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DELIVERABLE 7.1

TRANSFERABILITY PLAN FOR LOCAL GOVERNMENTS ON ENERGY SAVING AND SUSTAINABLE DEMAND MANAGEMENT IN URBAN FREIGHT TRANSPORT SECTOR

Dissemination level: PUBLIC

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1. INTRODUCTION

1.1 Objective

The C-LIEGE project aims to develop, test and transfer experiences of successful soft measures and tools in the area of urban freight transport that will reduce urban freight traffic and pollutant emissions, generating related energy savings. This report describes part of the activities undertaken under work package 7, the C-LIEGE transferability plan which should support the adoption of C-LIEGE tools and model at a local level.

While there is plenty information available on different urban distribution measures used in many cities as shown in C-LIEGE database and toolbox, in most EU studies less attention is given to the methodological approach for the successful transfer of these measures. In the real world what can be observed is the implementation of measures usually imported from elsewhere where they were part of a successful case, often without a careful assessment of whether transferability conditions are ensured, ending up as failures.

The approach adopted in C-LIEGE is generally based on the transferability methodology adapted and applied in the FP7 project TURBLOG_ww[1] on how to select and transfer a good practice on urban logistics, which was successfully adopted elsewhere.

For this scope, transferability is defined as "the ability to transfer/adopt in a given city successful measures previously adopted elsewhere, and achieve comparable results" (Macário and Marques, 2004[2]).

[1]TURBLOG_ww: Transferability of urban logistics concepts and practices from a worldwide perspective.

2 Macário R., Marques C., 2004, Transferability of transport policies and measures, Working Document, November 2004, in METEOR, accompanying measure of the EC CIVITAS program for sustainability of European Cities.

The exercise of transferability is all about looking properly at the enablers (success drivers) and the conditioning barriers affecting the adoption of measures. For this, it is necessary to systematise what barriers to policy implementation exist in each target case.

The aim is thus to undertake an assessment of transferability and finally propose a framework supporting the adoption of urban logistic processes in new settings.

It will assess whether urban logistic measures adopted in the reviewed stock of experiences (both in the pilots and as synthesised at the EU level in previous projects) are actually transferable and under what specific conditions.

As in TURBLOG_ww, rather than attempting to identify generalised measures that "will work everywhere", the process focuses upon the particular features of the location to which the measure is being transferred, under the implicit assumption that each context is different. Whilst this feature of the process is a positive aspect for real world transport policy making, it clearly presents a challenge for making generalised conclusions about policy and technical measures for facilitating urban freight transport and management.

A core issue that distinguish C-LIEGE is the fact that it intends to highlight and establish the conditions to facilitate the transfer of good practices from one context to the other, but simultaneously it will look to the barriers to the successful implementation of a transferred measure (for more details consult C-LIEGE Output 7.1) and for those it established a plan to

highlight what has failed and therefore avoiding negative duplication of such unsuccessful initiatives or measures (for more details consult C-LIEGE Output 7.2).

This can be seen as a “lessons learning” approach to minimise the risk of implementing in the same manner a measures (or package of measures) that needs certain conditions to be applied in a successfully way, so that it achieves the same good results. What sometimes is called an unsuccessful measure or a failure case doesn’t actually mean that the measure itself is not successful it means that the cities are just trying to apply measures that do not fit their city contexts and objectives.

The following chapter presents the general methodology applied for the transferability of a measure.

1.2 Description of the transferability methodology

The transferability approach is constructed around a “10 step process”, as it is presented in Figure 1. This process for the assessment of transferability needs consists in four main phases, which in C-LIEGE corresponds to several project activities:

- a “search phase” where a good practice is identified in the originator city, which has been done in WP2 activities;
- an “appraisal phase” where the compatibility of the good practice in the receptor city is appraised, which has been done in WP2 and at the roundtables (WP3);
- a “refinement phase” where specific barriers amenable to change and factors of success are identified in the receptor city (WP5 and WP6); and finally,
- an “implementation phase” where the good practice is implemented in the receptor city (WP5).

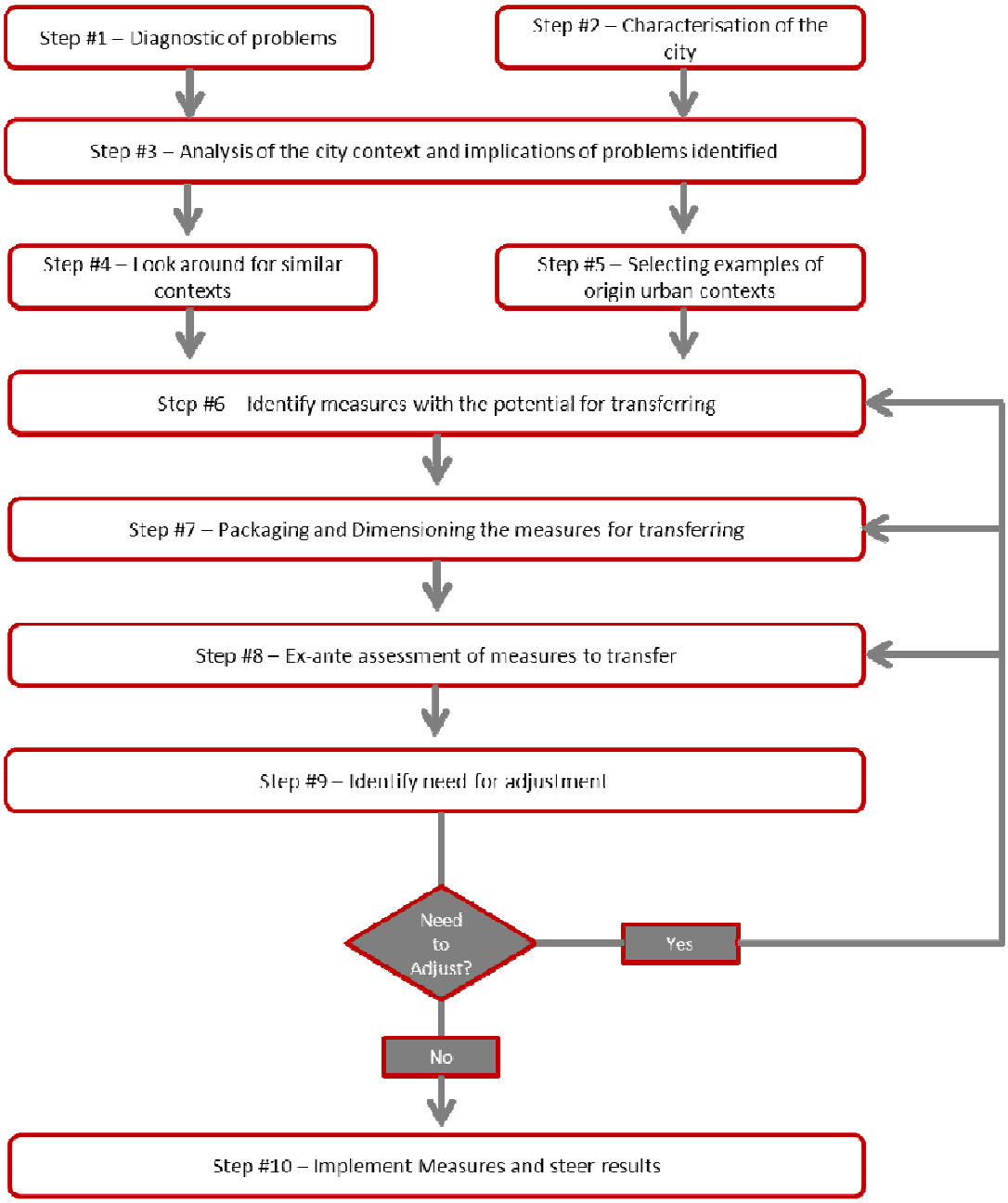


Figure 1– Transferability methodology (Source: TURBLOG 2011)

C-LIEGE adopted this process as a guidance process to the pilot implementation to make sure that the measures selected for implementation are the most suited for each case. This approach has been successfully applied and recommended since the CIVITAS project METEOR.

This starts with an identification of the urban freight related problems and a detailed characterization of the urban structure in each city encompassing aspects such as geographic, structural, demographic, architectural, cultural and transport system-related factors. Both aspects will help to understand the city context and problems implication and allows being in a better position to look for similar contexts and measures to solve problems and improve energy efficiency in urban freight. For this process several roundtables with stakeholders such as city authorities, freight operators, distributors, service providers, wholesalers, were held in each of the pilot cities, according the table below. In all cases someone from the consortium acted as a facilitator of the process.

Table 1 – Round tables timetable

C-LIEGE site	1st Round Table	2nd Round Table	3rd Round Table	4th Round Table	5th Round Table
1. Leicester	28 March 2012	20 June 2012	12 Mar 2013	17 Sept 2013	n/a
2. Hal-Tarxien	11 April 2012	12 June 2012	27 Sept 2012	27 Nov 2013	n/a
3. Montana	12 April 2012	19 June 2012	31 Jan 2013	22 May 2013	n/a
4. Newcastle	17 Jan 2012	4 July 2012	14 Feb 2013	09 Sept2013	n/a
5. Emilia-Romagna	29 Jan 2013	7 March 2013	03 Apr 2013	07 May 2013	10 June 2013
6. Stuttgart	30 Nov 2011	5 July 2012	18 Feb 2013	18 July 2013	26 Sept 2013
7. Szczecin	23 Feb 2012	21 June 2012	30 Nov 2012	11 June 2013	n/a

Having a facilitator from the consortium for each pilot was a key factor for the success of the roundtables and to accomplish C-LIEGE objectives.

