

TURBLOG AT A GLANCE


Urban freight is indispensable for the cities economy but at the same time significantly affects the attractiveness and the quality of urban life. Accelerating the take up of sustainable urban mobility plans covering freight and passenger transport in urban and periurban areas is a key issue present in all initiatives in this field.

The project will act as a coordination platform, gathering worldwide experiences to select good practices develop case studies and recommend solutions on urban logistics.


The TURBLOG project aims at extending existing knowledge on urban logistics to other countries and thus effectively contributing to the transfer of knowledge between Europe and Latin America (LA), with a particular focus on Brazil and Peru.


THE CONSORTIUM


Coordinator:


 **TIS.PT** - Consultores em Transportes, Inovação e Sistemas. Portugal. www.tis.pt


Partners:


 **INOVA**MAIS - Innovation Consulting. Portugal. www.inovamais.pt

 **NEA** - Transport Research and Training. Netherlands. <http://english.nea.nl/>

 **UNIVLeeds** - Institute for Transport Studies. United Kingdom. www.its.leeds.ac.uk/

 **BHTRANS** - Empresa de Transportes e Trânsito de Belo Horizonte. Brazil. www.bhtrans.pbh.gov.br/

 **PTL-UNI** - Plataforma Logística de Transporte, Logística y Movilidad Urbana. Peru. www.uni.edu.pe/

 **TIS.BR** - Consultores em Transportes, Inovação e Sistemas. Brazil. www.tisbr.com

Issue Nr: 4 - Sept. 2011

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TURBLOG_WW

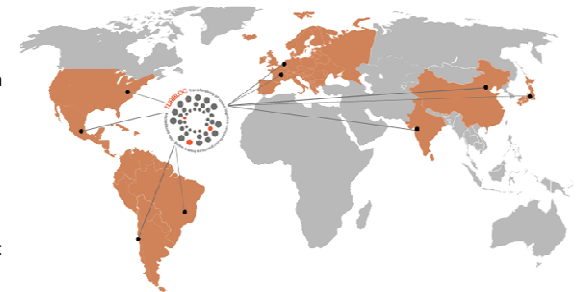
Transferability of urban logistics concepts and practice from a worldwide perspective
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PROJECT UPDATE - Worldwide Logistics Case Studies

One of the most important results of TURBLOG_WW is the collection of a set of Urban Logistics Solution cases studies (done under *Work package 3*) providing an overview of urban freight transport practices in nine different cities around the world:

- Paris, France
- Utrecht, the Netherlands
- **Belo Horizonte, Brazil**
- Mexico City Metropolitan Area, Mexico
- Santiago de Chile, Chile
- **Tokyo, Japan**
- Beijing, People's Republic of China
- New York, USA
- **Mumbai, India**



Each of these cities is different with regard to its characteristics, such as size, important economic sectors, transport infrastructure and traditions. Nevertheless the selected cities seem to experience a similar set of problem. When comparing the current and expected main transport problems in the nine selected cities, it is clear that there are two common issues: **congestion** and **environmental pollution**.

However, the policies and instruments they use are different in each city and in this perspective, each case study presents **one or more types of good practices**, which vary from the practices presented in the other case studies. Some of the cases were also consciously chosen due to the "specialty" of country.

This newsletter will go through the cases studies highlighted in orange, giving an overview of the city and of the measures implemented. For further detail information the case studies are available on the TURBLOG_WW website, in the *results* session.



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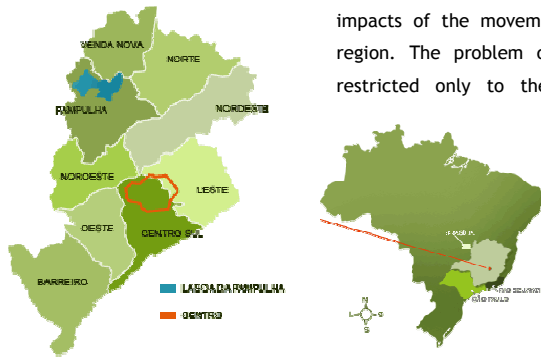


Belo Horizonte Case Study

Requirements of loading and unloading spaces inside companies with large traffic movements and Internet/telephone sales and deliveries from producer to customer through planned routes

The Belo Horizonte case study shows urban logistics practices both from the point of view of public policies and private practices also analysing their potential transferability to other cities in the world. The scope of the study is limited to the city of Belo Horizonte, which is the capital city of the state of Minas Gerais in Brazil, with 2.45 million inhabitants (2009).

