SULP IN BOLOGNA FUA

Deliverable D.T3.2.6

Final version

11 2018

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1. The SULPiTER project

Transport is the second largest energy-consuming sector, with a 32 % of share of final energy consumption. Therefore it is necessary to consider the White Paper (2011) of the European Commission, which sets 10 goals for a competitive and resource-efficient transport, two of which are specific for urban areas: “Halve the use of ‘conventionally-fuelled’ vehicles in urban transport by 2030, phase them out by 2050“ and “Achieve essentially CO_2-free city logistics by 2030 - in major urban centres.” Paris climate agreement (2015) – the world's first comprehensive climate agreement – has an important role also in the logistic sector , if we are looking into the aims of it: "Making finance flows consistent with a pathway towards low greenhouse gas emissions and climate-resilient development.". Recognising the important role Sustainable Urban Mobility Plans can play, the European Commission proposed in its Action Plan on Urban Mobility of 2009 to accelerate the take-up of Sustainable Urban Mobility Plans in Europe by providing guidance material, promote best practice exchange, and support educational activities for urban mobility professionals.

To fully understand possibilities for mitigating urban freight flows and to solve the problem holistically, we would need to tackle urban freight on the level of entire supply chain (including enterprise’s strategies) and from the perspective of Functional Urban Areas (FUA). By the definition, FUA consists of the city and its commuting zone and is identified as polycentric cores and the hinterlands of FUAs identified based on commuting data, including all settlements from where at least 15% of the workers commute to any of the core settlement(s) (OECD, 2016).

The project SULPiTER (Sustainable Urban Logistics PlannIng To Enhance Regional freight transport) has been developed to support policy makers in improving their understanding of the FUA freight phenomena in an energy and environmental perspective, enhancing their capacity in urban freight mobility planning in order to develop and adopt Sustainable Urban Logistics Plans – SULPs. The Project focused on several FUAs in Central Europe, namely Bologna, Budapest, Poznan, Brescia, Stuttgart, Maribor and Rijeka, whose authorities were involved in the project as fully-fledged partners.

SULPiTER designed and developed a tool aimed at estimating the freight demand generated by the economic activities in the FUA individuated by the project partners. SULPiTER tackles urban freight in the perspective of FUAs, taking into consideration the functional transport and economic relations between inner urban centres (the usual and limited territorial target of public regulations) and the surrounding urban territories, as well as the functional transport and economic relations within FUAs not affecting downtowns. The SULPiTER tool is intended to be a decision support system for policy makers to facilitate the process of elaboration of alternative city logistics scenarios.

2. The SULP Policy Document

This document is the basis of the SULP development for each FUA in the frame of the SULPiTER project. Each partner will follow this template in order to report the main points of each Sustainable Urban Logistics Plan at Functional Urban Area level. Based on the EC ELTIS guidelines, it describes the process as each city uses the SULPITER procedure to access the SULP from the data collection through the processing of the data.

In each FUA, Authorities will develop their own SULP in a more detailed document, including all the necessary information listed in the national guidelines. In order to make them transnational, this template will include only the most important issues and the relevant results from other Work Packages. The SULP in original language may be attached as annex of this document.

3. Transport policies - state of the art analysis

Before identifying the quantitative amount of freight generated in each zone of the FUA (next paragraph), please here include an overview of existing policies or planning documents especially dealing with logistics (and generally all modes of traffic). They may be at city level or at metropolitan level or also at regional and state level. This overview is faced in the deliverable WP T3 – D3.1.1 (FUAs transport policies state of the art analysis) Annex 1 in this document.

Please, make a (short) overview of the implemented measures in the past: experiences, good examples, or failures (if any).

The policies implemented by the Metropolitan City of Bologna are listed below:

1. **Piano Generale del Traffico Urbano (Master Plan of the Urban Traffic)**. This plan is a short-term planning instrument. In line with Ministerial directives, it aims at "improving traffic conditions and road safety, reducing noise and air pollution and achieving energy savings, in compliance with current urban planning instruments, with transport plans and having respect for environmental values".

   It's a local policy level plan and the responsible body is the Municipality of Bologna. The PGTU has a temporal horizon of 2-4 years.

   Longer-term plans, such as the Municipal Structural Plan, assess the benefits deriving from large-scale infrastructural works for collective transport (Metro-Tramway, new Railway Station, Trolley-bus TPGV, People Mover). Their effects on urban mobility will concern a longer temporal horizon. However, the PGTU will take into account the critical situations that the worksites for these large-scale undertakings will inevitably create.

   There are several main goals: to reduce air and noise pollution, to save energy in the transport sector, to improve road safety, to achieve widely-available but sustainable access, to increase public transport and reduce private vehicles, to encourage a more eco-compatible stock of vehicles.

2. **Piano per la distribuzione delle merci in città (Plan for the distribution and collection of goods in urban areas)**. This Plan is a local policy level instrument and the responsible body is the Municipality of Bologna. Also called "MERCI BO2", is a tool useful to stimulate a new reorganization process of logistics and urban distribution of goods, in order to reduce the kilometers traveled for the same service using eco-friendly vehicles. With this strategy can be reduce the number of commercial vehicles and so congestion and traffic impacts.

   Finally, an important objective of this plan is the correct use of public spaces and therefore, the optimization of the commercial service through the experimentation of the booking of the loading/unloading bays.

   The main goal of this action is the improvement of parking availability and creation of new rules of access to restricted traffic zone

3. **Lorry Routes project**. This project provided a Regional map that defines preferential routes for heavy vehicle flow, with indication of road signs, tunnels, bridge, maximum size and weight so the policy level is regional and the responsible body is Emilia Romagna Region.

4. **Inter-city coordination**. The Region Emilia Romagna (responsible body of this action) undertook a strategy of coordination in urban logistics. This Strategy is part of the Sustainable mobility programme.

The purpose was to improve the knowledge of the various experiments made in all cities with more than 50,000 inhabitants and to coordinate their actions in order to improve transport systems and to foster economic development.

5. **City logistics project**. This project was experienced by "Centro AgroAlimentare di Bologna" (CAAB) and that is the Agrifood logistics center. In order to reduce the air pollution and the GHG emissions, the agribusiness of Bologna, uses electric vehicle for the delivery activity, especially when the shops are situated within restricted traffic area. The energy used to recharge the vehicles, is provided by solar panels.
6. Recently, the Emilia-Romagna Region has allocated € 350,000 to the Metropolitan City of Bologna and other municipalities with a population larger than 50,000 inhabitants, for drawing up of the "PUMS guidelines", in addition to ministerial guidelines, published in the Gazzetta Ufficiale (Italian Official Journal) on 5 October 2017, with the aim of encouraging the homogeneous and coordinated application of the PUMS. Ministerial Guidelines, substantially, accepts ELTIS guidelines.

4. Urban Freight Transport - state of the art analysis

This chapter is important to define the borders of the FUA and to understand how many freight is generated in each part of the FUA. It describes the current situation of logistic flows in FUA (with data on goods flow entering, outgoing and transiting the FUA (including rail and water/air freight transport-if relevant). Describe the current situation on the field (deliverable times, capacity of consolidation centres, e-delivery vehicles, etc.). List the main problems/challenges and who is responsible. You can add what has already be implemented (to avoid negative aspects).

To elaborate this chapter, please include the local contribution of D.1.2.11 (Transnational report on understanding freight behaviours and impacts in SULPiTER FUAs) – Annex 2, in order to explain in detail what is the situation in terms of freight generated.

The FUA of Bologna coincides with the Metropolitan City of Bologna, the capital and largest city of the Emilia-Romagna Region. Bologna is also the seventh most populous city in Italy. The overall area of the Metropolitan City of Bologna is around 3,702 Km2. It is in the centre of the Region and is bounded on the east by the Province of Ravenna, the Province of Ferrara lies to the north while the Province of Modena lies to the west. To the south, there are three provinces of Tuscany Region (Figure 1).

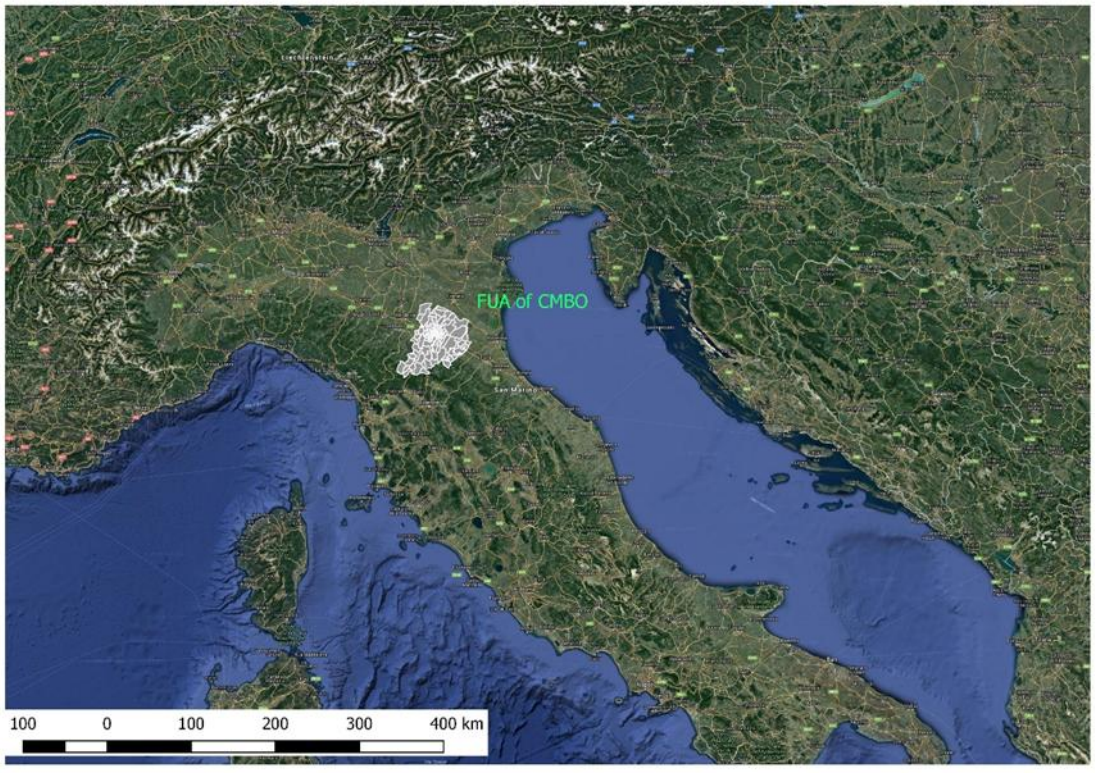


Figure 1 The location of Metropolitan City of Bologna

The population of the Metropolitan City of Bologna, until 30 June 2017, is 1,009,828 inhabitants. Thirty-nine percent of the inhabitants (389,009) lives in Bologna (Source: Italian National Institute of Statistics, ISTAT).

In the Metropolitan City of Bologna there are fifty-five municipalities. The ten most densely populated municipalities are Bologna, Imola (69,983), Casalecchio di Reno (36,515), San Lazzaro di Savena (32,353),

Valsamoggia (30,782), San Giovanni in Persiceto (28,122), Castel San Pietro Terme (20,888), Zola Predosa (18,962), Budrio (18,489) and Castel Maggiore (18,295).

The first ten municipalities in terms of surface (Km2) are: Imola (205,02), Valsamoggia (178,13), Medicina (159,11), Castel San Pietro Terme (148,42), Bologna (140,86), Molinella (127,84), Budrio (120,19), San Giovanni in Persiceto (114,41), Pianoro (107,13), Monterenzio (105,26).

In the Metropolitan City of Bologna there are 105,585 companies for 351,710 employers. In the city of Bologna there are the thirty-eight percent of companies (40,369) and the forty percent of employers (140,000).

The area of study is composed of 261 zones (in grey). These have been aggregated in six macro-zones: Bologna City Center, Bologna, Ring (Conurbation of Bologna), Plain, Mountain-Hill and Imola district.

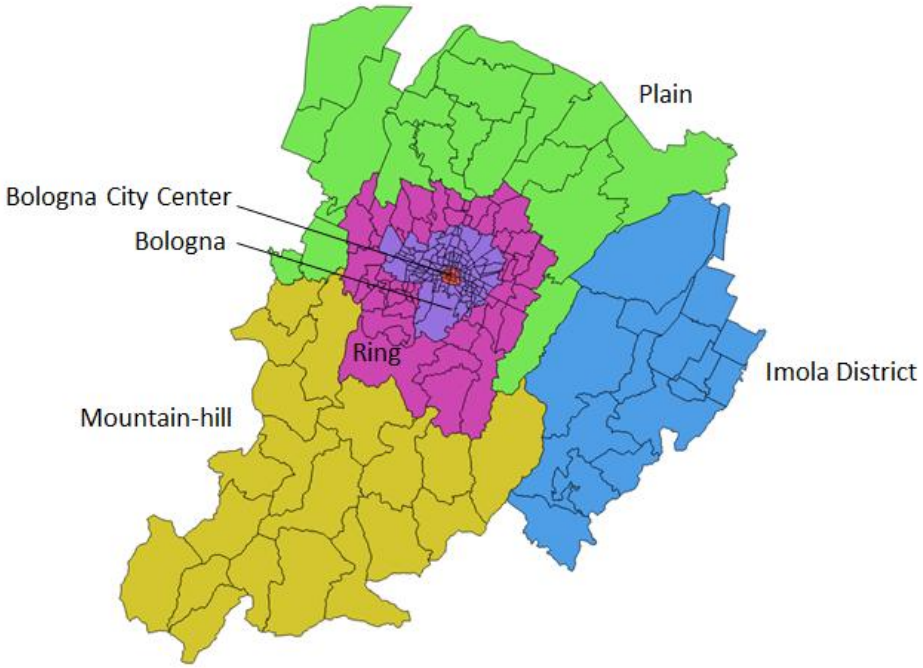


Figure 2 The macro-zones of the Bologna FUA

The criterion adopted to divide the area od study in zones have been the administrative borders (especially for small municipalities) and geographic borders (e.g. A1 highway). The city of Bologna and other municipalities (Anzola dell'Emilia, Calderara di Reno, Casalecchio di Reno, Castel Maggiore, Castenaso, Granarolo dell'Emilia, Imola, Pianoro, San Lazzaro di Savena, Sasso Marconi, Zola Predosa) has been divided in more zones in order to represent the characteristics of attraction of the goods, in this case the references were the borders of census areas.

In order to evaluate the current situation about freight transport flows in the FUA, have been conducted interviews to traders and transport operators and also have been analysed traffic data provided by Municipality of Bologna.

The interviews to traders can be divided in commercial and industrial activities. In both cases, the number of interviews depended on the number of activities. Regarding commercial activities, in the study area five important supply chains have been identified:

- Wholesale and retail trade and repair of motor vehicles and motorcycles.
- Wholesale trade, except of motor vehicles and motorcycles.

- Retail trade, except of motor vehicles and motorcycles.
- Accommodation.
- Food and beverage service activities.

Figure 3 reports the percentage, for each supply chain, of the three types of delivery: delivery duty paid, Ex-works and Off truck.

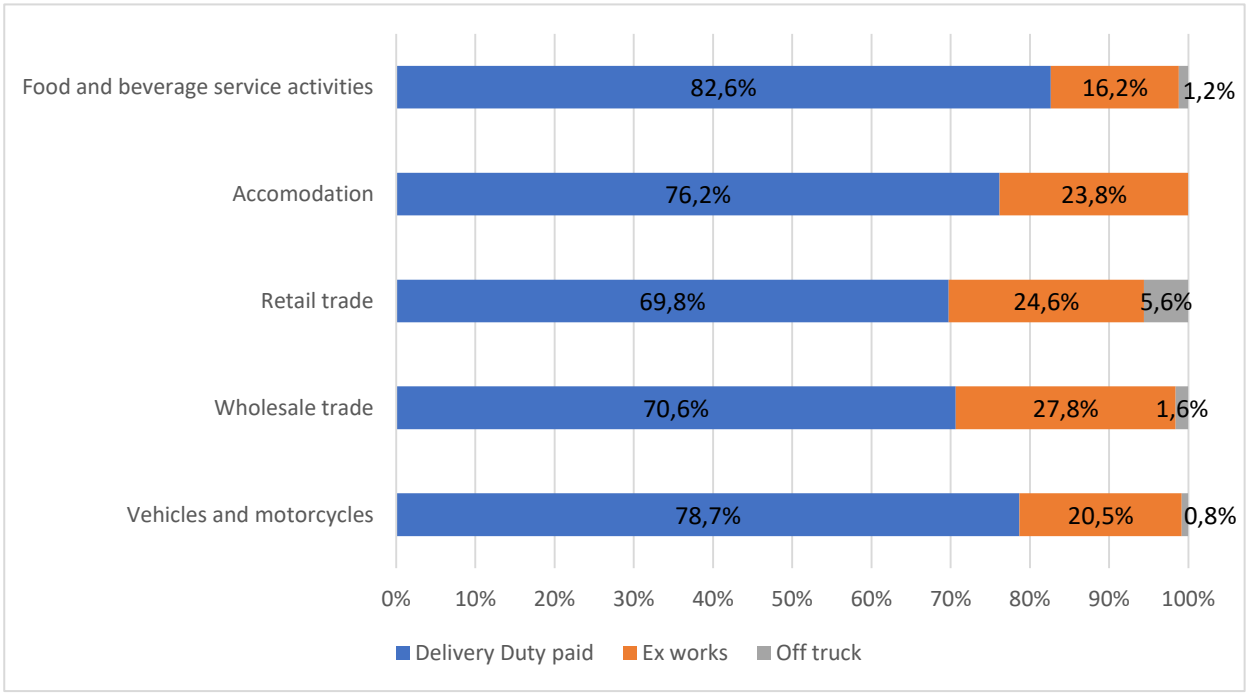


Figure 3 Share of Delivery Duty Paid, Ex-Works and Off Truck delivery modes

The frequency of supply (Figure 4) is prevalently one or more times a week for accommodations (88%), the same applies to restaurants and food services but with a percentage of 68% which is accompanied by a 27% supply for one or more many times a day. For retail trades the two values are more balanced, 42% for weekly deliveries and 31% for daily ones; wholesales trades show the two equivalent values (39%).

Finally, daily deliveries are higher (53%) than weekly (27%) for vehicles reparations. The monthly deliveries reach a maximum of 20% in the retail trades, while the annual deliveries with only 7% are not relevant.

