

## **Regulating transport**

### The possible role of regulatory impact assessment in Swedish transport planning

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## ABSTRACT

By performing RIA, the risk of imposing a proposal that is inefficient or leads to sub-optimization is reduced. In the EU this approach to regulatory policy making was introduced in 2002 and it is a crucial component of the Better Regulation Agenda. However the practical implementation of this approach in Member States is varied; Sweden has not implemented the full RIA process. Currently there is a focus on the reduction of administrative burdens for businesses. This paper describes the present use of RIA and CBA in the Swedish planning context and discusses the reasons for and the consequences of current practices. Using the Swedish transport regulator as a case study, the paper considers the following aspects; i) the Swedish planning context and existing requirements regarding the use of RIA, ii) current focus of research regarding CBA for infrastructure investments in the Swedish transport sector and the need for greater focus on issues concerning regulation, iii) the difficulty to quantify and place monetary values on effects, which also increases when unique, complex and uncertain situations are assessed and iv) the need for the alignment of incentives at all levels and across agencies.

## INTRODUCTION

According to OECD, effective regulatory governance involves regulatory policies, tools, and institutions. Regulation is defined broadly and relates to various instruments on how governments put requirements on businesses and citizens. It includes rules issued at all levels of government as well as by other bodies to which governments have delegated regulatory powers. In their most recent recommendations, the focus is to a greater extent on the need for regulatory coordination across levels of government referred to as a “whole-of-government approach” (OECD, 2012)<sup>1</sup>. To achieve the goal of good governance, regulatory impact assessment (RIA) is recommended in the early stages of the policy process<sup>2</sup>. RIA is a tool but also a decision process for informing political decision makers on whether and how to regulate in order to achieve public policy goals (OECD, 2009). Economic analysis and more specifically CBA is part of this approach to regulatory analysis.

The findings in the scientific literature however reveals that implementation of RIA including CBA is not straightforward and may be highly controversial. Shapiro (2011) discusses the development of the regulatory policy in the US over 30 years and concludes that CBA has been at the center of intense controversy. Wegrich (2011) discusses the actual implementation of RIA and concludes that the design and practice of RIA systems vary widely cross-nationally. There are different reasons for this. One is the establishment of this kind of system within government being a challenging task of institutional design. Another, applicable to the European context, is that “the logic of economic analysis is particularly difficult to reconcile with systems of negotiated policy-making, such as those of the European Union or other consensus democracies”. In the EU, RIA as a tool was introduced in 2002, but not without difficulty and changes have been made over time. A recent example is the newly signed Interinstitutional agreement, between the European parliament, the Council of the European Union and the European Commission, which also includes instructions on

how to use RIA (European Union, 2016). But, there may be traditions and institutional frameworks that makes the approaches suggested by the OECD less relevant, these issues are discussed further by Parker and Kirkpatrick (2012) and Clifton and Diaz-Fuentes (2014).

Regarding Sweden, the governance system has undergone many changes over the past 20 years. Some of these changes are a result of the EU membership. Concerning RIA, which is part of EUs work on better regulation, recent research has found that Sweden is lagging behind other European countries and that the full RIA process is rarely implemented (Radaelli, 2010; De Fransesco et al., 2011; Erlandsson, 2010; Pettersson, 2016). One reason for this seems to be policy making traditions (Radaelli, 2010). In the light of the above Sweden is an interesting case to study. In this paper we use transport, and more specifically the experiences from the recently established Swedish transport regulator (the Swedish Transport Agency), to discuss the reasons for the current practices of RIA and the very limited use of cost-benefit analysis, CBA, in this work. We try, as economists, to look into what is usually considered a black box in our discipline: the governance system.

Transport is a policy area in Sweden where economic analysis has a long tradition. The overall transport policy goal is the provision of *economically efficient*, sustainable transport services for the general public and businesses throughout the country. Theories and models have been developed since the 1960s for elaborate cost benefit analysis of transport investments. Furthermore, economics has influenced policy making in other ways, for example the deregulation on the railway system and the international academic discussion on road pricing, that finally resulted in practical implementation in terms of the Stockholm congestion charging system. Economics and the use of CBA is also currently in the spotlight in relation to the political discussion on high speed railway since the analysis concludes negative results. Despite this, economics and CBA have had little influence on the regulatory work undertaken by the regulatory body, the Swedish Transport Agency. Moreover, research and development is at this time lacking regarding CBA in the context of regulation.

The paper is organized as follows: To set the discussion in a broader context, in the following we provide a brief overview of the academic basis of the discussion on regulation. We then turn to the Swedish case providing an overview of the institutional and organizational changes that have taken place over the last 20 years in relation to the use of RIA, CBA, transport policy and environmental policy. Thereafter we present the results from a case study where we have assessed the influence of new guidelines, including CBA, on the RIAs done at the Swedish Transport Agency. Next, based on all the above, we discuss the reasons for the current practices of RIA in Sweden. We also describe the implications of the current system using a couple of examples. Our conclusion is that the outcome is a result of the current institutional design and the lack of a whole of government approach. The paper ends with a discussion of the possible role of RIA and our recommendations for institutional changes for the full RIA process to be implemented in Swedish transport policy and planning.

## **REGULATION IN THE ACADEMIC DISCUSSION**

To understand why the implementation of RIA, including CBA, can vary between countries we provide a brief overview of relevant research in economics and other social sciences in this section. We start with the recent recommendations made by the OECD followed by some recapitulations of

discussions and findings in the scientific literature. We end with some aspects raised in a previous round table related to the regulation of transport that are of interest for our study.

The recommendations made by the OECD on the use of RIA including CBA rest on findings in the scientific literature. The literature on regulation, regulatory policy and the use of RIA and CBA however is large. We have found that different aspects are raised in different types of research, but also that the focus can vary depending on regional differences, for example the political context. While welfare economics, which is the basis for the use of CBA, have a focus on policy formulation and design, social sciences, such as political science, seems up until recently lack this focus – at least in Europe. It also appears, as discussed by Swedenborg (1999), that there is a divide between research in economics and other social sciences<sup>3</sup>. She saw a possibility for cross-fertilization and asked if it is each discipline fighting in their own corner that prevails, instead of a healthy critical dialogue across disciplines.

As mentioned in the introduction, RIA is described as a tool but also a decision process for informing political decision makers on whether and how to regulate in order to achieve public policy goals. As a tool, it is used to collect information on the potential impacts of government actions by asking questions about costs and benefits, and as a decision process it contributes to the dissemination of the effects of regulatory proposals to a wider audience. To achieve the goal of good governance, the OECD recommend the tool RIA. Even though RIA alone is not sufficient for designing or selecting policy instruments it has a key role in strengthening the quality of policy debate, by making the potential consequences of decisions more transparent (OECD, 2009).

The recent OECD guidelines on regulatory policy and governance (OECD, 2012) emphasize the importance of the initial assessment of the problem that a policy is intended to solve and the evaluation of alternative policy options. It is also stated that to be effective, the use of RIA should be supported with clear policies, training programs, guidance, and quality control mechanisms for data collection and use. Furthermore, governments should conduct systematic reviews to ensure that regulations remain up to date, cost-justified, cost-effective, and consistent, and that they deliver the intended policy objectives.

From our literature review it is clear that microeconomic theory is one basis for OECD's recommendations and its work with regulatory policy. Another finding is that different aspects are raised in relation to the use of economic theory (Hahn and Tetlock, 2008; Ruffing, 2010; Delbeke et al., 2010; OECD, 2012; Nyborg, 2012; Parker and Kirkpatrick, 2012; European Commission, 2015). The OECD also use economic analysis, for example environmental policy instruments, to provide support to the work undertaken by its members (Pearce et al., 2006; Ruffing, 2010). As discussed by Wegrich (2011), the origin of RIA can be traced to the US work on regulatory policy. There, CBA has been at the center of the discussion (Shapiro; 2011). The discussion has resulted in more focus being placed on how to perform this type of analysis. It has also resulted in changes being made in the requirements, for example benefits having to *justify* their cost instead of *exceed* their costs. This literature provide a discussion on the practical implementation of RIA since it describes that CBA can be more or less formalized depending on the situation and the information available (Sunstein, 2000; Carrigan and Shapiro, 2016).