Some operational measures have been implemented in the Central Area of Belo Horizonte (red circle in the map) aiming at reducing the negative impacts of the movement of freight vehicles in this region. The problem of the freight vehicles is not restricted only to the great quantity of vehicles delivering and collecting goods daily.



The main problems related to the movement of freight vehicles in Belo Horizonte can be summarized as follows:

1. The increasing quantity of trucks, vans and motorcycles in movement.
2. The lack of logistics platforms within the Central Area of Belo Horizonte.
3. The conflict between the movement of freight vehicles and other vehicles that will get worse in the next few years because of the increase in the quantity of freight vehicles.

The good practices implemented by Belo Horizonte (reported below) have made improvements to the transport system by removing loading/unloading operations from the streets and sidewalks and by promoting a decrease of logistic trips. However, these measures need changes with regard to the mindset of the stakeholders, which is the major barrier to the successful implementation of the measures. With regard to the transferability of these measures, to Latin American cities or to emerging cities in other parts of the world, it is necessary that this change in mindset has already occurred or could be made to occur.



Main Urban logistic measures in Belo Horizonte

Sale and delivery directly from the producer of organic products to the customer

In Brazil, it is common to shop by telephone or Internet at butcher shops, bakeries, pharmacies, supermarkets, pizzerias and restaurants.

Two examples are given in this report: *Fito* and *Dahorta*.

Fito is an organic food producer which has two shops and permanent supply contracts with supermarkets that resell the organic products to restaurants, and also makes residential deliveries directly to the customers.

Dahorta is a smaller company and grows its products on its farm 120 km from Belo Horizonte.

Requirement of loading and unloading parking spaces and loading docks inside companies with large traffic movements

In order to take the loading and unloading operations inside the building, a company that is generating traffic should create areas, places and loading docks for loading and unloading operations on their premises, as well as having an area to manoeuvre and access the loading docks. This measure has been adopted by Belo Horizonte and some other Brazilian cities like São Paulo and Curitiba. The main objective of this measure is to reduce the impact of supply operations on the streets around the company premises.

Time and access restrictions for loading/unloading operations in central areas according to the size of the vehicles

Time and access restrictions, according to the vehicle size were established for loading/unloading operations and for the movement of freight vehicles. These restrictions began in the region known as *Hipercentre* and have expanded to other sub-regions known as the Central Area. The main objectives of the measure are to diminish the flow of medium and large freight vehicles during rush hours and to facilitate loading and unloading operations. The political feasibility of this measure was tested after consultation with the private sector¹. The City Council introduced this measure in a common agreement with the stakeholders regarding the rules and deadlines, and implemented the measure in stages.

Goods Distribution Centre

In the metropolitan region of Belo Horizonte, there is a food warehouse called *CEASA*, which plays the role of a distribution centre and it is also a Postal Authority Distribution Centre. Such distribution centres are likely to reduce traffic jams and air pollution and save energy. In the specific case of Belo Horizonte, by moving the centre of gravity of freight transportation closer to the highways there is an improvement in the efficiency of the urban transport system as a whole, thus being a good solution for both the public and private sectors.



Japan case study

Joint delivery systems in Tokyo

Japan is one of the biggest economies of the world. It has been an icon of technology and innovation, whether it concerns high precision equipment or large industrial plants. The trend of embracing high technology has also been on the increase in the transport sector, and Japan can easily be considered as one of the pioneers in Intelligent Transport Systems (ITS). The Japanese government is preparing a comprehensive program of logistics policies on a five year basis, integrating various aspects of logistics and considering the environment as a key issue. The major freight transport related problems of Tokyo are congestion, environmental problems and lack of parking/loading/unloading place. To tackle these issues, to increase the competitiveness of its businesses and to support the life-style of its citizens, Tokyo Metropolitan Government has issued its logistics policy that aims at five key initiatives:

The latest of such a comprehensive program of logistics policies (2009-2013) is based on three pillars:

Pillar (I): Support the realization of efficient global supply chain logistics;

Pillar (II): Achieve a low environmental impact of logistics;

