



Barriers and Institutional Management

Literature review

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1 Introduction

Developing strategies for climate change mitigation and adaption implies integrating risk and uncertainty and addressing path dependency and irreversibility in policy formulations. Risk, Uncertainty and Irreversibility (RUI) are associated with both the climate problem and the transport policy arena and in particular those with longer time horizons (Richardson, 2005; Kaijser, 2005).

The compounding risks and uncertainties in the transport policy arena implies that policies and investment decisions are based on imperfect and incomplete knowledge. Further complexities arises in a real world decision making, where there are possibilities of disagreements about the goals and/or means to achieve the goals and hence risk and uncertainty associated with the negotiated policy interventions (Ramjerdi and Fearnley, 2013). Evidently, RUI has consequences for institutional arrangements, including the optimal allocation of responsibilities to the different levels of government in the transport sector. However, the required structural changes can be difficult because of the inertia in the established management practices (see for example Brunner et al 2005; Folke et al 2002).

Governing a socio-technical system like the transport sector means mediating between various objectives such as economic development, environmental protection, human health, safety and social equality. The application of adaptive policies in such a system does however face economical and organizational challenges. Different adaptive tools might add unnecessary complexity, economic cost, or time lag to policy implementation. Economically, this is due to the overlapping or even internally conflicting nature of various ex ante and ex post assessments. Organizationally, adaptive policies generate a highly challenging balance between institutional capacities for flexibility on the one hand, and institutional capacities for stability on the other (Gifford, 2003).

This note identifies and outlines literature inputs addressing institutions, decision-making, and barriers to implementation in the transport sector. By doing so, it aims to provide a draft conceptual framework for barriers and success factors to policy adoption and implementation. This framework will be used to identify and categorize the basic features of the policy measures represented in the “optimal” scenario, and expected difficulties in their adoption and implementation.

2 Theories on institutional design

Analysts have found that uncertainties over benefits and costs can affect policy design in at least three central ways. First, they can affect the optimal choice of *policy instruments*. Second, they can affect the optimal *policy intensities*. Third, they can affect the optimal *timing of policy implementation* (see Pindyck, 2007). While these problems may be particularly evident in cases of uncertainty, institutional theory points out that features of the institutional structure in itself may affect policy choice, intensity and timing.

The *conflict and bargaining model* presumes that interests and goals of each partner are relatively clear, but in conflict with one another. As a result, the partners bargain, compromise and participate in horse-trading (Winter 1991). Many transport policy instruments, in particular infrastructure projects, are inherently consequential decisions; they are mainly irreversible due to the nature of their construction; the public funds required are sizeable; and the planning horizons are long. Hence, real and fundamental conflicts are often embedded in the processes, the stakes may be high, and some actors gain and some actors lose, whatever decision is made (Flyvbjerg 1998).

According to *neo-institutional theory*, institutions consists of rules, norms, cognitive and other frameworks (Powell and DiMaggio, 1991) that stabilize social perception and interaction (March and Olsen, 2006). The three pillars of institutions; *regulative*, *normative* and *cognitive*, as identified by Scott (1995), establishes a stable set of recognized traditions and routines (paths) (March and Olsen, 1989). Path dependency involves a significant barrier to institutional change; a well-established institutional arrangement, with standard operating procedures, will resist to any policy that threatens stability. Consequently, institutions are likely to prefer tried-and-tested measures, and to reject measures that represent a new way of thinking and acting.

According to the so-called *garbage can model* (Cohen, et al., 1972), many decision-making processes are chaotic and the stakeholders' interests and goals are marked by confusion and ambiguity. Furthermore, the participants are not the same all through the decision making process, as some decision makers leave and new ones enter the process. Hence, a decision-making process is highly dependent on temporal relations of different events, and events that occur at the same time are associated with each other. As a consequence, the attention devoted to a problem is determined just as much by the moment at which that problem arises as by its actual significance. Temporal sorting makes it difficult to establish policy packages with an intelligent content, so it is likely that policy packages will be the accidental result of temporal relations (March and Olsen, 1989).

The table below summarizes these three perspectives.

	Main characteristics	Policy Problems
Conflict and bargaining	Interests and goals of each partner are relatively clear, but in conflict with one another. The partners bargain, compromise and participate in horse-trading.	Conflicting interests and distribution of power among the partners. Strong actors impede adoption and/or implementation.
Path dependency	Problem-understandings shaped by strong discursive framings and path dependency, which constitute the presumptions for policy action.	Difficulties of policy makers to deal with packages if they represent a new way of thinking and acting.
Garbage Can	Decision-making is chaotic and the stakeholders' interests and goals are marked by confusion and ambiguity. Temporal relations constitute decisions	Lack of timing. If the arrival of a solution to the decision arena is not timed with problems and participants, decision is not possible.

