LAMILO
sustainable city logistics

Public Sector Influence on Last Mile Logistics

Action 8. Output 5.

LaMilo – Public Sector Influence on Last Mile Logistics
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LAMILO sustainable city logistics

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Executive Summary

Urban logistics is an integral part of daily life; we want our goods and services to be available to us when they are needed. However, this delivery and servicing activity in cities leads to problems of air pollution, noise, traffic congestion, and road safety. These problems make our cities less economically competitive and less pleasant places to be.

Last mile logistics refers to the last leg of the supply chain. It represents over a quarter of the total cost of delivery. Getting the last mile 'right' will lead to improvements in delivery efficiency, and therefore reduce the environmental, economic and social cost of delivery. The public sector is involved in last mile logistics to help get it 'right'. There are many ways the public sector is involved in addressing the particular challenges associated with last mile logistics, at many levels. Key relevant legislation and policy direction is set at European level, and national governments interpret this and add to it for their own countries. Regional, sub-regional and local authorities have significant roles to play in determining local policies and regulations to influence last mile logistics.

There are many stakeholders in relation to last mile logistics including legislators; policy makers; funders; transporters; logistics operators; end users; road users; residents; citizens; businesses; sector representative bodies (in sectors such as transport, freight, technology, safety, air pollution, quality place-making, businesses, climate change); architects and planners. This report presents analysis and recommendations for three key stakeholder groups: policy makers, end users and logistics operators.

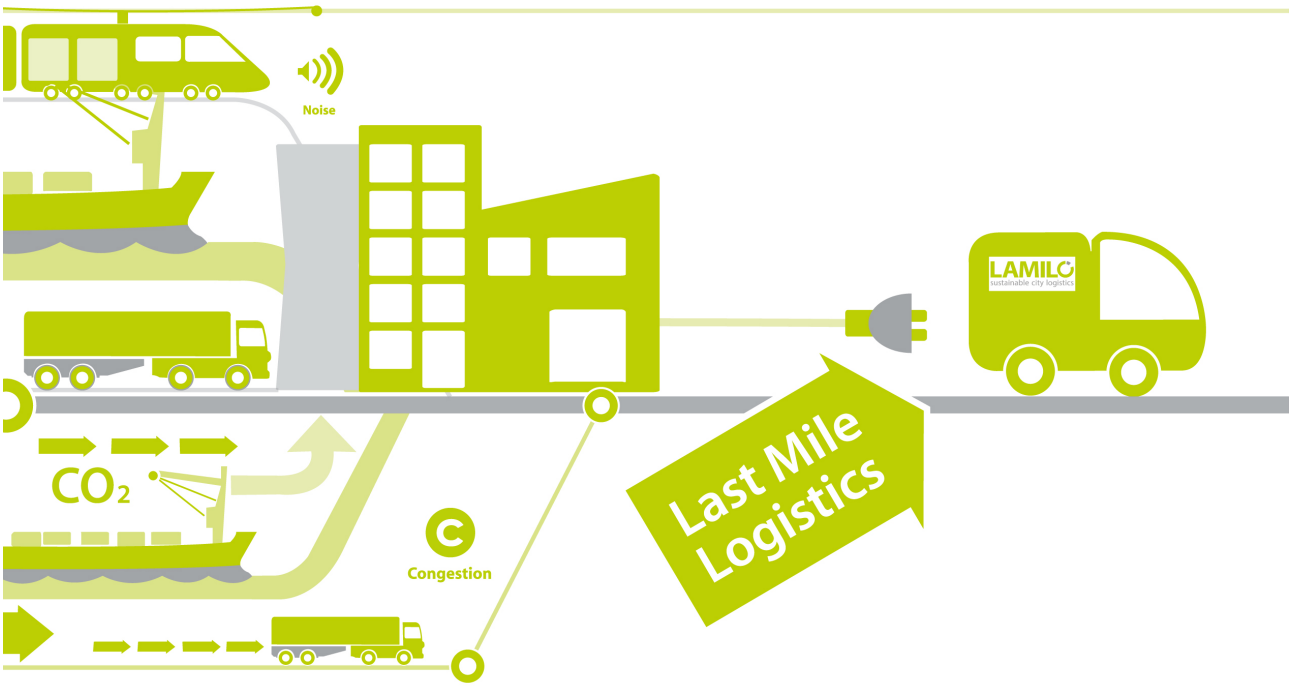
When addressing the challenges of last mile logistics in a city, public authorities commonly use these policy measures:

1. Access, Noise & Time Window Restrictions
2. Accreditation & Safety
3. Cleaner Transport Modes
4. Collaborative & Informed Working Practices
5. Consolidation Solutions
6. Construction Logistics Plans / Delivery Servicing Plans
7. Environmental Zones
8. Freight in Strategies and Plans
9. Harmonisation of Regulations at Regional Level
10. Intelligent Traffic Management Systems
11. Kerbside Access & Loading Restrictions
12. Sustainable Procurement

LaMiLo (last mile logistics) – an INTERREG IVB North West Europe (NWE) project funded by the European Regional Development Fund (ERDF) – aims to create a step change in freight deliveries by fully considering the 'last mile' of a supply chain when planning a freight logistics journey, ensuring a more efficient and integrated logistics approach throughout North West Europe (NWE).

The project brings together experts from all sectors of the freight transport industry to change the behaviour of private companies, the public sector and consumers to make better use of existing transport infrastructure and networks. Four demonstrators have been established with a focus on consolidation

centres, including the London Borough of Camden's successful London Boroughs Consolidation Centre trial used by three local authorities' suppliers of cleaning products and stationary.



Within the LaMiLo project, Cross River Partnership (www.crossriverpartnership.org) has undertaken a detailed piece of research into policy and regulation. CRP has reviewed the types of policies which have an impact on last mile logistics activities. The cost and benefits associated with different policies is explored for each key stakeholder group. In order to improve the future design of local last mile logistics policy measures and their implementation into last mile logistics solutions, Cross River Partnership suggests that the following 10 recommendations should be adopted:

Phasing		Recommendation	Action
THROUGHOUT		1. Provide transparent financial, environmental and social costs and benefits of delivering goods and services to help inform procurement decisions around uptake of last mile logistics solutions.	Policy Maker Logistics Operator End User
		2. Actively engage key stakeholders (end users, logistics operators and policy makers) in the design, development, implementation and review of last mile logistics solutions. Ensure political support.	Policy Maker Logistics Operator End User
		3. Communicate costs and benefits of last mile logistics solutions to all stakeholders, and implement a last mile logistics awareness raising campaign to achieve behaviour change.	Policy Maker Logistics Operator End User
	DESIGN Phase	4. Do not implement last mile logistics solutions in isolation. Seek to implement cleaner transport methods including modal shift, alongside other measures such as sustainable procurement policies, environmental zones and consolidation solutions, to achieve greater environmental benefit.	Policy Maker
		5. Review city access restrictions and other regulations and policies to identify opportunities for change.	Policy Maker
	IMPLEMENTATION Phase	6. Provide clear accessible guidance about the take up of last mile logistics solutions to end users and others to support rapid adoption and high compliance rates, and therefore ensure maximum benefits are achieved.	Policy Maker Logistics Operator
		7. 'Lead the Way': Become a Last Mile Logistics Lead Organisation and initiate last mile solutions. Identify 'Last Mile Logistics Champions' within the organisation to drive forward the solutions, and get others on board.	Policy Maker Logistics Operator End User
		8. Enforce last mile restrictions and policies in order to maximise their benefits, working within existing regulations and developing new regulations to accommodate this if necessary. Maximise the use of technology to support effective enforcement.	Policy Maker
	REVIEW Phase	9. Share data amongst public and private sector stakeholders on the effectiveness of last mile logistics solutions to inform the continued development and implementation of successful policy measures.	Policy Maker Logistics Operator End User
		10. Keep last mile logistics policy measures up to date with an annual review to reflect changes in technology, cleaner modes of transport, the environment, economy and society.	Policy Maker

The following five key next steps should be undertaken by individual cities, in order to implement the Cross River Partnership LaMiLo recommendations:

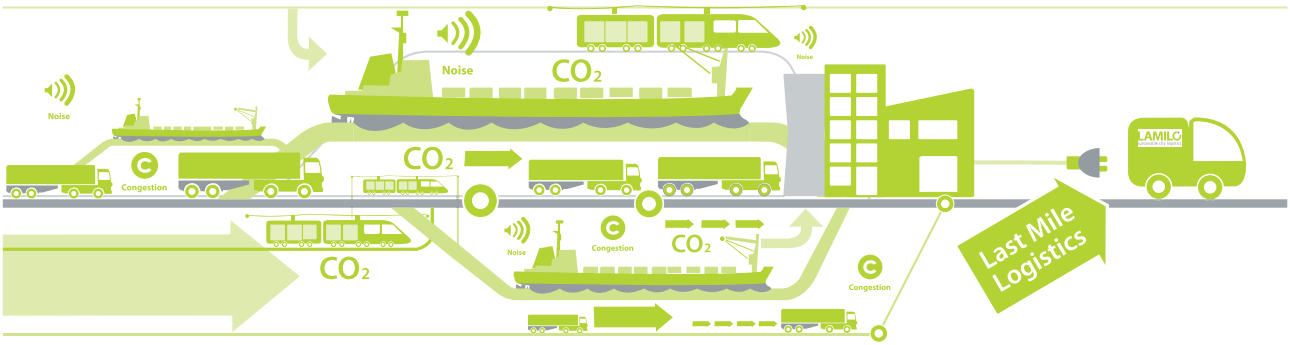
1. **Engage.** Understand who your last mile stakeholders are, and engage with them. Join existing stakeholder forums, or develop new forums as appropriate. Stakeholders, including logistics operators and end users, will be key to the success of any attempt to improve the impact of last mile logistics in your city.

2. **Explore.** Explore existing policies that influence your cities last mile logistics. Identify whether existing policies have the desired effects. Look at other cities experiences and what has worked for them.

3. **Improve**. Review, revise and expand your policy measures into a plan to reduce the impact of last mile logistics in your city. Take a strategic approach, working with other local, sub-regional and regional stakeholders to ensure policies work with each other, not against each other.

4. **Go for it.** Implement your policies; Lead the Way. Remember that many policy measures will support each other.

5. **Connect and share.** Share your experiences and findings with local, sub-regional, regional, national, and international interested parties. The more we know about what does and does not work, the sooner we will be able to make a significant impact on the problems of air pollution, noise, traffic congestion, and road safety associated with last mile logistics. This will result in our cities becoming more economically competitive and more pleasant places to be.



1.0 Why is the Public Sector involved in Last Mile Logistics?

This section looks at why the public sector is involved in last mile logistics, focusing first on establishing what is last mile logistics, moving onto exploring the trends and processes affecting last mile logistics, and reviewing what the effects of last mile logistics are in our cities. Finally, relevant key transport indicators are presented for the LaMiLo partner countries.

1.1 What is Last Mile Logistics? Definitions

Logistics is the commercial activity of transporting goods to customers (English Oxford Dictionary, 2015)[1].

Urban logistics is the movement of goods, equipment and waste into, out, from, within or through an urban area (European Commission, 2013)[2].

Last Mile is the last leg of a supply chain, when goods are moved to their final destinations. This is not a new occurrence, but has become more prominent with the recent changes in the way we shop. This last leg of the supply chain is often inefficient; comprising up to 28% of the total cost to move goods, and creates problems of congestion, air pollution and safety issues in urban areas (Supply Chain Digital, 2015)[3].

1.2 Global and local trends and processes that affect Last Mile Logistics

A 2015 study undertaken on behalf of the European Commission[4], defines three types of trends and scenarios currently facing the EU logistics sector:

"**External factors**
An external factor is a development beyond the area of influence of the transport and logistics industry, which may have a direct/indirect effect on the freight activities related to logistics and transport and thus on logistic procedures, field of activity or intensity.
Logistic (business) strategies
Companies react to the external factors with relevant logistics strategies. As external factors are continuously changing, logistic strategies also have to continuously develop. Logistic strategies can be considered as a procedure, activity field or change of intensity, which is a business reaction to the development of one or more external factors (cf. above).
Logistics trends
A logistic strategy that is used permanently and widely by the logistics sector is termed as a logistic trend."

The study goes on to provide significant details about the types of political, economic, socio-cultural, technological, legal, and environmental trends and processes that will shape the logistics industry in the future.

Global Trends and Processes include:

Increasing Population

World population is steadily increasing. It currently stands at 7.2 billion, and according to the most recent United Nations estimates, the human population of the world is expected to reach 8 billion people in the spring of 2024.[5]

Globalisation

We live in an increasingly global world affecting trade and transactions, capital and investment movements, migration and movement of people, and the dissemination of knowledge[6]. Environmental challenges such as air pollution are linked to globalisation. Globalising processes are influenced by business and how we work, the natural environment, economics and socio-cultural resources.

These forces are also reflected in the expansion of the European Union from the original six countries started to cooperate economically in 1951, to the current 28 EU member states[7].

Urbanisation

Today, 50% of the world's population live in cities and, by 2050, this number will rise to 70 per cent. Whilst cities see extremes in poverty and environmental degradation, approximately 75% of global economic activity occur in cities and, as the urban population grows, so will the urban share of global Gross Domestic Product (GDP) and investments[8].

Within Europe the rate of urbanisation is even more pronounced. 73% of Europeans already live in cities and cities generate 85% of European GDP and the level of urbanisation is expected to rise to 82% by 2050[9]. The European Commission acknowledge that urban transport is particularly important to future growth[10].

Consumerism

Globally we are consuming goods and services in an ever-increasing amount. "The amount of transportation of commodities is expected to double within 20 years while existing modes can hardly deal with this growth. New types of transportation could provide a long-term solution."[11]

Sustainable Development

Sustainable development is "development that meets the needs of the present without compromising the ability of future generations to meet their own needs."[12]. This is the approach by which our society is organising its economic development, social development and environmental protection[13].

Citizen Engagement

Citizens have an increasing role to play in influencing and shaping public policy; both formally for example through statutory consultations, and informally for example through social media and citizens pop-up protests.

The Information Society

We are becoming more and more reliant upon information technology. The growth of the information society[14] is transforming every aspect of cultural, political, and social life and is based on the production and distribution of information. It is characterized by the pervasive influence of IT on home, work, and recreational aspects of the individuals daily routine; stratification into new classes those who are information-rich and those who are information-poor; loosening of the nation state's hold on the lives of individuals and the rise of highly sophisticated criminals who can steal identities and vast sums of money through information related (cyber) crime. This rise in the information society has enabled the rise and expansion of e-commerce, which is changing the way individuals expect to buy and receive goods and services.

Local Purchasing

Local purchasing[15] can typically be defined as procuring goods and services that are within 100 miles of your business. Local purchasing can be crucial to creating and sustaining thriving local economies. Buying locally keeps money within the community, allowing for small and medium businesses to compete with larger businesses. Further, buying locally creates shorter transit for business supply chains. This decreases the amount of miles that products have to travel from natural resources to storefront. Therefore, buying locally allows businesses to decrease their dependability on fossil fuels for transit and inputs into a business.

The types of factors that have a specific impact on last mile logistics at local level include:

- a growing and ageing urban population which chooses to shop more and more on-line, for deliveries to home or other relay ('click and collect') locations. Heavy Goods Vehicles (HGVs) or trucks above 16 tonnes made up 6% of the European commercial vehicle fleet[16]. We may see this fall in the future, with an increase in Light Goods Vehicles.[17]

- new and emerging technology which is changing both the type of fuel we use in our vehicles, and the type of information we can use to plan and deliver transport solutions.

- increasing demand from different users for the space on our roads. These demands must be satisfied safely.

The future will place changing requirements on urban logistics; and the public sector, alongside other stakeholders, will need to play their part in managing this so the external costs are minimised.

1.3 The effects of Last Mile Logistics on cities

The impact of last mile logistics on cities is far reaching, effecting the environment, economy and society. It is due to these effects that the public sector has become more involved in logistics.

"Traditionally urban freight transportation planning has been made by the operating companies. In the last 20 years, we see that public authorities have started to get involved into the development of solutions to deal with the major problems of freight transportation in city centres: congestion, air pollution, noise and other nuisances."[18]

1.3.1 Environmental

The European Commission identifies that urban areas are particularly exposed to the external costs of transport, with higher levels of air pollution and noise pollution. [19]

Air pollution

"Cycling to work in London smog 'could do more harm than good'"[20]
"Walk away from kerb to avoid fumes in London, adviser urges"[21]
"London shamed by World Health Organisation over air pollution safety levels"[22]

Urban transport contributes significantly to air pollution. Whilst goods movements represent 10-15% of all transport in an urban area; they are responsible for up to a third of the local pollutants related to transport in a city, as well as a quarter of transport-related carbon dioxide emissions in urban areas[23]. This is due to the size and type of vehicles and fuel used to transport goods.

In London "1,300 people have died this year due to polluted air in the capital."[24]

In France nearly 42,000 "anticipated" deaths every year are the consequences of an exposition to pollutants and especially particulate matter which density is very high in urban areas. Urban goods movements could be the origin of 70% of particulate matter, 35% of Nitrogen oxides and 25% of Greenhouse Gas (GHG) emissions[25].

It is therefore no surprise that that both national governments and the European Commission have prioritised improving urban logistics, and have identified this as an area where early progress can be made towards the 2011 White Paper's overall goal of a reduction in greenhouse gas emissions by 60% by 2050.[26]

Noise

At least 1 million healthy life years[1] are lost every year from traffic-related noise in the western European countries, including the EU Member States. Sleep disturbance and annoyance related to road traffic noise

[1] A healthy life year is an indicator of the number of years a person of a certain age can expect to live without disability. For more information see http://ec.europa.eu/health/indicators/healthy_life_years/index_en.htm

constitute most of the burden of environmental noise in Western Europe.[27]

Improvements have been made: 25 modern trucks make less noise than one built in 1980. Trucks have become much quieter over the last 30 years thanks to such innovations as special insulation, low-rolling resistance tyres, and other noise control techniques. Other improvements have been achieved through driver training.

Further reductions could be made by using innovative road surfaces such as low-rolling resistance, poroelastic road surfaces. European funded project Persuade28 is testing the poroelastic road surface on trafficked roads, and in test track scenarios has demonstrated that extreme noise reductions can be achieved (up to 12 dB(A)) in comparison with conventional dense asphalt concrete or SMA pavements.

1.3.2 Economic

Traffic Congestion:

In the European Union:[29]

- congestion costs are roughly 1% of GDP per annum (nearly £100billion p.a.)[30]
- final energy consumption in transport has increased by 13% over the decade 1998–2008
- total road vehicle fleet increased by 22% 1998 - 2008

Traffic congestion in urban areas in the UK costs £10.9 billion per annum[31].

Table 1: **Drivers hours wasted in traffic congestion 2013-2014, by LaMiLo partner city[32]:**

LaMiLo partner City	Driver Hours wasted in year to July 2014 (per driver)	Rank (1 = most hours wasted)
London (UK)	89.6 hours	1
Brussels (Belgium)	76.1 hours	2
Karlsruhe (Germany)	60.9 hours	3
Paris (France)	45.9 hours	4
Luxembourg	31.1 hours	5
Dublin (Ireland)	23.9 hours	6
Maastricht & Nijmegen (The Netherlands)	Data not available	-

The cost of this traffic congestion is leading some industry players to investigate new approaches to delivering in the city:

"DHL delivers by helicopter"[33]

Another consequence is that poor traffic congestion may put companies off locating in cities, or push companies to actively choose to leave certain places:

"Brussels mobility situation untenable"[34]

Urban Logistics as a contributor to the economy:

Transport itself is a major employer. Across the EU the transport sector accounts for 9 million jobs, making transport a key enabler of social and economic development[35]. In the UK there are 1.7 million transport related jobs[36].

Logistics (transport and storage) makes up 10-15% of the cost of a finished product[37].

The European Commission identifies that urban logistics makes up a relatively small share of urban traffic but makes a major contribution to the success of cities; and that improving the efficiency of the 'first and last mile' of deliveries is of particular important for economic growth.[38]

"We need to move fast to unblock London's congested high streets."[39]

1.3.3 Social

Safety

The EU reports that:[40]

- 11, 000 people die in road traffic in EU urban areas every year.
- The majority of fatal or serious road traffic crashes involving vulnerable road users take place inside urban areas.
- Around two thirds of pedestrian fatalities take place in urban areas
- 50% of those killed in accidents in urban areas are pedestrians or cyclists.
- During the last decade, the number of pedestrian fatalities decreased by only 39% compared to 49% for car driver fatalities.

The World Health Organisation (WHO) Regional office for Europe estimates the socio-economic cost of road traffic injuries is about 2% of a country's gross domestic product, much of which is borne by the health sector. For EU countries alone, this means about EURO 180 billion – twice the annual EU budget (2004).[41]

1.4 Transport Indicators in the LaMiLo partner countries 2011[42]

Country	Road					Road Accidents				
	Stock at 31/12		1st registrations		CO2 Emissions	Injury accidents	Fatalities	Injuries	Fatalities	Injuries
	Nos. Passenger Cars	Nos. Goods Vehicles	Nos. Passenger Cars	Nos. Goods Vehicles	1,000 tonnes	Number	Number	Number	Per 1000 inhabitants	Per 1000 inhabitants
Belgium	5,407,000	761,214	577,382	71,392	24,230	47,924	858	62,801	77.9	5,698
France	31,425,000	5,426,000	2,235,200	445,820	118,280	65,024	3,963	81,251	60.8	1,246
Germany	42,927,647	8,926,880	3,173,634	604,124	140,970	306,266	4,009	…	49.0	…
Ireland	1,951,470	312,196	104,022	11,734	11,150	5,595 *	212 *	8,270 *	46.9 *	1,830 *
Luxembourg	344,951	36,813	49,881	4,678	6,747	962	33	1,308	62.9	2,492
Netherlands	7,858,712	2,075,382	555,777	104,132	32,510	…	661	…	39.6	…
United Kingdom	28,467,289	465,473	1,907,411	40,684	110,750	156,068	1 960	212,710	31.2	3,390

**Data refer to 2010*

2.0 What involvement does the public sector have in Last Mile Logistics?

Public sector involvement occurs at various levels: international, European, national, regional, sub-regional, and local city level.

Public sector involvement can take a variety of forms including setting strategy and policy, legislation and regulation, providing funding and other forms of support, and directly delivering solutions which demonstrate good practice.

Different levels and forms of public sector involvement in last mile logistics are outlined below. Additionally, details of policies affecting last mile logistics within the LaMiLo partner cities, at local, sub-regional, regional and national levels can be found in Cross River Partnership's LaMiLo "City Policy Review." (Action 8. Output 1.).