2. TRANSFERABILITY PROCESS

The transferability process was applied to the pilot sites and the roundtables were conducted so that it was possible to apply the transferability process. This chapter gives some insights about the pilot sites round tables methodology and the issues to pay attention.

2.1 Pilot sites round tables methodology

The pilot sites roundtables methodology process is described in detail in D3.1 and therefore only key aspects will be mentioned in this chapter.

Seven pilot experiments in six European countries assess the effectiveness of the C-LIEGE approach: Bulgaria, Italy, Poland, United Kingdom, Germany and Malta. The central element to engage stakeholders was the Round Tables held in each pilot site, as indicated in the previous table. The Round Tables brought together stakeholders from various categories (public institutions, business associations, private actors and other institutions).

The purpose of the roundtables and workshops held during the project duration were to:

a) identify and validate problems and barriers related to urban freight transport;

b) understand the needs, motivations and behaviours of the different actors/stakeholders;

c) discuss the potential of transferability, success factors and barriers of the measures and their acceptability.

Figure 2– Round table held in Szczecin (Poland) and Emilia Romagna (Italy)

Round Tables with all types of stakeholders were successfully held in all seven pilot cities and regions.

- The Round Tables were prepared and supervised methodologically. Documents regarding the organization of Round Tables were established. The content is transferable to transport related Round Tables and is available for the general public.
- The Round Tables selected pilot measures to be implemented in the pilot cities and regions.
- The selection process was supervised on the base of a self-assessment of the pilot cities and regions regarding urban goods traffic. The appropriateness of the selected measures was checked by a "joint strategic exercise". The Round Tables then prepared for, and in most cases became, Freight Quality Partnerships, with partners among the stakeholders cooperating in urban goods transport related issues on a more formal base. The path to those Freight Quality Partnerships is documented and is available for any institution that wants to set up similar partnerships. While implementation of these measures was usually done by the responsible actors, the need for them and the approach towards them was established in the Round Tables.

During the work of C-LIEGE, the role of the stakeholders in the Round Tables was to shape the regional strategy towards urban freight transport, to debate and to select measures towards a more sustainable and environmentally friendly goods transport. In C-LIEGE, the Round Tables were set up to continue beyond the project duration, developing into a Freight Quality Partnership with a continuing focus on optimizing local freight transport.

In this process, the Round Tables brought together public and private stakeholders in the field of urban freight traffic. In most cases, it was the first time that either measures or strategies for urban freight traffic were jointly debated by stakeholders from the different groups. It was fundamental to have an open debate in the process, resulting in strategies and selected measures for a more energy efficient, sustainable and professional urban freight transport.

The selection of measures was monitored during the Round Table approach by the routine procedure described in D3.2 (see figure below) that was defined and applied to make sure that the stakeholders identify the relevant urban freight key issues and the better targeted

measures, validate the consistency and completeness of the pilot sites selected measures and contribute to the definition of a local joint strategic exercise for each pilot.

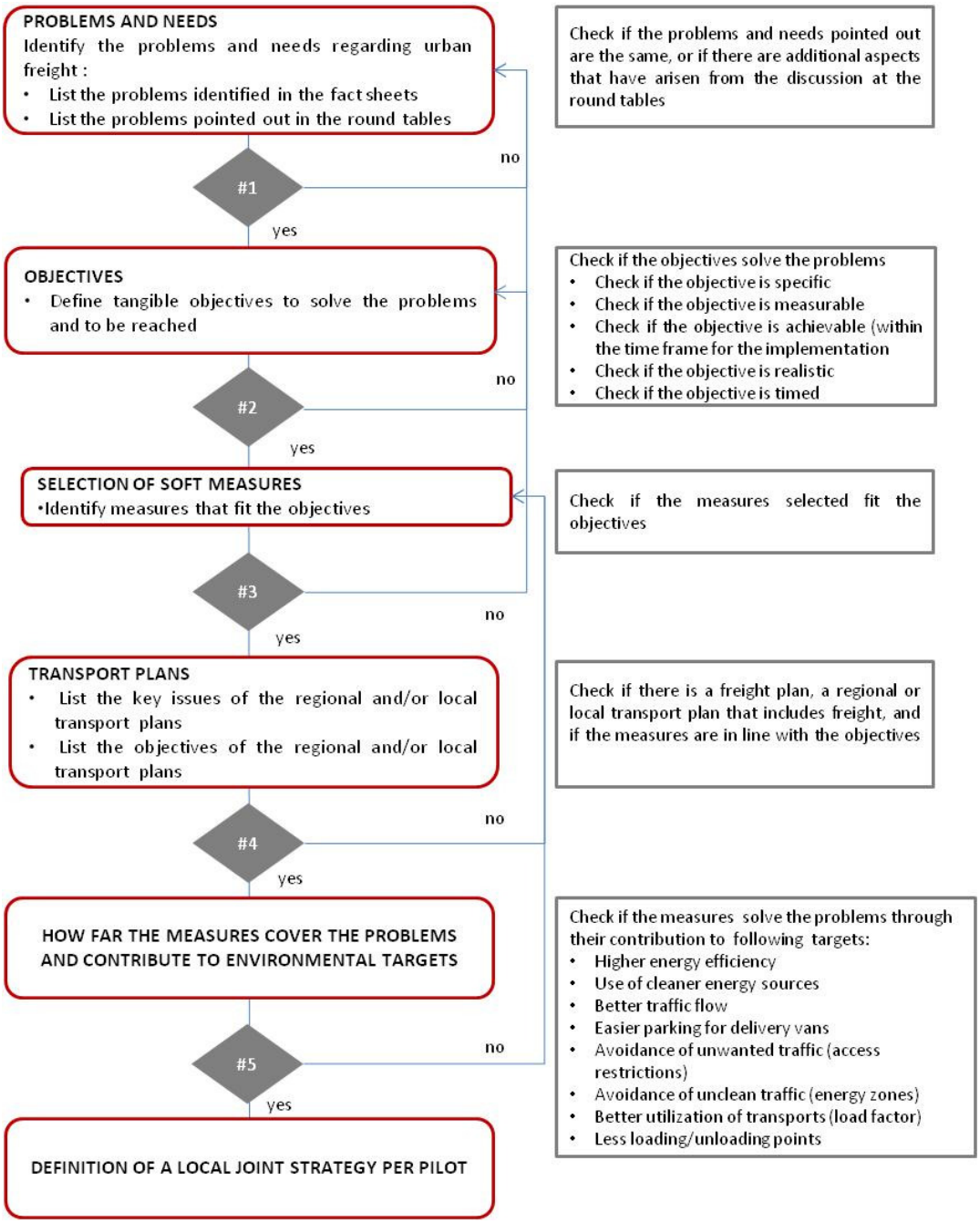


Figure 3– Routine procedure applied to measures selection

Steps to follow:

- Identify the key stakeholders & key issues in urban logistics for each pilot
- Define goals and measures
- Link with existing local, regional and national plans
- Get the stakeholders commited to adopt the plan
- Setup monitoring processes

This approach should be applied in parallel to the 10 step transferability methodology using the guidelines related to the round tables process develop within C-LIEGE, namely:

- Use the guidelines from the stakeholders engagement manual
- Use the Round tables manual procedures to organise and guide the meetings
- Apply the check points defined to ensure consistency

The consensus building and concertation activities which have been implemented in each pilot site within the C-LIEGE project by local round tables have leaded to the definition of an agreement between Public Authorities and business stakeholders upon appropriate and local-based measures for an effective freight transport demand planning and management.

Figure 4– Round table held in Hal Tarxien (Malta) and Stuttgart (Germany)

2.2 What is important to pay attention

The most promising way to follow a transferability process is a **step by step procedure at the local level, with clear milestones**. A uniform approach with local optimisation usually works best.

It is important to **look first at the current situation** (i.e. problems, existing policies, how the market works, etc.) in order to reflect the level of complexity, rather than identifying a measure and then look for a way to apply it to a location. Looking at the 10 steps of the transferability methodology, this means that many cities start at step 5 ('selecting examples of source urban contexts'), instead of the first step: 'diagnostic of the problem'.

A critical issue when transferring a measure is to keep in mind the characteristics of the area. It is essential to also keep in mind that the impacts that are obtained in a city can be completely different in another surrounding.

The results of a measure are not only heavily influenced by the geographical and institutional characteristics of the area, but also by the quality of implementation, the acceptance by the stakeholders and by other measures and polices implemented. In order to be able to transfer a specific measure within or to another city, one has to examine the basic elements of the measure and adapt these to the legal, geographical, economic and social characteristics of the area. In other words: not copy-paste, but copy-adapt.

There is never a single optimal solution. The success of a number of individual measures depends on several different, specific conditions. This means that the transferability analysis of an individual measure might be insufficient for a city that wishes to assess its own situation (before the actual transfer). One has to **look for a combination of measures** that is specifically aimed at achieving the desired result (i.e. reduce the problems identified and improve conditions). In order to assess the current situation and also monitor and evaluate the actions that are performed, quantitative and qualitative data collection is essential. Periodic and permanent data collection surveys are therefore needed.

It is necessary to **identify in which areas improvements are possible**; preferably look for the highest impact.**Sustainability** means that economy, environment and social aspects must be balanced. This means that it is important to find projects which save resources, reduce waste and pollution, are cheap and therefore attractive.

Urban freight initiatives and projects must be considered as **business propositions**. Nobody will go for a more expensive solution that adds no value.

One of the main drivers for the successful implementation of a measure or set of solutions in a city is **political commitment**.

The need for **cooperation between actors**, as it is important to understand the positions of other stakeholders and understand that people have to make decisions. Also **coordination between policies and activities** from different tiers of government is needed (clear objectives and approach).Cities that involve the businesses sector in policy development from the very beginning, achieve greater acceptability by the stakeholders that are involved and are more likely to succeed in the long-term.

