strategy will work best. In simple chains one can make substantial and sustainable agreements on optimisation and rationalisation of the chain, as power is concentrated, involved actors are quite stable and there is little overlap or competition between actors. However in chains with high complexity, such a strategy of intensive agreements will have little result. In such chains, in which there is a dynamic landscape of competing actors, one would need to use network management techniques to create first joint problem definitions and solutions, and to connect goals from the different actors.

Different levels of chain management or forms of chain coordination are possible. Besides self-organisation, there is 'relay'-coordination, with each individual organisation gearing its actions to those of organisations before and after it in the chain. However, coordination may be more formalised with specific structures that may be created, like a permanent body for consultation. In this body all main public (and private) actors that are involved in the different phases of the policy issue are represented. The consultation body may monitor the preparation, implementation and evaluation of the policy. Most

of the times, the different actors are involved as 'equal' partners, although also one actor may take the strategic lead as chain manager.

The application of chain management/coordination to intermodal freight transport might entail the creation of a joint concertation body involving public actors and main private actors (or their umbrella organizations) involved. Such a chain coordination body (maybe supported by a government agency or public-private secretariat) would allow to jointly study which links in such intermodal freight transport chains are weakly developed, causing bottle-necks or inefficiencies, and which links needs to be strengthened by increased capacity, regulation or subsidies.

4.2.1.3. Using market type instruments to coordinate policy implementation and service provision

Another basic mechanism for coordination is markets, with exchange among actors being central to produce the desired outcomes. In their most-basic form markets are inherently a means of coordination, bringing together buyers and sellers, equilibrating supply and demand through a price mechanism. Once established and functioning properly, markets are able to rather effortlessly coordinate the actions of buyers and sellers, using the price mechanism as a means of finding an appropriate level at which buyers and sellers can both be satisfied. Markets perform their coordination function most optimally when there are enough purchasers and providers, when providers can enter and exit the market without incurring high costs, when there is full transparency as to information about prices and quality of services (Le Grand and Bartlett 1993, Plug et al. 2003: 14). Competition is a basic mechanism for 'controlling' the behaviour of the organisations in the market. According to Alexander (1995: 57), markets as coordination mechanism needs no formal links between its member organisations: *"coordinated decisions are the systemic result of partisan mutual adjustment of each unit in the market to its perceived environment".* Organizations react to the perceived signals of price, offer and demand and the strategies of competitors. As such, the coordination of actions is done by the 'invisible hand' of the market.

The application to intermodal freight transport provision is relatively straightforward. The use of market-type mechanisms would primarily refer to the market regulation by different levels of government, through which they regulate the market dynamics of different modes of freight transport. The public and private freight transport providers would then be stimulated by market signals to engage to a more optimal degree in intermodal freight transport. How market regulation can stimulate intermodal freight transport is studied in WP5 in the BRAIN-TRAINS project. This requires a strong mutual communication and coordination between the different regulators which are involved in the regulation of single modes of freight transport. Aubin and Verhoest (2014; see also Mathieu, Verhoest and Matthys 2017) show how coordination between market regulators at different levels of government (European, federal and regional) can be achieved and how this fosters regulatory coherence and consistency across these different levels.

One can also envision an application of market-type coordination instruments to the mutual relations of public actors involved in policy implementation and regulation. The idea of market-type coordination within government finds a strong theoretical basis in public choice theory (Niskanen 1971) and economic

neo-institutionalism, like property rights and agency theory (Furubotn & Pejovich 1974, Jensen and Meckling 1976, Pratt and Zeckhauser 1991). These theoretical frameworks emphasize the importance of competition, result-oriented contracts and performance-related incentives as instruments to control public sector organisations in an efficient way. It would basically mean that the actions of the public policy implementing and regulating bodies are governed by contracts with their respective governments in which they get the right stimuli to make sufficient efforts for implementing policies and regulating intermodal freight transport. Nowadays most administrative bodies are federal and regional level are governed by performance contracts or similar agreements with their supervising government, so such performance contracts should give well-targeted incentives to the involved public actors.

