



Final Report

Engagement of stakeholders when implementing urban freight policies Technical report

Non-binding guidance documents on urban logistics
N° 3/6

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Engagement of stakeholders when implementing urban freight policies

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Glossary and definitions

| | |
|-----------------|---|
| PL | Third Party Logistics |
| 4PL | Fourth Party Logistics |
| ALICE | Alliance for Logistics Innovation through Collaboration in Europe |
| BESTUFS | Best Urban Freight Solutions |
| CIVITAS | City Vitality Sustainability: Cleaner and better transport in cities |
| CO ₂ | Dioxide Carbon |
| EU | European Union |
| FAB: | Freight Advisory Board |
| FQP | Freight Quality Partnership |
| LP | Logistics Profile |
| NO _x | Nitrogen Oxide |
| PM | Particulate Matter |
| SULP | Sustainable Urban Logistics Plan |
| SUMP | Sustainable Urban Mobility Plan |
| TURBLOG | Transferability of Urban freight logistics Concepts and Practices from a World Wide Perspective |

Executive summary

This technical report is the third of a series of six prepared within the scope of the Study on Urban Mobility - Preparation of EU guidance on Urban Logistics (MOVE/C1/2014-370) commissioned by the European Commission. Technical reports aim to help stakeholders understand the challenges brought about by logistics activities in an urban context, and identify the most suitable measures and actions to overcome these challenges. This technical report (No. 3) covers engagement of stakeholders when implementing urban logistics policies. It provides specific information on the development of a stakeholder engagement plan within the context of urban freight logistics. Additionally, it enumerates a comprehensive set of actions aimed at engaging stakeholders. Lastly, it also describes worldwide successful cases of stakeholder engagement initiatives.

A distinguishing feature of urban freight logistics systems is the diversity of stakeholders, such as producers, shippers, transport companies, logistics operators, retailers or residents. Each one exhibits unique characteristics. Private stakeholders are commonly profit driven seeking to reduce logistics costs. Even so, the strategies and business models to attain this goal differ among them. Public stakeholders envisage enhancing citizens' quality of life, while nurturing the economic development of the city. In order to fully understand the dynamics of urban freight logistics, it is then necessary to comprehend how these stakeholders interact, their degrees of understanding and their dependence upon each other.

Urban freight logistics contributes towards road congestion, pollutant emissions and accidents. Fossil-fuelled road vehicles, such as trucks, vans and cars, and motorbikes, are primarily used in distribution and logistics operations. Nowadays, urban freight traffic is estimated to account for about 10-15% of kilometres travelled and emits approximately 6% of all transport-related GHG emissions. In addition, loading and unloading operations are commonly conducted on sidewalks or streets, increasing the risks of accidents. Stakeholder engagement initiatives have been successfully used to mitigate the negative impacts of urban freight logistics.

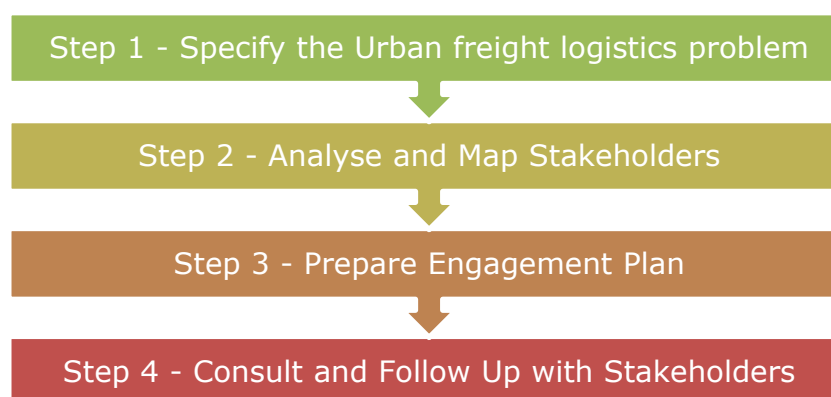
Stakeholder engagement is the process used by an organisation to engage relevant stakeholders for a clear purpose and to achieve agreed outcomes. All in all, it refers to a broad set of planned and purpose-driven initiatives deployed by an organisation aiming to interact with other parties. It is now also recognised as a fundamental accountability mechanism, since it obliges an organisation to involve stakeholders in identifying, understanding and responding to sustainability issues and concerns, and to report, explain and answer to stakeholders for decisions, actions and performance.

In general, there are five types of stakeholder engagement (Figure 1). Each type denotes a specific level of interaction with and involvement of the stakeholders. Additionally, each type provides the opportunity to exchange a specific amount of information and knowledge. Resources involved in the production of each type of engagement are different. The type of stakeholder engagement must be chosen appropriately to ensure the results are meaningful and useful in the decision-making process. A number of aspects must be taken into consideration, such as time-frame available, stakeholders' groups, specific experiences, resources available, adaptability and flexibility of the engagement techniques, analysis of the effort and output, understanding of values and the stakeholders' culture or technical complexity.

Figure 1 Types of Stakeholder Engagement^[1]

| | Inform | Consult | Involve | Collaborate | Empower |
|------------------------------|---|---|---|--|--|
| Stakeholder engagement goals | To provide balanced, objective, accurate and consistent information to assist stakeholders to understand the problem, alternatives, opportunities and/or solutions. | To obtain feedback from stakeholders on analysis, alternatives and/or outcomes. | To work directly with stakeholders throughout the process to ensure that their concerns and needs are consistently understood and considered. | To partner with the stakeholder including the development of alternatives, making decisions and the identification of preferred solutions. | To place final decision-making in the hands of the stakeholder. Stakeholders are enabled/equipped to actively contribute to the achievement of outcomes. |

In this report, a 4-step approach is proposed to design a stakeholder engagement plan. It is important to emphasise that several stakeholder engagement initiatives can be required along a single decision-making process.



Step 1 aims to identify and specify the urban freight logistics problem. Step 2 consists in the selection of the relevant stakeholders, such as: public authorities, producers and shippers, wholesalers, freight transport and logistics operators and receivers (e.g.: retailers, offices, construction sites, and – increasingly - residents). This Step is organised in four phases, as follows: i) listing relevant groups, organisations and people, ii) understanding stakeholders' perspective and relevancy, iii) mapping the relationships to objectives and to other stakeholders, and iv) ranking stakeholders' relevance and identifying issues. In Step 3 there is a need to select the actual engagement techniques, with which the interaction amongst stakeholders is carried out. In this technical report, we updated a categorisation proposed by CIVITAS Initiative (see Figure 2).

This figure also proposes the most appropriate engagement techniques for each type of stakeholder engagement. Although the division is not strict, it provides an orientation on the choice of the techniques. Amongst the various initiatives, Freight Forum, Freight Quality Partnership or Freight Advisory Board (FAB) have been successfully deployed in many contexts. These are long-term partnerships between urban freight stakeholders that, on a formal or informal basis, meet regularly to discuss (and sometimes find solutions to) problems and issues that occur in an urban area. Decisions should be taken by either consensus or large majority, so that, when deployed, they could receive lower criticism and higher acceptability. A main limitation of these initiatives concerns the difficulty to gather all relevant stakeholders.

Step 4 includes all actions done after the engagement initiative, aimed at keeping stakeholders updated about the final decision and ideally to collect further feedback.

Figure 2 Matrix of stakeholder engagement techniques

| | | Stakeholders | | | | |
|----------------|--|----------------------|--|-----------|----------|--------------------|
| | | Producers & Shippers | Freight Transport & Logistic Operators | Receivers | Citizens | Other Stakeholders |
| To Inform | Letters, Leaflet, Brochure, Newsletter | | | | | |
| | Posters and notices | | | | | |
| | Reports & Fact Sheets | | | | | |
| | Web Pages | | | | | |
| To Consult | Web 2.0 (social networks) | | | | | |
| | Surveys, including web and telephone based | | | | | |
| | Questionnaires | | | | | |
| | Interviews | | | | | |
| To Involve | Smartphones or Web Applications | | | | | |
| | Public Meetings | | | | | |
| | Information Sessions | | | | | |
| | Deliberative pooling | | | | | |
| | Forums, including web based | | | | | |
| To Collaborate | Seminars & Topical Events | | | | | |
| | Focus and Reference Group | | | | | |
| | Facilitated consensus building | | | | | |
| | Workshops & Meetings | | | | | |
| To Empower | Freight Forum | | | | | |
| | Local Governance, Joint Planning | | | | | |
| | Shared Projects, Capacity Building | | | | | |

Source: authors' own composition based on CIVITAS^[19]

Finally, a total of eight successful experiences of stakeholder engagement are presented, referring to the following locations:

1. Freight Quality Partnerships in United Kingdom, Sweden and Italy.
2. Freight Advisory Boards in Norway and Israel.
3. Strategic Planning in Gorna Oryahovitsa, Bulgaria.
4. Consultation on Cargo Bike Delivery in Donostia–San Sebastian, Spain.
5. CLUB – Focal Groups in Brazil.
6. Mobility Pact in Barcelona, Spain.
7. TRANSFORuM.
8. Charter for Sustainable Urban Logistics in Paris, France.

This Technical Report ends with the formulation of nine conclusions:

Conclusion 1: *Frame the implementation of Urban Logistics Policies within the context of a SULP and set targets.*

Conclusion 2: *Take some time to understand the Urban Logistics Problem*

Conclusion 3: *Develop a proper stakeholder engagement strategy*

Conclusion 4: *Involve stakeholders as soon as possible*

Conclusion 5: *Make the best use of the engagement techniques*

Conclusion 6: *Makes the best use of decision-making techniques*

Conclusion 7: *Balance and rationalise the involvement*

Conclusion 8: *Look elsewhere for good and bad practices*

Conclusion 9: *Evaluate and follow up*

Chapter 1 Introduction

1.1 Approach

This technical report is the third of a series of six, prepared within the scope of the Study on Urban Mobility - Preparation of EU Guidance documents on Urban Logistics (MOVE/C1/2014-370) commissioned by the EC. The study's Technical reports aim to help stakeholders understand the challenges brought about by logistics activities in an urban context, and identify the most suitable measures and actions to overcome these challenges. The technical report is the theoretical and research basis for the related Non-Binding Guidance Documents (NBGD 3).

The report covers *stakeholder engagement* when implementing urban logistics policies. It provides specific information on the development of stakeholder engagement plans within the context of urban freight logistics. Additionally, it enumerates a comprehensive set of actions to engage the stakeholders. Lastly, it also describes successful cases of stakeholder engagement initiatives from around the world.

The primary target group of this technical report is composed of public authorities, such as municipalities or local agencies, responsible for the management of traffic, transport and transport infrastructure within urban regions. Furthermore, logistics and freight companies operating in cities may likewise benefit from this report.

1.2 Contextualisation

The European Union (EU) went through an extensive urbanisation phenomenon, which has not yet stabilised. "Today, approximately 359 million people - 72% of the total EU population - live in cities, towns and suburbs"^[2]. The speed of transformation has slowed down, however, current estimates predict that the share of the urban population continues to grow and will reach 80 % by 2020^[3]. In Europe there are 26 cities of more than 1 million inhabitants and an additional 373 cities of more than 100,000 inhabitants in the European Union, representing around 165 million people^[2]. Understandably, the demographic evolution of the cities varies greatly. Some, such as London or Brussels, are expecting a very significant growth of their population in the coming decade while others are shrinking. Cities are also Europe's economic engine, as about 85% of the European Union's GDP is generated in cities.

The on-going urbanisation, coupled with other trends, such as increasing demand for frequent and just-in-time deliveries in urban areas, including at consumers' homes, have been increasing the amount of goods to be delivered within urban areas. Urban areas nowadays generate relevant freight transport needs, on average^[4]:

- 300 to 400 truck trips per 1000 people per day;
- 0.1 delivery or pick-up per person per day;
- 1 delivery or pick-up per job per week;
- 30 to 50 tons of goods per person per year.

Cities are also known to be places of considerable production of waste and other residues that must be safely deposited or disposed elsewhere. In the literature^{[5]-[12]} various terms are used to refer to the general concept of logistics and, particularly, of transportation of goods and waste in urban areas, such as "urban goods movement"^[5], "city logistics"^[6], "urban freight transport"^[7]. Logistics can be defined as the part of the supply chain that relates to planning, implementing and controlling the efficient, effective forward and reverse flow and storage of goods, services and related information between the point of origin and the point of consumption, in order to meet customers' requirements^[8]. Dablanc^[11] stated that urban freight

logistics can be defined as the attempt to reorganize goods flows within urban areas in the interest of sustainability by restructuring cities' supply systems, justifying this need with the negative effects that come with urban goods transport due to the expansion of urban areas and growth of their populations.

Urban freight logistics should ideally conciliate the efficient distribution of goods with the promotion of innovative schemes for the reduction of the operations' total cost, including economic, social and environmental costs^[13]. Yet, tension between the interests of urban freight logistics stakeholders and those of other stakeholder groups involved in urban mobility prevent attaining such aim.