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2.1 International

Policy

Given the type of external costs last mile logistics contributes to, it is perhaps not surprising that, at least at policy level, there are international bodies involved in freight. The World Bank's "Freight Transport for Development: A policy toolkit 2009"[43] outlines a series of relevant organizations for freight transport policy makers, listed for information at Appendix 1.

2.2 European

Legislation

The European Union (EU) is based upon rules of law which are set out in Treaties. The aims of these Treaties are set out in several different kinds of legal acts: regulation, directives, recommendations and opinions. These acts can be binding (or not), and apply to all member states (or not). EU law has equal rights with national law and places rights and obligations on the authorities in each member country, as well as on both the citizens and businesses.[44]

Since 1992, the European Union has applied 'Euro' standards applied to all member states in order to regulate pollutant emissions. Light-duty vehicles (cars and light vans), and heavy-duty vehicles (trucks and buses) are regulated separately. These standards were originally introduced by the Directive 88/77/EEC, and have been updated by Directive 05/55/EC, and more recently the latest standards Euro VI are set out in Regulation 595/2009, and Regulation 582/2011[45].

The European Union enacted a directive on the management of environmental noise in 2002 and, accordingly, most EU Member States have produced strategic noise maps and action plans on environmental noise. The World Health Organisation (WHO) European Centre for Environment and Health, Bonn Office, with the financial support of the European Commission, developed 'Night noise guidelines for Europe' and provided expertise and scientific advice to policy-makers for future legislation in the area of night noise control and surveillance. Furthermore, a series of projects addressing the health burden of noise was implemented by the WHO Regional Office for Europe in 2005–2009[46].

Other EU legislation relevant to last mile logistics is available across a series of topics controlling both the effects of last mile logistics, and factors affecting last mile logistics. The topics covered include: intelligent traffic systems, road charging, clean vehicle, air quality, noise, drivers' hours and tachographs, health & safety, cargo-bikes, and alternative fuel. These regulations are listed at Appendix 2.

Strategy & Policy

Transport Policy of the European Union ensures the effective movement of goods and people throughout Europe through integrated networks combining all modes of transport. It incorporates issues including climate change, the right of passengers, and fuel.

In view of the economic importance of urban areas and the problems with urban transport, a consensus has emerged that EU transport policy needs to have a much stronger urban element. To address this, the European Commission adopted the Action Plan on Urban Mobility in 2009 and published the 2011 Transport White Paper which includes 40 initiatives to increase growth and jobs, reduce dependence on imported petroleum and reduce carbon emissions. Specific goals set for urban mobility:

- Phase out conventionally-fuelled cars in urban areas by 2050
- Achieve (near) CO2-free city logistics in major urban centres by 2030. [47]

These transport specific strategies sit within the context of the EC's 2010 "Europe 2020 Strategy for smart, sustainable and inclusive growth"[48] which seeks to achieve five objectives on employment, innovation, education, social inclusion and climate/energy by 2020, in order to ensure the EU becomes a smart, sustainable and inclusive economy. Each Member State adopts its own national targets, which are to be delivered following concrete actions.

Research

Within the European Commission, last mile logistics is predominantly the responsibility of DG Move. DG-Move published research a "Study on Urban Freight Transport" in April 2012[49]. This study aimed to determine whether action at the European level could promote successful solutions and improve the performance of freight transport. The study reviewed current best practice in relation to a number of solutions, and provides 16 best practice recommendations for application at a local level. The report goes on to identify nine EU policy recommendations covering the areas of efficient deliveries; low emission vehicles; Intelligent Transport Systems; night deliveries; intermodal transfer facilities and other

infrastructure; developing and disseminating good practice in UFT throughout Europe. The full local best practice recommendations and EU policy recommendations can be found at Appendix 3.

More recently the EC has published the results of a study carried out for them analysing the EU logistics sector, which provides support for the development of an EU strategy for freight transport logistics[50].

Funding

The European Commission funds projects that tackle the issues of last mile logistics from a number of different programmes. INTERREG North-West Europe (NWE) promotes the economic, environmental, social and territorial future of the North-West Europe area. It funds activities based on the cooperation of partners from eight countries: Belgium, France, Germany, Ireland, Luxembourg, The Netherlands, Switzerland and the United Kingdom. Other funding programmes include Framework 7, STEER, and most recently Horizon 2020. A list of relevant current (or recently completed) European funded projects is included at Appendix 4.

Other forms of EU support [51]

Trans European Transport Network [52]

The European Union seeks to contribute to the establishment and development of Trans-European Transport networks (TEN-T). The TEN-T policy supports the completion of 30 Priority Projects, representing high European added value, as well as projects of common interest and traffic management systems that will play a key role in facilitating the mobility of goods and passengers within the EU.

Supporting Sustainable Urban Mobility Plans (SUMPs) through the European Platform:

The SUMP concept was outlined in the European Commission's 2013 Urban Mobility Package. The concept describes the main features of a modern and sustainable urban mobility and transport plan. It comprises the following main elements:

1. Goals and objectives
2. A long-term vision and clear implementation plan
3. An assessment of current and future performance
4. The balanced and integrated development of all modes
5. Horizontal and vertical integration
6. Participatory approach
7. Monitoring, review, reporting

Supporting exchange and capacity building related to sustainable urban development through; for example, the European URBACT programme.

Supporting local partnerships in implementing and testing new urban mobility approaches under real-life conditions as part of the CIVITAS 2020 initiative.

Taken together the direction of travel is quite clear, public authorities at all levels must reduce the negative environmental impacts of transport.

In addition, failure to adopt, implement and/or achieve these policies and targets can also leave member states vulnerable to enforcement action. Whilst this has never been employed at the European level, recent court rulings have confirmed that national governments are liable. This has introduced the possibility of claims being lodged by individuals or lobby groups seeking governmental action.

2.3 National

Individual countries will respond to the challenges posed by last mile logistics, within the context of both international and European-wide influences (policy, legislation etc.). Each country is responsible for transposing EU legislation in national law, and enforcing it correctly. This is achieved by each country setting its own policies, legislation, monitoring and funding regimes.

Policy

National transport, planning and environmental policies will have a large impact on last mile logistics within a country. In the UK this is covered by the Transport White Paper – Delivering a Sustainable Transport System[53], and the National Planning Policy Framework[54].

More specifically, national tools involved in the definition of a freight policy often include the management of major road networks, vehicles standards and specification, requirements for professional training and companies' licensing[55].

Legislation

A range of laws governing issues including transport, statutory planning, employment, and the environment are often set nationally.

An example of national level legislation affecting last mile logistics is provided at Appendix 5 'National Legislation Affecting Last Mile Logistics – UK'.

2.4 Regional and Sub-Regional

Policy

Regional public authorities can organise themselves to have specific policies on freight management, for example Transport for London's Freight Plan (2013), and the Strategic Plan for Goods Traffic in the Brussels-Capital Region (2014).

Sub-regionally groups of local authorities can work together to plan transport, for example Central London Sub-Regional Transport Partnership's Transport Plan (2014). Local authorities can also contribute to sub/regional groups with a focus on freight, for example the Central London Freight Quality Partnership.

2.5 Local City Level

Involvement of the public sector in last mile logistics at a local level has been accepted by the public. The EC[56] surveyed populations of the 28 Member States in 2013 to explore their attitudes to urban mobility and found:

- Around 4 in 10 Europeans encounter problems when travelling within cities.
- Close to seven out of ten Europeans believe that air pollution, road congestion, travelling costs, accidents and noise pollution are important urban problems.
- At least half of respondents in all Member States say that restrictions on the use of certain types of vehicles, such as trucks, may be effective in improving urban travel.
- Less than a quarter of Europeans believe that the urban traffic situation will improve in the future.
- More than half of Europeans believe that city authorities should be mainly responsible for reducing traffic in cities.

Policy and Regulation

Local authorities have many tools that can influence last mile logistics policies including street management, parking policy, land use and urban design. Locally determined regulations, e.g. environmental and safety regulations on warehouses also have a direct effect on urban logistics. Within one local authority many departments have an impact on urban logistics such as economic development, commerce, environmental, traffic and mobility, infrastructure, planning and health.[57]

This report will explore in more detail at section 3.0 the influence of local policy measures on last mile logistics solutions.

Sustainable Urban Logistics Plans (SULPS)

Sustainable Urban Logistic Plans (SULPs) have been developed locally to sit alongside the city SUMP, and have a specific focus on urban logistics. This approach has been promoted through the EU funded ENCLOSE project, see Appendix 4 for details.

The extent to which a SULP should be developed separate to a SUMP is not clear. It may be more effective to ensure that the SUMP adequately covers urban logistics issues.

3.0 How can the public sector influence Last Mile Logistics at city level?

There are different policy options open to different key stakeholders to influence last mile logistics at city level. This section will explore those measures, indicating their costs and benefits, and providing top tips for policy design, implementation and review based on case study and LaMiLo partner feedback.

3.1 LaMiLo Policy Measures – Key Stakeholders

There are many stakeholders in relation to last mile logistics including legislators; policy makers; funders; transporters; logistics operators; end users; road users; residents; citizens; businesses; sector representative bodies (in sectors such as transport, freight, technology, safety, air pollution, quality place-making, businesses, climate change) architects and planners.

In order to understand the influence of public sector involvement in last mile logistics, this report focuses on three key stakeholders:

Policy makers:

Public sector authorities with responsibility for developing, implementing and monitoring policies that influences last mile logistics (mainly transport, planning, environmental, procurement). For many of the policy measures identified key policy maker stakeholders will be at the local, sub-regional or regional level. For some policy measures, the key policy makers will be at national or European levels.

Logistics Operators:

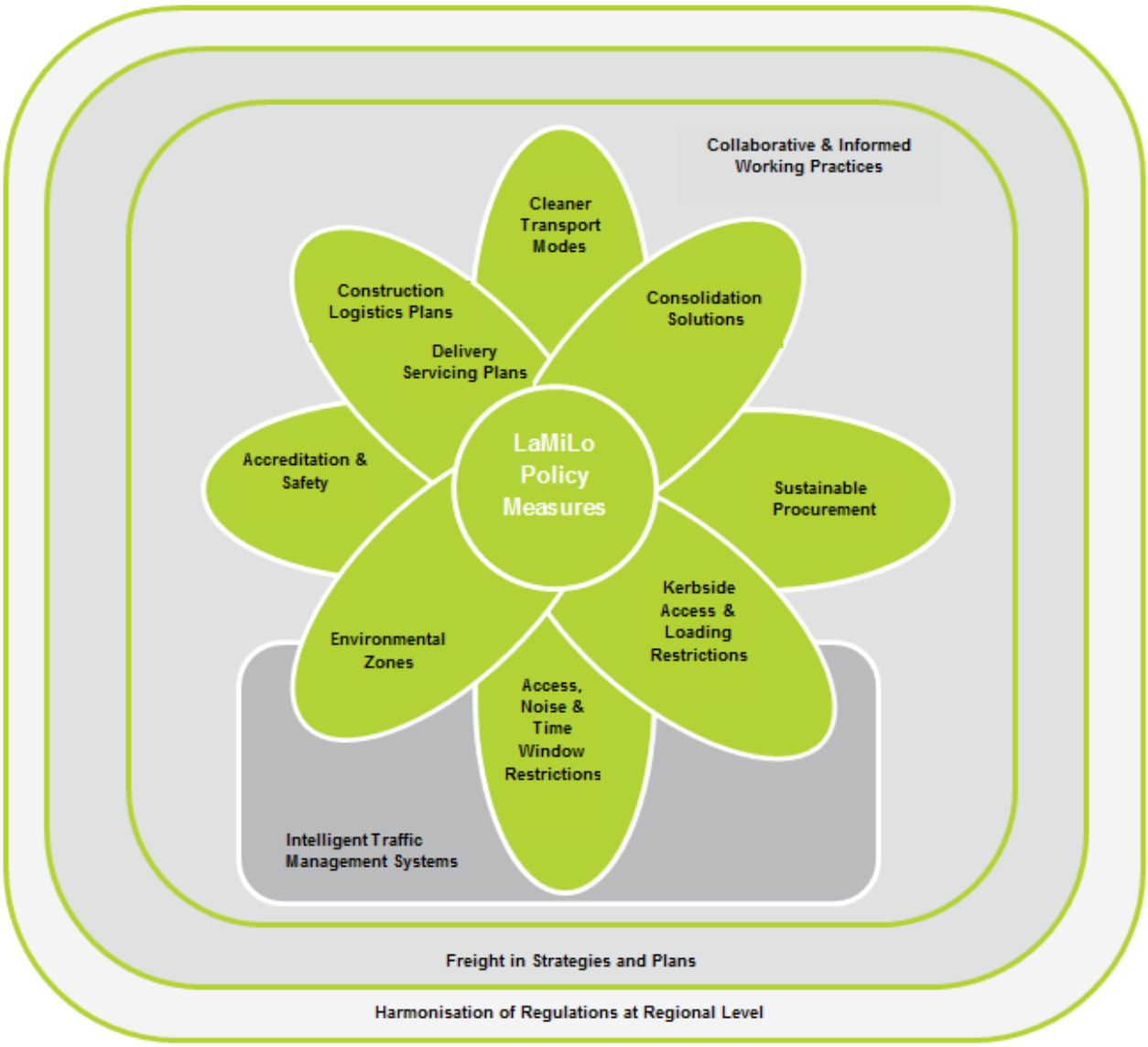
These are the businesses who move goods from one place to another. They may work solely for one client e.g. Martin Brower delivers exclusively for McDonalds in the UK, or they may work for multiple clients e.g. TNT. Logistics operators run last mile logistics solutions such as consolidation centres e.g. DHL operate Camden's Multi-Borough Consolidation Centre in Edmonton, Clipper operate The Crown Estate's Regent Street Consolidation Centre, CityDepot operate the Brussels Urban Distribution Centre, and The Green Link operate micro-consolidation centres in Paris. Logistics operators will be affected by different policy measures, and by the contractual relationship they have with the end users.

End users:

These are defined as organisations, businesses and or individuals who use the last mile logistics solutions in order to receive their goods, or logistics operators who use last mile logistics solutions as part of their business model. This can be different depending upon the solution. For example, businesses, retailers, logistics operators, private individuals or consumers, may pay to use a consolidation centre. In another example, where regulations to the city centre restrict access for delivery purposes to morning and late afternoon slots, the end users will be those businesses and consumers who are awaiting delivery of their goods. End users will be affected by different policy measures. In some, but not all, cases the end user will have direct relationship with the logistics operator. Within LaMiLo, the demonstrators have been either business to business (B2B), or business to consumer (B2C). LaMiLo has not considered logistics solutions within the context of consumer to consumer (C2C) relationships.

3.2 The 12 LaMiLo Policy Measures – An Overview

12 LaMiLo policy measures have been identified as playing a critical role in influencing last mile logistics. These 12 measures are shown on the diagram below, which also indicates their interconnected relationships.



The methodology of how these 12 policy measures were identified is outlined in Appendix 6.

3.3 LaMiLo Policy Measures – top tips for design, development and implementation

The following key details for each policy measure are provided:

- What is the policy measure?
- Cities where the policy measure is in place – provision of examples from LaMiLo partner cities
- Why introduce the policy measure? - highlighting benefits and costs for the three key stakeholder groups,
- Top tips for policy design, development and implementation - with reference to case studies where relevant.

These top tips have been identified from a review of 32 case studies across Europe, including the LaMiLo demonstrators in Brussels, Camden, The Netherland, and Paris. These case studies are listed at Appendix 6. The key stakeholder group/s to lead on the actions relating to each top tip are listed.

A summary of the top tips for designing, developing and implementing each of the policy measures in this report is provided at Appendix 7.

Policy Measure 1:
Access, Noise and Time Window Restrictions

What are Access, Noise and Time Window Restrictions?

Access, Noise and Time Window Restrictions are used in many cities around the world as a way to manage the impact of last mile logistics.

This involves the use of restrictions, initiated or supported by public administrations, both in time windows and road access, to restrict freight deliveries to certain times of the day or geographical areas.

Noise regulations restrict the amount, duration and source of noise nuisance. It usually places restrictions for certain times within residential areas when deliveries can be made or routes that can be used.

Cities with Access, Noise and Time Window Restriction policies

The LaMiLo "City Policy Review" (Action 8. Output 1.) provides details of the LaMiLo partner cities that have policies supporting the introduction of Access, Noise and Time Window Restriction policies. Examples include:

In **Dublin** (Ireland), the local transport policy "HGV Management Strategy 2007[58]" states that HGVs do not have free access to the streets of Dublin city centre. The introduction of a HGV management strategy was a complimentary part of the Dublin Port Tunnel Project (which created in 2006 a direct Motorway standard connection from Dublin Port to the M50 Motorway ring). This tunnel was designed to remove as many trucks from the city centre as possible, to maximise use of the tunnel and to minimise the numbers of trucks on the City Streets. HGVs with 5+ axles are not allowed to enter the restricted zone during the hours of 07.00 – 19.00, seven days a week unless in possession of valid permit. HGVs with 4 axles or less are allowed to enter the restricted zone at any time, day or night. The HGV Management Strategy[59] has resulted in reductions of 5+ axle vehicles within the city centre area of between 88-96% (2007-2009) and this is reflected in the fact that over 3,582 5+ axle vehicles used the tunnel per day in 2009. The number of permits which Dublin City Council now issue, of both load/unload and Transit, is now in the order of 90 per day for the cordon area. This local policy is supported by the regional transport policy, "Greater Dublin Area Draft Transport Strategy 2011-2030. 2030 vision"[60], which specifically includes Measure FRT 2: The Authority will seek the extension of the current Dublin City HGV Management Strategy to include 4 axle vehicles; evaluate the potential for the Dublin City HGV Management Strategy to be further extended to other vehicles types; have an expanded exclusion area; and to encompass vehicle emission parameters; examine the potential of introducing HGV controls in other town centres.

In **London** (UK), the regional transport authority operates the London Lorry Control Scheme[61] which restricts the night and weekend movement of HGVs weighing more than 18 tonnes, in order to help minimise noise pollution in residential areas. Restrictions apply Monday – Friday from 21:00 – 07:00, Saturday 13:00 – 07:00 and Sunday all day. During the restricted hours, drivers must use the Excluded Route Network, although approval can be sought in advance to go through the restricted area. If the restriction is contravened, penalty charges are incurred by both the hauliers and the drivers.

Why introduce Access, Noise and Time Window Restriction policies?

There are a range of benefits, and costs to key stakeholders related to the introduction of Access, Noise and Time Window Restrictions:

Stakeholder	Benefit / positive impact	Cost / negative impact
Logistics Operator	If a Logistics Operator meets access, noise and time window restriction criteria, they will have a competitive advantage over other Logistics Operators.	Ensuring transport meets specified requirements (e.g. Electric vehicles). Changing operation model to avoid restrictions (e.g. use consolidation centre). Payment of fines for not meeting restrictions. For time restrictions – reduction in available delivery time slot results in higher number of transporters trying to deliver at the same time, leading to greater congestion in city. Confusion amongst drivers and operators regarding which areas can/cannot be accessed at different times can lead to unnecessary vehicles trips, increasing congestion and air pollution. Regional and national differences in restrictions can require additional resources to ensure compliance.
Policy Maker	Number of vehicle trips will reduce in city centre during restricted hours which will help improve air quality, and help improve road safety. Possible revenue increase in relation to payment of fines for non-compliance with restrictions. Can support the introduction of other last mile logistics policy measures. Enables more efficient use of the road.	Financial cost of implementing and enforcing restrictions. Need to review existing and historical access, noise and time window restrictions in operation within an area, and in relation to other areas in the city. Increase of vehicle trips, congestion, and air pollution during the non-restricted hours of the day.

Stakeholder	Benefit / positive impact	Cost / negative impact
End User	For time restrictions – transporters will use specific pre agreed time windows for deliveries which allows businesses to plan more effectively.	The restrictions could dictate when a business will receive its deliveries, requiring that business to make costly changes to its business model to accommodate the changes.

Top Tips for Implementing Access, Noise and Time Window Restriction policies

1. **Introduce Access, Noise and Time Window Restrictions to support other last mile logistics policies, such as consolidation centres, multi-use lanes, and promotion of cleaner transport. (Policy Maker)**

CASE STUDY 1: **Multi-use lanes for freight distribution in Bilbao** (SPAIN)

'Multi-use lanes' is one of the initiatives developed in Bilbao by the local authority and local stakeholders to improve goods distribution in the city. This initiative consists of the more efficient use of lanes in the city centre streets. In this approach, one of the road lanes will be provided for the loading and unloading of goods at certain time slots, and used for other vehicle activities during the rest of the day.

Access and time window restrictions, and associated regulations, were introduced to support the introduction of a multi-use lane.

Multi-use lanes in Bilbao: Before and After installation

2. **Before introducing new Access, Noise and Time Window Restrictions to an area, review what current policies and regulations are in place and adapt to suit if possible. (Policy Maker)**

CASE STUDY 2: **Urban freight distribution with electric cargo cycles in San Sebastián** (SPAIN)

In San Sebastián an urban freight system has been implemented that replaces the use of diesel vans making direct deliveries from a suburban depot. Instead the goods are delivered to a small consolidation centre, before being dispatched to the final customer with a fleet of electric cargo cycles. This was intended to reduce the negative impacts imposed on the inhabitants and urban space. The company Txita and the Municipality cooperated with several partners to set-up and manage this solution.

Provision to use electric cargo bikes in the city centre was established within the existing municipal law so no new regulations were required to support this project. Electric cargo bikes have been provided special access authorisation including the use of pedestrian areas.

3. **Develop new restrictions in consultation with key stakeholders to understand the knock on effects of introducing restrictions, and clearly communicate new restrictions to all involved. (Policy Maker, Logistics Operator, End User)**

4. **Ensure restrictions are kept up to date with changes in the logistics industry and vehicle technologies. (Policy Maker)**

CROSS RIVER PARTNERSHIP

LAMILO sustainable city logistics

Policy Measure 2: Accreditation & Safety

What are Accreditation & Safety policies?

Accreditation & Safety policies can encourage a change of behaviour through incentive based initiatives. For example, fleet operator recognition schemes are voluntary schemes designed to provide recognition, guidance and advice to road transport operators as a mechanism to raise standards in the freight sector. With the aim of improving road safety, driver training is delivered by public and private sector organisations to ensure that drivers have been trained to operate to the highest standards.