4.2.1.4. Using hierarchy type instruments to coordinate policy implementation

Hierarchy is the most familiar mechanism used to produce coordination among programmes and organizations within the public sector. The use of hierarchy to coordinate within the public sector is theoretically framed in the bureaucratic theory of Weber (1947) with its emphasis on division of labour on the one hand and on rules, procedures and authority as coordination instruments on the other hand. The hierarchical coordination mechanism draws primarily on authority and power as fundamental processes and resources. Hierarchy-type coordination could be considered as a control strategy for coordinating organizations' behaviour "by biasing their decisions to produce action which they might otherwise not have taken (Alexander 1995: 37). Hierarchy-based coordination efforts may come in a variety of ways within the public sector, ranging from issuing legislation and other mandates to structure patterns of coordination within the public sector, over control efforts, to more procedural mechanisms. Basically, these ways involve the mandated change of division of labour between public sector organizations, the autonomy, function and domain of these organizations, and their legitimacy and position towards other organizations, based on command and control. Several of them refer to what Alexander calls coordination by 'structural positioning' (1995: 38) or coordination by architecture (Hood 2005) (see also. Bouckaert et al. 2010).

A first set of coordination instruments which are clearly associated with authority and power is *organisational restructuring by shifting tasks and competences between organizations*. Here, coordination is enhanced by bringing related activities together by merging organisations (see merger as extreme level of coordination in the typology of 6, 2004) or by separating them from other organisations with totally other activities. This refers to the basic principle of work division or departmentalization in organisation theory (Thompson 1967; Galbraith 1973). For example, a number of countries, such as Australia, Canada and the United States, have created *superministries*, which encompass a wide range of programmes, by integrating (parts of) ministries. Such superministries internalise the formerly interministries/interdepartmental coordination efforts (OECD 1996).

Reorganizing and changing lines and levels of control refer to another set of hierarchy-type coordination instruments. Politicians and administrative superiors may issue orders through the lines of control to

subordinate organisations. Changing these lines of control may also improve coordination, like letting one minister controlling several ministries, which have adjacent or affiliated competences. Similarly, establishing cross-cutting lines of control may increase coordination. Strongly associated with influencing lines of control is the *creation of coordinating functions or entities* (Lawrence and Lorsch 1967). Alexander (1995) distinguishes between a coordinator, respectively a coordinating unit as an individual or unit whose only or main function is to coordinate the activities of the different organizations in an interorganizational system on the one hand, and a lead organization which has besides its coordinating function, also some line functions on the other hand. The exact position of the coordinating entity within the public sector vis-à-vis the other organisations will determine to what extent hierarchical authority and power as resource is used. However, most common coordinating functions or entities within the public sector imply some hierarchical difference between the coordinator (like a coordinating minister) and the coordinated organisations. Moreover, their coordinating power is mostly stipulated and enforced by laws and statutes. Their task is often to streamline, monitor and control the implementation of a centrally decided specific objective, goal or policy. In that perspective, this kind of coordination instruments 'coordinating function or entity' is to be distinguished from negotiation bodies or common steering groups which could be created by different organisations and which are more based on the principle of networks. E.g. in the United States, important transversal issues were coordinated by a 'tsar' (e.g. drug tsar), a powerful functionary at very senior position in the government, which coordinates the actions of both state organizations as well as lower levels of government.

When looking for applications to intermodal freight transport, these hierarchical coordination instruments are most easily to conceive within one level of government, enabling the cabinet to coordinate the actions of departments and agencies. However it becomes harder to conceive how hierarchical instruments might be functional in coordinating across levels of government between which no hierarchical relations exist. However, applying modified forms of hierarchical coordination might be possible in certain circumstances, like in the example of the US 'tsar' or when focussing on the role of EU directives and EU bodies which steer the evolution towards intermodal freight transport in the different member states.