A distinguishing feature of urban logistics systems is the existence of a large ecosystem of stakeholders, including public stakeholders (e.g., local authorities), private stakeholders (e.g., producers & shippers, wholesalers, freight transport or logistics operators, local public authorities), or residents and other users of the urban areas (e.g., tourists). Each stakeholder has specific purposes and ambitions. Indeed, divergences in the private stakeholders' strategies or business models are commonly the root of tensions and conflicts within the system, resulting in the negative impacts of urban freight logistics. Over time, urban freight logistics stakeholders have adapted their operations and optimised the processes according to the inherent difficulties (and inefficiencies) of the urban context. Eventually, they have reached a point of least inefficiency. Such situation is however potentially averse to the introduction of new and more sustainable solutions. The new solutions are likely to shift the private operators from the current point of least inefficiency towards another point of higher costs or higher inefficiency, even if from the societal point of view gains could accrue. For instance, replacing an internal combustion engine vehicle for a costlier, but non-pollutant, electrical vehicle is beneficial for society but the direct gains for the freight transport operator are uncertain. This is even more acute if the transport operator has limited financial capabilities to cope with the risk of an erroneous decision. The presence of externalities is thus a key concern of urban freight logistics activities. Many different types can be enumerated, including: time loss (due to congestion), accidents, higher rate of infrastructure damage, health related problems (due to emissions and noise), decrease in tourism, imports of energy, etc.

In addition, urban freight stakeholders tend to exhibit low interest in cooperation. Logistics and freight transport are highly competitive sectors. Bearing in mind that cooperation entails sharing information and resources, companies' interest is naturally reduced. They fear losing any competitive edge they may have over their competitors. Also, some business segments are characterised by secrecy or at least some reserve (e.g. often restaurants have exclusive producers and products). Such stakeholders will deny sharing their exclusive products with other products, for fear of damage to the goods or access to suppliers from their competitors (restaurants). The lack of trust is an important barrier to the implementation of new and better solutions.

Public stakeholders in their mission of curbing the impacts of urban freight logistics implement a series of measures, such as regulations (e.g., delivery time windows, limitations of maximum weight) or incentives (e.g., subsidies). The success of regulations depends on an adequate enforcement. However, enforcement of urban logistics activities is difficult to conduct, as many deliveries are quick, taking a few seconds (e.g.: delivery of medicines at pharmacies). Spotting them would require permanent surveillance of every street, which is impracticable. Secondly, many urban logistics activities are done with small and unmarked vehicles. Identification of such vehicles is difficult. Thirdly, often the available public space is scarce and there is simply no available parking space. Since not delivering could hardly be an option, overlooking regulations is the natural outcome.

Mistrust and misinformation are relevant sources of problems and challenges in urban freight logistics. A dangerous misconception may settle between public and private stakeholders: each

side expects the other to take the initiative of change. On the one hand, public stakeholders expect private stakeholders to set up new logistics services that fit the emerging needs of the customers and retailers. On the other hand, private stakeholders keep waiting for public stakeholders to promote new services, either through subsidisation or by other mechanisms^[11]. The solution to such a conundrum may simply lie in small and gradual steps. As Lindholm concludes "sometimes it is better to do something small to build on than to try to solve everything with one overall solution"^[14].

Stakeholder engagement initiatives can materially contribute to mitigate these and other barriers. As described in the following chapters, a stakeholder engagement initiative aims at reaching decisions on solutions for a specific urban freight logistics problem by involving all relevant stakeholders in the decision-making process. This generates benefits at several levels. Participation of stakeholders lies at the core of a stakeholder engagement. They are expected to share their own expectations, challenges, barriers and limitations. This erodes misinformation and contributes towards establishing communication bridges between stakeholders. They begin understanding better each other. In addition, participating stakeholders are held accountable for the decisions that are taken. They are expected to follow the decisions and the scope for complaints or claiming ignorance is reduced. Hopefully, this will favour a trusting environment among stakeholders.

Stakeholder engagement is increasingly seen as a most valuable help in solving increasingly complex problems, characterised by the participation of many different stakeholders^{[15]-[18]} and the realm of urban mobility is no exception^{[19], [20]}.

1.3 Structure of the Technical Report

The document is structured into six chapters. Chapter 1 presents the context of the study and the topic of analysis. Chapter 2 provides a brief discussion description of the urban freight logistics stakeholders. Chapter 3 elaborates on the decision-making process in the context of urban freight logistics. Chapter 4 explains how to develop a successful stakeholder engagement plan. Chapter 5 lists successful implementation cases. Chapter 6 concludes this Technical Report by presenting a list of recommendations. Further reading recommendations are listed after this Chapter.

Chapter 2 Stakeholders in urban freight logistics

One of the most distinguishing features of urban logistics systems is the existence of a large ecosystem of stakeholders (Figure 3). Divergences on stakeholders' strategies or business models are commonly the root of tensions and conflicts within the system, resulting in the negative impacts of urban freight logistics.

Figure 3 Ecosystem of stakeholders in urban logistics



- **Public Authorities** are responsible for ensuring the social, economic and sustainable development of urban regions. We may distinguish three levels of public authorities: the local government, the national government and the EC (e.g. setting EURO-standards for truck engines). Local authorities refer to the municipalities, regional and metropolitan agencies. Urban freight logistics is, from a spatial perspective, confined to the urban area. Larger urban areas commonly include several municipalities. In such cases, the municipalities should work together. Different options are available: working groups involving members from the various municipalities can be established, public agencies can be specifically created, among others.

The intervention of the national or European authorities is at different level, funding tailored research and development, creating adequate legislation (e.g., technology, labour, safety, etc.), or promoting territorial cooperation between national and international regions and municipalities.

The interests of a municipality span many areas, such as urban and transport planning, transport infrastructure, social security, economy and finances, or security and safety. All of these, and other, areas have interests to a different extent with urban freight logistics. Therefore, the interests and knowledge of every one must be brought together when dealing with some specific problem or situation. The internal functional organisation greatly varies among municipalities. Small ones (with populations of a few thousand) may have one department, and just one group of employees dealing with many functions; while big ones (with populations of millions) are likely have highly specialised and individualised teams and divisions. In the latter situations, there is the danger of a functional structure emerging,

organised in vertical silos. Transversal communication and interaction tends to be insufficient. Bearing in mind that urban freight logistics problems span various domains, such situations may hamper the development of successful initiatives and solutions. Such situations should be identified and mitigated. Several options are possible, such as: establishing teams involving members of the various departments, creating and nurturing communication principles and platforms, or reorganisation of the divisions.

Public authorities are in a privileged positioning to promote successful stakeholder engagement initiatives. Foremost, they are all interested in promoting an efficient urban freight logistics sector with low impacts. Secondly, they do not have commercial interests in the logistics market. Thirdly, although aiming to curb the negative impact of urban freight logistics activities, they do seek to enhance private stakeholders' businesses. Public authorities can work at establishing bridges among stakeholders and building consensus. Finally, public authorities also have the resources and political power to mobilise the relevant stakeholders and to implement decisions related with public domain (e.g., changes in the built environment).

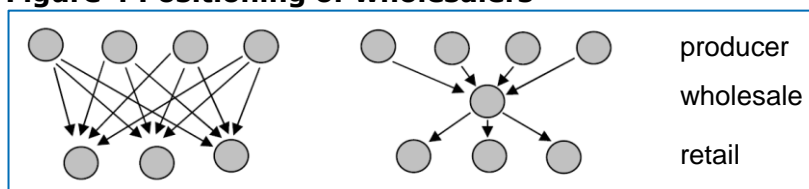
- **Producers and Shippers** are the stakeholders responsible for preparing (e.g.: producing, farming, assembling, bundling, etc.) the goods to be delivered to the urban region. In addition, they may also be responsible for packing the goods and preparing them for transport. The influence on the dynamics of urban freight logistics is thus not irrelevant. Involving these stakeholders in the engagement initiatives may lead to alterations in the preparation of goods, with positive impacts on the urban freight logistics operations. For instance, they may rework their packaging styles in cooperation with transport companies, resulting in higher loading capacity.

These stakeholders may also run a proprietary fleet of vehicles. In these cases, they also assume the role of transport companies. This type of transport, commonly designated as own account transport, may account to up to 30% of urban deliveries^{[21], [22]} and, even, go as high as 50%^[23]. In such cases, the involvement in the engagement initiatives is also important as described below for the freight transport operators.

- **Wholesalers** are middlemen between Producers and Receivers (Figure 4). Typically, they buy large quantities of products in bulk, from different producers, and re-sell them, arranged in lots, to the retailers. Often they own (or manage) warehouses on the outskirts of cities. Wholesaler activity can promote the rationalisation of the number of vehicles and transport kilometres, since they encourage the concentration of flow in a reduced number of locations.

Their participation on the engagement initiatives is also relevant. Foremost, they control the freight flows. Secondly, they have a thorough knowledge of the market, thus they can give valuable advice on the feasibility of new concepts and ideas. Moreover, due to their relations with both producers and receivers, they can incentivise them to embrace changes.

Figure 4 Positioning of wholesalers



- **Freight Transport and Logistics Operators** are the stakeholders responsible for the physical movement of goods between locations. Logistics operators provide additional

services, such as invoicing and billing, warehousing or inventory management. Logistics operators may work in a similar fashion to wholesalers, in the sense that they also collect and bundle freight flows from different producers (or wholesalers), before making the distribution among retailers. As such, Figure 3 is also valid in the context of logistics operators, the key difference being that these operators do not own the goods. Logistics operators tend to be the visible facet of urban freight logistics, as they run the vehicles (in most cases road transport vehicles) that populate the urban regions. The market of freight transport companies is quite heterogeneous, ranging from small family-run companies, with a fleet of one or few vehicles, to large international companies, with a fleet of hundreds of vehicles either owned or rented. These often subcontract part of their operations, especially in urban areas, where deliveries can be subcontracted to up to 100%. Yet, in general, transport companies providing urban freight services are very small^[3]. The involvement of these stakeholders in the engagement initiatives is a fundamental requisite. They must be brought into the process, as early as possible, so that solutions could be worked with them.

Their main purpose is to adequately respond to the customers' needs, which can be the producers, the wholesalers, the retailers, etc. Indeed, they are expected to provide a high level of service at low cost. Their operations simply reflect the attempts at optimising resources within the boundaries set by their customers; for example, opening hours of stores or designated time windows to make the deliveries. These stakeholders usually aim at minimising their costs by maximising the efficiency of their pick-up and delivery tours. There is a trade-off between a high level of service and the efficiency of freight vehicles' loads. Hence, although their participation in the stakeholder engagement initiative is fundamental, they are nonetheless limited by their customers' demands (i.e., the receivers). The involvement of the customers in the stakeholder engagement initiative is therefore also relevant.

- **Receivers (e.g.: retailers, offices, construction sites, and – increasingly - residents)** are scattered within the urban area. In what concerns retailers, there is a wide diversity, ranging from small street shops to major commercial centres. Each one sells specific products and therefore has specific transport demands (e.g.: frequency, quantities, type of vehicles, etc.). Smaller retailers often have one car or van and go to the wholesalers, producers and other locations collecting and transporting the goods. Hence, they are directly involved in urban freight transport services. A relevant aspect is that the vehicle is also used as the family vehicle, for work or leisure trips. Other retailers commonly buy the goods including a delivery service (smaller retailers also resort to this scheme). Transport price is included in the price of the ordered goods. In such situations, the receivers are not responsible for urban freight transport since shipments are organised and paid for by the shipper.

By setting the delivery conditions such as setting time windows or providing a private unloading bay, receivers have a considerable amount of influence over the urban freight operations. Residents are new types of receivers (see below), with quite distinct demands for time-windows (evenings, weekends) and location (residential neighbourhoods, as well as an array of new delivery locations – see below).

The involvement of receivers on stakeholder initiatives is thus necessary, particularly, to understand the underlying specific demands and to work on viable alternative options.

- **Urban Area Residents & Users (e.g., tourists)** refer to the people who live or spend a substantial amount of time in the urban area (e.g. working, leisure, shopping, etc.). They expect proper living standards and quality of life. Inevitably, urban logistics services, such as

emissions, smell, noise, vibrations, etc., are much unwanted. Air pollutants and particulate matter, particularly on hot days, can become quite inconvenient for pedestrians and road users. Residents and city users may voice their discontentment towards urban logistics activities in different ways, such as sending letters to city halls, audiences with public representatives or even law suits. A major trend concerning this type of stakeholders refers to home deliveries and e-commerce. People are increasingly resorting to internet-based commerce to acquire the most diverse arrays of goods, ranging from groceries and other fast-consumption goods, up to technology, book and even fashion. Commonly, goods are delivered to a designated location, e.g., home, office or drop off point. This trend is introducing profound changes in the organisation and structure of urban freight logistics systems (i.e., new delivery schemes, different route planning or different vehicles) and the actual impacts are still unknown¹.

Involving residents and users is relevant for different motives. Foremost, to understand what they expect from the urban logistics sector (e.g., what is acceptable for loading/unloading operations, how they perceive the presence of freight vehicles in their city, how they would like to receive their goods, etc.). Secondly, to update them on any decisions, particularly, on their opinions that were taken into consideration. This is important in order to reduce the complaints or contestation against decisions.

- **Other Stakeholders** – the above list does not exhaust the stakeholders with interests in urban freight logistics. Among these, we would like to highlight the so-called resource supply stakeholders^[24], including: investors, infrastructure providers, and managers (such as ports, airports, intermodal terminals, road networks, logistics real estate investors), landowners, and providers of vehicles or of information technologies (IT) support systems. These stakeholders may not be directly involved but their investments and innovations determine the possibilities for urban freight transport to evolve. Hence, if necessary, they may be called to participate in the engagement initiatives.