2.3 Lessons learned from the pilot sites case studies

This chapter presents the lessons learned from the pilot sites round tables, implementation and monitoring phase in terms of barriers or difficulties encountered, ways of overcoming those barriers and conditions of applicability of each measure, as represent in the figure below:

Identification of the negative aspects to the successful implementation of a transferred measure - Barriers and enablers identification

The analysis of transferability puts strong emphasis on looking closely at the enablers (success drivers) and the barriers affecting the adoption of candidate measures for (potential) transfer. Therefore it is necessary to systematise what potential barriers to policy implementation exist and, for any transferability case study, to identify when they are likely to occur. A typology of barriers is provided below. The enablers can be viewed as the inverse of barriers. For example, if the receptor city is very wealthy this is an enabler for the transfer of a measure that requires financial resources.

The objective of these barriers identification is to identify the negative aspects that constitute barriers to the transferability of measures, so that doesn't lead to failures when a city transfers a practice that was successfully applied elsewhere without achievement the same good results. More than identifying the conditions of applicability for each measure it is relevant to be aware of the type of barriers that might appear and how to overcome those barriers, if they appear. In Output 7.1 this is presented in a detailed way.

Various barriers can be identified that might potentially undermine the successful implementation of a transferred policy measure in a 'receptor' city.

Table 2 - Type of barriers that might appear during the implementation of a measure

Type of Barriers	Description
Financial	The financial cost of the measure 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.

How to overcome the barriers?

Depending on the type of barrier, it is possible to make adjustments so that a measure can be implemented successfully. This can be seen as a solution plan to the identified barriers.

Output 7.2 established a plan to avoid the duplication and replication of “aspects” that might lead to failures, that is, a city transferring a practice that was successfully applied elsewhere, without achieving the same positive results.

Conditions of applicability for the measures

When identifying the barriers and ways to overcome them, it is made clear that when transferring a measure one should understand and carefully analyse the conditions of applicability, as a pre condition that the city needs to guarantee if they want a successful implementation of a transferred measure. The conditions of applicability can act as a guiding plan to reach similar positive impacts with the measure implementation.

2.4 Pilot sites analysis: Barriers, Ways to overcome the barriers and Conditions of applicability

The following tables are a way of presenting the analysis that was done to pilot sites measures in terms of a) barriers or difficulties encountered in each type of measures in the different pilot sites from C-LIEGE, b) how they have managed or recommend to overcome the barriers identified and finally c) which are the conditions of applicability that each pilot site must guarantee as minimum requirements to apply those types of measures.

This process is an output from the discussions held during the roundtables, the pilot's implementation and monitoring phase.

As in some pilot sites the measures adopted were the same type, for those cases, it is presented per type of measure all identified pilot sites aspects allowing a comparison among them. For the remaining cases the measures are presented per pilot site.

Table 3 – Identification of the barriers, guidance to overcome the barriers and definition of the conditions of applicability for the measure "Access restrictions" in Hal Tarxien (a) and Leicester (b), and the "Harmonization of the access restrictions at a regional scale in Emilia Romagna (c).

Measure: Access restrictions			
Pilot	**Barriers**	**How to overcome the barriers**	**Conditions of applicability**
Hal-Tarxien (a)	• Needed consensus from Transport Malta • Short time frame for measure to be introduced	• Convince the Transport Malta to approve the measure by presenting the expected benefits	• Good consultation with internal and external stakeholders • Appropriate sign posting • Alternative roads through which traffic
Leicester (b)	• Resistance from groups • Competing priorities – Connecting Leicester • Lack of political support • Short time scales	• Detailed consultation • Agreed plan of action • Work across priorities e.g. air quality, congestion	• Highlighting appropriate areas • Good consultation with internal and external stakeholders • Funding from national government • Appointment of consultants
Emilia-Romagna (c)	•Objections from operators who feel disadvantaged by the new restrictions •Lack of funding for necessary research, consultation and publicity about the new arrangements	• Good consultation and communications to explain the justification for the new restrictions • Political support to commit funding based on the region-wide benefits of a harmonized approach	•Political support • Technical capacity to carry out the necessary research into existing arrangements and the best options for harmonization •Funding for research, consultation, new signage (where required) and publicity

Table 4 – Identification of the barriers, guidance to overcome the barriers and definition of the conditions of applicability for the measure "Promotion campaigns for the energy efficient urban freight transport in Szczecin" (a) and Web Promotion of Sustainable City Logistics in Leicester (b.

Promotion campaigns			
Pilot	**Barriers**	**How to overcome the barriers**	**Conditions of applicability**
Szczecin (a)	•Finance •Lack of engagement of the city municipality •Insufficient understanding of the problems	• Support from the external finance sources • Support from city municipality • Media activities • Easy to understand contents (prepared in not to many technical language)	•Implementation of Eco driving guide for Szczecin •Public actions •Meetings for students, residents and business stakeholders
Leicester (b)	• Firewalls/internet access policies • Lack of IT specific skilled officers • Irregularity of information – leading to stagnant web presence	• Training • Meeting with IT to identify a single person to upload information • Regular updates	• Need access rights to web • Web/IT literate officer

Table 5 – Identification of the barriers, guidance to overcome the barriers and definition of the conditions of applicability for the measure "Loading/unloading bays in Szczecin (a), "Allocation of designated loading/unloading bays in Hal Tarxien" (b), and "Introduction of differentiated fees for loading/unloading in Montana (c).

Measure: Loading and unloading bays			
Pilot	**Barriers**	**How to overcome the barriers**	**Conditions of applicability**
Szczecin (a)	• No space for the creation of loading/unloading bays • Getting approval by residents to change parking spaces into loading/unloading bays	• Information campaign • The surveys • Considering the time windows	• Acceptance from the city municipality • Additional space for loading/unloading bays • Interesting from the stakeholders • Information campaign • Law adjustment
Hal-Tarxien (b)	• No space for the creation of loading/unloading bays • Getting approval by residents to change parking spaces into loading/unloading bays	• Changing parking spaces into loading/ unloading bays during particular time windows	• Authorisation from the Mayor • Additional space for loading/unloading bays
Montana (c)	• Difficulties in exercising control by traffic police	• Negotiations for assistance from the traffic police	• Decision of local municipal council • Strict control on the implementation of the measure

Table 6 – Identification of the barriers, guidance to overcome the barriers and definition of the conditions of applicability for the measure "Electric goods delivery by shared van in Stuttgart".

Measure: Electric goods delivery by shared van			
Pilot	**Barriers**	**How to overcome the barriers**	**Conditions of applicability**
Stuttgart	• Low priority by Ludwigsburg Administration • Overshadowed by local KEP service who tests electric vehicles in his regional fleet under another EU project.	• Explicit in the Freight Development Plan • Developing the project as a regional showcase	• Business model • Communication to potential users • Financial and partly organizational backing by town

Table 7 – Identification of the barriers, guidance to overcome the barriers and definition of the conditions of applicability for the measure "ITS mobile application for re-routing in Szczecin".

Measure: ITS mobile application for re-routing			
Pilot	**Barriers**	**How to overcome the barriers**	**Conditions of applicability**
Szczecin	• Non efficient traffic detection • Inadequate promotion	• Implementation of more detectors • Sharing the information and dissemination	• Supports from the ITS service operator • Efficient traffic detection • Information campaign

Table 8 – Identification of the barriers, guidance to overcome the barriers and definition of the conditions of applicability for the measure "Location analysis to identify suitable site for new fuelling station for goods vehicles in Stuttgart".

Measure: Location analysis to identify suitable site for new fuelling station for goods vehicles			
Pilot	**Barriers**	**How to overcome the barriers**	**Conditions of applicability**
Stuttgart	• For the soft measure (the planning), there are no barriers • Before putting the measure into practice, there has been a fallout between the land owner and the proposed investor (caused by other matters)	• n/a for the soft measure, which is implemented • For putting the plan into practice, the municipality must stand to it (which it does) and the land owner will need a new investor (which is under way)	• Must be decided by municipality and be part of their planning • Must be part of the land owner's as well as the investor's planning

Table 9 – Identification of the barriers, guidance to overcome the barriers and definition of the conditions of applicability for the measure “Enactment of access “time windows” as well as time window restrictions in Montana (a), and “Harmonization at a regional level of the time windows in Emilia -Romagna (b)”.

Measure: Time windows			
Pilot	**Barriers**	**How to overcome the barriers**	**Conditions of applicability**
Montana (a)	• Difficulties in exercising control by traffic police	• Negotiations for assistance from the traffic police	•Decision of local municipal council • Strict control on the implementation of the measure

Measure: Time windows			
Pilot	**Barriers**	**How to overcome the barriers**	**Conditions of applicability**
Emilia-Romagna (b)	• Rules are often the result of years of stratification of different acts and sometimes it is difficult to make them change • The governance of the group can also be a barrier • The final administrative power remains with Municipalities thus the Region does not exercise a ruling power on cities final decisions on regulations • It is necessary to install the needed signage where time windows and access restrictions have changed as a result of the harmonization. This is not a real barrier as it needs a minor investment	• The elements set out under "Conditions enabling the measure to be delivered successfully" are the possible solutions • Strong political governance can address the fact that the Region does not exercise a ruling power on cities final decisions on regulations	• Political agreement on harmonized time windows and access permissions / restrictions on a significant territorial scale needs a political coordination and efforts • Strong leadership of the wider territorial scale authority is needed, as local interests often differ and the governance of a group of local authorities is not an easy job • Attitude in the governance that the process does not depend on the statutory powers of the single Municipalities, which remain the rulers on city logistics time windows and permissions • Sound technical analysis to deliver proposals which can be accepted by Municipalities including close relations and technical dialogue with Municipalities to understand these rules and the reasons behind them • Setting out clear results so that each stakeholder does not define expected results which are not feasible • Avoiding over-ambitious goals by

Table 10 – Identification of the barriers, guidance to overcome the barriers and definition of the conditions of applicability for the measure "Fleet Operators Recognition scheme in Newcastle".