In contrast to economics, the academic discussion by social scientists on regulation appears to have another focus than regulatory design. Since 2005 there has been more interdisciplinary research in an area called Regulatory Governance - mainly involving social scientists such as political scientists, academics of law, sociologists. The background to this line of research is described in a paper by Levi-Faur (2011). According to him there has been a discussion about the contrast between the welfare state and the so called regulatory state. This contrast rests first of all on the distinctive

administrative trajectory of state-building in the United States (the regulatory state) and Europe (the welfare state), which is described in greater detail in his paper. He also describes that there has been a discussion about the possible shift from a welfare state to a regulatory state. According to the author this has hampered the scientific discussion by creating conceptual walls. Levi-Faur (2011) therefore discusses the relationship between these two concepts in order to help to bring down the barriers. His conclusion is that it is no contrast but rather a *constitutive* relation between these two notions. While welfare is the aim, regulation is an instrument. He concludes that the welfare state relies on an extensive system of regulation both in order to regulate its own processes and to govern the economic and social pillars of welfare-provision.

The focus on the welfare versus the regulatory state is likely to be one reason for the lack of studies on policy design and the use of analytical tools such as CBA in studies of the functioning of the state. Other reasons are provided in a recent book on the tools of policy formulation, where it is concluded that (Turnpenny et al, 2015, page 14): "...policy formulation tools were gradually marginalized in public policy research...". One explanation for this is said to be that the mainstream of public policy research focused on other research questions. Some, in relation to policy formulation, focused on how to better understand the policy process itself, which was considered to be a complex, negotiated and deeply political process. Others argued that it was policy implementation, not formulation, which was the missing link. In sum, the "Regulatory governance literature" of social science has been important for our study since this is where we have found assessments on the use of RIA in different countries.

As for the use of analytical tools such as CBA, Nilsson et al. (2008) in a three country study found that, despite the increased political interest in many countries for evidence-based policy making, this has not led to the institutionalization of assessment tool use. Atkinson (2015) discusses the current evidence on the use of CBA and its influence on policy formulation. Of interest for this study is that he concludes that if decision makers are genuinely interested in CBA being used, implementation measures may be needed. Guidelines, for example, may not be a guarantee for actual use. Translating them into action may involve increasing the economic literacy, in particular in policy venues with little experience in this respect. Another measure that can improve the quality of the appraisal is to separate those who perform the analysis from those with a critical stake in a project or policy.

In relation to transport, the need for regulation and policy design was discussed at an ITF/OECD round table in 2010. In this discussion it is somewhat unclear what the definition of regulation is, the discussion mainly concerns the question of controlling actors in a market, such as a deregulated railway system or air. One paper, however, (Winsor, 2011) gives a broad definition of regulation namely "any measure which seeks to change the behavior of individuals or groups". This definition is more relevant for the decision-making context facing the Swedish Transport Agency. Hence, regulation is a notion that can have different meanings depending on the policy context. In another paper, the independence of the regulator in relation to the political system is discussed and reasons for this are provided. It is argued for independent regulators to ensure quality and continuity. The arguments raised are that "democratic elected governments only have power for a short period of time and cannot bind future governments, but they can assign limited discretionary power to independent regulators, which have expertise and are committed to long-term political goals" (Niemeier, 2011). Hence, the question of who should do what in a governance system is also something that is discussed in the literature.

In sum our review shows that RIA, CBA, policy design, and regulatory governance are established in the academic literature, but with different focus in different disciplines. This, in combination with that these issues are of low profile in Sweden, implies that the practical implementation is lagging behind.

## **THE SWEDISH POLICY MAKING CONTEXT**

Compared to other European political systems, Swedish public administration is organized in a rather unique way (Modell et al., 2007). Constitutionally Sweden has two levels, the national (central) and the local (municipalities and county councils). Sweden has traditionally built its bureaucracy on semi-autonomous government agencies (OECD 2002). The government ministries only employ a few percent of the civil servants; the vast majority of the civil servants are employed by government agencies. The government agencies are responsible to the government as a collective, but are placed under the jurisdiction of a specific ministry. The most important differences compared to other countries is that the agencies has a constitutionally granted autonomy, which means that formal ministerial rule is forbidden in Sweden. However, the government can influence government agencies and civil servants through different means of control (Larsson and Bäck, 2008). For example, it can give instructions on acts adopted by the Parliament. It can also give instructions on how the government agencies may use the economic resources that has been allocated to them by the government. Nevertheless, the general tendency is currently to offer the government agencies a fairly free hand in the form of a framework budget (Wockelberg, 2014). Another difference is the strong emphasis on the preparatory stages of the policy making process (Pettersson, 2016). It involves the use of commissions of inquiry and stakeholder involvement through the referral process.

Regarding the use of RIA, Pettersson (2016) concludes that Sweden is often wrongly viewed as a leading country when it comes to better regulation through impact assessment. One reason being that many commission reports neglect to present this type of impact analysis. Another is the discussion in Erlandsson (2010) who describes that Sweden rather late established a specific ordinance for RIA but that the focus of the better regulation strategy was reductions of administrative burdens and improved conditions for enterprises. This finding is supported by Radaelli (2010) who concludes that the full RIA process is scarcely implemented, the main explanation is that Sweden is engaged with the reduction of administrative burden, which also has been prioritized in the scrutiny of regulatory proposals<sup>4</sup>. Furthermore, Radaelli concludes that “the separation between cool technical analysis and political decision making has a poor fit with the reality of policy making” in Scandinavian countries.

The brief introduction in this chapter has revealed that the policy making context in Sweden differs from that in other countries and that it does not appear to support the full implementation of RIA. Therefore, in the following we highlight some political and structural changes in the Swedish governance system that have taken place in the last 20 years, which we believe have influenced the current practices regarding the use of RIA and CBA. According to the literature review in the previous chapter it is important to understand the institutional design in the governance system, and the policy-making traditions, in order to understand the use of RIA and CBA.

### **Structural changes in the governance system**

Soon after Sweden became a member of the EU, in 1996, the social-democratic party led by Göran Persson came into office. This government initiated a number of changes of the Swedish governance system that are of relevance for current policy making and the use of RIA. These changes were influenced by New Public Management ideas with a focus on performance management, i.e. management-by-objectives (Pollitt, 1995). In relation to transport the parliament adopted the so-called Vision Zero policy in 1997, which is based on the ethical standpoint that no one should be killed or suffer permanent injuries in road traffic. Another change influencing transport planning was that Sweden started a process of regionalization and decentralization of regional policy in part influenced by the EU structural funds (Stegman Mccallion, 2007). Furthermore, in 1999, 15 (later 16)



environmental quality objectives (EQOs) were established, these were to be reached within one generation<sup>5</sup>. These EQOs also influence transport policy since it is the responsibility of all sectors of the Swedish government to contribute to the fulfillment of the EQOs.