The logistics activities depend on the interaction between the abovementioned stakeholders. Local authorities aim at promoting the social, economic and sustainable development of regions and society. They attempt to mitigate the external problems of urban freight logistics, such as emissions, congestion or accidents; while working to create conditions to promote the efficiency of operations and processes. The scope of intervention of (local) authorities is however limited. Logistics activities are essentially of a private nature and the EU regulation sets clear limits to the lawful level of influence of public authorities. Secondly, when urban freight logistics is the end part – last mile – of either longer supply chains or larger distribution networks, stakeholders have to measure the impact of the (local) policy measures on their chains and networks. The actual impact of the measures may be lower than initially expected^[25]. Local authorities are nonetheless essential to the regulation and organisation of urban freight logistics within urban areas. Indeed, the responsibility to initiate, motivate and coordinate urban logistics measures lies, to great extent, with these stakeholders^[26]. Their primary goals are to enhance the quality of life of the city, without hampering the economic development. Hence, they are in a prime positioning to promote and lead stakeholder engagement initiatives. In addition, they are also in contact with many different stakeholders. And, to some extent, they have some influence to incentivise them to participate.

Private stakeholders seek profit maximisation, a desire for reduction in transportation costs is therefore implicit as well as an increase in the amount of sales, while keeping in mind that their customers expect it to be economic and reliable. Despite the natural profit-driven nature,

¹ The interested reader on the topic of E-commerce is referred to the Technical Report #4.

private stakeholders are increasingly aiming at increasing the sustainability of their logistics and transport processes. Looking ahead, current public strategic orientations clearly set a path towards decarbonisation and modal shift. Some stakeholders have already begun preparing for the oncoming paradigm. Others, within the scope of their corporate social responsibility, have also promoted sustainable urban freight logistics initiatives. Growing pressure from consumers and other stakeholders (e.g., residents, local authorities) is another reason for that some stakeholders opt to change their processes. Finally, sustainability is a driver of efficiency and competitive advantage. It entails rationalising resources and reducing waste production and energy consumption.

Stakeholder engagement initiatives can accelerate these transitions. Stakeholders can share their successes and debate failures. Solutions can be discussed to overcome obstacles and barriers. An important aspect lies with avoiding market unbalances. The point is that solving problems of urban freight logistics may entail internalising some external costs (e.g., changing an internal combustion engine vehicle for a costlier, but non-pollutant, electric vehicle). Such decisions may be risky, if adopted on an individual basis by a single stakeholder (particularly, one with reduced financial capacity). Yet, if the decision is consensual and market-wide, it becomes less risky and easier to adopt.

As for residents, their prime goal is to live in a good environment, while having access to the goods at affordable prices. Complaints about urban freight logistics are often rooted in unfeasible expectations and on unfamiliarity about the complexity of the operations. Engagement initiatives can contribute to overcoming these limitations.

Chapter 3 Decision-making Process in the context of Urban Freight Logistics

Sustainable Urban Mobility Plans (SUMP) are formulated to promote the sustainability of mobility patterns in increasingly complex urban societies. A SUMP is a strategic plan designed to satisfy the mobility needs of people and businesses in cities and their surroundings for a better quality of life^[27]. Among other objectives, SUMPs are formulated to promote the sustainability of mobility patterns of people and freight in increasingly complex urban societies, to promote safety and security, to reduce air and noise pollution, or to contribute to the attractiveness and quality of the urban environment and design.

The Urban Mobility Package proposed by the European Commission sets out a concept for SUMPs^[8], which comprises the following elements: i) goals and objectives, ii) long-term vision and implementation plan, iii) assessment of performance, iv) integrated development, v) stakeholder engagement, vi) reporting and vii) quality assurance.

A Sustainable Urban Logistics Plan (SULP) is focused on the sustainability of the urban freight logistics processes^[28]. It proposes a set of measures and actions that, collectively, will contribute to reduce the energy consumption and environmental impacts of urban freight logistics enabling its economic sustainability. A SULP is thus the urban freight logistics counterpart of the SUMP.

SULPs are considered to be the most appropriate approach to mitigate the negative impacts of urban freight logistics. The development of a SULP entails a complex decision-making process. Even when a SULP has not yet been developed, the resolution of a freight logistics problem commonly involves a decision-making process.

The success of the decision-making process is related to the successful deployment of the final decision (e.g., public policy, investment, etc.). Often, decisions require changes in behaviour and even a deep thinking over how to handle changes in management. As such, in order to implement a concept, or a combination of concepts, it is crucial to discuss and to plan carefully with stakeholders to avoid sub optimisation. There are examples of studies where the concept failed, partly due to reasons concerning cooperation and resistance^[14].

Figure 5 proposes an urban freight logistics decision-making process organised in three phases and nine stages. Phase 1 concerns the diagnosis of the current situation and problem, and the definition of the objectives and aims. Phase 2 refers to the design of the plan of actions to achieve aims. Finally, Phase 3 concerns the deployment of the plan and respective monitoring process, with the purpose of ensuring that the expected results are actually being attained. The nine stages are discussed briefly below:

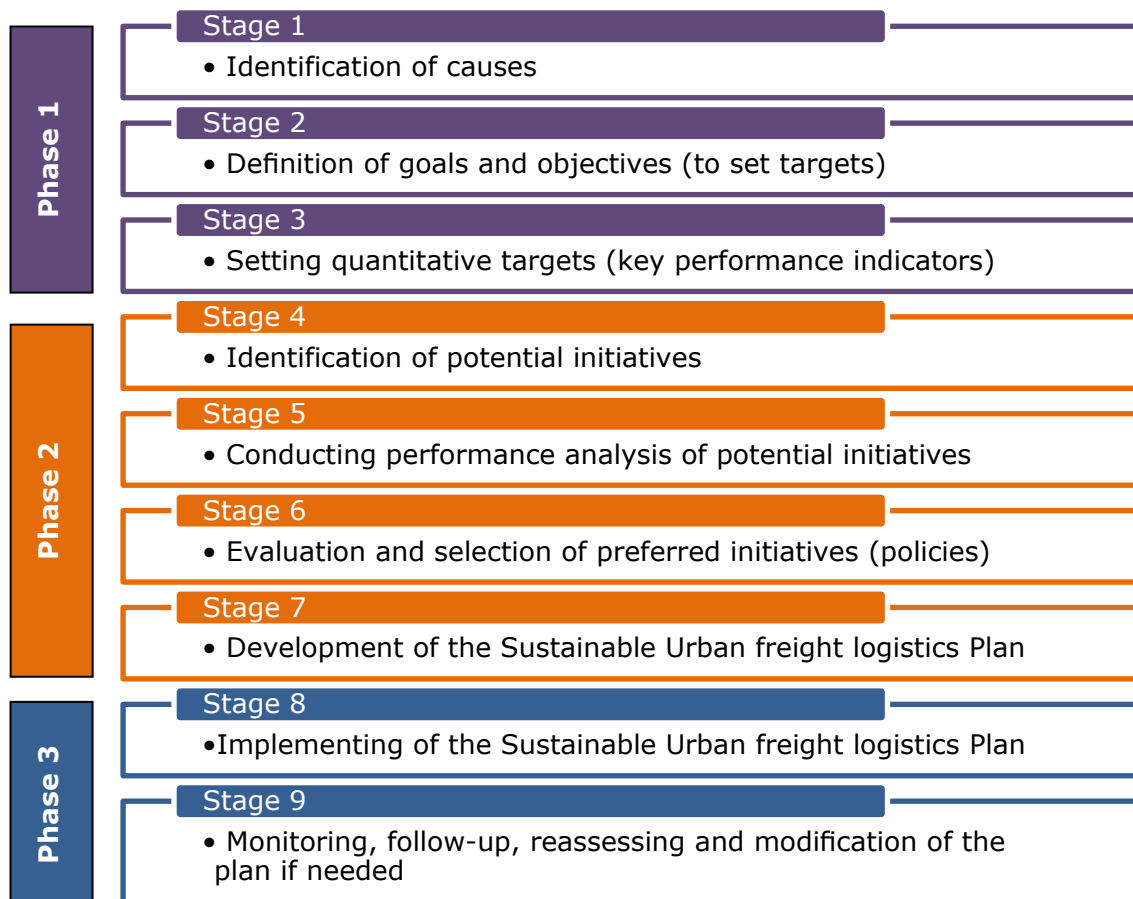
- *Stage 1* – Urban freight logistics is a privately oriented business. Decisions lie with the stakeholders (e.g., transport operators, logistics operators, etc.) in charge of carrying the goods. Distribution-related problems (e.g., accessing narrow streets) end up being solved by the private operators, eventually with the cooperation of local public authorities. Whenever private stakeholders' operations conflict with policies of the government or other users and threaten to jeopardise the economic, social and sustainable development of the region (e.g., congestion), the public authorities intervene and a decision-making process is initiated. The isolation of the cause can be accomplished resorting to the concept of Logistics Profile².
- *Stage 2* – Upon becoming aware about the problems and identifying the causes, it is necessary to define how the problem could be mitigated or solved – that is, the vision.

² The concept of Logistics Profile was also discussed in Technical Report #1. The interested reader is referred to this document.

This does not necessarily entail the elimination of the original problem, it can signify changing the current conditions (e.g., an increase in truck traffic owing to the opening of a new shop cannot be solved by prohibiting the vehicles; it can involve the implementation of an urban consolidation centre elsewhere). This depends on the actual problem, and the available resources and legal framework. Many problems of urban logistics result from illegal actions, such as double parking or parking on the sidewalk. Although such situations cannot be allowed, strict compliance with the law may also not be feasible, since it could damage the economic activity. The local legislation can be altered to be more flexible: as a result of consultations with logistics operators, Paris bus lanes were opened to goods' loading and unloading operations during off-peak hours. Alternatives that suit all involved parties must be sought.

- **Stage 3** – Upon the identification of feasible objectives and goals, a set of performance indicators should be chosen. The indicators will allow the monitoring of progress.

Figure 5 The urban freight logistics decision-making process^[29]



- **Stage 4** – It is then time to identify the list of potential solutions that could cumulatively contribute to the resolution of the problem. The action may be collected from a state of the art or practice, with particular attention for best practices, and, of course, directly from the private stakeholders' responsible for the urban freight logistics operations, as they are in the best position to define what is most feasible.
- **Stage 5** – The solutions must be subject to an assessment exercise aiming to uncover the expectable advantages and disadvantages. The actual assessment exercise will depend on the type of initiative and it may include: cost-benefit analysis, multicriteria analysis or lifecycle cost assessment. Depending on the assessment exercise a set of

decision variables will be defined. The decision variables establish the referential upon which the solutions will be ordered and chosen. Examples of decision variables can include economic variables (e.g. price) or environmental (e.g. emission or noise level). To ensure the comparability amongst solutions, the end results should be computed according to the variables.

- *Stage 6* –The various solutions are compared and ranked according to the decision variables (established in the previous stage). The most suitable and consensual initiative is chosen.
- *Stage 7* – Upon the choice of the solution, it is time to define and schedule an action plan that will culminate in the implementation of the solution, which is expected to solve (or mitigate) the problem.
- *Stage 8* – This stage concerns the actual field implementation of the tasks foreseen in the action plan.
- *Stage 9* – Upon the deployment of the action plan, it is fundamental to monitor the evolution of the problem to ensure that it is progressing according to the initial plan. If deviations are detected, then corrective actions can be implemented.

Chapter 4 Stakeholder engagement practices when implementing urban freight logistics policies

4.1 Introduction to the concept of stakeholder engagement

Urban freight logistics is an influential activity of people's lives in urban areas. It provides goods, but also affects both mobility (e.g.: congestion) and accessibility to the work place, services, social and recreational activities (e.g. emissions). Additionally, urban freight logistics is nowadays recognised as a key dimension to promote the sustainable mobility and the sustainable development of an urban area. The increasing interest of citizens is then natural. They want to be informed and involved in urban freight logistics planning and the development of concrete measures, particularly when they are likely to be directly affected. Citizens are not the only party interested in solving urban freight logistics related problems. Indeed, urban freight logistics activities are eminently private in nature, involving different companies. In principle, they should be interested in participating and being involved, as decisions are likely to directly impact their operations. The practice, however, shows a mixed behaviour ranging from high interest to total indifference.

Another relevant aspect is that decision makers are becoming more aware that the problems and challenges of modern society are so complex that they can no longer be solved within narrow trade and political circles. In democratic societies, people and companies' views and responses as to whether they find new solutions acceptable, are considered side by side with expert decisions.^[19]

Over the last years, the term 'stakeholder engagement' has become increasingly common in public decision-making and, even, in business circles^[30].

"Stakeholder engagement is a broad term used to designate the involvement of various stakeholders in the decision-making process."^[20]

Other definitions have been proposed, such as: "Stakeholder engagement is the process used by an organisation to engage relevant stakeholders for a clear purpose to achieve agreed outcomes". It is now also recognised as a fundamental accountability mechanism, since it obliges an organisation to involve stakeholders in identifying, understanding and responding to sustainability issues and concerns, and to report, explain and answer to stakeholders for decisions, actions and performance"^[31]. All in all, it refers to a broad array of planned and purpose-driven initiatives deployed by an organisation aiming to interact with other parties.

