

# **IMPROVING REGULATORY AND COMPLIANCE OPTIONS THROUGH INTERNATIONAL POLICY TRANSFER AND COLLABORATION. THE AUSTRALIAN AND SWEDISH EXPERIENCE WITH REMOTE VEHICLE MONITORING UNDER THE INTELLIGENT ACCESS PROGRAM (IAP).**



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## **Abstract**

This article will present the key findings of a research project examining the international transfer of the Intelligent Access Program (IAP) from Australia to Sweden. The IAP is a compliance tool that uses GNSS technology to accurately monitor the activity of heavy vehicles relating to speed, mass, location and vehicle type. This study focuses on the transfer of the IAP to Sweden in the form of a trial. This trial is taking place within the context of more broader heavy vehicle regulatory reform considerations in Sweden. Different factors that influence the transfer process as well as elements that may represent obstacles to the adoption of the IAP are examined. This study looks at ways in which international collaborations provide opportunities to learn lessons from innovations that may not have been produced or observed in a domestic setting. Finally, this paper considers whether the IAP has a broader international application for heavy vehicle compliance.

## **Keywords**

Intelligent Access Program (IAP), regulatory reform, international policy transfer, policy studies, industry self-regulation, heavy vehicle safety, international collaboration, Intelligent Transport Systems (ITS), policy innovation.

## 1. Introduction

Over the past two decades there has been significant innovation in heavy vehicle design in terms of productivity, safety and environmental performance. Continued global growth in demand for freight transport has seen governments across the world face pressure to introduce new vehicle configurations that are both longer and can carry heavier loads. This has been particularly evident in countries more dependent on road freight such as Australia, Canada, New Zealand, and South Africa. In these countries articulated and combination vehicles (doubles and triples) increasingly characterise the trucking fleet. The lead these countries have taken in vehicle innovation places pressure on other nations to follow and support the introduction of larger, more efficient vehicles. This is evident from the various trials of longer goods vehicles in the EU (Netherlands, Denmark, Sweden and Germany) and the recent approval of B-doubles in Argentina. However, despite technological improvements around vehicle performance and enhanced safety features the greater road presence of these larger vehicles tends to generate significant community concern about road safety, compliance and infrastructure protection. There are also policy and political concerns raised from competitor freight modes such as rail.

This mixture of community, industry and broader stakeholder concerns makes regulating access to the road network an increasingly complex and politically sensitive policy arena. This situation helps partly explain why we see trials of long combination vehicles extend over a number of years in various countries. For example, the Netherlands conducted a three-phase trial over 12 years (2001 to 2004, 2004 to 2006 and 2007 to 2012) to introduce Longer Heavier Vehicles (LHV) of 25 metres (Rijkswaterstaat 2011). Such trials are effective in supporting the policy decision making processes of government and provide evidence to help weigh up a range of technical, environmental, social and economic issues that relate to the introduction of these higher productivity vehicles.

Safety performance and the capacity to monitor and ensure compliance to mandated operational standards are also important criteria considered when granting access to the road network for any new vehicle type. Increasingly, the regulatory management of compliance and enforcement has become central to the ongoing approval of innovative, higher productivity vehicles in the road transport sector. Such concerns are elevated in regions where infrastructure capacity is limited and any growth in investment and development is likely to be minimal. This is particularly constraining in lesser-developed regions such as Africa, Asia and South America where forecast growth in freight demand is significant (OECD 2011). The combination of these constraining factors means that articulating a way to provide demonstrable evidence of ongoing compliance increasingly represents the final regulatory hurdle before new combinations can be introduced and approved for operation on a road network.

Methods for providing assurance of vehicle compliance to operational requirements are however, generally limited in scope, can be expensive and often subject to avoidance, abuse and manipulation by truck operators (NTC 2013). For example, road side monitoring of compliance can be undertaken by enforcement staff, however, this is often selective, intermittent and resource intensive. Trucking firms can be asked to self-monitor and self-report on their compliance and while cost effective for road enforcement agencies, this method is readily exposed to mishandling and falsification unless there is some form of external monitoring and periodic checking to validate the accuracy of firm records (Walker 2015). With the ongoing development and widespread application of Intelligent Transport

Systems (ITS) remote vehicle tracking and monitoring of compliance is now an option that can complement on-road and self-regulatory compliance and assurance systems (TCA 2015). The application and mix of compliance and enforcement systems varies across countries and so developing an understanding of how these systems are developed and applied in different locations and contexts is an important aspect of heavy vehicle policy reform.