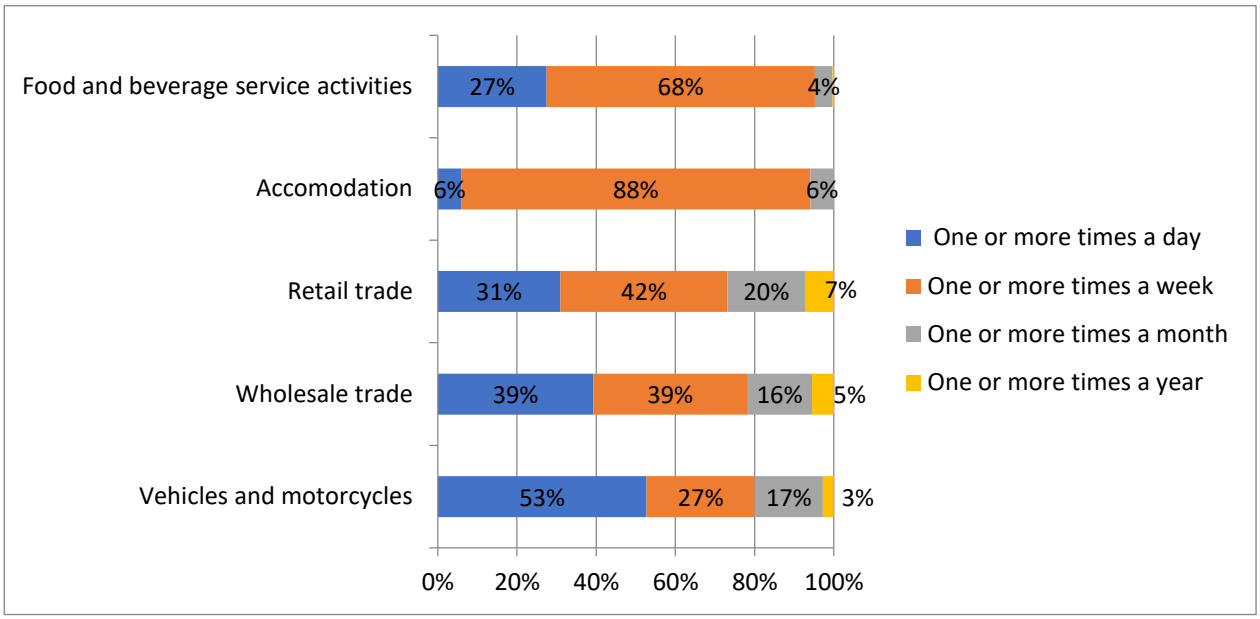


Figure 4 Frequency of deliveries

At the end of the questionnaire, the respondents were asked what the main problems related the use of the loading bays are (Figure 5).

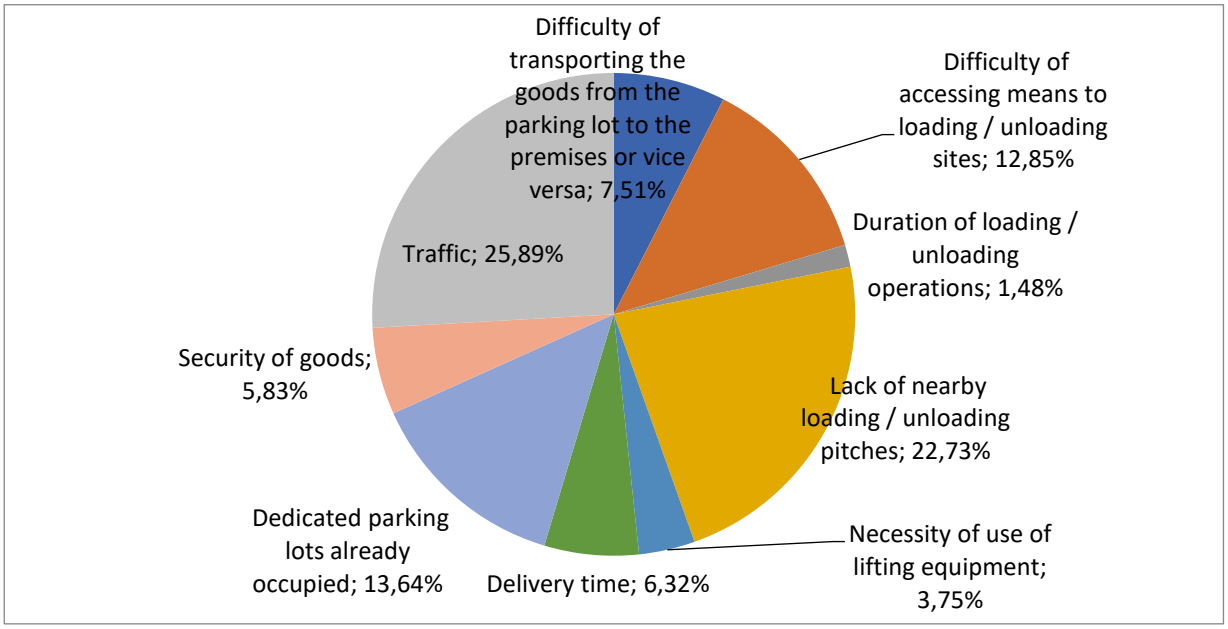


Figure 5 The percentage of the problem related the use oft he loading bay

A selection of transport operators has been interviewed in order to gain the most relevant and useful information on problems and expectations. A database of 250 companies has been analysed to select around the 10% of contacts for direct interviews. Among the main results from the interviews conducted we can highlight the following:

- Express couriers use sub-carriers to operate transport services on a national scale, employing thousands of vehicles in fleets composed of vans and light trucks. Electric vehicles, methane powered vehicles and cargobikes are operated by them. 90% of ICE vehicles belongs to Euro4, Euro5 and Euro6 categories.
- Last mile deliveries in the FUA originate mainly from branches of the company, often located in the area of Bologna Interporto and always located outside the urban area of Bologna. Some of the deliveries may originate from international airports (e.g. Milan Malpensa) and for this reason are influenced by the delivery hours.
- A delivery in the urban area is around 4 hours long, involves the wholesail and retail trade, is generally only one item per delivery. At least two deliveries per day are performed over more than one day a week.
- Carriers adopt tarpaulined trucks with overall weight over 3.5 t and classified Euro5. A delivery a day is the average performance.
- Sub-carriers have a diversified fleet, made mainly of vans and providing two o more delivery services a day to shops.

As for parking practices, operators declare to park:

- In loading/unloading bays.
- In private reserved areas.
- In double park.
- On the sidewalk.

As for delivery hours, operators are used to deliver:

- From 9 to 19 and are available to deliver in other time slots.
- From 11 to 17 and are not available to deliver in other time slots.
- From 8 to 9 and area available to deliver in other time slots.

Among the problems declared by the operators:

- Lack of loading bays.
- Difficulty to access loading bays.
- Delivery hours.
- Security of cargo (during delivery)
- Duration of deliveries
- Difficulty to move goods from parking location to the delivery point

Operators suggested to remove delivery limits, to make the access to urban areas more flexible and with special permits.

In Figure 6 there are the average daily traffic estimated on the road network of the FUA and derived by the traffic count system of the Emilia-Romagna Region, Floating Cars Data and calibration operated with own traffic counts. The largest intensity of flows belongs to the motorways, even if a spread of smaller flows is present. The flows represented include small and large trucks.

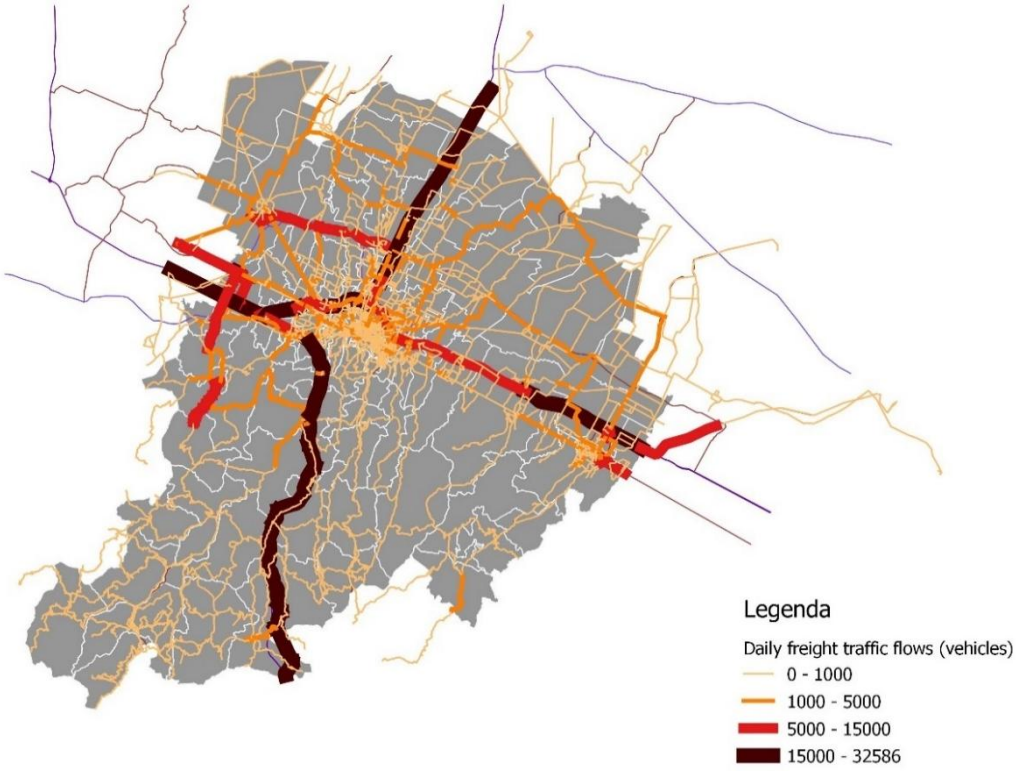


Figure 6 Average daily traffic estimated on the road network of the FUA

Finally, have been calculated the OD matrix (Figure 7 and Figure 8), here reported related to the macro-zones in which the FUA has been divided into instead the OD matrix related to the single zones due to the dimension (261x261).

Origin/ Destination	Bologna City Centre	Bologna	Ring	Imola district	Plan	Mountain/Hill	**TOT**
Bologna City Centre	1.067	802	461	82	68	26	**2.505**
Bologna	2.238	9.271	4.327	858	1.259	233	**18.186**
Ring	694	3.644	2.154	1.988	2.310	761	**11.551**
Imola district	24	142	291	2.198	98	33	**2.786**
Plan	117	1.392	2.843	662	613	124	**5.751**
Mountain/Hill	14	75	181	87	51	109	**517**
TOT	**4.155**	**15.325**	**10.256**	**5.875**	**4.399**	**1.286**	**41.297**

Figure 7 Light duty vehicles OD Matrix (daily flows)

Origin/ Destination	Bologna City Centre	Bologna	Ring	Imola district	Plan	Mountain/Hill	TOT
Bologna City Centre	159	120	69	12	10	4	**374**
Bologna	334	1.385	647	128	188	35	**2.717**
Ring	104	544	322	297	345	114	**1.726**
Imola district	4	21	43	328	15	5	**416**
Plan	18	208	425	99	92	19	**859**
Mountain/Hill	2	11	27	13	8	16	**77**
TOT	**621**	**2.290**	**1.533**	**878**	**657**	**192**	**6.171**

Figure 8 Light duty vehicles OD Matrix (daily flows)

5. SULP's specific objectives

The SULP involves strategic and operative goals that can be adopted with a cooperative approach among different actors for reaching common objectives aimed at an overall urban sustainability.

Strategic goals (general):

- ensure the conditions of dynamic traffic by reducing traffic jams;
- creating a liveable urban environment, reducing the environmental impact caused by freight traffic.

Operative goals (general):

- reducing traffic congestion from freight loading and parking;
- reducing freight transport and freight rates, optimizing capacities;
- reducing the environmental load on freight vehicles;
- encouraging operators to accept these goals

Please state these goals specifically for your own FUA. These goals should be in line with all stakeholders (e.g. deliver clean and just in time) and operative goals (targets) should be in line with identified problems/challenges (could be equipped with Key Performance Indicators).

Although logistics and transport of goods play a fundamental role in the efficiency of commercial and production activities in urban and metropolitan areas, the support and promotion of these activities cannot be carried out without taking into account their negative impacts and externalities, especially when the context are urban areas. In addition, the European Commission in 2011 with the White Paper on Transport hoped to achieve by 2030 a "carbon-free urban distribution".

The SULP wishes to pursue, in the medium long term, several actions capable of responding on the one hand to the needs and demands of freight transport, maintaining a high levels of service, and on the other hand to reduce, progressively, CO2 emissions and other negative externalities, by ensuring environmental, economic and social sustainability.

These aspects are strongly important in urban area because in these contexts the transport activities are more difficult due to the density of the population and services concentrated on relatively small areas. For these reasons the SULP consider the freight transport and logistics in a system vision with other transport modes and with the population, in order to evaluate the solution that maximises the benefits of the whole system.

The SULP must also be in the continuity with the good practices already implemented in the area, such as the Regional Integrated Air Plan (PAIR2020) and "Mi muovo Elettrico" (a regional plan), both encouraging sustainable mobility with actions aimed at encouraging the use of electric or eco-friendly vehicles.

SULP vision, in fact, is coherent with the objectives established by PAIR, thas as regards freight transport are:

- Incentive and promotion of electric vehicles.
- Enhancement of electric charging points.
- Incentivisation of renovation of the vehicle and limitation of the access to city centres for the most polluting vehicles.

- Management of freight transport in the last mile and in the LTZ.
- Promoting sustainability and optimizing short-range logistics.
- Promoting sustainability and optimization of logistics cluster.
- Modal shift from road to rail.

Coherently with has been said above, have been identified the following four objectives that can synthesize the vision oft he SULP:

- Contribute to climate protection by reducing the greenhouse gas emissions (CO2) of the entire Metropolitan area with the exception of the city centres where the direct CO2 emissions must be eliminate by 2030.
- Reduction of the contribution to road congestion through the optimization of the delivery and the adoptionn of new schemes). This objective refers to the all uses related the road infrastructures, including the parking areas, in the logic of a shared space with the other components of road traffic (private and collective).
- Reduction of logistic sprawl through the establishment of new logistics/productive enterprises in logistics clusters where the companies could be located if they will reach precise environmental and social performance.
- Development of the logistics market. To achieve a logistic system able to follow the demand and the increasingly market requests ensuring a high levels of service.

The objectives introduced above and the strategies and actions that derive from them are schematized in Figure 9.

Figure 9 **Objectives, strategies and action of the SULP of the Metropolitan City of Bologna**

6. Measures vs. demands

Identification and analysis of the possible measures/solutions to be adopted by the FUA. It is possible to identify 3 types of measures which are applied:

- in a specific part of the city, including the city centre;
- at the wider city – FUA level;
- at different territorial levels in the city

The types of measures that we analysed concern regulatory, technology, infrastructure, services, economic, urban and energy actions. In general, these types of measures are more frequently concerning regulation and transport services.

Table 2 includes an overview of the low carbon logistics measure types and their benchmarking with reference to their costs, territorial level of applicability and category.

	Parameters of assessment				Scale of application		
Measures	**Regulation**	**Technology**	**Infrastructure**	**Services**	**City centre**	**wider city - FUA level**	**different territorial levels in the city**
Increase interporto performance		x	x				x
Innovative rail freight services				x			x
Night-time deliveries	x			x	x		
Electric LTZ	x				x		
Logistics spaces (cargo bike)	x		x	x	x		
Dynamic loading bays	x				x		
Delivery points	x		x			x	
Urban Consolidation Centres			x	x	x		
Specialised logistics settlements	x					x	
Green Logistics certification	x					x	
Air Cargo City			x				x
Harmonisation of regulation	x					x	
Permanent FQP				x		x	

Table 2 Overview and benchmark of logistics measures *(example)*

6.1. Regulatory measures

Regulatory measures that determine logistics processes such as loading/unloading, time windows, parking regulations and other measures (that do not apply to none of the aforementioned categories) belong to this category. Policies and measures that imply access restrictions to certain areas based on concrete

constraints (environmental, vehicle weight, etc.), traffic calming measures and others are included in this category. Enforcement, routing optimization and training. Police enforcement actions, training activities (eco-driving, etc.) and routing optimization (infrastructure and road marking for route optimization) are among the measures that form this category.

The regulatory measures proposed by the SULP are listed below.

1. The Plan, coherently with the European vision and the actions already carried out in the area, proposes a gradual development of the access rules to the LTZ of Bologna and Imola and the establishment of new LTZ in the city centres of the other municipalities of the Metropolitan area, characterised by congestion problems or in any case of high historical-architectural value, in order to reach the target set by the EU for 2030 and so to establish electric LTZ.
2. Night-time deliveries. In order to reduce the road congestion during the day, the delivery operation could be carried out also in different time slot (22-07).
3. Harmonization of regulation about the access to city centres. One of the most frequent problems that emerged during the preparation of different regional and national plans about urban distribution of goods, or in the definition of the LTZ regulations, is the lack of harmonization between regulations also when the city are near between them.

   For this reason, the SULP proposes a shared vision by the Municipalities of the Metropolitan City on the regulations activated, so that the regulations are not conceived in the exclusive interest of the single municipality but with that of the entire Metropolitan city.
4. Dynamic loading bays. The parking areas for dynamic use are parking areas with different functionality according to the need of the moment. In fact, the areas dedicated to the parking of commercial vehicles, generally, doesn't have a different functionality during the night, when they are not used by transport operators, representing an unused area for about ten hours a day and consequently incentivize illegal parking of private vehicles. In order to optimize the use of parking areas, SULP provides a reorganization of their methods of use according to the density of the population and commercial activities of the cities and with the assumptions for the development of the LTZ of Bologna and other cities. The dynamic loading bays are therefore an accompanying measure of the same LTZ.
5. Specialised logistics settlements and Green Logistics certification. In order to facilitate the economies of scale deriving from the creation of logistics cluster, the Plan identified some areas dedicated to different specialization (distribution, e-commerce, etc…) and based on the optimization of the mileage of transport operators and employees (also through the use of local public transport, preferably railway). The establishment of new logistics cluster includes a "green logistics" certification aimed at helping companies to understand good practices related to transport and logistics activities.

6.2. Technology

ICT, ITS and vehicle technology (cargo bikes) based measures are identified in this category.

The technological measures proposed by the SULP are listed below.

1. Cargo bike. The use of the Cargo bikes will be contextualized to the realization of the Logistics Spaces, that will use this transport mode to carry out the deliveries in the city centre and in particular in the pedestrian areas.

6.3. Infrastructure development

Infrastructure development construction/development of consolidation/distribution centres and logistics places. Capacity sharing. This category regards measures that entail the use of existing infrastructure or vehicles (i.e. road infrastructure) for multiple operators (i.e. multi-use lanes).

The infrastructural measures proposed by the SULP are listed below.

Logistics spaces in the proximity to the city centre. The Logistics Spaces are areas dedicated to the transshipment activity of goods, from one vehicle to another. The logistics spaces will be located close to city centre in order to allow to private transport operator not to enter in the centre, in fact the last mile of the delivery will be covered by logistics space manager with its vehicles (electric van, cargo bike or trolley when the delivery is very short in terms of distance.

Urban Consolidation Centre. The Urban Consolidation Centres (UCC) are logistic platforms that receive goods from different transport operators for different points of delivery within an urban area and therefore, through the aggregation of the items, are able to guarantee more efficient deliveries (greater filling of available cargo space) by reducing the number of vehicles and the related negative externalities.

Removal of criticalities of the Freight Village of Bologna (Interporto di Bologna). In order to increase the competitiveness of the only railway terminal in the metropolitan area, some actions have been proposed to reduce the operating costs:

Infrastructure and technological upgrading.

b. Development of an optimized management of the railway maneuver.

c. Modules with European standards (750 meters).

d. New vehicles used for handling intermodal unit (transtainer).