4.2.1.5. Using other instruments to coordinate policy implementation

Finally, there are some other coordination instruments, which often might have characteristics of one of the basic types.

A first such instrument is the alignment of activities of public organisations *by a system of different and interconnected levels of plans, objectives and targets across and within governments* (at the level of cabinet, departments and agencies). Examples are the SRAs and KRAs in New Zealand. Basically, coordination between organisations is fostered by giving individual organizations clear objectives within a framework of broader interorganizational, government-wide or even cross-government goals. These different levels of plans are linked to one another, in order to avoid duplication, gaps and to enhance the pursuit of overarching goals. These plans are monitored and evaluated, after which plans can be adjusted and fine-tuned. Such strategic management at the government-wide or cross-government level often

goes hand in hand with more outcome- and effectiveness-focused modes of policy making, as well as the integration of cross-cutting issues in the planning of individual organizations (Pollitt 2003). For example, if governments succeed in drafting a joint policy strategy for intermodal freight transport, this strategy and more detailed action plans following from this would be used to guide and steer actions from the different public actors involved at different levels over government. Such strategic management processes may be designed to allow for strong bottom-up involvement of the different organisations. In such a more network-type variant, the process of planning on the different levels of objectives and targets is a process with heavy input from lower levels and with strong emphasis on negotiation. Plans on the higher levels are aggregating and integrating lower levels plans. Process of planning is bi-directional and based on consultation and involvement of lower levels. Monitoring and evaluation of progress is a joint process between the different levels by joint committees or networks.

Another important tool for intra-government and intergovernmental coordination is using systems for financial resource allocations (like budget processes), as these systems link policy objectives to financial resources and hence foster integration of administrative actions. If organisational or individual incentives for collaboration are present in the financial management systems, they are heavily geared towards joined-up activities and cooperation (Pollitt 2003).

A further set of coordination instruments, which is somewhat a rest category, refers to *procedures for mandatory consultation or review* for policy proposals, draft legislation, or implementation plans (Alexander 1995). Some countries use forced points of passage during preparation of policy plans, with ministries, departments or agencies having to comment on policy proposals/implementation plans that potentially affect their own activities. Australia has for example a procedure for “co-ordination comments” for new policies (OECD 1996). Also review procedures of draft legislation with respect to e.g. regulatory quality are quite common, and they may involve the assessment to what extent this draft legislation is in line with government policies or cross-cutting issues in order to avoid conflict or duplication among programmes (OECD 1996). Policy audits and evaluation, e.g. landscape reviews in the UK, may also have a coordination function as long as they are focused on horizontal objectives and on the policy effects of the interplay of different public organisations, involved in policy implementation.

One could also try to foster coordination indirectly by creating joint cultures between the public actors involved within and across governmental levels. The aim is then to strive for common values, norms, habits and routines (Homlqvist 1999, Hjalager 1999, Levinson and Minoru 1995). This could be done by means of the development of cross-cutting skills among staff; common education (e.g. the ‘Ecole Nationale d’Administration’ in France) or common training; management development; mobility of staff between organisations; collocation; and the creation of systems for interorganisational career management and competence management (Alexander 1995; Pollitt 2003). Joint training for administrative actors at different levels of government with respect to policy options for intermodal freight transport might be a first step.