Table 1: Theories on institutional design.

3 “Optimal” geopolitical levels for the implementation of policy instruments

The interest in governance¹ principles for promoting sustainable development have increased in recent years (Kemp et al 2005, Brunner et al 2005, Scholz and Stiftel 2005, Hatfield-Dodds et al, 2007). “Adaptive Governance” has been presented as a term referring to the ways in which institutional arrangements evolve to satisfy the needs and desires of the community in a changing environment (Hatfield-Dodds et al, 2007). It draws on theories and concepts from economics, public choice perspectives on collective decision making, and evolutionary game theory.

Policy-making in transport has traditionally been carried out through a “predict and act” approach, assuming that the future can be predicted well enough to develop a policy that will produce acceptable outcomes (Marchau et al, 2010). This involves a fine-tuning of known analytical forecasting techniques, and the establishment of decision majority. These tasks have been carried out by a centralized expert management, also described as ‘command and control’ (Holling and Meffe 1996) and ‘scientific management’ (Brunner and Steelman 2005). Critics do however claim that highly centralised top-down institutional arrangements give little attention to how resources are embedded in complex systems (Levin 1993, Dietz et al. 2003). By contrast, advocates of adoptive governance argue that diverse types of knowledge, contested governance and devolution of responsibilities can increase understanding, and reduce the risk of very poor outcomes. As summarized by Hatfield-Dodds et al, 2007:

- *Self-governance* is possible and often desirable (Ostrom 1999), in contrast to the common argument that externally imposed management is the best or only sustainable form of governance for common pool resources
- *Contested governance* (including overlapping regulatory scale and mandates) can have benefits as well as costs – particularly though encouraging more diverse perspectives on system process, and more attention to crafting approaches that satisfy multiple consistencies (with heterogenous values and interests) – in contrast to the view that ‘streamlined’ unambiguous management and governance arrangements are always desirable, or even achievable (Brunner et al 2005, Scholz and Stiftel 2005)
- *Diverse types of knowledge* can add value to governance and decision making through providing more diverse perspectives on system processes, reducing the risk of very poor management outcomes (Lebel et al 2006, Aslin and Brown 2004), although this may involve higher transaction costs;
- *Devolution of responsibilities*, rights and access to resources to heterogenous local management bodies can contribute to adaptive governance by improving access to local understanding of resource function and variability, promotion of innovation and experimental learning, stronger internal enforcement (through mutual observation and social incentives), and improved higher

¹ Governance refers to the institutional arrangements which shape actors’ decisions and behaviour, including the exercise of authority within groups or organizations

scale risk management through local redundancy (Ostrom 2005, Brunckhorst 2002);

- *Improvements in efficacy* of institutional arrangements will generally require the development of collective action strategies or policy proposals that are both worthwhile and adoptable, drawing attention to the dual roles of knowledge in determining the extent of government's 'licence to govern' (based on general public opinion) and informing the detail of specific decisions (through the creation of expert knowledge).

Adaptive policy-making generates new and somewhat conflicting demands on institutional design. While *ex ante assessments* generally requires broadly designed institutions, integrating different decision-making levels in the processes, *ex post assessments* to a greater degree require flexible, single-purpose organizations, responding quickly to unforeseen changes (Volkery and Ribeiro, 2009, Swanson et al, 2010).

Institutional design might affect the choice of adaptive tools and the effectiveness and legitimacy of these tools differently in different countries, and from one case to another. We will apply two analytical perspectives to explore these differences; 1) New institutionalism, and 2) Problem structuring.

Different characteristics of a policy field pose different challenges for goal achievement. While political representation may enhance legitimacy; either based on policies that are in accordance with the interests of (segments) of the citizens, or – in the case of conflicting interests, that citizens whose interests are overruled have been involved in the processes (e.g., Habermas, 1996), it may also result in short-sightedness and suboptimal long-term dispositions (Hall, 1997). Conversely, while it has been argued that the more foothold of professional expertise, the 'better' the outcome (see for example Tennøy 2012), technocrat biases may occur, owing to how technocrats allocate their critical attention; the pressure to conform to norms transmitted from institutionalised environments; or the need to sell their knowledge production to politicians (Powell and DiMaggio 1991, Tranøy 2003).