This paper examines the experience of Australia and Sweden in their efforts to share and collaborate in the development and implementation of heavy vehicle compliance policy. Specifically, the study examines how the Australian Intelligent Access Program (IAP) is being trialled for possible implementation in Sweden as part of a larger package of policy reforms for the heavy vehicle sector. In this case study we see road transport agencies in both countries working collaboratively to assess the suitability of introducing an existing monitoring and compliance program into another jurisdiction. The case study shows how nation states are increasingly involved in examining approaches to heavy vehicle compliance and sharing ideas and approaches for improving policy and regulatory effectiveness. This is to both increase the efficiency and safety of the trucking sector and to also introduce improvements in the protection of infrastructure and the environmental impact of the industry. This study reveals how changes to vehicle limits encourage governments to look abroad to consider innovative ways in which compliance and enforcement is being practiced. Here we see how cross-country collaboration is increasingly becoming an important future pathway in the ongoing development of heavy vehicle policy reform and innovation.

This paper is organised into the following sections. The introduction and background outline the context, scope and research questions being addressed by this study. Section three outlines the methodology for data collection and analysis. Section four briefly reviews the role of regulation and enforcement in road transport, different approaches to compliance and enforcement and factors that influence the design and delivery of enforcement. Section five provides an overview of the operational features of the Intelligent Access Program (IAP) as it works in Australia and the arrangements under which a trial of the program is being managed in Sweden. Section six provides an analysis of the collaborative process, some of the risks of working with a practicing model of compliance from another jurisdiction and why states might look to the practice of other jurisdictions when developing their own policy responses in similar sectors. Consideration is given to the benefits of this approach. Section seven concludes the paper.

## **2. Background**

This study is part of an ongoing program of research that is examining how countries collaborate and share information on heavy vehicle compliance and enforcement policy. By examining cases of cross jurisdictional collaboration it is possible to observe how policy responses to compliance problems in the trucking sector are progressed, modified and adapted to meet particular circumstances. Processes of collaboration also tend to build a deeper insight into heavy vehicle compliance issues across countries. The collaborative process also supports the ongoing development and innovation of regulatory and compliance responses to contemporary issues in the industry and this supports better policy development across countries. Earlier work, presented at HVT13, examined the collaborative exchange and development of policy ideas between Australian and South Africa around the design and implementation of a voluntary self regulatory program that promoted higher compliance standards in vehicle maintenance, mass management and driver health and wellbeing. This concerned how aspects of the Australian National Heavy Vehicle Accreditation Scheme

(NHVAS) were drawn on to support the development of the South African Road Transport Management System (RTMS). This current study focuses on another Australian compliance policy, the Intelligent Access Program (IAP) and explores how this concept has been considered and trialled in Sweden as part of their national policy reform process for the heavy vehicle industry.

Key research questions this study aims to address concern;

- How does the IAP operate in Australia and what is being considered for adoption in Sweden?
- Are there any refinements or policy innovations that result from the Swedish trial of the IAP and can these changes be fed back to Australia to support ongoing improvements in compliance policy and practice?
- What are the benefits for heavy policy reform in Sweden by collaborating with Australian policy practitioners and industry participants involved in the IAP?
- What factors influence cross-jurisdictional collaboration and what makes these processes successful?
- Does the Swedish analysis and experience with the IAP suggest this program has broader international application for heavy vehicle compliance? And if so, does the IAP provide hope and opportunity for other countries facing pressure to progress heavy vehicle reform and deliver on the associated compliance and assurance challenges?

### **3. Methodology**

This is a mix method, qualitative study. It has involved interviews with key stakeholders in Australia and Sweden. The study has elements of participant observation since it also involved attending policy and stakeholder meetings where heavy vehicle policy reform and trials were discussed and reported. To support the analysis of qualitative data research was also undertaken reviewing the literature relevant to transport compliance and policy transfer, agency reports were reviewed along with other policy documents relevant to the IAP and heavy vehicle policy reform in Australia and Sweden.