6.4. Services

New distribution and logistics models for operators embeds mostly measures that are initiated by the private sector. It could include either cooperative measures or not. Measures that are appointed in this category are: off-peak deliveries, consolidation schemes and joint operations, etc.

The measures related to the services proposed by SULP are listed below.

1. The realization of the UCCs represents at the same time the possibility to provide value-added services to transport operators, which thanks to the new delivery scheme can avoid to enter in the city centre using UCC.
2. Delivery points. The delivery points are light structures inspired by the lockers of the e-commerce market, that is places dedicated to the delivery and collection of goods that allows to operators to concentrate operations reducing management costs. The proposed scheme, in fact, is similar to lockers and therefore provides the creation of delivery points in places where the transport operator, as an alternative to direct delivery, can leave the goods in order to reduce the distances and consequently the pollutants emissions.
3. Dynamic loading bay can be an occasion useful to improve the services offered to users and in particular:

a. Charging stations for electric vehicles. This service could be useful to incentivize the use of electric vehicles and to guarantee a supply system coherent with European vision to 2030.

b. b. Parking control systems necessary to ensure the compliance of the time periods useful for each functionality (private, commercial, resident).

c. Video surveillance systems to ensure the safety of goods while the operator moves them from the vehicle to store and viceversa.

4. Permanent Freight Quality Partnerships (FQP). Freight Quality Partnerships are essentially "local forum" with the aim to bring together the public and private sector stakeholder involved in freight transport and logistics to discuss problems and identify and implement solutions

   On the basis of the type of measures to be discussed, the geographical area of reference will be determine, so would be the single municipality or the entire metropolitan territory, if it concerns a larger area or has a major influence on the stakeholders.

5. Some action useful to improve the performance of the Freight Village of Bologna have been proposed by transport and logistics during participation activity of the SULP. These actions are listed below:

   a. Multimodal urban distribution. Urban distribution of goods using rail, is not practiced today with the exception of the city of Paris. A scheme similar to Paris could also be applied in Bologna, where the hub of the service would be the “Interporto di Bologna”, where a train shuttle would transport the goods from the hub to an urban terminal where them would be transfer from the shuttle to electric vehicles.

   b. Freight transport using High Speed Rail. The transport of goods on the high speed railway network has been activated by Mercitalia, an Italian transport operator with the FAST service, which involved the “Interporto di Bologna” as a base for a point-to-point service with the Maddaloni-Macianise terminal (Caserta). The presence on the metropolitan territory of an innovative service represents an important opportunity that the same logistics and transport operators who participated at the SULP participation activity have confirmed, recommending as innovative services are an important strategy to compete in a high competitive word.

   c. Fast corridor with the port of Ravenna. Fast corridors are controlled corridors, road or rail, which provide and allow the movement of containers from the point of landing to the temporary warehouse in a logistic node, they are functional to the simplification of the handling of containers between port areas and temporary warehouses.

6.5. Energy

We have included in the energy category only the measure type that can directly focus on energy issues (i.e. development of electric mobility schemes which can be part of energy policies at urban level).

Several proposals presented above provide for the introduction of new distribution schemes which in turn provide for the use of electric vehicles in order to increase the environmental benefits already increased with the optimization of the performance of the same distribution schemes. Multi-modal urban distribution would use, in fact, electric vehicles in the last ring of the distribution chain, as well as CCUs and logistics spaces that would be always equipped with electric vehicles (van and cargo bikes).

In the same direction it was also designed “Green Logistics Certification”. This is a policy for the promotion of the use of electric vehicles including in the context of urban freight distribution, to the aim of increasing the share of the rail mode.

6.6. Possible new technologies

Medium and long term global trends of freight transport in FUA from autonomous vehicles across dedicated freight pipeline networks into Internet of Things.

The SULP of the Metropolitan Area of Bologna is keen to accommodate innovative technologies that are upcoming in the urban logistics scenario, including blockchain, the Internet of Things, autonomous vehicles, drones, and so on. Case by case, during the implementation phase, these and other disruptive technologies will be considered and experimented wherever possible and within the measures envisaged by the Plan.

7. Layout of measures

Measures can be explained more in detail ad concrete if needed. An action plan with approximal implementation date and estimated budget costs are welcomed. Pictures of good practice or designed pictures of suggested measures can provide attractive and user friendly document (in line with Application and monitoring). Important parts of these chapter:

- definition of the business-as-usual (BAU) scenario, which indicates that no or just actual measurements are taken into account for the future emission trends;
- specification of services/measures (which were identified in the Chapter 6 and 7 as the most suitable for FUA's objectives – SWOT analysis);
- integrated packages of measures (synergies).

The actions proposed by SULP are always referred to three time horizons that is the years 2020, 2025 and 2030. Generally the proposed actions require technical times that don't allow these to be activated by 2020 but all actions will be fully operational by 2030.

A summary of the actions proposed and their state of implementation for each time horizons is shown in Table 1.

Action	**State of implementation at 2020**	**State of implementation at 2025**	**State of implementation at 2030**
Electric LTZ	Testing in a pilot project	Gradual implementation of the measures (coherent to the emerged corrective factors)	Final implementation of the measures and development of the area
Logistics spaces	Activation of the project and guidelines editing	Evaluation of the potential corrective factors	Activation of the action in other contexts
Night-time deliveries	Activation of the project and them monitoring	Activation of the action in other contexts	-
Urban Consolidation Centre	Service design	Activation of the project	Fully operating
Harmonisation of regulation	Editing of new rules	Adjustment to new rules from the municipalities of Bologna and her ring	Adjustment to new rules from the other municipalities
Delivery points	Service design	Activation of the service	Fully operating

Action	State of implementation at 2020	State of implementation at 2025	State of implementation at 2030
Dynamic loading bays	Service design and identification of areas to allocate the pilot projects	Activation of the pilot project	Fully operating
Permanent Freight Quality Partnership	Fully operating	-	-
Specialised logistics settlement	Activation of areas and their promotion	Application of potential corrective factors emerged	Fully operating and communication
Green Logistics certification	Identification of audit companies and their monitoring	Meetings on progress and monitoring	-
Increase Freight Village performance	Activation projects	Conclusion of the interventions less onerous	Conclusion of the interventions more onerous
Innovative rail freight services	Activation projects	Activation of services and determination of potential corrective factors	Fully operating
Air Cargo City	Services design	Attivazione dei servizi specializzati e incremento dell'accessibilità a quelli attualmente erogati Activation of specialized services and increase of accessibility to those currently provided	Construction of the Cargo City and his service

Table 1 Summary of the actions proposed by the SULP and their implementation status for the years 2020, 2025 and 2030

8. Road-map for implementing the measures

The overall aim of this chapter is to identify the support conditions of each measure/service for the implementation, designed in Chapter 6 and 7 and for the evaluation of the different impacts to be carried out in Chapter 9. The complexity of measures/services is directly linked to the complexity of levels of every single component involved in the specification and design. For this reason, for the identification of the supporting conditions, it is essential to consider, at least, the following issues:

- Organisational/operational aspects and management model of the different design logistics measures;
- Business model related issues;
- Contractual issues (regulating the relationship among the different actors involved);
- Aspects related to the possible structure of the actors providing/managing services;
- Cost estimation (preliminary) or CBA (if all necessary data is available);

All these issues can be done based on the rules identified above in the previous chapter

Table 2 reports the characteristics of the actions proposed by SULP useful for describing how to implement these.

Action	Support action	Actions for the assessment of impacts	Player involved
Electric LTZ	Economic incentives, FQP, logistics spaces	Count of the entering vehicles and estimation of the average mileage	The main municipalities through a partecipation process will aplly the new measures.
Logistics spaces (cargo bike)	LTZ, FQP	Count of deliveries and mileage	Private voluntary initiative. Municipalities can facilitate potential private investments by granting areas and developing regulations that favouring the use of the logistics spaces from the users.
Night-time deliveries	Economic incentives, FQP	Count of deliveries and mileage	Private voluntary initiative. Municipalities can facilitate potential private investments by granting incentives.
Urban Consolidation Center	LTZ, FQP	Count of deliveries and mileage	Private voluntary initiative. Municipalities can facilitate potential private investments by granting areas and developing regulations that favouring the use of the UCC.
Harmonisation of regulation	FQP	Vehicle routing analysis	The municipalities through a partecipation process will aplly the new measures.
Delivery points	FQP	Vehicle routing analysis	Private voluntary initiative. Municipalities can facilitate potential private investments by granting areas and activating FQP.
Dynamic loading bays	FQP	Time of occupation of the parking area	The main municipalities through a partecipation process will aplly the new measures.
Permanent Freight Quality Partnership	-	Assessment test	Private and public authority

Action	Support action	Actions for the assessment of impacts	Player involved
Specialised logistics settlement and Green Logistics certification	FQP	Analysis of truck mileage and assessment tests	Metropolitan city identifies the areas and criteria for certification.
Increase Freight Village performance	FQP	Traffic data analysis	"Interporto di Bologna" is the promoter of the initiave but some action depends on the railway infrastructure manager.
Innovative rail freight services	FQP, removal of the criticalities of the Bologna Feight Village (Interporto)	Traffic data analysis	"Interporto di Bologna" is the promoter of the initiave but some action depends on the railway infrastructure manager and logistics and rail operators.
Air Cargo City	FQP	Traffic data analysis, service chart	Bologna airport is the promoter of the initiative, Metropolitan City is promoter of stakeholder activities.

Table 2 Characteristics of the actions proposed by the SILP with reference to their implementation

9. Evaluation of impacts

In this chapter, the effects of each selected device have to be evaluated. Sustainability, along with the complex nature of decision-making, poses the need to create integrated evaluation tools, due to the difficulty to systematically consider and manage all the information required to take effective decisions:

- Multi-Criteria Decision Analysis (MCDA) tools have been developed to provide directions considering all the different components of sustainability, i.e. economy, environment, society, transport system. The formulation of an integrated tool, however, is becoming even more challenging when different types of stakeholders are involved in the decision-making process. For this reason, it can be a valid index to implement a multi-stakeholder MCDA in the specific sector addressed by SULPITER.
- The Logistics Sustainability Index (LSI) is elaborated adopting a bottom-up approach which starts with the valorisation of basic performance indicators that will be aggregated into weighted composite indicators per impact area and finally into a unique synthetic index.

The following table summarizes the expected benefits and impacts for each action proposed in the Plan.

Action	Expected benefits	Impacts
Electric LTZ	Reduction of noise pollution. Reduction of the number of vehicles in the ZTL (if present UCC and logistics spaces)	The conversion of the current vehicle fleet (diesel vehicles) to electric vehicles will allow us to reduce the emission of CO2 and other polluting gas, improving the liveability of the urban area. Taking the Bologna LTZ as example, the simple transition from diesel vehicles to electric vehicles would save 3,75 tons of CO2 emitted into the atmosphere every day.
Logistics space (cargo bike)	Possibility of replenishing the shop within pedestrian zones. Increased productivity for transport operators that can leave goods at logistics spaces reducing delivery times in order to use the time saved for other activities. Possibility for transport operators to deliver goods without having an access permit in LTZ, leaving these at the logistics spaces.	An electric van can reduce every day (for an 8 hour working day) 24 vehicles, equivalent to 69.8 veh/ km (-58%). The electric vans also allow to reduce the direct emissions of CO2, equivalent to 20,8 kg. Cargo bikes (more limited in terms of available volume and weight) for each delivery reduce the impacts of 5 veh-km equivalent to 0,9 kilograms of CO2.
Night-time	The transfer of delivery operations in time	-

Action	Expected benefits	Impacts
deliveries	slots with substantially “zero traffic” implies a greater efficiency of delivery operations and a greater reliability of transport times. The low or zero level of traffic of the night, implies greater commercial speeds and so a better engine efficiency with a consequent reduction of polluting emissions and CO2 emissions. Reduction of the freight transport contribution to the congestion in the peak hours.	
Urban Consolidation Centres (UCC)	Possibility for transport operators to deliver goods in LTZ without permission to access, leaving the goods to the UCC. Reduction of congestion and pollution. Increased productivity for transport operators. Reduced need of parking spaces.	A vehicle used by UCC correspond to 4,3 vehicles and for each round of deliveries would save 12 kg of CO2.
Harmonisation of regulation	The discussion between Municipalities can represent an important moment of reflection, in particular for the sharing of measures to limit access to freight vehicles, taking into account the complexity of the distribution models. A harmonized regulation between neighboring municipalities can allow transport operators to optimize the different delivery activities and thus to reduce the number of vehicles at the same time.	-
Delivery points	The aggregation of deliveries in a single point could be an occasion for the transport operator in terms of reduction of the time required for delivery activities. Reduction of the distances implies a direct reduction of the polluting emissions produced by the vehicles used for deliveries. Possibility for the transport operator to be able to do more deliveries in the unit of time or to optimize the use of their resources. Possibility for the transport operator to aggregate goods, reducing the number of vehicles. Development of cities to the trends of the e-	-

Action	Expected benefits	Impacts
	commerce trend, this market in fact will grow in the next years and with this action the cities of the Metropolitan City will be prepared to face the phenomenon.	
Dynamic loading bays	The creation of a flexible parking system allows not only to optimize the use of the portion of road surface dedicated to this but also to guarantee a system capable of responding to extraordinary that is a better adaptability to the perturbative factors (holidays, peak of demand, sports events, etc.). Possibility to create incentive policies for virtuous behavior, rewarding for example freight transport operators that use the loading bay for short time intervals in order to increase the utilization of the parking spaces. With the hypothesis of providing time slots for the private users, accessibility to the shops would be improved providing the possibility to park close to shops. Synergies with other actions. Opportunity to increase the level of service to users through the provision of electric charging, video surveillance, etc..	Increase the number of car parks without costs and without occupying other space. As an example, if the current loading bay in the LTZ of Bologna will be available, during the night, for the residents, there would be 4,170 car park per hour each night.
Permanent Freight Quality Partnership	Establish a development model with a win-win approach, that is a model where both the community and the private sector win. Implementation of the action most rapid. The continuous process of participation facilitates the understanding of different points of view. Trend monitoring. The continuous dialogue with the stakeholders makes improves understanding phenomena linked to the transport of goods.	-
Specialised logistics settlements and Green Logistics certification	Improved and optimized use of the surfaces thanks to the shared management of some services (car parks, canteens, classrooms, recreational areas, workshops, warehouses, etc.). Reduction of logistic sprawl with the	Reduction of vehicle mileage and related environmental impacts. In fact, the identified areas are distant no more than five kilometers from the motorway tollgates while the

Action	Expected benefits	Impacts
	concentration of activities in specialized logistics/industrial clusters. Better environmental performance with the introduction of efficiency assessment elements such as the Green Logistics criteria. Improvement of the work quality and other aspects (social). Greater awareness of social and green measures on the territory through communication channels and logos in stores supplied by certified operators.	current average distance is 11.5 kilometers. Assuming that the current demand is concentrated in areas where the average distance is five kilometers, daily CO2 emissions would decrease from 59.5 to 25.9 tonnes per day, with a percentage reduction of 56% or in other words, the average emission per employee will decrease from 1,15 to 0,50 kg per day.
Increase Freight Village performance	Reduction of time and cost of movement operations in the railway terminals. Competitiveness of the railway carrier than all-road transport. Facilitation of the achievement of economies of scale.	-
Innovative rail freight services	Rehabilitation of unused railway areas (San Donato terminal). Specialization of services offered. Greater competitiveness.	-
Air Cargo City	Increase in the attractiveness of air transport compared to the combination road-air Increase of export opportunities for companies in the metropolitan area. Increase in employment. Reduction of congestion and polluting emissions due to the better establishment of air freight forwarders.	-

Table 3 Impacts and benefit expected by the actions proposed in the SULP

10. Role of the stakeholders involvement

This section includes the results of the Freight Quality Partnership (FQP) meetings in each FUA:

- members of the FQP (maybe photos of meetings);
- role of the FQP within the SULP's decision making process;
- concrete results (added-value).

The role of FQP in the future has to be stated here.

The PULS of Metropolitan City of Bologna is characterized by the participation activity of the stakeholders on all levels of this, in fact, the participation began with the activity of data acquisition that represented the opportunity to start the interaction with respondents and in particular the commercial activities, industrial activities and transport operators.

In particular, these three categories have had the opportunity to declare what are the (perceived) critical issues concerning the use of loading/unloading operations, the criticalities related to the use of the railway carrier (only for industrial activities) and in general the problems encountered in the delivery of goods. The point of view whose involved in the last mile is extremely important because makes it possible to improve understanding ways of operating in the technical proposal phase.

Concerning the possibility to activate new railway services, meetings were held with the railway infrastructure manager (RFI) in order to share the idea of creating a multi-modal goods distribution system, using railway. RFI suggested an internal area of San Donato terminal, where the transshipment activity with road vehicle could be carried out.

This idea was also shared both with the Bologna Freight Village (which would be the hub of the shuttle service) and with the logistics and railway operators, which in addition to considering it an interesting (possible) business opportunity, believe that the Freight Village must develop specialised and innovative services in order to compete in a highly competitive world.

Anyway, a permanent FQP is one of the actions included in the SULP. Main elements of the FQP are the following:

- A permanent group equipped with tools for monitoring, guidance and expert support
- CMBO chairs the FQP and provides technical expertise; scientific expertise by the university and consultation provided by representatives of sector operators
- Working programme in compliance with the actions of the SULP (to assess and propose logistics projects to foster sustainability, intermodality, and so on)
- Playing a role as «logistics developer»
- Relationship with municipalities involved in private logistics initiatives
- Relationship with leading supply chain operators in the FUA, e.g. RFI, Interporto di Bologna, Bologna Airport, forwarders (DHL, DB Schenker), Mercitalia Rail (Figure 10).

Figure 10 Some moments of the FQP meetings.

The applied strategy of the stakeholder involvement is synthesized in Figure 11, where are reported the sub-activities and the periods of the meetings.