At this time, there were also investigations into the use of economic analysis and CBA in policy making. CBA as a tool has been used in Swedish transport investment planning since the 1960s. The government initiated a review of the principles applied to this investment planning. A group called Arbetsgruppen för SamhällsEkonomiska Kalkyler (ASEK), involving both agencies and researchers, was established headed by the autonomous agency the Swedish Institute for Communication Analysis (SIKA). In addition to the transport agencies, the Swedish Environmental Protection Agency (Swedish EPA) was involved in this work. In 1999 ASEK published a report with guidance on how to undertake a CBA and inputs to perform such analysis, the focus being on infrastructure investments (SIKA, 1999). Swedish EPA also performed an investigation on how economic policy instruments could be applied to environmental policy (Swedish EPA, 1997). A few years later, they also published an “in-house” guide on how to undertake CBA in their regulatory work (Swedish EPA, 2003). In parallel with this, practices were established in relation to the Vision Zero<sup>6</sup> and the EQO system<sup>7</sup>. This included development of indicators, systems for performance assessments and the involvement of different actors in society.

Of particular relevance for the use of RIA was a government bill 1997/98:136 on a new administrative policy (based on the Government Official Report 1995:57). A consequence of the bill was that changes were needed in the Ordinance 1995:1322 related to the functioning of government agencies. This ordinance contained instructions on the use of RIA in the agencies regulatory work. A commission of inquiry was set up in 2001 and the result was presented in 2004 (Government Official Report 2004:23). Regarding RIA the commission suggested that a separate ordinance should be established. It also recommended that a separate body should be established to support and evaluate agencies work in this area. It was also said that this entity should preferably be a part of the Swedish National Financial Management Authority but that, in the parts related to small and medium enterprises (SME), NUTEK (the Agency for Growth at the time) should be involved.

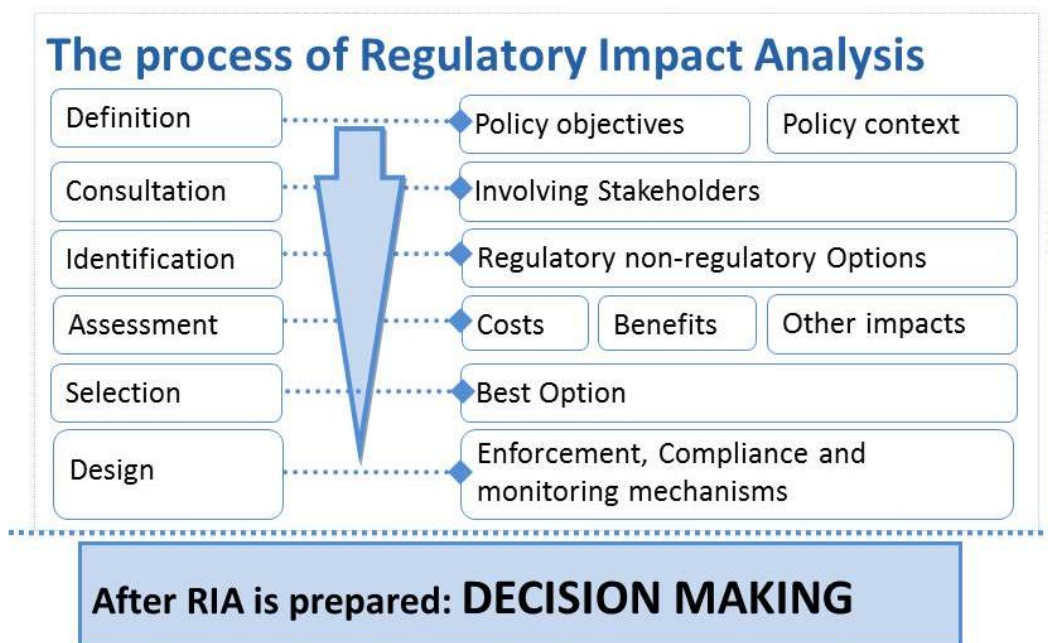
The actual implementation was made by a new government “Alliansen”, a coalition led by the Conservative party. They came into office in 2006. Based on additional preparations by the ministry, in 2007 this government introduced two changes, which we believe had strong influence on where the RIA process, with emphasis on administrative burdens, is at present in Sweden. The first was two new ordinances, one (Ordinance 2007:515) regulating the overall work by agencies and the Ordinance 2007:1244 on the work with impact assessments, hereafter referred to as the IA-ordinance. Contrary to the recommendation of the commission, the government placed the overall responsibility for the implementation of IA Ordinance with a newly established agency, The Swedish Agency for Economic and Regional Growth. According to Government bill 2009/10:1 it shall develop and undertake actions that support entrepreneurship, improve competitiveness and growth in businesses, and the power to grow in all parts of the country. According to the IA Ordinance, the Agency shall work together with the Swedish National Financial Management Authority on the implementation of it. The second change was that the government also established a separate body called the Swedish Better Regulation Council, with the role to review and issue opinions on the quality of RIAs to proposals with effects on businesses. The Council shall also on request from regulators review RIAs on EU-proposals that are assessed to have a great impact on businesses in Sweden.<sup>8</sup>

Changes related to the use of CBA were also introduced. In 2010, the task of ASEK was transferred from the autonomous agency SIKA to the newly established Swedish Transport Administration (STA), which has responsibility for the road and rail infrastructure in Sweden. Following a commission of inquiry (Governmental Official Report 2009:83) and the Government Bill

2009/10:155, additions were also made in the government instructions to the Swedish EPA. These implied that the agency for the first time were officially given the responsibility to develop the use of economic analysis in the EQO system. Since this work is to be done in collaboration with other agencies a “platform” for agency cooperation was established. The Swedish Agency for Economic and Regional Growth and the STA participate together with a number of other agencies.<sup>9</sup>

The IA Ordinance however only applies to *regulatory* agencies, this implies that all other agencies are not required to perform a RIAs on their proposals. Furthermore, proposals other than rules does not require a RIA, also for regulatory agencies. The instructions on the use of RIAs are stated in § 4-7. § 4 states that RIAs should be performed before a regulatory agency implements a rule. § 6 closely resembles the content of a RIA as it is described in Figure 1 below. However, it is not clearly stated in the ordinance what these steps should contain<sup>10</sup>. It was only recently, in early 2015, that the Swedish National Financial Management Authority delivered a general guideline on how to undertake RIAs, but without details regarding the use of CBA (National Financial Management Authority, 2015). In contrast, §7 contains rather detailed instructions on what consequences for enterprises that should be accounted for. This is also the paragraph focused upon when the Better Regulation Council reviews the impact assessments according to its instructions. Paragraph 6 and 7 are also referred to in the Ordinance 1998:1474 guiding the work for committees of inquiries. However, in the latter case there is an additional paragraph where it is stated that it is the government that determines the extent of such an analysis.

Figure 1.1. Major steps in Regulatory Impact Assessment



Source: OECD (2008)

The review of the academic discussion and the Swedish policy making context that we have presented highlights that, at present, the responsibility for the implementation of RIA and/or CBA in Swedish policy making is delegated to several agencies implying parallel development with different focus. Hence, the system appears to be fragmented and the requirements regarding the use of CBA seems to be unclear. Institutional and organizational changes that have taken place over time are also

likely to have disrupted the development work. Furthermore, with the overall responsibility for the implementation of IA Ordinance resting with the Swedish Agency for Economic and Regional Growth, and assessments for performance only being made by the Better Regulation Council, it is not so surprising that the studies by Erlandsson (2010) and Radaelli (2010) have found that there is a focus on business. According to recent evaluations of the work undertaken by agencies indicates that the progress is still rather slow both in relation to the IA Ordinance (Nerhagen and Forsstedt, 2016), and regarding the use of CBA in relation to the EQO system (Wallström and Söderqvist, 2016). As for the influence of CBA on transport investments, this has been evaluated recently and published in the scientific literature. CBA appears to have an impact but mainly as a screening tool since investments are undertaken despite having negative net benefits (Eliasson and Lundberg, 2012).