The table below summarizes the traditional approach, and the adoptive governance approach.

	Traditional hierarchical approach	Adaptive governance
Summary	Centralised uniform management based on science	Evolving multiple contested sources of governance
<i>Preferred knowledge</i>	Expertise and scientific knowledge	Different types and sources of knowledge add value to decisions
<i>Dominant motivation of individuals:</i>	Self-interest	Mix of reciprocal motives, favouring 'self regarding' and 'other regarding' motivations according to circumstances
<i>Capacity for coordination:</i>	Individuals are uncooperative	Individuals capable of cooperation and self-oriented action
<i>Primary unit of governance:</i>	Central state agency based on scientific expertise	Multiple groupings and interests
<i>Source of authority and legitimacy:</i>	Externally imposed government powers and resources	Multiple sources of support
<i>Review cycle:</i>	Changes in strategy expected to be small and infrequent	Goals, context, knowledge and strategy are all fluid

Table 2. The traditional approach versus adaptive governance.

4 Barriers to implementation

Whether a policy instrument; or a package of policy instruments, will be implemented depends on whether it has sufficient acceptance politically and culturally. Barriers to implementation can therefore be understood as any kind of factor that impede or hinder policy adoption and/or implementation of single policy measures or policy packages (OPTIC, 2011, Olsen and Fearnley, 2014).

Some transport policies encounter stronger barriers than others. According to path dependency theory (see chapter 2), transport policy measures or packages that are perceived as “radical”, e.g. aiming to enact fundamental changes in transport behavior will probably encounter stronger barriers than policy measures that are more in line with “business as usual” and the overall trend of “predict and provide”.

May et al (2003) identifies four broad categories of barriers:

1. *Legal and institutional barriers*
2. *Financial barriers*
3. *Political and cultural barriers*
4. *Practical and technological barriers*

A policy instrument, or a package of policy instruments, will induce specific political, institutional, communicative, etc. barriers in a country.

4.1 Coordination issues, legal and institutional barriers

Legal and institutional barriers can be approached as a broad category, featuring existing national regulations, legislative- and administrative processes, and administrative costs. It includes including lack of legal powers, or unclear roles and responsibilities among key actors. Responsibilities may be split between agencies, which leads to complex coordination issues.

Many specialized and non-overlapping roles and functions are believed to hinder cooperation and coordination, which in turn may hinder public goal achievement (Boston and Eichbaum 2005). Coordination may take place vertically; through the hierarchy (Bouckaert et al. 2010), horizontally; between units at the same organisational level, or both (Hill, 2009). Network theory, where coordination takes place through mutual dependence and trust among actors (Osborne 2010), might be useful for analysing horizontal as well as vertical coordination. Any measure of coordination holds a dual nature; Vertical coordination involves hard instruments (regulations and financial instruments) as well as soft instruments (information, communication) (Bouckaert et al. 2010), horizontal coordination can take the form of a beneficial trade or reflect inequalities (Hill, 2009), and network coordination always exists in “the shadow of hierarchy” (Scharpf, 1999).

Challenges to coordination include *intra-* and *inter- institutional incompatibilities*. As stated in section 2, institutions consists of rules, norms, cognitive and other frameworks that stabilize social perception and interaction. Two implications can be drawn from this insight. *First*; that a well-established institutional arrangement, with

standard operating procedures, will resist to ways of working with others that threatens stability (March and Olsen, 1989). *Second*; that the institutional frameworks of different agencies can be inherently contradictory. Different cultures or institutional norms, different mandates and different problem approaches pose challenges for institutions to work together (Campbell and Hartnett, 2005). When institutions are forced to cooperate, these contradictions may actually be highlighted.

The literature on coordination, as well as the literature on adaptive governance, frequently argue that working across organizational and administrative boundaries will enable more efficient and/or effective policy development (Christensen 2012, Hatfield-Dodds et al, 2007). These contributions do however express far less interest in exploring *how* and *when* increased coordination enables more efficient and effective policies. As noted by Uvin (1999), not everything can or should be coordinated. Indeed, “knowing what needs to be coordinated and what not; knowing where to allow difference and competition and where not to; knowing what each agency is better at doing and what it does not do well – are all as important as [...] coordination” (ibid.)” Processes of coordination may be time-consuming while leading to no immediate results; they may increase ambiguity (Christensen 2012) between institutional and societal goals; or they may result in a conform state of agreement, where no further change is viewed as necessary.