Cities with Accreditation & Safety policies

The LaMiLo "City Policy Review" (Action 8. Output 1.) provides details of the LaMiLo partner cities that have policies supporting the introduction of Accreditation & Safety policies. Examples include:

In **Dublin** (Ireland), the regional transport policy "Greater Dublin Area Draft Transport Strategy 2011-2030 vision."[62], includes a specific measure related to safety: 'Measure ROAD 10, the regional authority, working with Gardaí, the Road Safety Authority, the National Roads Authority and local authorities will support changes in HGV design to improve cyclist safety, including provision for vehicle side guards and side mirror lenses that reduce cyclist blind spots for HGV drivers.'

In **Paris** (France), the regional "Charter on Sustainable Urban Logistics, 2013[63]", describes 16 projects identified by the Charter's signatories (Signatories include regional authorities, local authorities, business groups (Chambers of Commerce and Industry), rail and river infrastructure organisations, climate change and urban design groups, professional groups, 44 businesses, research organisations.). This includes development of a certification scheme for silent night time deliveries, which can be applied to the whole supply chain.

Why introduce Accreditation & Safety policies?

There are a range of benefits, and costs to key stakeholders related to the introduction of Accreditation & Safety policies:

Stakeholder	Benefit / positive impact	Cost / negative impact
Logistics Operator	Being part of an accreditation scheme, or able to demonstrate the take up of enhanced safety standards, provides assurance to Logistics Operator's clients. This could help to meet client's procurement policies and / or Corporate Social Responsibility scheme. Help improve efficiency and reduce fuel consumption therefore making cost savings. Help meet legislative requirements. Logistics Operator may be able to access funding to support their participation in accreditation schemes, or to make changes required to meet enhanced safety standards.	Logistics Operator may need to change their business model to fulfil accreditation and/or safety requirements. Logistics Operator may need to invest in staff, or vehicles to fulfil accreditation and/or safety requirements.
Policy Maker	Can support the introduction of other last mile logistics policy measures e.g. cleaner transport, noise restrictions. Will ultimately lead to cleaner and safer vehicle trips, meeting carbon reduction and safety targets.	Financial cost of developing, implementing and maintaining accreditation and/or safety schemes.
End User	Accreditation schemes will provide assurance to End Users that their transporters are meeting a set of clearly defined attributes, potentially helping them to meet their Corporate Social Responsibility agenda, or assist in the scope 3 emissions reporting.	Additional costs incurred by other stakeholders may be passed onto the End User.

Top Tips for Implementing Accreditation & Safety policies

1. **Introduce Accreditation & Safety policies alongside other policy measures, such as noise restrictions, to act as an incentive to transporters to change their behaviour. (Policy Maker)**

2. **Promote Accreditation & Safety measures as part of own Sustainable Procurement policies. (Policy Maker, Logistics Operator, End User)**

3. **Clearly communicate to all stakeholders the benefits of adopting Accreditation & Safety measures. (Policy Maker)**

CASE STUDY 3: **Fleet Operator Recognition Scheme** (FORS) (UK)

"Transport for London leads the way with road safety"[64]

FORS is an over-arching scheme that encompasses all aspects of safety, fuel efficiency, economical operations and vehicle emissions. FORS is a voluntary scheme that helps improve operators' performance in each of these areas. For vehicle operators, it offers peace of mind that they are meeting their legislative requirements, as well as helping to increase efficiency, reduce costs and win work. FORS provide a quality and performance benchmark for van, lorry, mini-bus, coach and bus operators and allows access to a range of exclusive accreditation benefits. Accreditation can provide the tools to help Transporters become safer, greener and more efficient. It is an excellent way to prove to Transporters' existing and potential clients their credentials as high performing operators who adhere to high quality standards.[65]

CASE STUDY 4: **ECOSTARS Fleet Recognition Scheme** (UK)[bb]

This free scheme aims to help fleet operators improve efficiency, reduce fuel consumption & emissions and make cost savings. In total, the individual schemes have more than 300 members with 14,000+ vehicles. Members are awarded an ECO Star rating when they first join - ranging from 1 Star to 5 Stars - based on an assessment of their current operational and environmental performance. The benefits from being a member of ECO Stars include:

Save money: Up to £2,600 per vehicle – for an operator with 10 vehicles this equates to a saving of one whole tanker of diesel

Improve fuel efficiency: By implementing the key measures recommended by ECO Stars, a typical commercial vehicle operator could expect to reduce fuel consumption at least 5% in the first year.

Reduce environmental impact: A typical van operator could see its annual output of carbon dioxide fall by six tonnes per year.

Policy Measure 3: Cleaner Transport Modes

What are Cleaner Transport Modes policies?

Use of Cleaner Transport Modes is a measure in which organisations actively choose to use an ultra-low or zero emission vehicle (such as electric, hybrid electric-plug in, hydrogen, or natural gas), or make deliveries using cargo-bikes, barge or on foot.

Cleaner modes of transport, including e-mobility and electric vehicles (EVs), provide a significant opportunity to address the negative externalities associated with the internal combustion engine (ICE) without constraining the vital role vehicles play.

Cities with Cleaner Transport Modes policies

The LaMiLo "City Policy Review" (Action 8. Output 1.) provides details of the LaMiLo partner cities that have policies supporting the introduction of Cleaner Transport Modes policies. Examples include:

In **Paris** (France), local transport policy "Communaute D'Agglomeration Clichy-Sous-Bois Montfermeil Local Travel Plan (Plan Local de Déplacements PLD) 2013[67]" refers to their Charter of Freight objectives for the Seine-Saint-Denis area, which encourages alternative re-fuelling stations/points as well as encourages

assistance in the development of non-motorised transport companies. The regional transport policy "Regional Urban Mobility Plan Ile de France (PDUIF) [68]" specifically identifies five areas to promote the development of hybrid and electric vehicles, as well as the natural gas and biogas sector:

1. Support the deployment of charging infrastructure for rechargeable electric and hybrid vehicles. The PDUIF sets a target of 40,000 publically accessible charging points by 2020, including 16,000 on-street and 24,000 off street. There are now 5,400 mostly corresponding to the Autolib terminals.
2. Develop a network of natural gas and biogas refuelling stations.
3. Take the opportunity of the renewal of public sector fleets to move towards rechargeable electric or hybrid vehicles. A target has been set that 25% of public and private sector fleets be clean vehicles by 2020.
4. Move towards more environmentally friendly modes of public transport.
5. Encourage research and experimentation for new urban vehicles both in terms of the supply of energy and the vehicles themselves.

In **Camden** (London, UK) the local transport policy "Camden's Transport Strategy. Local Implementation Plan. 2011[69]", specifically sets out the local authorities policies to continue to lead by example, and operate a low emission fleet and continue to work towards improving vehicle efficiency (policy 1.8 and 2.23).

Why introduce Cleaner Transport Modes policies?

There are a range of benefits, and costs to key stakeholders related to the introduction of Cleaner Transport Modes:

Stakeholder	Benefit / positive impact	Cost / negative impact

Logistics Operator	Cleaner Transport Modes may enable Logistics Operator to comply with city access, noise and time window restrictions. Cleaner Transport Modes may enable Logistics Operator to meet their clients' Sustainable Procurement policies. Logistics Operator may be able to access funding to support their take up of Cleaner Transport Modes.	Logistics Operator may need to change their business model to accommodate Cleaner Transport Modes e.g. Electric Vehicles, cargo bikes etc. Logistics Operator may require city centre depot, e.g. if operating cargo bikes, which would be expensive. Technology has not yet delivered an effective large electric freight vehicle, so this is not yet a viable option for many transporters. Appropriate sized alternative fuel vehicles are rarely available to lease for short time periods, so testing a solution within a pilot is not always possible. Financial cost of ensuring infrastructure in place to support Cleaner Transport Modes e.g. recharging points for electric vehicles, enough storage for cargo bikes.
Policy Maker	Cleaner Transport Modes will ensure a greater proportion of vehicle trips will make little or no contribution to local air pollution. Can support the introduction of other last mile logistics policy measures. Cleaner Transport Modes will reduce traffic noise, enabling off peak deliveries to be considered by policy makers.	Cleaner Transport Modes alone may not reduce the number of vehicle trips within city centre, so may not improve traffic congestion. Financial cost of ensuring relevant infrastructure is in place to accommodate Cleaner Transport Modes e.g. refuelling infrastructure for vehicles using alternative fuel.
End User	Deliveries made using Cleaner Transport Modes will assist end users in achieving Corporate Social Responsibility agendas, meeting emissions targets (required through scope 3 reporting). Reduction in polluting vehicle trips will lead to an improvement to the public realm, which will enhance the experience of the area.	Additional costs incurred by other stakeholders may be passed onto the end user.

Top Tips for Implementing Cleaner Transport Modes policies

1. **Introduce Cleaner Transport Modes policies to support other last mile logistics policies, such as consolidation centres, Sustainable Procurement; and Access, Noise and Time Window Restrictions. Adapt local transport / mobility and air quality plans i.e. through the introduction of sustainable urban mobility plans. (Policy Maker)**

CASE STUDY 5: **Citylog EMF - Electro-Multifunction-Transportation vehicle –** (AUSTRIA)

Citylog EMF is a new type of electric freight vehicle developed in Austria by a consortium led by HET. The electric motor propulsion is fuel-cell based, and the vehicle concept consists of a series of 'self-driven' vehicles and 'trailers' that can be coupled to a train, and un-coupled for loading and unloading operations. The trials in Klagenfurt follow the prototype phase in which the technical feasibility has been demonstrated.

Citylog vehicle is a new type of electric freight vehicle using fuel-cell technology, designed to not be restricted by city access regulations.

Citylog Prototype

CASE STUDY 6: **Use of electric vehicles for parcel distribution at UPS Karlsruhe** (GERMANY) & London (UK)

UPS is testing and analysing the use of a fleet of electric vehicles in urban traffic systems to reduce CO_2 emissions, noise and particular emissions. The vehicles being used are conventional diesel vehicles that have been modified into electric vehicles. These electric vehicles are being used mainly in inner city areas and on trips shorter than 80km. The vehicles return to the depot with about 20% residual charge and are then recharged at a specific loading facility by the responsible person. All vehicles are charged through the night.

The reduction in noise created by electric vehicles compared to diesel vehicles enables a change in the time that deliveries are made, towards more out of hours deliveries, subject to city policy and regulations.

2. **Provide support to business wanting to switch to Cleaner Transport Modes, such as financial support to increase the take up of electric vehicles; or safeguarding/provision of land for city centre cleaner transport depots; provision of parking privileges e.g. access or discounts; relief from local vehicle taxes or charges. (Policy Maker)**

CASE STUDY 7: **Electric Vehicles Use in Parcels Deliveries in Stuttgart-Ludwigsbury** (GERMANY)

As part of the IKONE project, about 50 Mercedes-Benz Vito E-CELL transporters powered by electricity are used by selected partners and the large German parcel logistics service provider DPD in the Stuttgart region. Their field of application involves various commercial activities and delivery tasks. The Stuttgart region has a very difficult topography (situated in a basin) and the filed test focused on the analysis of the vehicle use in these specific conditions.

The logistics provider had to change their business model to accommodate electric vehicles (EVs) by splitting the delivery of B2B and B2C parcels, and delivering the generally smaller B2C parcel with EV. Delivery costs using EVs are not yet covered by the payment for delivery. Public sector could further incentivise their use by policy, regulation, provision of subsidy.

CASE STUDY 8: **The Green Link: last mile with cargo cycles and vans in Paris** (FRANCE)

The Green Link (TGL) is a company making parcels deliveries in central Paris with an entire fleet of battery electric vehicles (EVs). The business is proving to be profitable. TGL started operations in 2009 and is now using 3 urban depots (green hubs) in Paris and trying to develop in other French cities and other countries. At the end of 2013, the volume of parcels distributed was 2,500 per day, and the business was expected to grow to a volume of about 5,000 parcels per day in 2014. The scale of growth is limited by the size of the current depots.

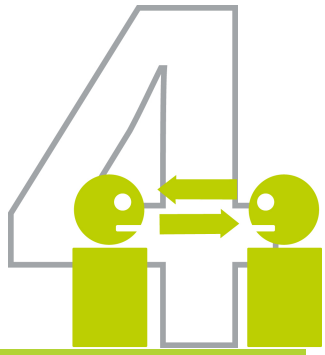
Assistance in relation to identifying central depot, allowing access to shopping centres or pedestrian zones for EVs during the day, or allocation of free parking and storage space for EVs in city centres, would boost the success of this kind of initiative.

3. **Introduce Cleaner Transport Modes as part of the decision making process in relation to statutory planning and environmental permits / licensing applications. Include regulations for new buildings and renovations to be e-mobility ready. (Policy Maker)**

CASE STUDY 9: **Supermarket store deliveries using waterways in Paris** (FRANCE)

Franprix supermarket stores in Paris are being supplied through a new multi-modal and urban transport chain solution. In this innovation, the last transport leg between regional distribution centre and retail shop occurs via waterways. The shipment is transported in a special container, sent from the warehouse to a river port in the periphery by truck, then by barge to the centre of Paris, shipped on the Seine river for a distance of 20 km to the Quai de la Bourdonnais in central Paris. From there another truck transports the containers to the shop on a very short trip.

4. **Lead the way: introduce targets for running own cleaner transport fleets, such as London Borough of Camden mentioned above. Procurement measures should encourage both public and private sectors to use Cleaner Transport Modes. (Policy Maker, Logistics Operator, End User)**



CASE STUDY 10: **Using biodiesel in commercial vehicles** (UK)

The London Borough of Hackney uses biodiesel to fuel its commercial vehicles. The local authority took the decision to introduce biodiesel into some of its fleet as part of its commitment to reduce its carbon footprint. The local authority's Fleet Manager is actively encouraging other boroughs and public sector organisations in London to consider biodiesel as an alternative fuel.[70]

Policy Measure 4: Collaborative & Informed Working Practices

What are Collaborative & Informed Working policies?

Collaborative & Informed Working policies can support the interaction of key stakeholders in a structured formalised approach such as Freight Quality Partnerships, and Charters; or in a less formal manner.

Freight Quality Partnerships bring together a wide range of freight stakeholders, including logistics operators, administrators, retailers, councils, freight shippers and trade associations to discuss relevant urban freight issues, and develop necessary action plans.

Cities with Collaborative and Informed Working policies

The LaMiLo "City Policy Review" (Action 8. Output 1.) provides details of the LaMiLo partner cities that have policies supporting the introduction of Collaborative and Informed working. Examples include:

In **Perth** (Scotland, UK), the regional transport policy Tactrans "Regional Transport Strategy, 2008[71]", recommends the establishment of a Regional Freight Quality Partnership to help deliver cost effective packages of freight-related interventions and identifies that early supportive work would include

investigations into possible improved road links and rail freight facilities at the ports of Montrose, Dundee and Perth.

In **Brussels** (Belgium), the regional "Strategic Plan for Goods Traffic in the Brussels – Capital Region, 2014[72]", specifically identifies 'Measure 12: Train and raise awareness of planning players and partners to urban distribution and logistics needs (2013 – 2020).'

Why introduce Collaborative and Informed Working policies?

There are a range of benefits, and costs to key stakeholders related to the introduction of collaborative and informed working policies:

Stakeholder	Benefit / positive impact	Cost / negative impact
Logistics Operator	Being an official member of a representative working group will enable the Logistics Operator to raise awareness of their own objectives and barriers, and to understand those of other stakeholders. Liaison with more informed stakeholders should contribute to more sustainable city logistics solutions.	There is a time commitment required to partake in collaborative working groups.
Policy Maker	Being an official member of a representative working group will enable the Policy Maker to raise awareness of their drivers, objectives and barriers, and to understand those of other stakeholders. Can support the introduction of other last mile logistics policy measures e.g. access, noise and time window restrictions. Will ultimately lead to cleaner and safer vehicle trips, meeting carbon reduction and safety targets.	Financial cost of establishing, implementing and servicing collaborative and informed working initiatives.
End User	Being an official member of a representative working group will enable the End User to raise awareness of their own objectives and barriers, and to understand those of other stakeholders.	There is a time commitment required to partake in collaborative working groups.

Top Tips for Implementing Collaborative & Informed Working policies

1. **Pull together a collaborative working group of stakeholder representatives in the early stages of city logistics policy development in order to develop a well-rounded set of realistic city logistics policies and solutions. (Policy Maker, Logistics Operator, End User)**

CASE STUDY 11: **Gothenburg City Logistics Initiatives (SWEDEN)**

The City of Gothenburg has developed and applied a bundle of city logistics policies and solutions, including the regulation of city centre and shopping area, developing new infra-structure, establishing a consolidation centre, promoting the use of clean vehicles, developing trials of innovative solutions, monitoring and data collection on new vehicles and new technologies. The solutions have been developed coherently and are supervised by a well-established network of experts active in different businesses and public sector institutions.

A local freight network has regular meetings 3-4 times a year with up to 25 participants from transporters, trade associations, local authority, academia, property owners, retailers. This has led to jointly developed length restriction in city centre, walking speed streets, parking and unloading good practice guide, and consolidation centre in city centre, and use of electric vehicles.

2. **Introduce a collaborative working group of stakeholder representatives to support the implementation of specific policy measures, e.g. Access, Noise and Time Window Restrictions. (Policy Maker, Logistics Operator, End User)**

CASE STUDY 12: **London Re-Timing Deliveries Consortium** (UK)

The London Re-Timing Deliveries Consortium established in 2014 is a voluntary partnership of Transport for London, London boroughs, retailers and members of the freight industry. Their work has helped form the creation of the new toolkit "Getting the Timing Right", which demonstrates how the timings of deliveries both in London and the UK could be made more flexible without adversely affecting business or local residents.[73]

QUIET CITIES
Enabling out-of-hours deliveries

Policy Measure 5: Consolidation Solutions

What are Consolidation Solutions?

Urban freight Consolidation Solutions consist of collection and distribution hubs for freight reassignment. These solutions are often initiated or supported by the public sector to reduce the number of delivery vehicles, facilitate the efficiency of freight vehicles loading/unloading in delivery bays, reduce the congestion on streets, and improve the quality of the service provided.

Large consolidation centres are typically established for receipt of goods on the edge of city centres, for consolidation and onward delivery often by sustainable transport into city centre areas. Smaller micro-consolidation centres often are more centrally located.

Other Consolidation Solutions include 'click and collect' or 'pick up and drop off points' where goods can be left for customer collection. This includes locker banks such as those operated by DHL, Amazon and

InPost, as well as collection points such as Doddle. See the LaMiLo "Urban Railway Hub Freight Expansion Feasibility Study" for more details including case studies, on these 'pick up and drop off point' consolidation solutions.

This section focuses predominantly on consolidation centres.

Consolidation centre solution in Copenhagen

Cities with consolidation centre policies

The LaMiLo "City Policy Review" (Action 8. Output 1.) provides details of the LaMiLo partner cities that have policies supporting the introduction of consolidation centres. Examples include:

In **Brussels** (Belgium), the regional planning policy document, "Draft Regional Sustainable Development Plan (Projet de Plan Regional de Developpement Durable, PRDD) 2013[74]", identifies three possible locations for an Urban Distribution Centre. The regional transport policy document, The "Strategic Plan for Goods Traffic in the Brussels – Capital Region, 2014"[75], goes on to identify specific measures to be taken in relation to the introduction of a consolidation centre, supported by the city authorities, to serve the central area, to tackle the situation in 2011 whereby 45% of the deliveries generated 80% of the journeys in Brussels.

In **Camden** (London, UK), the local planning policy documents "Camden's Core Strategy 2010-2050[76] and Camden's Development Policies 2010 – 2025, 2010[77]", provide policy support to the promotion and use of freight consolidation facilities. The regional planning policy, "The London Plan, 2011[78]", Identifies the need to safeguard land for logistics purposes including consolidation centres. London Borough of Camden's local transport policy, "Camden's Transport Strategy. Local Implementation Plan. 2011[79]", includes specifically policy 4.8: to work in partnership with logistics providers and local businesses to seek to establish the potential use of freight consolidation centres by businesses particularly in the south of the borough.

Why introduce Consolidation Solution policies?

There are a range of benefits, and costs to key stakeholders related to the introduction of Consolidation Solution policies:

Stakeholder	Benefit / positive impact	Cost / negative impact
Logistics Operator	Efficiency of deliveries will improve as the consolidation of freight flows increases, so reducing delivery costs. Use of consolidation centre will mean transporter does not need to enter the city centre and so may avoid access restrictions and associated costs. The consolidation centre itself can act as a driver-stop with facilities for breaks.	Imposes 'additional' costs on Logistics Operator (if they are charged for use of consolidation centre), which may not be clearly compared to existing costs if these are unknown by the transporters. Logistics Operator can perceive they are 'giving away their clients' by not making the delivery themselves.
Policy Maker	Number of polluting vehicle trips will reduce in city centre which will help improve air quality, and help improve road safety.	Loss of revenue from access restriction violations (for example a reduction in number of Penalty Charge Notices issues). Number of actual vehicles trips may increase in the city centre, if large polluting trucks use the consolidation centre, which then makes deliveries with smaller non-polluting vehicles, potentially increasing traffic congestion.
Stakeholder	**Benefit / positive impact**	**Cost / negative impact**
End User	Deliveries from a consolidation centre will mean the end user has a greater degree of control over when, where and how their deliveries will be made. Reduction in vehicle trips will lead to an improvement to the public realm, which will enhance the experience of the area.	There may be a perceived 'delay' in delivery times due to an extra link being added to the supply chain.

Top Tips for Implementing Consolidation Centres

1. **Contact LaMiLo project partners to find out more about their experiences of setting up and operating a consolidation centre, to learn from the experiences of others. (Policy Maker, Logistics Operator, End User)**

2. **Bring all stakeholders together to plan, develop and deliver a successful consolidation centre. Particularly important to get clear political support. (Policy Maker, Logistics Operator, End User)**

CASE STUDY 13: **CITYPORTO - last mile deliveries in Padua** (ITALY)

City Porto is an Urban Consolidation Centre (UCC) service operational in Padua, northern Italy, focusing on deliveries to the central area 'Low Traffic Zone' of 830,000 m^2. City Porto has been operating since 2004 and performs more than 100,000 deliveries per year (2012), for 65 customers (most of the couriers and forwarders operating in the city).

A Framework Agreement was introduced during the consolidation centre start-up phase which was approved at the highest level of the City and Province of Padua, the local Chamber of Commerce and the Public Transport agency. This stated a series of obligations for all the signing bodies.

In order to make the service attractive to transporters, specific regulation for access and loading/unloading in Padua city centre was introduced.