Pillar (III): Ensure secure logistics

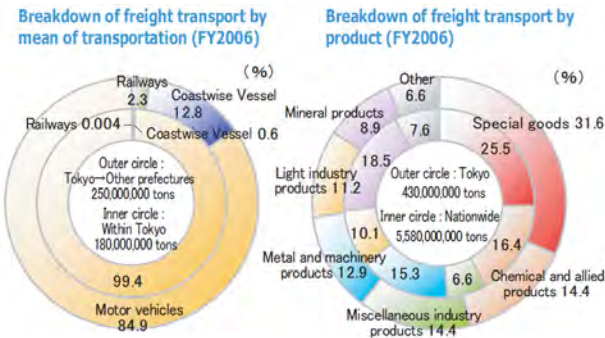
Initiative 1: Establishing an efficient logistics network;

Initiative 2: Reinforcing logistics functions for international trade;

Initiative 3: Promoting logistics bases development for the Tokyo Metropolitan area;

Initiative 4: Setting forward logistics projects toward local revitalization;

Initiative 5: Improving environment and quality of life in urban areas through better logistics.



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Matenro Staff delivery system

There are a number of suggested measures that can be implemented to address the issues of urban logistics and a joint delivery system has been thought out that is workable. Among the many experimental joint delivery projects that have been implemented in Japan, only a few

SHINJUKU

Shinjuku area is one of the busiest areas in Japan. The area has more than 20 high-rise buildings (over 100 m high) and more than 130 thousand workers in the offices. In 1992 when the measure started, there was an increasing demand for quicker and more frequent delivery of smaller packages of goods.

have been able to operate over an extended time period. **Shinjuku Matenro Staff is one of the few successful examples of a joint delivery system** that has a unique feature in delivery practice and seems to be a win-win situation especially from transport and environmental aspects. In order to address the problems, a carrier association called “Shinjuku Land Transport Business Association” decided to develop a joint delivery system to the offices in the area. It is a single measure called “*Shinjuku Matenro Staff*” (“*Shinjuku Skyscraper Staff*”), which started on April 1st, 1992. The joint delivery system combines truck

delivery to buildings and delivery by hand to each office in the building. The measure states that its objectives are environmental care and improve efficiency of logistics. *Shinjuku Matenro Staff* has a distribution centre of 330 m² about 10 minutes away from the buildings to be delivered to, and it owns four 2 tonne trucks (all Compressed Natural Gas powered), one 4 tonne truck and a light vehicle. Its delivery quota has been steadily increasing up to 500,000 packages in 2009.

STAKEHOLDERS

All of the stakeholders of Shinjuku Matenro Staff are private enterprises. They set a different delivery fee for each stakeholder (customer) depending on the contract. The type of “relationship” that exists between them is a formal contract. The stakeholders are responsible for collecting goods from their own customers. Shinjuku Matenro Staff is responsible for delivering the goods from its distribution centre to the final destinations.

GOODS and SERVICE

Goods that Shinjuku Matenro Staff delivers include office supplies such as prints, photocopying paper and clothes. For the distribution channel, delivery tickets attached to each package of goods and a hand scanner to scan the tickets are used by Shinjuku Matenro Staff. A ticket contains the information of the sender and receiver.

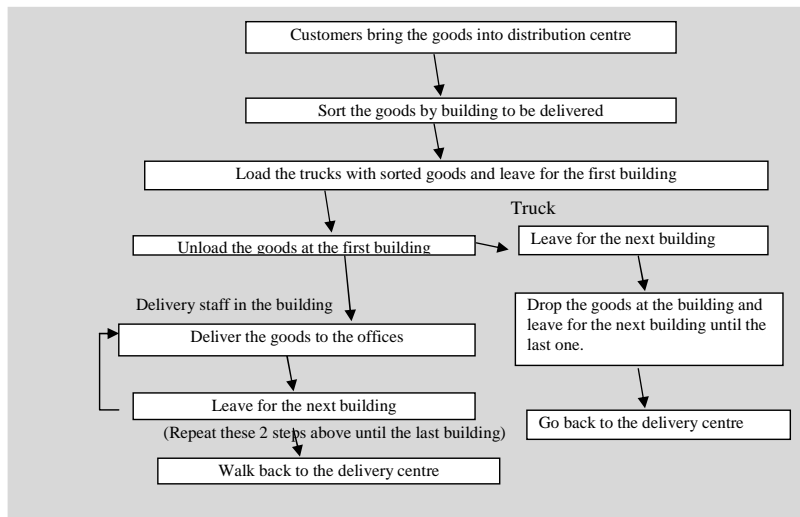


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Work flow of Shinjuku Matenro Staff's joint delivery:



FINANCIAL ASPECTS:

With regard to the financial aspects, the cost structure of the Shinjuku Matenro measure includes operating expenses of fleet, fuels and maintaining the distribution centre. There are also labour costs. Turning to the revenue model, the measure makes money through the delivery charges, which varies depending on each contract per sender.