## **Transport policy and the role of the Swedish Transport Agency**

The transport sector has by tradition been a government responsibility.. Transport policy is guided by a number of goals and principles. Since 2008, the overriding goal for Swedish transport policy is to ensure economic efficiency and long-term sustainability of transport provision for citizens and enterprise throughout Sweden (Government Bill 2008/09:93). In addition, the parliament has adopted a functional goal – accessibility – and a consideration goal – safety, environment, and health.<sup>11</sup> Furthermore there are five guiding principles for transport policy adopted by the parliament, (National Audit Office, 2012),:

- Customers shall be free to choose how to travel and conduct transport.
- The decision making on transport production shall be decentralized.
- The coordination between transport modes shall be supported.
- Competition in the transport sector shall be supported.
- The socio-economic cost of transport shall inform the design of policy instruments (also referred to as marginal cost pricing).

When in power "Alliansen" made changes to the infrastructure planning system, such as handing over some responsibilities to the regions, and reorganized the transport sector at the national level. In 2009 and 2010 a number of government agencies were merged to create three larger entities; Swedish Transport Agency (January 1<sup>st</sup> 2009), Swedish Transport Administration (STA) and Transport Analysis (April 1<sup>st</sup> 2010). The reason for this merger was to improve coordination, cost effectiveness and collaboration. Another reason was to prevent that authorities performed supervision of their own work. The Swedish Transport Agency was a merger of several different government bodies<sup>12</sup>. It stipulates rules and monitors how they are followed, grants permission (driver's licenses and certificates) registers change of ownership and manages congestion and vehicle taxation. The STA was mainly a merger of the previous road and rail administration. It is responsible for long-term planning of the transport system for all types of traffic, as well as for building, operating and maintaining public roads and railways.

The Swedish Transport Agency has the overall responsibility to design regulations and to ensure that authorities, companies, organizations and citizens abide by them. The agency also performs market monitoring of the markets of whom it regulates. Furthermore, it collects and administers government taxes and fees. The Swedish Transport Agency also performs tasks according to legal documents provided by, for instance, the EU and other international agreements. It also assists the

government in engagements internationally. The agency consists of five policy-related departments (11 in total), where most RIAs are performed.

When performing all the regulatory tasks the agency strive to fulfil the goals of the transport sector by achieving good accessibility, high quality, secure and environmentally aware rail, air, sea and road transport. The work should in particular strive to contribute to an internationally competitive, environmental and safe transport system. Currently the majority of the impact assessments are performed by the two traffic departments, the Civil Aviation and Maritime Department and The Road and Rail Department.

As for the Vision Zero, the STA is responsible for its implementation. The Vision Zero implies a break with traditional traffic safety policy based on the view that interventions should be undertaken as long as benefits exceed costs (Belin et al., 2011). Instead it emphasizes the elimination of deaths and serious injuries, at least in the long term. According to the STA this is a Swedish policy innovation that, to some extent, replace “management by rule” with a new governance approach. This includes management by objectives, network governance and user governance<sup>13</sup>. Important innovations resulting from the Vision Zero are according to the STA median barriers and cameras to control speed. Roundabouts and alcolocks have also acquired greater importance.

Sustainability is also an important issue in transport policy, which the formulation of the overriding goal as well as the consideration goals illustrates. To achieve a more holistic, efficient and inclusive approach to transport planning, other methods such as the so called four-step principle and the Strategic choice of measures has been developed (WSP, 2012; Swedish Transport Administration, 2013a). The strategic choice of measures method is a way to implement the four-step principle in relation to physical planning. The four step principle involves the following steps: 1) Means to affect transport demand and mode choice, 2) Means to provide for more efficient use of existing infrastructure, 3) Reconstruction; includes improvements of existing assets and 4) Investment; includes the construction of new infrastructure which makes use of new land. According to (Nilsson et al, 2012), by tradition much emphasis has been on steps 3 and 4. One reason for this is according to the authors that at present there is a lack of information about and analysis of the influence of different policy instruments. More recent evaluations have found that the responsibility for the implementation of such measures is unclear (National Audit Office, 2012).

## **CASE STUDY ON RIA AND THE USE OF CBA**

As described in the previous section, it has been up to regulatory agencies themselves to determine how to undertake RIAs based on the IA Ordinance. Since economic efficiency is an overriding transport policy goal, the Swedish Transport Agency early on, started a process in order to include information relevant for CBA in their RIAs. Minor changes in the guidelines were introduced around 2010. In 2011, the Swedish National Road and Transport Research Institute (VTI) was commissioned to provide additional recommendations for the practical implementation (Lindberg and Nerhagen, 2013). In 2013 the agency recruited transport economists with the specific task of supporting the implementation of CBA in regulatory work. These actions provided the basis for a major change that took place in May 2014 with the introduction of completely new RIA guidelines combined with an extensive, but condensed, education campaign. The employees were offered to take

part in a half-day education in which all aspects of the work with RIAs, including the “recency” CBA, were briefly covered.

These changes provided the opportunity to investigate what influence a change at the agency level - with new guidelines, some basic training, and accessibility to new competences - can have on existing regulatory practices. The motivation for investigating this is that, as discussed by Atkinson (2015), new guidelines need not provide the solution to a lack of implementation. From our description of the Swedish policy making context, it is clear that the role of RIA, and what should be included in such an analysis, is unclear. Since a requirement to undertake RIAs has existed at least since 1995, when the previous Ordinance 1995:1322 related to the work of agencies was established, it is likely to exist a tradition in how this should be done. However, more recent changes such as the introduction of the Better Regulation Council may have influenced the existing practices. As for CBA, this is a tool mainly developed for and used to analyze infrastructure investments. Therefore, it can be expected that the general knowledge about this tool is low. Hence, our expectation is that the impact of the changes made in the guideline will be minor. To set the study in a context, we provide a brief description of the regulatory process at the agency before presenting the study and the results<sup>14</sup>.

### **The regulatory process at the Swedish Transport Agency**

At the agency there are established routines for how to work with the preparation of regulations and RIAs. The work starts when the head of a department or unit decides that a need for a new ordinance, or changes to one that exists, has to be investigated. Currently interventions other than regulations do not require a RIA according to the ordinance. According to the routine at the agency, the decision to initiate a regulatory process should be preceded by a documentation providing background information, a description of the problem, if this is a question of principle and who needs to be consulted in the work process. When the decision to initiate a regulation is made it is also stated which competences at the agency that are to be involved in the work process and the time assigned for the task. The work with development of the ordinance is done in parallel with the RIAs. There are some competences that are required; experts in the issue at hand (for example traffic safety or vehicle technology), law, language and typography. According to the routine, stakeholders shall have the possibility to contribute to and comment on the impact assessment through the referral process.

The work with the impact assessment is supported by two documents, a guidance and a template. These supporting documents are used for all types of regulatory work that requires a RIA. In addition to the work with ordinances, this involves commissions from the government and the work with EU directives and laws. These documents are “owned” by the legal division of the Director General. They are in principle a copy paste of the IA Ordinance, but with clarifications in the guideline of the kind of information that is required under each heading. According to the guideline, concerned parties should be identified and the main effects for them should be described. Thereafter the effects should be quantified and monetized to the extent possible. Statements and claims should be supported by facts such as previous RIA, investigations and/or scientific evidence.

The changes in the template and guidance in May 2014 made it clearer that alternatives to new rules, for example economic policy instruments or no regulation, should be analyzed. More specific requirements related to an analysis of costs and benefits was also added under the heading: Socio-economic analysis. The following components were included for which, when relevant, consequences should be described:

- Consumers
- Governments finances

- Society in general (including external effects)
- Agencies and other public administration
- Synthesis of costs and benefits
- Distributional consequences
- Contribution to the transport policy goals

In addition to these, the requirements related to § 7 in the IA Ordinance is found under this heading. This part is unchanged in relation to the previous supportive documents and is quite specific about the required information. It includes the number and types of enterprises that are affected, the possible impact on competition, quantification of the administrative burden<sup>15</sup> and if special care in the design of the regulation needs to be given to SMEs.