3. **Introduce other policy measures such as Access, Noise or Time Window Restrictions, or Kerbside Access & Loading Bays alongside Consolidation Solutions in order to drive up demand for the Consolidation Solution. (Policy Maker)**

Several consolidation centre case studies identified that the introduction of Access, Noise or Time Window Restrictions would be beneficial to the success of their operation (e.g. City Logistics in Copenhagen using an Urban Consolidation Centre, Binnenstadt Service Netherlands, The Green Link.)

CASE STUDY 14: **Centre for Eco-friendly City Freight Distribution (CEDM), Lucca** (ITALY)

The Centre for Eco-Friendly City Freight Distribution (CEDM) in Lucca represents a scheme of integrated actions whose goal is the implementation of a number of measures – regulatory, organizational, operational and technological – to enable the realization and operation of a new city logistics system.

The municipality has worked on delivering sustainable urban distribution solutions since 2003. The most tangible of these is LuccaPort, a consolidation centre. This has coincided with the introduction of policies and regulations restricting access to the historic city centre for goods distribution. From the introduction of the first pedestrian zone in 1967, legislation covering vehicle access to the historic centre has evolved to now cover Limited Traffic Zone, Pedestrian Zone A (in which loading/unloading is allowed) and Pedestrian Zone B (in which no loading / unloading activity is allowed). The maximum speed limit in the historic city centre is 30km/hour. Over the last 15 years access restrictions on weight and size of vehicles have been introduced and refined: commercial vehicles over 3.5 tonnes gross weight are banned, and maximum size limits are 5.4m long x 2m wide x 2.1 tall. Waivers to these restrictions are available for special circumstances.

Electric Vehicles are allowed access to the Limited Traffic Zone and Pedestrian Zone B without restriction. They are allowed into Pedestrian Zone A between 7am and 5pm to load/unload as long as they are no causing a danger to pedestrians.

These regulations did not have sufficient impact on the level of commercial vehicle activity in the city centre. As such, the city

authorities introduced a new regulation establishing 20 loading/unloading bays across the city, for mandatory use by non-EV vehicles, and for most load types (not including pharmaceuticals or high value items).

4. **Offer 'added value services' such as storage, pick and pack services, waste collection or advertising, to boost the consolidation centre's attractiveness and increase revenues. (Logistics Operator)**

CASE STUDY 15: **Binnenstadservice Nederland** (THE NETHERLANDS)

Binnenstadservice Nederland is an innovative concept that has been applied for five years in 15 cities in the Netherlands. Binnenstadservice manages an Urban Consolidation Centre (logistics depot and distribution service) on behalf of retailers and other organizations located in the city centre. Goods destined for these retailers are delivered to this consolidation centre, by freight operators. At this centre, goods are bundled and delivered to shops in the city centre. Simultaneously empties/packaging/paper is returned to the consolidation centre.

'Urban mining' and reverse logistics for waste from shops to consolidation centre reduces the overall number of trips made in the city. The shopkeepers pay the consolidation centre to take away their waste.

Through the LaMiLo project, Eco2City has undertaken a business to consumer (B2C) pilot in two Dutch cities. This has allowed customers who order goods online to select a city logistics service hub as the delivery address. Logistics operators then transported the goods by bike to the city hub, where they were consolidation before being delivered to the end users at home. In the same round-trip, the bike courier took back waste for resource recovery.

CASE STUDY 16: **Gothenburg City Logistics Initiatives** (SWEDEN)

The City of Gothenburg has developed and applied a bundle of city logistics policies and solutions, including the regulation of city centre and shopping area, developing new infra-structure, establishing a consolidation centre, promoting the use of clean vehicles, developing trials of innovative solutions, monitoring and data collection on new vehicles and new technologies. The solutions have been developed coherently and are supervised by a well-established network of experts active in different businesses and public sector institutions.

Whilst the initial phase of the consolidation centre was financed by projects, the local authority, trade association and property owner in the city centre; in the second phase additional funding came through selling marketing areas on the consolidation centre vehicle.

5. **City authorities, and others, should lead by example and actively seek to use consolidation centres located in their areas for their own deliveries, and support Sustainable Procurement policies. (Policy Maker, End User, Logistics Operator)**

CASE STUDY 17: **London Borough of Camden's London Boroughs Consolidation Centre** (UK)

London Boroughs Consolidation Centre

The London Borough of Camden together with partners Enfield and Waltham Forest, set up a consolidation centre trial for use by local authorities' suppliers of cleaning products and stationary. The consolidation centre logistics operator consolidates the goods running two trucks from the centre to 300 local authority buildings across the three boroughs. The trial expanded to include Islington Council, so the area covered by the consolidation centre is 157km^2 or 10% of London's geography. When Camden's new building in Pancras Square came into use, restricted with only one loading bay to handle approximately 100 deliveries per week, an additional 44 suppliers started using the centre, with an increased range of product categories.

This consolidation centre trial was established by End Users in January 2014. Camden has required its trial suppliers to use the consolidation centre, through their procurement processes. The local authorities have delivered a behaviour change programme to support their staff to change their ordering patterns and expectations. Following the trial, London Boroughs of Camden, Enfield and new partner Islington are continuing the operation of the consolidation centre, and the centre is actively seeking new clients.

6. **Need to encourage up front behaviour change of transporters, retailers, and end users in order to implement successful consolidation centres. (Policy Maker, Logistics Operator, End User)**

CASE STUDY 18: **The Regent Street Retail Consolidation Centre, London** (UK)

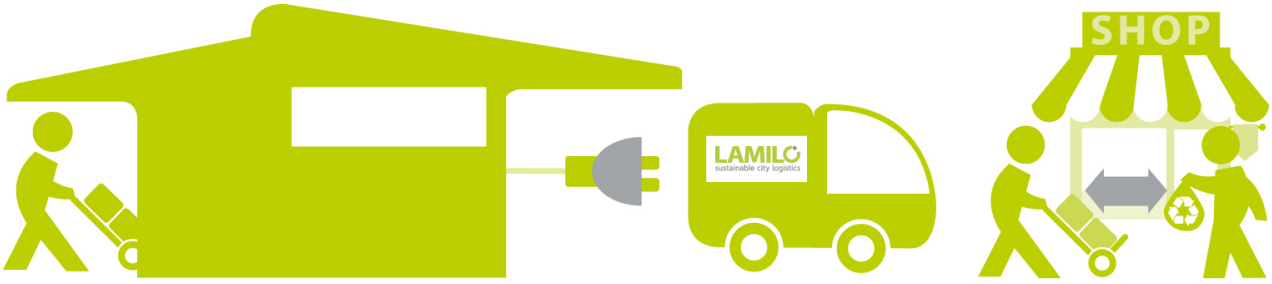
This consolidation centre was launched in 2009 and by 2014 was used by 34 shops (33% of the retailers on Regent Street). Since 2011 it has used an electric freight vehicle, a second electric freight vehicle was introduced in 2014[80].

The consolidation centre was launched at the start of the recession, so it was harder to sign up retailers to this voluntary scheme than initially envisaged. In order to combat this, more resources were directed towards marketing the consolidation centre.

This voluntary scheme, supported by the landowner, has been successful in a number of ways including overall reduction in the number of commercial vehicles making deliveries to Regent Street businesses of approximately 1% each day; and a reduction of 6,000kg to 11,000kg of CO_2 per annum through reduced mileage due to use of the consolidation centre.

7. **A clear understanding of the costs involved in delivering the last mile, need to be understood, in order to influence stakeholders' behaviour. (Policy Maker)**

CASE STUDY 19: **Brussels Consolidation Centre** (BELGIUM)



In order to tackle increasing and scattered freight movement within the city centre, Brussels Mobility promoted the trial of an urban consolidation centre in favour of logistics service providers and local retailers. In close collaboration with CityDepot, the operator of the consolidation centre, value added services have been tested in addition to last mile deliveries and were supported by a stakeholder group.

From September 2014 – May 2015 seven logistics operators / transporters have signed up to deliver all of their goods for central Brussels through the consolidation centre. In order to persuade transporters to change their behaviour and use the consolidation centre, it was important to identify that the service would not be more expensive for them to use, compared to them making the 'last mile' of the delivery themselves. As part of this process it became clear that many transporters did not know how much the last mile cost them.

CROSS RIVER PARTNERSHIP

LAMILO sustainable city logistics

Policy Measure 6: Construction Logistics Plans & Delivery Servicing Plans

What are Construction Logistics Plans & Delivery Servicing Plans?

Construction Logistics Plans (CLPs) & Delivery Servicing Plans (DSPs) can involve city authorities working with organisations to develop and implement CLPs and DSPs for new businesses or changes in operations through the statutory planning process, with the scope to enable businesses to achieve efficiencies in deliveries, improve safety and reduce environmental impacts. CLPs and DSPs can also be 'voluntarily adopted' by businesses, outside the planning process.

A CLP is tailored to development site requirements, a DSP is tailored to a building's requirements; and both consider the frequency of deliveries and collections, legal loading, servicing trips – including maintenance of office machinery, boilers and lifts, cleaning and waste removal, catering and vending. These frameworks identify best practice solutions for sustainable delivery methods and consolidation.

Cities with Construction Logistics Plans and Delivery Servicing Plans policies

The LaMiLo "City Policy Review" (Action 8. Output 1.) provides details of the LaMiLo partner cities that have policies supporting the introduction of CLPs and DSPs. Examples include:

In **Camden** (London, UK), the local planning policy "Camden's Development Policies 2010 – 2025, 2010[81]" includes specific policy 'DP16 the transport implications of development' which enables the requirement of Delivery and Servicing Management Plans and Construction Management Plans. This is complimented by the local transport policy "Camden's Transport Strategy. Local Implementation Plan. 2011[82] policy 4.4 to ensure that construction management plans are completed when appropriate.

In **Brussels** (Belgium), the regional "Strategic Plan for Goods Traffic in the Brussels – Capital Region, 2014[83]", measure 35 is to define Business Delivery Plans (BDP). Brussels companies with more than 100 staff members are already required to have a company diagnosis and plan for their employees and visitors, but this is very much focused on people and not on goods. Therefore Brussels Mobility, the regional mobility department, wants to have an additional tool. The goals are to rationalising the number of deliveries to and from the Brussels companies; and to use less polluting vehicles, including promotion of electric vans, bicycles and tricycles. Activities include: pilot projects, impact analysis, a review of how best to embed the system within the context of other business tools, development of standard documents, and identification of when the BDP will be required.

Why introduce Construction Logistics Plans & Delivery Servicing Plans policies?

There are a range of benefits, and costs to key stakeholders related to the introduction of CLP & DSP policies:

Stakeholder	Benefit / positive impact	Cost / negative impact
Logistics Operator	A CLP/DSP will encourage an efficient system of deliveries to site which should mean the Logistics Operator is able to plan their deliveries more effectively.	If time windows are introduced for deliveries to location, this can lead to the Logistics Operator circling the area to ensure the deliver in the right time slot.
Policy Maker	An effective CLP/DSP can embed other policy measures such as use of consolidation solutions; access, noise and time window restrictions, cleaner transport, sustainable procurement.	Need to issue guidance to businesses developing CLP/DSP, and provide support to staff reviewing CLP/DSP. Financial cost of on-going monitoring of effectiveness of CLP/DSP.

End User	The End User becomes knowledgeable about the impact of their deliveries, including the financial cost to them. By setting and monitoring targets, and implementing a Plan the End User will be able to clearly articulate the reduction in impact of their delivery and servicing activities. Once adopted there will be less freight traffic in the local area, reduced traffic congestion, positive impacts on air pollution, safer pedestrian and cyclist environment. Individual end users will save money with, lower operating costs, could save money by buying goods in bulk with other companies, be seen as a good neighbour, achieve corporate social responsibility objective, free up time staff spend receiving goods and procurement activities, use loading bays efficiently, improve security of deliveries & servicing, improve safety by reducing the number of vehicle movements, gain environmental credentials.	DSP's instructed through the planning process will have been prepared by the developer and not necessarily known or actively implemented by the leaseholder. There may be a need to change behaviour of End Users, and their supply chain in order to effect change. In order to do this, real financial cost data demonstrating the impact of last mile delivery solutions is required.

Top Tips for Implementing Construction Logistic Plan & Delivery Servicing Plan policies

1. **Prepare clear guidance for those responsible for preparing and delivering the CLP/DSP, as well as those reviewing the plans. (Policy Maker)**

2. **Use the statutory planning process to require submission, implementation and monitoring of high quality plans. (Policy Maker)**

3. **Use CLPs/DSPs to support the implementation of other city logistics policy measures such as Cleaner Transport; Sustainable Procurement; Access, Noise and Time Window Restrictions, Consolidation Solutions. (Policy Maker)**

4. **Set up a joint CLP/DSP monitoring and review function across multiple local areas (sub-region, region) to enable consistency, benefit from shared knowledge, economies of scale, and to gather the relevant financial cost data that would be beneficial in other behaviour change activities. (Policy Maker)**

5. **Encourage voluntary adoption of CLP/DSP as a way to embed a proactive approach to minimising the impact of last mile logistics on an area. (Policy Maker, End User)**

CASE STUDY 20: **Corporation of London's Delivery and Servicing Plans, London** (UK)

Corporation of the City of London require Delivery and Servicing Plans to be submitted through the statutory planning process for all major development and any other development that will cause significant impacts on the local or wider area, through operational deliveries and servicing. The City of London issues guidance to developers to assist in their preparation of a DSP. A review of the DSP process was initiated to evaluate the effectiveness of DSPs submitted 2009 - 2014, develop enhanced DSP guidance, and identify options for DSP management within the city authority.

CASE STUDY 21: **Clean Air Better Business (CABB) Delivery & Servicing Plan Work** (UK)

Cross River Partnership's Clean Air Better Business (CABB) programme is funded by the London Mayor's Air Quality Fund. It brings together central London businesses, through Business Improvement Districts (BIDS – area-based business membership groups), and local authorities to raise awareness of poor air quality caused by freight and taxi usage, and identifies potential measures to reduce its affect. One of the measures identified the 'voluntary' (i.e. not required through the statutory planning process) creation and adoption of Delivery & Servicing Plans by local businesses.

CABB has produced a leaflet to promote the offer of developing DSPs for businesses, explaining to both BIDS and businesses the benefits of DSPs, providing examples of the types of measures that could be adopted as part of developing bespoke DSP frameworks, and providing examples of businesses that have already adopted measures and the benefits they are realising including: reduce waste collection trips by 60% (Inmidtown BID), cut delivery costs by 6% (London Borough of Hackney), saved £100 per order (University of Westminster), increase delivery efficiency, safety and reliability (James McNaughton), increase contract award (KPMG), reduce costs through joint procurement with neighbouring businesses (Natural History & Science Museums).

A copy of this CABB DSP leaflet can be found at Appendix 8.

Policy Measure 7: Environmental Zones

What are Environmental Zone policies?

Environmental Zones involve the restriction of access, for example to city centres, for the most polluting vehicles in order to reduce vehicle emissions, noise, congestion and other negative environmental impacts, and thus enhance quality of life. Unlike other types of access restrictions, Environmental Zones apply at all times, 24 hours a day, 365 days a year.

Cities with Environmental Zone policies

The LaMiLo "City Policy Review" (Action 8. Output 1.) provides details of the LaMiLo partner cities that have policies supporting the introduction of Environmental Zones. Examples include:

In **London** (UK), the Low Emission Zone (LEZ) [84] currently operates to encourage the most polluting heavy diesel vehicles driving in London to become cleaner. The LEZ covers most of Greater London (1, 580 km2), and is in operation at all times. The scheme is enforced by cameras. Larger vans must meet Euro III emitting standards for particulate matter; lorries need to meet Euro IV emitting standards for particulate matter. Vehicles not meeting emission standards need to pay a daily charge of up to £200 per day, depending on size of vehicle. Between January to March 2015 the compliance rate was 99.2%[85]

In **Dortmund**[86] (Germany), there is a single LEZ covering the Ruhr area (820km2). From January 2013 diesel vehicles have to meet Euro IV emitting standards for particulate matter, and petrol vehicles must meet Euro 1 emitting standards. A Green sticker must be bought and placed in the windscreen. At the point of purchasing the sticker, the emissions of the vehicle are assessed. The zone is enforced manually by the police. If no sticker is present, the vehicle is in the Zone illegally. There is a EURO 80 fine for parking or driving illegally in the Zone.

In **Maastricht** [87] (The Netherlands), the town centre has been a LEZ since 1st March 2010 under a scheme called Milieuzone. It currently applies permanently, 365 days per year, to lorries over 3.5 tonnes Gross Vehicle Weight. No registration is required; it takes information from the Dutch vehicle registration database. Foreign vehicles are not enforced. There is a EURO 230 fine for breaking restrictions, however there are exclusions.

There are currently no LEZ's operating in Belgium, but it is interesting to note that LEZ's have become an option there since the legal framework was introduced on 25 October 2014. Antwerp will introduce the first LEZ in 2016.

Why introduce Environmental Zone policies?

There are a range of benefits, and costs to key stakeholders related to the introduction of Environmental Zones:

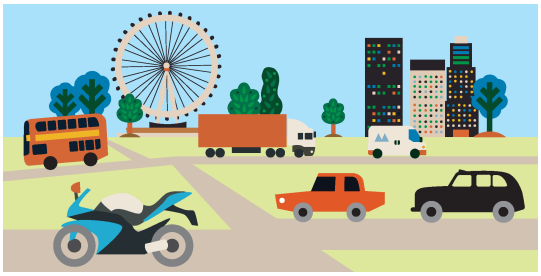
Stakeholder	Benefit / positive impact	Cost / negative impact
Logistics Operator	Provides a clear and consistent policy covering the whole city.	Financial cost relating to either ensuring fleet meets emission standards, or by incurring penalty charges.
Policy Maker	Reduced emissions will reduce the amount of air pollution within the city, with positive consequences for the quality of the city experience, the environment and the health of the citizens. Will encourage a more efficient, less polluting urban distribution system.	Financial cost relating to developing, installing and maintaining monitoring and registration infrastructure.
End User	The End User will benefit from a reduction in air pollution, including particulate matter which can contribute to asthma, heart and lung disease, other respiratory illnesses and even early death.[88]	

Top Tips for Implementing 'Environmental Zone' policies

1. **Use an Environmental Zone to support the implementation of other city logistics policy measures such as Cleaner Transport; Sustainable Procurement; Access, Noise and Time Window Restrictions; Consolidation Solutions. (Policy Maker)**

2. **Keep your policy up to date, to ensure maximum reduction in air quality is achieved. (Policy Maker)**

CASE STUDY 22: **Transport for London's Ultra Low Emission Zone** (UK)



The Mayor of London has committed to the introduction of an Ultra Low Emission Zone in London in 2020. The ULEZ will operate 24 hours a day, 7 days a week in the same area as the current Congestion Charging zone (CCZ). All cars, motorcycles, vans, minibuses and Heavy Goods Vehicles (HGVs) will need to meet exhaust emission standards (ULEZ standards) or pay an additional daily charge to travel within the zone.

3. **Organise an Environmental Zone to cover both passenger and goods transport to have a significant effect on air quality. (Policy Maker)**

Policy Measure 8: Freight in Strategies and Plans

What are Freight in Strategies and Plans policies?

Freight in Strategies and Plans policies make explicit reference to the need for 'freight' to addressed both within and across multiple policies including transport, planning, economic development, environmental, health & wellbeing.

Cities with Freight in Strategies and Plans policies

The LaMiLo "City Policy Review" (Action 8. Output 1.) provides details of the LaMiLo partner cities that have policies supporting the introduction of 'freight in strategies and plans'. Examples include:

In **London** (UK), both the regional planning policy "The London Plan, 2011[89]", and the regional transport policy "Mayor's Transport Strategy, 2010[90]" explicitly mentions the need to safeguarding land for logistics purposes such as consolidation centres, warehousing, distribution centres, vehicle parking / recharging.

In **Brussels** (Belgium), the "Draft Regional Sustainable Development Plan (Projet de Plan Regional de Developpement Durable, PRDD) 2013[91]" specifically outlines three potential locations for an Urban Distribution Centre. The region has put together a Strategic Plan for goods traffic, a document that outlines the main strategic measures for goods traffic to be completed in Brussels before 2050. This is the start of a regional approach targeted at freight, and will be updated every two years.

In **Paris** (France), the "Communaute D'Agglomeration Clichy-Sous-Bois Montfermeil Local Travel Plan (Plan Local de Déplacements PLD) 2013[92]" outlines the short-term programme of actions that implement the PDUIF within the 'departments' of Clichy-Sous-Bois and Montfermeil. Within this document Action 9 specifically refers the need to establish the most effective goods transport in the area to minimise noise, and make best use of loading bays and storage areas; and identify land that can be used for logistics purposes in the area.

In **Perth** (Scotland, UK), the national planning policy "Scottish Planning Policy, 2014[93]" directs that when preparing development plans, planning authorities should consider the need for improved and additional freight transfer facilities, safeguarding strategic freight sites; safeguard and expand provision of roadside facilities and provision for lorry parking; identify suitable locations for new or expanded rail freight interchanges; and consider facilities allowing for the transfer of freight from road to rail or water. This national policy reflects the importance of the freight industry to the country.

Why introduce Freight in Strategies and Plans policies?

There are a range of benefits, and costs to key stakeholders related to the introduction of Freight in Strategies and Plans:

Stakeholder	Benefit / positive impact	Cost / negative impact
Logistics Operator	Ensuring local logistics requirements are reflected in land use plans means Logistics Operator will benefit from space being safeguarded for logistics purposes. Ensuring the needs of the logistics industry is addressed consistently throughout different policy documents, should lead to clarity and consistency that will be of benefit to the Logistics Operator.	Land that has been safeguarded for logistics purposes may have conditions placed upon it.
Policy Maker	Ensuring land is safeguarded for logistics purposes will ensure last mile logistics solutions have options beyond what is available through the market. Aligning freight requirements throughout all relevant policy documents will reinforce policy measures, and ensure an embedded consistent approach to freight is taken.	Safeguarding land for freight may be difficult when competition for land between uses is high.
End User	There is no direct impact on the End User, but they will generally benefit from more effective sustainable freight management and last mile logistics solutions.	