Work into this project continues and this paper presents a preliminary analysis of the findings. To date a total of 22 interviews have been undertaken in Australia and Sweden. This includes 8 interviews in Australia with representatives from Transport Certification Australia (TCA), IAP telematics service providers, representatives of industry associations, and industry consultants. Further interviews are scheduled with truck operators enrolled in the IAP program, road agency representatives and IAP telematics providers. Access to IAP truck operators has been a challenge for the study given the dispersed locations of firms and the tendency for most operations to be conducted outside the major metropolitan centres.

In Sweden a total of 14 interviews have been conducted. This has included representatives from the national road and transport agencies, road safety research centres, truck manufacturers (Volvo and Scania), logistic firms, hauliers, university experts and representatives of industry associations and consultants to the industry. The researchers observed and participated in a series of national meetings with government agencies, experts and industry stakeholders that concerned the analysis and reporting on national heavy vehicle policy reform, including the IAP trial. Site visits and meetings were also undertaken at a number of road safety and transport research centres.

Policy documents, reports and the academic literature have been reviewed to help validate and triangulate some of the data that was collected from the qualitative meetings, observations and interviews. Sufficient data has been collected to develop;

- i. an informed critique of the general operations of the IAP in Australia,
- ii. an understanding of how the IAP trial has progressed in Sweden and how this work fits within the broader Swedish national program of heavy vehicle policy reform,
- iii. and thirdly, how the collaboration and cooperation between Australia and Sweden around the IAP (policy and operational issues) has contributed to a deeper understanding of compliance and enforcement challenges in the trucking sector and how they might best be addressed using a mixture of conventional and ITS based surveillance mechanisms.

#### **4. Regulation and Enforcement in the Road Transport Sector**

The road transport sector involves different regulatory approaches that seek to achieve compliance with a regime of prescriptive standards that stipulate weight limits, dimensions and operational standards of heavy vehicles. There are a variety of different approaches to enforcement in the road transport sector. These include direct command and control roadside enforcement, methods of self-regulation, mixed approaches, and the growing use of ITS in monitoring, surveillance and reporting. Common to the American and European trucking sectors is a system of operator licensing that involves permission to operate being granted after certain criteria and standards are met. Agencies responsible for regulating trucking promote compliance through targeting conditions around business practices as well as roadside interventions that aim to expose poor performance and high-risk behaviour. In countries that do not have an operator licensing system (such as Australia, South Africa and South America) trucking businesses need a registered vehicle and a driver with the appropriate licence for the vehicle type. In this situation roadside enforcement and other forms of monitoring constitute the primary mechanisms for ensuring industry compliance.

Direct command and control roadside enforcement involves methods such as police patrols monitoring for speed compliance. Under direction from road transport agencies heavy vehicle inspection staff can perform roadside enforcement in terms of compliance to weight limits, checking logbooks for driving hours breaches and vehicle compliance to standards and maintenance. This might be done at fixed vehicle checking stations or by mobile patrols making use of intelligence and data about vehicle movements on major and minor roads.

Methods of industry self-regulation are playing a growing role in the road transport sector. In a global environment in which governments seek to lower public expenditure while simultaneously a growth in freight demand is occurring (NTC 2016), models of self-regulation are becoming a more appealing option for ensuring enforcement. There are a variety of self-regulatory schemes that can be either mandatory or voluntary. Innovations in vehicle designs and improvements in technology have made it possible for such schemes to utilise ITS technology to monitor and survey driver behaviour and vehicle compliance. These methods can work to allay public concerns around road safety standards and enable governments to approve greater access to the road network for heavy vehicles.

#### **5. The Role of the IAP in the Compliance and Enforcement Context**

This section will provide an outline of how the IAP works and its uses in contributing to compliance and enforcement strategies. This will include Australian data on IAP operations.

Discussion will cover the IAP trial in Sweden, length of trial, participants, key features and challenges. The role of TCA in Australia in supporting the IAP trial in Sweden will be discussed. How the IAP trial fits within the broader heavy vehicle policy reform program currently being progressed in Sweden will also be outlined.