Figure 6 enumerates the main purposes of a stakeholder engagement process. With the lowest level of involvement, a stakeholder engagement process may be used to disseminate and *inform* people and stakeholders about a specific decision, event or other relevant fact. In this case, there is a one-way flow of information, and feedback from the receivers of this information is not expected. A second level of interaction is *consultation*, aiming at collecting the views, perspectives and opinions of those directly impacted by a problem or influenced by the eventual solutions. This process is also very much one-way, but, in this case, the information also flows from the stakeholders upwards.

In the following three types – *involve*, *collaborate*, *empower* – the stakeholders are progressively involved in the decision-making process. In the situation with the highest level of involvement, the stakeholders are an integral party of the decision-making process, thus being responsible for the outcome. It is important to note that stakeholders are guided by particular objectives and strategies, which are not necessarily aligned. Conflicts of interests and even, eventually, contradictory suggestions can be brought forward in the face of a given challenge.

In such cases, mediation and convergence of opinions are required to ensure the success of the urban freight logistics strategy. These more intensive forms of involvement create the conditions for a successful bridging of the various perspectives. Indeed, the most important benefits and consequences of an effective stakeholder engagement are the acceptability of the solutions by the stakeholders and their readiness to embrace the changes and adapt their habits accordingly, which is often needed in order to implement the measures in practice.

Figure 6 Ladder of purposes of the stakeholder engagement process^[1]

| Stakeholder engagement goals | Inform | Consult | Involve | Collaborate | Empower |
|------------------------------|---|--|---|--|---|
| | <ul style="list-style-type: none"> To provide balanced, objective, accurate and consistent information to assist stakeholders to understand the problem, alternatives, opportunities and/or solutions. | <ul style="list-style-type: none"> To obtain feedback from stakeholders on analysis, alternatives and/or outcomes. | <ul style="list-style-type: none"> To work directly with stakeholders throughout the process to ensure that their concerns and needs are consistently understood and considered. | <ul style="list-style-type: none"> To partner with the stakeholder including the development of alternatives, making decisions and the identification of preferred solutions. | <ul style="list-style-type: none"> To place final decision-making in the hands of the stakeholder. Stakeholders are enabled/equipped to actively contribute to the achievement of outcomes. |
| Promise to stakeholders | Inform | Consult | Involve | Collaborate | Empower |
| | <ul style="list-style-type: none"> We will keep you informed. | <ul style="list-style-type: none"> We will keep you informed, listen to and acknowledge concerns and aspirations, and provide feedback on how stakeholder input influenced the outcome. | <ul style="list-style-type: none"> We will work with you to ensure that your concerns and aspirations are directly reflected in the alternatives developed and provide feedback on how stakeholder input influenced the outcome. | <ul style="list-style-type: none"> We will look to you for advice and innovation in formulating solutions and incorporate your advice and recommendations into the outcomes to the maximum extent possible. | <ul style="list-style-type: none"> We will implement what you decide. We will support and complement your actions |
| Methods of engagement | Inform | Consult | Involve | Collaborate | Empower |
| | <ul style="list-style-type: none"> Fact sheet Open houses Newsletters, bulletins, circulars Websites and social media | <ul style="list-style-type: none"> Public comment Focus groups Surveys Public meetings Web 2.0 tools | <ul style="list-style-type: none"> Workshops Deliberative polling Web 2.0 tools Forums | <ul style="list-style-type: none"> Web 2.0 tools Reference groups Facilitated consensus building forums for deliberation and decision-making Experimental projects | <ul style="list-style-type: none"> Dialogue with Government Local governance Joint planning Provision of data Shared projects Capacity building |

Other purposes have been pointed out by Krause^[32], who also defined the targets and benefits of stakeholder engagement in planning processes as follows:

- It makes decision-making processes more transparent.
- It raises mutual understanding between citizens/companies and administration.
- It considers ideas, concerns and everyday knowledge.
- It improves the knowledge basis.
- It has a positive influence on planning processes as it increases acceptability.

Looking again into the definition of stakeholder engagement, three key concepts can be isolated in this definition: decision-making process, involvement and stakeholders.

The decision-making process refers to the initiatives taken by a stakeholder, typically the municipality or a public authority, aimed at selecting a course of action among several alternative possibilities to mitigate and ideally overcome an urban logistics challenge. The urban freight logistics challenges are quite diverse in terms of scope and impact, ranging from localised problems at the street level (e.g. loading and unloading operations of a supermarket)

Figure 7 Stakeholder positioning and perspective towards the decision-making process^[53]

| Stakeholder Engagement Situation | Type of Stakeholder | Behaviour |
|---|---------------------------------|---------------------|
| Collaboration Zone <i>stakeholders taking the lead adding value. self-sustaining</i> | Champion | Passionate |
| | Pro-Active Supporter | |
| | Active Supporter (overt) | Motivated |
| Cooperation Zone <i>stakeholders following depending on leadership. susceptible to stall</i> | Active Supporter (covert) | |
| | Passive Supporter | Enrolled |
| | Neutral Acceptor | |
| | <i>Success by force windows</i> | Reluctant Compliant |
| Stagnation Zone | Passive Resistor | |
| Danger Zone <i>driving resistance underground</i> | Active Resistor (overt) | Motivated |
| Failure Zone <i>recovery requires a major shift in values</i> | Active Resistor (covert) | |
| | Saboteur | Passionate |
| | Radical | |

up to city-wide problems (e.g. pollution from vehicle emissions). Bearing in mind that the decision-making process must be tailored to the actual problem, then the respective configuration, intensity and dimension is also quite variable. Regardless, we may identify three main stages: the characterisation of the problem/challenge, the design of an action plan, the deployment and respective monitoring.

A wide diversity of initiatives has been developed and put into practice, according to the stakeholder and the purpose. The objective is of course to maximise the benefits taken from the realisation of the initiative. Initiatives can range from simple and one-way dissemination actions, such as leaflets or posters, up to elaborated round tables or meetings.

All in all, a wide array of stakeholders can be identified in the context of urban freight logistics. Stakeholders will position themselves differently with regards to the decision-making process. The positioning is influenced by multiple factors, such as: beliefs and expectations, knowledge and understanding about the problem and solutions, influence by the peers, etc. Figure 7 suggests a ladder to classify the stakeholders' positioning. Naturally, some will be more in favour whereas others will be against it. The degree of support or opposition depends on the actual mix and intensity of the abovementioned factors.

Essentially, it is possible to identify a broad range of positions, going from the most active and feverous support up to the most active and strenuous opposition. Indeed, the intensity of the involvement is

often similar among stakeholders, they just happen to be on opposite sides. Among the various behaviours, those passionate are commonly motivated by deep convictions and sometime may

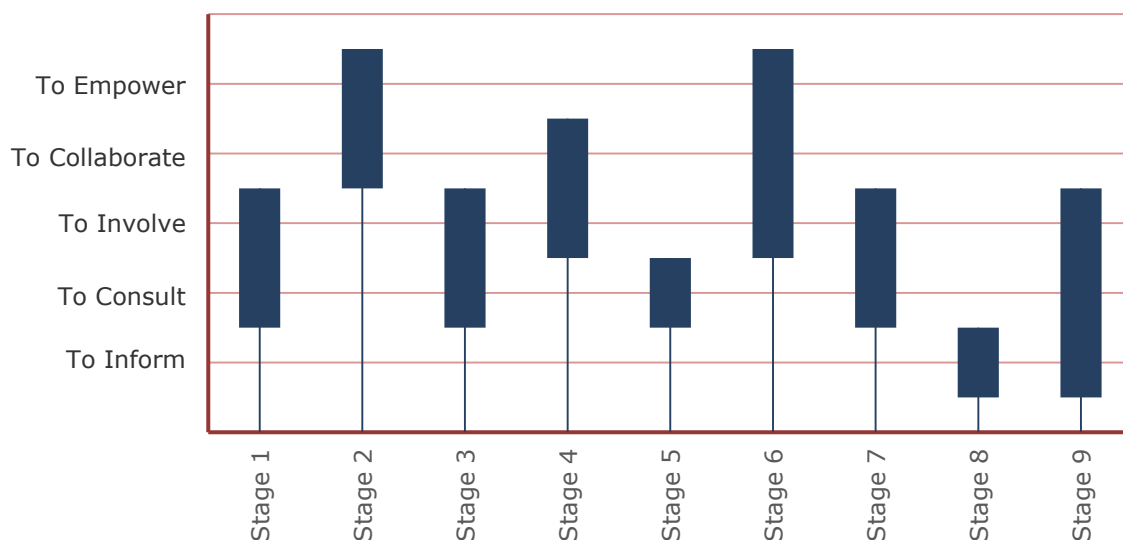
have difficulties to rationalise. As a consequence, they are active in the defence of their own perspectives and may drag the process, if not to bring it to a halt.

The motivated objectors act in a rational manner, as such, they discuss, argue and rationalise. If the decision-making process respects their perspectives, they may change mind and evolve towards another category. Interacting with the remaining types of stakeholders requires tailored initiatives. Provided an adequate stakeholder engagement process, there is a good prospect of successfully concluding the decision-making process. Theoretical and empirical research has shed some light onto the barriers and resistance factors to stakeholder engagement and, in a broader sense, to institutional cooperation^[33] i) unclear setting of aims and purposes of the stakeholder engagement initiative, ii) difficulties in participating and accessing the events, iii) public reluctance to engage in participation, iv) institutional barriers to participation, v) limits of participation, vi) dissatisfaction with the involvement process.

4.2 Stakeholder Engagement in the Urban Freight Logistics Decision-Making Process

The involvement of stakeholders, albeit relevant since the very beginning, is not deemed to be constant or with the highest intensity along the urban freight logistics decision-making process. Not only would such an approach require an exaggerated amount of resources, it would also exhaust the willingness and interest of the stakeholders. Instead, it is advisable to adopt a dynamic approach, in which the level of involvement changes over the stages. Figure 12 proposes the sequence of plausible levels of involvement (presented in Figure 6) along the urban freight logistics decision-making process (presented in Figure 5), as follows.

Figure 8 Evolution of the plausible type of stakeholder engagement in the urban freight logistics decision-making process



- **Stage 1** – In this stage the decision maker aims to characterise the problem and understand the underlying roots. This will be achieved through observation, literature and collecting information from the stakeholders. This can go from simple surveys or interviews up to the organisation of meetings.
- **Stage 2** – This is an important stage to build consensus around the vision. Otherwise, the decision-making process can be questioned. A deep involvement of the stakeholders is thus necessary.

- *Stage 3* – The definition of the targets has a more technical nature in order to ensure the indicators are valid and robust. Stakeholders may be involved in the identification of the elements to consider, but not necessarily in the actual choice of the indicators.
- *Stage 4* – The specification of the solutions has also a technical nature. It may require civil engineering working construction or other technological elements; which of course entails the involvement of experts on the topic. Stakeholders should be called to provide feedback on the design, look and final configuration, and ideally to approve and embrace.
- *Stage 5* – This stage is technical in nature. Known methods and tools can be applied to assess the advantages and disadvantages of every solution. Stakeholders' opinion may be considered, as are many other factors. Surveys or interviews can be used.
- *Stage 6* – Involvement of stakeholders is again relevant, since the solution to achieve the envisaged vision is to be selected. Again, stakeholders must agree with the solution. Commonly, this involves a set of meetings and seminars, in which the various solutions are presented and discussed. Stakeholders can get the feeling and pass a judgment
- *Stage 7* – Upon agreeing on the solution, it is time to define the plan of action. Depending on the solution, it may involve civil works, deployment of new technology, development of new regulations or legislation, etc. The actual definition of the plan is thus largely of a technical nature. Stakeholders may be involved in specific tasks and respective timings.
- *Stage 8* – Refers to the deployment of the action plan. During this stage, a set of actions will take place. Stakeholders need to be aware of the developments of the works, particularly if any deviation to the initial plan is necessary (e.g. delays). Visual information may be sufficient to inform the stakeholders.
- *Stage 9* – The monitoring process must necessarily involve the stakeholders. Foremost, they must be knowledgeable about the progress of the improvements. In particular, whether the envisaged vision is to be attained. Secondly, stakeholders must be consulted to provide feedback on the solution and final outcome. This is important to understand whether the initial expectations were met and, if not, what additional measures could be necessary.

Developing behavioural models of stakeholders can be useful to complement stakeholder engagement initiatives. Examples of modelling techniques include scenario analysis or simulation (agent technology). The various stages of a stakeholder engagement initiative will provide information to develop, validate and calibrate such a model. The model will then allow evaluating the impact that a hypothesised stakeholders' interaction might have on the choice of a shared policy measure. The results can provide useful suggestions for policy-makers on the potential acceptability of the policies discussed with stakeholders.

An alternative concept that is gaining momentum is the living lab^[34]. A living lab is user-centre, user-driven research concept aimed at supporting innovation processes. A living lab commonly has a real world territorial setting, such as a city, involving multiple stakeholders (e.g., public, private or citizens). In situations of a large number of users, the living lab evolves towards truly social entities supported on open-ended platforms. Multidisciplinary research teams also participate. The purpose is that they work collaboratively, developing innovative solutions. Some initiatives with promising results have already been developed in the context of urban freight logistics^{[35]–[37]}.

