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# ***TRANSFERABILITY OF URBAN FREIGHT TRANSPORT MEASURES: A CASE STUDY OF CARIACICA (BRAZIL)***

## **ABSTRACT**

This paper presents a case study describing a *transferability case study* in Cariacica (Brazil), identifying various urban freight planning measures from other parts of the world that might be implemented in Cariacica. The case study developed a *light* transferability approach, which uses a low level of expert input and data requirements, and is thus appropriate for cities with highly limited financial resources. The case study focussed upon regulatory measures that are under the control of the local authority, and also identified possible barriers and facilitators for their implementation. It was generally considered that the 'light' transferability approach had been successful and could be used in many other 'smaller' cities. The paper provides insights both for research and transport planning practice (on identifying barriers, and hence solutions, for the successful implementation of urban freight transport measures). Furthermore, the paper provides a number of reflections about the transfer process, paying particular attention to the precise objectives of such exercises and the roles of *transfer agents*. Finally, conclusions are given which make a further justification of using a 'light' approach for policy transfer exercises in the context of the complexity of the urban freight transport system (further 'complexified' by transferability issues).

*Keywords: policy transfer, urban freight transport, small cities, transfer agents*

# 1. INTRODUCTION

This paper describes a *transferability case study* carried out by the EU-funded project TURBLOG\_WW<sup>1</sup> for the city of Cariacica, Brazil. Essentially, this case study examined the potential for transfer to Cariacica of good practices in urban freight transport planning from a variety of cities throughout the world. Unlike the other more *comprehensive* transferability case studies conducted by the project (in Lima (Peru), Belo Horizonte (Brazil) and Lisbon (Portugal)), all described in TURBLOG (2011), the Cariacica case study was designed intentionally to be a *light transferability case study*. Such a study can be defined as one that uses a lower level of expert input (timewise) and has less data requirements than a comprehensive study, and thus does not go into the same level of detail. The motivation for this approach was that Cariacica (as a relatively small city with a low level of financial resources and a small transport planning department) would find it difficult to carry out a comprehensive transferability case study, especially if it were not guaranteed in advance that such a case study would be of value. In this respect it is likely to be very similar to a large number of other (small) cities in Latin America and worldwide (arguably representing a majority of the world's urban population). However, even though it might not be feasible to carry out comprehensive studies, such (small) cities can still benefit from considering transferability issues when devising their transport strategies. The Cariacica case study provides an example as to how transferability studies might be carried out by such cities.

The paper is structured as follows. Section 2 provides a short overview of transferability theory and practice in the transport sector. Section 3 summarises the logic underpinning the TURBLOG\_WW transferability case studies, whilst Section 4 provides an overview of the Cariacica case study, providing information about Cariacica in terms of its location, its problems and current initiatives concerning urban freight transport. Section 5 describes the transport measures, from a number of *source cities*, which were presented at a transferability workshop in the city, and describes how these measures were assessed in the workshop as being relevant to Cariacica. Section 6 provides a number of reflections about the process, paying particular attention to the objectives of such exercises and the roles of *transfer agents*. Conclusions are given in Section 7.

## 2. TRANSFERABILITY THEORY AND PRACTICE

Much recent academic interest has been shown in the theory and practice concerning the transfer of transport policies (Stead et al, 2008, Attard and Enoch, 2011, Bray et al, 2011, Timms, 2011, Lucas and Currie, 2012, Marsden et al, 2012). A review of the concepts of this issue is provided by Marsden and Stead (2011), which puts particular emphasis upon a framework developed by Dolowitz and Marsh (1996, 2000) who list seven questions concerning policy transfer: (1) What is transferred?; (2) Why do actors engage in policy transfer?; (3) Who are the key actors involved in the policy transfer process?; (4) From where are lessons drawn?; (5) What are the different degrees of transfer?; (6) What restricts or

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<sup>1</sup> Transferability of URBan LOGistics concepts and practices from a WorldWide perspective, funded by the EU's 7<sup>th</sup> Framework Programme: <http://www.turblog.eu>

facilitates the policy transfer process?; and (7) How is the process of policy transfer related to policy “success” or policy “failure”?

Whilst it can be argued that transport policy transfer has occurred throughout human history, insofar as various cities have copied or at least learnt lessons from other cities, a large impetus to this phenomenon has recently occurred as a result of the increased availability of information via the internet. EU research projects in particular have exploited this situation to a high degree, with many projects successfully categorising and presenting on-line information in a user-friendly format. To accompany this information, many projects have also examined how it might be used by cities when formulating their transport policies, by developing guidelines for transferability. TURBLOG (2011) makes a comparison of the transport-related transferability approaches used in a number of EU projects and programmes, including: CIVITAS<sup>2</sup>, BESTUFS<sup>3</sup>, NICHES+<sup>4</sup>, SUGAR<sup>5</sup>, ELTIS<sup>6</sup> and ALTER-MOTIVE<sup>7</sup>.

As yet, little research has been published in international journals about policy transfer to Brazilian cities (either from outside or inside the country). With respect to the type of EU projects mentioned above, this lack can be explained by the fact that EU-funded urban transport research has historically tended to focus upon transport in EU cities. However, as shown in the case of TURBLOG\_WW (which focussed upon both the EU and Latin America), there are exceptions. On the other hand, there has been a large amount of interest (implying the possibility for policy transfer) shown in the international literature about the transport and land use system in one particular Brazilian city, Curitiba, as described by Khayesi and Amekudzi (2011), Duarte and Ultramari (2012), and Miranda and Rodrigues da Silva (2012), with mentions being made by many authors, including Vasconcellos (2005), Marsden and Stead (2011), and Marsden et al (2012).

### **3. LOGICAL METHOD USED IN THE TURBLOG\_WW TRANSFERABILITY CASE STUDIES**

As stated above, the TURBLOG\_WW project carried out transferability case studies which examined the potential for transfer of good practices in urban freight transport planning, from a variety of cities throughout the world, to Lima (Peru), Belo Horizonte (Brazil), Cariacica (Brazil) and Lisbon (Portugal). As described in TURBLOG (2011), the formal transferability approach adopted was previously developed by CIVITAS<sup>8</sup>, though this was concerned primarily with intra-EU transferability and was not applied in an EU / Latin American transferability context. This approach is fully described by Macário and Marques (2008): at its heart is a *ten-step transferability process*, illustrated in Figure 1.