### **Method used in the analysis of impact assessments**

The aim of our investigation is to examine if the agencies requirements according to the supporting documents on how to perform an RIA are fulfilled. To do this we use the scorecard approach by Hahn and Dudley (2007). However, we made some changes so that the scorecard would reflect the content to the new guideline of the Swedish Transport Agency. The aim is to assess the content but not the overall quality of the RIAs. Our focus is on the inclusion of the new aspects related to CBA that were introduced with the new guideline. The main advantage of using the scorecard method is that it requires no detailed knowledge of the assumptions and calculation underlying the particular analysis. Also, it does not require the researcher to judge whether or not the estimate are correct or not. The only thing that is measured is whether or not the required information is presented in the RIA. However, in order to get some qualitative information about the content of the RIAs, we also included commentary fields for the reviewer.

As discussed by Hahn and Dudley (2007) a good quality RIA is defined in a specific way since it follows the basic requirements in the executive orders and guidelines. This implies that the scorecard is objective in that sense and that other researchers are able to replicate the results. A disadvantage, also discussed in their paper, is that an RIA could receive high scores and still be poorly done. This is the case if all estimates are wrong in the analysis, but this caveat is likely to be minor since many of the questions on the scorecard are quite basic. Hence, a RIA with a low score is unlikely to be of high quality. Another drawback discussed is that it does not measure the potentially significant impacts that RIAs may have on the process of regulation such as transparency, encouraging debate or changing policy. Furthermore, a potential drawback not discussed in the Hahn and Dudley report is that the conclusion base on subjective assessments of the RIAs implying that the result will depend on the reviewer. To mitigate this, in this study we had two meetings with the five persons that were involved in the review.

### **Sample**

The RIAs was produced under the period of May 2014 to January 2016, which was the time period when these supporting documents were in place. Only RIAs that are related to the development of a regulation are included, the reason is that the agency is not required to perform RIAs if the proposal something other than a rule. Hence, these investigations, if performed, are poorly documented. The sample used consists of a total of 49 RIAs, 32 from the Road and Rail Department, 14 from The Civil Aviation and Maritime Department and 3 are government commissions. As described in the previous section, the decision of whether or not to investigate a regulation is made by a manager and should be preceded by some kind of analysis. We were not able to include these in our study since these decisions at times are poorly documented and not easy to match with the final RIA.

Many RIAs consists of more than one regulatory change. The implementation of an EU Directive for example can require changes to be made in several ordinances. According to the current practice at the agency, these are often described in the same impact assessment. There were however exceptions: in some cases the same EU Directive applied to different areas of expertise, for example road and rail, and our review concluded that different units developed “their own” RIA without, as it seems, no synergy effects. Because a RIA can consist of many changes within each report we decided to treat each regulatory change as one “case”, i.e. if a RIA contained three regulatory changes we treated it as three separate cases where each one should contain information as required by the guideline. The assumption to treat each change separately implies that the number of usable observations becomes in total 142.

The changes evaluated in the different RIAs ranges from 1 to 22. This imposed a challenge for our analysis since more often than not, the RIA was not structured in such a way that each regulatory change was treated separately. Moreover, the type of change differs, from administrative changes to proposals that affect many parties. Hence, some regulatory changes that we have analyzed are much more complex, and involve more effects to be evaluated, than others. The magnitude of problems to be analyzed is also large. Our sample included RIAs regarding medical requirements, requirements for air traffic controllers, traffic safety and environmental effects of introducing longer and heavier freight vehicles, market monitoring of driving schools and driver education. The range of the problems analyzed illustrates that the rules designed and administered at the Swedish Agency influences many different parts of society; the business sector as well as individuals.

## Results

That the number of changes made in each RIA has been difficult to track, implies uncertainty in the results. This is, however, a result itself since if there is no clarity of presentation it is difficult to understand the RIAs. It is often unclear how many changes that are made and how they connect to the proposal, that is if it is a change in an existing rule, a new rule, a repeal of a rule or other. About half of the changes made is due to national regulation, 34 percent originates from EU and in 12 percent of the changes made it was not clear in the report why an RIA was carried out. This ambiguity tends to increase with the number of changes made in each RIA. About 68 percent of the cases made consist of two or more changes. In about 4 percent of the changes it was not possible to evaluate how many changes that were made.

Another general finding is that in some cases changes analyzed in different RIAs comes from the same reform such as an EU Directive etc. In these cases there seems to be no analysis of the overall change, rather the details in the proposal is analyzed. Moreover, the level of ambition in each RIA is the same, even though it is reasonable to expect a variety in breadth and depth of the analysis due to the different areas in focus or the kind of change to be analyzed. That is, the analysis tend to be the same no matter if a pre-hand determined proposal is implemented or if it is a case where the acting space is large and it is possible to design the proposal and/or even analyze different alternatives to reach a solution that fulfil the objective.

The result of the review of the 142 cases is presented in Table 3.1. For the main headlines in the guideline and the template, we have assessed if they a) contained a satisfactory qualitative description, b) quantification and c) information about monetary values of the effects. The headlines in bold are those that are new requirements. Some aspects were not possible to quantify, these are indicated by (\*). For others some aspects are not relevant, these are marked with (-).

Table 3.1. **Descriptive summary of the Scorecard results (%)**

Headlines in guidelines	Qualitative description	Quantified effects	Monetary valuation
Problem definition	*	11	-
Status quo (reference alternative)	38	-	-
Objective of proposal	38	-	-
<b>Alternatives (no regulation)</b>	10	-	-
Alternatives (regulation)	31	-	-
Enterprises	46	41	*
<b>Consumers</b>	51	4	1
<b>Government finances</b>	32	6	6
<b>Other society (externalities)</b>	31	4	1
<b>Agencies and other public adm.</b>	40	15	8
<b>Synthesis of costs and benefits</b>	56	-	-
<b>Distributional consequences</b>	28	-	-
<b>Transport policy goal (economic efficiency)</b>	5	-	-
N=142			

*Note:* (\*) implies that these results are difficult to quantify which is further described in the text. (-) implies that this is not considered and reviewed since the guidelines do not requires quantification and monetary valuation of the effects.

From the table it is clear that only a small share of the cases contains an evidence based problem description, i.e. either it refers to previous studies, other RIAs or tries to quantify the magnitude of the problem. The majority of the cases, nearly 90 percent lacks this information. It is not clear if this is due to difficulties in quantifying the problem, but from the more qualitative comments of the reviewers it appears that one reason is that it is taken for granted that the regulation should take place. The problem description in these cases contains information on the legal aspects, such as the need to regulate because of a new EU Directive. The qualitative description further points at a mixture of economic and market effects, where the latter rather belong to a business administrative analysis than a RIA.

The objective, or the reference alternative, should provide a description of the status quo over time. This is clearly described in 38 percent of the cases. In most cases a description of the expected impacts on society's welfare are missing, for example if the aim is to reduce accident risk, increase accessibility or reduce emissions etc. Instead, the legal objective is often described. Alternatives to regulation (rules) are discussed in few cases (10%). In most cases these are not investigated further or dismissed at an early stage with the motivation that it is unclear whether or not other solutions (than rules) will have the expected impacts. About one third of the cases provide more than one alternative of the design of the rule. Hence, it is more likely that different designs of a specific rule are analyzed than it is that alternatives to rules are evaluated. Still, in the majority of cases it appears that the reason for the regulation is unclear and that only one alternative is described.

As for the new requirements expected to result in better information for CBA, the result in the table is discouraging. The most obvious example is the result for consumers for which impacts are said to exist in 51 % of cases but where the quantification of impacts and monetary valuation in most cases are lacking. This can be compared with the results for Enterprises where quantifications appears to be made in almost all of the relevant cases (46% concerns enterprises and 41 % contains quantified information about the impacts). Also for the other new requirements, there is a general lack of quantification and monetary valuation.