4.3 Developing a stakeholder engagement plan

The expectation of achieving successful stakeholder consultation initiatives lies to a great extent in a rigorous and meticulous organisation and planning. Taking into consideration that stakeholders' participation is done by free will, it is of the utmost importance that they feel comfortable and recognise the merit of the initiative. Otherwise, they will turn down further invitations or, if participating, the efforts will be minimised. As a consequence, the ultimate

purposes of stakeholder engagement (e.g. finding new opportunities and solution, or motivation and mobilisation) will likely not be met.

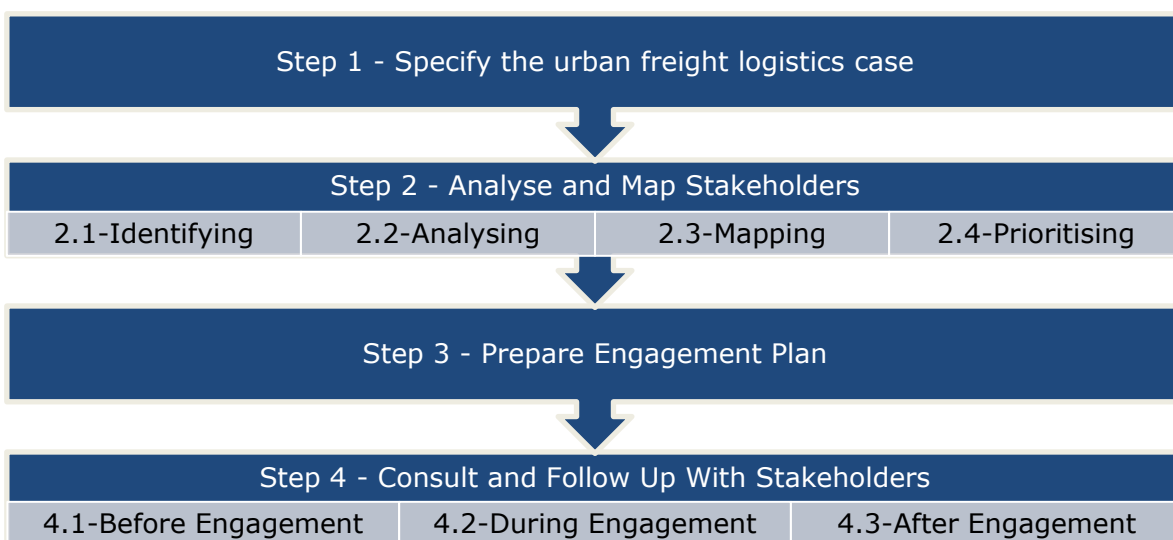
Owing to the importance of stakeholder engagement, the literature is fairly populated with proposals and suggestions to build effective initiatives^{[38]-[40]}. Variations among proposals are observable, reflecting the context and domain of activity in which they were initially formulated. Within the scope of this Technical Report, a 4-step consultation plan is proposed. This plan is adapted from Buhrmann et al.^[38] It was already adapted within CIVITAS^[20].

Before proceeding to the explanation of the four steps, a report^[41] suggests six good practices for creating the conditions for outcome-oriented, fit-for-target, anticipatory and adaptive stakeholder engagement:

- Map all stakeholders, as well as their responsibility, core motivations and interactions.
- Define the ultimate line of decision-making, the objectives of stakeholder engagement and the expected use of inputs.
- Allocate proper financial and human resources and share needed information for result-oriented stakeholder engagement.
- Regularly assess the process and outcomes of stakeholder engagement to learn, adjust and improve accordingly.
- Embed engagement processes in clear legal and policy frameworks, organisational structures/principles and responsible authorities.
- Customise the type and level of engagement to the needs and keep the process flexible to changing circumstances.

A checklist for public action to follow the implementation of the above mentioned principles is also suggested. That means listing questions and indicators to help monitor the effectiveness of engagement processes and identify areas of improvement. In a highly decentralised and fragmented sector, as is urban freight, with multiple interdependent players at different levels, stakeholders' engagement is very important in archiving a successful outcome.

Figure 9 Four-step approach for a stakeholder engagement strategic plan^[7]



4.3.1 Step 1 – Specify the Urban Freight Logistics Problem

The first step consists in the identification and specification of the urban freight logistics problem. Essentially, the stakeholder engagement begins with the consciousness about an urban freight logistics-related problem. Chapter 2 above discusses the complexity of urban freight logistics activities and points out the variety of ensuing challenges. These can be very localised problems, such as the problems emerging due to loading and unloading activities in a specific street or the need to access a pedestrian street. At the other end of the spectrum, some of the urban logistics challenges can involve substantial areas of the urban area, such as emission problems or raising awareness. Each challenge is likely to require a tailored approach and, thus, to entail different stakeholders. Additionally, solving an urban freight logistics challenge may require several steps, each one entailing a differentiated involvement of certain stakeholders. As such, it is firstly necessary to consolidate a clear action plan to mitigate the urban logistics plan. This will not only identify the stakeholders, but also unveil their dynamic role over time and to map the relationships among them. In this matter, we recommend the utilisation of the concept of Logistics Profile³.

4.3.2 Step 2 – Analyse and Map Urban Freight Logistics Stakeholders

The second step is dedicated to selecting, across the entire stakeholder spectrum, those who are relevant, and to increasing understanding about them. This Step can be organised into four phases,^[42] as follows:

- Identifying: listing relevant groups, organisations and people.
- Analysing: understanding stakeholder perspective and relevancy.
- Mapping: visualising relationships to objectives and to other stakeholders.
- Prioritising: ranking stakeholder relevance and identifying issues.

Step 2.1 – Identifying the relevant stakeholders

This step begins with the identification of the relevant stakeholders. Urban freight logistics stakeholders have been described in Chapter 2 above. Other stakeholders could be of relevance depending on the specific context of the problem. In short, a stakeholder is an entity or individual directly affected by the problem or with a role in its development and eventual end. For instance, a problem concerning the deliveries to a recently developed commercial area in the historic downtown may require the involvement, in addition to the urban freight logistics stakeholders, of the authorities responsible for the preservation of city's heritage (to avoid loss of important buildings and other landmarks), real-estate developers (as solutions may involve acquisition or lease of buildings or other spaces) or vehicle manufacturers (as solutions may involve the development of new vehicles). This phase is to some extent accomplished in parallel with Step 1. Indeed, the characterisation of the urban logistics problems will likely shed light on the primary stakeholders, whereas the design of solutions will likely entail the assignment of a few other key actors and intermediary stakeholders.

A variety of tools and techniques have been developed to proceed with the identification of the stakeholders, such as:

- *Brainstorming*: it may be the most important way to identify stakeholders.
- *Mind Mapping*: it is a useful way of unlocking the creativity and helping the ideas to flow. Mind mapping is a visualisation technique through which the key relevant aspects are laid down in a scheme and the respective relationships are connected through arrows.
- *Stakeholder Lists*: they are a good starting point to identify real and potential stakeholders.

³ See Footnote 2.

- *Documentation* from previous projects: it may be important to identify stakeholders from another project or problem.
- *Companies' Organisation Charts and Directories.*

Step 2.2 – Analysing the stakeholders

In parallel with the identification, it is also necessary to understand every stakeholder. Understanding is a loose term and it can involve many dimensions and aspects, namely the perspectives, ambitions, expectations, strategies, interests or even the influence. Arguably, understanding involves time and resources (e.g. meetings, visits, etc.) but it is fundamental to maximise the likelihood of success of the consultation initiative. Several questions can be asked, such as:

- What are the stakeholders' underlying motivations and drivers?
- Do they have a positive or negative attitude towards the problem?
- What is the nature of their interest in the problem: emotional, economical or other?
- What is their power and level of influence on the problem? Can they influence other stakeholders? Can they halt (or speed up) the development of the problem?
- What is their level of knowledge about the problem? Are they experts or merely users?
- What kind of information do they have access to? What are their communication channels and, thus, sources of information?
- What are their current opinions and influences? What are their beliefs, expectation and doubts?
- Additional and other questions can naturally be formulated.

Stakeholders can then be characterised along a set of specific features. A popular approach^[43] consists in characterising the stakeholders along five key variables, as follows:

- *The stakeholder's influence* – it refers to how and to what extent the stakeholder can alter the evolution of the problem. This can range from stakeholders with no to low influence, meaning that despite their efforts the problem is unlikely to be altered (either to halt, change or speed up). Example may include a small transport operator, whose business influence is reduced. At the other extent, there are stakeholders with significant influence, which may lead to a halt (or change) of the problem or, conversely, to speed up all the process. There is an important risk associated with this group, which is the potential of biasing the development of the problem in favour of their interests and ambitions. Examples may include an international courier express company, which may lobby in favour or against specific decisions.
- *The stakeholder's interest* - it refers to the commitment and energy that stakeholders are willing to invest in the problem. This is naturally related to the expectable impact that the problem has (or will have) on their daily activities. Again, we may identify a broad spectrum of interest, ranging from those stakeholders with no to little interest, up to those highly interested. The former group does not regard the problem with much interest and therefore is not willing to commit significant input. Examples may include the residents, who may be only interested in receiving the goods on time and in good conditions and are not very much interested in how the goods are transported. The latter group on the other hand is highly interested in participating in the development of the problem. If the activity of the group is not adequately monitored, there is the danger of some biases in the development of the problem. Examples may include the freight transport operators which tend to be a highly interested party, since solutions commonly impact the distribution and transport operations.
- *The stakeholder's contribution* - it refers to the eventual support a stakeholder can give to solve the urban logistics problem. This support – or contribution – may be delivered in different ways, namely: information, counsel or even expertise. For instance, a renowned scientist can be invited to propose solutions; or a person that is working in a municipality can be invited to share experiences; or an interest group can be called to

share their perspective and ideas. As another typical example, retailers may be willing to establish a pilot experiment using a few of their urban delivery routes^[44].

- *The stakeholder's legitimacy* – it refers to the right of a stakeholder's claim for engagement. The point is that a stakeholder engagement process is not an initiative open to everyone. As such, participants should be only engaged provided that they are in some way related to the process, i.e., they are stakeholders. The need to limit access is to ensure the efficiency and effectiveness of the initiative. For instance, if the urban logistics problem refers to a specific street, relevant stakeholders include those living on that street or those stakeholders delivering on that particular street.

Step 2.3 – Mapping the relationships amongst stakeholders

It is not only relevant to understand each stakeholder individually. It is also fundamental to know how they relate to each other. It is certainly obvious that some stakeholders may have conflicting interests while others have aligned interests. For instance, transport operators may have different views concerning the use of public space from the views of the municipality; or transport operators, shop keepers and residents may share different concerns and expectations related to night deliveries. On the other hand, people can change their behaviour in the presence of others, particularly in what concerns disclosing sensitive information.

For instance, employees from different transport operators may prefer to play down any figures or numbers concerning operations, since it can provide valuable intelligence to competitors. The same happens with employees of a same stakeholder (e.g.: municipality or company) but from different divisions are invited to a same event. Fearing to expose potential internal divergences, people may avoid participating, or at least conveying all information and details.

A diversity of tools to trace and qualify the relationships has been developed. The mind mapping approach, for example, provides a valuable and intuitive tool to map the stakeholders and respective influences. The idea is to identify the stakeholders, along with relevant variables (e.g. influences, interest, etc.) and link them to any other related stakeholder. The arrow can by itself be qualified. Another option is to draw 2D or 3D maps (using two or three variables) and create a set of segments.

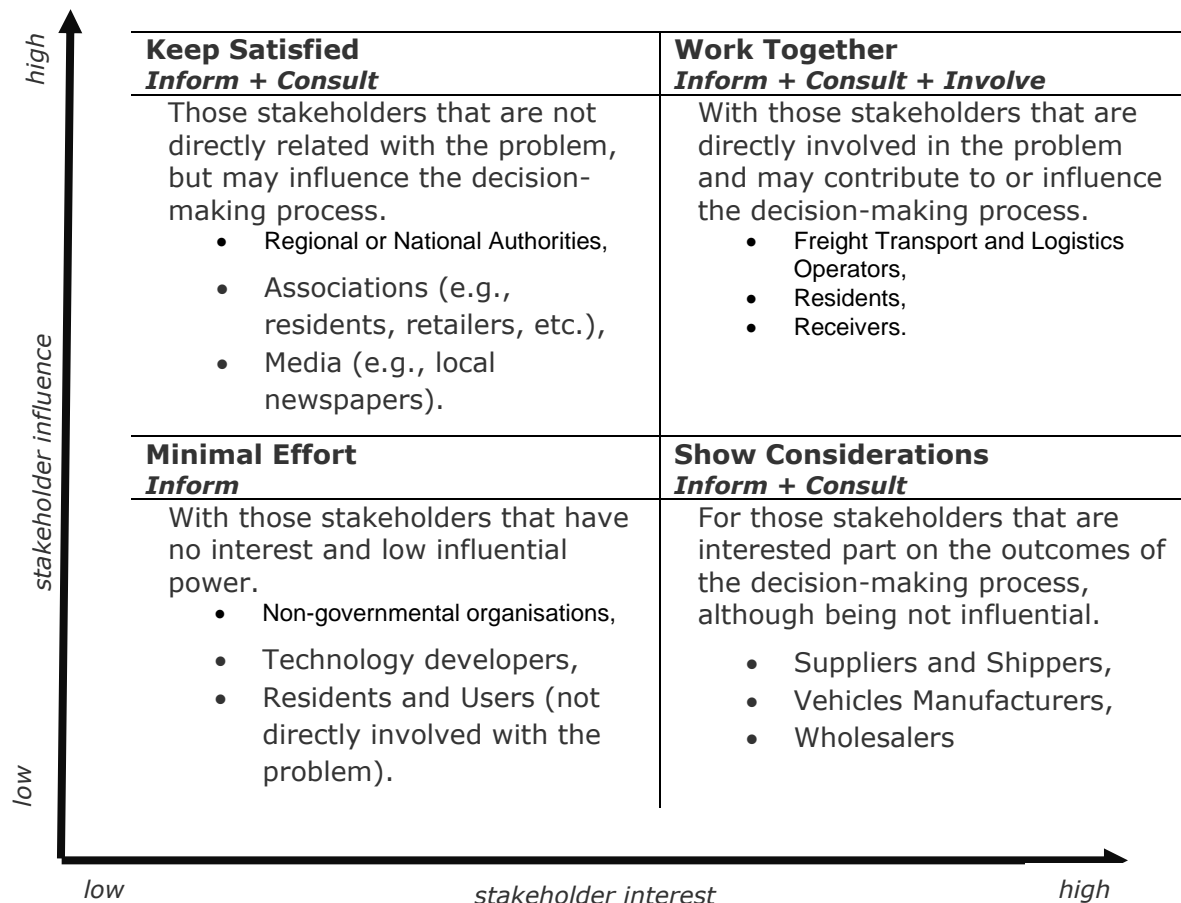
Taking as example a 2D map, let us consider two particular variables: interest and influence. By combining these two variables, we can build a 2D graph with four quadrants, each one referring to a specific combination, as follows:

- **Low Interest and Low Influence** – These stakeholders are relatively neutral to the problem. They neither care about the problem nor have much possibility to affect it. Since no stakeholders should be left outside, these stakeholders must be kept informed about the development of the problem (e.g. actions, deadlines).
- **Low Interest and High Influence** – Owing to the degree of influence in the course of the development of the problem, these stakeholders should be involved, or at least should not be antagonised. If they are not persuaded to get involved, they should be kept informed about the developments of the problem. The objective is to avoid a halt or disturbance at a later stage, due to the influence of one of these stakeholders.
- **High Interest and High Influence** – These stakeholders are naturally interested. So no major efforts are expected to involve them. Owing to their degree of influence, their participation is even more relevant. Their participation should be promoted and substantial, including for example collaboration in the design of the final solutions, or consultation about problems and requirements.

High Interest and Low Influence – Like the previous group, no major difficulty is expected in the involvement of this group. However, their level of influence is reduced. Hence, their participation is more relevant in terms of inputs and specification (since they have little influence on the actual implementation or development of the problem). They can be involved in the steps of consultation and hearings. Figure 10 on the next page represents a hypothetical

situation - A commercial urban street with a high volume of daily deliveries and traffic of freight vehicles. Residents have complained about the urban freight logistic problem and the local authority have decided to work with freight transport and logistic operators and street shoppers to tackle the situation.

Figure 10 Classifying of stakeholders according to their interest and influence (adapted from ^[43])



Step 2.4 – Defining the Stakeholders’ Level of Engagement

Finally, there is the need to rank the stakeholders according to the analysis undertaken in Step 2.2 above. The point is that it is often not viable, necessary or, even, desirable to engage all stakeholders at a same time and with the same level of intensity. Different stakeholders hold different levels of importance in the stakeholder engagement process, either due to their level of influence, interest or other. Stakeholders are not equally relevant in the engagement process. Moreover, a stakeholder's level of interest changes over time. Hence, it can make sense to involve the stakeholders at different times. For all these factors, there is the need to establish an involvement agenda or schedule, which defines the moment of involvement and the respective intensity. Prioritising stakeholders promotes the rationalisation of resources and time.

At the end of Step 2, the BSR Consulting Company^[42] suggests to answer the following questions:

- Is our list focused on relevant stakeholders who are important to our current and future efforts?
- Do we have a good understanding of where stakeholders are coming from, what they may want, whether they would be interested in engaging with the process, and why?
- How can we further understand and qualify these stakeholders? Through discussions with internal colleagues? Reading reference reports? Finding specific blogs or Twitter accounts to follow?
- Based on our prioritised stakeholders, can we define a granular level of engagement? Will this list provide information on tactics, formats, and investment considerations?
- Have we given thought to what type of resources (expertise, people, and budget) we need to support our engagement strategy and follow-up activities?

4.3.3 Step 3 – Prepare an Engagement Plan

This Step refers to the preparation of the engagement plan. According to Buhrmann et al.^[38], such a plan should specify:

- when and how stakeholders will be involved;
- the way in which involvement will be undertaken;
- the (changing) roles and responsibilities of all stakeholder groups;
- what skills are required (internal/external) to manage the process;
- timing;
- budget; and
- reporting procedures.

Over time, numerous stakeholder engagement techniques have been developed and enhanced. Advances in information and communication technologies, such as social networks, direct information on smartphones or on-street message signs have led to the development of many new engagement opportunities. Another relevant stakeholder engagement initiative is the Freight Quality Partnership (FQP), Freight Advisory Board (FAB). Different terms that refer to similar concepts. FQPs are discussions promoted by public entities, commonly local authorities. The relevant stakeholders – transport operators, public authorities, shippers, receivers, citizens' groups – who meet regularly to debate matters of urban logistics. Stakeholders bring up problems, present their perspectives and challenges, and debate (in some cases, negotiate) possible solutions and initiatives. The range of initiatives is vast and it may include: new pilot projects, proposal of regulations, elaboration of urban logistics plans, interventions on specific locations, studies (e.g., marketing, energy, economic, etc.). Participation is done on a voluntary basis and the stakeholders' level of interest is high. Also, stakeholders feel accountable for the decisions they take. A study^[16] identified key success factors: i) to establish a dedicated consultation process, ii) to cover a metropolitan area or region and iii) to empower the responsible institution with sufficient legal and political influence.

FQPs have become particularly popular in the United Kingdom^[17] and, as of 1998, they have been acknowledged by the British government^[18]. Several other places also have well-established FQPs, such as: Gothenburg (Sweden), (Italy), Greater Lyon (France), Paris (France), Nantes (France), Aberdeen (UK).

Despite the potentials, FQPs have some limitations and difficulties. Consensus building is a lengthy process and initiatives may take a long time to be deployed. There is the danger of transforming the meeting into a talk shop, without genuine interest. Representativeness is not always ensured. Since enrolment is voluntary, participation of all relevant stakeholders cannot be ensured. Finally, the budget is often limited, which may reduce the scope and ambition of the initiatives. In the city of Oslo (Norway), a FQP has been terminated.

A study^[19] found drawbacks in the operating conditions, as follows:

- attendees were much the same, from meeting to meeting, giving less variation to the discussions,
- members did not attend on a regular basis,
- members from police and citizen groups were sometimes missing,
- elected representatives and senior management from industry were also lacking,
- tendency to become a talking group, and
- lack of dissemination of results and achievement.

In this technical report, we updated a categorisation proposed by CIVITAS Initiative (Figure 11). Figure 11 also proposed the most appropriate engagement techniques for each type of stakeholder engagement. Although the division is not strict, it provides an orientation on the choice of the techniques.

Every technique is naturally adequate to be deployed in specific types of stakeholder engagement. For instance, a poster contains limited amount of static information and its readership depends on the location. Yet, it is relatively inexpensive and it can potentially reach a wide audience. It is better used in the context of information. Currently, smartphone or web-based applications (known as APPs) are another valuable interaction channel. More and more people and professionals use smartphones. Through an application (APP), it is possible to communicate and receive feed-back in real time. People can learn about on-going decisions and feel involved in the decision-making process. Other example of a not expensive engagement technique concerns the freight forums. There are physical events that commonly take place every six months. They combine workshops and plenary sessions. No significant costs are involved: rooms can be provided by city hall (or other stakeholder) and participation is voluntary. It is an excellent technique to collect in-depth information and reach consensus. It is more proper to be used in the context of empowering.

Figure 11 Matrix of stakeholder engagement techniques

| | | Stakeholders | | | | |
|----------------|--|----------------------|--|-----------|----------|--------------------|
| | | Producers & Shippers | Freight Transport & Logistic Operators | Receivers | Citizens | Other Stakeholders |
| To Inform | Letters, Leaflet, Brochure, Newsletter | | | | | |
| | Posters and notices | | | | | |
| | Reports & Fact Sheets | | | | | |
| | Web Pages | | | | | |
| | Web 2.0 (social networks) | | | | | |
| To Consult | Surveys, including web and telephone based | | | | | |
| | Questionnaires | | | | | |
| | Interviews | | | | | |
| To Involve | Smartphones or Web Applications | | | | | |
| | Public Meetings | | | | | |
| | Information Sessions | | | | | |
| | Deliberative pooling | | | | | |
| | Forums, including web based | | | | | |
| To Collaborate | Seminars & Topical Events | | | | | |
| | Focus and Reference Group | | | | | |
| | Facilitated consensus building | | | | | |
| To Empower | Workshops & Meetings | | | | | |
| | Freight Forum | | | | | |
| | Local Governance, Joint Planning | | | | | |
| | Shared Projects, Capacity Building | | | | | |

Source: authors' own composition based on CIVITAS^[19]

The set of techniques must be appropriately chosen to ensure the results are meaningful and

useful in the decision-making process. A number of aspects must be taken into consideration^[48], when choosing the techniques, as follows: i) time frame available, ii) stakeholder groups, iii) specific experiences, iv) resources available, v) adaptability and flexibility of the engagement techniques, vi) analysis of the effort and output, vii) understanding of values and culture of stakeholders, vii) technical complexity.

4.3.4 Step 4- Consult and Follow Up with Stakeholders

This Step refers to the actual deployment of the engagement plan and conduct of the respective initiatives with the stakeholders. Each initiative has its own requirements and procedures. Regardless, some aspects should be taken into consideration, in order to ensure the success of the initiative. These can be classified accordingly with the realisation of the initiative, i.e., before, during and after.

- *Step 4.1 – Before the Engagement Initiative*

Aspects to be taken into consideration in advance of the initiative are essentially related with ensuring that the adequate conditions are met. People will be requested to voice their concerns, expectations and ideas. In order to do this, they must feel comfortable and confident. For example, it may mean that there is no risk of mishandling information or that they will not be subject to criticism. Even in lower forms of involvement (such as surveys), the adequate conditions should be thought through and met. For instance, it is not proper to survey a driver while moving freight from/to a shop. In general terms, the following aspects could be considered^{[19], [39], [48]}: i) location of the initiative, ii) formality of the initiative, iii) atmosphere of the initiative, iv) utilisation of facilitators.

- *Step 4.2 – During the Engagement Initiative*

During the initiative many different events and dynamics may occur, largely related to the nature of the initiative. The duration of the initiative is also highly variable. It can range from a few seconds or minutes, in the case of surveys, up to several hours, in case of meetings or seminars. Additionally, it can be an isolated initiative (e.g. dissemination of a specific decision) or repeated several times. In the case of meetings, seminars and the like, several recommendations may be given to increase the usefulness of the initiative^{[18], [19], [42]}: i) levelling stakeholder expectations, ii) ensuring equity in the participation, iii) focussing the discussion, iv) managing cultural dynamics, v) mitigating tension.

- *Step 4.3 – After the Engagement Initiative*

Finally, after the completion of the engagement initiative, it is relevant to conduct a process evaluation and an assessment of the outputs and impacts.

Foremost, all engagement initiatives should be duly reported and documented. It is relevant to ensure that no important information is lost, and to preserve the outcome and results for future analysis. The documentation can be involve different supporting materials, such as reports (e.g. minutes), audio, pictures, video, etc. In terms of contents, at least the following ones should be preserved: the original purpose and aims of the engagement, the methods used, the participants, a summary of noted stakeholders' concerns, expectations and perceptions, a summary of discussions, and a robust list of outputs (decisions, actions, proposals, and recommendations). If necessary or valuable, the documentation can be shared among the participants to collect feedback.

The outputs of an engagement initiative are expected to contribute to the advancement of a decision-making process. In other words, decisions are supposed to be taken using the outcomes of the engagement initiative. It is relevant to report the decisions back to the participants, and to request feedback from them. This feedback is beneficial at different levels. Foremost, participants will perceive that their efforts were considered.

This will increase their willingness to participate in future events. Secondly, the feedback reports can be considered as another type of engagement initiative. Indeed, the feedback can be used to fine-tune the decisions.

Above all, it is important to make clear that the participants' efforts were not in vain. Finally, the impacts, if any, of the engagement initiative should be evaluated. The objective is to understand the nature of the changes owing to the realisation of the initiative. This is another relevant piece of feedback. Table 1 offers a set of descriptors to assess the output and impact of an engagement initiative.