4.2.1.6. Mixing coordination instruments for optimal administrative integration

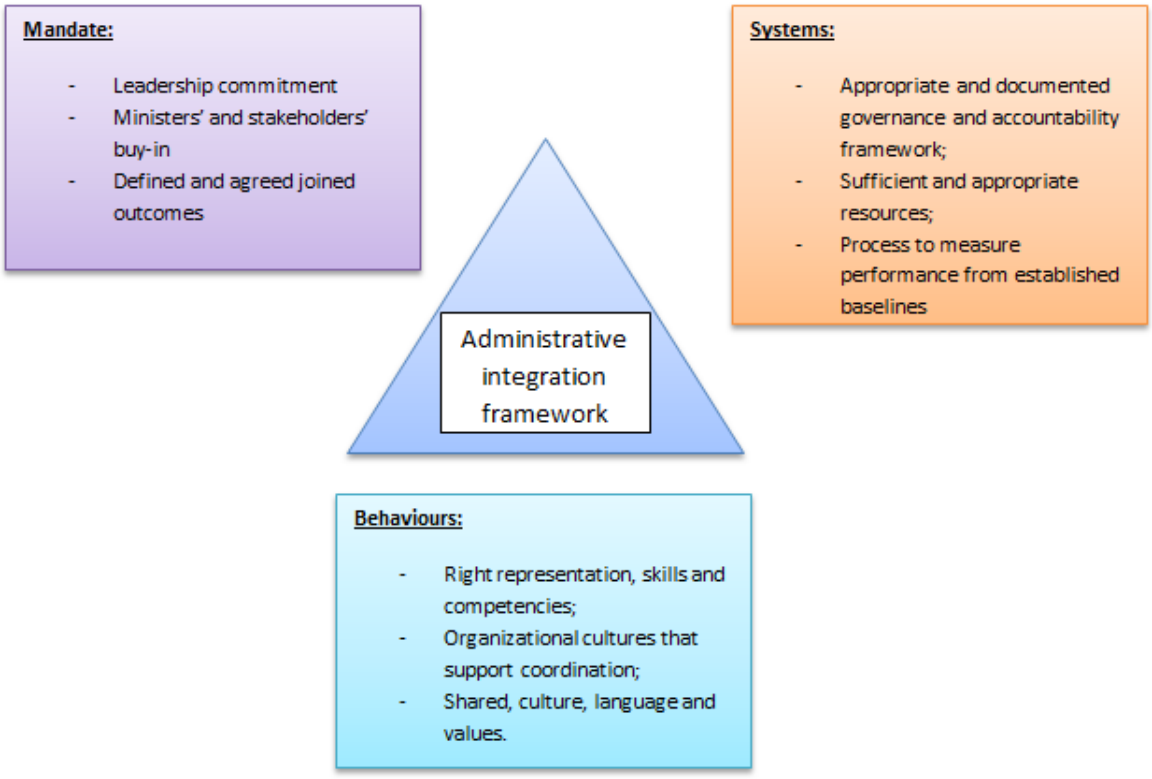
Each of the group of coordination instruments listed above have their advantages but also their respective drawbacks. Hierarchical forms of coordination might stifle innovation and motivation, whereas network-based instruments might be inefficient and suffering from weak accountability mechanisms. Market incentives might cause goal displacement, stimulating competitive behaviour between public actors, while chain management techniques might be too mechanistic in their design. Meuleman (2008) and Bouckaert et al. (2010) argue hence to use mixes of coordination instruments in which instruments are combined in such a way that they reinforce each other and compensate for each other's drawbacks. Moreover often it might be necessary to switch between coordination instruments. For example, if coordination through a network mode is becoming inefficient and only results in talks and no action, it might become necessary to deploy hierarchical instruments in order to force cooperation by the involved organisations, or stimulate them to cooperate by using market-type financial incentives.

However, the success of administrative integration not only depends on the mix of coordination instruments deployed, but also on a number of essential factors, as we will discuss in the next section.

4.2.2. Success factors for administrative integration

Within the literature on implementing transversal policies and administrative integration, nine success factors are consistently mentioned (see figure 11). These success factors can be clustered in 3 dimensions: mandate, systems and behaviours. These 3 dimensions are interrelated and mutually reinforcing. As such, these dimensions (and their success factors) together make a framework which we consider as the 'administrative integration framework'. This framework is not static. It neither assumes that all nine factors have to be in place before transversal implementation activity can occur. It simply recognizes that if these factors are put in place over time, coordinated transversal implementation activity is more likely to be successful. In the next paragraphs we will elaborate on each of the dimensions of the framework as well as its antecedents.