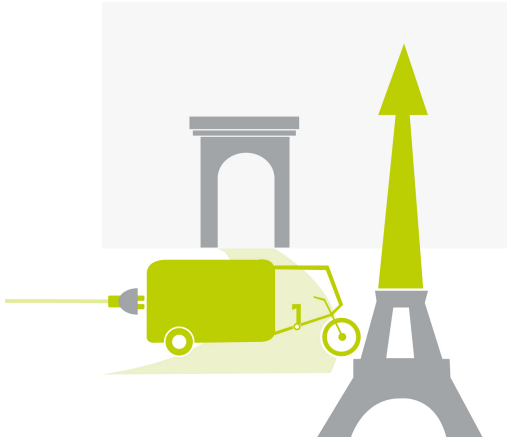
Top Tips for Implementing 'Freight in Strategies and Plans' policies

1. **Ensure freight requirements are represented widely in strategies and plans in order to support the implementation of last mile logistics solutions, as well as to support the introduction of other policy measures. (Policy Maker)**

CASE STUDY 23: The Green Link: last mile with cargo cycles and vans in Paris

The Green Link (TGL) is a company making parcels deliveries in central Paris with an entire fleet of battery electric vehicles. The business is proving to be profitable. TGL started operations in 2009 and is now using 3 urban depots (green hubs) in Paris and trying to develop in other French cities and other countries. At the end of 2013, the volume of parcels distributed was 2,500 per day, and the business were expected to grow to a volume of about 5,000 parcels per day in 2014.

The scale of business growth is limited by the size of the current available consolidation depots within the city centre. Rental cost of the depot can be very high in the city centre. If logistics requirements were allocated within local and regional plans there could be space 'reserved' for The Green Link to access.



Policy Measure 9: Harmonisation of Regulations at Regional Level

What are Harmonisation of Regulations at Regional Level policies?

Harmonisation of Regulations at Regional Level promotes consistent and clear policy and guidelines across a city. The consistent regulations could cover Delivery Service Plan guidelines and planning conditions, urban goods movements, traffic orders or access controls, and council supplementary planning guidance. The measure aims to reduce confusion, conflicting information and infringements, improve air quality and public health while increasing economic performance.

Cities with Harmonisation of Regulations at Regional Level policies

The LaMiLo "City Policy Review" (Action 8. Output 1.) provides details of the LaMiLo partner cities that have policies supporting the introduction of Harmonisation of Regulations at Regional Level'. Examples include:

In **Brussels** (Belgium) the Strategic Plan for Goods Traffic in the Brussels-Capital Region identifies 'Developing a Favourable Regional Framework' which will harmonise delivery times across the 19 municipalities as one of its five priorities to improve goods traffic. Measures to achieve this include:

- The publication of a 'Guide for Deliveries in the City' which will provide road authorities standardised guidance for the development and implementation of delivery zones.
- Regional parking plan to harmonise the implementation and enforcement of loading and unloading restrictions
- Stakeholder engagement across the region
- Provision of information via a website
- Undertaking pilots within certain municipalities experiencing specific issues.

Why introduce Harmonisation of Regulations at Regional Level policies?

There are a range of benefits, and costs to key stakeholders related to the introduction of Harmonisation of Regulations at Regional Level policies:

Stakeholder	Benefit / positive impact	Cost / negative impact
Logistics Operator	Harmonised regulations will lead to less confusion, increased compliance with associated reduction in financial penalties, more streamlined deliveries between regions reducing environmental impact. Harmonised regulations between cities will enable a level playing field where all logistics operators must work within the same regulatory parameters.	The chosen regulation adopted across a region, may be more restrictive than those in the areas in which the Logistics Operator uses the most.
Policy Maker	Harmonised regulations across regions should increase compliance levels. Harmonised regulations should enable harmonised implementation, review and enforcement activities across regions, spreading the costs, and achieving greater value for money.	It may be difficult to reach decisions where different decision makers with competing priorities are involved within and across regions. If compliance levels increase, the financial benefit from penalty payments could decrease.
End User	Harmonised regulations across regions will be clearer for end users, reducing the potential for non-compliance of regulations, which may result in less financial penalties being incurred and passed onto End User.	The chosen regulation adopted across a region, may be more restrictive than those in the areas in which the End User operates the most.

Top Tips for Implementing Harmonisation of Regulations at Regional Level policies

1. **Ensure harmonisation of political support. (Policy Maker)**
2. **Prepare for harmonisation of implementation, review and enforcement of regulations. (Policy Maker)**
3. **Provide, share and communicate information for effective implementation. (Policy Maker)**

Policy Measure 10: Intelligent Traffic Management Systems

What are Intelligent Traffic Management System policies?

This measure involves the use of an Intelligent Traffic Management (ITM) System for access control and route guidance.
ITM can be divided into:

- Freight transport management systems (e.g. fleet management systems, and tracking and tracing systems)
- Traffic management systems (e.g. access control systems, traffic management, and information systems).

Cities with Intelligent Traffic Management System policies

The LaMiLo "City Policy Review" (Action 8. Output 1.) provides details of the LaMiLo partner cities that have policies supporting the introduction of Intelligent Traffic Management Systems. Examples include:

In **Dublin** (Ireland), the national transport policy "Smarter Travel – A Sustainable Transport Future 2009[94]" identifies the use of enhanced enforcement of speed limits to improve road safety and vehicle emissions through increased use of Intelligent Traffic Systems (action 30), as one way to achieve a series of goals by 2020 including a reduction in GHG emissions.

Why introduce Intelligent Traffic Management System policies?

There are a range of benefits, and costs to key stakeholders related to the introduction of Intelligent Traffic Management Systems:

Stakeholder	Benefit / positive impact	Cost / negative impact
Logistics Operator	Traffic Management Systems may enable Logistics Operator to use additional road space during certain times, enabling quicker delivery times. Freight transport management system could improve fleet efficiency, reduce fuel costs, reduce driver hours.	Financial cost relating to implementing and maintaining freight transport management system, maybe involving a change in business model.

Policy Maker	Traffic Management Systems provide opportunities for maximisation of road space for the benefit of all users. Traffic Management Systems should reduce traffic congestion and so reduce air pollution.	Financial cost relating to implementing and maintaining traffic management system. Must ensure any variable road use is made clear to End Users to avoid decrease in road safety.
Stakeholder	**Benefit / positive impact**	**Cost / negative impact**
End User	The End User will benefit from a more pleasant environment.	Potential for confusion over who is main road user (bus, pedestrian, car, lorry) which may result in increased risk of road accident.

Top Tips for Implementing 'Intelligent Traffic Management' policies

1. **Use 'Intelligent Traffic Management Systems to support the implementation of other city logistics policy measures such, access, noise and time window restrictions. Use 'Intelligent Traffic Management Systems to support the enforcement of other city logistics policy measures such, access, noise and time window restrictions, for example, in Dublin, Intelligent Traffic Systems will be used to enhance the enforcement of speed limits. (Policy Maker)**

CASE STUDY 25: **New loading / unloading regulation and parking meter/loading bay surveillance in Lisbon** (PORTUGAL)

The Lisbon Transport Authority (known as EMEL) has developed a new solution that helps mitigate specific traffic problems. The solution consists in the development and implementation of two technology based schemes:

• Adapted Parking Meters that issue special tickets for 30 minutes of unloading/loading operations

• Detection sensors that detect the presence of a vehicle in the loading bay and send a message to the control centre of the Transport Authority (EMEL).

The introduction of parking meters and sensor technology for six months enabled city authorities to understand the effectiveness of the technology, provide data on citizen behaviour, and establish political will to roll out the approach city wide.

Seen as a political success, since following pilot phase the politicians decided to expand the system to cover the whole city area.

The real effectiveness of restrictions to loading bays use (from commercial activities or illegal use from private cars) will work through the use of technology to support enforcement.



Loading bay surveillance, and parking payment infrastructure, Lisbon.

2. **Before implementing an Intelligent Traffic Management System, ensure the right data is open, and available to you at an acceptable cost. (Policy Maker)**

CASE STUDY 26: **ILOS: Intelligent Freight Logistics in Urban areas: Freight Routing Optimisation in Vienna** (AUSTRIA)

The objective of ILOS is the development and definition of indicators to describe the saving potential of transport journeys in urban areas using traffic information obtained through floating car data, as well as the development of appropriate quantification methods to determine these indicators from route analyses in order to achieve a possible saving potential in terms of time or distance. This in turn leads to savings in fuel, emissions and operating costs.

The indicators and methods developed in the ILOS project were used to demonstrate to transporters potential savings (cost and emissions), and to go a step further with methods for traffic sensitive route and tour planning. ILOS is not available as a tool, but the indicators and methods developed can be used to support transport companies.

The main problem was that the methods developed in ILOS needed detailed time-dependent traffic information; therefore some data source for this information is required. In Vienna the case study used 'floating car data' from taxi cabs, which was available to the case study institute for research purposes. The whole method is strongly dependent on the availability of such data.

Policy Measure 11: Kerbside Access & Loading Restrictions

What are Kerbside Access & Loading Restriction policies?

Kerbside Access & Loading Restrictions offer access to loading bays to whose operators who meet certain criteria set by public administrations, as well as an incentive towards the use of "cleaner" vehicles. The restrictions may cover time, vehicle size or vehicle type and have a direct impact on the environment, economy and energy efficiency.

Cities with Kerbside Access & Loading Restriction policies

The LaMiLo "City Policy Review" (Action 8. Output 1.) provides details of the LaMiLo partner cities that have policies supporting the introduction of Kerbside Access & Loading Restrictions. Examples include:

In **Camden** (London, UK), the local authority's Transport Strategy, Local Implementation Plan 2011[95] includes policies specifically to consider waiting and loading restrictions (policy 4.5), and to carry out parking enforcement in a fair and proportionate manner and aim to achieve further compliance of parking regulations and reduce the number of Penalty Charge Notices (PCNs) issued (policy 8.3 and 8.4).

Why introduce Kerbside Access & Loading Restriction policies?

There are a range of benefits, and costs to key stakeholders related to the introduction of Kerbside Access & Loading Restrictions:

Stakeholder	Benefit / positive impact	Cost / negative impact

Logistics Operator	If a Logistics Operator meets kerbside access and loading restriction criteria, they will have a competitive advantage over other transporters.	Ensuring transport meets specified requirements (e.g. Electric vehicles). Changing operation model to avoid restrictions (e.g. use consolidation centre). Payment of fines for not meeting restrictions. For time restrictions – reduction in available delivery time slot results in higher number of transporters trying to deliver at the same time, leading to greater congestion in city. Confusion amongst drivers and operators regarding which kerbside / loading bays can/cannot be accessed at different times can lead to unnecessary vehicles trips, increasing congestion and air pollution.
Stakeholder	**Benefit / positive impact**	**Cost / negative impact**
Policy Maker	Possible revenue increase in relation to payment of fines for non-compliance with restrictions. Can support the introduction of other last mile logistics policy measures. Enables more efficient use of the road.	Financial cost of implementing and enforcing restrictions. Knock on effects from one street with kerbside access and loading restrictions, onto other nearby streets without restrictions.
End User	For time restrictions – Logistics Operator will use specific pre agreed window of time for deliveries which allows businesses to plan more effectively.	The restrictions could dictate when a business will receive its deliveries, requiring that business to make costly changes to its business model to accommodate the changes.

Top Tips for Implementing Kerbside Access & Loading Restriction policies

1. **Use Kerbside Access & Loading Restriction policies to support the implementation of other city logistics policy measures such, Cleaner Transport Modes. (Policy Maker)**

2. **From the start of the project, implement a clear communication plan to end users. (Policy Maker)**

3. **Enforce restrictions that are in place, to ensure maximum impact. (Policy Maker)**

CASE STUDY 27: **Logistics tool for delivery management in exhibition centres, MCH Messe Basel** (SWITZERLAND)

At the Exhibition Centre of Basel, the largest in Switzerland, the operator MCH Messe Basel introduced a new logistics booking system. Exhibitors stand builders and other suppliers have to register in advance via a designated online logistics tool for all deliveries and pick-ups to the venues. All logistic processes are managed and handled by the trade fair's logistics operator. This logistics tools offers a solution for the specific problem of the Messe Basel Exhibition Centre, but is highly transferable to many urban facilities or logistics intensive campuses elsewhere.

Policy Measure 12: Sustainable Procurement

What are Sustainable Procurement policies?

Sustainable Procurement is defined as a process whereby organisations meet their needs for goods, services, works and utilities in a way that achieves value for money on a whole life basis in terms of generating multiple benefits, whilst minimising damage to the environment.

Cities with Sustainable Procurement policies

The LaMiLo "City Policy Review" (Action 8. Output 1.) provides details of the LaMiLo partner cities that have policies supporting the introduction of Sustainable Procurement. Examples include:

In **Camden** (London, UK), the local authority spends over £400 million revenue annually on procuring a wide range of works, goods and services. The boroughs Procurement Strategy[96] recognised the importance of effective procurement by adopting a new procurement operating model which was fully implemented in April 2011. In relation to last mile logistics this procurement strategy is linked to the local authorities Camden Plan - Strategic Objective 4 "Investing more in our communities to ensure sustainable neighbourhoods" specifically through assessing whether logistics can be organised differently to reduce carbon emissions. The procurement strategy aims to improve the environment through establishing an efficient distribution network through a consolidation centre in order to minimise the number of large vehicles entering the borough.

Why introduce Sustainable Procurement policies?

There are a range of benefits, and costs to key stakeholders related to the introduction of Sustainable Procurement policies:

Stakeholder	Benefit / positive impact	Cost / negative impact
Logistics Operator	If a transporter meets the client's sustainable procurement criteria, they will have a competitive advantage over other Logistics Operators.	Ensuring transport meets sustainable procurement requirements (e.g. Electric or zero emissions delivery vehicles). Changing operation model to accommodate requirements (e.g. use consolidation centre).

Stakeholder	Benefit / positive impact	Cost / negative impact
Policy Maker	Can support the introduction of other last mile logistics policy measures.	Need to have strategic understand of an area's sustainable procurement policies to ensure appropriate infrastructure and policies are in place to support logistics requirements e.g. ensuring available loading bays for electric vehicles, enabling retiming of deliveries.
End User	Where the end user is the procurer of goods, they will be able to influence their supply chain through their sustainable procurement policies, enabling them to impact positively on their scope 3 GHG emissions reporting requirements, and to contribute positively to their Corporate Social Responsibility agenda. Can support other End User led last mile logistics policy measures e.g. Delivery & Servicing Plans. A review of procurement policy can lead to more effective and efficient use of procurer's resources.	Sustainable procurement policies may mean that the most value for money option, is not the cheapest financially.

Top Tips for Implementing Sustainable Procurement policies

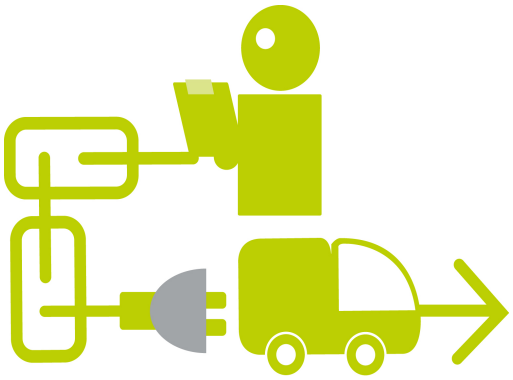
1. **Encourage Sustainable Procurement policies to support the implementation of other city logistics policy measures such; Cleaner Transport Modes; Access, Noise and Time Window Restrictions, Delivery Servicing Plans. (Policy Maker)**

2. **Lead by example. As large procurers within their own right, policy makers can lead by example and introduce Sustainable Procurement practices themselves. (Policy Maker, End User)**

3. **Use the procurement process to uncover the cost of delivering the goods. This information will be helpful if considering implementing other last mile logistics policy measures such as consolidation centres. (Policy Maker, End User)**

4. **Purchasing power impacts the successful implementation of sustainable procurement policies. Small procurers can club together to build a large enough 'purchasing power' to change behaviours. (End User)**

CASE STUDY 28: **London Borough of Camden's London Boroughs Consolidation Centre** (UK)



The London Borough of Camden, together with partners Enfield and Waltham Forest, set up a consolidation centre trial for use by local authorities' suppliers of cleaning products and stationary. The consolidation centre logistics operator consolidates the goods running two trucks from the centre to 300 local authority buildings across the three boroughs.

As part of this LaMiLo demonstration project London Borough of Camden
used their own buying power to influence their behaviour of their suppliers. New framework agreements covering the contractual arrangements between the local authority and suppliers required the transparency of 'last mile' delivery costs. This has enabled cost savings to be identified when suppliers have used the Consolidation Centre.

In addition to this, Camden have undertaken an internal procurement behaviour change programme, moving away from the multiple small orders placed for next day delivery, to more bulk ordering once or twice a week. This has resulted in 800 less orders placed in one year, with the average order value increasing by 30%. This benefits not only the local authority who have less staff time involved in processing orders, receiving goods and making invoice payments; but also suppliers who have a greater number of more cost effective larger orders to process, goods to deliver and invoices to raise.

4.0 Recommendations for Improved Local Last Mile Logistics Policy Measures

Drawing from the research undertaken in this report, a series of 10 recommendations have been made in relation to the future design of local last mile logistics policy measures and their implementation into last mile logistics solutions. These recommendations are made to the following key stakeholder groups: Policy Maker, Logistics Operator, End User.

Phasing		Recommendation	Action
THROUGHOUT		1. Provide transparent financial, environmental and social costs and benefits of delivering goods and services to help inform procurement decisions around uptake of last mile logistics solutions.	Policy Maker Logistics Operator End User
		2. Actively engage key stakeholders (end users, logistics operators and policy makers) in the design, development, implementation and review of last mile logistics solutions. Ensure political support.	Policy Maker Logistics Operator End User
		3. Communicate costs and benefits of last mile logistics solutions to all stakeholders, and implement a last mile logistics awareness raising campaign to achieve behaviour change.	Policy Maker Logistics Operator End User
	DESIGN Phase	4. Do not implement last mile logistics solutions in isolation. Seek to implement cleaner transport methods including modal shift, alongside other measures such as sustainable procurement policies, environmental zones and consolidation solutions, to achieve greater environmental benefit.	Policy Maker
		5. Review city access restrictions and other regulations and policies to identify opportunities for change.	Policy Maker
	IMPLEMENTATION Phase	6. Provide clear accessible guidance about the take up of last mile logistics solutions to end users and others to support rapid adoption and high compliance rates, and therefore ensure maximum benefits are achieved.	Policy Maker Logistics Operator
		7. 'Lead the Way': Become a Last Mile Logistics Lead Organisation and initiate last mile solutions. Identify 'Last Mile Logistics Champions' within the organisation to drive forward the solutions, and get others on board.	Policy Maker Logistics Operator End User
		8. Enforce last mile restrictions and policies in order to maximise their benefits, working within existing regulations and developing new regulations to accommodate this if necessary. Maximise the use of technology to support effective enforcement.	Policy Maker
		9. Share data amongst public and private sector stakeholders on the effectiveness of last mile logistics solutions to inform the continued development and implementation of successful policy measures.	Policy Maker Logistics Operator End User

	REVIEW Phase	10. Keep last mile logistics policy measures up to date with an annual review to reflect changes in technology, cleaner modes of transport, the environment, economy and society.	Policy Maker

5.0 Next Steps

The following five key next steps should be undertaken by cities, in order to implement the recommendations outlined in section 4:

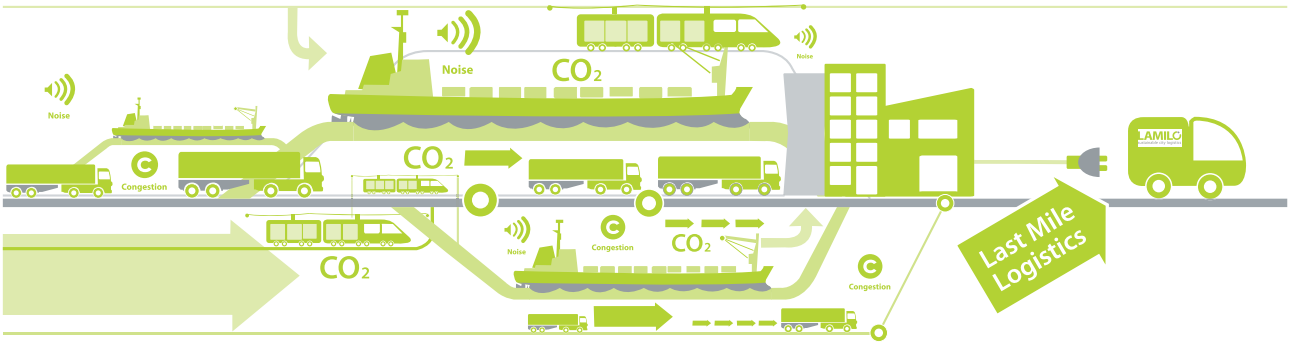
1. **Engage.** Understand who your last mile stakeholders are, and engage with them. Join existing stakeholder forums, or develop new forums as appropriate. Stakeholders, including logistics operators and end users, will be key to the success of any attempt to improve the impact of last mile logistics in your city.

2. **Explore.** Explore existing policies that influence your cities last mile logistics. Identify whether existing policies have the desired effects. Look at other cities experiences and what has worked for them.

3. **Improve**. Review, revise and expand your policy measures into a plan to reduce the impact of last mile logistics in your city. Take a strategic approach, working with other local, sub-regional and regional stakeholders to ensure policies work with each other, not against each other.

4. **Go for it.** Implement your policies; Lead the Way. Remember that many policy measures will support each other.

5. **Connect and share.** Share your experiences and findings with local, sub-regional, regional, national, and international interested parties. The more we know about what does and does not work, the sooner we will be able to make a significant impact on the problems of air pollution,



noise, traffic congestion, and road safety associated with last mile logistics. This will result in our cities becoming more economically competitive and more pleasant places to be.

Appendix 1:

The World Bank's "Freight Transport for Development: A policy toolkit"

Relevant organisations for freight transport policy makers.