Table 1 Selected assessment descriptors^{[20], [48]}

| Indicator/descriptor | Monitoring method |
|--|---|
| What was the concrete result or product of your participation process (report, visual etc.)? | Document analysis, observations, photos |
| Have stakeholders been informed of the results? How did they receive feedback? | Conversations with stakeholders |
| Has the result of the stakeholder consultation process been discussed at policy level and integrated in the overall decision-making procedure? | Conversations with city council representatives |
| How has broader feedback to citizens been organised? | Document analysis |
| How satisfied are stakeholders with the result of the participatory process? | Questionnaire |
| What are the intentions concerning further involvement and follow-up? | Interviews |
| Has the participatory process resulted in a better quality of the project or plan? | Interviews |

Chapter 5 Cases of Stakeholder Engagement initiatives

This Chapter reports past and on-going stakeholder engagement initiatives in the domain of urban logistics. The objective is to illustrate real world cases of engagement initiatives. A brief description of every initiative is provided. The interested reader is invited to follow the web links and other contact information. The following initiatives are described below:

1. Freight Quality Partnerships in United Kingdom, Sweden and Italy.
2. Freight Advisory Boards in Norway and Israel.
3. Strategic Planning in Gorna Oryahovitsa, Bulgaria.
4. Consultation on Cargo Bike Delivery in Donostia–San Sebastian, Spain.
5. CLUB – Focal Groups in Brazil.
6. Mobility Pact in Barcelona, Spain.
7. TRANSFORuM.
8. Charter for Sustainable Urban Logistics in Paris, France.

5.1 Freight Quality Partnerships in United Kingdom, Sweden and Italy

In the United Kingdom, FQPs were successfully initiated in several cities in 1996, including Aberdeen, Birmingham, Chester and Southampton. Since then, other cities have inaugurated their own FQP. In what concerns the urban logistics problems to be addressed, this initiative brought together industry, local governments and representatives of local and environmental interest groups to pursue the following agenda:

- To identify problems perceived by each interest group relating to the movement and delivery of goods in their city.
- To identify measures within the group's competence to resolve or alleviate such problems.
- To identify best practice measures and principles for action by local government and industry to promote environmentally sensitive, economically efficient delivery of goods in towns and cities.

The main outputs of these FQPs were the following:

- FQPs lead to actions and policy measures that would never have been contemplated if the FQP had not existed. In this situation, bringing a far wider group of stakeholders into freight transport policy generation and development work leads to entirely new perspectives that a policy administration would never have considered if working on its own.
- In the case of policy issues and measures already identified by an administration, FQPs can potentially result in better policy measures being devised and implemented. This is due to the range of inputs made by the range of parties that comprise the FQP. The private sector input to an FQP-led policy planning process can potentially be better than in a more traditional consultation exercise.
- FQP members can also potentially help to identify policy measures or specific aspects of measures that should not be considered for implementation due to adverse or unintended consequences they could result in.

Further information is available from:

<http://www.greenlogistics.org/themesandoutputs/wm9/downloads/FQP%20report%20Westminster%20Uni%20June%202010.pdf>

The City of Gothenburg, in Sweden, has been operating a FQP (with 15-20 participants) where city distribution is discussed in regular meetings. It has been run by the municipality with the aim of involving stakeholders from different sectors. This initiative started in 2006 and is still on-going. In what concerns the urban logistics problems to be addressed, the FPQ aims to bring together the public- and private-sector parties involved in freight transport and logistics to discuss problems and identify and implement solutions, with the intention of improving the sustainability of freight transport activities in an economic, social and environmental sense.

The initiative involves the following stakeholders in the logistics chain: freight transport and logistics operators, wholesalers and producers, shop owners and retailers, and necessarily municipal authorities. Urban goods transport measures are being developed in dialogue with the local network of stakeholders before implementation, which increases acceptance and leads to a more cost-efficient working process. Together with the Local FQP, Gothenburg has also initiated cooperation with the police and parking guards for better enforcement. The main outputs of the Gothenburg experience are:

- implementation of time windows and removal of one-way road signs in the inner-city area in combination with new pedestrian streets leading to a reduction of parked vehicles in the area by 82% and a reduction of pass-through vehicles by 73%;
- implementation of a consolidation centre in the Lindholmen area, leading to a decrease in CO₂ emissions by 51%, NO_x emissions by 50%, PM₁₀ emissions by 50%, and a reduction of 50 % of both the number of vehicle-km and trips in the demonstration area.
- implementation of Stadsleveransen initiative in the city centre of Gothenburg.

Further information is available from:

http://www.eltis.org/sites/eltis/files/trainingmaterials/civ_pol-an5_urban_web-1.pdf

<http://tinyurl.com/START-project>

<http://tinyurl.com/cities-to-cities-exchange>

In the City of Turin, Italy, the FPQ started in 2008. In what concerns the urban logistics problems to be addressed, the city of Turin has developed and implemented a new governance model for collaborative logistics compliant with SUMP methodology. The city set as its main objectives to:

- improve traffic flow conditions;
- increase average speed;
- reduce pollution, congestion and emission; and,
- stimulate a renewal of vehicle fleets leading to an improvement of efficiency in logistics operations.

The initiative involves the following key stakeholders: freight transport and logistics operators, citizens and authorities.

In line with the above objectives, a Recognition Scheme was introduced based on full sustainability from environmental, economic and social perspectives.

In Turin, the Freight Quality Partnership stakeholder engagement began with an invitation to join a dedicated Task Force (TF) that accommodated 20 different bodies and organisations, with specific preliminary face-to-face meetings to present the approach and discuss the possible mitigating measures, while recording comments and feedbacks. This is in line with the European standard SUMP approach and methodology. Subsequently, meetings were regularly held in

order to share sustainability objectives while achieving stakeholders' appreciation as underlined by the signing of a FQP agreement.

Further information is available here:

https://www.metrans.org/sites/default/files/Marciani_paper_0.pdf

5.2 Freight Advisory Boards in Norway and Israel

In a FAB, selected stakeholders meet and discuss specific challenges of urban freight logistics. The choice of the stakeholders depends on the challenges or purpose of the Advisory Board. In this sense, it is not open to all stakeholders. For instance, the FAB may work as a technical advisory committee. In this situation, it will include staff from universities, public agencies and even private stakeholders. They may conduct context studies and analyses to support the decision-making process. An FAB facilitates the implementation of freight initiatives and creates communication channels between stakeholders. However, those activities require a high degree of coordination among different stakeholders.

In the city of Oslo, in Norway, a first FAB was terminated, albeit a new one has meanwhile been established. A study^[50] found drawbacks in the working conditions of the terminated FAB, as follows:

- attendees were about the same, from meeting to meeting, giving less variation to the discussions,
- members did not attend on a regular basis,
- members from police and citizen groups were sometimes missing,
- politicians and senior management from industry were also lacking,
- tendency to become a "talking group" and:
- there was a lack of dissemination of results and achievement.

The success of this kind of forum relies on the collaboration between different stakeholders such as transport or logistics providers, various agencies representing public authorities and private companies, and organizations. Another important part of a successful stakeholder engagement is the legacy. That is, each member must have their participation and mandate approved within their agency, organization and/or business.

In the City of Tel Aviv, in Israel, the FAB started in 2005. The urban logistics problem to be addressed by the city was how to develop organisational and technical frameworks for goods logistics strategies. The following stakeholders were involved in the engagement initiatives: freight transport and logistics operators, wholesalers and producers, property owners and retailers, and the municipal authorities. The city established an appropriate organisational structure to promote cooperation between the large number and variety of stakeholders involved in urban logistics activities. The main purpose was to improve decision-making processes regarding goods logistics strategy through the continuous collection of information required for decisions to be taken and for a better understanding of the freight movements within a designated area of the city centre. Establishing committees, boards and forums to provide an opportunity for stakeholders to meet and discuss challenges and opportunities of the freight system were the most direct way found to engage all the actors. Key tasks included: i) identifying relevant stakeholders, ii) establishing a logistics forum composed of the relevant stakeholders, iii) identifying and mapping the logistics challenges from the stakeholders' perspective, or iv) developing, in partnership with the stakeholders, the tools to tackle the identified problems. The FAB involved stakeholders in three major engagement approaches: partnerships, participation, and consultation. These processes facilitated the implementation of freight initiatives and created communication channels between stakeholders. However, those activities required a high degree of coordination among different stakeholders.

The main outcomes can be summarised as follows:

- A platform for cooperation between the municipality and the various stakeholders involved in the movement of goods has been developed.
- The organisational structure was modified based on the feedback received, and the tools available to address freight loading/unloading issues determined, based on the case review and input from municipal departments.
- Policies developed for efficient loading/unloading of freight in commercial city centre streets.

Further information is available here:

<http://www.civitas.eu/content/development-organisational-and-technical-frameworks-facilitating-ongoing-process#sthash.vUGL51cC.dpuf>

<http://tinyurl.com/CIVITAS-Tel-Aviv-Yafo>

5.3 Strategic Planning in Gorna Oryahovitsa, Bulgaria

This initiative started in 2009 in Gorna Oryahovitsa, Bulgaria. The city of Gorna Oryahovitsa is situated in the central part of northern Bulgaria and in recent years has become a national hub for train, road and air travel. As a result, freight traffic in the city has increased, causing congestion, noise and air pollution.

The main stakeholders involved were the large companies operating in the city. They represent several sectors, including building and development, heavy industry, manufacturing and food and textile supply. A total of 41 companies were represented in the meetings organised by the city council. From among these, the city identified the 20 firms with the biggest impact on urban life. Citizens were also considered as a main stakeholder group, since citizens' opinions were mentioned as very important to local politicians. Representatives from the city met with each of the identified companies to discuss the main traffic problems affecting their activities and operations. This was done through interviews and questionnaires tailored to the different sectors. The main purpose was to identify the main freight and congestion problems in the city and, by working together, to propose solutions that would benefit both citizens and the large companies. The city conducted an initial survey of 300 households (717 people) in June 2009. The survey was carried out by trained surveyors who filled in questionnaires based on personal interviews. During the second half of 2009, the city conducted a survey among the 20 biggest companies and industries in the city — those that generate and attract most of the freight traffic. As a result of this consultation, the following projects were suggested: the construction of a new road in the industrial zone; the creation of a bus route to the airport; and the construction of a logistics centre near the airport.

The Strategic Planning in Gorna Oryahovitsa involved stakeholders in two major engagement approaches: consultation and push/pull communication. The municipality believes it is essential to maintain momentum and to keep all stakeholders involved throughout the process. The city paid attention to the input of the public and other stakeholders to each of the measures that were implemented. This close monitoring ensured a high level of involvement from all stakeholders. As a result of this experience, the city is now better aware of the importance of engaging with local stakeholders, giving them the opportunity to participate in discussions and updating them throughout the process.

Further information is available here:

http://www.civitas.eu/sites/default/files/Results%20and%20Publications/Brochure_STAKEHOLDER_CONSULTATION_web.pdf

5.4 Consultation on Cargo Bike Delivery in Donostia–San Sebastian, Spain

This initiative started in 2009 in Donostia–San Sebastian, Spain. The goal of the measure was to establish a goods distribution model, based on cargo bike delivery, which would be better suited to a populated urban centre by reducing harmful impacts on inhabitants and the built environment.

The main stakeholders involved were freight transport and logistics operators, and their organisations; retailers, and, necessarily, municipal authorities. A Mobility Advisory Council advises the municipality of Donostia–San Sebastian on all decisions concerning urban transport. Twenty-nine stakeholder groups have seats on the council, including political parties, architects, private and public transport companies and taxi firms. Freight operators are represented by seven different organisations.

The Basque Institute for Logistics led the measure in close cooperation with the Mobility Department of the Municipality of San Sebastian. The institute is an association of regional and local authorities, as well as businesses in the freight sector.

The assessment was carried out by means of a stakeholder survey, subcontracted to a local association of freight companies. This ensured that the key group was directly involved in the design of the measure itself. Based on this preliminary assessment and subsequent discussions in the course of several meetings and interviews with local stakeholders, a package of proposed measures was presented to the Mobility Advisory Council.

Consultation on Cargo Bike Delivery in Donostia–San Sebastian involved stakeholders in two major engagement approaches: consultation and partnership, using letters and personalised door-to-door interviews.

The measure began with sending out a letter from the City Council to shopkeepers and transport companies to announce the survey on freight distribution. Individual interviews were held with shopkeepers and with all the freight companies operating in the area. The interviews included questions about the current situation but also about possible future policies and interventions by the City Council. The questions about future policies raised stakeholders' awareness of the council's plans to implement changes. The outcome of the assessment and proposals for measures were presented at meetings of the Mobility Advisory Council. The evaluation included an additional survey of a selected representative sample of stakeholder groups (20 transport companies, 200 shopkeepers and 50 users/citizens). In the case of shopkeepers and transport operators, a first round of face-to-face interviews was complemented by telephone and on-line questionnaires. The actual results of the experimentation were: fuel consumption and emissions were reduced by decreasing the number of freight kilometres and increasing vehicle loading rate, due to the reduction in delivery trucks within the city, GHG and noise pollution reduction, improved traffic, mainly in the Old Town, extension of hours of loading and unloading without causing any problems to the neighbours thus improving the ecological positioning of the City of San Sebastian.

Thanks to the stakeholder consultation, a Local Urban Cooperation Platform was set up and the municipality was able to put in place new measures:

- A micro consolidation centre was created,
- Several regulative measures were implemented (a system of access control using cameras in the Old Town has been established, specific areas for loading and unloading times were defined, a model of efficient distribution of products was implemented in the city during the CIVITAS ARCHIMEDES project),
- The Municipal public procurement procedure is now a zero emissions policy,
- The establishment of a cycle logistics distribution company, TXITA, for urban distribution in the centre and the Old Town. Today, TXITA has 10 cargo tricycles, 2

cargo-bikes, 9 taxi-bikes in its fleet and operates from the micro consolidation centre located in the city centre. TXITA offers distribution and home delivery services working mainly for delivery companies and it has contracts with the express couriers SEUR, EROSKI and GUPOST. The company also offers cargo-trike rental, integrated advertising space on the tricycles as well as consulting and training to start-up companies in the area of sustainable goods transport^[51].