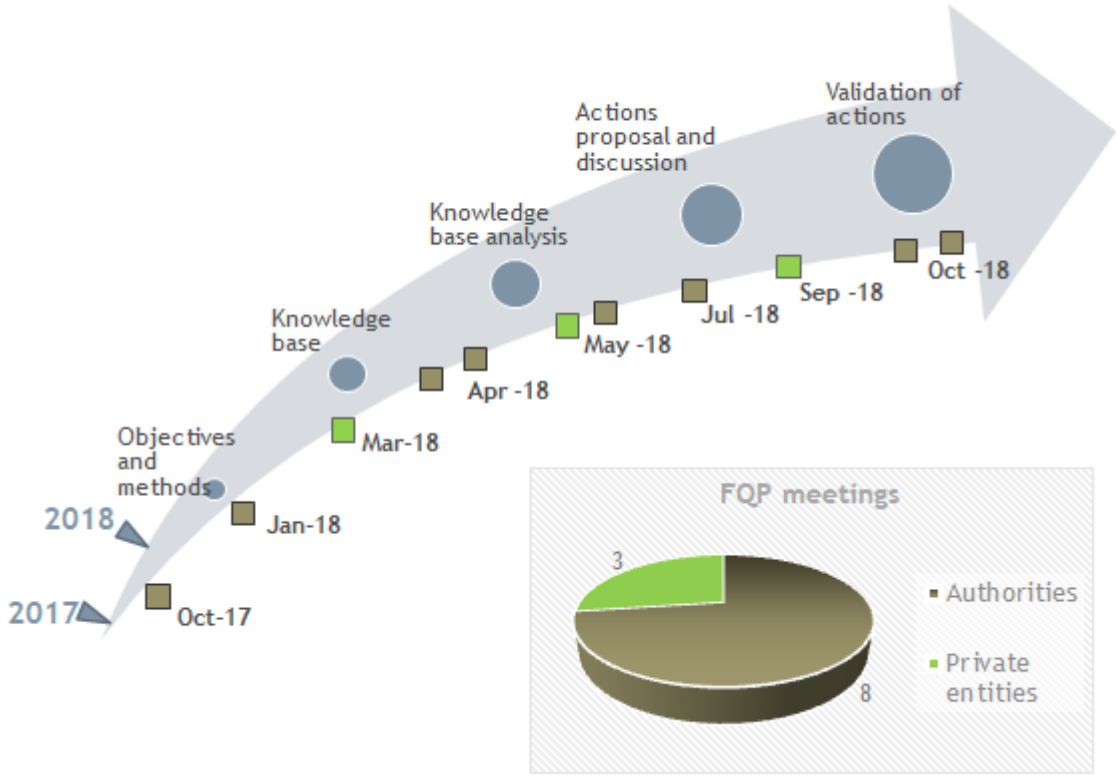


Figure 11 FQP strategy

11. Main steps for the adaptation of the SULP

The approval and adoption process for a planning act (regulated by national and local laws, which may significantly differ from country to country, characterised by different methods and publicity level to guarantee the interests of all the citizens and not only those of the directly involved actors).

This chapter can be flexible:

- SULP is a chapter of SUMP or should it be integrated within each chapter of the SUMP?
- Or both (chapter on SULP + cross-references in the whole document)?
- SULP should follow national rules for the official adoption.
- Communication activities to be included also here.

The SULP of the Metropolitan City of Bologna is a strategic plan that guides mobility with a long-term horizon, but it's characterized by checks and monitoring activity on different pre-defined time intervals. It develops a system of mobility in coordination with other sectoral and urban plans at different scales (national and local).

Sustainable Logistics is one of the ten strategic lines of SULP, this is, in fact, a sectoral plan with the organization of the urban distribution of goods, the transport of goods and related logistics activities and infrastructures.

12. Application and monitoring

- Allocation of responsibilities among the actors involved (from the perspective of responsibility upon the development of the SULP, to have a clear vision of the actors in charge of the related measures/services).

- Definition of a realistic implementation plan (with respect to the time).

- Risk matrix: how to manage the uncertainty from Year 5 to 10?

Concernig monitoring activity, have been evaluated several indicators that can be divided in two macro-sectors: "measured" indicators, that is indicators that can be determined directly by the actions and/or the publication of statistical data (Table 1 8) while the second type are "derivative" indicators, that is indicators that can be determined with calculation and/or simulation models (Table 1 9) and therefore require a more onerous approach compared to “measured”.

Tabella **Errore. Nel documento non esiste testo dello stile specificato.**-1 Measured indicators

Objective	Strategy	Indicators
Reduce CO2	Sustainable urban distribution	Number of electric light duty vehicles in entry to LTZ
		Number of electric heavy duty vehicles in entry to LTZ
		Number of electric duty vehicles in entry to LTZ on the total
		Number of electric vehicle charging station dedicated to duty vehicles
		Number of loading bays provided with charging station
	Increase rail share	Number of couple of train used to urban freight distribution
		Number of train managed by Interporto di Bologna
Reduce Congestion	Innovative and specialised logistics services, Sustainable urban distribution	Daily accesses in Bologna LTZ
	Innovative and specialised logistics services	Average occupation time of the loading bay
		Number of night-time deliveries
		Number of duty vehicles in entry to LTZ during peak hour
	Optimisation and consolidation of logistics areas	Average distance from logistics clusters to toll road
Reduce logistics sprawl	Optimisation and consolidation of logistics areas, Promotion of large logistics hubs	Number of companies located within logistics clusters identified by SULP
		Number of new companies located within logistics clusters identified by SULP
		Number of companies located within logistics clusters identified by SULP on the total
		Number of employees of the companies located within logistics clusters identified by SULP
		Number of employees of the companies located within logistics clusters identified by SULP on the total
		Number of companies per green logistics certification level
	Promotion of large logistics hubs	Annual freight traffic volume performed at Bologna Airport
Develop logistics market	Innovative and specialised logistics services	Number of dynamic loading bays
		Number of loading bays in the city centres
		Number of delivery points
		Number od deliveries performed at delivery points
		Number of Urban Consolidation Centres (UCC)

Objective	Strategy	Indicators
		Number od deliveries received by UCC
		Number of logistics spaces (LS)
		Number of vehicles of the LS
		Number of cargo bike of the LS
		Delivery subscribers
		Number of vehicles dedicated to van sharing activity at the LP
		Van sharing subscribes
	Innovative and specialised logistics services, Sustainable urban distribution	Deliveries provided by LS
		Consegne/rifornimenti effettuati con il van sharing Deliveries/supply provided by van sharing
		Deliveries provided by cargo bike
		Deliveries provided by trolley

Tabella Errore. Nel documento non esiste testo dello stile specificato.**-2 Derivative indicators**

Objective	**Strategy**	**Indicators**
Reduce CO2	Sustainable urban distribution, Optimisation and consolidation of logistics areas	Daily average CO2 emission
	Increase rail share, distribuzione urbana sostenibile,	Emission “saved” with multimodal urban distribution
Reduce congestion	Sustainable urban distribution, Optimisation and consolidation of logistics areas, Innovative and specialised logistics services	Average daily number of movements with road vehicles
Reduce logistics sprawl	Optimisation and consolidation of logistics areas, Promotion of large logistics hubs	Average distance from the company to nearest toll road
Develop logistics market	Innovative and specialised logistics services	Number of deliveries performed by cargo bike on the total
		Number of deliveries performed by trolley on the total
		Number of deliveries performed to delivery points on the total
		Number of deliveries performed by UCC on the total

13. Promotion and Communication Plan

- Description of main strategies (in order to spread all the information concerning various activities and actions results, and prepares the ground for sustainable results).

- Dissemination and promotion activities (designed to address and meet the main objectives of promoting sustainable, eco-compatible services and solutions for city freight distribution. For this reason, local dissemination and promotion are crucial for the success of the measures/action to gain interest, involvement and trust of all concerned user and public categories in the FUA).

Concerning communication, awareness and dissemination of the SULP, the activities referenced to the three scenarios of the Plan will be information campaigns on preventive actions from the Plan.dissemination of the results and of the monitoring report, campaigns to inform the progress of the actions.

14. Annexes

15. Annex 1: FUAs transport policies state of the art analysis

Template for the collection of urban freight and logistics policies/planning, based on the WP T3 – D3.1.1 FUAs transport policies state of the art analysis.

15.1.1. Introduction

In SULPiTER project the all participating Functional Urban Areas – Bologna, Budapest, Poznan, Brescia, Stuttgart, Maribor and Rijeka – have a different maturity in policies related to logistics and freight transport. Policies related to logistics and freight transport are developed and implemented within an interdisciplinary context that involves different departments (e.g. transport, spatial planning, environment-energy, economy). Transport, with its 32% of final energy consumption share is the second largest energy-using sector and the OECD claims that 20% of energy consumption is attributable to freight transport alone. The European Commission leads path towards CO_2-free city logistics and to reach this goal set by 2030, a shift in the paradigm of policies is required. In order to have effective policies, the functional transport & economic relations between inner urban centres and the surrounding urban territories, as well as the functional transport & economic relations within FUAs not affecting downtowns have to be taken into consideration. In order to effectively pursue SULPiTER mission of support to policy makers in improvement of their understanding of FUAs freight phenomena in an energy and environmental perspective and in enhancement of their capacity in urban freight mobility planning, project partners have to start from the analysis and understanding of status quo of policy related to urban freight and logistics. Once collected and analysed the policies, partners will continue with transnational analytical and governance tools, resulting in improved and adopted policies for the future energy and environmental sustainability of freight transport in Central Europe FUAs.

As said, the starting point for an improved policy making is thus the update (since the SULPiTER submission) of the status of acts, laws, policy & planning documents relevant to urban freight & logistics in each PP FUA, by an inter-departmental dialogue & a dialogue among Authorities of the same FUA. (D.T3.1.1)

To enable the responsible partner Brescia Mobilità (PP06) to collected data and information from each FUA and to draw up a document that illustrates the state of art of freight transport policies at local, regional, national and European level, each partner is asked to fill in the following questionnaire. All the data on policies collected will be analysed and clustered first and then compared outlining elements which link and differentiate policies collected.

As accurately defined by the EU guidelines, the development and effective implementation of Sustainable Urban Mobility Plans (SUMP) and Sustainable Urban Logistics Plan (SULP), cannot overlook a careful analysis of the reference context, in this case policies related to logistics and transport. Therefore, the analysis which will be carried out by Brescia Mobilità, will highlight each FUAs context in terms of strategies, policies and actions that regulate and affect freight transport and logistics. It will compare SULPiTER FUAs regulatory conditions defined by their Public Administrations and complete the framework with European ones. It will help project partners to define at what stage is each FUA context related to forthcoming SULPs that will be developed during the project.

In Europe, SUMP guidelines are provided thanks to the ELTIS report. Also the ENCLOSE Project is providing useful indications on how to develop a SULP. In each Country, national and regional guidelines are

provided by the relevant Ministries of Transport. Please summarize the national guidelines and provide information on how to include the policies of this questionnaire within the SULP in your FUA. The main objectives of this analysis are:

1. identify whether the different policies (local, regional and national) that are in force at the same time in each FUA are, among them, consistent (or not) in terms of actions planned and coordinated (or not) between the different policy makers;

2. identify for each FUA, if the all policies shared common strategic addresses (or not);

3. highlight the main constraints posed by the regulation and planning that precedes the development of the SULP.

15.1.2. Instructions

15.1.2.1. Who?

All partners must contribute to the implementation of this activity, in particular those included in the following Functional Urban Areas (FUAs) have to collaborate together as coupled here below:

- Bologna (IT009) – Metropolitan City of Bologna PP09 & Institute for Transport and Logistics Foundation LP
- Budapest (HU001) – Municipality of 18th District of Budapest PP02 & Vecsés Municipality PP11
- Stuttgart (DE007) – Stuttgart Region Economic Development Corporation PP10 & KLOK Logistics Cooperation Centre PP13
- Poznan (PL005) – City of Poznań PP08 & Institute of Logistics and Warehousing PP07
- Brescia (IT029) – Brescia Mobility PP06
- Maribor (SI002) – Municipality of Maribor PP14 & University of Maribor PP03
- Rijeka (N/A) – City of Rijeka PP12

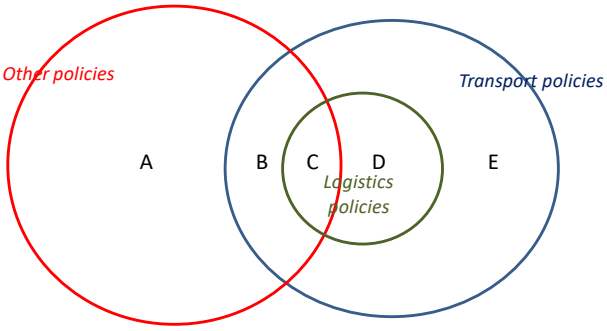
Unioncamere Veneto and CEI are not directly involved in the activities at FUA level, but they can contribute if the activity is of interest for their associated partners.

15.1.2.2. What?

While completing the questionnaire, you should consider listing and detailing both transport Policies and Planning according to the following definitions:

- Transport policy deals with the development of a set of constructs and propositions that are established to achieve particular objectives relating to social, economic and environmental development, and the functioning and performance of the transport system.
- Transport planning deals with the preparation and implementation of actions designed to address specific problems.

As far as the content of each policy/planning considered refer to the chart below:



- *Policy area A: Not to be considered*
- *Policy area B: Only if related to freight transport in FUA*
- *Policy area C: To be considered*
- *Policy area D: To be considered*
- *Policy area E: Only if related to freight transport in FUA*

Partners responsible for single FUA as listed above, should list and detail policies/planning at local, regional and national level; Brescia Mobilità will take care of its own FUA and EU level policies/planning, and will elaborate the final document once received contributions from all Partners.

15.1.2.3. How?

This questionnaire is divided into two sections:

- In section I you should to match the Partners with the FUA, briefly list the local, regional and national policies that meet the criteria described above (par. 2.2), and you should specify if there are national or regional guidelines on the SUMP/SULP development;
- In section II you should schematically describe the main features of each policy listed in the section I. For each policy selected and listed in section I, you should fill in section II.

15.1.3. Questionnaire section I - General information

This section of the questionnaire is an overview of policies related to logistics and transport sector in each FUA. The information you are asked to provide will be used to hand over general framework about relevant policies freight transport and logistics policies in specific FUA.

The aim is to first select and list the policies in your FUA according to criteria described in paragraph 2.2 and second, to analyse the most relevant ones related to the development and implementation of SULP in each FUA context. It is also required to specify whether national or regional guidelines already exist for the development of SUMP or SULP.

I.1 PPs name *<please select one of the following options>*

- LP Institute for Transport and Logistics Foundation
- PP2 Municipality of 18th District of Budapest
- PP3 University of Maribor

- PP4 Regional Union of the Chamber of Commerce of Veneto – Eurosportello Veneto
- PP5 Central European Initiative- Executive Secretariat
- PP6 Brescia Mobility
- PP7 Institute of Logistics and Warehousing
- PP8 City of Poznań
- **PP9 Metropolitan City of Bologna**
- PP10 Stuttgart Region Economic Development Corporation
- PP11 Vecsés Municipality
- PP12 City of Rijeka
- PP13 KLOK Logistics Cooperation Centre
- PP14 Municipality of Maribor

I.2 Related FUA *<please select one of the following options>*

- **Bologna (IT009) complex FUA, 1 million inh.**
- Budapest (HU001) complex FUA, 1,7 million inh.
- Stuttgart (DE007) complex FUA, 600.000 inh.
- Poznan (PL005) complex FUA, 600.000 inh.
- Brescia (IT029) small FUA, 335.000 inh.
- Maribor (SI002) small FUA, 230.000 inh.
- Rijeka (N/A) small FUA, 210.000 inh.
- Other (for UCV or CEI)

I.3 Please specify if your Country or your Region released national or regional guidelines on the SUMP/SULP development (following the ELTIS example), and if there are rules for the adoption of the SUMP/SULP *<please select one of the following options>*

- **Yes**
- No
- No, but it is planned

I.4 If "yes" to question number I.3, briefly describe the existing Guidelines or rules *<please fill in the text - max 500 characters>*

Emilia-Romagna Region has allocated € 350,000 to the Metropolitan City of Bologna and other municipalities with a population greater than 50,000 inhabitants, for drawing up of the "PUMS guidelines", in addition to ministerial guidelines, published in the Official Journal on 5 October 2017, with the aim of encouraging the homogeneous and coordinated application of the PUMS.

I.5 If "No, but it is planned"" specify if from Region or State *<please select one of the following options>*

- Region
- State
- Other <please specify> _____

I.6 List the policies addressed *<please fill in the following Table - only policies which are able to influence freight transport in your FUA >*

	POLICY NAME (original language)	**POLICY NAME** (English)	**POLICY LEVEL** (national, regional, local)	**IMPACT RATE on freight transport** (please rate form 1 - low impact to 5 high impact)	**WEB LINK** (local language)	**WEB LINK** (english - if available)
1	Piano Generale del Traffico Urbano	Master Plan of the Urban Traffic	Local	3	http://www.comune.bologna.it/trasporti/servizi/2:4036/4413/	
2	Piano per la distribuzione delle merci in città	Plan for the distribution of goods in the city	Local	3	http://www.comune.bologna.it/trasporti/servizi/2:4036/4413/	
3		Lorry Routes	Regional	3		
4		Inter city coordination	Regional	3		
5	City logistics	City logistics	Local	3		

15.1.4. Questionnaire section II - Policy description

This section, that has to be filled in for each policy listed in I.6 (e.g. if there are six lines in I.6, there must be six questionnaire part II) is open to the description of the main features of each policy.

A first set of questions must be answered by selecting an option from a closed list of possible options. This part will define the main formal policy features and will enable Brescia Mobilità to compare policies within and between FUAs, to underline if there is (or not) consistency and collaboration between different actors.

The second part of the section focuses on the constituent elements of the policy with the aim to identify the guidelines and limitations of each policy, and to evaluate if there is a common strategic address, and if planned action are consistent among different public authorities.

II.1 Policy level *<please select one of the following options>*

- **Local**
- FUA (Province)
- Regional
- National
- European
- Other <please specify> _____

II.2 Name of the responsible body: *<please fill in text - max 100 characters>*

Municipality of Bologna

II.3 If the partner is not the responsible body, please describe how you are able to influence the decisions of the responsible body. *<please fill in text - max 500 character>*

II.4 Department of the responsible body *<please select one of the following options>*

- **Mobility and Transport**
- Spatial Planning
- Environment and Energy
- Territorial development
- Other <please specify> _____

II. 5 Type of document related to the policy *<please select one of the following options>*

- Act
- Law
- Regulation

- **Planning document**
- Other <please specify>_____

II.6 Is this an operational/cooperation program financed by Structural Funds? *<please select one of the following options>*

- **Yes**
- No

II.7 Policy budget and source of funding: *<please fill in text - max 500 characters>*

II.8 Specify policy life-cycle status *<please select one of the following options>*

- Definition
- Implementation
- Monitoring and Evaluation
- **upgrade**

II.9 Specific policy field of application *<please select one or more of the following options>*

- **Road safety**
- **Green mobility service (e.g. car and van sharing)**
- Integrated planning of mobility and transport (included loading and unloading areas planning)
- Transports demand management (included LTZ management and charges)
- Integrated parking management & integrate payment system
- Urban logistics services- platform for urban distribution management
- ICT system and infrastructure
- **Energy efficiency, environmental impact analysis (e.g SEAP) and reduction (e.g. alternative fuels and E-mobility)**
- Transport infrastructures
- Other <please specify> _____

II.10 Primary policy objective *<please select one or more of the following options>*

- Provide incentives
- **Regulation/enforcement component**
- Other <please specify> _____

II.11 Supporting mechanism *<please select one or more of the following options>*

- **Awareness/Information campaigns**
- Partnerships/Key supporting stakeholders
- Other <please specify> _____

II.12 Synergies with other projects (e.g. local, regional, EU) or Private Public Initiative: *<please fill in text- max 1000 characters>*

II.13 Brief description of the policy: *<please fill in text - max 2000 characters>*

The Master Plan of the Urban Traffic (PGTU) is a short-term planning instrument. In line with Ministerial directives, it aims at "improving traffic conditions and road safety, reducing noise and air pollution and achieving energy savings, in compliance with current urban planning instruments, with transport plans and having respect for environmental values".