Given these results, it is somewhat surprising that a relatively large share of the cases (56 %) contains a synthesis of costs and benefits. One explanation is that enterprises is included in the synthesis. That economic efficiency is not really an issue in most of the cases is illustrated by the fact that the fulfillment of the overriding goal of the transport policy (economic efficiency) is only discussed in 5 percent of the cases. One reason for this rather low result however is that the guidelines only discuss the goals adopted by the parliament (the functional goal, 41 %, and the consideration goal, 44%).

As described, the IA Ordinance is quite specific on what information that is required if enterprises are affected by a regulation, if the effects are expected to be of a large magnitude. These RIAs are also sent to the Better Regulation Council for review. In our sample we have found that enterprises are concerned in 46% of the cases and that in 41 percent of the cases it has been possible to put a number on how many that is affected by the proposal. In table 3.2 we provide more detail about the information that were presented about enterprises in the cases in our sample. Relative to the other impacts, the number of quantification is higher and cover more aspects. The administrative and other costs are estimated in 28 and 22 percent of the cases respectively. How the enterprises are affected in terms of competition is analyzed in 22 percent of the cases and small enterprises and other effects are discussed in 25 and 30 percent of the cases respectively.

Table 3.2. **Impact on enterprises (%)**

	Enterprises	Administrative costs	Other financial costs	Impact on competition	Impact on SME's	Other effects
Number of cases	41	28	22	18	25	30

## Discussion of the result

The results presented in the previous section are quite discouraging, both concerning the overall quality of the RIAs and more specifically their lack of information on benefits and costs. They are however in line with two of the three main findings by Hahn and Dudley (2007):

- The quality of the analyses, as measured by the inclusion of fundamental economic information is in general low.
- The quality of the CBA does not seem to change over time (t = 1982-1999) or across administrations.
- Individual RIAs vary widely in quality, even within administrations.

Our results correspond to their findings in the first and third case. As for the second case that the data is not comparable since the CBA-approach has been used for a short period of time (t = 2014-2016) and we have only evaluated the work at one agency. All in all, potential reasons for the discouraging result are discussed in this section, the focus being on the institutions and tradition in the Swedish governance system.

The lack of assessment of benefits and costs implies that it cannot be assessed to what extent new or revised regulations contribute to the overall transport policy goal of transport provision that is economically efficient and long term sustainable. It is not only that benefits are not quantified monetarily, nor do they appear to be properly assessed in the problem description. Alternative

solutions also appear to be ruled out at an early stage. From the more qualitative descriptions from the review, it appears that a central assumption underlying the current regulatory work at the agency is that regulation is obeyed and lead to the expected outcome. Therefore neither solutions other than rules nor sensitivity analyses on proposed solutions are rarely analyzed further.

Another possible explanation to why a majority of the changes made in the RIAs do not provide a complete description of the problem, or consider alternative solutions, is the decision process. Since the RIA is performed *after* the initiation of an inquiry and because that the outcome by tradition is to regulate, it is likely that the RIA serves more to justify the regulatory decision than to inform it. Hence there are currently no incentives to perform a deeper analysis and investigate other solutions. There may also be a time constraint. Since we have not been able to study the documents on which decision to undertake a RIA are made, we cannot make a judgement of whether this is where the evaluation of alternatives take place or not. We however consider it less likely since no reference to such documents is made in the RIAs. Moreover, no financial resources are currently assigned to a regulatory investigation at the agency before the decision to initiate a regulation is made.

The result further illustrates that there are few cases where the effects on the proposals made in the RIA are quantified and/or given an economic value in terms of a benefit or a cost. One exception is the effects of enterprises but even these are quantified and given a value in less than half of the cases, despite the requirements of IA Ordinance. The focus on enterprises is likely an effect of tradition in the work with RIA, both on a national level and within the agency. However, as pointed out by for example the OECD, a RIA should contain information on the impact of society as a whole, not a specific sector of the economy.

One reason for the lack of information on benefits and costs, despite the new requirements, is that the history of the agency is short and it takes time to collect this type of information. It also requires certain skills. The sample in our study illustrates that the range of the problems analyzed by the agency is very large. The problems to be analyzed also change over time since the transport system changes for example due to the introduction of new technical solutions such as autonomous vehicles. Despite this, the number of economists at the Swedish Transport Agency are few. This is a very different context compared to transport investment analysis where there now exist elaborate tools supporting cost-benefit analysis. Hence, the research regarding infrastructure investments that so far has been in focus in relation to CBA in transport, mainly the work undertaken by ASEK, may not be easily transferable to the regulatory context. Another problem identified during the course of this study is that the agency itself collects relevant data in registers but legal obstacles prevent them from being used for analysis of causes and effects. It is also well known that even with data there are difficulties in placing economic values on effects, an obstacle that increases when assessing situations that are complex and varies.

## **THE LACK OF A WHOLE OF GOVERNMENT APPROACH**

The division of responsibility between the political level and the regulator is discussed in OECD (2011). Politics build institutional frameworks for policy making. This Swedish example highlights that little attention has been paid to the role of RIA in the Swedish policy making system. In this chapter we present three examples, which illustrates that this has had implications for the current work

with RIA and CBA in transport planning. As discussed in the chapter 2, one reason for the lack of the full implementation of RIA in Sweden appears to be the system with committees of inquiry and the referral process. However, according to Petersson (2016), their influence on the policy making process is changing. One reason for this is that the policy making context has been changing, for example due to the membership in the EU. Many proposals are now prepared at the EU level and it is the government and the agencies that prepare Swedish positions in the negotiations that follow, not committees of inquiries. According to Petersson (2016) this has implied that political decisions today are taken on much less solid factual grounds. He also discusses that it is no longer the case that “all interested parties” are consulted beforehand. Hence, despite the referral process, it appears that policy making to a lesser extent is influenced by opinions and advice from stakeholders and the civil society.

Several evaluations (OECD, 2004; 2007; 2010; 2014; 2015) have found that current policies related to growth and environment in Sweden are neither innovative nor efficient. One reason being that in the current system the ministries do not take a clear lead on strategic issues (OECD, 2014 and 2015). This implies an avoidance of, at least an explicit, discussion of conflict between societal goals at the central government level. Policies are not coordinated since it is left to various bodies, and individuals, to interpret government policies and design measures based on these interpretations. That this is also a problem in Swedish transport policy is discussed in a report from a commission of inquiry (Government Official Report 2009:31). Possible reasons for these observations is likely to be the changes made to the Swedish governance system in the last 20 years that we described above and in chapter 2. In the transport sector, the introduction of the Vision Zero and the Environmental Quality Objectives have influenced policy making. Both are examples of the introduction of management by objectives in the policy making system. They are also examples of policies where the actual implementation to a large extent is delegated to other levels in the governance system

The Vision Zero, and the EQOs were introduced at a time when the precautionary principle was guiding EU policies. According to Lofgren (2004) Sweden at the time was one of the countries that advocated the use of the precautionary principle. However, this is a principle that may be difficult to combine with rational decision making (Sunstein, 2003; Hahn and Sunstein, 2005). This conflict is also discussed by Belin et al. (2012) in relation to the Vision Zero. They conclude that the Vision Zero is a break with the traditional view of traffic safety interventions where measures should be undertaken as long as the benefits exceeds the costs. According to Lofgren (2004), EU with the Better regulation agenda started a move towards RIA instead of making decisions based on the precautionary principle. Our findings show that Sweden is lagging behind in the use of RIA. Currently, there is no clear description at the ministerial level on the role of RIA, neither clear instructions on what it should contain, when it should be used and who evaluates the results except for the parts related to administrative simplification, and consequences for businesses.