CONDITIONS FOR THE TRANSFERABILITY OF THE MEASURES:

- A certain number of carriers should join the system in order to maintain the sustainable business;
- Delivery charge should be inexpensive to keep interest for carriers at the same time;
- the most important factor is to adapt the system for the area of the city to meet customers' demand and profitability;
- It also needs excellent delivery staff and driver who are keen to improve efficiency of work and eliminate wrong delivery.



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India Case Study

Mumbai Dabbawala carrier operation

Dabbawala carrier operation is a meal delivery system in the sprawling megapolis of Mumbai. This is currently a highly efficient and low cost delivery solution, which has astounded logistics

MUMBAI

Mumbai is considered the financial capital of the country as it generates 6% of the total GDP of the nation. Many of India's business conglomerates and Fortune 500 companies have headquarters in Mumbai.

Road users are diverse and employ slow, medium and fast motorized and non-motorized vehicle types (mixed traffic) on the same road infrastructure: cyclists, pedestrians, hand carts, bullock carts, auto rickshaws, cars/taxis, commercial vehicles which include trucks, vans, trailers, tankers & tempo. Over 88% of the Mumbai commuters and a small part of goods is transported by public transport (suburban trains or buses) because it is the most convenient, efficient and cheap transport to a population that cannot afford a car or use a private goods vehicle. Mumbai has the most extensive bus and rail networks among India's major cities.

professionals all over the world. A *dabbawala* (meaning one who carries the box), is a person in Mumbai whose job is to carry and deliver freshly made food packed in lunch boxes from home to office workers.

The delivery of the lunch boxes is an excellent case study that showcases excellence achieved in the informal sector, whose actors are proud of their rural roots and with the use of low technology and effective organisation. *Dabbawala carrier operation* is a private logistics service organised in the informal sector and does not constitute any policy measure.

It is a food distribution logistics employing public transportation system (suburban railways) that is unique in Mumbai city. It is an indigenous model, conceived, developed and perfected by a group of individuals who have very little or no formal education in

the area of logistics. This experience demonstrates that the informal sector is also capable to

develop best practice in the urban freight logistics. It shows how urban public transport system can be exploited for urban freight movements in cities where cheap, regular and reliable public transport services are available.

The *dabbawala system* has demonstrated how a highly efficient and low cost delivery solution can be developed with a positive impact on city, citizens and companies by suitably combining



Dabbawala carrying dabbawalas from home to nearest railway station



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factors of inexpensive manpower availability, perpetual demand, urban transport infrastructure, unique traffic flow pattern and intuition based management practices. The Mumbai *dabbawala operations* are restricted to Mumbai. A total number of 200,000 lunch boxes i.e. 400,000

DABBAWALAS SERVICE: AN OLD STORY

The *tiffin suppliers* are also call or *dabbawalas* and deliver daily home-cooked lunches to thousands of workers and employees in Mumbai, India. It is one of the oldest surviving pre-Independence urban logistics systems in the city of Mumbai and probably in the world. The *dabbawala* services were begun in 1890 when India was under British rule, by a group of people with same ethnic background (from Pune) to support their livelihood in India. At that time, people migrated for work to Mumbai from different states and belonging to different communities. At working places there were no canteens and many did not bring their lunches from home. Besides, different communities had different food habits, tastes and preferences which could only be satisfied by a homemade meal. Identifying this need, Mr. Mahadeo Medge started this lunch delivery service. The system has been operational for about 120 years without interruption. As of 2005, the services handled more than 300,000 transactions a day (150,000 boxes), employed 5,000 people.

transactions are carried out per day on all working days throughout the year. These services are available six days a week i.e. on 25 working days in a month. There is no disruption to work as long as the Mumbai suburban rail network is functional. The *Dabbawala system* is organized as a co-operative movement based on team o up to 8 persons. The entire organization is constituted by 120 groups.