The PGTU has a temporal horizon of 2-4 years. We therefore turn to other, longer-term plans (such as the Municipal Structural Plan) for an assessment of the benefits deriving from large-scale infrastructural works for collective transport (Metro-Tramway, new Railway Station, Trolley-bus TPGV, People Mover). Their effects on urban mobility will concern a longer temporal horizon. However, the PGTU will take into account the critical situations which the worksites for these large-scale undertakings will inevitably create.

II.14 Main goal of the policy: *<please fill in text - max 1000 characters>*

There are several main goals: to reduce air and noise pollution, to save energy in the transport sector, to improve road safety, to achieve widely-available but sustainable access, to increase public transport and reduce private vehicles, to encourage a more eco-compatible stock of vehicles.

II.15 Specific objectives (SO) *<please fill in the following chart - max 700 characters>*

SO	SO NAME AND SHORT DESCRIPTION
SO1	Reduction of air pollution
SO2	Reduction of noise pollution
SO3	Save energy in the transport sector

II.16 SO Result indicators: please list, if the policy identify relevant qualitative or quantitative indicator of tangible improvement for final beneficiaries of the policy *<please fill in the following chart - if relevant >*

SO	SO RESULT INDICATOR *<max 300 characters>*	INDICATOR CURRENT VALUE	TARGET VALUE
SO1	Concentration of several type of gasses (CO, NOx, PM10); total yearly emission of GHG	µg/m3 ; kg	
SO2	Noise level	dB(A)	
SO3	Energy consumed (non renewable energy sources)	Mjoule	

II.17 Activities: please specify Actions defined by the policy and through which it aims to achieve its goals *<please fill in the following chart - max 1000 characters each activity >*

ACTIVITY	ACTIVITY NAME AND SHORT DESCRIPTION
A01	Employment of new technologies (traffic supervisor) for the provision of information on mobility
A02	Creation of new "environmental islands" and "30 km/h zones" throughout the city territory
A03	Extension of remote surveillance by Sirio, Rita and Stars, to ensure observance of road regulations
A04	Completion and extension of the Limited Traffic Zone (LTZ), avoiding cross-traffic

A05	Encouraging substitution of public and private vehicle stocks with eco-sustainable technology

II.1 Policy level *<please select one of the following options>*

- **Local**
- FUA (Province)
- Regional
- National
- European
- Other <please specify> _____

II.2 Name of the responsible body: *<please fill in text - max 100 characters>*

Municipality of Bologna

II.3 If the partner is not the responsible body, please describe how you are able to influence the decisions of the responsible body. *<please fill in text - max 500 character>*

II.4 Department of the responsible body *<please select one of the following options>*

- **Mobility and Transport**
- Spatial Planning
- Environment and Energy
- Territorial development
- Other <please specify> _____

II. 5 Type of document related to the policy *<please select one of the following options>*

- Act
- Law
- Regulation
- **Planning document**
- Other <please specify>_____

II.6 Is this an operational/cooperation program financed by Structural Funds? *<please select one of the following options>*

- **Yes**
- No

II.7 Policy budget and source of funding: *<please fill in text - max 500 characters>*

II.8 Specify policy life-cycle status *<please select one of the following options>*

- Definition
- Implementation
- Monitoring and Evaluation
- **upgrade**

II.9 Specific policy field of application *<please select one or more of the following options>*

- Road safety
- **Green mobility service (e.g. car and van sharing)**
- **Integrated planning of mobility and transport (included loading and unloading areas planning)**
- Transports demand management (included LTZ management and charges)
- Integrated parking management & integrate payment system
- Urban logistics services- platform for urban distribution management
- ICT system and infrastructure
- **Energy efficiency, environmental impact analysis (e.g SEAP) and reduction (e.g. alternative fuels and E-mobility)**
- **Transport infrastructures**
- Other <please specify> _____

II.10 Primary policy objective *<please select one or more of the following options>*

- Provide incentives

- **Regulation/enforcement component**
- Other <please specify> _____

II.11 Supporting mechanism *<please select one or more of the following options>*

- **Awareness/Information campaigns**
- **Partnerships/Key supporting stakeholders**
- Other <please specify> _____

II.12 Synergies with other projects (e.g. local, regional, EU) or Private Public Initiative: *<please fill in text- max 1000 characters>*

II.13 Brief description of the policy: *<please fill in text - max 2000 characters>*

The Plan for the distribution and collection of goods in urban areas, called also "MERCI BO2", is a tool useful to stimulate a new reorganization process of logistics and urban distribution of goods, in order to reduce the kilometers traveled for the same service using eco-friendly vehicles. With this strategy can be reduce the number of commercial vehicles and so congestion and traffic impacts.

Finally, an important objective of this plan is the correct use of public spaces and therefore, the optimization of the commercial service through the experimentation of the booking of the loading/unloading bays.

II.14 Main goal of the policy: *<please fill in text - max 1000 characters>*

Improvement of parking availability and creation of new rules of access to restricted traffic zone

II.15 Specific objectives (SO) *<please fill in the following chart - max 700 characters>*

SO	SO NAME AND SHORT DESCRIPTION
SO1	Specialization of the loading/unloading bays
SO2	Increase the number of eco-friendly vehicles
SO3	Aggregation process of operators aimed at optimizing travel and loads in restricted traffic zone and a more correct use of the road

II.16 SO Result indicators: please list, if the policy identify relevant qualitative or quantitative indicator of tangible improvement for final beneficiaries of the policy *<please fill in the following chart - if relevant >*

SO	SO RESULT INDICATOR *<max 300 characters>*	INDICATOR CURRENT VALUE	TARGET VALUE
SO1	Number of loading/unloading bays for each type	Number of specific type of loading/unloading bays on the total	
SO2	Number of electric vehicle and other eco-friendly vehicles	Percentage (%)	
SO3	Number of veh-km; Average load factor of a vehicle during deliveries and pick ups; hours that vehicles are in service, e.g. deliveries, pick ups, transporting, weighting, loading/unloading over 24 hours	Veh-km ; Percentage (%) ; Percentage (%)	

II.17 Activities: please specify Actions defined by the policy and through which it aims to achieve its goals *<please fill in the following chart - max 1000 characters each activity >*

ACTIVITY	ACTIVITY NAME AND SHORT DESCRIPTION
A01	Use of the loading/unloading bays differentiated by type of permit and time limit
A02	New rules aiming to enhance the development of eco-friendly vehicles (especially in the two restricted traffic area)
A03	Possibility to use the lane of the public transport also for the commercial vehicles

II.1 Policy level *<please select one of the following options>*

- Local
- FUA (Province)
- **Regional**
- National
- European
- Other <please specify> _____

II.2 Name of the responsible body: *<please fill in text - max 100 characters>*

Emilia Romagna Region

II.3 If the partner is not the responsible body, please describe how you are able to influence the decisions of the responsible body. *<please fill in text - max 500 character>*

II.4 Department of the responsible body *<please select one of the following options>*

- **Mobility and Transport**
- Spatial Planning
- Environment and Energy
- Territorial development
- Other <please specify> _____

II. 5 Type of document related to the policy *<please select one of the following options>*

- Act
- Law
- Regulation
- **Planning document**
- Other <please specify>_____

II.6 Is this an operational/cooperation program financed by Structural Funds? *<please select one of the following options>*

- **Yes**
- No

II.7 Policy budget and source of funding: *<please fill in text - max 500 characters>*

II.8 Specify policy life-cycle status *<please select one of the following options>*

- Definition
- Implementation
- Monitoring and Evaluation
- **upgrade**

II.9 Specific policy field of application *<please select one or more of the following options>*

- Road safety
- Green mobility service (e.g. car and van sharing)
- Integrated planning of mobility and transport (included loading and unloading areas planning)
- Transports demand management (included LTZ management and charges)
- Integrated parking management & integrate payment system
- Urban logistics services- platform for urban distribution management
- **ICT system and infrastructure**
- Energy efficiency, environmental impact analysis (e.g SEAP) and reduction (e.g. alternative fuels and E-mobility)
- Transport infrastructures
- Other <please specify> _____

II.10 Primary policy objective *<please select one or more of the following options>*

- Provide incentives
- **Regulation/enforcement component**
- Other <please specify> _____

II.11 Supporting mechanism *<please select one or more of the following options>*

- **Awareness/Information campaigns**
- Partnerships/Key supporting stakeholders
- Other <please specify> _____

II.12 Synergies with other projects (e.g. local, regional, EU) or Private Public Initiative: *<please fill in text- max 1000 characters>*

II.13 Brief description of the policy: *<please fill in text - max 2000 characters>*

This project provide a Regional map that defines preferential routes for heavy vehicle flow, with indication of road signs, tunnels, bridge, maximum size and weight

II.14 Main goal of the policy: *<please fill in text - max 1000 characters>*

To improve the choice of the routes of the heavy vehicles

II.15 Specific objectives (SO) *<please fill in the following chart - max 700 characters>*

SO	SO NAME AND SHORT DESCRIPTION
SO1	To reduce the mileage of the heavy vehicle flows
SO2	To provide information about road signs, tunnels, bridge, maximum size and weight end their constrains

II.16 SO Result indicators: please list, if the policy identify relevant qualitative or quantitative indicator of tangible improvement for final beneficiaries of the policy *<please fill in the following chart - if relevant >*

SO	SO RESULT INDICATOR *<max 300 characters>*	INDICATOR CURRENT VALUE	TARGET VALUE
SO1	Number of vehicle-kilometer	Veh-km	
SO2	Number of private implementation	Number of private implementation	

II.17 Activities: please specify Actions defined by the policy and through which it aims to achieve its goals *<please fill in the following chart - max 1000 characters each activity >*

ACTIVITY	ACTIVITY NAME AND SHORT DESCRIPTION
A01	Collection and standardization of the various roads lists from different archivies
A02	Creation of the network from many pieces of roads
A03	Updating and digital mapping

II.1 Policy level *<please select one of the following options>*

- Local
- FUA (Province)
- **Regional**
- National
- European
- Other <please specify> _____

II.2 Name of the responsible body: *<please fill in text - max 100 characters>*

Emilia Romagna Region

II.3 If the partner is not the responsible body, please describe how you are able to influence the decisions of the responsible body. *<please fill in text - max 500 character>*

II.4 Department of the responsible body *<please select one of the following options>*

- **Mobility and Transport**
- Spatial Planning
- Environment and Energy
- Territorial development
- Other <please specify> _____

II. 5 Type of document related to the policy *<please select one of the following options>*

- Act
- Law
- Regulation
- **Planning document**
- Other <please specify>_____

II.6 Is this an operational/cooperation program financed by Structural Funds? *<please select one of the following options>*

- **Yes**
- No

II.7 Policy budget and source of funding: *<please fill in text - max 500 characters>*

The RER Programme for the transport sector amounted €68 million in 2004-2006 including €11 million for urban logistics. Urban distribution analyses and system projects: €600,000 European funds and €1,200,000 regional funds

II.8 Specify policy life-cycle status *<please select one of the following options>*

- Definition
- Implementation
- Monitoring and Evaluation
- **upgrade**

II.9 Specific policy field of application *<please select one or more of the following options>*

- Road safety
- Green mobility service (e.g. car and van sharing)
- Integrated planning of mobility and transport (included loading and unloading areas planning)
- Transports demand management (included LTZ management and charges)

- Integrated parking management & integrate payment system
- **Urban logistics services- platform for urban distribution management**
- **ICT system and infrastructure**
- Energy efficiency, environmental impact analysis (e.g SEAP) and reduction (e.g. alternative fuels and E-mobility)
- Transport infrastructures
- Other <please specify> _____

II.10 Primary policy objective *<please select one or more of the following options>*

- Provide incentives
- **Regulation/enforcement component**
- Other <please specify> _____

II.11 Supporting mechanism *<please select one or more of the following options>*

- Awareness/Information campaigns
- **Partnerships/Key supporting stakeholders**
- Other <please specify> _____

II.12 Synergies with other projects (e.g. local, regional, EU) or Private Public Initiative: *<please fill in text- max 1000 characters>*

II.13 Brief description of the policy: *<please fill in text - max 2000 characters>*

The Region Emilia Romagna undertook a strategy of coordination in urban logistics. This Strategy is part of the Sustainable mobility programme.

The purpose was to improve the knowledge of the various experiments made in all cities with more than 50,000 inhabitants and to coordinate their actions in order to improve transport systems and to foster economic development.

II.14 Main goal of the policy: *<please fill in text - max 1000 characters>*

II.15 Specific objectives (SO) *<please fill in the following chart - max 700 characters>*

SO	SO NAME AND SHORT DESCRIPTION
SO1	To create a strategy to coordinate actions for an enhanced knowledge of urban goods practices between cities
SO2	To promote common programs
SO3	To support local initiatives by regional funds
SO4	To make sure that the innovative practices implemented by some cities remain efficient in the long term

II.16 SO Result indicators: please list, if the policy identify relevant qualitative or quantitative indicator of tangible improvement for final beneficiaries of the policy *<please fill in the following chart - if relevant >*

SO	SO RESULT INDICATOR *<max 300 characters>*	INDICATOR CURRENT VALUE	TARGET VALUE
SO1	The proportion of trade and transport companies in the group and all companies	Percentage (%)	
SO2	Correct specification of the benefits or of the first outcomes and successes of the major stakeholders, obtained for a given city logistics solution.	Likert scale {1 (lowest value) - 5 (highest value)}	
SO3	Percentage of involved stakeholders willing to use, adopt or implement the city case concept beyond project duration.	Likert scale {1 (lowest value) - 5 (highest value)}	
SO4	Percentage of city case policies and measures planned to be replicated by other cities within or beyond project duration.	Percentage (%)	

II.17 Activities: please specify Actions defined by the policy and through which it aims to achieve its goals *<please fill in the following chart - max 1000 characters each activity >*

ACTIVITY	ACTIVITY NAME AND SHORT DESCRIPTION
A01	Methodology for the survey for coordinated regional logistics policies
A02	Identification of measures taken in cities to improve logistics activity and environmental effects
A03	Analysis of urban logistics measures and their financing in all Emilia Romagna Region cities
A04	List of applicable measures according to the domains on intervention (consolidation of flows, organization logistics, innovation, training, services, management)
A05	Evaluation of the projects

II.1 Policy level *<please select one of the following options>*

- **Local**
- FUA (Province)
- Regional
- National
- European
- Other <please specify> _____

II.2 Name of the responsible body: *<please fill in text - max 100 characters>*

Centro Agro Alimentare Bologna (CAAB)

II.3 If the partner is not the responsible body, please describe how you are able to influence the decisions of the responsible body. *<please fill in text - max 500 character>*

?

II.4 Department of the responsible body *<please select one of the following options>*

- **Mobility and Transport**

- Spatial Planning
- Environment and Energy
- Territorial development
- Other <please specify> _____

II. 5 Type of document related to the policy *<please select one of the following options>*

- Act
- Law
- Regulation
- Planning document
- Other <please specify>_____

II.6 Is this an operational/cooperation program financed by Structural Funds? *<please select one of the following options>*

- Yes
- **No**

II.7 Policy budget and source of funding: *<please fill in text - max 500 characters>*

II.8 Specify policy life-cycle status *<please select one of the following options>*

- Definition
- Implementation
- Monitoring and Evaluation
- **upgrade**

II.9 Specific policy field of application *<please select one or more of the following options>*

- Road safety
- Green mobility service (e.g. car and van sharing)
- Integrated planning of mobility and transport (included loading and unloading areas planning)

- Transports demand management (included LTZ management and charges)
- Integrated parking management & integrate payment system
- Urban logistics services- platform for urban distribution management
- ICT system and infrastructure
- **Energy efficiency, environmental impact analysis (e.g SEAP) and reduction (e.g. alternative fuels and E-mobility)**
- Transport infrastructures
- Other <please specify> _____

II.10 Primary policy objective *<please select one or more of the following options>*

- Provide incentives
- Regulation/enforcement component
- **Other <please specify> eco-friendly service**

II.11 Supporting mechanism *<please select one or more of the following options>*

- Awareness/Information campaigns
- Partnerships/Key supporting stakeholders
- Other <please specify> _____

II.12 Synergies with other projects (e.g. local, regional, EU) or Private Public Initiative: *<please fill in text- max 1000 characters>*

II.13 Brief description of the policy: *<please fill in text - max 2000 characters>*

The agribusiness of Bologna, uses electric vehicle for the delivery activity, especially when the shops are situated within restricted traffic area. The energy used to recharge the vehicles, is provided by solar panels.

II.14 Main goal of the policy: *<please fill in text - max 1000 characters>*

Reduction of the air pollution and GHG emission

II.15 Specific objectives (SO) *<please fill in the following chart - max 700 characters>*

SO	SO NAME AND SHORT DESCRIPTION
SO1	Reduction of CO concentration
SO2	Reduction of SOx concentration
SO3	Reduction of NOx concentration
SO4	Reduction of VOC concentration
SO5	Reduction of NH3 concentration
SO6	Reduction of PM10 concentration
SO7	Reduction of CO2 emission

II.16 SO Result indicators: please list, if the policy identify relevant qualitative or quantitative indicator of tangible improvement for final beneficiaries of the policy *<please fill in the following chart - if relevant >*

SO	SO RESULT INDICATOR *<max 300 characters>*	INDICATOR CURRENT VALUE	TARGET VALUE
SO1	CO concentration	mg/m3	
SO2	SOx concentration	mg/m3	
SO3	NOx concentration	mg/m3	
SO4	VOC concentration	mg/m3	
SO5	NH3 concentration	mg/m3	
SO6	PM10 concentration	mg/m3	
SO7	CO2 emission	kg	

II.17 Activities: please specify Actions defined by the policy and through which it aims to achieve its goals *<please fill in the following chart - max 1000 characters each activity >*

ACTIVITY	ACTIVITY NAME AND SHORT DESCRIPTION
A01	Last mile delivery performed by electric vehicle, using energy provided by solar energy

16. Annex 2: Transnational report on understanding freight behaviours and impacts in SULPiTER FUAs

16.1.1. Introduction

This annex arise from the FUA reports of each involved city and will provide the inputs for the deliverable T1.2.11 “understanding Freight behaviour and impact on FUA”. It is essential to arrive to a harmonized description of each FUA and to provide a suitable comparison among them.

Each FUA is required to fill in the following form starting from the surveys and tool implementation. Please note that this template includes the minimum requirements for the SULPiTER project.