Figure 11: Administrative integration framework and its dimensions (State Service Commission New Zealand Government, 2008).



Bron: State Service Commission New Zealand Government (2008). *Factors for Successful Coordination - A Framework to Help State Agencies Coordinate Effectively*. Wellington.

4.2.2.1. Mandate

The dimension of mandate is linked to the *status* of the integrated way of implementation. Not only the mandate for the civil servants within the administrations that are stimulated to work across organizational and governmental boundaries, but also the extent to which they are supported in their boundary-spanning activities by their organizational leaders. This is also immediately the first success factor that is identified: *leadership commitment.*

4.2.2.1.1. Organizational leadership commitment

Broadly speaking, senior administrative leaders of involved organizations should have invested sufficient time and energy supporting the integrated way of working (Gratton and Erickson, 2007). They must do their utmost to seek out opportunities for their staff to work with other organizations. First of all, they can do so by incentivizing staff involved in the coordinated work. Second, they can ensure that 'enough' resources and time are available for the activities of the 'boundary spanners'. Third, boundary spanners are helped by their senior leaders if stakeholders' and political pressures are managed properly (Hughes and Weiss, 2007).

Fourth, it helps if the *joint* activities are given sufficient priority within the involved organizations, and integrated in the wider system of performance management. It further helps if *joint* activities are also sufficiently translated into departments' operational priorities and outputs. Lastly, boundary spanners are supported if budgets are allocated to cross-cutting activities. It might even help if organizations set up shared budgets for their cross-cutting activities (Ibidem).

4.2.2.1.2. Ministers' and stakeholders' buy-in

Related to the aspect of leadership commitment, is the success factor of ministers' and stakeholders' buy-in. This entails that ministers, decision-makers and external stakeholders keep on supporting the coordinated activity throughout the implementation process (Mattessich et al., 2001:13). Support and engagement from these parties is particularly necessary for when 'the going gets tough'. With more *political support* for the coordinated activity, civil servants are expected to be less *risk aversive* to look past the portfolio of their own organization and thus consider more the activities, objectives and practices of civil servants in other organizations with which they collaborate.

A way to secure the support of ministers, cabinet-members and external stakeholders is to spend enough time throughout the process engaging with these parties, to check whether the outcomes of the joint activities are relevant and realistic, and meet their requirements. A second strategy civil servants and their senior administrative leaders can utilize is to keep monitoring the political climate during the coordinated activity, and respond adequately if there are any shifts of priorities (Hopkins et al., 1995:9).

We are a little hesitant to advise the early engagement of stakeholders in the early stages of a coordinated transversal activity. On the one hand, this can be a benefit – as more data and information can be obtained, and the output parameters of the coordinated activity can be adjusted to the context the transversal policy is targeting. On the other hand, an early stakeholder buy-in can *increase* expectations to such an extent that external parties can get disappointment with the results of the transversal activity.

4.2.2.1.3. Defined and agreed joint outcomes

Besides leadership commitment and ministers' and stakeholders' buy-in, it is further important in coordinated activities that actors are working towards clearly-defined and mutually-agreed joint outcomes. If objectives are unclear or not shared, organizations in collaborations may work towards different, incompatible goals and fail to achieve desired outcomes. To overcome this risk, all participating organizations need to have a clear understanding of both the goals and agreed timeframes towards which they are working (Hopkins et al., 1995:9).

Moreover, to be successful, the outcome that a group of organizations is seeking needs to be greater than the sum of the individual outcomes of each of the contributing organizations. This 'added value' is what keeps collaboration on track.

In addition, joint outcomes can only be successful if civil servants feel they are attainable and not too long term. Furthermore, in order to increase motivation it is wise to not only measure the extent to which outcomes are achieved but also outcomes and results for the civil servants themselves – therefore we advise that two sorts of outcome should be monitored: impact outcomes (relating to the progress and impact of the project on the issue addressed), and process outcomes (relating to what the group is achieving for tis members and their organizations, such as information-sharing).