4.2 Financial barriers

Financial barriers includes restrictions in terms of budget and finance. Ensuring proper and sufficient financing mechanisms for the urban transport sector is vital for a sustainable development of urban areas. This motivates continuous improvements of the funding systems and a quest for best practices

While resources might always be scarce, new financing schemes affect investments. Olsen and Fearnley (2014) discusses the possibility of transferring financing experiences from one country to another, and the adoption of a wide range of funding schemes².

4.3 Political and cultural barriers

Political and cultural barriers may involve acceptability problems, strong pressure groups resisting the policy package, and other cultural attributes affecting the attitudes and actions among people involved in or affected by the policy in question.

Policy- and implementation literature point to particular types of policies, which might encounter stronger barriers than other types of policies. Lowi (1985) distinguishes between four types of policies:

² Including subsidy schemes for operation and investment; different loan schemes; tax schemes, including regional petrol tax, corporation tax, tax on employer paid parking, and (local) personal taxation. The also assess property development as a way of funding (in the form of land value capture solutions), and, finally, Public Private Partnerships (PPPs) and similar solutions.

- Regulatory policies (e.g. road traffic acts)
- Distributive policies (e.g. infrastructure policy)
- Redistributive policies (e.g. taxes, duties), and
- Constituent policies (e.g. establishing a new transport agency).

In relation to this categorization, one could expect that public acceptability would be more likely in the case of adoption and implementation of distributive and constituent policies than regulatory and redistributive policies, because the former confers powers and privileges, while the latter imposes obligations or positions (see also Ripley & Frankling 1982: 81). On the other hand, constituent policies might be more likely than the other types of policies to experience resistance from public organizations, because this type of policy often change institutional frameworks of these organizations.

The extent of likely success or failure for implementation of a policy or package can also be seen as depending on whether advantages and disadvantages of the policy are concentrated to a small group or divided among a larger population. A number of studies have been investigating whether advantages and disadvantages of a policy are spread among large groups or focused on a specific group. This results in four policy types, where client policy (e.g. infrastructure projects funded by tax, thus focused advantages and spread disadvantages) is most likely to be decided and implemented, while entrepreneur policy (e.g. heavy vehicle fee, with spread advantages and focused disadvantages) is least likely to be decided and implemented. Wilson (1980) and Winter (1991) have hence outlined four combinations of advantages and disadvantages distribution:

- Majority Policy (scattered advantages- scattered disadvantages), such as environmental tax measures to reduce CO2 emissions in the transport sector
- Entrepreneur Policy (focused disadvantages- scattered advantages), such as corporate tax for a general upgrading of public transport
- Client Policy (scattered disadvantages - focused advantages), such as road construction financed from the state budget
- Interest Group Policy (focused disadvantages- focused advantages), such as building bridges financed with high road toll collection

The relationship between the various policies is illustrated in the table below.

		Advantages	
		Scattered	Focused
Disadvantages	Scattered	Majority Policy	Client Policy
	Focused	Entrepreneur Policy	Interest Group Policy

Table 3. Combinations of Advantages and Disadvantages Distribution

The introduction of a Majority Policy is not likely to stir much public attention or enthusiasm, since no group in the population have a strong incentive to advocate or oppose it. The introduction of an Entrepreneur Policy will motivate the group bearing the burden of financing to mobilize strongly against the policy, while no group will have strong incentives to advocate it. Consequently, the Entrepreneur Policy is least likely to be implemented. Conversely, the costs of a Client Policy are widely distributed, while the benefits will be apparent to a particular group and the Client Policy hence holds the greatest likelihood of being implemented. The introduction of an Interest Group Policy can result in strong mobilization both for and against it, and the outcome will often depend on the relative strength of each group.

4.4 Practical and technological barriers

Practical and technological barriers may include practical aspects like possibilities for land acquisition for infrastructure projects, administrative solutions, information, available technology etc.

5 Conclusion

The literature inputs addressed in this note represent important and partially overlapping dimensions for assessing policy measures represented in the “optimal” scenario, and expected difficulties in their adoption and implementation. Further developments of the analytical framework will build on institutional theory (e.g. Christensen, 2013), political science regulation theory (e.g. Peters, 2001) and economic regulation theory (e.g. Armstrong and Sappington 2003), as well as principal- agent theory, public choice theory and game theory.