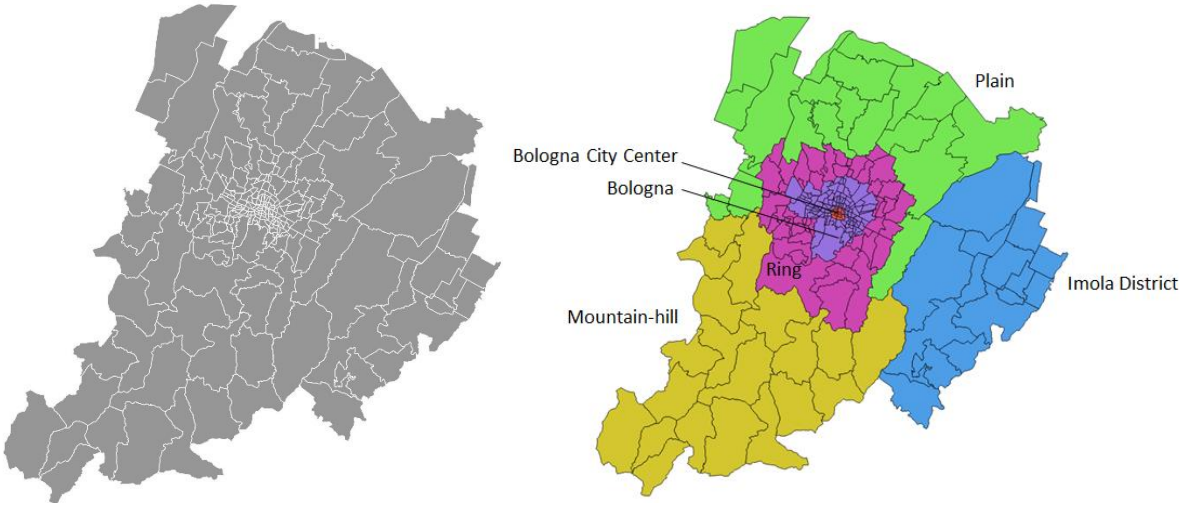
Please, do not answer as a questionnaire (i.e.: yes, no…) but use the template for elaborating the results of your interviews. As an example, we expect a deep and exhaustive qualitative report. Each component of the survey should be analysed and reported here with comments and interpretation of the results. Once you completed the report, please format the document removing the tables for a better readability.

16.1.2. The territorial contest

The information included in this chapter, are general. Please include also some specific information even if not requested by the template, in order to better focus the area of study.

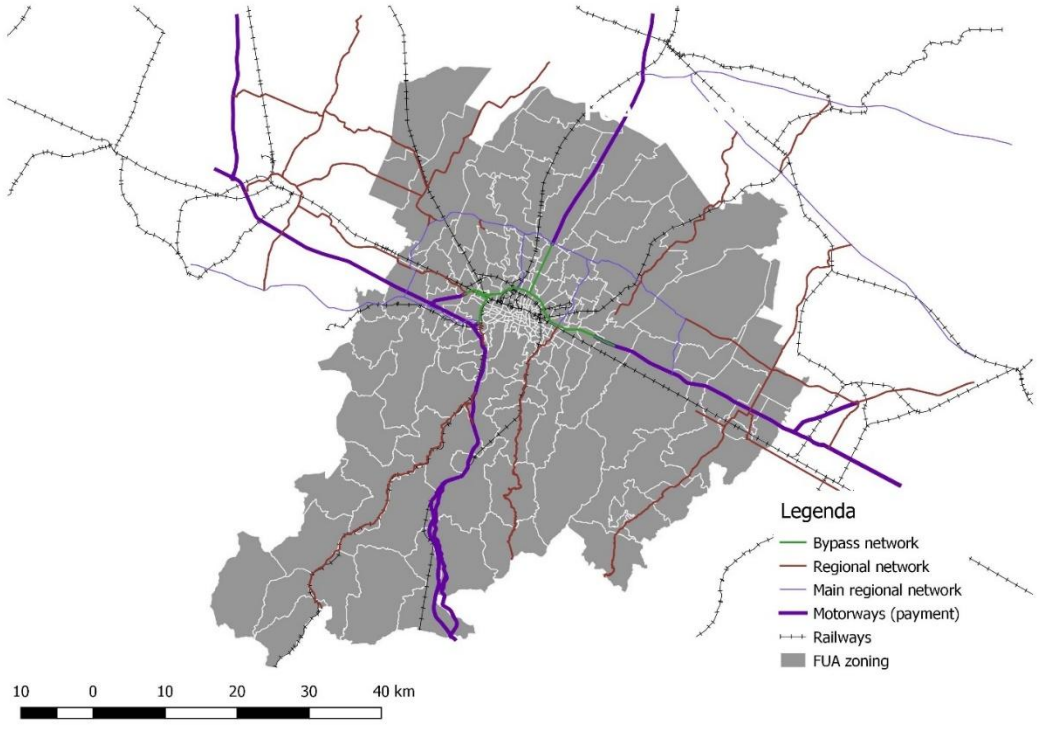
FUA name: *The FUA is the Metropolitan City of Bologna, the capital and largest city of the Emilia-Romagna Region. Bologna is also the seventh most populous city in Italy.*
Km^2 involved in the study-area: *The overall area of the Metropolitan City of Bologna is around 3,702 Km2. It is in the centre of the Region and is bounded on the east by the Province of Ravenna, the Province of Ferrara lies to the north while the Province of Modena lies to the west. To the south there are three provinces of Tuscany Region.*
No. of inhabitants: *The population of the Metropolitan City of Bologna, until 30 June 2017, is 1,009,828 inhabitants. Thirty-nine percent of the inhabitants (389,009) lives in Bologna.*
N. of municipalities involved: *In the Metropolitan City of Bologna there are fifty-five municipalities. The ten municipalities most populous are Bologna, Imola (69,983), Casalecchio di Reno (36,515), San Lazzaro di Savena (32,353), Valsamoggia (30,782), San Giovanni in Persiceto (28,122), Castel San Pietro Terme (20,888), Zola Predosa (18,962), Budrio (18,489) and Castel Maggiore (18,295).* *The first ten municipalities in terms of surface (Km2) are: Imola (205,02), Valsamoggia (178,13), Medicina (159,11), Castel San Pietro Terme (148,42), Bologna (140,86), Molinella (127,84), Budrio (120,19), San Giovanni in Persiceto (114,41), Pianoro (107,13), Monterenzio (105,26).*
N. of working units (employers): *In the Metropolitan City of Bologna there are 105,585 companies for 351,710 employers. In the city of Bologna there are the thirty-eight percent of companies (40,369) and the forty percent of employers (140,000).*
N. of zones used in the tool and in the o/d matrix:

The area of study is composed of 261 zones (in grey). These have been aggregated in six macro-zones: Bologna City Center, Bologna, Ring (Conurbation of Bologna), Plain, Mountain-Hill and Imola district.



Zoning criteria
(nuts level, all of same nuts dimension or not, all similar dimension or different in dimension, ...)
The criterion adopted to divide the area od study in zones have been the administrative borders (especially for small municipalities) and geographic borders (e.g. A1 highway). The city of Bologna and other municipalities (Anzola dell'Emilia, Calderara di Reno, Casalecchio di Reno, Castel Maggiore, Castenaso, Granarolo dell'Emilia, Imola, Pianoro, San Lazzaro di Savena, Sasso Marconi, Zola Predosa) has been divided in more zones in order to represent the characteristics of attraction of the goods, in this case the references were the borders of census areas.

Map of the study area (if available please attach also the shape file with area and road graph layer)



The map of the FUA represented above shows the main road networks and the rail network in the FUA of CMBO. The national motorways crosses the FUA and surronds Bologna through a bypass. Most of the main

urban agglomerates are easily accessible from the main roads. As for railways facilities, the area is served by the Interporto of Bologna freight village who guarantees railways accessibilty to national network and links to the European corridors.

16.1.3. Current freight mobility impact

This chapter is the core of your report. Please include data and interpretation of the results. This activity should be elaborated in the best possible way in order to understand how freight behaviours are impacting in your FUA.

Analysis of survey on distribution flows. It may include the following aspects:

- *Total number of interviews (per supply chain)*
- *Number of suppliers (average per category …)*
- *Share of DDP, EX-WORK and OFF TRUCK delivery modes*
- *Frequency of deliveries and type of load units*
- *Number of load units per delivery (minimum, maximum, average)*
- *Usual hours of delivery (distribution)*
- ***Share of OWN ACCOUNT COLLECTION***
- ***Share of DELIVERIES TO END CUSTOMERS***
- *Problems and suggestions (short analysis and description)*

Please do not include just the figures, but also detail and comment the results.

The number of interviews per supply chain depended on the number of commercial activities in each of the concerned supply chain. In the study area (FUA), five important supply chains have been identified:

- Wholesale and retail trade and repair of motor vehicles and motorcycles.
- Wholesale trade, except of motor vehicles and motorcycles.
- Retail trade, except of motor vehicles and motorcycles.
- Accommodation.
- Food and beverage service activities.

The number of interviews per supply chain is reported in Table 4 while in Figure 12 the percentage value is reported.

Supply chain	*Interviews*
Wholesale and retail trade and repair of motor vehicles and motorcycles	*122*
Wholesale trade, except of motor vehicles and motorcycles	*249*
Retail trade, except of motor vehicles and motorcycles	*474*
Accomodation	*21*
Food and beverage service activities	*334*

Table 4 Number of interviews per supply chain

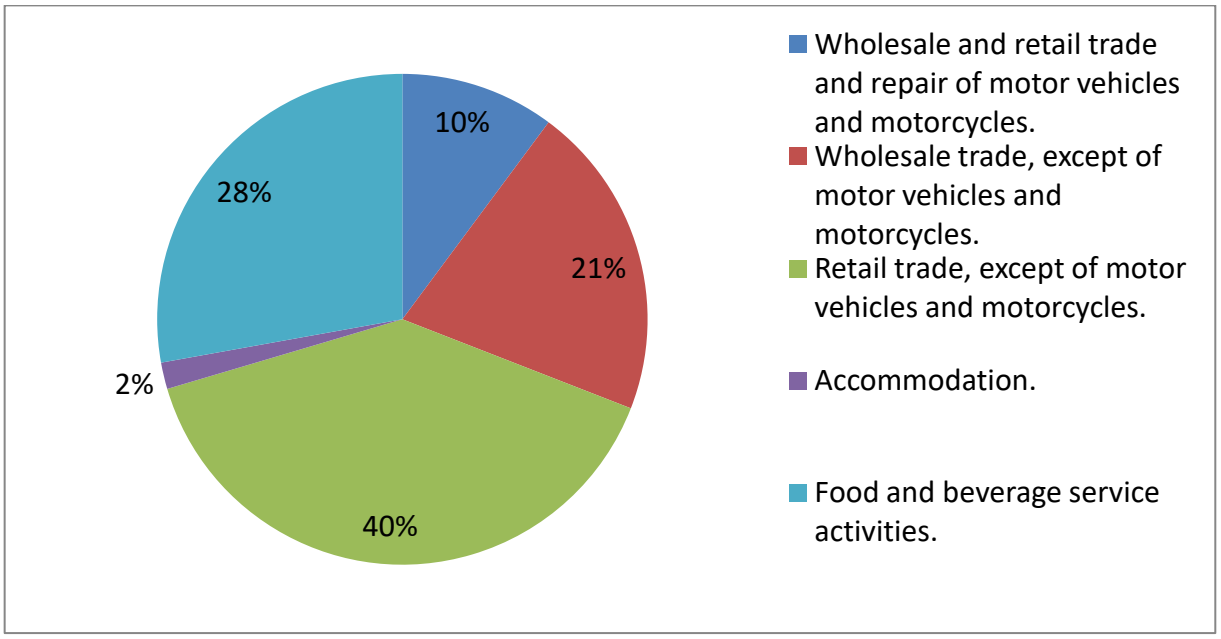


Figure 12 Percentage value per supply chain

Table 5 reports the percentage of the number of typology of suppliers for each supply chain.

	Typology of suppliers (%)				
Supply chain	*1*	*2*	*3*	*4*	*5*
Wholesale and retail trade and repair of motor vehicles and motorcycles	*74*	*25*	*1*	*0*	*0*
Wholesale trade, except of motor vehicles and motorcycles	*87*	*12*	*1*	*0*	*0*
Retail trade, except of motor vehicles and motorcycles	*63*	*25*	*9*	*1*	*1*
Accomodation	*67*	*33*	*0*	*0*	*0*
Food and beverage service activities	*73*	*23*	*3*	*1*	*0*

Table 5 Number of typology of suppliers per Supply Chain

In Figure 13 is reported the percentage, for each supply chain, of the three types of delivery: delivery duty paid, Ex-works and Off truck.

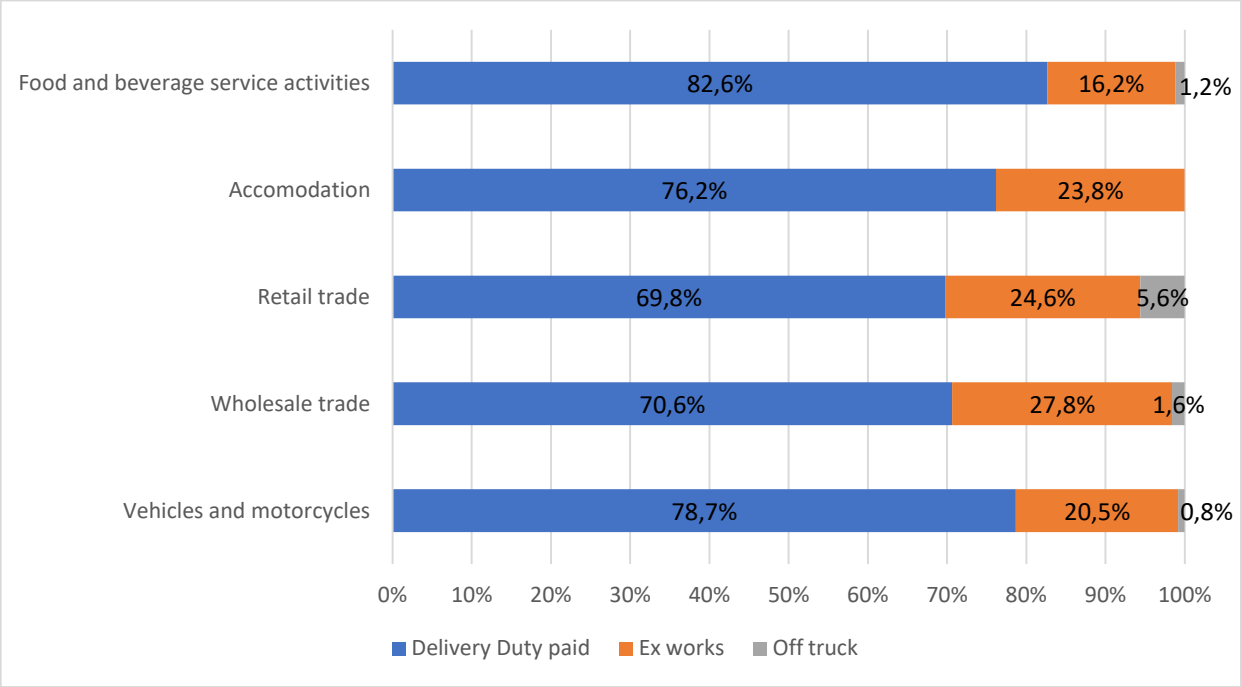


Figure 13 Share of Delivery Duty Paid, Ex-Works and Off Truck delivery modes

The frequency of supply (Figure 4) is prevalently one or more times a week for accommodations (88%), the same applies to restaurants and food services but with a percentage of 68% which is accompanied by a 27% supply for one or more many times a day. For retail trades the two values are more balanced, 42% for weekly deliveries and 31% for daily ones; wholesales trades show the two equivalent values (39%). Finally, daily deliveries are higher (53%) than weekly (27%) for vehicles reparations. The monthly deliveries reach a maximum of 20% in the retail trades, while the annual deliveries with only 7% are not relevant.

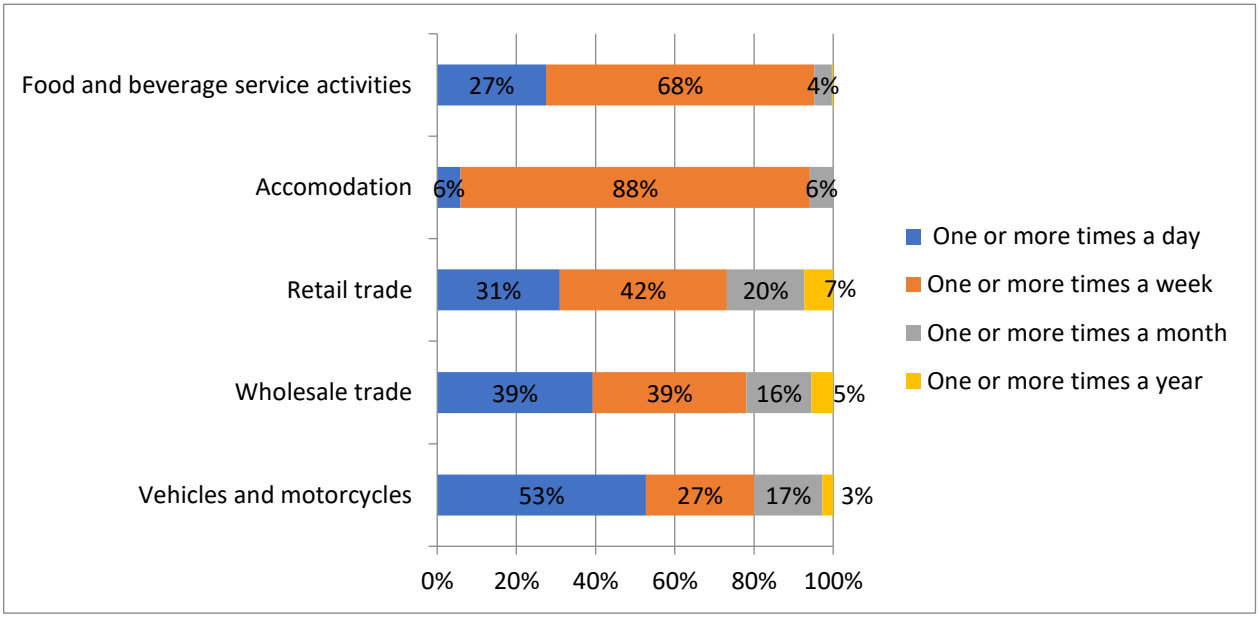


Figure 14 Frequency of deliveries

The main type of packaging used in all the macro sectors considered is the roll. In particular, for the

catering and food service sectors and the retail trade account for 70% of the packaging received from the contacted companies. For the wholesale sector, pallets make up 35% of the packaging received.