Dabbawalas delivering dabbas in crates from destination to end customer



BUSINESS MODEL

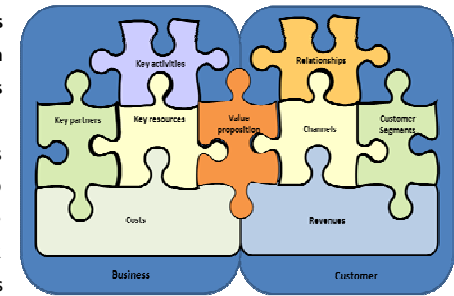
The Mumbai *dabbawala* business model was conceived, developed and perfected by a group of people who had migrated from rural areas in search of jobs. They had little or no formal education in the area of logistics. The system has continuously evolved since its inception and has stayed attractive to a particular market segment over time. The delivery system is organised as a co-operative movement whose basic entity is the *dabbawala*. A unique motivating factor to improve and sustain performance levels is driven by ethical considerations rather than personal wellbeing. The system is built on pride to deliver food to their customers and thus as a means of service to community.

Work Package 2- Business models and logistic profiles

The business models and the logistic profiles definition, identification and comparison are the main objectives of the second work package of TURBLOG.

What is a business model?

According the literature review that was made, there is **no generally definition of the term "business model"**. The definition that was adopted in TURBLOG is the one of Osterwalder and Pigneur (2010) and states that **"a business model describes the rationale of how an organization creates, delivers, and captures value."**



The **theoretical framework** that represents the departure base for our analysis to characterize the business models of the case is the **9 building blocks framework developed by Osterwalder (2004)**, where it is identified the **key partners** involved in that business model, the **key activities** that are performed, the **key resources** needed to perform the activities, and the **cost structure**, on the left side of the figure. On the right side, it is identified the **customer segments**, the **customer relationships**, the communication **channels** and the **revenue streams**. In the middle, it is identified the **value proposition**.

What is a logistic profile?

The logistic profile concept is based on the hypothesis that it is possible to identify, for some well-defined areas inside a city, reasonably homogeneous groups of logistic needs, based on three key points: the urban characteristics of the area, the requirements of the logistic agents (i.e. the requirements concerning the type of delivery), and the characteristics of the products/services being transacted. The logistic profile of a given urban area is thus defined by the interaction of these three key aspects.



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An example of Logistic Profile E: Residential areas with local trade - Utrecht

This logistic profile describes areas with low commercial densities, meaning, they are predominantly residential areas (for example, residential buildings with commercial stores on the ground floor). These areas have residential buildings placed in old neighbourhoods that were not planned considering logistic needs.

Therefore, these areas have restrictions to the deliveries distribution, once they can affect the level of congestion within these areas, and the logistic accessibility is difficult due to the geometry of the streets (lack of loading bays, narrow streets, etc.). Also environmental concerns are associated to the circulation of freight vehicles in these areas, such as noise and air pollution.

Profile E	
City Area Features	
Commercial density	Low / Medium
Homogeneity	Low / Medium
Logistic accessibility	Reasonable/Bad
Restriction applied	Yes
Product Characteristics	
Easiness of handling	Easy/reasonable/Difficult
Special conditions	Might have special needs
Agent Profile/Deliveries Profile	
Urgency of deliveries	Irrelevant/Relevant/Urgent
Frequency of deliveries	Low/Medium
Amounts to be delivered	Few/Several/Many
Planned deliveries	No defined routine

UTRECHT

In *Utrecht*, the solutions for urban logistics include Private-Public Partnerships, programmes between municipalities/groups of municipalities, and municipality regulations. *Cargohopper* is an example of a solution for the constraints caused by the streets geometry. This road train produces zero emissions, and is allowed to circulate in the inner city at any time and any place.



The final output identifies the business models and schemes that are best targeted to urban logistics; the logistic profiles identified in the selected cases and the dynamic concepts that can be applied.



Work Package 4 - Transferability guidelines and evaluation

The 4th Work package is fully devoted to the assessment of a transferability methodology between Europe and other continents with a particular focus on the Latin America cases. Reviews from past projects dedicated to the issue of transferability do not support the hypothesis that transferability can actually be predicted from a logical, objective analysis looking at certain key characteristics of "origin" and "target" cities.