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<sup>2</sup> Source: <http://www.civitas-initiative.org>

<sup>3</sup> Source: <http://www.bestufs.net>

<sup>4</sup> Source: <http://www.niches-transport.org>

<sup>5</sup> Source: <http://www.sugarlogistics.eu>

<sup>6</sup> Source: <http://www.eltis.org>

<sup>7</sup> Source: <http://www.alter-motive.org>

<sup>8</sup> Source: <http://www.civitas-initiative.org>

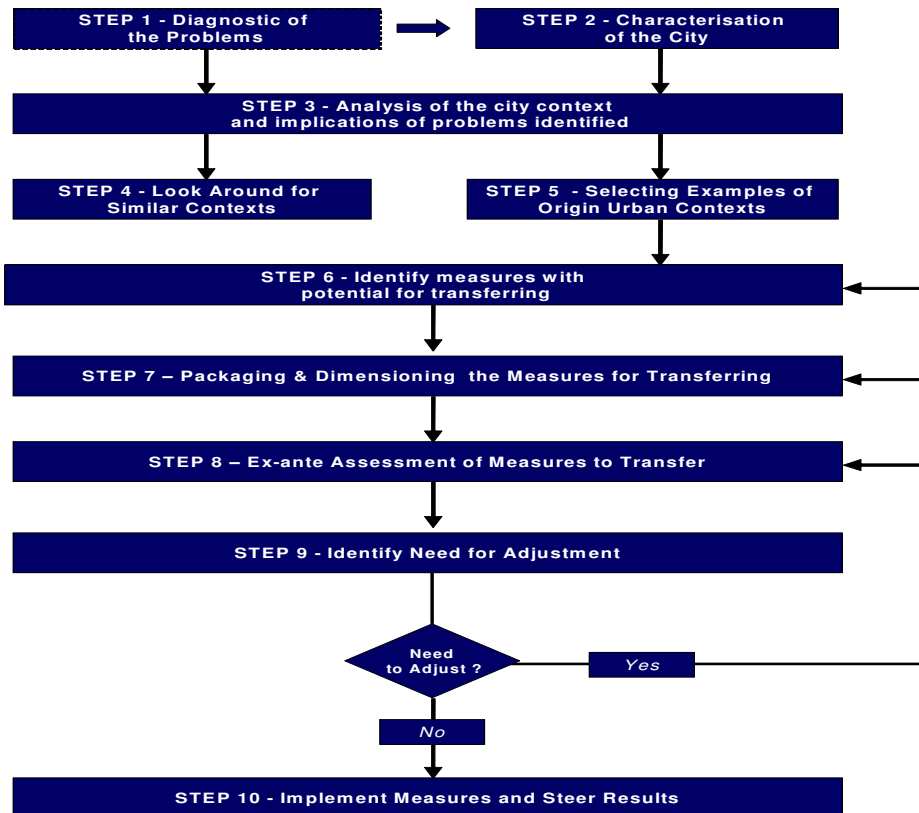


Figure 1: “10 step transferability process” (Macário and Marques, 2008)

This ten-step process has essentially four phases, as shown in Table 1.

Table 1: Four phases of the 10-step transferability process

Phase	Steps (in Figure 1)	Description of phase
Phase I	Steps 1-3	Identify characteristics of the <i>receptor city</i> (where the transferred measures might eventually be implemented)
Phase II	Steps 4-6	Search for suitable <i>source cities</i> and already-implemented measures
Phase III	Steps 7-9	Create potential packages of measures for the receptor city, assessing these packages and refining them
Phase IV	Step 10	Implementation of measures in the receptor city

In general, none of the TURBLOG\_WW transferability case studies included the final implementation phase (Phase IV in Table 1) and, as with Cariacica, the other case studies focussed mainly upon Phase III and the assessment of measures from source cities (TURBLOG, 2011). In making this assessment, all case studies attached importance to identifying potential barriers and facilitators for policy transfer: to make such an analysis, a classification of barrier-types was constructed as shown in Box 1 (loosely based upon the barrier-types described by May, 2005). Since the four transferability studies were carried out in parallel there was little opportunity for using the ‘lessons learnt’ in any of the case studies to help improve the approach taken in the other case studies.

### Typology of barriers

Various barriers can be identified that might potentially undermine the successful implementation of a transferred policy measure in a 'receiver' city. For the purposes of TURBLOG\_WW transferability case studies, barriers are categorized as follows:

- **Financial** (the financial cost of the measure in the receiver city is considered to be too high)
- **Physical** (the natural and/or built aspects of the receiver city make the transferred measure inappropriate)
- **Technological** (the transferred measure has technological elements that are unavailable in the receiver city or are inconsistent with the technology currently operating in the receiver city)
- **Cultural** (the traditional culture operating in the receiver city makes the transferred measure seem 'strange' and/or difficult to implement)
- **Political** (the transferred measure has a perceived negative impact on one or more sections of the population, thus leading to political conflicts)
- **Legal** (the national and/or local legal system operating in the receiver city makes elements of the transferred measure illegal)
- **Security** (security problems hinder the implementation of the transferred measure).

This typology can be used as a checklist when considering the possibility of transferring any policy measure. In many cases, it is feasible to overcome a barrier. Two general (complementary) approaches exist for doing so:

- The transferred measure can be adapted in order to remove, or at least lessen the importance of, those aspects of the measure that are undermined by barriers
- The measure can be combined with one or more other measures (in a policy package) which counteract the barrier concerned. For example a high-cost measure (involving a financial barrier) can be combined with a revenue-generating measure. Alternatively, a measure that has negative impacts on a section of the population (involving a political barrier) can be combined with a measure that is popular amongst that section of the population.

## 4. CARIACICA CASE STUDY

### Overview

Cariacica was chosen as a case study city due to have many characteristics of particular relevance to freight transport, as described below. The case study involved three visits by the TURBLOG\_WW researcher to Cariacica. An initial visit was made on 26<sup>th</sup> January, 2011. Meetings were held with the *Chefe de Gabinete* (chief executive) of Cariacica *prefeitura* (local authority) and with the *subsecretário municipal de Trânsito* (subsecretary of transport, where transport is a sub-division of the *Secretário de Serviços e Trânsito*). These meetings explained the purpose of the case study, discussed problems concerning urban freight in the city (Phase I in Table 1), and discussed which types of measures could be considered for application in Cariacica (Phase II). The visit included a lengthy tour of the city in order to observe problems at first hand. As a result of these activities, an agreement was reached that the transferability analysis should focus upon the regulation of freight traffic. Two particular reasons were given for this. Firstly, it was clear from the city visit that lack of regulation is a large problem. Secondly, regulatory measures are under the control of the Cariacica city authority, as opposed to logistical planning (for example involving consolidation centres) which is under the control of higher level government bodies (state and federal).