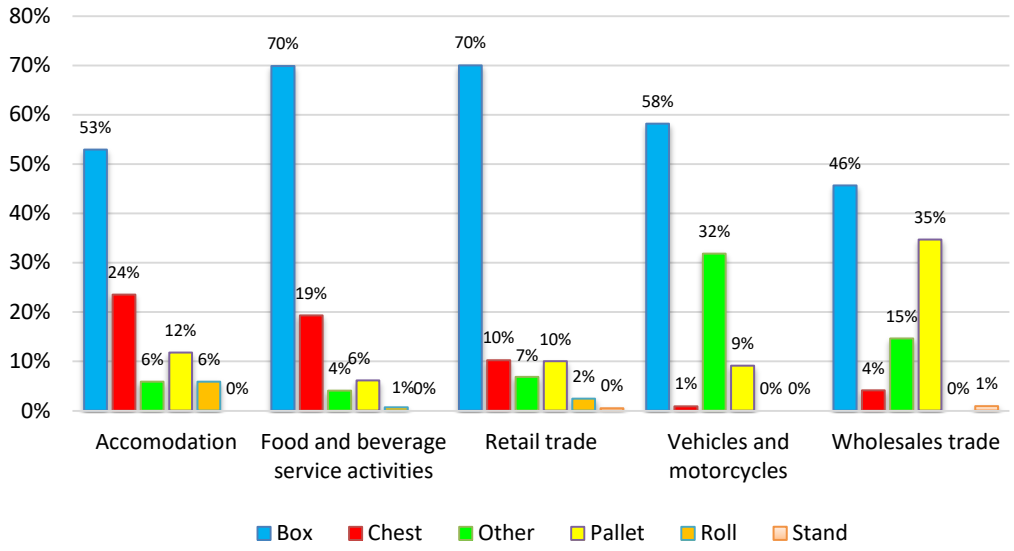


Figure 15 Types of load unit

	Maximum	*Average*	*Minumum*
Vehicles and motorcycles	*19,9*	*6,3*	*1,9*
Wholesale trade	*40,9*	*20,7*	*8,1*
Retail trade	*40,6*	*16,3*	*5,6*
Accomodation	*16,4*	*8,6*	*3,2*
Food and beverage service activities	*23,0*	*10,0*	*3,1*

Table 6 Number of load units per delivery (minimum, maximum, average)

The time slots in which most of the procurement operations take place are those of the early hours of the day.

In particular (Figure 16), for retail operations, the prevalent band is that between midnight and six in the morning, for the restaurant and catering sectors the intervals between 0-6 and 6-7 show the same levels of activity. The interval between 6 and 7 o'clock is also widely used by vehicle repairs and wholesalers (28% and 33% respectively). For hotels and accommodation, the most used time slot is between 7 and 8 in the morning.

The evening hours are not much used.

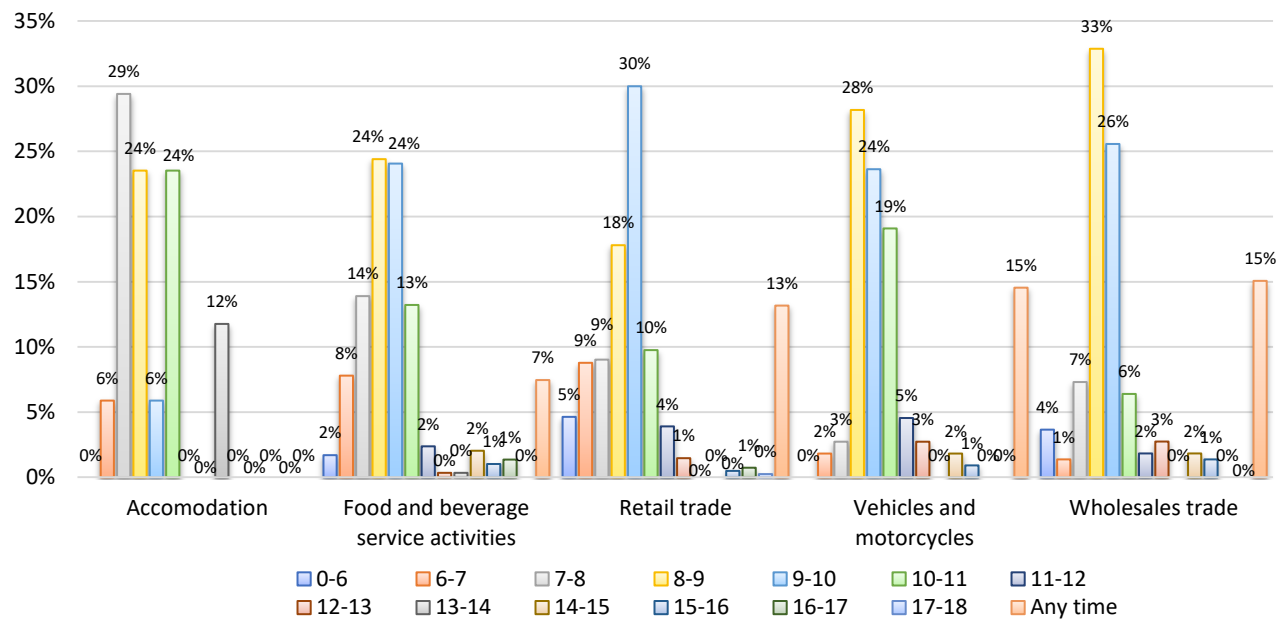


Figure 16 Hourly frequency of delivery (distribution)

At the end of the questionnaire the respondents were asked what were the main problems related the use of the loading bay (Figure 5).

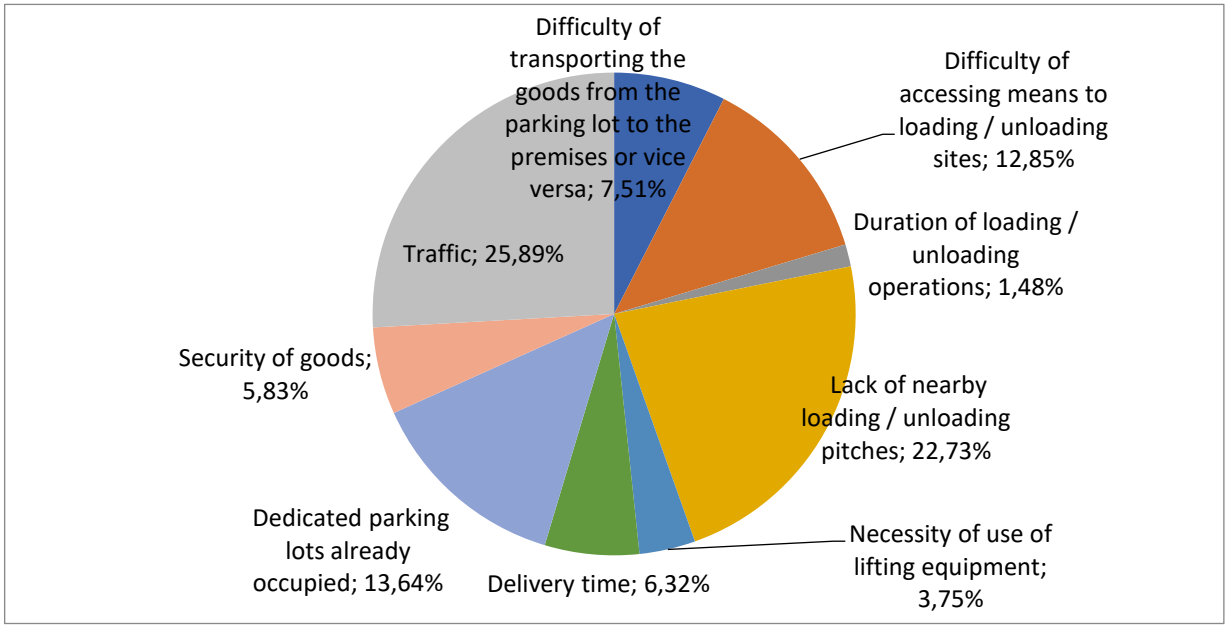


Figure 17 The percentage of the problem related the use oft he loading bay

Analysis of survey on transport operators flows. It may include the following aspects:

- *total number of interviews*
- *type of vehicles*
- *sequence of movements (number of movements, number of stops per trip)*

- *typical quantity*
- *frequency of movements*
- *parking during deliveries*
- *main issues*

Please do not include just the figures, but also detail and comment the results.

A selection of transport operators has been interviewed in order to gain the most relevant and useful information on problems and expectations. A database of 250 companies has been analysed to select around the 10% of contacts for direct interviews. Among the main results from the interviews conducted we can highlight the following:

- Express couriers use sub-carriers to operate transport services on a national scale, employing thousands of vehicles in fleets composed of vans and light trucks. Electric vehicles, methane powered vehicles and cargobikes are operated by them. 90% of ICE vehicles belongs to Euro4, Euro5 and Euro6 categories.
- Last mile deliveries in the FUA originate mainly from branches of the company, often located in the area of Bologna Interporto and always located outside the urban area of Bologna. Some of the deliveries may originate from international airports (e.g. Milan Malpensa) and for this reason are influenced by the delivery hours.
- A delivery in the urban area is around 4 hours long, involves the wholesail and retail trade, is generally only one item per delivery. At least two deliveries per day are performed over more than one day a week.
- Carriers adopt tarpaulined trucks with overall weight over 3.5 t and classified Euro5. A delivery a day is the average performance.
- Sub-carriers have a diversified fleet, made mainly of vans and providing two o more delivery services a day to shops.

As for parking practices, operators declare to park:

- In loading/unloading bays
- In private reserved areas
- In double park
- On the sidewalk

As for delivery hours, operators are used to deliver:

- From 9 to 19 and are available to deliver in other time slots
- From 11 to 17 and are not available to deliver in other time slots
- From 8 to 9 and area available to deliver in other time slots

Among the problems declared by the operators:

- Lack of loading bays
- Difficulty to access loading bays
- Delivery hours
- Security of cargo (during delivery)
- Duration of deliveries

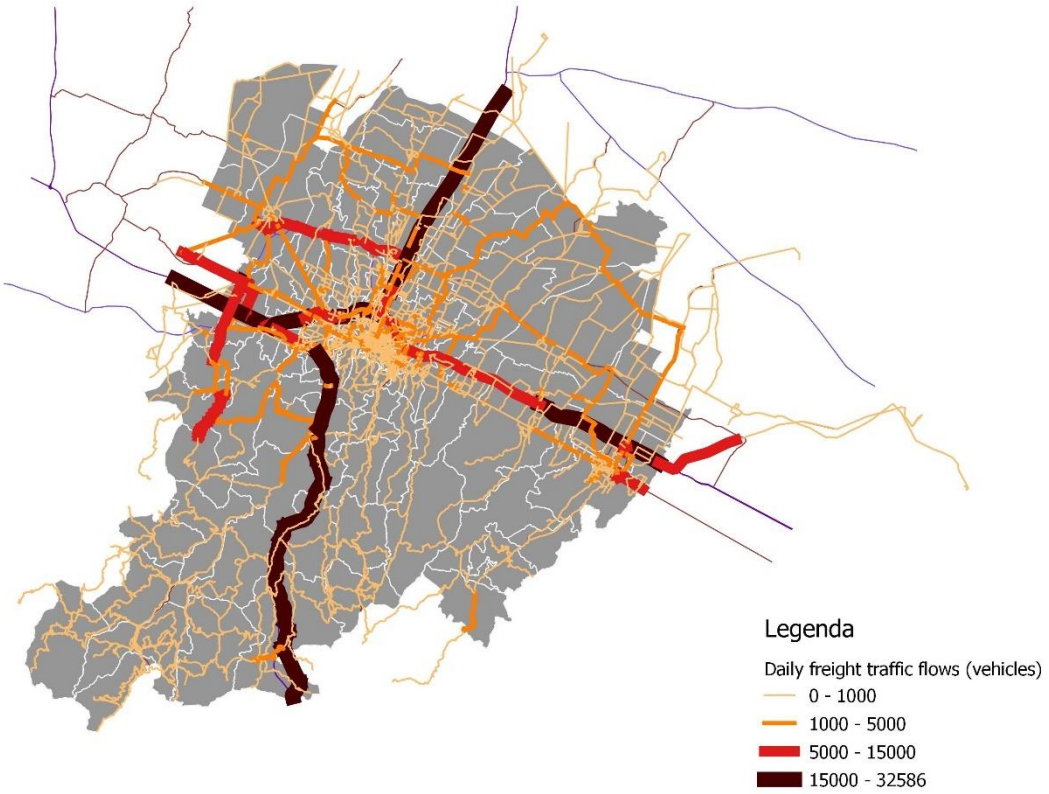
- Difficulty to move goods from parking location to the delivery point

Operators suggested to remove delivery limits, to make the access to urban areas more flexible and with special permits.

Analysis on traffic counts. It may include the following aspects:

- *AADT (average annual daily traffic)*
- *Total and for different categories of vehicles*

Please do not include just the figures, but also detail and comment the results.



The figure above represents the average daily traffic estimated on the road network of the FUA and derived by the traffic count system of the Emilia-Romagna Region, Floating Cars Data and calibration operated with own traffic counts. The largest intensity of flows belongs to the motorways, even if a spread of smaller flows is present. The flows represented include small and large trucks.

Please report below the 3 matrixes (quantity, deliveries, vehicles) from the tool, for each considered supply chain

The OD matrices derived from the tool have been attached (excel file) due to the dimension (261x261). Here we report the OD matrices related to the macro-zones in which the FUA has been divided into.

Quantity matrices (t/day)

Vehicles and motorcycles

Origin/ Destination	Bologna City Center	Bologna	Ring	Imola district	Plan	Mountain/hill	TOT
Bologna City Center	14.842	17.848	4.367	110	376	635	**38.177**
Bologna	19.527	361.473	78.924	3.060	69.036	10.651	**542.671**
Ring	2.947	69.415	11.643	7.592	140.576	53.741	**285.914**
Imola district	7	209	589	169.673	294	907	**171.678**
Plan	104	20.417	47.268	1.273	11.331	3.811	**84.203**
Mountain/hill	6	107	614	133	129	20.923	**21.912**
TOT	**37.432**	**469.469**	**143.404**	**181.842**	**221.742**	**90.666**	**1.144.556**

Wholesail trade

Origin/ Destination	Bologna City Center	Bologna	Ring	Imola district	Plan	Mountain/hill	TOT
Bologna City Center	103.894	295.116	343.073	102.609	80.143	19.419	**944.255**
Bologna	335.037	1.786.375	2.022.928	668.160	806.139	112.566	**5.731.205**
Ring	323.229	1.821.822	1.941.476	1.228.476	1.416.256	243.733	**6.974.992**
Imola district	30.025	181.176	369.880	951.752	129.500	36.051	**1.698.385**
Plan	132.408	1.217.085	2.374.253	721.045	702.210	117.333	**5.264.333**
Mountain/hill	19.112	99.985	240.391	118.095	69.030	47.831	**594.444**
TOT	**943.706**	**5.401.557**	**7.292.002**	**3.790.136**	**3.203.278**	**576.934**	**21.207.614**

Retail trade

Origin/ Destination	Bologna City Center	Bologna	Ring	Imola district	Plan	Mountain/hill	TOT
Bologna City Center	26.420	15.352	6.895	1.035	199	278	**50.179**
Bologna	719.763	3.198.830	1.320.001	273.018	213.669	50.413	**5.775.693**
Ring	293.320	1.559.765	528.940	893.727	603.852	279.909	**4.159.514**
Imola district	244	1.619	4.486	704.722	478	1.048	**712.599**
Plan	11.189	288.917	690.998	108.964	42.686	17.986	**1.160.740**
Mountain/hill	3	12	55	41	3	129	**243**
TOT	**1.050.939**	**5.064.495**	**2.551.376**	**1.981.507**	**860.887**	**349.765**	**11.858.968**

Accomodation

Origin/ Destination	Bologna City Center	Bologna	Ring	Imola district	Plan	Mountain/hill	TOT
Bologna City Center	3.911	405	182	17	7	25	**4.547**
Bologna	54.622	57.006	23.326	3.088	6.235	3.026	**147.303**
Ring	12.593	16.114	5.276	7.591	12.971	13.556	**68.101**
Imola district	1	1	5	1.221	1	5	**1.234**
Plan	5	39	117	11	10	10	**192**
Mountain/hill	0	0	0	0	0	6	**7**
TOT	**71.133**	**73.564**	**28.907**	**11.928**	**19.224**	**16.628**	**221.384**

Food and beverage

Origin/ Destination	Bologna City Center	Bologna	Ring	Imola district	Plan	Mountain/hill	TOT
Bologna City Center	312.977	177.240	64.983	1.736	2.538	3.121	**562.594**
Bologna	309.638	1.008.690	343.839	12.101	59.229	15.748	**1.749.244**
Ring	21.762	82.720	23.818	5.103	22.012	10.461	**165.875**
Imola district	529	2.429	4.258	44.960	512	926	**53.613**
Plan	2.413	35.692	55.137	1.537	4.148	1.816	**100.742**
Mountain/hill	103	319	880	93	61	1.390	**2.846**
TOT	**647.421**	**1.307.090**	**492.914**	**65.529**	**88.499**	**33.462**	**2.634.915**

Delivery matrices (deliveries/day)

Vehicles and motorcycles

Origin/ Destination	Bologna City Center	Bologna	Ring	Imola district	Plan	Mountain/hill	TOT
Bologna City Center	166	200	49	1	4	7	**427**
Bologna	218	4.041	882	34	772	119	**6.066**
Ring	33	776	130	85	1.571	601	**3.196**
Imola district	0	2	7	1.897	3	10	**1.919**
Plan	1	228	528	14	127	43	**941**
Mountain/hill	0	1	7	1	1	234	**245**
TOT	**418**	**5.248**	**1.603**	**2.033**	**2.479**	**1.013**	**12.794**

Wholesail trade

Origin/ Destination	Bologna City Center	Bologna	Ring	Imola district	Plan	Mountain/hill	TOT
Bologna City Center	242	689	801	239	187	45	**2.204**
Bologna	782	4.169	4.721	1.559	1.881	263	**13.375**
Ring	754	4.252	4.531	2.867	3.305	569	**16.278**
Imola district	70	423	863	2.221	302	84	**3.964**
Plan	309	2.840	5.541	1.683	1.639	274	**12.286**
Mountain/hill	45	233	561	276	161	112	**1.387**
TOT	**2.202**	**12.606**	**17.018**	**8.845**	**7.476**	**1.346**	**49.494**

Retail trade

Origin/ Destination	Bologna City Center	Bologna	Ring	Imola district	Plan	Mountain/hill	TOT
Bologna City Center	97	56	25	4	1	1	**184**
Bologna	2.644	11.751	4.849	1.003	785	185	**21.218**
Ring	1.078	5.730	1.943	3.283	2.218	1.028	**15.281**
Imola district	1	6	16	2.589	2	4	**2.618**
Plan	41	1.061	2.538	400	157	66	**4.264**
Mountain/hill	0	0	0	0	0	0	**1**
TOT	**3.861**	**18.605**	**9.373**	**7.279**	**3.163**	**1.285**	**43.566**

Accomodation

	Bologna City Center	Bologna	Ring	Imola district	Plan	Mountain/hill	TOT
Bologna City Center	52	5	2	0	0	0	**61**
Bologna	730	762	312	41	83	40	**1.969**
Ring	168	215	71	101	173	181	**910**
Imola district	0	0	0	16	0	0	**16**
Plan	0	1	2	0	0	0	**3**
Mountain/hill	0	0	0	0	0	0	**0**
TOT	**951**	**983**	**386**	**159**	**257**	**222**	**2.959**

Food and beverage

	Bologna City Center	Bologna	Ring	Imola district	Plan	Mountain/hill	**TOT**
Bologna City Center	3.130	1.772	650	17	25	31	**5.626**
Bologna	3.096	10.087	3.438	121	592	157	**17.492**
Ring	218	827	238	51	220	105	**1.659**
Imola district	5	24	43	450	5	9	**536**
Plan	24	357	551	15	41	18	**1.007**
Mountain/hill	1	3	9	1	1	14	**28**
TOT	**6.474**	**13.071**	**4.929**	**655**	**885**	**335**	**26.349**