International Development Agencies		Name	Site
World Bank		World Bank	http://www.worldbank.org
ADB		Asian Development Bank	http://www.adb.org
UNCTAD		United Nations Conference on Trade and Development	http://unctad.org
UNESCAP		United Nations Economic and Social Commission for Asia and the Pacific	http://www.unescap.org
UNECE		United Nation Economic Commission for Europe	http://www.unece.org
Sector Organizations			
Trade	WTO	World Trade Organization	http://www.wto.org
Trade	GFP	Global Facilitation Partnership for Transportation and Trade	http://www.gfptt.org
Roads	PIARC	World Road Organization	http://www.piarc.org/en/
Transport	IRU	International Road Transport Union	http://www.iru.org
Rail	UIC	International Union of Railways	http://www.uic.org
Air	TIACA	The International Air Cargo Organization	http://www.tiaca.org

Maritime	IMO	International Maritime Organization	http://www.imo.org
Forwarders	FIATA	International Federation of Freight Forwarders Associations	http://www.fiata.com
Logistics	IFWLA	International Federation of Warehousing and Logistics Associations	http://www.ifwla.com
Logistics	F&L	The European Freight and Logistics Leaders Forum	http://www.freightandlogistics.eu/
Shippers	ESC	European Shippers' Council	http://www.europeanshippers.com/

Appendix 2: EU Legislation affecting Last Mile Logistics Solutions in North West Europe

Directive & Regulation	Title
Intelligent Transport Systems	
Directive 2010/40/EU	Framework for the Deployment of Intelligent Transport Systems
Road Charging	
Directive 1999/62/EC	on the charging of heavy goods vehicles for the use of certain infrastructures
Directive 2006/38/EC	amending Directive 1999/62/EC on the charging of heavy goods vehicles for the use of certain infrastructures
Directive 2011/76/EU	amending Directive 1999/62/EC on the charging of heavy goods vehicles for the use of certain infrastructures
Clean Vehicles	
Directive 2009/33/EC	on the Promotion of Clean and Energy Efficient Road Transport Vehicles
Regulation No 100 of the Economic Commission for Europe of the United Nations (UNECE)	Uniform provisions concerning the approval of battery electric vehicles with regard to specific requirements for the construction, functional safety and hydrogen emission (revision 2) 14/02/2009
Air Quality	
Directive 2001/81/EC	on national emission ceilings for certain atmospheric pollutants
Directive 2002/49/EC	relating to the assessment and management of environmental noise - Declaration by the Commission in the Conciliation Committee on the Directive relating to the assessment and management of environmental noise
Directive 2004/107/EC	relating to arsenic, cadmium, mercury, nickel and polycyclic aromatic hydrocarbons in ambient air
Directive 2008/50/EC	on ambient air quality and cleaner air for Europe. Sets legally binding limits for concentrations in outdoor air of major air pollutants that impact public health such as particulate matter (PM10 and PM2.5) and nitrogen dioxide (NO_2).
Noise	
Directive 70/157/EEC Council of 6 February 1970	on the approximation of the laws of the Member States relating to the permissible sound level and the exhaust system of motor vehicles.
Directive 2001/43/EC of the European Parliament and of the Council of 27 June 2001	amending Council Directive 92/23/EEC relating to tyres for motor vehicles and their trailers and to their fitting
Directive 2002/49/EC	relating to the assessment and management of environmental noise - Declaration by the Commission in the Conciliation Committee on the Directive relating to the assessment and management of environmental noise
Regulation (EC) No 219/2009 of the European Parliament and of the Council of 11 March 2009	adapting a number of instruments subject to the procedure referred to in Article 251 of the Treaty to Council Decision 1999/468/EC with regard to the regulatory procedure with scrutiny — Adaptation to the regulatory procedure with scrutiny — Part Two
Regulation (EU) No 540/2014 of the European Parliament and of the Council of 16 April 2014	on the sound level of motor vehicles and of replacement silencing systems, and amending Directive 2007/46/EC and repealing Directive 70/157/EEC

Drivers House & Tachographs	
Regulation (EC) No 561/2006 of the European Parliament and of the Council of 15 March 2006	on the harmonisation of certain social legislation relating to road transport and amending Council Regulations (EEC) No 3821/85 and (EC) No 2135/98 and repealing Council Regulation (EEC) No 3820/85 - Declaration
Regulation (EU) No 165/2014 of the European Parliament and of the Council of 4 February 2014	on tachographs in road transport, repealing Council Regulation (EEC) No 3821/85 on recording equipment in road transport and amending Regulation (EC) No 561/2006 of the European Parliament and of the Council on the harmonisation of certain social legislation relating to road transport
EC Regulation 2135/98 and EC Regulation 1360/2002 (as amended); EC Regulation 2479/95 on tachographs, EC Regulation 3314/90 on tachographs, EC Regulation 3688/92 on tachographs.	
EC Regulation 3820/85 on drivers' hours	Replaced by Regulation (EC) No 561/2006. For comparison of changes see: http://www.busking.co.uk/images/new%20EUDrivers%20Hours%20Regs%20from%2011%204%2007.pdf
European Agreement Concerning the Work of Crews on Vehicles Engaged in International Road Transport (AETR) (Cm 7401) (as amended by Cmnd 9037)	
Health & Safety	
Directive 2002/15/EC of the European Parliament and of the Council of 11 March 2002	on the organisation of the working time of persons performing mobile road transport activities
Directive 2003/88/EC of the European Parliament and of the Council of 4 November 2003	concerning certain aspects of the organisation of working time
Cargo-Bikes	
Regulation (EU) No 168/2013 of the European Parliament and of the Council of 15 January 2013	on the approval and market surveillance of two- or three-wheel vehicles and quadricycles
Alternative Fuels	
Directive 2009/33/EC of the European Parliament and Council	Promoting non-polluting and energy efficient road transport vehicles
Directive 2014/94/EU of the European Parliament and of the Council of 22 October 2014	on the deployment of alternative fuels infrastructure

Appendix 3: DG MOVE European Commission Study on Urban Freight Transport. Recommendations from the Final Report. April 2012

European Union Level		
Policy	1. **Internalisation of External Costs in Urban Areas**	Timescale
Recommendation	The EU should continue to develop its policy of road pricing based on the internalization of net external costs and it should be applied to all kinds of road vehicles that operate in urban areas as well as to strategic freight and passenger transport movements. The system should replace existing forms of taxation on the ownership and use of road vehicles, including duty on fuel, rather than being an additional charge. Any net revenues from the road pricing scheme should be used to improve urban mobility.	Long term (after 2020)
Policy	2. **R&D into Zero and Low Emission Vehicles**	Timescale
Recommendation	The EU should continue to fund integrated R&D on a technology-neutral basis into low emission vehicles, fuels and infrastructure for UFT, taking into account safety and legal considerations and also considering how to overcome barriers to their market take-up and use by industry and the public sector.	Short and medium term (2012-2020)
Policy	3. **Research into Organisational, Institutional & Business Models for the Deployment of ITS for UFT in Urban Areas**	Timescale
Recommendation	The EU should fund research into the most appropriate organisational, institutional and business models for the deployment of ITS to move towards the rapid implementation of ITS on an interoperable basis by the relevant local, regional and national authorities in partnership with private sector providers. The research should include consideration of including charges for ITS within road user charging schemes.	Short-Term (2012-15)
Policy	4. **Investigation of Standards for Low Noise Equipment for Freight Vehicles**	Timescale
Recommendation	The EU should carry out a cost-benefit analysis for the inclusion of low noise equipment in manufacture standards for freight vehicles and associated loading and unloading equipment, so that future generations of vehicles and other equipment are most likely to be suitable for night-time deliveries without additional capital investment	Short Term (2012-15)
Policy	5. **Intermodal transfer facilities and other infrastructure (TEN-T) Funding for UFT**	Timescale

Recommendation	The EU should fund projects of common interest in urban nodes on the TEN-T that: 1) Develop intermodal freight terminals in logistics zones for the transfer of freight between rail/waterborne transport for medium to long distance flows and road for 'last mile' deliveries. 2) Develop refuelling infrastructure for LEV freight vehicles 3) Deploy ITS that specifically improves the efficiency of UFT operations; 4) Removes bottlenecks on inter-urban TEN-T links.	Short, medium and long-term (2012-30)
Policy	**6. Urban Logistics Plans (ULPs)**	Timescale
Recommendation	The EU should develop guidance on the development of Urban Logistics Plans (ULPs) as an integral part of Sustainable Urban Mobility Plans. The completion of a high quality ULP should be a prerequisite for the receipt of EU funding for UFT measures from CIVITAS, TEN-T and Cohesion Funds.	Short-term (2012-15)
Policy	**7. CIVITAS Programme**	Timescale
Recommendation	The EU should focus on the following key priority areas within the CIVITAS Programme: 1) Development of Urban Logistics Plans, including data collection and evaluation methodologies 2) Development of demand-side rather than supply-side UFT measures 3) Implementation of demonstrations of ITS projects in urban areas with specific UFT applications 4) Implementation of innovative UFT measures at a European Level 5) Effective dissemination of results, following a high quality ex-post evaluation of results, is essential for the future success of the Programme.	Short and medium term (2012-20)
Policy	**8. Definition & Dissemination of Good Practice**	Timescale
Recommendation	The EU should develop 'best practice' guidelines for sustainable UFT and then disseminate these guidelines by means of a single already established website that "showcases" examples of innovation in sustainable UFT measures and practices at a local level.	Short, medium and long-term (2012-30)
Policy	**9. Promoting Sustainable UFT in Europe**	Timescale
Recommendation	The European Commission should promote the development of sustainable UFT through: 1) An annual award scheme for sustainable UFT that "showcases" examples of innovation in sustainable UFT measures and practices at a local level. 2) Making sustainable UFT a 'political priority' within the Marco Polo Programme so that a proportion of the total funding is reserved for services that involve sustainable UFT practices within long distances door-to-door transport chains.	Short and medium-term (2012-20)

Local Level	
Best Practice	Recommendation
1. **Time Windows**	Delivery time windows should be applied only in limited areas of city centres (e.g. pedestrianised zones) and made as wide as possibility to facilitate economically efficient logistics and reduce congestion in peak hours, while not causing major conflicts with pedestrians. An adequate quantity of dedicated on-street loading/unloading bays for freight vehicles should be provided in reasonable proximity to the restricted areas to enable deliveries and collections to be made on foot at other times of the day.
2. **Vehicle Weight & Size Restrictions**	As a general rule, size and weight restrictions for road freight vehicles should only be applied in urban areas where larger vehicles would be unsafe or inappropriate (e.g. in narrow streets in heritage cities) to avoid the restructuring of the road freight transport fleet that serves a particular city in favour of larger numbers of smaller vehicles that contribute to greater road traffic congestion and environmental emissions and leading to the risk of sub-optimal efficiency in 'last mile' distribution.
3. **Low Emission Zones**	Low Emission Zones are a way to reduce emissions from road vehicles circulating in urban areas and incentivize freight transport operators to modernize their fleets and adopt cleaner engine technologies. However, LEZs should be applied to both freight and passenger vehicles to maximize their effectiveness and the LEZs in regions or countries should as far as possible be harmonized so that road freight transport operators are able to deploy their fleets in a flexible way.
4. **Harmonisation of Regulations at a Regional or National Level**	Groups of city authorities should seek, wherever possible, to harmonise regulations of all kinds that affect UFT at a regional level (for the larger Member States) or national level (smaller Member States) in order to assist road freight transport operators to maximize the use of the vehicles and to adopt appropriate fleet procurement strategies for the future.
5. **Use of Indirect Subsidies to Encourage Sustainable UFT**	City authorities should seek to encourage the development of sustainable UFT through a policy of differentiation (i.e. indirect subsidies) for zero and low-emission vehicles or vehicles operating from UCCs or for the greater use of third party logistics providers, rather than through direct subsidies that are more likely to distort competition in the freight market to a significant extent. This can be achieved through exemptions from charges or regulations.
6. **Land Use Planning**	City authorities should adopt planning policies and rules that: • Require the zoning of some commercial activities that generate UFT activity, including logistics activity, so that greater economies of scale can be achieved for UFT operators (while considering the impact also on passenger transport) • Require new developments to make adequate provision for off-street loading/unloading facilities for freight vehicles. • Safeguard sites in urban areas that can be used on a commercial basis for rail and waterborne freight transfer. • Only allow large-scale distribution sites on the outskirts of Metropolises and Other Large Urban Areas if they are (or can easily be) connected to the rail and / or waterborne freight networks. • Are fully integrated with Urban Logistics Plans.

7. **Adequate On-Street Loading & Unloading Bays**	City Authorities should ensure that freight vehicles are able to park legally on the street in order to make deliveries and collections and in reasonable proximity to origins and destinations of traffic. The requirements in each urban area will vary significantly, but in some cities where there is a shortage of on-street parking, a network of designated bays should be established and their dedicated use for freight vehicles should be enforced; city authorities could levy a charge on UFT operators for parking in these bays. Freight loading and unloading bays should be provided reasonably close to zones with time windows so that freight deliveries and collections can be made on foot inside the zones even when direct access for the vehicles is not possible.
8. **Use of Non-Road Modes for UFT**	City authorities should consider public investment schemes in UFT that involve non-road modes of transport on a case-by case basis, but should generally focus on improving the efficiency and sustainability of road freight transport as non-road schemes for "last mile" deliveries are usually only commercially and/or economically viable in very specific circumstances.
9. **Urban Logistics Plans**	City authorities should develop Urban Logistics Plans to ensure that packages of UFT measures have been developed following analysis of the likely impacts and after extensive consultation. These Plans should include the collection of some freight data and some ex ante and ex post evaluation of impacts. These plans can most effectively be delivered by staff that are able to specialize in freight issues.
10. **Freight Quality Partnerships**	City authorities (Metropolises and Other Large Urban Zones and Smaller Heritage Urban Areas) should develop ways to consult with all relevant stakeholders before measures affecting UFT are implemented. This could be achieved through a network of freight transport operators and their customers and other stakeholders that meet on a periodic basis to discuss practical issues related to UFT, prior to effective implementation to secure concrete results.
11. **On-line Single Windows for Freight**	City authorities (particularly Metropolises and perhaps some Other Large Urban Zones) should develop on-line single windows specifically for freight to provide a single source of regulatory and compliance information for the freight industry.
12. **Delivery Service Plans**	City authorities (Metropolises and Other large Urban Zones) should initiate schemes to encourage large organizations to develop Delivery Service Plans that can lead to the consolidation of demand for UFT into fewer loads. City authorities (Metropolises and Other large Urban Zones) should initiate schemes to encourage large organizations to develop Delivery Service Plans that can lead to the consolidation of demand for UFT into fewer loads. City authorities, along with other relevant planning bodies, should also consider whether the developers of office or retail developments should be required by planning rules to develop and then implement Delivery Service Plans that minimize freight movements to and from their premises, just as they are increasingly required to develop Green Travel Plans in relation to employees' journey to work.
13. **Urban Consolidation Centres**	City authorities should, wherever possible, focus on providing incentives to encourage the use of UCCs through regulatory differentiation, in favour of vehicles operating from UCCs, rather than direct capital and operating subsidies to private sector operators. They should also consider how the planning system could be used to encourage consolidation of loads, without city authorities requiring delivered to be made via a UCC.
14. **Pick Up Points**	City authorities should collaborate with the private sector courier and parcels operators to develop networks of pick up points for e-commerce parcels, particularly in Metropolises and Other Large Urban Areas, in locations that are convenient for customers but also minimize the use of private cars by customers to pick up e-commerce goods.

15. HGV Routing Strategies & Signage	City authorities should seek to maximize the use of the existing appropriate road network for UGVs in urban areas by planning and implementing UGV routing strategies, involving establishing preferred routes to and from major origins and destinations of freight traffic and providing traditional signage to assist HGV drivers in way-finding.
16. Night-Time Deliveries	City authorities should encourage the use of night-time deliveries where this will reduce day-time traffic congestion and where the initiative is understood by, and acceptable to, local residents. As the implementation of night-time deliveries by private sector operators may involve some capital investment, the city authorities need to develop proposals for night-time deliveries in close partnership with the transport operators and their customers, local residents who might be disturbed by the deliveries and their political representatives.

Appendix 4: A Selection of European Funded Projects Relevant to Last Mile Logistics

Name	Funding Programme	Dates	Description	Website
BESTFACT – Best Practice Factory for Freight Transport	Seventh Framework Programme	Jan 2012 – Dec 2015	BESTFACT aims to undertake: • Comprehensive inventory of best practices and innovations in freight and urban logistics with proven sustainable efficiency. • Open, neutral stakeholder platform offering easily exploitable and continuously updated data compendium. • Matching competitive urban and freight logistics business situations innovative research and sustainable EU policy objectives. • Simplifying, standardising and streamlining ICT processes and e-freight procedures by industrial stakeholders, administrations and researchers.	www.bestfact.net
C-LIEGE – Clean Last Mile Transport and Logistics Management for smart and efficient local governments in Europe	STEER Intelligent Energy Europe Programme 2010	Jun 2011 - Dec 2013	Focused on developing efficient frame-work for energy-efficient Urban Freight Transport demand management and planning. C-LIEGE developed integrated solutions and "push-and-pull" demand-oriented measures in 7 pilot experiments belonging to 6 European countries. C-LIEGE has successfully developed, tested and transferred demand-oriented measures and supporting tools towards reduction of energetic, environmental and economic impacts of freight transport in urban environments.	www.c-liege.eu
ECOSTARS – Efficient Cleaner Operation Stars	Executive agency for Small and Medium Enterprises (EASME) II Programme 2010 Intelligent Energy Europe Programme	June 2011 – May 2014	Established a number of fleet recognition schemes in European cities and regions to support energy efficient, cleaner commercial goods and passenger vehicle movements. Main aim was to achieve a reduction in the energy used by commercial and passenger transport fleets through the increased adoption of fuel efficient measures. Key areas for assessment: fleet composition, fuel management, driver skills development, vehicle specification / preventative maintenance, use of IT support systems, performance monitoring and management.	www.ecostars-europe.eu

Name	Funding Programme	Dates	Description	Website
ENCLOSE – Energy Efficiency in City Logistics for Small and Mid-Sized European Historic Towns	Intelligent Energy Europe / EASE	Aug 2012 – Jul 2015	Supports the development of Sustainable Urban Logistics Plans in 9 small and mid-sized historic towns involving 16 partners from 13 European counties. Includes useful information on DSP, regulations to support electric mobility.	www.enclose.eu
EVUE – Electric Vehicles in Urban Europe	URBACT 2	Dec 2009 – Dec 2012	Focused on the development of integrated, sustainable strategies and dynamic leadership techniques for cities to promote the use of electric vehicles. Urban initiatives to encourage the public and business to use EV's will contribute to EU clean air and car fleets targets, making cities more attractive and competitive. EVUE will exchange and disseminate solutions to key barriers such as public resistance, lack of infrastructure, rapid technology change and obsolete economic modelling.	www.urbact.eu/evue
EVUE II – Electric Vehicles in Urban Europe II	URBACT 2	Dec 2013 – Mar 2015	Between 2009 and 2013, nine cities across Europe: Beja, Katowice, Frankfurt, Lisbon, London, Madrid, Oslo, Stockholm, Suceava and Zografou, supported by the URBACT programme, worked together to share knowledge and experience of how EVs can be implemented in the urban environment under the EVUE project. Further activity has been undertaken through Pilot Delivery Network funding to look at the outcomes from the Local Action Plan process. EVUE II concludes in March 2015.	www.urbact.eu/evue-ii
FREILOT – Urban Freight Energy Efficiency Pilot	ICT Policy Support Programme as part of the Competitiveness and Innovation framework Programme (CIP)	Apr 2009 – Sep 2012	Aimed at assessing the benefits of five ITS applications on the energy efficiency in urban areas. The piloted services were: • Energy Efficient Intersection Control supporting the traffic manager • Eco-Driving Support supporting the driver • Acceleration and Speed Limiters optimising vehicle performance • Delivery Space Booking enabling efficient fleet operation These piloted services contributed to reducing fuel consumption and CO_2 emissions in urban areas.	www. freilot.odeum.com

Name	Funding Programme	Dates	Description	Website
FREVUE – Freight Electric Vehicles in Urban Europe	EU Seventh Framework Programme	Mar 2015 – Sep 2017	Eight of Europe's largest cities, will demonstrate that electric vehicles operating "last mile" freight movements in urban centres can offer significant and achievable decarbonisation of the European transport system. Demonstrators in Amsterdam, Lisbon, London, Madrid, Milan, Oslo, Rotterdam and Stockholm; will prove that the current generation of large electric vans and trucks can offer a viable alternative to diesel vehicles - particularly when combined with state of the art urban logistics applications, innovative logistics management software, and with well-designed local policy.	www.frevue.eu
PRO-E-BIKE – Promoting Electric Bike Delivery	Intelligent Energy Europe Programme	Nov 2013 – May 2016	PRO-E-BIKE project promotes clean and energy efficient vehicles, electric bicycles and electric scooters (common name "E – bikes"), for delivery of goods and passenger transport among private and public bodies such as delivery companies, public administration and citizens in European urban areas as an alternative to "conventionally fossil fuelled" vehicles.	www.pro-e-bike.org
SMARTFUSION – Smart Urban Freight Solutions	Seventh Framework Programme (FP7/2007-2013)	Apr 2012 – Sep 215	Smartfusion is a public-private partnership (PPP) which will build upon the existing urban freight development strategies of three demonstration city-regions: Newcastle, Berlin and the Lombardy region. Smartfusion aims to evaluate the technical and logistical feasibility of introducing fully electric vehicles and the second generation of hybrid truck technology in the urban logistics environment.	www.smartfusion.eu

Name	Funding Programme	Dates	Description	Website
SUGAR – Sustainable Urban Goods Logistics Achieved by Regional and Local Policies	INTERREG IVC	Nov 2008 – Jan 2011	SUGAR focuses on addressing the problem of inefficient and ineffective management of urban freight distribution, a critical component of the overall urban transport system and a primary source of vehicle pollutant emissions. To accomplish this goal, the projects promotes the exchange, discussion and transfer of policy experience, knowledge and good practices through policy and planning levers in the field of urban freight management, between and among Good Practice and Transfer sites.	www.sugarlogistics.eu
STRAIGHTSOL – Strategies and Measures for Smarter Urban Freight Solutions	Seventh Framework Programme	Sep 2011 – Aug 2014	The objectives of STRAIGHTSOL are threefold: 1) Develop a new impact assessment framework for measures applied to urban-interurban freight transport interfaces. 2) Support a set of innovative field demonstrations showcasing improved urban-interurban freight operations in Europe. 3) Apply the impact assessment framework to the live demonstrations and develop specific recommendations for future freight policies and measures. The demonstrations represent cutting edge initiatives from leading stakeholders like DHL, Kuehne+Nagel and TNT, and cover Brussels, Barcelona, Thessaloniki, Lisbon, Oslo and the south of England. STRAIGHTSOL will contribute to the Commission's research agenda through 1) an implementation of sustainable urban-interurban freight transport solutions, 2) widely disseminating the experiences and effects from the demonstrations amongst the logistics community, 3) demonstrating the added value of the evaluation tool framework for assessing last mile distribution and urban-interurban freight activities. The STRAIGHTSOL demonstrations and deliverables will give policy makers and transport industry players input for future measures in the field of last mile distribution and urban-interurban freight transport interfaces at the European, country, region, city and local levels."	www.straightsol.eu