The Intelligent Access Program is a national voluntary program administered by Transport Certification Australia (TCA). It is the first national regulatory telematics application in Australia and it enables the provision of accurate compliance monitoring for heavy vehicles. The IAP uses Global Navigation Satellite System (GNSS) to accurately monitor the activity of heavy vehicles relating to speed, mass, location and vehicle type. In return, participating vehicles are provided with improved access to the Australian road network. The IAP involves private telematics service providers that supply in-vehicle units and certified services to transport operators enrolled in the IAP (TCA 2016). Where a vehicle travels off an approved route or is remotely detected breaching other specified travel conditions a non-compliance report is electronically generated by the telematics provider and reported to the regulator. By making this aspect of the regulatory and compliance framework a private sector task the organising, funding and development of these telematics services is not performed by government. This allows in-vehicle telematics services to address both the business interests of firms, such as logistic, loading and maintenance issues as well as the monitoring and reporting requirements of regulators.

In 2013 a three-year trial of the IAP was initiated with Sweden. The transfer of the IAP to Sweden came about through the signing of a memorandum of understanding between TCA and the Swedish Transport Administration (Trafikverket). The Swedish component of the trial has been managed through Lund University with the close involvement of Trafikverket, the Swedish Transport Agency (Transportstyrelsen) and the transport research and innovation hub CLOSER. A range of other stakeholders are also involved in the trial including researchers from the Swedish national road and transport research institute VTI, the forest research institute Skogforsk as well as heavy vehicle manufacturers Volvo and Scania. The influence these stakeholders have on the trial of the IAP as well as the discussions surrounding heavy vehicle reform in Sweden is considered in this paper.

This example of policy transfer is unique in regards to the way in which the central operational components of policy are based in Australia throughout the trial process. Rather than duplicate the monitoring infrastructure in Sweden, the IAP technology has remained located in Melbourne, Australia. Australian providers track Swedish trucks electronically with compliance infringements being reported to TCA in Australia. TCA then sends the breach of regulatory conditions to the transport authority and trial managers in Sweden. This unique arrangement allows Swedish stakeholders to experience the IAP and observe its functions, benefits and challenges before deciding to invest in the required policy, regulatory and monitoring infrastructure.

This arrangement has also facilitated closer working relations between representatives of the Australian and Swedish transport agencies (TCA and Trafikverket). This close working relationship has developed over time and was initiated through a study visit by a group of Swedish transport representatives to Australia in 2011. From this initial visit strong interpersonal relations developed between key individuals from TCA, Trafikverket and Lund University. Interviewees described this as a formative period during which the Swedish delegation gained an understanding of how the IAP works and how it may be applied within the Swedish context. It appears that during this period a network of individuals developed a

shared understanding that the IAP was a potential policy option for supporting broader heavy vehicle reform within Sweden. During our interviews Swedish participants spoke highly of the work being carried out by TCA and the potential role of the IAP in local transport reform. Communication between the parties is considered to occur often and interviewees gave the impression that TCA has played a supportive and collaborative role throughout the IAP trial process in Sweden.

The trial of the IAP is occurring within the context of ongoing discussions about heavy vehicle policy reform in Sweden. There is a concerted push to see the introduction of longer and heavier road transport vehicles. While industry and government are keen to see increased productivity in key sectors such as forestry, pressure for policy reform also derives from the differential limits of neighbouring jurisdictions (Finland), which are more generous in length and mass. Sweden adopts a highly consultative form of policy development and engagement with local stakeholders. The process of developing this current generation of heavy vehicle reforms has involved a national steering committee with numerous subgroups examining specific aspects and projects of the reform agenda. The trial of the IAP has operated and reported as one subgroup of the national transport policy reform program. This working group has involved a variety of stakeholders including Swedish transport agencies Trafikverket, Transportstyrelsen, the Swedish forestry industry, logistic firms and the vehicle manufacturers, Volvo and Scania. Volvo and Scania have been central participants in the IAP trial providing resources and vehicles to help test the application of the concept within the Swedish road network. A central element of the Swedish road transport reform agenda is that the introduction of higher capacity vehicles must concurrently occur with secure forms of monitoring and control, particularly to assist with infrastructure protection. It is in this context that the IAP has been considered as a possible solution to the government's desire to ensure risk is effectively managed through systems of assurance and higher levels of compliance control. Whether or not the IAP embodies an appropriate and effective policy solution to address this central concern of government is yet to be determined and is a central question of the IAP trial.