Measure Fleet Operator Recognition scheme			
Pilot	**Barriers**	**How to overcome the barriers**	**Conditions of applicability**
Newcastle	• Operator scepticism – "what's in it for us?" • Difficulty in securing widespread take-up • Needs sufficient funding	• Early adopters to encourage participation from others • Use procurement requirements on large contracts to mandate membership • Emphasise benefits for environment, safety etc, to secure support and funding	• Support from Transport for London • Membership promoted through procurement • Local municipalities set example by joining scheme • Funding to provide audits, workshops etc.

Table 11 – Identification of the barriers, guidance to overcome the barriers and definition of the conditions of applicability for the measure "Ad-hoc-routes for commercial traffic in Stuttgart and "Re-routing of private vehicles during loading/unloading periods in Hal Tarxien".

Measure: Ad-hoc-routes for commercial traffic (Stuttgart) and Re-routing of private vehicles during loading/unloading periods (Hal Tarxien)			
Pilot	**Barriers**	**How to overcome the barriers**	**Conditions of applicability**
Stuttgart	• There is a need for a communicator with analytical abilities and knowledge in traffic and transport • That need is more difficult to fulfil than just technical things like data collection or software, because it means to create a new job	• Explanation to municipal assembly	• Specific information must be generated • Specific information must be communicated • Drivers must refer to the information
Hal-Tarxien	• Approval by Transport Malta • Difficulty in re-routing private vehicles to other roads without creating congestion	• Measure not approved by Transport Malta	• Alternative roads for the re-routed vehicles

Table 12 – Identification of the barriers, guidance to overcome the barriers and definition of the conditions of applicability for the measure “Signposting in Leicester”.

Measure: Signposting			
Pilot	**Barriers**	**How to overcome the barriers**	**Conditions of applicability**
Leicester	• Falling priority – Connecting Leicester has taken priority • Small estate – not seen as a major problem • Expenditure outweighs the benefit	• Reminding Mayor that it is a priority measure as it is in the LTP	• Finance • Authorisation from the Mayor • Measure identified in the LTP

Table 13 – Identification of the barriers, guidance to overcome the barriers and definition of the conditions of applicability for the measure “UTMC in Newcastle”.

Measure: UTMC centre			
Pilot	**Barriers**	**How to overcome the barriers**	**Conditions of applicability**
Newcastle	• Challenge of co-ordinating a range of different information sources • How to disseminate information to road users • Obtaining funding in times of austerity	• Need detailed planning and sophisticated IT resources • Make use of social media (eg Twitter) and also broadcast information via local radio stations • Underline benefits for traffic movement and local economy to secure funding • Progress incrementally to manage costs – add new functionality as resources permit	• Commitment from relevant stakeholders • Suitable location to host the Centre • Requires advanced IT facilities • Needs significant funding for facilities and IT

Table 14 – Identification of the barriers, guidance to overcome the barriers and definition of the conditions of applicability for the measure “Relocation of packstations in Szczecin”.

Measure: Relocation of packstations			
Pilot	**Barriers**	**How to overcome the barriers**	**Conditions of applicability**
Szczecin	• Getting the approval from the ground operators • The decisions are made by the private operator and depend on the strategic goals of the operator • Lack of political support	• Supports in the negotiations between the packstations operator and city municipality • The surveys and analysis regarding the efficiency of the packstations	• Finance • Acceptance from the packstation operator • Signing the agreements between packstations operator and the ground owners

Table 15 – Identification of the barriers, guidance to overcome the barriers and definition of the conditions of applicability for the measure “City Logistics Manager in all pilots”.

Measure: City Logistics Manager			
Pilot	**Barriers**	**How to overcome the barriers**	**Conditions of applicability**
All pilots	• In an environment of intense austerity, ensuring dedicated funds for the establishment of new personnel within city Administrations holding responsibility for CLM operations only, has proven to be a barrier in most of the pilot cities.	• The solution is to allocate the functions that a CLM should have to someone that has already the responsibility of e.g urban mobility issues	• Definition of functions, roles and training pathways for CLM • Funding for a new position within city Administration or identify the most suited person within city Administration to integrate this functions and roles

Table 16 – Identification of the barriers, guidance to overcome the barriers and definition of the conditions of applicability for the measure "Freight maps in Newcastle, Leicester and Montana".

Measure: Freight maps			
Pilot	**Barriers**	**How to overcome the barriers**	**Conditions of applicability**
Newcastle	• How do we create awareness of the maps so that they are used? • Maps need regular updates • Maps are advisory only not mandatory to follow	• Promotion through meetings, trade bodies and journals • Rolling programme to review and update information where necessary • Work with operators to encourage drivers to follow recommended routes	• Web server required to host the maps • Access to appropriate mapping software • Someone to write the package • Accurate information on routes and key freight destinations • Maps need regular updates
Leicester	• Web restrictions e.g. firewalls • Access to data • Inadequate promotion	• Discussions with web teams from the beginning • Trials with freight operators • Identifying teams with access to data	• Web server required to host application • Free data/access to survey data, google maps • Access to appropriate software • Accurate information on stops, routes
Montana	• Providing funds for periodically producing maps	• Incorporating the costs in the municipal budget each year	• Depth analysis of freight vehicles and routes in Montana • Select the suitable route and directing traffic

Table 17 – Identification of the barriers, guidance to overcome the barriers and definition of the conditions of applicability for the measure “Local Freight Development Plan”.

Measure: Local Freight Development Plan			
Pilot	**Barriers**	**How to overcome the barriers**	**Conditions of applicability**
Szczecin	• The present approach of the municipalities to the UFT problems (municipalities do not feel the responsible for the UFT) • The difficulties to achieve a political consensus • Requires a lot of time to prepare, including additional meetings. • Requires multiple stakeholder in put • Covers public transport, cycling, private transport as well as freight (no single priority for freight) • Lack of the surveys	• The surveys and analysis • Additional meetings and consultations • Subgroup monitoring • Stronger political leadership	• Support from the local government • National requirement • Led by strategic officers • Correlation with the other strategic documents • Sets out key priorities for the future • Has allocated resources • Preparation through committees and subworking groups • Data regarding to the UFT functioning at the city area

Measure: Local Freight Development Plan			
Pilot	**Barriers**	**How to overcome the barriers**	**Conditions of applicability**
Stuttgart	• Needs political consensus. • Requires a lot of time to prepare, including additional meetings	• The additional time is a barrier only in a formal sense. Practically, this does add quality. Thus, it will be best for the final plan to recognize the time frame.	• Inclusion of relevant measures on a broad base • Referring to the competences of a local government • Decision of local municipal council
Hal-Tarxien	• Needs political consensus • Requires a lot of time to prepare • Requires multiple stakeholder in put • Covers public transport, cycling, private transport as well as freight (no single priority for freight)	• Presenting this plan as an alternative strategy for better transport management in Tarxien • Adequate awareness	• Endorsement by Tarxien Local Council and public bodies • Identifying activities and competences of the LFDP without imposing legal and financial obligations
Leicester	• Needs political consensus • Requires a lot of time to prepare • Requires multiple stakeholder in put • Covers public transport, cycling,	• Feedback through consultation • Subgroup monitoring • Strong political leadership	• National requirement • Led by strategic officers • Sets out key priorities for the future • Has allocated resources • Preparation through committees and

Measure: Local Freight Development Plan			
Pilot	**Barriers**	**How to overcome the barriers**	**Conditions of applicability**
	private transport as well as freight (no single priority for freight)		subworking groups • Links to other cross cutting themes • Public document
Montana	• Needs political consensus • Requires a lot of time to prepare • Requires multiple stakeholder input	• Hard work in promoting the measures • Regular meetings and stakeholder awareness	• Adoption of measures applicable to Montana • Political will of the administration

Table 18 – Identification of the barriers, guidance to overcome the barriers and definition of the conditions of applicability for the measure “Freight Quality Partnership”.

Measure: Freight Quality Partnership			
Pilot	**Barriers**	**How to overcome the barriers**	**Conditions of applicability**
Szczecin	• Lack of financial resources • Lack of private sector engagement • Feeding into current policy	• Search for the financial support • Early planning • Cooperation between stakeholders • The proper identify the needs and	• Commitment from relevant stakeholders • Requires some financial support • Strong leadership from the Local authority • Needs regular meetings

Measure: Freight Quality Partnership			
Pilot	**Barriers**	**How to overcome the barriers**	**Conditions of applicability**
	and influencing decisions • Difficulties with the planning according to the requirements of all stakeholders group	resources	
Stuttgart	• No barriers identified	• n/a	• Commitment from relevant stakeholders • Strong leadership from local institutions, including Stuttgart and the Chamber of Commerce • Needs regular meetings • Ability to foster concrete actions of its members
Hal-Tarxien	• Lack of private sector engagement • Finding venues for the FQP meetings • Being heard by senior	• CLM needs to chair the FQP and structure the meetings on the LFDP	• Commitment from relevant stakeholders • Strong leadership from the Local Council • Needs regular meetings • Ability to take concrete actions rather than

Measure: Freight Quality Partnership			
Pilot	**Barriers**	**How to overcome the barriers**	**Conditions of applicability**
	decision makers • Feeding into current policy and influencing decisions		only discussions
Leicester	• Lack of financial resources • Lack of private sector engagement • Finding venues for the FQP meetings • Being heard by senior decision makers • Feeding into current policy and influencing decisions	• Identify resources e.g. projects • Meet and invite private sector groups individually • Get the Council to lead and provide venues • Get a senior officer to chair	• Commitment from relevant stakeholders • Requires some financial support • Strong leadership from the Local authority • Needs regular meetings • Ability to take concrete actions rather than only discussions
Montana	• Lack of interest from freight operators	• Organizing meetings and discussions with freight operators so that their needs are identified and addressed	• Commitment from relevant stakeholders • Strong leadership from the Local authority • Needs regular meetings • Ability to take concrete actions

2.5 Pilot sites analysis: Implementation requirements and potential impacts

The implementation requirements and the impacts achieved with the measures implementation are detailed in D6.3 and D6.4. The impact indicators and targets specified at the inception of the project are:

- 10% decrease of CO. CO2, NOx and PM10 emissions generated by freight vehicles in the pilot cities,
- 20% decrease of average daily number of freight vehicles entering the pilot cities,
- Reduction of on average 10,000 kilometres per month travelled by freight vehicles in each pilot city,
- 8% decrease of operating costs for freight carriers active within the pilot urban areas.