More information is available at: <http://tinyurl.com/jxmjtdd>

5.5 CLUB – Brazilian Urban Logistics Centres (Brazil)

In Brazil, urban mobility problems have been recently recognised. As a way to raise awareness, a series of discussions forums have been promoted. In this regard, a group of researchers, government agencies and logistics operators have joined forces and proposed the creation of the CLUB - Urban Logistics Centre of Brazil in 2011. A CLUB is a local discussion forum aimed at disseminating theoretical and practical knowledge on urban freight logistics. The role of a CLUB is to facilitate learning and the exchange of knowledge, creating spaces for experimentation in new technologies and processes, and presenting successful and failing cases. In addition, CLUB initiatives are expected to consolidate research in this area in Brazil, bringing together the efforts of all those involved in the construction of solutions for the country. In particular, the publication of research and good practice tailored to the Brazilian situation is encouraged.

In 2013, this initiative was implemented in Teresina, Brazil. Since then, other cities have also initiated their own project and it has become a national initiative. Nowadays there is a total of ten cities involved but Teresina continues to be a benchmark. Examples of other cities include Campinas, Guarulhos, Fortaleza, Rio de Janeiro and Curitiba.

The success of the CLUB initiative has attracted the interest of other stakeholders. For instance, the World Bank and the IDB (Interamerican Development Bank) support the organisation of thematic meetings and discussion groups, particularly in cities where the initiative is just beginning.

As an example, in the city of Teresinha, the following stakeholders were involved: freight transport and logistics operators, wholesalers and producers, retailers and, necessarily, authorities (municipality and law enforcement). The local CLUB began by inviting all known stakeholders to a meeting. In this informal meeting, stakeholders could freely voice opinions about the problems they faced within the municipality of Teresina. The main problems associated with urban logistics in Teresina were:

- loading and unloading operations in central and peripheral city regions;
- central areas and bridges congestion;
- lack of legislation, enforcement, and inspection of freight vehicles;
- problems of land use;
- lack of integrated planning;
- need for investment in infrastructure;
- illegal parking on public roads.

Based on the problems, a set of consensual solutions have been discussed, including: a long-term plan that would include all the infrastructure such as the airport, ring road, wholesale and logistical poles;

- to complete existing projects;

- to finalise and implement legislation on freight transport;
- to hold more meetings and research on the problems of urban logistics.

Further information is available here:

<http://www.clubbrasil.org/>

5.5 Mobility Pact, in Barcelona, Spain

This initiative emerged in Barcelona, Spain, in 1998 to ensure that the city would continue to progress towards a sustainable mobility model with increasingly safe and comfortable public areas, responsibility and participation shared by all stakeholders who were signalled as those having the ability to take effective actions related to urban mobility, and road safety.

This commitment was achieved through the signing of a Mobility Pact, after the City Council, associations and thirty public bodies were engaged in a dialogue and consultation committee. The dynamics of the Pact are based on its quality in terms of space for debate and consensus and the active participation of its constituent associations and organisations, which are organised in several groups, according to their interests and concerns. Since the beginning, the initiative was permanent and been very active in addressing the mobility problems.

The following stakeholders were involved in the engagement initiatives: freight transport and logistics operators, and, necessarily, authorities (municipality and law enforcement). Key objectives of this initiative include:

- To reduce traffic in the central areas of the city and achieve more sustainable, flexible and orderly commercial distribution under an alternative system using electrically assisted tricycles.
- To introduce a new access system for loading and unloading areas that started as a pilot test in a specific area in the heart of the city.
- To implement new regulations that will improve management of loading and unloading areas, replacing the time disc with smartphone technologies that will encourage the best use of those areas and of public space in general.

Further information is available here:

<http://mobilitat.ajuntament.barcelona.cat/en/mobility-pact/what-is-the-pact>

http://prod-pobilitat.s3.amazonaws.com/PropostesPMU_DUM%20_22gener2014_2.pdf

http://prod-mobilitat.s3.amazonaws.com/PPT_AppCD_5.pdf

<http://mobilitat.ajuntament.barcelona.cat/en/mobility-pact/what-is-the-pact>

5.6 TRANSFORuM

This initiative began in 2013 with the European 7th Framework Programme (FP7) project TRANSFORuM developing "stakeholder driven" roadmaps towards the implementation of the EC's White Paper on Transport. TRANSFORuM had a particular set of goals:

- Clean urban mobility.
- Long-distance freight.
- High-speed rail.
- Defining the framework for a multimodal transport information, management and payment system.

The following stakeholders were involved in the engagement initiatives: freight transport and logistics operators, wholesalers, retailers, and authorities. TRANSFORuM conducted several surveys (online and on paper), used social media discussions to engaged practitioners, interviewed about 40 experts, and organised various workshops all across Europe to discuss key issues with around 150 stakeholders and ensured that the whole range of stakeholders' views on the future of transport were captured. The involvement of stakeholders was made through one major engagement approach: consultation. The outcomes of TRANSFORuM can be summarised as follows:

- Four "Roadmaps" one for each goal:
 - clean urban mobility;
 - long-distance freight;
 - high-speed rail;
 - multimodal transport information, management and payment systems;
- "Recommendations on Joint Actions across Thematic Areas";
- "Strategic Outlook" (looking beyond 2030).

Further information is available here:

<http://cogistics.eu/event/transforum-roadmaps-for-the-future-of-transport-in-europe>

5.7 Charter for Sustainable Urban Logistics in Paris, France

The "Charter for good transport practices and freight deliveries in Paris" involving 47 parties, including shippers, senders and recipients, freight transport operators (rail and waterways sectors), delivery carriers and chambers of commerce and agriculture, was signed on the 28 June 2006. The Charter was the outcome of a consultation framework, initiated in 2001. The Charter was built around several important shared principles and specific commitments of the parties. It is the expression of a shared desire to preserve the city's commercial activities while optimising and modernising the transport and delivery of freight to limit its adverse environmental impacts.

In the long term, there is a goal to reduce the overall emissions from activities in the urban area by 75% in 2050 compared to 2004. It is also a goal (wish from city council, autumn 2014) that 100% of deliveries should be non-diesel by 2020.

Recently, in 2013, the city of Paris went further and implemented a Sustainable City Logistics Charter, establishing a long list of initiatives for the logistics sector, such as: i) an outline policy for urban logistics in Paris, ii) a trial of the Tramfret with an operator, iii) a programme to develop logistics zones in leased car parks on land owned by social landlords; iv) the

modernisation of delivery zones, v) deploying a network of recharging terminals for electric vehicles, vi) encouraging good practices for deliveries to small shopkeepers and own-account transport and vii) developing water-based urban logistics with a self-unloading boat.

A topic that has been emphasised by the city of Paris is the 'logistics sprawl', i.e. that logistics facilities are moved and established further away from the city centre. To counterbalance this trend, the city aims at reintroducing logistics terminals in dense areas. Two urban consolidation centres have already been defined: in Chapelle (at the construction phase) and in Beaugrenelle (at the operating phase). The project will provide a framework to allow city practitioners guidelines to do so, while assessing costs and benefits of (re)introducing logistics terminals in dense urban areas.

Further information is available here:

http://www.citylab-project.eu/deliverables/D3_3.pdf

http://www.citylab-project.eu/presentations/160526_Paris/Paris_Herve_Levifve.pdf

Chapter 6 Conclusions

This technical report discusses key topics to help municipalities and other public agencies develop successful stakeholder engagement plans. It is now important to recap the most relevant conclusions that need to be taken into consideration.

Conclusion 1: Frame the implementation of Urban Logistics Policies within the context of a Sulp and set targets.

The implementation of urban logistics policies should just represent a step in a much larger decision-making process. In Chapter 3, we proposed a 9-step decision-making process, in which implementation is the eighth step. This will maximise the possibilities to develop efficient policy measures.

Conclusion 2: Take some time to understand the Urban Logistics Problem

As explained in Chapter 2, urban logistics is a complex business, with many stakeholders and activities. Stakeholders are intertwined in different layers of relations. Affecting one will certainly impact many others. So, public policies should be carefully crafted. In this sense, the Logistics Profile concept (presented in Chapter 4.2) provides a valuable method to get acquainted with the particularities and specificities of an urban logistics problem.

Conclusion 3: Develop a proper stakeholder engagement strategy

A sound stakeholder engagement strategy is of utmost relevancy. The four-step method, described in Chapter 3.3, provides a suitable roadmap:

- *Step 1 – Specify the Urban Freight Logistics Problem* - is already known and constant throughout the one decision-making process. The relevant stakeholders and respective relevancy change over time.
- *Step 2 – Analyse and Map Urban Freight Logistics Problem* - provides information about who must be involved.
- *Step 3 – Prepare Engagement Plan* - concerns the choice of the techniques. These must be chosen according to the stakeholders, the purpose of the engagement, and available resources.
- *Step 4 – Consult and Follow Up Stakeholders* - provides explanatory information on how to continue collecting feedback from stakeholders after the engagement event.

An important aspect to the design of a successful strategy is to have a clear idea about the available resources, in terms of budget, human resources, time, etc., that can be allocated. We must not forget that stakeholders' engagement initiatives are costly and time consuming.

Conclusion 4: Involve stakeholders as soon as possible

Stakeholders should be involved as soon as possible. They can contribute to achieving a better understanding of the problems and difficulties, they can contribute with solutions and options, and they will better accept the final decisions and outcomes. There is every advantage in involving stakeholders as soon as possible.

Conclusion 5: Make the best use of the engagement techniques

There is a wide assortment of techniques and methods to engage stakeholders. Particularly, in recent times, the emergence of the information and communication technologies has led to the development of new economic and powerful options. There is no "one size fits all" approach. The techniques should be chosen according to the properties of the moment of engagement: the stage in the decision-making process, the stakeholders to involve or the type of engagement are just some influencing factors. Chapter 4.3 provides a description on this topic.

Conclusion 6: Makes the best use of decision-making techniques

Diverse modelling and simulation tools have been developed to support the decision-making process. Multicriteria analysis offers guidance to evaluate policy options in an unbiased and transparent way^[52]. Scenario simulations of stakeholder interaction can provide useful suggestions for policy-makers on the potential acceptability of policies discussed with

stakeholders. All-in-all, they will promote the rationality of the discussion and foster acceptability. The technique can be considered transversal to all the stages of the engagement process.

Conclusion 7: Balance and rationalise the involvement

Although stakeholders should be engaged early in the process, it does not necessarily mean that all should be involved, or that we should deploy the same form of involvement for each of them. Stakeholders would soon lose interest in the process. The involvement of the stakeholder should be adequate to its interest and expectable feedback. In Chapter 4.2, we present several tools to identify and map the stakeholders.

Conclusion 8: Look elsewhere for good and bad practices

Looking elsewhere to other urban areas that have had similar problems or cases, and getting acquainted with their approaches and methods is a valuable form of learning and of developing a city's own stakeholders' engagement initiatives. We presented a set of examples in this document for inspiration. Additionally, stakeholder engagement is a common practice in EU funded or co-funded research projects. Commonly, they aim to develop and implement new solutions, either technological, organisational or policy related. The success of the project is tied with the acceptability of the results. In this sense, involving the interested parties is fundamental.

Many different forms of engagement have been adopted:

- Advisory boards with stakeholder experts is a common approach and to a certain extent similar to the already mentioned FQPs.
- Public Seminar and Meetings are also regularly held, commonly at important moments of the project (e.g., product specification, results validation or presentations of results) (e.g., SMARTFUSION project developed a total of 5 workshops with stakeholders).
- Dissemination through newsletters, fact sheets, movies, social media and websites is a common practice (e.g., CITYLAB project has produced diverse newsletters and other media outputs).
- By the same token, survey, inquiries, interviews are also commonly conducted.
- Pilot tests are conducted whenever possible (e.g., STRAIGHTSOL Project conducted a total of 6 pilot tests).
- Users Experiments are another interesting way to approach stakeholders (e.g., Pro-E-Bike project offered stakeholders the opportunity to try innovative technologies for a period of six months).

References from other projects include:

- SMARTFUSION – Smart Urban Freight Solutions, <http://www.smartfusion.eu/>
- STRAIGHTSOL – Strategies and measures for smarter urban freight solutions, <http://www.strightsol.eu/>
- CITYLAB – City Logistics in Living Laboratories, <http://www.citylab-project.eu/>
- PRO-E-BIKE – Promoting Electric Bike Delivery, <http://www.pro-e-bike.org>
- Cyclelogistics Ahead project organises workshops for local businesses and governments, <http://www.cyclelogistics.eu/>
- Freight TAILS Network - Tailored Approaches to Innovative Logistics Solutions, <http://crossriverpartnership.org/projects/freight-tails/>

More information is available on: <http://www.transport-research.info/>

Conclusion 8: Evaluate and follow up

The stakeholder engagement does not end with the accomplishment of the initiatives. Stakeholders must be informed about the outcome of the participation and how their opinions were considered. They will feel they belong to the process, being more willing to accept the decision and to participate in future initiatives. Also, the very process of engagement should be subject to follow up in order to be improved along the decision-making process.

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