More information about both these issues is given below. The main event in the case study was a workshop held in Cariacica on 9<sup>th</sup> February 2011 to make an assessment of the transferability of a number of 'TURBLOG\_WW measures' (Phase III in Table 1). This workshop was attended by approximately 20 people, made up of personnel from various (Cariacica) local authority departments and stakeholders. A final seminar, requested by the local authority and attended by a similar number of people, was held in Cariacica on 18<sup>th</sup> October 2011: the seminar summarised the results of the workshop and involved a further discussion about the possible future implementation of measures in Cariacica. Whilst members of the media did not participate in this seminar, the local authority made contact with local newspapers which led to interviews and photos associated with the event being published.

It should be stressed at the outset that the Cariacica case study had a different aim to various type of participative planning processes that have the goal of formulating or influencing a definite plan or vision (as classified by Shipley and Utz, 2012, with examples of differing types of experience described by Souza, 2001, Shipley et al, 2004, Chen and Mehndiratta, 2007, Kallis et al, 2009, Sagaris, 2010, Gil et al, 2011, and Deakin, 2012). Rather, the case study had the less ambitious aim of raising the possibility of introducing 'policies adopted elsewhere' in the city: decisions about whether to adopt such policies were beyond its scope.

### **Location/ population of Cariacica and governmental context**

As shown in Figure 2, Cariacica is one of seven cities making up the Greater Vitória Metropolitan Region (GVMR), which lies within the state of Espírito Santo, Brazil. Cariacica has an area of approximately 280 km<sup>2</sup>, and a population of approximately 350,000. As also shown in Figure 2, the eastern part of Cariacica is predominantly urban (coloured in dark orange) whilst the western part is rural, or 'peri-urban' (coloured in light orange).

According to Brazilian law, three levels of (elected) government exist in Brazil (federal, state and city): metropolitan regions (such as GVMR) have been established by various states (such as Espírito Santo) in situations where a number of cities exist in close proximity, in order to support the development and implementation of plans that cut across these cities. However, such regions do not have legislative power: rather, they provide fora for the various legislative authorities concerned (state and city) to cooperate and agree upon plans.

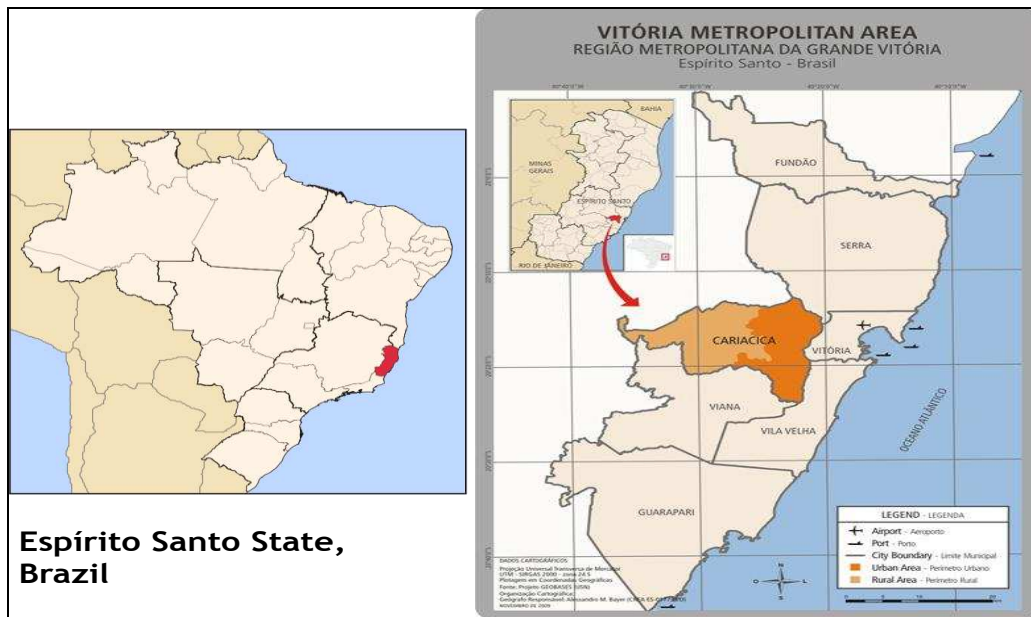


Figure 2 - Maps showing location of Cariacica.  
 Source: Prefeitura Municipal de Cariacica, <http://www.cariacica.es.gov.br>.

### Logistics and transport issues in Cariacica resulting from its location

Figure 3 shows the main transport links that cross Cariacica. Of particular significance to the current study are two federal government roads (shown in blue on the map): BR101 is the main north-south highway in Brazil; and BR262 is a major highway running west-east, used by many freight vehicles bringing goods from the interior of the country to the port of Vitória. It can be seen from Figure 3 that these two highways merge within the geographical area of Cariacica, thus leading to exceptionally high flow levels of freight traffic within the city. One consequence of its strategic location is that Cariacica has a large number of businesses devoted to transport and logistics. Figure 4 shows that 23.32% of the jobs in Cariacica belong to this sector, much higher than equivalent figures of 9.35% for Espírito Santo as a whole and 10.2% for the area covering the Greater Vitória Metropolitan Region plus Anchieta and Aracruz (RM+).