The question then is if the changes in the policy making system have had implications for the transport policy and planning in Sweden and the use of RIA and CBA? In the following we illustrate with three examples from our daily work how the current context influence the policy related work. The first is a RIA reviewed in the case study. The second relates to the output from the work done by ASEK. The third illustrates the problems with a fragmented system for a systematic work on development of inputs to CBA, based on scientific evidence.

Our first example is a RIAs which is concerned with new rules about driving licenses for individuals with different kinds of physical handicaps. One of these related to a “new” problem resulting from the pandemic situation of 2009 with the influenza A(H1N1), when Sweden chose to conduct a mass vaccination campaign using the Pandemrix vaccine. A few years after the vaccination took place, evidence emerged on an association between the pandemic vaccination and severe adverse event narcolepsy in children (Widgren, et al., 2013). The question now for the Swedish Transport

Agency is under what conditions these children can obtain a driver's license when they come of ages. This entails weighing the risk (i.e. the cost) that these individuals may introduce on the road transport system against the benefit they will have from being able to live such a normal life as possible.

This however was not the focus in the RIA. Instead it was on the possible increase in administrative costs due to additional medical examinations. This may sound surprising, but it is not given the current focus in the RIA practices. This RIA was examined by the Better Regulation Council and mainly judged according to the fulfillment of § 7 in the IA Ordinance. It was for example deemed unsatisfactory in relation to the description of businesses concerned. It is the civil servants that are required to judge whether or not a certain RIA should be assessed according to § 7 of the IA Ordinance or not. As this example illustrates, a RIA can have an impact both on the general public and enterprises. Since, in such cases, the only scrutiny of the RIA is made by the Better Regulation Council, it is not surprising that civil servants are rather safe than sorry and focus on the aspects that will be controlled.

Our second example is the work done on the development of principles and estimates to be used in CBA for the transport sector. As described in chapter 2, this work started in 1998 with the establishment of ASEK. The institutional setting, as well as the participants, has changed over time. At the origin researchers were part of this group in addition to representatives from relevant agencies. The responsibility was placed at the autonomous agency SIKa. In 2010 the responsibility was transferred to the STA, and now only agencies participate. Other institutional changes have also taken place over time. The problem in relation to the implementation of RIA is that since the first estimates were presented, no revisions have been made. The original estimates have only been adjusted over time using price indices. This is despite the fact that, regarding accident risk for example, the introduction of measures, such as median barriers, have reduced the risk. In addition, cars have been made safer. This in turn implies that the marginal cost for using the road transport system are expected to decrease. For air pollution, on the other hand, a number of studies have since 2003 revealed that the estimates used are very high in comparison with other calculations made both in Sweden, and in the EU for Sweden. Now new estimates are being developed, not as a result of a decision made by ASEK, but due to a government commission in 2012 (Nilsson and Johansson, 2014; Nerhagen et al., 2015; Isacson and Liss, 2016).

Our third example illustrates how delegation of responsibility in a governance system may work against an efficient approach in the development of inputs required for undertaking a RIA and CBA. The Swedish EPA has the overall responsibility for the achievement of the EQOs. It was only recently, in 2010, that the agency was instructed to develop the use of CBA in the work with the EQOs. This can explain why the current work with the government commission on the development of new marginal cost estimates has revealed that there is a lack of data relevant for quantifying ecosystem impacts in Sweden (Nerhagen, 2016). In the literature study done for this work it was found that studies made for the most recent assessments within the EQO system had a focus on understanding how international sources influence air quality in Sweden and the achievement of the established goals. Hence, the focus is not on assessing the impacts of Swedish emissions sources, which is the information needed for marginal cost calculation.

The examples illustrate that changes in the institutional design over the last 20 years influence practical work, which in turn according to our experience influence the possibility to perform RIAs of regulations in transport. They also illustrate that there is currently a lack of a "whole of government approach" to the use of RIA including CBA in the Swedish transport policy and planning system. The system is fragmented involving several agencies but with different aspects in focus in their work. This influences research and development, which in turn have implications for the possibility to undertake high quality RIA and CBA. One question then is if other aspects of the Swedish policy making system

replace the use of RIA. As described, the STA has developed the four step principle as a tool to encourage “new ways of thinking” in the transport system. The impact however appears to be low. Reasons for this are discussed in a review undertaken for the National Audit Office (Nilsson et al., 2012) and in the final report from the National Audit Office (2012). According to the latter, it appears that the division of responsibility between the ministry and the STA for the design of policy measures for the transport sector is unclear.

These outcomes of the current system also have implications for the work done by the Swedish Transport Agency, since issues that the agency faces in its work with RIA and CBA are not addressed. Compared to the STA, the Swedish Transport Agency rather assesses the economic efficiency of the “design” and function of the transport system than the profitability of investing in it. The situations assessed are less standardized compared to that of building a new road or making changes to an existing one. Hence, the situations to be analyzed are generally less repeated and sometimes unique. Therefore, quantifying and placing monetary values on effects are more problematic. Furthermore, the situations assessed are often both complex and uncertain. The cost of providing estimates is also higher when they are produced for unique situations. These are challenges that to a lesser extent have been addressed in the work done by ASEK and in the research regarding Swedish transport. Hence, tools needed for analyzing regulation of transport using CBA is a new area of research in Sweden. There is currently a need of empirical studies since monetary estimates, assessments of effects and models are non-existing or needs to be modified.

## **CONCLUSIONS AND RECOMMENDATIONS**

RIA as a tool and a process are expected to improve policy making. However, as discussed in the introduction of this paper, implementing a full RIA including CBA in a governance system is a challenging task. In this paper, we have discussed the current use of RIA, including CBA, in the Swedish policy making context. Our focus has been on its role in transport policy and planning. Our discussion is based on the experiences of the obstacles encountered when trying to implement the full RIA in the work with regulation at the Swedish transport regulator (the Swedish Transport Agency). We have found that in Sweden, contrary to many other OECD countries, the responsibility for the implementation of RIA does not rest at the central government level. Instead it is in the hands of several government agencies. There also appears to be a separation between the work with the “IA Ordinance” (2007:1244), which only applies to regulatory agencies, and the work with CBA, which is mainly done in relation to transport investment planning and, in recent years, the work with the environmental quality objectives. Hence, the current system is highly fragmented.

Reasons for the current institutional design are according to our findings policy making traditions and politics. Compared to other countries, Sweden has an elaborate system for the preparations of policy proposals. Through the established processes with commissions of inquiry and the referral process much information, and the pros and cons of different solutions, are collected and analysed. Hence, the process has supported rationalistic policy making and therefore the usefulness of RIA may be an issue. This is the influence of tradition. As for politics, it is clear that the implementation of the work with better regulation stemming from the EU in practice has implied a focus on regulatory simplification and administrative burdens for the businesses. A reason for this is that the implementation of the RIA ordinance has been placed in the hands of the Swedish Agency for

Economic and Regional Growth. Moreover, the only scrutiny of RIAs is made by the Better Regulation Council, which according to its instructions should focus on § 7 in the ordinance, consequences for enterprises.

We can, however, conclude that policy making in Sweden is changing, in part influenced by the membership in the EU. Much more than before regulatory changes stems from decisions made at the EU level. A recent example is the EU Directive on the charging of heavy goods vehicles for the use of certain infrastructures<sup>16</sup>. Currently a commission of inquiry is investigating how this directive should be implemented in Sweden. According to this directive, the charges should be differentiated based on the Euro-class of a heavy goods vehicle and to do this marginal cost estimates should be used. Another example, where the Swedish Transport Agency has been involved in the preparation of Swedish regulation, is the directive regulating inspections of vehicles. The latter is an example of changes taking place where the agencies together with the ministries make preparation concerning regulations instead of commissions of inquiry. With the small ministries in Sweden, the government agencies have become very important players in the field of policy making.