The proposed methodology is that transferability is expressed through the applicability, optimum packaging, and community acceptance of the candidate measures. Such process departs from the assumption that practices under analysis are those best suiting the target city conditions. Therefore, a diagnosis of the situation on the target city is required, followed by a pre-selection of the possible measures addressing the problems identified. Once this is clear, it will be possible to initiate a transferability process to get a deeper understanding of the steps involved and the hypothesis and feasibility of the process to become operational. An assessment of the transferability and barriers related to urban freight aspects was also done in the Meteor project and is a good example of the potential of transferability.

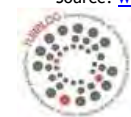
Transferability methodology of TURBLOG_WW was compared to other EC studies: *CIVITAS*¹, *BESTUFS*², *SUGAR*³, *ELTIS*⁴. It is important to note that a direct comparison of the different methodologies used in several EC projects is not possible. One of the main similarities found in different EC studies is the importance given to ex-ante assessments. However, a city that wants to transfer one or a set of these measures, must keep in mind that the first four steps are essential for a successful transferability of measure. The exercise of transferability is most of all about looking properly at the enablers (success drivers) and the conditioning barriers affecting adoption of mobility management measures that selected before as candidates. Therefore, it is necessary to systematise what barriers to policy implementation exist and when are they likely to occur in each target case. We developed four Transferability Cases Studies to apply the methodology and identify this barriers and enablers in the cities: *Belo Horizonte, Brazil*; *Cariacica, Brazil*; *Gamarra, Lima, Peru*; *Lisbon, Portugal*. The cities of Belo Horizonte and Lima were chosen since they are major cities in the two countries of principle interest to TURBLOG_WW (i.e. Brazil and Peru). The city of *Cariacica* was chosen for reasons described below. Lisbon was chosen since it was considered that it would be useful, for comparative purposes, also to include a European city case study alongside the Latin American city case studies.

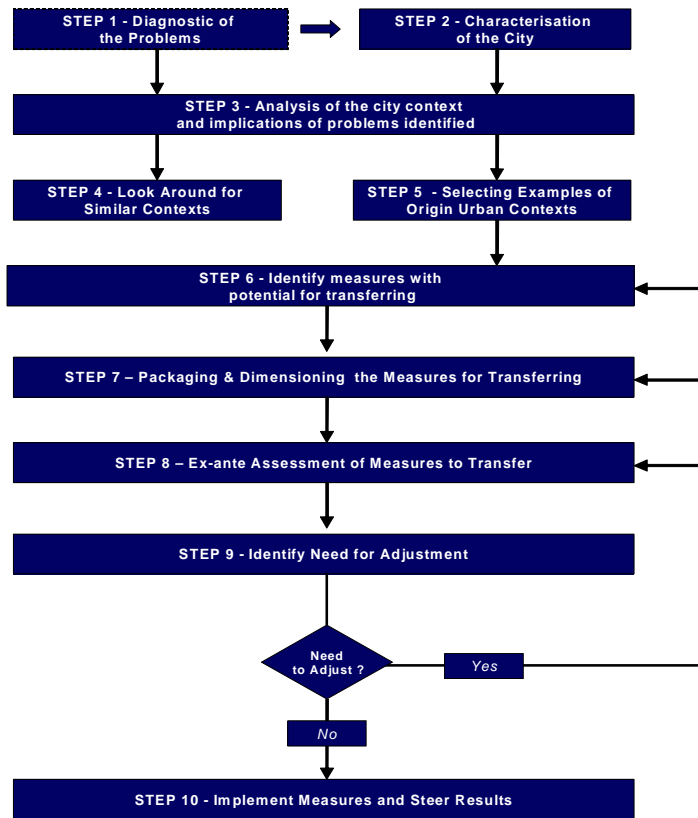
¹ For more information on the CIVITAS project see: www.civitas-initiative.org.

² Source: www.bestufs.net

³ Source: <http://www.sugarlogistics.eu>

⁴ Source: www.eltis.org





The aim of each case study selected was to undertake an assessment of transferability of the urban logistic measures described in the case studies developed in the work package 3 of TURBLOG_WW (some of which presented in this newsletter), in order to help the development of a framework supporting the adoption of urban logistic processes in new settings. Formally each case provides empirical content for the assessment of transferability options and barriers. In this sense, a very important contribution for the Ex-ante assessment of *transferable measures* came from the stakeholders' national workshops: the information gathered during these workshops was useful for draw a clear picture of the potential of transferability, success factors and barriers of a specific measure.