As the presentation has shown, a uniform recommendation on institutional design does not exist. Broadly designed institutions might be preferable when designing new policies and making ex ante assessments, while flexible, single-purpose organizations might be more suitable for carrying out policies and making ex post assessments. Similarly, inter-organizational coordination and diverse types of knowledge may enable more efficient and/or effective policy development, but the processes may also increase ambiguity and delay decision-making. Consequently, an analysis of the “optimal” scenario should include assessments on what executive power entities exist, how they perform, what are the challenges of these entities (lack of competence/ authority/ autonomy). It should also include assessments how policy change takes place, what policy measures may be seen as “acceptable”, and what policy measures are not “acceptable”. In some cases trade-offs may be made and targets may be relaxed in order to get acceptance.

6 Literature

- Alsin, H.J. and V.A. Brown, 2004, *Towards Whole of Community Engagement: A practical toolkit*, Murray Darling Basin Commission, Canberra.
- Armstrong, M. and Sappington, D. (2007), "Recent Developments in the Theory of Regulation" In Armstrong, M., and Porter, R. (Eds.), *Handbook of Industrial Organization*, vol. 3. Amsterdam: Elsevier Science Publisher B.V., pp. 1557–700
- Boston, J. and C.Eichbaum (2005). State Sector Reform and Renewal in New Zealand: Lessons for Governance. Paper presented at the Conference on "Repositioning of Public Governance – Global Experiences and Challenges", Taipei, 18–19 November.
- Bouckaert, G., Peters, G., and Verhoest, K., 2010. The coordination of public sector organizations. Shifting patterns of public management. Houndsmill, Basingstoke: Palgrave Macmillan.
- Brunner, R. D., et al. 2005. *Adaptive Governance: Integrating Science, Policy, and Decisions Making*. New York: Columbia University Press.
- Campbell, S. P and M. Hartnett (2005). *A Framework for Improved Coordination: Lessons Learned from the International Development, Peacekeeping, Peacebuilding, Humanitarian and Conflict Resolution Communities*. Paper presented to The Interagency Transformation, Education and After Action Review (ITEA) Program
- Christensen, T. 2012 "Post-NPM and changing public governance" *Meiji Journal of Political Science and Economics*, (1):2012
- Cohen, M.D., March, J.G., and Olsen, J.P. (1972). A garbage can model of organizational choice. *Administrative Science Quarterly*, 17(1): 1-25.
- Dietz, T., E. Ostrom, P.C. Stern, 2003, 'The struggle to govern the commons', *Science* 302:1907-1912
- Folke, C., S. et al. 2002. *Resilience and Sustainable Development: Building Adaptive Capacity in a World of Transformations*. Stockholm: Environmental Advisory Council to the Swedish Government.
- Gifford, J.L., 2003. *Flexible Urban Transportation*, Elsevier Science, Amsterdam, Boston, London.
- Habermas, J. 1987. *The Philosophical Discourse of Modernity: Twelve Lectures*. Cambridge, Mass.: MIT Press.
- Hall, P. A 1997: "The Role of Interests, Institutions and Ideas in the Comparative Political Economy of Industrialized Countries" in Lichbach M. and A. Zuckerman (eds.) *Comparative politics: Rationality, Culture and Structure*: New York: Cambridge University Press
- Hatfield-Dodds, S., R. Nelson and D. Cook, 2007. "Adaptive governance: Introduction, and implications for public policy". Paper presented at the 51st Annual conference of the Australian Agricultural and Resource Economics Society, Queenstown NZ, 13-16 February 2007
- Hill, M. (2009) *The Public Policy Process*. Fifth Edition. UK: Prentice Hall
- Holling, C.S. and G.K. Meffe, 1996, 'Command and control and the pathology of resource management'. *Conservation Biology* 10: 328-337