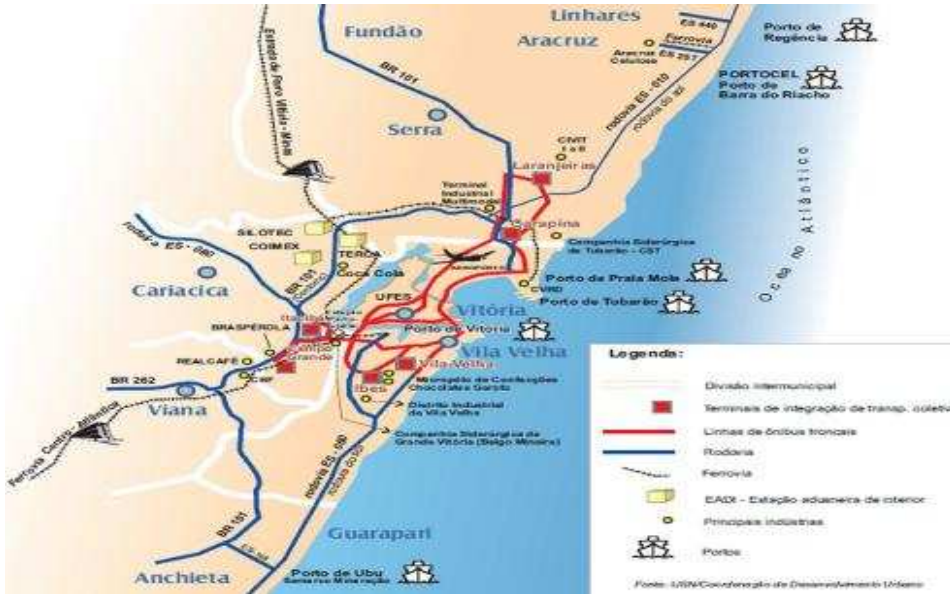


Figure 3 - Map of Cariacica showing major transport routes.  
Source: AEC(2010a).

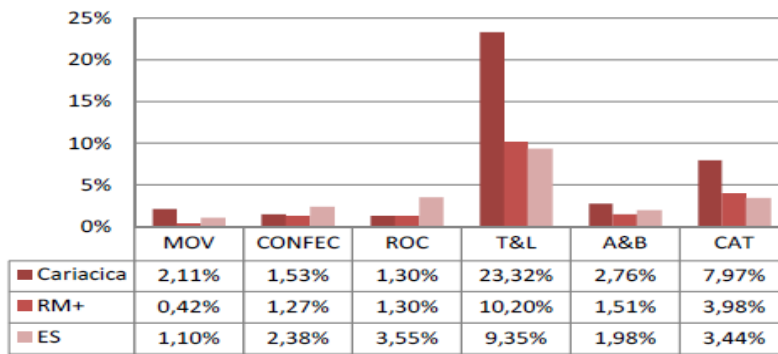


Figure 4: Percentage of jobs in Cariacica, RM+ (Greater Vitória MR + Anchieta and Aracruz) and Espírito Santo associated with different sectors  
Key: MOV = Furniture, CONFEC = Confectionery, ROC = Mining, T&L = Transport and Logistics, A&B= Food and Drink, CAT= Shopping  
Source: AEC (2010a)

## Current problems

### Urban problems and general transport problems

Whilst Cariacica has a high level of cultural capital, it is a relatively poor city in financial terms. Figure 5 shows the GDP per capita for the seven cities in the Greater Vitória Metropolitan Area (Figure 2) and for four nearby cities, along with the value for the state of Espírito Santo as a whole. It can be seen that, with the exception of Guarapari, Cariacica has the lowest value of GDP per capita, approximately six times less than the state capital Vitória and the city of Anchieta. With respect to transport, much of the traffic (both passenger and freight) within the geographical area of Cariacica does not have an origin or destination in the city. The planning for such traffic is typically carried out at the following levels: the Vitória Metropolitan Region; by the Espírito Santo State; and by the Federal Government of Brazil (all shown in Figure 2). According to the *prefeitura*, the primary objective of such planning is

often seen (by those in Cariacica) as being the resolution of problems faced by through-traffic, whilst the needs of the Cariacica city inhabitants can tend to be overlooked.

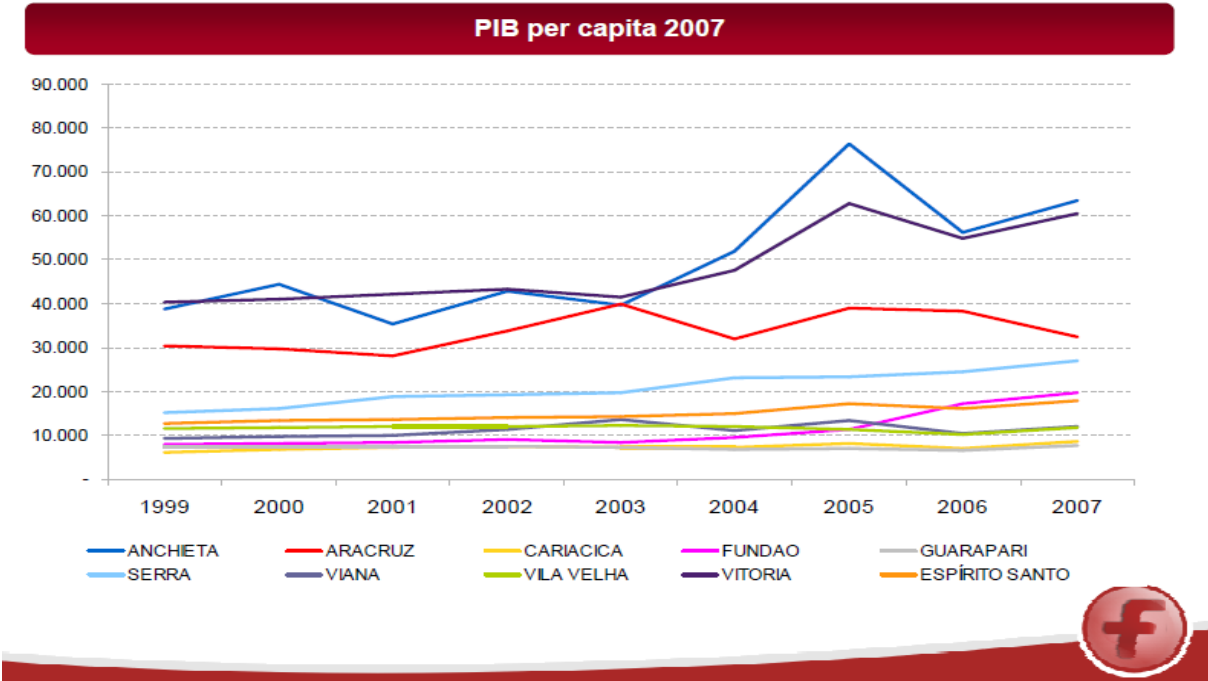


Figure 5: GDP per capita for cities in the Greater Vitória Metropolitan Area and nearby  
Source: AEC (2010b)