Name	Funding Programme	Dates	Description	Website
TRAILBLAZER – Transport and Innovation Logistics by Local Authorities with a Zest for Efficiency and Realisation	Intelligent Energy Europe	July 2000 – June 2013	TRAILBLAZER aimed to promote Delivery and Servicing Plans (DSPs) across Europe. DSPs are key strategy documents that can help you cut costs. They manage deliveries more effectively and reduce numbers of journeys. DSPs can benefit you, your organisation and the local community. The advantages include: Reduced emissions, reduced delivery costs and improved security, more reliable deliveries and less disruption to the working day, time saved as you identify unnecessary deliveries, less noise and intrusion, opportunity to feed into a corporate social responsibility (CSR) programme and ensure business operations comply with health and safety legislation.	www.trailblazer.eu
WEASTFLOWS – West and East Freight Flows	INTERREG IVB North West Europe	Jan 2010 – Jun 2015	Weastflows (west and east freight flows) aims to encourage a shift towards greener freight transport across North- West Europe. Efficient and sustainable transport is essential to deliver economic, social and environmental benefits to communities and businesses. Europe's freight network suffers from road congestion and bottlenecks; using other transport modes to help alleviate this growing issue. From all sectors of the freight industry, Weastflows partners are undertaking freight mapping, research and practical demonstration using innovative ICT technology. Designated a strategic initiative by the EU, Weastflows will share learning with public and private organisations to influence future plans and drive sustainable economic growth. The project's network of global observers will also disseminate this information.	www.weastflows.eu

Appendix 5: National Legislation affecting Last Mile Logistics – UK[97]

ENVIRONMENT RELATED	
The Environment Act 1995	Established the environment Agency and transferred to it powers over the control of pollution, and the conservation and enhancement of natural resources and the environment. Part IV sets provisions for protecting air quality in the UK and for local air quality management.
Air Quality (England) Regulations 2000	Sets national objectives for local authorities in England.
National Emission Ceilings Regulations 2002	Transposes into UK legislation the requirements of the National Emission Ceilings Directive (2001/81/EC).
Climate Change Act 2008	Established a long-term framework and targets to reduce the UK's greenhouse gas emissions by at least 80%, compared to 1990 levels, by 2050.
Air Quality (Standards) Regulations 2010	transpose into English law the requirements of Directives 2008/50/EC and 2004/107/EC on ambient air quality. Equivalent regulations have been made by the devolved administrations in Scotland, Wales and Northern Ireland.
TRANSPORT RELATED	
Land Compensation Act 1973	The first measures introduced in response to road traffic noise
The Electrically Assisted Pedal Cycles Regulations 1983	Prescribes the class of electrically assisted pedal cycle that is treated as not being a motor vehicle when used on roads in Great Britain. Include requirements that apply when such EAPCs are sold for use on, or used on, roads in GB.
Regulation 40A of the Road Traffic Act1988 introduced by the Road Traffic Act 1991	A Person is guilty of an offence if he uses, or causes or permits another to use, a motor vehicle or trailer on a road when: (a) the condition of the motor vehicle or trailer, or of its accessories or equipment, or (b) the purpose for which it is used, or (c) the number of passengers carried by it, or the manner in which they are carried, or (d) the weight, position or distribution of its load, or the manner in which it is secured, is such that the use of the motor vehicle or trailer involves a danger of injury to any person.
Greater London Authority Act 1999	Requires London boroughs to produce a Local Implementation Plan (LIP) which demonstrates how each authority will deliver the Mayor of London's Transport Strategy in its local area.
Transport Act 2000	Made a number of reforms to local transport planning and delivery, including the requirement for all local transport authorities in England, outside of London, to produce a local transport plan. It also granted new powers for local authorities to enter into quality partnerships with bus operators and to introduce road user charging schemes and workplace parking levies.

London Local Authorities Acts 1996-2003, Traffic Management Act 2004.	Allows local authorities to enforce parking and traffic regulations. The Traffic Management Act 2004 (TMA 2004) was introduced to bring London and non-London enforcement authorities into line and provide for greater consistency of traffic enforcement across the country while allowing for parking policies to suit local circumstances. The TMA 2004 seeks to ensure that the system is fair to the motorist and it is effective in enforcing parking contraventions when they occur.
Traffic Management Act 2004	Network Management Duty. Part 6 relating to parking was enacted on 31st March 2008 and introduced differential PCN charges to the rest of the country outside London.
Local Transport Act 2008	gives local authorities the power to take steps to meet local transport needs in the light of local circumstances
EMPLOYMENT RELATED	
Transport Act 1968 (Part VI as amended)	Relates to drivers hour's rules. The GB domestic rules, as contained in the Transport Act 1968, apply to most goods vehicles that are exempt from the EU rules.
The Drivers' Hours (Goods Vehicles) (Modifications) Order 1970 (SI 1970/257) The Drivers' Hours (Passenger and Goods Vehicles) (Modifications) Order 1971 (SI 1971/818) The Drivers' Hours (Goods Vehicles) (Modifications) Order 1986 (SI 1986/1459) The Drivers' Hours (Goods Vehicles) (Exemptions) Regulations 1986 (SI 1986/1492) The Drivers' Hours (Goods Vehicles) (Keeping of Records) Regulations 1987 (SI 1987/1421) The (Community) Drivers' Hours and Recording Equipment Regulations 1986 (SI 1986/1457 & 1986/1458) & 2007 (SI 2007/1819)	
Regulation 100 of the Road Vehicles (Construction and Use) Regulations 1986 – SI 1986 No 1078	Maintenance and use of vehicle so as not to be a danger, etc.
The Passenger and Goods Vehicles (Recording Equipment) Regulations 1989 (SI 1989/2121) and 1996 (SI 1996/941)	
Working Time Regulations 1998 (as amended).	
Health and Safety (Enforcing Authority) Regulations 1998	allocates Inspection and enforcement of health and safety law to either HSE or LAs
The Passenger and Goods Vehicles (Recording Equipment) (Tachograph Card Fees) Regulations 2005 (SI 2005/1140 & SI 2005/1904) and 2006 (SI 2006/1937 & 2006/1117)	
Road Transport (Working Time) Regulations 2005	
Road Safety Act 2006	Re: drivers hours & tachographs Legislation has provided authorised VOSA examiners with powers that include: *the power to inspect vehicles; *the power to prohibit and direct vehicles; *powers relating to the investigation of possible breaches of regulations; and *the power to instigate, conduct and appear in proceedings at a magistrates' court.
The Passenger and Goods Vehicles (Recording Equipment) (Downloading and Retention of Data) Regulations 2008 (SI 2008/198)	

The Passenger and Goods Vehicles (Community Recording Equipment Regulations) 2010 (SI 2010/892)
The Agency Workers (Amendment) Regulations 2011

The Highway Code98	Outlines rules for cyclists, drivers and motorcyclists, motorcyclists, pedestrians.
PLANNING & LOCAL GOVERNMENT RELATED	
Highways Act 1980	Section 278 provides for highway agreements to be made between authority and developers.
Town & Country Planning Act 1990	Consolidates certain enactments relating to Town & Country Planning. Includes legal powers relating to Local Planning Authority use of conditions.
Human Rights Act 1998	To give further effect to rights and freedoms guaranteed under European Convention on Human Rights
Planning & Compulsory Purchase Act 2004	A key element of the Government's agenda for speeding up the planning system. Provisions introduce powers which allow for the reform and speeding up of plans system and an increase in predictability of planning decision, and needs for simplified planning zones to be identified in the strategic plan for the region.
Planning Act 2008	Aims to establish the Infrastructure Planning Commission for nationally significant infrastructure projects, changes to town and country planning regime, and makes provision for the introduction of the CIL
Local Democracy, Economic Development and Construction Act 2009	Seeks to create greater opportunities for community and individual involvement in local decision-making. Provides for greater involvement of local authorities in local and regional economic development.
Community Infrastructure Levy Regulations 2010 Community Infrastructure Levy (Amendment) Regulations 2014	Provides for the imposition of a charge known as the Community Infrastructure Levy to be levied on the grant of a planning permission for development.
Localism Act 2011	Contains a wide range of measures to devolve more powers to councils and neighbourhoods and give local communities greater control over local decisions like housing and planning. Includes Part 2 EU financial sanctions – section 48. The power to require public authorities to make payments in respect of certain EU financial sanctions. Part 6: Planning includes Chapter 2 on Community Infrastructure Levy. Part 8: London.
Growth & Infrastructure Act 2013	The Act covers three main areas: 1. Promoting growth and facilitating provision of infrastructure including limits on the powers that local authorities have to require information with planning applications. 2. Other infrastructure provisions including enabling the Major of London to delegate decisions concerning planning applications of potential strategy importance. 3. Economic Measures.

UK Statutory Planning Instruments [99]		
SI.2004 2208	SI 2004 2208 - The Town and Country Planning (Regional Planning Guidance as Revision of Regional Spatial Strategy) Order 2004	This Order sets out the schedule and steps taken towards the revision of the Regional planning guidance (RPG).
SI.2004 2204	SI 2004 2204 - The Town and Country Planning (Local Development) (England) Regulations 2004	Part 2 of the Planning and Compulsory Purchase Act 2004 (PCPA) establishes a new system of local development planning. It applies only to England. Local planning of the development and use of land is presently dealt with local plans, unitary development plans and structure plans. Part 2 provides that these plans will be replaced by local development documents.
SI.2010 601	SI 2010 601 – The Town and Country Planning (Regional Strategy) (England) Regulations 2010	The Regulations cover detailed requirements relating to the revision of regional strategies by the responsible regional authorities under Part 5 of the Local Democracy, Economic Development and Construction Act 2009 ("the Act"). The Order amends secondary legislation
SI.2010 948	SI 2010 948 - The Community Infrastructure Levy Regulations 2010	These Regulations provide for the imposition of a charge to be known as the Community Infrastructure Levy which is to be levied on the grant of planning permission for development.
SI 2011 1824 -	The Town and Country Planning (Environmental Impact Assessment) Regulations 2011	These Regulations replace the Town and Country Planning (Environmental Impact assessment (England and Wales) Regulations 1999 (SI No. 293) ("the 1999 regulations") and subsequent amending instruments. The Town and Country Planning (Environmental impact Assessment) (Mineral Permissions and Amendment) (England) Regulations 2008 remain in force. These Regulations, except for the provisions relating to projects serving national defence purposes, extend to England only. The 1999 Regulations remain in force for Wales.
SI.2011 2056	SI 2011 2056 - The Town and Country Planning (General Permitted Development) (Amendment) (England) Order 2011	The order amends the Town and Country Planning (General Permitted Development) Order 1995 ("GPDO") by: - inserting new Classes D and E into Part 2 of Schedule 2 to introduce permitted development rights for electric vehicle charging points in off street public and private car parking areas, - substituting a new Class A into Part 12 of Schedule 2 to clarify that local authorities can install on-street electric vehicle charging points as permitted development, - substituting a new Part 40 to Schedule 2. Making minor amendments to the existing permitted development

		rights for the installation of specified micro-generation equipment on or within the curtilage of dwelling-houses and blocks of flats and granting planning permission for the installation of additional types of micro-generation equipment on or within the curtilage of dwelling-houses and blocks of flats subject to certain criteria.
UK Statutory Planning Instruments continued		
SI.2012 767	SI 2012 767 - The Town and Country Planning (Local Planning) (England) Regulations 2012	The Regulations (a) consolidate the existing Town and Country Planning (Local Development) (England) Regulations 2004 and the amendments made to them; and (b) make new provision and amendments to take account of the changes made by The Localism Act 2011.
SI.2013 2143 (C.89)	The Growth and Infrastructure Act 2013 (Commencement No. 4) Order 2013	This Order brings into force, on 1st October 2013 - (a) section 1 of, and Schedule 1 to, the Growth and Infrastructure Act 2013 ("the Act"), in so far as not already in force, except in relation to connected applications; (b) section 2 of the Act, in so far as not already in force; (a) section 28 of the Act. Section 1 of the Act inserts new provisions, sections 62A and 62B, into the Town and Country Planning Act 1990 ("the 1990 Act"). Those sections provide for the designation of local planning authorities in accordance with criteria set by the Secretary of State. Where a local planning authority is designated a person wishing to apply for planning permission in the area of that authority may choose to apply to the authority as usual or instead apply to the Secretary of State. Schedule 1 to the Act makes consequential provisions in relation to the Secretary of State's function of determining these planning applications. Section 2 of the Act is commenced in relation to amendments to the Secretary of State's powers to recover costs and to make rules and regulations in respect of costs. Section 28 of the Act amends the Greater London Authority Act 1999 to allow the Mayor of London to delegate certain planning functions to a member of his staff appointed under section 67(1) of that Act.
SI.2013 2153	The Town & Country Planning (Fees for Applications, Deemed Applications, Requests & Site Visits) (England) (Amendment) Regulations 2013	These Regulations amend the Town and Country Planning (Fees for Applications, Deemed Applications, Requests and Site Visits) (England) Regulations 2012 (S.I. 2012/2920) ("the 2012 Regulations"). The principal amendments give effect to provisions in the Growth and Infrastructure Act 2013 that enable certain planning applications to be made directly to the Secretary of State, and provisions in the Enterprise and Regulatory Reform Act 2013 that remove the requirement to seek conservation area consent to demolish certain buildings in conservation areas. Amendments also introduce a fee for prior approval required in relation to permitted development rights for changes of use. In addition the amendments bring in measures to underpin the planning guarantee set out in the Government's 'Plan for Growth' (March 2011) by making provision for a refund of the fee where an application for planning permission is not determined within 26 weeks.
SI.2014 No. 564	The Town & Country Planning (General Permitted Development) (Amended and	Amends the Town & Country (General Permitted Development) Order 1995 to allow new permitted development rights for change of use and in some cases, for associated operational development. It will simplify the change of use system.

	Consequential Provisions) (England) Order 2014	
SI 2014 No. 565	The Town and Country Planning (Compensation) (England) (Amendment) Regulations 2014	Amends the Town and Country Planning (Compensation) (England) Regulations 2013 to limit the circumstances in which compensation is payable in the event that the new permitted development rights are withdrawn.

For the purposes of this appendix, specific legislation relating to England has been included (and not to Wales, N. Ireland, Scotland).

Appendix 6:
12 LaMiLo policy measures – identification methodology

In order to understand the influence the public sector has had on last mile logistics, and to identify opportunities to make involvement in last mile logistics more effective, an eight stage process has been conducted by Cross River Partnership and partners.

1. Identification of policy measures (Winter 2013)
2. Discussion of policy measures, relevance and impacts at LaMiLo partners' workshop (Spring 2014)
3. Identification of other last mile logistics case studies (Spring 2014)
4. Email interviews with case studies (Summer 2014)
5. Production of draft LaMiLo policy measures (Summer 2014)
6. Production of draft observations and revision to draft LaMiLo policy measures (Autumn/Winter 2014)
7. Feedback from LaMiLo demonstrators at LaMiLo partners' workshop (Spring 2015)
8. Production of report and playback of draft findings to LaMiLo demonstrators and partners (Spring 2015)

1. Identification of policy measures (Winter 2013)

Previous European funded projects have considered the role of the public sector in urban logistics. Of particular interest is the C-Liege project which recommended 15 measures to make the urban freight transport demand more efficient, sustainable and professional. These 15 were drawn from a wider group of 45 policy measures that the C-Liege project identified could be adopted locally to improve Urban Freight Transport.

C-Liege Urban Freight Transport Policy Measures[100]:

1. Loading bays
2. Differentiated fees for loading/unloading
3. Environmental zones
4. Multi-user lane
5. Access and time windows restrictions
6. Night deliveries
7. Driver training
8. Delivery and servicing plans
9. Freight map
10. Local Freight Development Plans (LFDP)
11. Harmonisation of regulations
12. Use of Intelligent Traffic Management
13. Pack Station

14. FORS Scheme
15. Freight Quality Partnerships

2. Discussion of policy measures, relevance and impacts at LaMiLo partners' workshop (Spring 2014)

LaMiLo has tested the key measures identified in the C-Liege project, and has used them as the starting point for considering the influence of the public sector in last mile logistics. Key policy measures were discussed at a LaMiLo workshop in February 2014. Each LaMiLo partner was asked to consider and rank the relevance of these measures against one last mile logistics case study (either a LaMiLo demonstrator, or another case study example), and identify if there were any additional measures that should be considered. The results (summarised below) indicated that the most relevant policy measure to the most number of case studies was Access & Time Window Restrictions, and the least relevant policy measure was FORS.

9 Case Studies identified		Rank
Most Relevant Policy Measure	Access & Time Window Restrictions	1
	Environmental Zones	2 =
	Local Freight Development Plans	2 =
	Loading Bays	4 =
	Night Deliveries	4 =
	Freight Quality Partnerships	6 =
	Harmonisation of Regulations at Regional Level	6 =
	Multi-user lanes	6 =
	Driver Training	9 =
	Procurement Policy (additional measure identified at workshop)	9 =
	Delivery & Servicing Plans	9 =
	Pack Station	12
	Use of Intelligent Traffic Management	13
Least Relevant Policy Measure	FORS	14

Participants were then asked to identify the impact of the most relevant measures on their case study. The impacts identified were classed as either positive or negative. A full set of results are listed below:

Impacts of Policy Measure on Last Mile Logistics Solution – Results from LaMiLo workshop with LaMiLo partners February 2014

Policy Measure: Access & Time Window Restrictions	
Positive Impact	**Negative Impact**
Competitive Advantage (Access)	Reduce slot results in higher number of carriers trying to deliver at the same time (time)
Environmental Impacts. Reduces congestion in centre of city.	Adjust time deliveries (versus schedule opening shops). Additional costs for couriers.
Opportunities for change can only be a positive and a new operating environment. Things can't get any worse!	Antiquated restrictions introduced in historical times which technology wasn't advanced, still remain.
Use specific pre agreed window of time for deliveries which allows shops to work into their staff.	Confusion amongst drivers and operators regarding which areas can/cannot be accessed at different times leads to lots of unnecessary vehicles movements/congestion etc.
No trucks in busy shopping hours.	Some shops cannot accept deliveries in this small window of opportunity. Inability to deliver for two shops, so they went to policy of night deliveries.
No congestion	Increased traffic and congestion during 10-2pm.
Consolidation centre is open for longer time windows which is an advantage. Couriers prefer to unload at the UCC.	Restrictions influence the consolidation centre operation as well (unfortunately)
Electric cars and bikes might enter during restricted time windows, an advantage for them and their clients.	
Restrictions require a reaction - a decision for a new solution.	
Restrictions increase costs for carriers / shopkeepers. Enhances companies to make an economic decision in favour of using consolidation centre.	

Policy Measure: Driver Training	
Positive Impact	**Negative Impact**
Reduction of noise. Training the driver is as important as changing the truck.	
Reduction of the emissions thanks to intelligent driving.	
Drivers are more aware of their role in the delivery process and develop/ receive better skills training and advice.	
Reduced number of traffic incidents (pedestrians/cyclists/other vehicles) which is a financial benefit to the operator and wider economy.	
More tolerance on the road network resulting in less stress amongst drivers and other road users.	

Policy Measure: Environmental Zones	
Positive Impact	**Negative Impact**
A helpful policy / law tool to encourage / enforce / regulate urban deliveries	May add cost because consolidation centre providers need new / cleaner / greener trucks (counterproductive)
Social Responsibility	
Low emission vehicles entering the zone to make last mile deliveries	
Implementation of the trial will hopefully raise awareness and encourage other companies to do something similar. Helps city to meet its air quality targets.	
Options to trial alternative vehicles (i.e. cargo bikes / electric vehicles) and better understand their limits	
Environmental impact consolidation centre operates clean vehicles.	

Preferred position for consolidation centre operator.	

Policy Measure: Freight Quality Partnerships

Positive Impact	Negative Impact
Clearly understand issues with deliveries.	All stakeholders have to be represented, effort to bring people together (a lively partnership) is a challenge.
Achieve a common agreed solution.	
Creating acceptance of all stakeholders - municipalities, shopkeepers, public hospital, police	
Enables shop owners, carriers, policy, to demonstrate need, higher acceptance, behaviour change, dissemination.	
New ideas and concepts to be implemented, meeting all stakeholders' needs.	

Policy Measure: Harmonisation of Regulations at Regional Level

Positive Impact	Negative Impact
Different regulations in city make it harder for firms to switch to night deliveries at the moment; we know it but still no change. Need to raise awareness.	
Involving local authorities, which are usually willing to co-operate. The trial shows it's hard but there's good will.	
Sustained effect, more consolidation centres for other part of the city.	
Show case for successful operation.	

Policy Measure: Loading Bays

Positive Impact	Negative Impact
	Personnel working at night at the loading bays - social impact.
	Noise of loading activity. (can be tackled)

Policy Measure: Local Freight Development Plans

Positive Impact	Negative Impact
Sets the political directions as to the baseline required and what is achievable in the local authority.	
Can set stretching (ideally) targets or be 'easy' depending on ambitions of local authority.	
A Plan can identify bottlenecks in city. Introduce plan to local regulations linked Access & Time Windows. Harmonisation for conurbations regulations for deliveries and transit of trucks.	Only applies to one part of city, not city-wide working.

Policy Measure: Multi-user lanes

Positive Impact	Negative Impact
More safety	Security challenges - increased danger for pedestrians less safe - needs some changes.
Increased speed and accessibility because of decreased traffic	Potential perceived competitive unfairness.
Trams can stick to their time tables	
Allow vehicles to cross into tram lanes but in controlled and timed way so decrease cross over danger to four hours instead of 12 hours per day.	
Preferred positions for clean trucks.	

Policy Measure: Night time deliveries	
Positive Impact	**Negative Impact**
Reduction of congestion, avoiding peak hours	Noise of truck engine whilst driving.
Encouraging the use of ecological and thus silent vehicles	
Safety - less trucks on the street when most of people are out.	
Less congestion - economically positive. Time gain, fuel gain, CO_2 gain etc.	
Higher Safety. (less confrontation with bikes, pedestrians).	

Policy Measure: Pack Stations	
Positive Impact	**Negative Impact**
Environmental Impact. Relieve congestion.	Imposes additional costs on carriers and businesses receiving deliveries.
Combine deliveries with return goods / recyclable materials etc.	