## **6. Collaboration in Compliance and Enforcement Policy Development**

This section will outline some of the benefits and challenges that emerge where countries collaborate in the assessment and development of heavy vehicle compliance and enforcement policy and practice. Discussion will highlight the key findings that have so far emerged from this research project. This will include comment on what this means for international forums such as HVTT where ideas are exchanged and collaborations often initiated.

### **6.1 Shared Regulatory Objectives**

One of the key findings of this study has been the importance and existence of shared core regulatory objectives that help with the initiation of policy transfer processes and implementation. The protection of infrastructure and improved road safety were key objectives shared and expressed by interviewees from both Australia and Sweden. Swedish participants made clear that improved environmental standards are also an important regulatory objective of their heavy vehicle reform strategy, with some pointing out that this was a point of difference with the Australian context. These mutual objectives can be seen to have largely facilitated the forming of a collaborative relationship between TCA and Trafikverket, formalised by the signing of a memorandum of understanding.

Within the policy studies literature it is recognised that policy transfer is a complex process that involves a diverse range of factors that influence the transfer, adoption and modification of policy (Peck and Theodore 2010, Stone 2012). These factors include local conditions such as political, social and economic structures, culture, constitutional systems, institutional capacity, infrastructure, language and administrative frameworks (Evans 2009, Marsden and Stead 2010). Jurisdictions that share similarities in local contexts are considered more likely to successfully transfer policy (De Jong and Geerlings 2005, Clavier 2010). The preliminary findings and analysis of this study both challenge and support this common conception held in policy transfer literature.

## 6.2 Distinct Approaches to Policy Development and Industry Engagement

In the field of heavy vehicle regulation Australia and Sweden share similar administrative structures, both having robust regulatory agencies and public sector, active industry associations and a modern sophisticated transport and logistics industry. Ostensibly this situation should allow for a smooth transfer of policy which in this case concerns the trial of the IAP. Through methods of participant observation and interviews it became apparent that within these administrative structures there are unique ways of making decisions and negotiating policy that diverge and are distinctly different from processes in Australia. For example, a key finding of this study is that there exists a “Swedish way” of policy making. This style involves discussing and negotiating in great detail policy issues until all stakeholders can agree on a solution. One interviewee explained that, *“in Sweden we discuss, discuss, discuss...it takes much longer to reach a decision”* (IntSw5). Another interviewee commented that, *“here in Sweden we have a tradition to investigate everything thoroughly...to have rather well-grounded decisions. It is a tradition we have”* (IntSw6). When a decision is made all parties commit together and move forward. Going back on agreements made and renegotiating resolutions passed seems less likely to occur.

A second element of the “Swedish way” of policy making involves the close participation of corporations. For example, it was observed that in steering group meetings representatives from Volvo and Scania play an influential role in negotiations and discussions about heavy vehicle transport reform. From the Australian perspective this close engagement and embedding of significant industry players into the policy process seems unusual and potentially problematic where business and national interests may not align. The involvement of major truck manufacturing corporations was discussed by a number of the Swedish interviewees. One interviewee stated, *“it’s part of the Swedish way of working. You talk with industry, manufacturers of goods and the government. Together we can find some solution that is beneficial for the industry and the manufacturers. Also the society”* (IntSw2). Another interviewee explained that *“policy making is a kind of interplay between some industries, union and the Government at the moment”* (IntSw11). To further the point, one interviewee expressed that *“this is something that Sweden takes pride in. It’s an old...way of working things in Sweden that the administration and the industry works together...so it’s...nothing new”* (IntSw3).