*Problems associated with freight whose origin or destination is in Cariacica*

One of the main problems concerning freight transport in Cariacica is that there is currently little regulation of such transport in the form of loading/unloading restrictions (by time and/or space), lorry bans, lorry routes and accompanying signage. As a result of the lack of loading/unloading restrictions, there is fierce competition for roadside space in the commercial areas of the city between freight loading/unloading, car parking, taxi ranks and public transport stops. Occupation of space is based upon a ‘first-come first-served’ basis which typically benefits all-day car parking by shop owners at the expense of freight loading/unloading and other short-term uses. Figure 6 shows an example of such a situation in the main shopping street in Cariacica, Expedito Garcia. As a result of lack of lorry bans, lorry routes and accompanying signage, many large vehicles use inappropriate roads, particularly in residential areas, leading to safety and other problems.



Figure 6 - Expedito Garcia, Cariacica.

### *Freight transport problems resulting from interregional ('through') movements*

As mentioned above, Cariacica is crossed by a number of highways (an example is shown in Figure 7) and large levels of flow are 'passing through' the city. When such highways become congested, there is a tendency for vehicles (both passenger and freight) to try to avoid such congestion by taking 'short cuts' through the neighbouring residential areas, thus compounding the problems of inappropriate traffic mentioned above. The problem is compounded by the fact that many interregional drivers are not familiar with Cariacica and, due to the lack of adequate signage, can become lost in the residential areas.



Figure 7 - Federal Highway cutting through Cariacica

### **Current urban freight initiatives**

A recent report commissioned by *Associação Empresarial de Cariacica* (the Cariacica business association) (AEC, 2010a) has made proposals for future transport infrastructure (both passenger and freight) in Cariacica. These proposals, which (on the freight side) are generally aimed at solving regional and interregional transport problems, include suggestions for multimodal logistics centres for the distribution of freight and a number of new road

infrastructure schemes. Clearly, such infrastructure will relieve, in the short term, many of the highway congestion problems mentioned above. However, there is always a tendency for road building to generate new traffic. Added to this (worldwide) phenomenon, there is the further (local) factor that Espírito Santo State is likely to see very high growth rates in the near future (even higher than the Brazilian average, which is anyway projected to be high) due to the discovery of oil off the coast of the state. It follows that the problems associated with 'through-traffic' cannot be solved only by infrastructural means: there is also an important role for traffic regulation.

## **5. TRANSPORT POLICY MEASURES ASSESSED IN CARIACICA**

### **Overview of measures**

A set of traffic regulatory measures was chosen for assessment in Cariacica, shown in Box 2. Two criteria were used in this selection. Firstly, measures were restricted to those described in TURBLOG\_WW Deliverables 1 and 3 (TURBLOG, 2010a and 2010b)<sup>9</sup>: this restriction was to help make comparisons between the project's transferability case studies (TURBLOG, 2011). Secondly, measures were chosen to ensure a wide geographical spread of source locations which included both Brazilian and non-Brazilian cities. In general, as far as the transferability case study was concerned, it was assumed that the measures in Box 2 would, if transferred to Cariacica, be implemented throughout the city (but not necessarily throughout the metropolitan region). However, a special focus was put upon the implementation of measures in 'central commercial areas' (with high levels of shopping), such as shown in Figure 6.

### **Assessment of measures**

As described above, an assessment workshop was carried out in Cariacica on 9th February 2011, and was attended by approximately 20 participants from various organisations (public and private) in the city. The workshop lasted for approximately two hours, with the first 40 minutes being taken up by a presentation which explained the purpose of the workshop and described the measures to be considered (as listed above). The description of measures relied highly upon strong visual images, with examples of such images being given in Box 3. The workshop was lively and most participants expressed their views on the issues being discussed. A summary assessment of the appropriateness for transfer of each of the measures is provided in Box 4, along with reasons for each assessment.


Box 2 - Measures considered for city of Cariacica.

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<sup>9</sup> It should be pointed out that the TURBLOG\_WW measures described in Deliverables 1 and 3 cover a wide variety of urban logistic measures (including consolidation centres, road user charging, alternative modes, business arrangements, intelligent transport systems, vehicle technology and fuel technology) and that only a subset are relevant to the types of measure listed in Box 2, which are concerned essentially with the regulation of traffic.

Measures	Source cities	References to measures (further to TURBLOG_WW Deliverables 1 and 3)
1. Loading and unloading regulations	Belo Horizonte (Brazil)	<a href="http://www.bhtrans.pbh.gov.br">http://www.bhtrans.pbh.gov.br</a>
2. Signs.	Belo Horizonte (Brazil) and cities in USA, New Zealand, UK,	BESTUFS (2007)
3. Zones/ Routes for restricting freight traffic.	São Paulo (Brazil), Utrecht (Netherlands)	<a href="http://cetsp1.cetsp.com.br/pdfs/carga/mapaZMRC.pdf">http://cetsp1.cetsp.com.br/pdfs/carga/mapaZMRC.pdf</a>
4. Vehicle size restrictions.	São Paulo (Brazil)	<a href="http://cetsp1.cetsp.com.br/pdfs/carga/mapaZMRC.pdf">http://cetsp1.cetsp.com.br/pdfs/carga/mapaZMRC.pdf</a>
5. Lorry routes.	Vancouver (Canada), New York (USA)	<a href="http://vancouver.ca/engsvcs/transport/traffic/pdf/english_map.pdf">http://vancouver.ca/engsvcs/transport/traffic/pdf/english_map.pdf</a> <a href="http://www.nyc.gov/trucks">www.nyc.gov/trucks</a>
6. Lorry route maps.	Vancouver (Canada), New York (USA)	<a href="http://vancouver.ca/engsvcs/transport/traffic/pdf/english_map.pdf">http://vancouver.ca/engsvcs/transport/traffic/pdf/english_map.pdf</a> <a href="http://www.nyc.gov/trucks">www.nyc.gov/trucks</a>
7. Night deliveries	Barcelona (Spain)	BESTUFS (2008) <a href="http://www.eltis.org/index.php?id=13&amp;study_id=1285">http://www.eltis.org/index.php?id=13&amp;study_id=1285</a>
8. Emissions zone	Utrecht (Netherlands)	<a href="http://www.lowemissionzones.eu/countries-mainmenu-147/netherlands-mainmenu-88/utrecht">http://www.lowemissionzones.eu/countries-mainmenu-147/netherlands-mainmenu-88/utrecht</a>
9. Policy packaging	Utrecht (Netherlands)	