Policy Measure: Use of Intelligent Traffic Management Systems	
Positive Impact	**Negative Impact**
Increased efficiency and increased number of deliveries	Data visible but can't be used and connected to their own systems

Policy Measure: Procurement Policy	
Positive Impact	**Negative Impact**
Local authorities need to find / generate Savings	Using procurement policy to direct where deliveries are made (e.g. to Consolidation Centre) may ultimately cost more
Consolidation Centre / INCOTERM	
Should ask for separate delivery costs in tenders.	
Can influence 'up' other policies e.g. LFDPS, Environment	

3. Identification of other last mile logistics case studies (Spring 2014)

Many other European funded projects and networks have researched and reported case studies which have been focused on last mile logistics. See Appendix 4 for details of a selection of European funded projects relevant to last mile logistics. In particular the BESTFACT (www.bestfact.net) and ELTIS(www.eltis.org) websites have user-friendly summaries from which a total of 51 case studies were pulled together in order to inform LaMiLo. It was decided not to restrict these case studies to North West Europe, but to include case studies from across Europe since many of the issues are common to all European countries.

4. Email interviews with case studies (Summer 2014)

Contact details for each of the 51 identified case studies were sourced, and each case study was sent a set of specific email interview questions. 19 case studies responded (representing a 37% response rate). To support the responses received, the BESTFACT project provided their Cluster 1 Report as source material[101]. A total of 32 case studies from 14 countries across Europe have thus informed this LaMiLo output. See below for case studies details.

List of case studies involving last mile logistics to inform LaMiLo project

Name of Case Study	Country
Citylog EMF (efficient, modular, flexible) - Electro-Multifunction-Transportation vehicle.	Austria
ILOS - Intelligent Freight Logistics in Urban Areas: Freight Routing Optimisation in Vienna.	Austria
Brussels Urban Consolidation Centre	Belgium
City logistics in Copenhagen using an Urban Consolidation Centre	Denmark
The Green Link: last mile deliveries with electric cargo cycles and vans in Paris.	France
Supermarket stores deliveries using waterways in Paris.	France
La Petite Reine: Home deliveries using Cargocycles and electric vans in Paris.	France
Distripolis: a new city logistics solution in Paris, France	France
Use of electric vehicles for parcel distribution at UPS Karlsruhe.	Germany
Electric vehicles use in parcels deliveries in Stuttgart- Ludwigsbury	Germany
CITYPORTO - Last mile deliveries in Padua	Italy
Urban logistics innovation in the mid-sized historical city of Lucca	Italy
Clean vehicle and city logistics scheme in Brescia	Italy
Urban distribution network of four major grocery retailers	Lithuania
Urban distribution of small parcels using self-service terminals in Lithuanian towns and cities (LP EXPRESS 24)	Lithuania
Binnenstadservice Nederland: Inner City deliveries	The Netherlands
GOFER: a cooperative system for freight management and regulation	Norway
New loading / unloading regulation and parking meter/loading bay surveillance technology in Lisbon.	Portugal
Route optimisation of waste collection in an urban environment in Maribor	Slovenia
Multiuse lanes for freight distribution in Bilbao.	Spain
Urban freight distribution with electric vehicles in San Sebastian	Spain
Silent inner-city overnight deliveries in Barcelona	Spain

Gothenburg City Logistics	Sweden
Logistics tool for delivery management in exhibition centres, MCH Messe Basel.	Switzerland
Fleet Operator Recognition Scheme (FORS) in London	UK
ECOSTARS Fleet Recognition Scheme	UK
Using biodiesel in commercial vehicles, London	UK
London Re-timing Deliveries Consortium	UK
London Borough of Camden's London Boroughs Consolidation Centre	UK
The Regent Street Retail Consolidation Centre, London	UK
Corporation of London's Delivery & Servicing Plans, London	UK
Transport for London's Ultra Low Emission Zone, London	UK

5. Production of the draft LaMiLo Policy Measures (Summer 2014)

Taking the C-Liege policy measures as a starting point, and informed by the LaMiLo partners workshop and the case study responses, Cross River Partnership identified 11 LaMiLo policy measures which are often used by local authorities (or in partnership with local authorities) to influence last mile logistics. These are listed and defined below:

1. Access and Time Window Restrictions
2. Accreditation and Safety
3. Consolidation Solutions
4. Delivery Service Plans (DSPs)
5. Environmental Zones
6. Harmonisation of Regulations at Regional Level
7. Use of Intelligent Traffic Management
8. Local Freight Development Plans (LFDPs)
9. Kerbside Access and Loading Restrictions
10. Sustainable Procurement
11. Use of Cleaner transport

These 11 LaMiLo policy measures describe a suite of activities that are typically undertaken by the public sector to influence last mile logistics. Each of the 32 last mile logistics case studies informing this report is impacted by one or more of these 11 LaMiLo policy measures. Analysis of the case studies against the 11 LaMiLo policy measures shows that for our group of case studies the most common measure is no. 11 "Use of Cleaner Vehicles".

6. Production of draft observations and revision to draft LaMiLo policy measures (Autumn/Winter 2014)

Based on the review of the case study responses, a series of draft observations "What can the public sector (and others) do to influence last mile logistics solutions more effectively?" were produced and reported to the LaMiLo partnership meeting in Luxembourg on 12 December 2014.

1. Use legislation, policy, regulation and enforcement to support the take up of last mile solutions. e.g. DSPs, cargo bike legislation…
2. Work with all sectors to plan and deliver last mile solutions where relevant. e.g. Framework Agreement (CityPorto), transporters – white labelling
3. Communicate clearly to users.
4. Review electric vehicle driver's license requirements across Europe.
5. Understand the current situation (and use what you've got / improve it!), waterways limitations, regulations/legislation
6. Use data to design and monitor effective bespoke solutions.
7. Prepare for the future: city infrastructure, land use, training
8. Provide support to start-up phase: £

The 11 draft LaMiLo policy measures were reviewed at this stage, and revised to ensure full coverage of key measures. This resulted in a set of 12 LaMiLo policy Measures, adding Collaborate Working as a key policy measure:

1. Access, Noise & Time Window Restrictions
2. Accreditation & Safety
3. Cleaner Transport Modes
4. Collaborative & Informed Working Practices
5. Consolidation Solutions
6. Construction Logistics Plans / Delivery Servicing Plans
7. Environmental Zones
8. Freight in Strategies and Plans
9. Harmonisation of Regional Regulations
10. Intelligent Traffic Management Systems
11. Kerbside Access & Loading
12. Sustainable Procurement

7. Feedback from LaMiLo demonstrators at LaMiLo partners' workshop (Spring 2015)

A final workshop was held at the last LaMiLo partnership meeting to gather feedback from the experiences of the LaMiLo demonstrators on 29th April 2015 in Brussels. The partnership split into groups by demonstrator (Camden, Brussels and the Netherlands were represented). Each group was asked to identify their top changes to the 12 LaMiLo policy measures that would enable their demonstrators to be more sustainable in the future. The change could be regulatory, incentive or voluntary. The outcome of this workshop is outlined below:

Policy Measure	Regulation	Incentive	Voluntary
Access, Noise and Time Window Restrictions	Brussels: need access restrictions in the city with exceptions for consolidation centre.	no comment	no comment
	Netherlands: need to be strict about the enforcement of restrictions.		
	Camden: need regulations with specific time windows for deliveries.		
Accreditation and Safety	Camden: need regulation with strong enforcement basis at national or local levels.	Netherlands: Prefer clean operators / suppliers, need to put 'a fence around the city for others'.	no comment
		Camden: Joining accredited scheme helps companies demonstrate their commitment to good practice, the result could be winning more projects.	
Cleaner Transport	Camden: there is a requirement for refuelling infrastructure and supply in key locations. Need to safeguard land.	Camden: Could provide grants to change fleets. Public authorities could buy vehicles and lease to companies - waiting for market to mature.	no comment

Policy Measure	Regulation	Incentive	Voluntary
Collaborative Working	Camden: can be challenging to encourage transporters to collaborate together. Competition rules often prevent collaborative working. Transporters concerned about licence effects from collaborating - which can be overcome through provision of information.	Camden: Manufacturers demanding common standards and practices from greener logistics	Camden: Could provide examples of how companies collaborate. Undertake awareness raising.
		Netherlands: If the Freight Circle is to grow need to reach more residents. The Freight Circle Team which includes residents has worked well, this could grow to support the growth of Freight Circle,	
Consolidation Solutions	no comment	Netherlands: the public sector needs to create awareness of consolidation solutions, and communicate what it means to 'behave sustainably'.	Netherlands: where public sector can make procurement decisions to support consolidation solutions it should do so, for example in Nijmegen and Maastricht the public sector is the owner of the local waste company and so can make decisions to be part of their consolidation solution with regard to the reverse logistics removal of waste from the city centre.
Delivery Servicing Plans and Construction Logistics Plans	no comment	Brussels: DSP Public enterprises. Ex. Brussels Mobility	no comment
Environmental Zones	Netherlands: should create zero emission neighbourhoods, where cargo bikes can deliver.	no comment	no comment
Freight in Strategies and Plans	Netherlands: Do not hesitate to impose restrictions.	Netherlands: need a level playing field.	no comment
		Netherlands: Need to prevent and restrict "wrong" behaviour.	

Policy Measure	Regulation	Incentive	Voluntary
Harmonisation of Regulation at Regional Level	Netherlands: maintain a level playing field by harmonising regulations across all cities.	no comment	no comment
ITS	no comment	Brussels: Need to standardise data.	no comment
Kerbside Access and Loading Bays	no comment	no comment	no comment
Sustainable Procurement	Camden: Client can influence the supply chain.	Brussels: Could develop a label for efficient urban freight "Lean Green"	Netherlands: Be the example, change yourself.
			Camden: Promote the benefits. A sustainable procurement policy will help win bids from other organisations that do not have a sustainable procurement policy.
			Netherlands: Promote the right incoterms regarding urban consolidation centre use.

8. Production of report and playback of draft findings to LaMiLo demonstrators and partners (Spring 2015)

All the different desk research, case studies, interviews and workshops have been used to produce this report. The production of clear benefits and costs for key stakeholders in relation to each policy measures, alongside top tips for implementation of specific policy measures, and clear recommendations provides direction for future last mile logistics solutions, based on the experiences from LaMiLo.

Appendix 7: Summary of 12 LaMiLo Policy Measure Top Tips

Ref.	Policy Measure 1: Access, Noise and Time Window Restrictions	Action By
1.1	Introduce Access, Noise and Time Window Restrictions to support other last mile logistics policies, such as consolidation centres, multi-use lanes, and promotion of cleaner transport.	Policy Maker
1.2	Before introducing new Access, Noise and Time Window Restrictions to an area, review what current policies and regulations are in place and adapt to suit if possible.	Policy Maker
1.3	Develop new restrictions in consultation with key stakeholders to understand the knock on effects of introducing restrictions, and clearly communicate new restrictions to all involved.	Policy Maker, Logistics Operator, End User
1.4	Ensure restrictions are kept up to date with changes in the logistics industry and vehicle technologies.	Policy Maker
Ref.	**Policy Measure 2: Accreditation & Safety**	**Action By**
2.1	Introduce Accreditation & Safety policies alongside other policy measures, such as noise restrictions, to act as an incentive to transporters to change their behaviour.	Policy Maker
2.2	Promote Accreditation & Safety measures as part of own Sustainable Procurement policies.	Policy Maker, Logistics Operator, End User
2.3	Clearly communicate to all stakeholders the benefits of adopting Accreditation & Safety measures.	Policy Maker
Ref.	**Policy Measure 3: Cleaner Transport Modes**	**Action By**
3.1	Introduce Cleaner Transport Modes policies to support other last mile logistics policies, such as consolidation centres, Sustainable Procurement; and Access, Noise and Time Window Restrictions. Adapt local transport / mobility and air quality plans i.e. through the introduction of sustainable urban mobility plans.	Policy Maker
3.2	Provide support to business wanting to switch to Cleaner Transport Modes, such as financial support to increase the take up of electric vehicles; or safeguarding/provision of land for city centre cleaner transport depots; provision of parking privileges e.g. access or discounts; relief from local vehicle taxes or charges.	Policy Maker

3.3	Introduce Cleaner Transport Modes as part of the decision making process in relation to statutory planning and environmental permits / licensing applications. Include regulations for new buildings and renovations to be e-mobility ready.	Policy Maker
3.4	Lead the way: introduce targets for running own cleaner transport fleets, such as London Borough of Camden mentioned above. Procurement measures should encourage both public and private sectors to use Cleaner Transport Modes.	Policy Maker, Logistics Operator, End User
Ref.	**Policy Measure 4: Collaborative and Informed Working**	**Action By**
4.1	Pull together a collaborative working group of stakeholder representatives in the early stages of city logistics policy development in order to develop a well-rounded set of realistic city logistics policies and solutions.	Policy Maker, Logistics Operator, End User
4.2	Introduce a collaborative working group of stakeholder representatives to support the implementation of specific policy measures, e.g. Access, Noise and Time Window Restrictions.	Policy Maker, Logistics Operator, End User
Ref.	**Policy Measure 5: Consolidation Solutions**	**Action By**
5.1	Contact LaMiLo project partners to find out more about their experiences of setting up and operating a consolidation centre, to learn from the experiences of others.	Policy Maker, Logistics Operator, End User
5.2	Bring all stakeholders together to plan, develop and deliver a successful consolidation centre. Particularly important to get clear political support.	Policy Maker, Logistics Operator, End User
5.3	Introduce other policy measures such as Access, Noise or Time Window Restrictions, or Kerbside Access & Loading Bays alongside Consolidation Solutions in order to drive up demand for the Consolidation Solution.	Policy Maker
5.4	Offer 'added value services' such as storage, pick and pack services, waste collection or advertising, to boost the consolidation centre's attractiveness and increase revenues.	Logistics Operator
5.5	City authorities, and others, should lead by example and actively seek to use consolidation centres located in their areas for their own deliveries, and support Sustainable Procurement policies.	Policy Maker, End User, Logistics Operator
5.6	Need to encourage up front behaviour change of transporters, retailers, and end users in order to implement successful consolidation centres.	Policy Maker, Logistics Operator, End User
5.7	A clear understanding of the costs involved in delivering the last mile, need to be understood, in order to influence stakeholders' behaviour.	Policy Maker

Ref.	Policy Measure 6: Construction Logistics Plans and Delivery Servicing Plans	Action By
6.1	Prepare clear guidance for those responsible for preparing and delivering the CLP/DSP, as well as those reviewing the plans.	Policy Maker
6.2	Use the statutory planning process to require submission, implementation and monitoring of high quality plans.	Policy Maker
6.3	Use CLPs/DSPs to support the implementation of other city logistics policy measures such as Cleaner Transport; Sustainable Procurement; Access, Noise and Time Window Restrictions, Consolidation Solutions.	Policy Maker
6.4	Set up a joint CLP/DSP monitoring and review function across multiple local areas (sub-region, region) to enable consistency, benefit from shared knowledge, economies of scale, and to gather the relevant financial cost data that would be beneficial in other behaviour change activities.	Policy Maker
6.5	Encourage voluntary adoption of CLP/DSP as a way to embed a proactive approach to minimising the impact of last mile logistics on an area.	Policy Maker, End User
Ref.	**Policy Measure 7: Environmental Zones**	**Action By**
7.1	Use an Environmental Zone to support the implementation of other city logistics policy measures such as Cleaner Transport; Sustainable Procurement; Access, Noise and Time Window Restrictions; Consolidation Solutions.	Policy Maker
7.2	Keep your policy up to date, to ensure maximum reduction in air quality is achieved.	Policy Maker
7.3	Organise an Environmental Zone to cover both passenger and goods transport to have a significant effect on air quality.	Policy Maker
Ref.	**Policy Measure 8: Freight in Strategies and Plans**	**Action By**
8.1	Ensure freight requirements are represented widely in strategies and plans in order to support the implementation of last mile logistics solutions, as well as to support the introduction of other policy measures.	Policy Maker
Ref.	**Policy Measure 9: Harmonisation of Regulations at Regional Level**	**Action By**
9.1	Ensure harmonisation of political support.	Policy Maker
9.2	Prepare for harmonisation of implementation, review and enforcement of regulations.	Policy Maker
9.3	Provide, share and communicate information for effective implementation.	Policy Maker

Ref.	Policy Measure 10: Intelligent Traffic Management Systems	Action By
10.1	Use 'Intelligent Traffic Management Systems to support the implementation of other city logistics policy measures such, access, noise and time window restrictions. Use 'Intelligent Traffic Management Systems to support the enforcement of other city logistics policy measures such, access, noise and time window restrictions, for example, in Dublin, Intelligent Traffic Systems will be used to enhance the enforcement of speed limits.	Policy Maker
10.2	Before implementing an Intelligent Traffic Management System, ensure the right data is open, and available to you at an acceptable cost.	Policy Maker
Ref.	**Policy Measure 11: Kerbside Access and Loading Restrictions**	**Action By**
11.1	Use Kerbside Access & Loading Restriction policies to support the implementation of other city logistics policy measures such, Cleaner Transport Modes.	Policy Maker
11.2	From the start of the project, implement a clear communication plan to end users.	Policy Maker
11.3	Enforce restrictions that are in place, to ensure maximum impact.	Policy Maker
Ref.	**Policy Measure 12: Sustainable Procurement**	**Action By**
12.1	Encourage Sustainable Procurement policies to support the implementation of other city logistics policy measures such; Cleaner Transport Modes; Access, Noise and Time Window Restrictions, Delivery Servicing Plans.	Policy Maker
12.2	Lead by example. As large procurers within their own right, policy makers can lead by example and introduce Sustainable Procurement practices themselves.	Policy Maker, End User
12.3	Use the procurement process to uncover the cost of delivering the goods. This information will be helpful if considering implementing other last mile logistics policy measures such as consolidation centres.	Policy Maker, End User
12.4	Purchasing power impacts the successful implementation of sustainable procurement policies. Small procurers can club together to build a large enough 'purchasing power' to change behaviours.	End User

Delivery and Servicing Plans (DSP)

A DSP is a framework to manage delivery and servicing vehicle trips to and from your organisation or building. This can include:

- Deliveries and collections
- Servicing trips, including maintenance of office machinery, boilers and lifts
- Cleaning and waste removal
- Catering and vending

Why manage delivery and servicing vehicle trips?

BIDs

Fewer HGVs on local roads

Reduced traffic congestion

Improved air quality

Safer pedestrian and cyclist environment

Less damage to the highways infrastructure

Businesses

Save money with lower operating costs

Save money by buying goods in bulk with other companies

Be seen as a good neighbour

Achieve corporate social responsibility objectives

Free up time staff spend receiving goods and procurement activities

Efficient use of loading bays

Improved security of deliveries & servicing

Improved safety by reducing the number of vehicle movements

Gain environmental credentials

Find out more

CROSS RIVER PARTNERSHIP

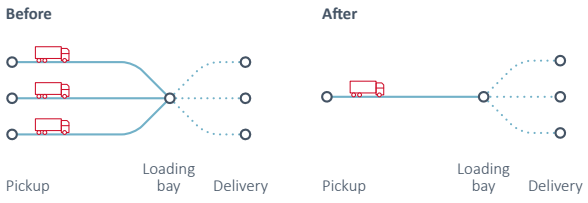
LAMILO sustainable city logistics

What does this involve?

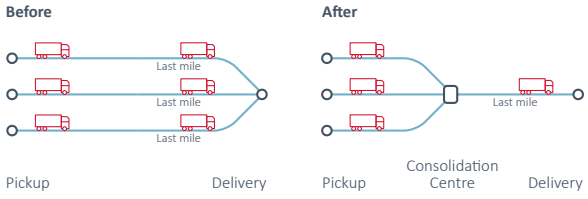
We will work with you to find a bespoke range of measures that will help your company achieve this. This will include capturing data on your existing operation to enable us to work together and assess which measures may be of value.

Examples of measures include:

- Review suppliers and delivery arrangements to reduce the number of orders and associated processing costs, maximising efficiency
- Introducing electronic booking systems to understand current and ongoing delivery patterns:
  - Allow suppliers to self-schedule deliveries, minimising time-consuming and error-prone communications by phone or e-mail
  - Balance deliveries throughout the day to make best use of limited service yard slots
  - Minimise delivery dwell time, queueing and idling
  - Increase security by pre-booking vehicles with registration numbers
- Install waste compactors to reduce the number and subsequent cost of waste collection trips
- Retime servicing trips to off peak to improve reliability, reduce emissions
- Consolidating deliveries, within your company, wider building or on a larger scale. There are a number of types of consolidation:
  - Order consolidation:



  - Consolidation centres:



Who has done this and what are they achieving?

Reduce waste collection trips by 60% [1]
Inmidtown BID
The BID for Bloomsbury, Holborn and St Giles has consolidated its waste collection service amongst 200 businesses with a hybrid waste collection vehicle. This has reduced waste collection trips by 60% or 84,000 vehicle road kilometres. They have also shifted 60% of their taxi and courier services to electric vehicles and bicycles.

Cut delivery costs by 6% [2]
London Borough of Hackney
The borough reviewed the management of cash collections from its offices. Collections of low cash flow offices were reduced to a single weekly collection. By reducing the number of journeys made, it is estimated that this will cut delivery costs by 6%.

Saved £100 per order [2]
University of Westminster
By consolidating its orders, the University reduced invoice processing costs by around £100 per order. This was achieved by increasing the value of orders by a factor of six, which reduced the number of orders.

Increase delivery efficiency, safety and reliability [2]
James McNaughton
The use of an online booking delivery system has eased congestion on the site and ensures that deliveries are made as efficiently as possible for all parties.

Increase contract award [2]
KPMG
Prior to awarding a contract, KPMG asks prospective suppliers to provide information showing how they will operate efficiently; identify and use sustainable and environmentally-friendly transport solutions; and highlight measures they will take to minimise traffic impacts.

Reduce costs through joint procurement with neighbouring businesses [2]
Natural History & Science Museums
The Natural History Museum shares a number of services and suppliers with their neighbours. The joint procurement of cleaning and waste services with the Science Museum will result in cost savings on their waste and cleaning contracts and reduce the number of vehicles coming to the site.

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Cross River Partnership is a public-private partnership that has been delivering regeneration projects in London since 1994. For more information on CRP please go to www.crossriverpartnership.org or contact crossriver@westminster.gov.uk.

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The following reports have been prepared by Cross River Partnership as part of the LaMiLo project, and are available on both the CRP and LaMiLo project websites:

- LaMiLo City Policy Review. Action 8. Output 1.
- Urban Railway Hub Freight Expansion Feasibility Study. Action 8. Output 3.
- End User Perspectives on Last Mile Logistics. Action 8. Output 4.
- Public Sector Influence on Last Mile Logistics. Action 8. Output 5.
- Lobbying Strategy for Sustainable Last Mile Logistics. Action 8. Output 6.

August 2015.