It was acknowledged in a number of interviews that the involvement of Volvo and Scania in steering group meetings might mean that their own business interests influence the public policy-making process. One interviewee explained that, *“I think it’s collaborative but at the same time it’s also a way...for the industry, for Scania and Volvo, for them to not control but at least influence where this is going”* (IntSw8). When asked whether being involved in the steering group meetings might be helpful for their company’s long-term business interests, one interviewee responded saying, *“yes, definitely. And particularly for the high end of the*

*market where Volvo competes a lot...any way we can help them to improve their productivity of the vehicle and utilisation of a vehicle in a smarter way would improve our business case and our competitiveness”* (IntSw7). From a policy development perspective, this was not seen by some interviewees to present a significant conflict of interest. Rather, there appears to be a shared understanding between various stakeholders involved in the steering group meetings that what is good for Volvo and Scania is mutually beneficial for the state of Sweden. One interviewee expressed that, *“We [Volvo] do this because we want to be, of course, a leading company, and to be that you cannot just sit and wait, and we also want roads to be good, so that they are working both for us as a manufacturer and also for our customers”* (IntSw10). This level of corporatisation suggests that themes of competition and market pressures play a role in the policy-making process. This does suggest, that to some extent final policy determinations with respect to IAP will benefit the business interests of Volvo and Scania. These actors participate in the IAP trial and broader policy forums in the hope that final policy determinations will allow them to maintain a competitive edge over other truck manufacturing companies. One interviewee supported this observation by saying, *“I think it’s important to be involved in early stages, to influence policies and influence also, the market, and also, of course, we want to secure the technology we have, and we don’t want to do anything that is complicating the introduction into the market”* (IntSw12). Another believes that Volvo and Scania are involved because *“they want to sell trucks, the next generation trucks, so they want to be part of that development as well”* (IntSw8). These comments from industry might suggest a growing awareness ongoing engagement with regulatory concerns is now central to successful progression of policy reform that helps improve the efficiency and productivity of the road transport industry.

### **6.3 Participant Configurations and Support for the IAP Concept**

The preliminary findings of this study suggest that this point of comparison in styles of policy-making may present an area of resistance to the transfer and adoption of the IAP in Sweden, unless some form of policy modification and adaptation is introduced. For example, it was observed that Volvo and Scania share the objective of promoting the use of their in-vehicle telematics systems, which would then form an essential component of the compliance IAP reform package presented to government. In the Australian context private telematics service providers play an integral role in the functioning of the IAP. Participants in the Australian IAP program rely on external telematics services not in-vehicle systems provided by the vehicle manufacturer. This study has found that in the Australian context the third party telematics providers play a facilitating role between key stakeholders - the TCA, road network regulators and truck operators. There is evidence to suggest that telematics providers communicate clearly to truck operators and explain how the IAP works, what benefits it might offer for their business and how the program sits and functions within the broader regulatory framework that governs the industry. In some cases telematics providers are the first point of contact for operators who have questions or issues with the IAP and so these actors perform a liaison service between TCA, road regulators and participating parties. This has been an unintended outcome of the structural arrangement of the IAP and should the organisational framework of the IAP system differ in Sweden than this benefit may not materialise.

The technology provided by third party telematics companies may therefore present a form of competition to Volvo and Scania’s in-vehicle systems. As third party telematics providers are an integral part of the conceptual and operational framework of the IAP this situation may represent a force for revision and modification of the regulatory model should it progress to implementation in to Sweden. As the trial continues it will be pertinent to pay attention to the

ways in which this dynamic will be resolved and how it will further influence the policy transfer process. It is worth noting that during the research period of this study an extension of the IAP trial was approved by the steering group for an additional year (2016).