- Kaijser, A. 2005. How to describe large technical systems and their changes over time? in eds. Jönson G. and E Tengström, *Urban Transport Development: A Complex issue*, Springer
- Kemp, R., Parto, S. and Gibson, R.B. (2005) Governance for sustainable development: moving from theory to practice. *International Journal of Sustainable Development* 8: 12-30
- Lebel, L., J. M. Anderies, B. Campbell, C. Folke, S. Hatfield-Dodds, T. P. Hughes. and J. Wilson. 2006. Governance and the capacity to manage resilience in regional social-ecological systems. *Ecology and Society* 11(1): 19.
- Levin, S.A. (1993) Science and Sustainability. In: *Ecological Applications* 3: 545-546
- Lowi, T.J. (1985): "The State in Politics: The Relation Between Policy and Administration", in Noll, R.G. (ed.): *Regulatory Policy and the Social Sciences*, Berkeley, Los Angeles, London: University of California Press, pp. 67-110.
- May, A.D et al (2003): *Developing sustainable urban land use transport strategies: a decisionmakers' guidebook*. Leeds, Institute for Transport Studies.
- March, J. and J. P. Olsen, 2006. "The Logic of Appropriateness", pp. 689–708 in Michael Moran, Martin Rein, and Robert E. Goodin (eds.) *The Oxford Handbook of Public Policy*. Oxford: Oxford University Press.
- March, J.G. and Olsen, J.P., 1989. *Rediscovering institutions: the organizational basis of politics*. New York : Free Press.
- Marchau, V., Walker, W. E., van Wee, G. P., 2010. Dynamic adaptive transport policies for handling deep uncertainty. *Technological Forecasting and Social Change*, 77, pp. 940-950.
- Olsen, S., Fearnley, N., 2014. Policy transfer of public transport funding schemes : The case of Norway. *Research in Transportation Economics, Volume 48, December 2014, Pages 429–433. Elsevier*.
- OPTIC, 2011. *How to manage barriers to formation and implementation of policy packages in transport*. Deliverable 5, Juni 2011.
- Osborne, S.P., ed., 2010. The new public governance? Emerging perspectives on the theory and practice of public governance. London: Routledge.
- Ostrom, E. 1999, 'Coping with Tragedies of the Commons'. *Annual Review of Political Science* 2, 493-535
- Ostrom, E., 2005, *Understanding Institutional Diversity*, Princeton University Press, Princeton
- Peters, B. Guy (2001): The politics of bureaucracy, London: Routledge
- Pindyck, R.S. 2007. Uncertainty in Environmental Economics, *Review of Environmental Economics and Policy*, v1, 1, 45-65
- Powell, W.W. and P. J. DiMaggio (eds.) (1991): *The New Institutionalism in Organizational Analysis*, Chicago/London: The University of Chicago Press
- Ramjerdi, F., Fearnley, N. 2013. Managing risk and irreversibility of transport interventions, Special issue *Transportation Research Part A: Policy and Practice*, vol. 60, pp 31-39
- Richardson, B.C. 2005. Sustainable transport: analysis frameworks, *Journal of Transport Geography*, 13, 29-39.
- Ripley, R.B. & Franklin, G.A. (1982): *Bureaucracy and Policy Implementation*. Homewood, Illinois: The Dorsey Press.

- Scharpf, F.W., 1999. *Governing in Europe: Effective and democratic?* Oxford: Oxford University Press.
- Scholz, J.T. and B. Stiftel, 2005, 'Introduction: The Challenges of Adaptive Governance', in J.T. Scholz, and B. Stiftel (eds), 2005, *Adaptive Governance and Water Conflict: New Institutions for Collaborative Planning*. Resources for the Future Press, Washington, DC
- Scott, W. R. 1995. *Institutions and Organisations*. Thousand Oaks, Cal.: Sage.
- Swanson, D., Barg, S., Tyler, S., Venema, H., Tomar, S., Bhadwal, S., Nair, S., Roy, D., Drexhage, J., 2010. "Seven Tools for creating adaptive policies". *Technological Forecasting and Social Change*, **77**, pp. 924-939.
- Tennøy, A. (2012) *How and why planners make plan which, if implemented, cause growth in traffic volumes. Explanations related to the expert knowledge, the planners and the plan-making processes*. PhD thesis 2012:01 Norwegian University of Life Sciences.
- Tranøy, B. S. (2003) *Loosing credit: The Politics of Liberalisation and Macro-Economic Regime Change in Norway 1980-92* (99) Doctoral thesis, Department of Political Science, University of Oslo
- Uvin, Peter. *The Influence of Aid in Situations of Violent Conflict*. Paris: Development Assistance Committee, OECD, 1999.
- Volkery, A and Ribeiro, T., 2009. "Scenario planning in public policy: Understanding use, impacts and the role of institutional context factors". *Technological Forecasting & Social Change* 76 1198–1207
- Wilson, J.Q. (1980): "The Politics of Regulation", in Wilson, J. Q. (ed.) *The Politics of Regulation*. New York: Basic Books, Inc., Publishers.
- Winter, S., 1991. "Udviklingen i beslutningsprocesteorier: en introduktion", *Politica* 23(4), pp. 357-374.