The following tables summarise the results from the evaluation and monitoring activities from work package 6. The implementation requirements are classified as low, low/medium, medium, medium/high, high according the implementation requirements in terms of:

- Political/administrative
- Financial
- Technical
- Institutional
- Time

In some cases (not all) the proposed measures also needed official approval from supra-local authorities. For example in Hal Tarxien all measures related to the use of public streets (including parking space on the side of the street) needed permission from the respective national authority (Transport Malta). Such regulatory processes turned out to be even more unpredictable and more serious in their consequences than the local level political/administrative processes discussed above. This was due to the fact that bureaucratic regulatory approval processes were less flexible and more remote to the 'implementation level' of the measures, i.e. they could not be influenced as much as the more flexible local decision-making processes.

The implementation processes of the described C-LIEGE measures were of course very heterogeneous, owing to the different nature of the measures, which ranged from e.g. installing signs for an industrial estate to setting up a freight quality partnership. It is therefore difficult to identify typical features and patterns across all measures.

Two different types of measures can be distinguished in regard to technical aspects. On the one hand there are measures that were not very complex to implement from a technical point of view. For example, installing street signs or relocating a packstation is not difficult to do. Thus the technical implementation as such did not require much time. On the other hand some measures' technical implementation was indeed very complex, e.g. developing an online freight map, designing and building a lorry petrol station or installing an intelligent traffic guidance system. Naturally the implementation of this type of measures took longer (sometimes was already started in the run-up to the pilot phase) and was also more prone to difficulties and thus delays – both due to 'endogenous' technical challenges and external influences on the implementation.

In regard to institutional implementation one needs to consider on the one hand those measures that are purely institutional in nature and those that are not primarily institutional but whose implementation nevertheless had some institutional aspects.

The first category comprises primarily C-LIEGE's so called horizontal measures like the developing freight quality partnerships, local freight development plans and creating the position of city logistics managers. In these cases the whole discussion and planning process and the institutional implementation as such are highly intertwined. In a strict sense the implementation finally consisted of a final decision to e.g. form a partnership or the signing of a document that officially instituted the partnership.

All processes that follow on from there are an on-going implementation of this institution, e.g. setting up rules of operation, appointing officers, having regular meetings, developing, discussing and agreeing long-term plans etc. Thus, unlike more technical measures, for purely institutional measures the implementation does not really stop at a certain point; it is a continuous and dynamic process. But even more technical measures as described in the preceding section often include institutional aspects. For example, for the electric vehicles measure the most crucial aspects of the implementation were in essence institutional:

creating a viable business model for the service, negotiating with a potential service provider, enlisting potential customers of the service etc. With varying degrees this applies to almost every measure, for even the implementation of 'purely technical' measures like relocation of packstations or creating loading bays require institutional supporting actions, like - to take up one of the above examples - getting permission or signing agreements with landlords for setting up the packstations in the new locations.

The table with the impacts sinthesise the qualitative classification of the impacts towards the:

- Freight traffic
- Environmental
- Operating costs

Measures are quite different in what their impact is concerned, meaning that we have measures with a low impact like the use of electric vehicles on one hand, and on the other hand we have measures with high impact, as the measures related to the low emission zones.

Urban freight transport measure	Implementation requirements: Political/ administrative	Financial	Technical	Institutional	Time
Loading/Unloading bays	m	l	l	l	l
Access fees incl. time windows	m/h	l	l	m	m
Relocation of pack stations	l	l	l	m	l
Regional harmonization of UFT regulations	h	l	m/h	h	m/h
Low emission zone (combined with lorry lanes)	h	m/h	m	m/h	m/h
Signage to industrial estates	l	l	l	l	l
Freight map (online and/or on smart phone)	l	m/h	m/h	l/m	m
Re-routing of freight traffic	h	l	l/m	m	m
Traffic announcements & routing recommendations	l	h	h	m/h	m/h
Intelligent Traffic System for bridge traffic	l	h	h	m	m
Optimal location of lorry petrol station	m/h	l	l	m	m
Sharing of electric vehicles	m	m/h	m	m	m
Fleet Operator Recognition Scheme	m/h	m/h	l	m/h	m/h
Promotion campaigns	l/m	l/m	l	m	m
City Logistics Manager	m/h	m	m	m/h	h
Freight Quality Partnership	m/h	m	m	m/h	h
Local Freight Development Plan	h	m	m/h	m/h	m/h

l	low
l/m	low/medium
m	medium
m/h	medium/high
h	high

Table 19 – Implementation requirements of the pilot sites measures

Table 20 – Potential impacts of the pilot sites measures

Urban freight transport measure	Potential impacts: Freight traffic	Environmental	Operating costs	Impacted area
Loading/Unloading bays	m	l/m	l	L
Access fees incl. time windows	m	h	m	L
Relocation of pack stations	l/m	l/m	l/m	L
Regional harmonization of UFT regulations	m	m	l/m	L/C/R
Low emission zone (combined with lorry lanes)	h	h	h	C
Signage to industrial estates	l/m	l	l	L
Freight map (online and/or on smart phone)	m/h	m/h	m	C
Re-routing of freight traffic	m	l	l	L
Traffic announcements & routing recommendations	m/h	m/h	m	C/R
Intelligent Traffic System for bridge traffic	m	m	l/m	L
Optimal location of lorry petrol station	h	h	h	L
Sharing of electric vehicles	l	l	l	L/C
Fleet Operator Recognition Scheme	l/m	l/m	l/m	C/R
Promotion campaigns for sustainable urban freight transport (incl. eco-driving)	l/m	l/m	l	C/R
City Logistics Manager	m	m	m	C/R
Freight Quality Partnership	m/h	m/h	m	C/R
Local Freight Development Plan				C/R

R	Regional
C	City
L	Local

high
med-high
medium
low-med
low

3. TRANSFERABILITY PLAN FOR LOCAL GOVERNMENT ON ENERGY SAVING AND SUSTAINABLE DEMAND MANAGEMENT IN URBAN FREIGHT TRANSPORT SECTOR: HOW TO EVALUATE YOUR CITY, SELECT AND TRANSFER A GOOD PRACTICE?

Conducting the meetings and guiding all stakeholders through a step by step approach in order to evaluate an urban area in terms of urban freight policy and solutions, a city should gather a specific amount of information that will enable the understanding of the city context through a "screening" process. This consists in the first four steps of the transferability methodology. The remaining six steps correspond to the transferability process itself.

The transferability assessment and evaluation allows verifying the chances for undertaking both quantitative and qualitative analysis, by means of a dedicated step-by-step methodology. Moreover, the transferability process also focus on how a required policy instrument for supporting an urban logistic initiative can fit in the context of a receptor city.

This section describes what you should do and how you should do it, in terms of key issues to be analysed, barriers and enablers and information that should be gathered.

How to evaluate your city in terms of urban logistics and identify similar cases: Step#1 to Step#4

The steps 1 to 4 consist in the screening process of the city in terms of problems, characteristics, existing policies and strategies towards urban logistics. Only after this assessment a city is able to select and transfer measures that do contribute to solve the existing problems, is in line with the city/region strategy and fits the city characteristics, avoiding transferring measures that worked successfully in a specific context but are not adequate to all situations. It is made clear that when transferring a measure one should understand and carefully analyse the conditions of applicability, as a pre condition that the city needs to guarantee if they want a successful implementation of a transferred measure. The conditions of applicability can act as a guiding plan to reach similar positive impacts with the measure implementation.

3.1 STEP #1 – Diagnostic of the problems

The first step for the city that will replicate (copy-adapt) a measure is to develop a structured analysis of their own situation and assess the need to take actions, which is normally identified through the deviation from objectives. For this, there is the need of identifying the city objectives, without which the ability to undertake an effective improvement process will be lost. The city also needs to have a clear definition of its strategic orientations, it will be possible to frame and identify specific key areas contributing to or against attaining those objectives.

At this stage, the city has identified the problems that it is facing and the strategy that is pursuing, so it is ready to engage in a source/target city analysis in view of transferring and adapting practices successfully adopted elsewhere by local authorities with similar problems.

Information that a city should provide to perform this task:

STEP 1 - DIAGNOSTIC OF THE PROBLEMS

- Identify the **major urban problems** and obstacles that city X has faced, and/or is currently facing, which have impacts on the freight system.
- Identify the **major freight problems** and obstacles that city X has faced and/or is currently facing
- Indicate the relevance of the problem facing the impact in the freight efficiency


List of urban problems	Relevance (+ low, ++ medium, +++ large)
• Congestion	++
• High levels of emissions	+++
• Etc.	+
List of freight problems	**Relevance (+ low, ++ medium, +++ large)**
• Lack of loading and unloadirg places	++
• High number of heavy vehicles circulating in the city centre	+++
• Etc.	+

The problems mentioned above, correspond to the most frequent ones in terms of urban problems and freight related problems. The relevance of the problems is just to have a way to prioritize the needs so that we can select the measures that solve the most relevant problems, as funding is usually limited.