4.2.2.2. Systems

The dimension of 'systems' relates to the overall structure in which transversal implementation activity takes place. On the whole, structures or systems need to be in place in order to give relationships or cross-cutting collaborations resilience. However, too much structure or too many systems can impede the collaboration's ability to adapt to changing circumstances. In these paragraphs, we elaborate on what structural aspects may help collaborations across conventional organizational boundaries. We start with the success factor of governance- and accountability frameworks.

4.2.2.2.1. Appropriate and documented governance and accountability frameworks

Participants need to clearly understand and agree on their own and others' roles, responsibilities and accountabilities, and how to carry their tasks out. This requires that civil servants have a clear oversight of the accountability, governance and coordination structures that are in place (Mattessich et al., 2001:21). Bouckaert et al. (2010) have identified different possibilities. Important to mention is that no single structure provides the ultimate solution for how transversal coordination must be arranged. In some situations a horizontal organization of activities may be more appropriate than a hierarchical chain of command and control.

When tasks and outcomes are, for example, clear cut a strict plan of activities will be more beneficial in contrast to situations where civil servants need space to innovate and use their creativity. Where there is a possible conflict between 'vertical' accountability frameworks and horizontal governance structures, senior leaders should carefully manage these discrepancies and see how these hierarchical lines of accountability can add to horizontal collaboration instead of impede it.

To avoid inter-organizational conflict, ensure transversal continuity and manage risks surrounding these collaborative processes, we advise administrative actors to clearly document the governance, accountability and coordination frameworks as well as establish and agree on clear conflict regulatory mechanisms. In this way, the amount of (possible) confusion about tasks, roles and responsibilities among actors from different organizations can be reduced (Hughes and Weiss, 2007: 122-131).

4.2.2.2.2. Sufficient resources

Resources are also critical if a coordinated is to be sustainable and 'value for money'. When we talk about resources we do not only refer to monetary resources, but also to resources like knowledge, competences, personnel, time, etc. (Koppenjan and Klijn, 2004). For transversal implementation activity, the main resources requirements are a dedicated budget, a working pace that can sustain the progress without overwhelming the group of actors that are involved in the collaboration, and most importantly, sufficient time to establish working relationships, achieve outcomes, and nurture the required organizational tasks and routines (Mattessich et al., 2001:27).

The resource of money is found to be a double-edged sword. On the one hand, it can cause civil servants active in transversal activities to lose sight of shared objectives and instead create a struggle over 'turf' and resources. On the other hand, it can contribute significantly to an initiative's capacity and can work as a stimulus to keep organizations at the table. Here the key is timing; if money precedes the development of trust, commitment to shared outcomes and agreement about how to implement an initiative, then this can result in problems and severe discussions about money (Hopkins et al., 1995:18).

4.2.2.2.3. Performance measurements

The third success factor of the dimension of 'systems' is the success factor of performance measurement processes with clearly established baselines. No matter whether they are long or short term, transversal initiatives are not different from other implementation activities in that their progress should be monitored and action taken if performance is unsatisfactory. To do so, involved organizations in the transversal activity have to agree on action plans, responsibilities, timeframes and deadlines, and reliable performance measure to track progress.

For measuring the progress, the quality of information is very important. The more time is invested in understanding what data is required and creating a baseline, the more accurate the progress towards the demanded outcomes can be measured, the more effective the transversal policy is likely to be. However, systems of measurement must serve the transversal project and its outcomes, not replace them (Hopkins et al., 1995:18).

Ensuring 'early wins' is important both for the motivation of the civil servants active in the transversal activities well as a way to secure resources and 'buy-in'. Furthermore, dividing large initiatives into smaller measurable activities can help identify more manageable short-term objectives. Lastly, measuring progress as early as possible helps civil servants demonstrate the progress they are making to their political leaders and external stakeholders (Idem:35).