Box 3: Examples of images presented at the Cariacica workshop




**Descarga à noite, Barcelona**

Cariacica, Brasil | 09.02.2011

28 | 32

**Night deliveries (Barcelona)**

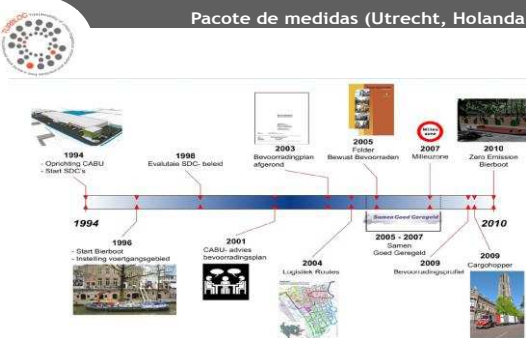


**Vias Estruturais Restritas - VER**

Cariacica, Brasil | 09.02.2011

29 | 32

**Restricted routes (São Paulo)**




**Pacote de medidas (Utrecht, Holanda)**

Cariacica, Brasil | 09.02.2011

31 | 32

**Policy packaging: Utrecht**



**Sinalização na Grã-Bretanha**

Cariacica, Brasil | 09.02.2011

23 | 32

**Signalisation: UK**

Box 4 - Assessment of measures in workshop

Measure	Assessment for transfer to Cariacica	
Loading/unloading regulations (location- and time-based)	+++	A good design is needed to make sure that regulation does not unnecessarily have an adverse impact on any particular group of road users.
Signs	+++	Cost of signage needs to be taken into account.
Zones/routes for restricting freight traffic	+++	Care needs to be taken that they are not too complicated.
Vehicle size restrictions	++	In certain cases, large vehicles are required for the most efficient distribution of goods. This needs to be taken into account in any design of any measure regulating vehicle size.
Lorry routes	++	Such routes should not take lorries off main roads unless they are being used for delivering.
Lorry route maps	+	Care needs to be taken that they are not too complicated.
Night deliveries	-	Not appropriate in the short term (but maybe in the future).
Emissions zones	-	Not appropriate in the short term (but maybe in the future).
Policy packaging	+++	A time line needs to be devised for such a package, as in the Utrecht case.

Ranging from +++ (highly appropriate) to --- (highly inappropriate).

## Barriers and facilitators associated with the measures

As mentioned in Section 3, the assessment included an analysis of barriers and facilitators for the measures. Whilst the definition of barriers was given above in Box 1, facilitators can be defined as the factors that make a transfer easier.

### *Barriers*

A summary of the barriers identified by the workshop for each of the measures is given in Box 5. In general, all the measures considered need financing. Even those measures which will eventually lead to revenue-generation (such as those regulations involving fines for infringement) require start-up costs. For example, there is a need to hire and train wardens to impose fines. Furthermore, although many federal and state government grants exist for implementing the type of measures being considered, there is a cost involved with training local authority personnel to be able to write the applications for obtaining such grants. Those personnel who are currently capable of writing such applications are already stretched in their 'regular jobs'. However, the local authority is aware of these problems and is formulating solutions for overcome them. Further to financial barriers, there are general cultural barriers to the introduction of traffic regulation: this type of regulation is new to Cariacica. Such barriers are typical of Brazilian cities of the size of Cariacica, as opposed to larger Brazilian cities, such as Belo Horizonte or São Paulo, where in general such regulation is considered 'normal' (although, as anywhere in the world, specific items of legislation might be considered controversial). However, it is recognised that such barriers have existed everywhere in the world before regulation has been introduced. The local authority has a role

in helping to overcome such barriers by publicising the benefits of new regulations. On the other hand, physical and security barriers were not seen as significant.

Box 5 - Barriers associated with the measures

Measures	Cultural	financial	Legal	physical	Political	security	technological	Barriers
1 - Loading/unloading regulations (location- and time-based)	C	F						Traditional culture in Cariacica does not support this type of measure. Costs of enforcement need to be taken into account.
2 – Signs		F						Financing for the measure needs to be found in a situation in which finance is scarce.
3 - Zones/routes for restricting freight traffic		F			PO			Costs of enforcement need to be taken into account. There would possibly be a negative reaction from freight transporters.
4 - Vehicle size restrictions		F			PO			Costs of enforcement need to be taken into account. There would possibly be a negative reaction from freight transporters.
5 - Lorry routes		F						Costs of signage need to be taken into account.
6 - Lorry route maps		F					T	Financing for the measure needs to be found in a situation in which finance is scarce. Care needs to be taken that the lorry maps are not too difficult to understand.
7 - Night deliveries	C							The traditional culture operating in Cariacica makes the transferred measure seem 'strange' and/or difficult to implement in the near future.
8 - Emissions zones	C							The traditional culture operating in Cariacica makes the transferred measure seem 'strange' and/or difficult to implement in the near future.
9 - Policy packaging								<i>No barriers identified</i>

### Facilitators

Various facilitators were identified. Firstly, there is a history of cooperation between the local authority and stakeholders: for example the TURBLOG\_WW assessment workshop was an example of such cooperation. A more significant example of cooperation is the on-going implementation of 'participatory budgeting', *orçamento participativo* (Souza, 2001, Baiocchi, 2001, Menegat, 2002, Koonings, 2004, Avritzer, 2006, Wampler, 2012), by which residents

agree (on an annual basis) as to how local authority budgets are to be used in their neighbourhoods. The context provided by such cooperation would be expected to facilitate the introduction of consensus-based urban freight regulation measures. The measures are in line with current federal (Brazilian) government policies, thus helping 'to make the case' to people sceptical about regulation and helping get government technical support/ money. The current local authority administration has a dynamic approach and is interested in good practice examples from other cities. An example of this dynamism can be seen in the way that the local authority website reported the assessment workshop. The headline "*Pioneirismo: Cariacica participata de projeto financiado pelo União Européia*" (translated as "Pioneerism: Cariacica participates in a project financed by the European Union") indicates that the local authority sees itself as having a 'pioneering approach' in general, and in particular through participating in international projects.