3.2 STEP #2 – Characterisation of the city

The second step consists in the identification of the characteristics of the city environment and urban structure, as understanding the local conditions so that we can select measures which conditions of applicability fit our city environment and urban structure.

Bearing this in mind we should characterize the city in terms of the geographic, structural, demographic, architectural, cultural levels.

This should allow a first screening of the setting in which the city operates, helping to frame the range of problems within specific urban contexts. It will be important later to check whether candidate measures that were successful elsewhere in mitigating similar problems did share similar contexts.

Given the overall objective to transfer conclusions from the demonstration cities to other European cities, the variables chosen to make this characterisation are expected to fit within a set of common parameters. One must focus on this point in order to identify and discuss those variables. Two major variables can be identified as a first step:

- Physical variables and
- Institutional variables.

Background literature review allows identification of some further preliminary conditions to pre-ensure comparability and subsequent transferability, namely the identification of demographic, geographic and transport system-related factors. This means the definition of the physical and socio-economic context of an urban area such as population density, area of city, number of households, number of cars, length of major road network, average income, and influence over surrounding areas. Besides this information it might be relevant to analyse how technologically developed the city is and information about the (business) culture.

Information that a city should provide to perform this task:

STEP 2 - CHARACTERISATION OF THE CITY

Describe the city characteristics in terms of urban transport and logistics conditions:

- logistic accessibility (e.g. levels of congestion of the area, existence of delivery bays, etc);
- restrictions of hourly and weekly periods of delivery (e.g. restrictions to freight vehicles or load/unload operations, etc);
- urban sprawl;
- road users (e.g. types of users, number of vehicles, etc);
- transport infrastructure (e.g for which modes of transport is there transport infrastructure; available, conditions of the infrastructure, modal split, etc);

3.3 STEP #3 – Analysis of the city context and implications of problems identified

Based on the previous, it will be necessary to set up a city profile based on a set of variables describing the main characteristics of specific context and the results of the diagnostic steps. This will be a key step in the clustering approach, with other "source contexts" sharing similar conditions. This will be a preliminary step before looking for similar situations within the selected cluster, allowing case-by-case city comparisons. At this stage, the city context is clear, based on the characterization previously done. The obstacles or problems that play a role in challenging achieving the strategic goals set were already identified. By themselves, these two initial steps set the foundations of the transferability process.

Information that a city should provide to perform this task:

STEP 3 – ANALYSIS OF THE CITY CONTEXT AND IMPLICATIONS OF PROBLEMS IDENTIFIED

Set up a city profile based on a set of variables describing the main characteristics of specific context and the results of the diagnostic steps:

- Identify the current issues that must be given more focus and the major areas of intervention that may help to sort out problems and promote convergence towards the objectives
- Make a quantification of the real impact of the problems and rank the problems to set priorities

3.4 STEP #4 – Look around for similar context

After the screening of the city in terms of characteristics, objectives, strategies, urban and freight related problems and due implications of the problems the city is in the position to look around for similar contexts and compare situations.

Seeking out similar cases will therefore imply identifying cases with similar city context and characteristics, similar problems and similar strategic objectives.

To reach those "conditions of comparability" there is the need to gather specific data to clarify whether application conditions are met, including the collection of specific elements such as indicators expressing the physical (geographical) structure, elements in relation to

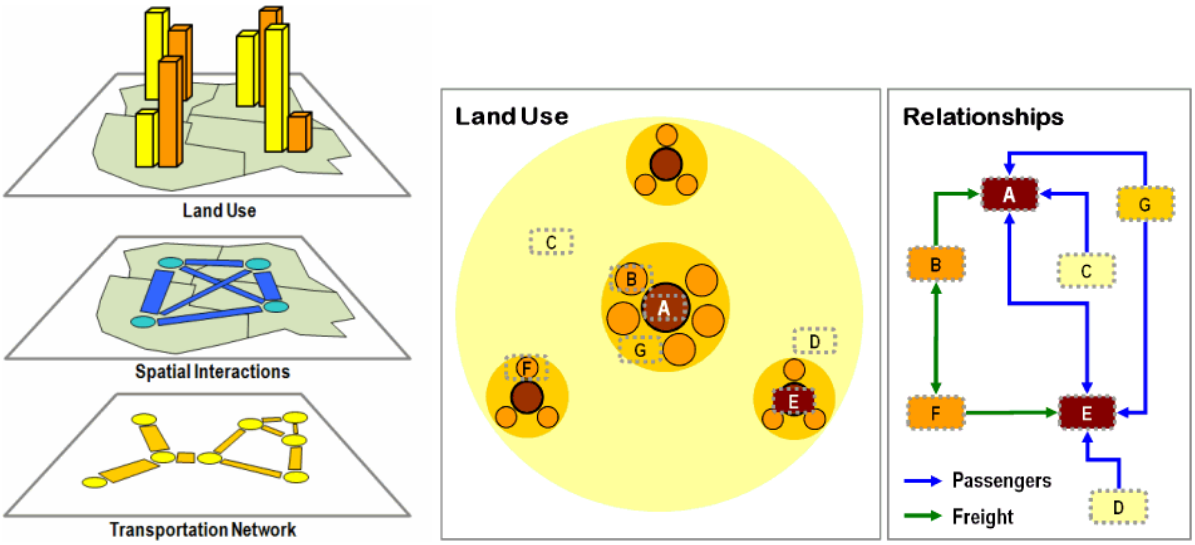
transport usage, demographic elements, social and economic background, technological advancement, institutional background of a city. The EC research project SESAME 194 (1999) has adopted a database used to survey a sample of 40 European cities.

The data gathered relates to the following domains: ‘‘land-use’’, ‘‘socio-economy’’, ‘‘transport supply’’, ‘‘travel demand’’, ‘‘impact indicators’’, ‘‘local policy’’ and ‘‘cultural indicators’’.

Information that a city should provide to perform this task:

STEP 4 – LOOK AROUND FOR SIMILAR CONTEXTS

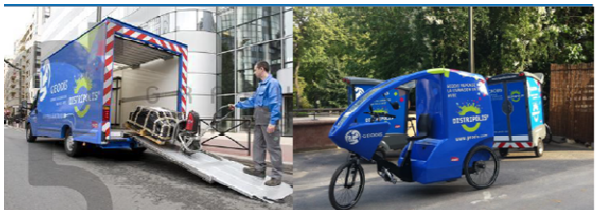
Classify the city with elements (or indicators if it exists) expressing the physical (geographical) structure, elements in relation to transport usage, demographic elements, social and economic background, technological advancement, institutional background of the city. E.g.
a)land-use;
b)socio-economy;
c)transport supply;
d)travel demand;
e)impact irdicators;
f) local policy; and
g)cultural indicators.



Source: Jean-Paul Rodrigue, 1998-2013

How to select and transfer a good practice to the city: Step#5 to Step#10

The steps 5 to 10 consist in the process of selecting good practices and assessing the potential of transferability to the target city. This chapter describes in what those 6 steps consist, the processes that should be followed and the information that should be gathered and analysed to perform this task.



Battery-electric vehicles for last-mile deliveries (Paris, France)

Electric van and tricycle (London, United Kingdom)

Source: BESTFACT (FP7 EU project)

3.5 STEP #5 – Selecting Examples of Source Urban Contexts

Having selected similar contexts as a starting point for transferability, in this the stage it becomes possible to focus on the practices adopted in those contexts, based on the likelihood that the rationale adopted in sorting out problems is to some extent adaptable. A definition on what is considered as a successful implementation of a measure or a package of measures is required, in order to qualify it as a candidate initiative to be transferred elsewhere. The definition of success will naturally depend on the objectives set. Even when objective elements for decision indicate that feasibility is positive, there is still place to further examine whether the operational environment is favourable to the implementation of a given measure. This requires a number of qualitative analyses, which should include the transportation system, to check the viability of the proposed measure in the given setting. Some of the most important indicators, needed to obtain basic insight in the functioning of urban systems are the ‘‘core indicators’’.

Information that a city should provide to perform this task:

STEP 5 – SELECTING EXAMPLES OF SOURCE URBAN CONTEXTS

- Select similar contexts
- Identify urban logistics related practices adopted in those contexts
- Identify the selected cities and the reasons of this selection, identifying the similar factors.

Selected cities	Reasons for the selection
.	E.g. Similar problems, similar urban characteristics, similar strategic objectives, etc
.	.
.	.
.	.

3.6 STEP #6 – Identify Measures with potential for transfer

After selecting examples of similar contexts in "source" cities, the city should look for those pre-selected source urban contexts and identify the measures that have been applied to solve certain problems and/or to accomplish certain objectives.

Even if a measure is proven to be applicable in a given setting (environment), it is not guaranteed that transferability will be successful, unless further operational viability analysis returns positive.

Is the operational viability a sufficient condition for transferability or it is required further evaluation of the measure in terms of its cost effectiveness in the new setting (environment) where it is supposed to be transferred?

Finally, is it sufficient to identify a measure as cost-effective for the new setting (environment) where it is supposed to be transferred, or the community acceptance of the measure should also be considered, before the measure is actually transferred?

The answers to the questions provide the framework for characterizing a candidate measure or package of measures as transferable between similar settings (environments).

The measures should be classified with their potential to be transferred and their conditions of applicability should be highlighted.