4.2.2.3. Behaviours

Successful transversal implementation activities further require that civil servants within the involved organizations have the authority to represent their organizations and the skills to work across conventional organizational boundaries. The latter touches upon the last dimension of the administrative integration framework, which is the aspect of 'behaviours' of the civil servants that act as boundary spanners between involved organizations in the transversal activity.

4.2.2.3.1. Right representation, skills and transversal team leadership

Transversal activities often include functions from different units within involved organization. This means that each representative or boundary spanner that is involved in a transversal activity must be able to speak for all units or functions he or she is representing (Hughes and Weiss, 2007). However, when major decision are made, for example about changing the way of working or the objectives of the transversal activity, there should be enough time allocated for the representatives or boundary spanners in the organizations to take information back to their home organizations to confer with their colleagues, senior leaders, and perhaps cabinet members about what the decision should be.

An important skill of boundaries spanners is that they must not only focus on the demands of their home organization, but must also display an open attitude to work as a team with other involved organizations; thereby establishing working relationships based on mutual support and trust, acknowledging their differences and sharing information and ideas openly (Sørensen and Torfing, 2011).

Within transversal implementation networks, the 'lead organization' (i.e. the organization that is assigned with the task to coordinate the holistic government strategy) can create value for partnering organizations by reducing administrative burdens associated with coordination, reporting and evaluation functions. Furthermore, the boundary spanner of the lead-organization needs to be able or have the capacity to employ a range of coordination instruments, varying from political instruments and communicative instruments to process management skills and techniques, to supervise the transversal implementation process (Jackson and Stainsby, 2000:11-16).

4.2.2.3.2. Shared culture, language and values

Activities in a transversal arrangement flourish if the boundary spanners of the organizations involved develop a sense of shared culture and joined ownership of the way the collaboration works and of the results it produces. Here developing trust among boundary spanners is key (Vangen and Huxham, 2003). Barriers can arise because of individuals' preconceived notions of the attitudes or skills of people from different institutional backgrounds, compounded by a lack of understanding of the other organizations' mandates, cultures, and ways of working. Individuals in transversal arrangements need to be aware of these differences and understand that discomfort is a part of the process of developing a shared culture (i.e. how we work together in a transversal collaborative arrangement).

Trust can be developed by stimulating 'learning' among actors about the others' objectives (Ansell and Torfing, 2014). In these learning activities individuals must present intentions and agendas honestly. Furthermore, participants should look at the 'language' used and identify whether actors involved do understand each other's jargon. If there is a negative shared history between certain boundary spanners, if would be wise to try and resolve these issues.

In the end, successful transversal initiatives require boundary spanners to work together almost as if they were employed by the same organization. Participants need to know how their colleagues in other organizations operate, make decisions, allocate resources and share information. Further they need to have a clear understanding of the other's organizational structures, policies, procedures, cultures and norms.

Nevertheless, there will be always certain elements of risk and divergences in transversal working activities, as not all risk can be managed. Hence, we advise boundary spanners and their home organizations also to accept this reality.

4.2.2.3.3. Organizational cultures that support boundary spanners

Within involved organizations, boundary spanners oftentimes find it also hard to balance the outcomes and priorities of the collaborative initiative with those of their own organization. It helps if the organizational culture supports the activities and practices of a boundary spanner, as it literally can make or break transversal working activities.

Particular practices can help build an organizations culture that supports inter-organizational collaboration. Senior administrative leaders can, for example, purposefully model and invest in building collaboration. Moreover, training, coaching and mentoring can help 'boundary spanners' in their activities. Lastly, support for informal community-building between boundary spanners makes it easier to overcome divergences and discrepancies between organizational working routines (Gratton and Erickson, 2007: 100-109).

5 CLOSING REMARKS

To conclude, the best and medium case scenario both indicate that within the transport domain involved political governmental actors can work more across conventional organizational and governmental boundaries. With regard to the worst-case scenario no further administrative or policy-level integration is necessary. Our recommendations list coordination tools that political and administrative actors can utilize to seek more policy-level and administrative integration.

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