Final TURBLOG workshop: Belo Horizonte, Brazil

TURBLOG project will organize the final workshop on 20th and 21st September 2011

Venue: *Belo Horizonte City Hall, Av. Afonso Pena, 1212, Belo Horizonte*

AGENDA

Tuesday, 20th September

9:00 - 9:30	Registration for the workshop / Welcome coffee
9:30 - 9:45	Welcome Rosário Macário - Project Coordinator, TIS.PT Natascia Lai - Project Officer, European Comission (tbc) Marcio de Araujo Lacerda - Belo Horizonte Major (tbc)
	Panel 1: TURBLOG presentation
9:45 - 10:45	Approach and overview of the project TURBLOG - Rosário Macário, TIS.PT
	Panel 2: Case studies presentation
10:45 - 11:15	Case study from Mumbai - Deepak Baidur, Center for Environmental Planning and Technology University (India)
11:15 - 12:00	Case study from China and Japan - Junichi Yashiro, Public Planning & Policy Studies, Inc. (Japan)
12:00 - 12:30	Discussion period chaired by Célio de Freitas Bouzada, BHTRANS (Brazil): Questions & Answers
12:30 - 14:00	Lunch break
	Panel 3: Logistic operators experiences
14:00 - 14:20	European experiences from DHL - Robin Moore, DHL Supply Chain (UK)
14:20 - 15:00	Latin American experiences - Martin Oyanguren, AMBEV Drink Company (Brazil) and Walter Vighy, CESA Logistic Company
15:45 - 16:00	Coffee break
	Panel 4: Cities experiences
16:00 - 16:30	City of Paris experiences in urban logistics - Diana Diziain (Paris)
16:30 - 17:00	City of Santiago do Chile experiences in urban logistics - Ricardo Giesen, Pontificia Universidad Católica de Chile (Chile)
	End of meeting



Wednesday, 21st September 2011

9:00 - 9:30 **Registration for the workshop / Welcome coffee**

Panel 5: Business models and transferability methodology

9:30 - 10:00 Business models and logistic profiles - Rosário Macário, TIS.PT

10:00 - 10:30 Transferability methodology - Marcelo Cintra do Amaral, BHTRANS (Brazil)

Panel 6: Transferability case studies

10:30 - 11:00 Case study from Cariacica, Brazil - Paul Timms, ITS Leeds

11:00 - 11:30 Case study from La Victoria, Peru - Cesar Lama, PTL UNI

11:30 - 12:15 Discussion period chaired by José Américo Fernandes Cerqueira, Municipal Transport Office (Rio de Janeiro, Brazil): Questions & Answers

12:15 - 13:45 **Lunch break**

13:45 - 15:00 **Panel 7: Round table about "EU Perspectives and Trends in Urban Logistics from European Commissions projects"**

Moderator: Ramon Victor Cesar, BHTRANS (Brazil)

Experts from Europe:

Project SUGAR, FREILOT, SMARHFREIGHT, NICHES+: Sylvain Haon, POLIS

Project BESTUFS: Nathaly Dasburg/Jarl Schoemaker, NEA

Project TURBLOG: Rosário Macário, TIS.PT

Project STRAIGHTSOL: Olav Eidhammer, TOI

Project TRALBLAZER: Donald Chalker, TTR

15:00 - 15:45 Discussion period chaired by Leise Kelli de Oliveira, Federal University of Minas Gerais, UFMG (Brazil): Questions & Answers

15:45 - 16:00 **Coffee break**

16:00 - 17:00 **Panel 8: Round table about "Key challenges in Urban Logistics in South America"**

Moderator: Derek Quinn, ITS Leeds

Experts from Latin America:

Cesar Lama, Peru

Juan Pablo Antún, México

Ulpiano Libreros, Colombia

Edgar Blanco, MIT SCALE Network Latin America

Daphne Savoy, CET-SP - Companhia de Engenharia de Tráfego de São Paulo (São Paulo, Brazil)

Reinaldo Fioravante - Inter-American Development Bank (tbc)

17:00 - 17:45 Discussion period chaired by Luciano Medrado, Transport Operators Association of Minas Gerais, SETCEMG (Brazil): Questions & Answers

17:45 - 18:00 Closing remarks - Rosário Macário & Ramon Victor Cesar, TIS.PT & BHTRANS

18:00 **End of meeting**

More info at www.turblog.eu



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