Information that a city should provide to perform this task:

STEP 6 - IDENTIFY MEASURES WITH POTENTIAL FOR TRANSFER

- Classify all measures with the potential to be transferred, using the aspects:
  - physical,
  - organizational, and
  - functional
- Identify the conditions of applicability for the measures

The boxes below could be used as a way to systematize the group cities with similar urban contexts, and all measures of each selected city in STEP 5. So, all measures should be classified with the potential to be transferred, using the aspects: physical, organizational, and functional. Select and identify which have reached success "thresholds". Also specific remarks on crucial conditions of applicability should be identified.

Measure	Potential to transfer 0 (not indicated) + (low) ++ (medium) +++ (high)	Reasons for the assessment
.	.	.
.	.	.
.	.	.

Original Measure	General description	Conditions of applicability
.	.	.
.	.	.
.	.	.

3.7 STEP #7 – Packaging and dimensioning the measures for transferring

The analysis of transferability should consider not only individual measures but also the relationships between measures that may enhance their impact. The effect of combining measures enhancing the individual success of each measure represents one of the major challenges when defining optimum packaging. The suggested procedure is to assess the most promising relationships in order to set up the packages of measures. This should account not only for operational aspects but also for policy and acceptability related issues.

However, the success of transferring a given measure or package of measures, will also depend on the dimension of the implementation. Which scale will best fit the target city in relation to the origin city will depend on the nature of the measure itself. Therefore, it will be important to recognise that there are groups of measures that may be more affected by scaling than others, before even entering such analysis, which may otherwise be worthless or at least non-critical.

This step involves the creation of a package of measures that contribute to solve the problems and/or the achievement of an objective. It was already demonstrated in previous EC projects that stand-alone measures are not as effective as a package of measures which help support each other, in particular helping to overcome barriers associated with any specific measure in the package. It should be assessed which complementary measures should also be applied so that on one hand we provide incentive and on the other hand we deter practices we wish to discourage.

Information that a city should provide to perform this task:

STEP 7 – PACKAGING AND DIMENSIONING THE MEASURES FOR TRANSFERRING	•Select the main measure(s) and compose a package of measures that contribute to solve the problem, identifying the areas of implementation for each measure e.g. spelfic area, city scale, regional scale

To compose the packages, select the principal(s) measure(s) from the list created at STEP 6 and compose the package with a group of measures from the same list and also with other measures that can be logistic measures or complementary measures.

3.8 STEP #8 – Ex-ante assessment of measures to transfer

Target cities need to have identified the goals that the selected measures are expected to meet. These should be set out with considerable coherence, the main objective being to develop an ex-ante evaluation plan that will permit an assessment of the extent to which the implemented measures achieve the high level objectives. The following issues should therefore be pre-assessed:

•Relevance: to what extent is the adoption of selected measures relevant in relation to the evolving needs and priorities at the local/National/EU level?

•Efficiency: how were the resources (inputs) turned into outputs or results?

•Effectiveness: how far has the transferability process contributed in achieving its specific and global objectives?

•Utility: will the process have an impact on the target groups or populations in relation to their needs?

•Sustainability: to what extent can the changes (or benefits) be expected to last after the measures have been completed?

The basic principle of ex-ante evaluation is to compare two future situations:

•What would happen, at a future target year to be defined, if the measure is not implemented?

•What is expected to happen at that time if they are implemented?

This step could be carried out by organising a workshop with stakeholders from the receiver city to discuss the potential of transferability, success factors and barriers of the measures identified in the package(s) of STEP 7. If it's not possible to organize a workshop, interviews should be carried out with responsible policy-makers and/or logistic experts in the city.

The objective of the workshop (or interview) is to gain sufficient information so as to be able to fill boxes with an assessment of measures, including the identification of barriers and factors of success, using the typology financial, physical, technological, political, legal, security, cultural that will be explained in the barriers chapter

.

Information that a city should provide to perform this task:

STEP 8 – EX-ANTE ASSESSMENT OF MEASURES TO TRANSFER

- Target cities need to have identified the goals that the selected measures are expected to meet.
- Do an ex-ante evaluation plan to assess if the measures achieve the objectives
- Identify the success factors and barriers of the measures

Package of measures	Measures	Relevance	Efficiency	Effectiveness	Utility	Sustainability	Global evaluation
A	Measure 1	++	-	0	+++	+++	++
	Measure 2	.	.	.	.	.	.
	Measure 3	.	.	.	.	.	.
	.	.	.	.	.	.	.

Graduation:

— high negative

– medium negative

- low negative

0 neutral or non available

+ low positive

++ medium positive

+++ high positive

Package of measures	Measures	Barriers	Adaptation	New measures
A	Measure 1 Measure 2 Measure 3	*Fill the barriers for each measure (if identified), considering the typology:* • *Financial* • *Physical* • *Technological* • *Political* • *Legal* • *Security* • *Cultural*	*Fill suggestions of adaptation in order to remove, or at least lessen the importance of, those aspects of the measure that are undermined by barriers*	*Measures which counteract the barrier concerned.* *Measure with popular amongst to compensate measures that has negative impacts on a section of the population (involving a political barrier).*
.	.			
.	.	.	.	.

3.9 STEP #9 – Identify the need for adjustment

In order to assess whether adjustments are needed, it is desirable to review the conditions for transferability. To this end, published data sources, networks, co-operative projects, skills exchanges, and various NGOs can provide additional valuable inputs. As transferability will depend to some extent on compatibility of institutional context, there may be a need to transplant a policy with part of its institutional context, i.e. transfer not only a measure but some of the relationships between institutions and territories may have to be replicated as well.

Information that a city should provide to perform this task:

STEP 9 – IDENTIFY THE NEED FOR ADJUSTMENT

•Review the conditions for transferability to identify the need for adjustments

•Check compatibility of institutional context, there may be a need to transplant a policy with part of its institutional context.

3.10 STEP #10 – Implement measures and Steer results

A minimum amount of information is necessary to allow proper monitoring of the implementation strategy. Global objectives and specific targets should be stated and quantified along with any expected results . A detailed description of measures together with a quantification of the associated operational objectives should be contained in the programme drawn up at city level. Establishing operational monitoring arrangements covers the following areas:

1. The definition of the data to be collected in order to provide the necessary information on outputs, results, impacts, and corresponding indicators.

2. The methods used to quantify the data or estimates generated by e.g. surveys must be specified (sample, panel data, databases, monitoring mechanisms, etc.) as well as authorities or bodies responsible for their collection.

3. The definition of data to be provided to the monitoring activities and the frequency and timing of their transmission.

4. The definition of operational links with the evaluation activities (ex-ante, mid-term, and ex post).

5. The definition of programme-specific indicators for use to allocate the performance at mid-term, if possible.

The preparatory work for setting up a monitoring system must also serve to detect the gaps that the information systems contain. This may require relying on technical assistance and outside experts to fill gaps and deficiencies, improve the general implementation conditions, and make monitoring more effective.

Information that a city should provide to perform this task:

STEP 10 – IMPLEMENT MEASURES AND STEER RESULTS

- Implement the measure
- Set up a periodic monitoring system, that also helps to detect the gaps that the information systems contain.

4. GENERAL REMARKS

Whilst all places are unique, there are clearly a number of common issues and challenges affecting urban goods transport throughout Europe. This means that the experience gained through C-LIEGE can benefit a wide range of municipalities in old and new member states.

Goods transport and delivery are fundamental elements of a modern economy. In the 'global village', even the smallest town is increasingly dependent on regional, national and international business networks.

In many cases there are tensions between meeting economic demand and the impacts on local traffic movement and the environment. Businesses are increasingly dependent on 'just in time' deliveries and congestion and traffic delays can have significant economic impacts.

These problems are exacerbated in historic towns and cities with narrow streets and pedestrian zones laid out in an era when deliveries were made by horse and cart, not modern HGVs. Moreover, freight traffic does not exist in isolation and must share for road and parking space with buses, taxis, private cars, cyclists and pedestrians. Whilst there are many efforts to promote rail and waterborne freight, road freight continues to dominate and efforts at freight consolidation have had mixed success.

Moreover, there is a growing trend towards use of Light Goods Vehicles rather than Heavy Goods Vehicles. London, for example, has seen a large rise in use of the former and a corresponding fall in the latter. Whilst LGVs take up less road space than HGVs, the numerous small or single-person businesses who operate these vehicles are often not part of trade or industry bodies and it can be quite difficult to identify and communicate with them, compared to traditional large operators.

The European Commission is well aware of these issues and their Action Plan on Urban Mobility aims at accelerating the take-up of sustainable urban mobility planning in Europe. In 2010, the Council of the European Union stated that they: "support the development of Sustainable Urban Mobility Plans for cities and metropolitan areas [...] and encourage the development of incentives, such as expert assistance and information exchange, for the creation of such plans". There are already several good practices being applied in the field of

urban logistics to solve these challenges affecting urban goods transport throughout Europe and within C-LIEGE have tested and transferred experiences of successful soft measures and tools in the area of urban freight transport that will reduce urban freight traffic and pollutant emissions, generating related energy savings. WP7 activities have shown that it is more relevant to develop a methodological process for transferability than trying to find a universal solution for transferability based on quantitative analysis.

One of the biggest mistake that has been done in the past years is to do measure(s) “copy paste” without a proper analysis of the context in both origin and destination city. This has led to some failure experiences which apparently have been a success in the origin context. The transferability methodology intends to solve that problem and facilitate the transferability of the most suited measures for a certain context with a certain problem.

The typology of barriers identified can be, as already highlighted, as a checklist when considering the possibility of transferring any 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.

Main barriers in urban freight transport soft measures implementation: What is the problem?