Given this new situation, we believe that Swedish transport planning could benefit from implementation of the full RIA. This however entails a number of changes in the current institutional design. One problem related to the current system is the focus in the IA ordinance on regulation. In Sweden, the four step principle has been developed where the first two steps relate to policy design and measures that may influence travel patterns. In practice this type of analysis does not appear to be done because of unclear responsibilities and the lack of information to perform such an analysis. Another reason could be that the requirements to undertake RIAs only apply for regulatory agencies and when regulatory changes are considered. Another obstacle is the unclear role of economic analysis and CBA in policy making. We have illustrated that in the current system inputs to economic analysis, such as marginal cost estimates, are not updated regularly. This is despite changes taking place in the transport system and the environment that will influence these estimates. For the Swedish Transport Agency, this implies that it has to develop its own estimates, which it has not had the means to do since the agency does not have funds for research to the extent needed, or leave out some aspects of an analysis to avoid making decisions based on obsolete information.

The experiences made in the work with implementation of the full RIA at the Swedish Transport Agency provide strong support for the OECD recommendation on the “whole of government approach”. In the following we present some suggestions for concrete changes that could benefit the work on regulation done at the Swedish Transport Agency and in general. These are changes that relates to the current institutional design and the work undertaken by other agencies. Hence, this paper illustrates how the implementation of the full RIA requires a systems approach with clear requirements, guidelines and division of responsibility between the ministerial and the agency level as well as between government agencies.

First of all, the IA Ordinance must be revised or clarified to mitigate the current focus on regulation and regulatory authorities. It is currently unclear what kind of analysis that should underlie proposals that relates to other policy instruments than regulations. This is for example of relevance for the possibility for the STA to do analysis related to step 1 and step 2 of the four-step principle. It is also relevant for §10 of the IA Ordinance that concerns follow-ups and ex post evaluations, since the responsibility for evaluations of policy instruments in general is currently unclear. Also, the responsibility for the work with implementation of RIA should probably be placed in the hands of the Swedish National Financial Management Authority, in line with the proposals put forth by the commission of inquiry. In combination with such a change, the guidelines provided by Authority need to be updated regarding the use of CBA in policy analysis. We believe that having a specific Authority working with RIA will also benefit research on the use of RIA in Sweden.

Our second recommendation relates to the role of the Better Regulation Council. In both the EU and the US there are separate acts on how to consider SMEs in regulation, which concerns the possible need for differential treatment. This is not the case in Sweden. There is currently a focus in the IA Ordinance on administrative simplification and quantitative description of concerned markets. Since regulation also involves market monitoring, how to work with competitive aspects when undertaking a RIA, in particular regarding SME's, is an issue. Therefore, we think greater emphasis in the work done by the Better Regulation Council should be in the area of industrial organization, in particular competition policy and evaluation.

The final recommendation relates to the role of CBA and the current work with research needed for this kind of analysis. The development work is currently done by ASEK and to some extent the Swedish EPA. Hence, in the current Swedish system, the agencies working with a particular policy area (investment in transport infrastructure and environmental policy) are also given the responsibility for developing models, estimates and the collection of data needed to undertake a CBA. This is a problem for the Swedish Transport Agency since current development work has a focus that do not support CBA of regulations in the transport sector. A more general problem is that having several agencies developing inputs and applied methods in parallel may not be efficient. Platforms and instructions on how to coordinate agency work strive to mitigate this but may not be enough. Hence, as discussed in the academic literature, to secure an "objective" analysis, we suggest that the tools and inputs to be used in CBA should be developed by an autonomous institution.

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## NOTES

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<sup>1</sup> OECD (2006) define whole-of-government approach as: “one where a government actively uses formal and/or informal networks across the different agencies within that government to coordinate the design and implementation of the range of interventions that the government’s agencies will be making in order to increase the effectiveness of those interventions in achieving the desired objectives”.

<sup>2</sup> RIA increasingly used internationally (Ruddy and Hilty, 2008; Delbecke et al., 2010). Many countries have a legal framework that stipulates the use of economic analysis, including CBA, in regulatory work. In both the UK and Norway, for example, the respective ministry of finance has responsibility for this type of analysis being used by central government bodies. These institutions also issues guidelines on how the analysis should be done (HM Treasury, 2011; Ministry of Finance in Norway, 2014; Norwegian Government Agency for Financial Management, 2014).

<sup>3</sup> A recent example of Economics as a discipline being questioned is an article published in The Economist in May 2016 with the title “If Economists reformed themselves. A less dismal science”.

<sup>4</sup> One reason for this appears to be that the European Union until 2012 had an action program for the reduction of administrative burdens within the European Union. This is now replaced with other initiatives such as the REFIT program.

<sup>5</sup> How to reach these ambitious objectives has been a question for governments and government agencies ever since. This has also been an issue discussed in the academic literature, for example in relation to the use of cost-benefit analysis. (Brännlund, 2008; Forslund et al., 2010; Jamet, 2011; Edvardsson Björnberg, 2013).

<sup>6</sup> This objective has influenced the STA’s work in several ways, for example resulting in the establishment of a governance system involving evaluations, use of indicators, collaboration in networks and a yearly conference focusing specifically on traffic safety.<sup>6</sup> Concretely, there is for example an established objective that 75 percent of the state roads with a speed limit over 80 km/h shall have a median barrier by 2020. Another measure is to build more secure road crossings in municipalities for pedestrians and bicyclists.

<sup>7</sup> According to the instructions, the Swedish Environmental Protection Agency has the responsibility to support the work with sustainable development based on the EQOs. It shall also be a driving force in the work with environmental policy and provide support to other central government agencies. It must also provide updates on the state of the environment. Currently, there are eight central government agencies that have a responsibility for specific EQOs, as stated in their instructions from the government. In addition, there is a system established for the collection of data on the state of the environment to which government agencies and country administrative boards provide information on a regular basis.

<sup>8</sup> It is stated on its webpage (<http://www.regelradet.se/en/>): “The Swedish Better Regulation Council is a special decision making body under the umbrella of the Swedish Agency for Economic and Regional Growth. The members of the Council are appointed by the government. The Council is responsible for its own decisions. Its tasks are to review and issue opinions on the quality of impact assessments to proposals with effects on business. The Council shall also on request from regulators review impact assessments on EU-proposals that are assessed to have a great impact to businesses in Sweden.”

<sup>9</sup> <http://www.naturvardsverket.se/Miljoarbete-i-samhallet/Miljoarbete-i-Sverige/Uppdelat-efter-omrade/Miljoekonomi/Samhallsekonomska-analyser/Plattformen/>

<sup>10</sup> In September 2015 a smaller change was introduced in the ordinance, adding to § 6 that the legal grounds for the agency’s right to regulate should be described.

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<sup>11</sup> <http://www.Government.se/Government-policy/transport-and-infrastructure/goals-for-transport-and-infrastructure/>. Accessed 8 November 2015.

<sup>12</sup> The Aviation Board, the Swedish Rail Agency, the Maritime Inspection, the Maritime Administration, the Road Traffic Inspectorate and the Administration of Road Traffic from the Road Administration. Driver's license and commercial transport was transferred to the Swedish Transport Agency from the County Administrative Board in January 2010.

<sup>13</sup> <http://www.trafikverket.se/en/startpage/operations/Operations-road/vision-zero-academy/Vision-Zero-and-ways-to-work/>

<sup>14</sup> Nerhagen and Forsstedt (2016) contains a more detailed description in Swedish of the study and its results.

<sup>15</sup> A calculation tool has been developed by the Swedish Agency for Growth and Regional Development.

<sup>16</sup> DIRECTIVE 2011/76/EU OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 27 September 2011 amending Directive 1999/62/EC on the charging of heavy goods vehicles for the use of certain infrastructures.