### **Ways forward suggested by participants in the assessment workshop**

From the point of view of the local authority, it was generally considered that the role of the workshop was to implant various 'initial' ideas about the regulation of freight traffic in order to help create momentum for general support for such measures (though this aim will be scrutinised below). Inevitably, if any of the measures are to be implemented they need to be designed very carefully. Two general points were made in the workshop about ways forward:

1. Any implementation of regulation measures needs to be made in parallel (and synergetically) with the planning and implementation of new transport infrastructure (including logistics centres). In the workshop, this type of planning was referred to by one of the participants as *macro*, whilst the type of (regulation) measure discussed in the workshop was referred to as *micro*.
2. When discussing the interaction of *macro* and *micro* measures (as defined in (1)), and the possibility of transferring measures from other places in the world, it was considered to be extremely important to involve others levels of government and other city authorities.

## **6. REFLECTIONS**

### **Objectives of participatory events**

As mentioned above, the Cariacica transferability case study was not intended to generate a specific plan for urban freight transport. Rather, its role, from the perspective of the local authority, "was to implant various 'initial' ideas about the regulation of freight traffic in order to help create momentum for general support for such measures", and it was generally considered by the local authority that this was accomplished. However, in order to be able to understand the potential usefulness of this type of exercise for other locations it is necessary to explore more precisely the specific objectives of the workshop for attaining the end result. Whilst it is uncontroversial to say that one objective of the process was 'consciousness raising' (about measures existing elsewhere in the world), it is debatable whether this objective alone is sufficient to justify participatory events such as workshops: it could be



argued that consciousness raising would be better served by simply showing a film about good practice in urban freight transport (assuming that one exists). Another possible objective of the workshop, that does require active participation, would be the possibility for exchanging views between people with different vested interests. However, it is also debatable whether this, by itself, is of sufficient importance to justify organising a workshop, especially in a (relatively small) city such as Cariacica where the views of the workshop participants were probably known to each other before the workshop, having debated issues at the various public and private fora available. (On the other hand, it could be argued that the relatively informal atmosphere of the workshop helped participants explain better their points of view than might be possible in potentially more confrontational situations when decisions are being made.) In summary, whilst these two objectives are relevant, they are arguably insufficient to explain the need for a workshop, particularly if the workshop uses up a relatively large amount of resources in terms of (local authority) staff time. To justify a workshop, the two objectives need to be supplemented by a 'communicative objective' on the part of the local authority, i.e. to send out a message that it is 'considering taking certain actions'. This helps explain the attention paid to contacting local media and highlighting the workshop on the local authority's website (Box 6).

### **Agents of transferability**

The third of the 'Dolowitz and Marsh' questions listed in Section 2 is: "Who are the key actors involved in the policy transfer process?" In the Cariacica case study "two sides" to the transfer process (McCann and Ward, 2010) can be identified without too much difficulty: on the one side there are the various actors already associated with the city and on the other side the TURBLOG\_WW researcher, backed up (at a distance) by the other members of the overall research project. The latter could arguably be seen as belonging to a group of 'global transfer agents', described by McCann and Ward (2010) as "charismatic consultants who trek from place to place with their policy solutions in their laptop hard drives" (quoted by Marsden and Stead, 2011). Leaving aside the question of the validity of this characterisation in the particular case of TURBLOG\_WW, it is important to attempt to identify the roles taken by such transfer agents. At the risk of oversimplification two distinct stereotypical roles can be defined, depending upon the intention of the transfer agent. On the one hand, the intention could be to 'sell' a number of policies/measures to (important) decision-makers, with only superficial attention paid to local conditions, and with the transfer exercise being seen to have failed if the policies/measures are not 'bought by the client'. On the other hand, the intention could be to suggest to a broad range of interested parties that it would be useful to consider further the policies/measures and how they might be adapted, with the process being seen as a success if informed communication has taken place. Whilst any particular transfer exercise will almost certainly not fit precisely into one of these stereotypes, it is likely that it will resemble one more than the other. This issue is related to one of the most important (negative) aspects of policy transfer, as described by McCann and Ward (2010):

[T]he insertion of new 'best practices' from elsewhere into specific cities can empower some interests at the expense of others, putting alternative visions of the future outside the bounds of policy discussion (Robinson, 2006). The construction of 'models' of redevelopment and their circulation and re-embedding in cities around the

world can have profoundly disempowering consequences. On the other hand, this process of policy transfer can also spur contest within cities where activists question the 'pre-approved' credentials of newly imported policy models.

To a certain extent, the Cariacica case study attempted to avoid this issue by considering policy measures (Box 2) that are 'relatively uncontroversial'. For example, the increase that has occurred in recent years in vehicles using the commercial area (Figure 6) requires that measures need to be taken to rationalize the use of road space there. The measures suggested in the workshop were simply examples of how this could be done, including measures controlling times and places for the loading and unloading of freight vehicles. On the other hand, it could be argued that by suggesting such measures (albeit in a relatively non-prescriptive manner) other measures could be foreclosed (for example, closing the whole area to all modes but pedestrians).

A further factor that is important to consider about the Cariacica context concerns the role of the city within the Greater Vitória Metropolitan Region. As already stated above, many decisions about transport planning within Cariacica are taken at higher levels of governance than the city level. In consequence, the Cariacica *prefeitura* needs to negotiate in fora involving such higher levels of governance, alongside neighbouring (wealthier) cities and well-funded private business interests, all of whom might have interests which conflict with those of Cariacica residents. Given that Cariacica is one of the poorest cities in the region (Figure 5), it is unlikely to have access to one or more of the "global class of 'starchitects', consultants, and high-profile planners" who are "behind urban developments and related policies in numerous cities across the world" (McCann and Ward, 2012). Other participants in such fora though might well have such access. It can be argued that if researchers (paid by organisations such as the European Commission, and hence 'free' to the city concerned) can take on the role of advisors to poorer city administrations, the result will be likely to create a more 'level playing field'.