#### **6.4 Valuing the Contribution of Drivers**

A noticeable cultural difference between Australia and Sweden is the way in which Swedish participants value driver contribution and driver education as an essential component of the regulatory compliance framework. This was expressed by an interviewee who stated that *“the driver is a key factor; they have to be competent, they have to have experience and usually have some kind of extra education or training to be allowed to drive high capacity transport vehicles...it’s very important that we take the driver into account”* (IntSw2). A reason given for the small number of participants in the IAP trial was that the driver did not receive enough feedback from the in-vehicle IAP device. In practice this diminished the incentive for drivers to engage with the trial and was thus a barrier to the active uptake and successful participation of vehicles in the IAP trial. There also appeared to be a greater desire to work with the driver to achieve greater compliance rather than focusing on how operator penalties could effectively address noncompliance. On this point, one interviewee said that, *“if it’s [the IAP] supposed to be successful, very successful, I think that the driver should be taken care of with the system so the interaction provides the driver with something so it’s not just something that they have to do because they are being monitored”* (IntSw2). Comments like these highlighting are area for adjustment in how the IAP might be conceived and operate as a compliance tool. This is important feedback for TCA and is illustrative of the ways in which international forms of policy transfer can open up existing policies to new understandings and insights into how they may more effectively achieve objectives. Swedish innovations and ideas may provide new insights for the ongoing development of policy and regulation in the Australian road transport sector.

#### **6.5 Local Factors Shape Interest in Policy Adoption**

Another point of interest that shaped interest in the trial and possible adoption of the IAP concerns the local conditions and intensifying competition in the form of non-Swedish drivers and operators. Swedish interviewees expressed concern about the increasing competitiveness of the road freight market under EU deregulation. One interviewee noted that in Sweden *“there are a lot of foreign cabotage and it’s not controlled and what you can see is that many of our own transporters and companies are going bankrupt because they can’t compete on the same conditions”* (IntSw12). This observation was supported by another interviewee who stated that *“a lot of problems we have with this industry is the fact that we have a lot of competition from eastern Europe”* (IntSw8). The perception that Swedish road transport operators are being undercut by low cost Eastern European firms and that local road safety standards are being eroded was common amongst interviewees. In this context the IAP is seen as a possible tool to assist in the management and stabilisation of the local market by providing a tool to strengthen surveillance. By offering a way to introduce additional monitoring and control the IAP is considered a possible means of preventing the lowering of industry standards, as well as improving road safety. This understanding of the IAP is supported by another interviewee who explained that, *“what is very important for our haulage industry is the question of fair competition. And if we have this control system or this monitoring system, it is easier for us to put in a wedge between those who are compliant and those who are not. This will be a tool for us to use.... protecting the integrity of our market...so it operates...fairly”* (IntSw3). These unique circumstances appear to enhance the need for greater monitoring and control and within this context the potential of IAP is considered a positive. Concern for local conditions plays a facilitating role in the policy

transfer process and has helped sustain stakeholder interest in how the IAP might be applied within the Swedish context.

## 7. Conclusion

Although this study is ongoing the preliminary findings and analysis indicate that there are valuable lessons to be gained from the study of international cross-jurisdictional cases of policy transfer. Insights into the ways in which collaborative working relationships are formed and function and the factors that influence the transfer of policy have been provided by this study. Such insights can be shared and discussed at international forums such as the HVTT, further promoting the creation of epistemic communities and networks of interested actors. This study has shown that international collaborations provide opportunities to learn lessons, develop new understandings and benefit from innovations that may not have been produced or observed in a domestic setting.

In the global context many countries are facing challenges with heavy vehicle surveillance, monitoring and compliance. The preliminary findings of this study have shown that, although Australia and Sweden have similar administrative structures, there are unique local conditions and features of policy-making that influence the transfer process. The existence of a strong collaborative relationship between TCA and Trafikverket means that there are opportunities to address and examine challenges and forces of resistance to policy transfer. Collaboration has allowed for innovation in policy reform and the trial of new compliance concepts. The technological characteristics of IAP mean that states can experiment and experience the IAP without building the associated infrastructure that constitutes the TCA. Through GNSS infrastructure the monitoring and surveillance of trucks in another international jurisdiction is readily possible, a cost effective option that was unavailable to the road transport sector a decade ago. Through collaborative working relationships interested parties can therefore trial the IAP to determine its suitability for the unique local conditions.

The preliminary analysis and findings of this study show that the IAP represents a policy option that has broader international application for heavy vehicle compliance. Through the collaborative working relationship, use of technology and testing its suitability through trials, the IAP represents an accessible policy option for other countries that share the regulatory objectives of infrastructure protection and higher safety standards. The IAP trial is an example of how cross-country collaboration is becoming an important future pathway in the ongoing development of heavy vehicle policy reform and innovation in regulation and compliance.

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