One of the principal barriers is a political barrier, as urban logistics is not integrated in the policy agenda of different levels of governments. In general, one factor that is a negative aspect for the implementation of policies is the lack of information and awareness. Many assertions and contestations are made on the basis of "I guess that…". For example, freight

distribution measures should be combined with urban mobility measures and the lack of that combination is still a barrier that leads to failure cases.

Political and financial barriers are probably the most important barriers to remove in urban logistics measures, as the lack of political will put in jeopardise the implementation of a measure or package of measures. Several experiences in urban logistics have been funded by European funds and when the fund is over, most of the cities and/or private parties don't have the money to invest in those solutions.

The combination of a policy–mix, restrictive and incentive-based measures, requires less public financial commitment and achieves a greater acceptance by the stakeholders involved. A common barrier found is the adoption of only restrictive or incentive based measures instead of the combination of push and pull measures.

As described in Output 7.1, although feedback received is often specific to the particular pilot measure, three common themes do emerge, which represent barriers to the introduction of either 'vertical' or 'horizontal' measures, namely: a) Financing, b) Political support and c) Involvement and cooperation of stakeholders.

These three barriers are interlinked. In any case, without political support, it will be difficult to secure finance. Without finance, operators and other stakeholders may see little purpose in giving up their time to become involved.

Factors of selection of the measures to apply the transferability process

The following three selection criteria should be considered to ensure that the city selects the most adequate measure(s) to its individual context:

a) similar problems;

b) similar city area features; and

c) similar objectives/targets.

Only the combination of the above three critical aspects indicates that cities are looking at measures with high transferability potential, as the non-compliance of one of them would compromise the success of transfer. The latter is one of the reasons for failures when transferring measures that a) don't solve the cities problems because they were not correctly

identified; b) don't work in the destination city as the city area's features are not the same and c) the local and regional authorities don't have the same objectives and targets and therefore the measure does not contribute to their achievement. This is the reason why following this step by step approach "forces" the city and relevant key stakeholders to think in advance on all of these issues and understand how similar cases have successfully solved their problems.

Conditions of applicability

Another critical issue that has been considered by C-LIEGE is the necessity to define the conditions of applicability for each measure and to examine whether the destination city has those conditions. If the city doesn't have a way to ensure that it will abide to those conditions, the replication of that measure will most probably be a failure. To avoid the replication of such cases, the type of barriers that have come up and/or might appear with regard to a certain measure have been identified, together with the way that the pilot city has solved in most cases those barriers/difficulties encountered. This process helped to define the conditions of applicability of each measure considering the context within which they have been applied.

Even the political support does not guarantee the availability of funding. Local authorities in many parts of Europe are facing intense financial pressures resulting in the need to cut spending on a range of services. It cannot be expected that urban freight will be exempt from this process. Moreover, despite its economic importance, urban freight may not be regarded by local residents as a high priority for investment, compared, for example, to public transport, schools or old people's care.

In general, organising meetings and discussions with freight operators, service providers, residents, retailers and local authorities is a good solution to overcome the barrier related to the lack of involvement and cooperation of stakeholders, as they can express their problems and needs and also feel part of the solution. If these meetings are hosted by the local authority, there is a bigger commitment that will also work the other way around, meaning that the local authority becomes aware of urban freight stakeholders problems and gets more committed to finding a solution and secure funding.

A good solution to obtain funding is to incorporate the costs in the municipal budget every year. Nevertheless, political support is required to achieve the latter.

In addition to the above, having Freight Quality Partnerships with private and public stakeholders and having someone (within the local authority) in charge of urban freight related issues i.e the City Logistics Manager, works as sound base to start engaging people, understand the problems and needs, get committed to finding solutions to the identified problems and take actions towards an energy efficient urban freight transport demand management and planning.

Finally, the conditions of applicability of each measure are the minimal key issues that must be guaranteed when transferring measures, otherwise that might lead to an implementation failure or fewer impacts than expected could be reached.

Lessons learned: General challenges, failures and lessons learned

A wide variety of proposals to encourage energy-efficient urban freight transport have been planned and put in place across our C-LIEGE pilot sites. The range of measures under way and the varying sizes and characteristics of the pilot sites contribute to the transferability objective of the C-LIEGE framework. The main lesson learnt during the delivery phase of the pilots implementation and roll out (WP5) is that the process of securing political approval and budget allocations takes time, and these processes are often not coterminous with C-LIEGE timescales.

In a few cases, measures have had to be re-aligned or substituted, due to political or implementation difficulties with the original measure. This was to be expected as not every putative measure proves to be viable in terms of actual delivery. The fact that, in all cases, alternative measures have been identified demonstrates that the C-LIEGE pilot sites are “living laboratories” of innovation and suggests that they will continue to bring forward dynamic ideas to improve urban freight movement beyond the lifetime of the project.

Another challenge was the difficulty in establishing new City Logistics Manager posts at a time of fiscal austerity and job-shedding in many municipal authorities. This has been

overcome by a pragmatic approach of identifying those managers who are presently performing the CLM role and more clearly delineating their status as CLMs.

Finally, it is encouraging that pilot sites have already given consideration to the long-term status of implemented measures post C-LIEGE and appear confident of their continuation – this is particularly important in the case of Freight Quality Partnerships which require continuity of funding and municipal engagement to take forward coherent long-term strategies for UFT.

Barriers related to City Logistic Manager

In an environment of intense austerity, ensuring dedicated funds for the establishment of new personnel within city Administrations holding responsibility for CLM operations only, has proven to be a barrier in most of the pilot cities. The solution is to allocate the functions that a CLM should have to someone that has already the responsibility of e.g urban mobility issues.

Barriers related to Freight Quality Partnership

One of the key measures implemented within the context of the C-LIEGE project was the set up and establishment of Freight Quality Partnerships (FQP) in the project's pilot sites of Montana, Emilia-Romagna, Hal Tarxien, Szczecin, and Stuttgart, as well as the re-activation of the FQP in Leicester. These actions were supported by the project partner Newcastle City Council (NCC), a leading member of the successfully operating "Tyne and Wear Freight Partnership", in terms of providing training and assistance to the newly-formed FQPs.

The assessment essentially highlights the importance of having a local authority participating (or in most cases leading) in both the establishment and operation of a partnership. In the majority of the pilot sites, the setting up of an FQP would not have been possible without the coordinating role played by the local administration. The difficulty in engaging freight and logistics operators in the initial set-up phase, as well as in securing funding are identified as the key barriers against the establishment of all newly-formed FQPs.

Newcastle and Leicester, as the only long operating partnerships provided their views on the greatest challenges faced in the operation of their FQP, their successes and failures, as well

as insight into lessons learned. The most common challenges faced are primarily related to attracting and obtaining the commitment of private sector companies and operators due to their workload/budgetary pressures, as well as securing funding for the FQP operation and maintenance. An additional challenge is also related to achieving the implementation of the proposed actions, as these are typically within the remit of local/regional administrations.

Finally, the diversity in the membership often imposes the challenge of facing the needs of different organisations, which must be harmonised for a successful outcome.

With regard to failures, both partnerships identified the unsuccessful attempts to recruit any new businesses to take part either in the partnership or attend meetings. In general, all partnerships have highlighted the difficulty in attracting and liaising with the private sector.

Respondents were also asked to provide their views on what factors can contribute to the success of an FQP. These are summarized below:

- Adequate budget to enable the delivery of tangible measures
- Attendees feel that the Partnership is moving forward pro-actively and providing value for participants
- The power of the group e.g. political and financial as well as power to do things
- Marketing
- Regularity of meetings
- Showing action
- Recognition from peers
- Number of members
- Technical analysis in terms of identifying needs

Finally, the most important lesson learned is the need for effective action and for delivering tangible measures, demonstrating, thus, that the Partnership is not just a ‘talking shop’.

Obtaining and maintaining the commitment of its members is also crucial, while the governance of a group of public and private authorities must be based on interaction but also on effective leadership.

C-LIEGE pilot sites are to be congratulated for delivering a range of interesting pilot projects, despite resourcing challenges. Understandably, many of the projects delivered are those which involve less cost to deliver. Pragmatic decisions have been made, such as the designation of existing staff as City Logistics Managers, instead of creating new posts.

The wide selection of measures implemented should ensure that all cities, from the largest to the smallest, can identify those that may be relevant to their local needs and can study the enablers and the barriers to each measure. There are differing levels of cost associated with each measure and many may be scalable – for example, investment in freight mapping could begin with a map covering only the city centre to be followed by further maps of industrial estates, retail parks etc, as costs allow.

One final important point has been identified in discussion with pilot sites and WP leaders. The timescale to plan, implement and assess the impacts of C-LIEGE pilot measures is extremely tight. The benefits of many initiatives accrue over time and it is unrealistic to expect instant results. For example, a Fleet Recognition scheme, such as that piloted by Newcastle, requires a process of contacting (and re-contacting) operators, securing scheme registrations, carrying out audits and holding workshops. Only once a critical mass of operators have been enrolled on the scheme for a reasonable period of time can one expect to see demonstrable impacts. Transport for London's Fleet Recognition scheme has produced some impressive results (for example, an average 6% improvement in miles per gallon) but their scheme has been in place for over 5 years and has benefited from substantial investment over that period.

Subject to this caveat, it is hoped that towns and cities throughout Europe find this transferability plan of value and identify measures that can help meet their own local challenges, helping to better balance the economic importance of freight transport with its environmental impacts. Political involvement is the trigger point that begins with the integration of freight organisation in land use planning. Once the main principles are defined, public authorities must determine clearly the objectives to be reached, the general framework (identification of main relevant stakeholders, actors), and the role each one will take in the implementation. This may include high quality problem analysis, data collection, benefits assessment, networking among stakeholders, facilitating exchange of information, and even financial support.