## **7. CONCLUSIONS**

It is generally recognised that urban freight transport is a highly complex area. An attempt to illustrate this complexity is given in a diagram (Figure 8) produced by BESTUFS (2008), which shows the interlinkages between a large number of factors of relevance to urban freight transport, including (in blue ellipses) the various actors involved. The diagram succeeds in its intention to show complexity. In fact, a potential criticism of the diagram would be that the portrayal is not complex enough in that important factors are not shown, for example of the effect of differing levels of governance (as described above). In spite of such criticisms, Figure 8 provides a basis for conceptualising how the transferability issues described in this paper relate to (some) other factors in the urban freight transport system.

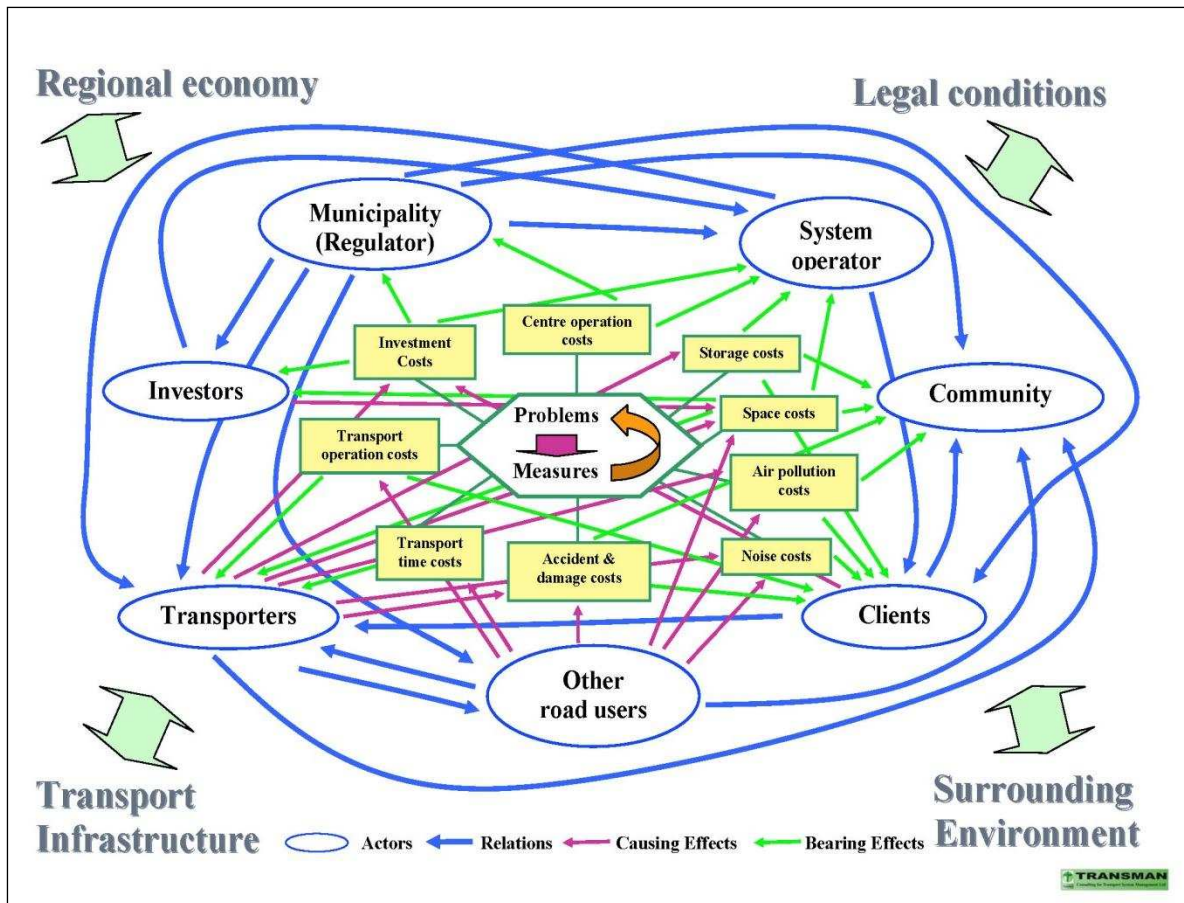


Figure 8: Main actors, relations and effects in urban freight transport  
Source: Transman Consulting (BESTUFS, 2008)

In short, transferability can be seen to introduce a new dimension to Figure 8, in a direction perpendicular to the two-dimensional plane of the diagram: this dimension concerns all the influences on the actors in Figure 8 from outside the location under consideration. Whilst the focus of the paper (as exemplified in the Cariacica case study) is specifically upon the influence on the municipality from experiences elsewhere as ‘communicated’ by transfer agents, there will be analogous influences on all the other actors shown in Figure 8, particularly when they belong to national or international organisations (whose views are influenced by experience from other locations). There is probably no need to emphasise that the already complex portrayal in Figure 8 is thus made much more complex by transferability issues. Given this complexity, it is inevitable that any view taken of the urban freight transport system is ‘partial’: in spite of attempts to provide comprehensive portrayals of the type shown in Figure 8, these can only be effective at a high level of abstraction. In general, care needs to be taken when examining any complex phenomenon from a partial perspective since there is likely to be a tendency to over-emphasise certain aspects whilst ignoring other aspects. In the context of policy formulation, such partiality can have a destabilising and mystifying effect, particularly if it is argued that a partial perspective is in fact ‘comprehensive’ and ‘objective’.

Given this context, a short assessment can be made on the usefulness of the exercise described in the paper. As stated at the start, the case study was intentionally *light*: the justification for this was pragmatic, considering the resource costs of carrying out a full

transferability exercise, particularly taking into account that transport is organised by a small sub-division within the *prefeitura*, most of whose energy is used up in resolving day-to-day problems. However, in view of the comments about complexity/partiality and the comments made in Section 6 about the possible negative impacts of policy transfer, other potentially more important justifications emerge for the *light* approach. In short, a light approach does not attempt to go ‘too far’ into the actual world of policy-making: it simply provides a vehicle for adding information and ideas that might, or might not, be taken up in policy-making. In the Cariacica case study, the workshop appears to have had a ‘catalyst effect’, but such an effect is only likely to lead to ‘policy on the ground’ where there is a latent demand for the type of measure being considered. It is therefore argued the *light* approach is not only pragmatic but also avoids many of the pitfalls associated with policy transfer. There is clearly though still much research to be done about such approaches, particularly concerning the extent that they can be mounted by ‘local’ people, albeit with the back-up of publicly-available internet resources.

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