Vehicles matrices (vehicles/day)

Vehicles and motorcycles

Origine/ Destinazione	Bologna City Center	Bologna	Ring	Imola district	Plan	Mountain/hill	**TOT**
Bologna City Center	57	68	17	0	1	2	**146**
Bologna	75	1.383	302	12	264	41	**2.077**
Ring	11	266	45	29	538	206	**1.094**
Imola district	0	1	2	649	1	3	**657**
Plan	0	78	181	5	43	15	**322**
Mountain/hill	0	0	2	1	0	80	**84**
TOT	**143**	**1.797**	**549**	**696**	**849**	**347**	**4.380**

Wholesail trade

Origine/ Destinazione	Bologna City Center	Bologna	Ring	Imola district	Plan	Mountain/hill	**TOT**
Bologna City Center	88	249	289	87	68	16	**796**
Bologna	282	1.506	1.706	563	680	95	**4.832**
Ring	273	1.536	1.637	1.036	1.194	205	**5.881**
Imola district	25	153	312	802	109	30	**1.432**
Plan	112	1.026	2.002	608	592	99	**4.438**
Mountain/hill	16	84	203	100	58	40	**501**
TOT	**796**	**4.554**	**6.148**	**3.196**	**2.701**	**486**	**17.881**

Retail trade

Origine/ Destinazione	Bologna City Center	Bologna	Ring	Imola district	Plan	Mountain/hill	TOT
Bologna City Center	35	20	9	1	0	0	**66**
Bologna	941	4.182	1.726	357	279	66	**7.551**
Ring	383	2.039	692	1.168	789	366	**5.438**
Imola district	0	2	6	921	1	1	**932**
Plan	15	378	903	142	56	24	**1.517**
Mountain/hill	0	0	0	0	0	0	**0**
TOT	**1.374**	**6.621**	**3.336**	**2.591**	**1.125**	**457**	**15.504**

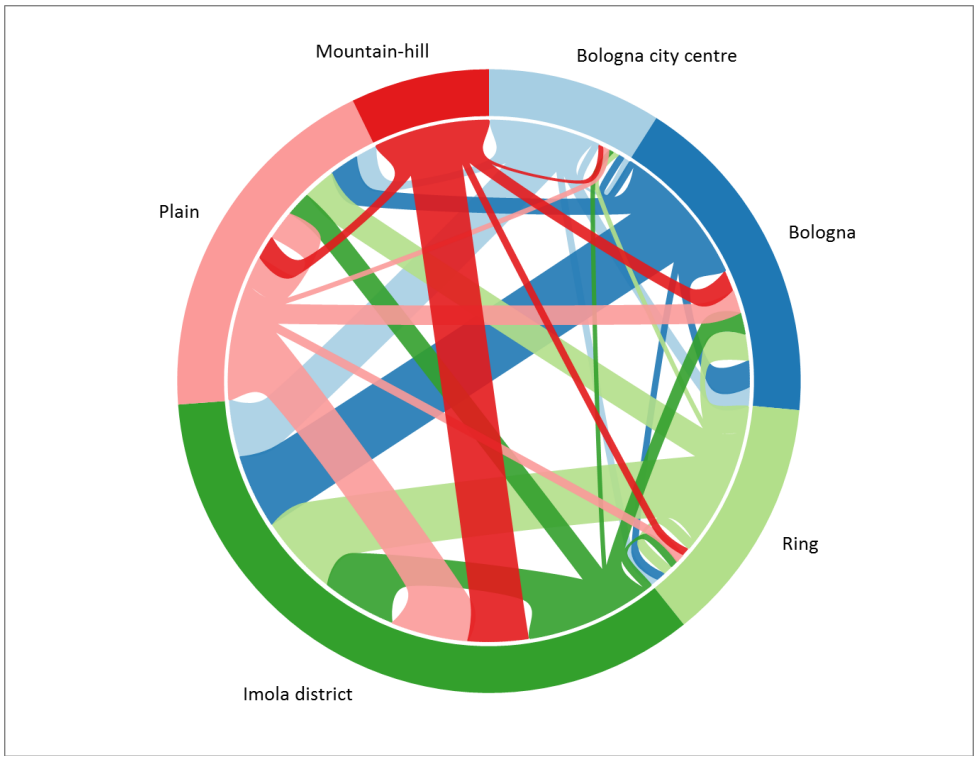
Accomodation

Origine/ Destinazione	Bologna City Center	Bologna	Ring	Imola district	Plan	Mountain/hill	TOT
Bologna City Center	18	2	1	0	0	0	**21**
Bologna	256	267	109	14	29	14	**690**
Ring	59	75	25	36	61	64	**319**
Imola district	0	0	0	6	0	0	**6**
Plan	0	0	1	0	0	0	**1**
Mountain/hill	0	0	0	0	0	0	**0**
TOT	**333**	**345**	**135**	**56**	**90**	**78**	**1.037**

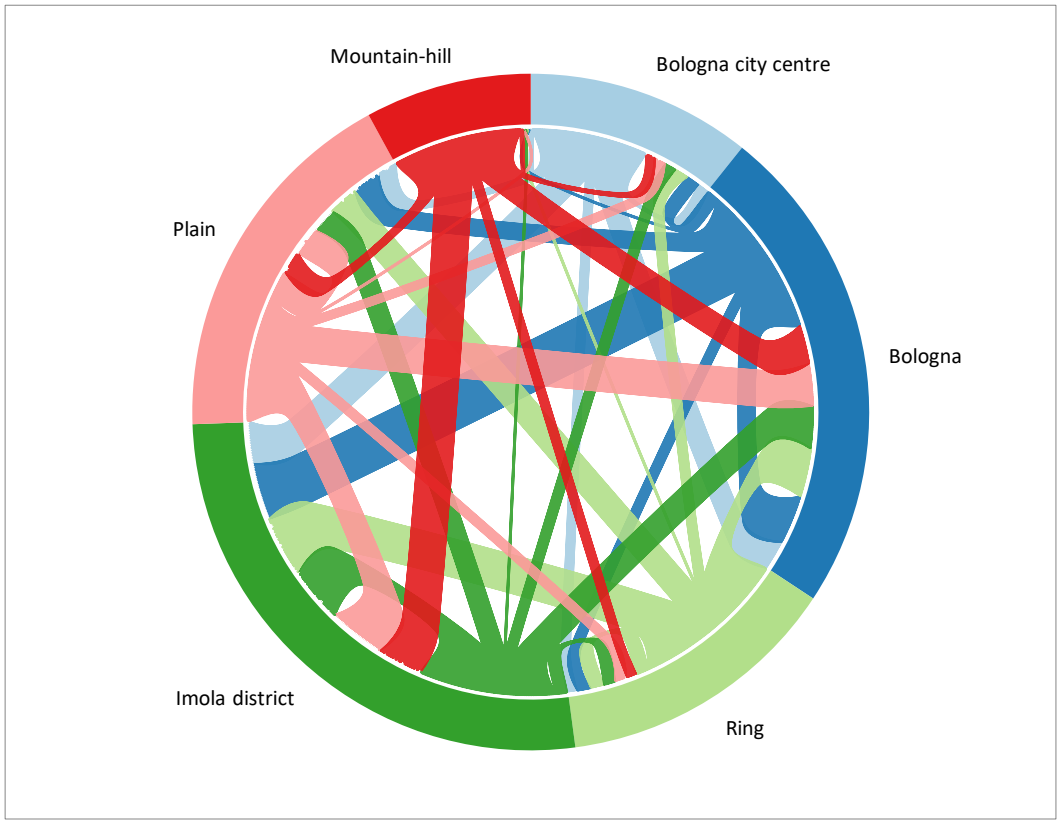
Food and beverage

Origine/ Destinazione	Bologna City Center	Bologna	Ring	Imola district	Plan	Mountain/hill	TOT
Bologna City Center	1.029	583	214	6	8	10	**1.850**
Bologna	1.018	3.317	1.131	40	195	52	**5.753**
Ring	72	272	78	17	72	34	**546**
Imola district	2	8	14	148	2	3	**176**
Plan	8	117	181	5	14	6	**331**
Mountain/hill	0	1	3	0	0	5	**9**
TOT	**2.129**	**4.299**	**1.621**	**216**	**291**	**110**	**8.666**

Matrix quantities, e.g.: are some relations predominant among the others? Do you see an homogeneous distribution or a concentration in some zones? Do you see some unexpected phenomena?

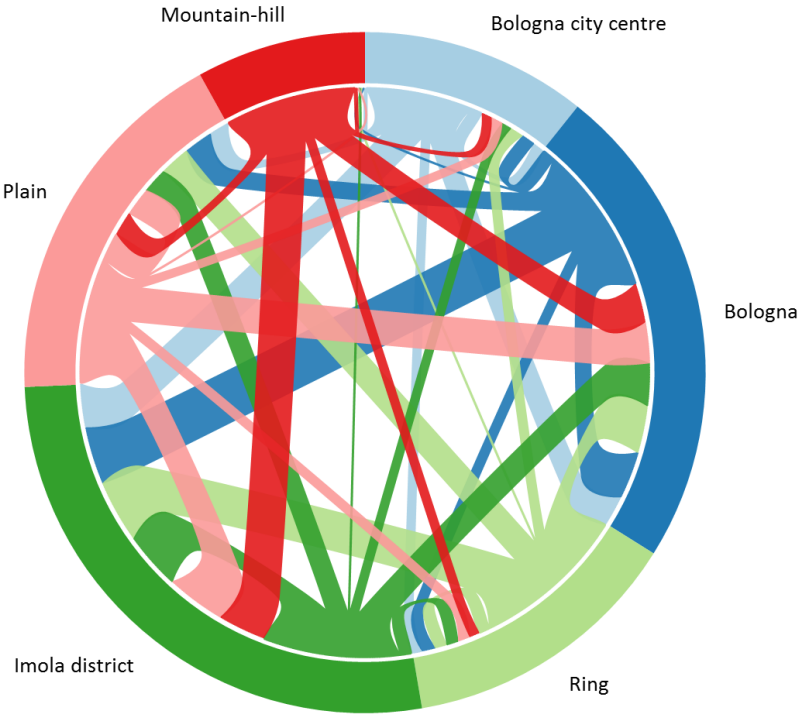


Matrix deliveries, e.g.: are some relations predominant among the others? Do you see an homogeneous distribution or a concentration in some zones? Do you see some unexpected phenomena?



Matrix vehicles, e.g.: are some relations predominant among the others? Do you see an homogeneous

distribution or a concentration in some zones? Do you see some unexpected phenomena?



Please provide a comment (qualitative description) for you tool's results, e.g.:

- *Vehicle-km travelled by each type of vehicle within the study area*
- *Traffic pollutant and greenhouse emissions*
- *Network assignment*
- *Other?*

*Vehicle*km*

Light duty vehicles

Origin/ Destination	Bologna City Center	Bologna	Ring	Imola district	Plan	Mountain/hill	**TOT**
Bologna City Center	3.735	6.016	5.344	3.110	1.783	1.033	**21.022**
Bologna	16.785	78.801	58.413	34.321	22.538	11.080	**221.938**
Ring	8.746	49.192	49.114	69.595	37.877	26.873	**241.398**
Imola district	954	5.696	10.170	28.577	5.183	2.333	**52.913**
Plan	3.209	24.910	46.627	34.994	18.030	8.114	**135.885**
Mountain/hill	591	3.552	6.388	6.117	3.341	3.735	**23.724**
TOT	**34.019**	**168.168**	**176.057**	**176.715**	**88.753**	**53.168**	**696.880**

Heavy duty vehicles

Origin/ Destination	Bologna City Center	Bologna	Ring	Imola district	Plan	Mountain/hill	**TOT**
Bologna City Center	558	899	799	465	266	154	**3.141**
Bologna	2.508	11.775	8.728	5.128	3.368	1.656	**33.163**
Ring	1.307	7.351	7.339	10.399	5.660	4.015	**36.071**
Imola district	142	851	1.520	4.270	774	349	**7.906**
Plan	480	3.722	6.967	5.229	2.694	1.212	**20.305**
Mountain/hill	88	531	954	914	499	558	**3.545**
TOT	**5.083**	**25.129**	**26.307**	**26.406**	**13.262**	**7.945**	**104.131**

16.1.4. Working documents

Please include all the working documents which allowed the results described in the chapters above.

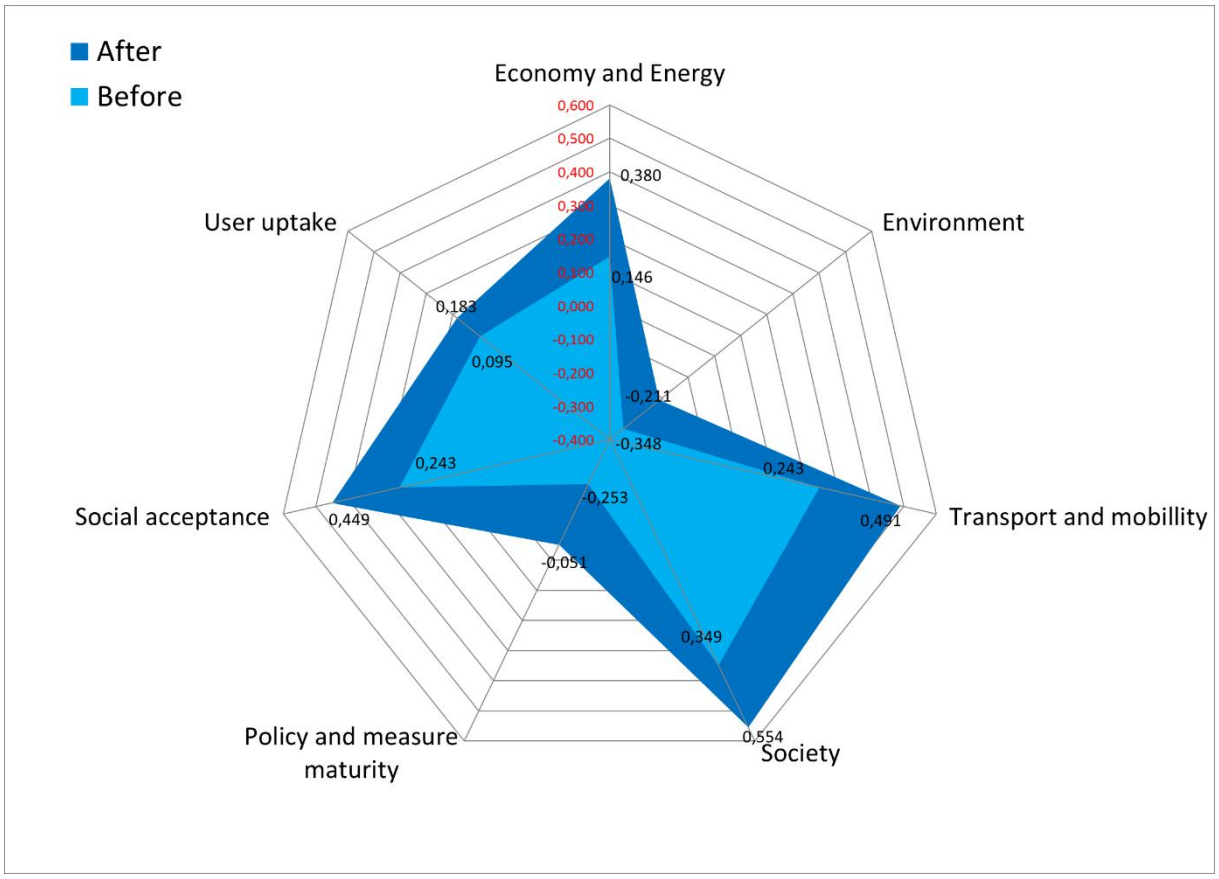
Please, provide:

- *the complete tables of the O/D Matrices*
- *the final results of the LSI calculations*
- *the surveys (the questionnaires, not the single answers) in original language*

We report here the calculation of the LSI to assess (before-after) the introduction of a city logistics measure in the FUA. Such a measure consists of:

- Multimodal distribution (railways and road) for the urban area of Bologna involving all the FUA (measure at FUA level).
- Last-mile road distribution with electric vehicles
- Logistics spaces in the inner city with cargo bike for distribution.

According to specific hypothesis derived from the above described scenario (See attachment), the resulting LSI (depicted below) shows an improvement.



Survey on retail distribution

SEZIONE A: DATI ATTIVITA': Descrizione generale dell'unità locale

A1: Dati unità locale

A1

Nominativo: [compare Nominativo presente sul Database della Camera di Commercio]

1 Conferma Nominativo della Camera di Commercio

2 Altro indirizzo:_____

88 Non risponde

A2_1

Comune in cui è localizzata l'Unità locale: [compare Comune presente sul Database]

1 Conferma Comune della Camera di Commercio

2 Altro indirizzo:_____

88 Non risponde

A2_2

Indirizzo: [compare indirizzo presente sul Databas]

1 Conferma indirizzo della Camera di Commercio

2 Altro indirizzo:_____

88 Non risponde

A3

Numero di addetti:

1 Numero addetti: _____

88 Non risponde

Tipologia di attività

A4

Attività

1 Commercio al dettaglio

2 Artigianato

3 Ho.re.ca

4 Altra attività

(se A4=1)

A4a

Commercio al dettaglio

1 Commercio al dettaglio di biancheria intima

2 Commercio al dettaglio di abbigliamento

3 Commercio al dettaglio di abbigliamento per bambini e neonati

4 Commercio al dettaglio di articoli di pelletteria e da viaggio

5 Commercio al dettaglio di calzature e accessori in pelle

6 Commercio al dettaglio di pellicce e di abbigliamento in pelle

7 Commercio al dettaglio di cappelli; ombrelli; guanti e cravatte

8 Commercio al dettaglio di articoli sportivi; biciclette e articoli per il tempo libero

9 Commercio al dettaglio di giochi e giocattoli

10 Commercio al dettaglio di oggettistica; articoli da regalo; gadget; bigiotteria; accessori

11 Commercio al dettaglio di articoli tessili e biancheria

12 Commercio al dettaglio di filati; merceria

13 Commercio al dettaglio di tessuti

14 Commercio al dettaglio di mobili per la casa e oggetti per l'arredamento

15 Commercio al dettaglio di utensili per la casa; di cristallerie; stoviglie; vasellame

16 Commercio al dettaglio di articoli per l'illuminazione

17 Commercio al dettaglio di carta da parati e rivestimenti per pavimenti

18 Commercio al dettaglio di materiali da costruzione; ceramiche e piastrelle

19 Gioielleria; argenteria; commercio al dettaglio di orologi e preziosi

20 Antiquario, vendita di opere d'arte

21 Commercio al dettaglio di filatelia; numismatica e articoli da collezionismo

22 Profumeria

23 Farmacia; parafarmacia

24 Erboristeria

25 Vendita al dettaglio di dischi; CD; video

26 Edicola

27 Libreria

28 Commercio al dettaglio di materiale elettrico; elettronico e telefonia

29 Commercio al dettaglio di elettrodomestici

30 Negozio di ottica e fotografia

31 Commercio al dettaglio di carni e di prodotti a base di carne

32 Commercio al dettaglio di pesci; crostacei e molluschi

33 Commercio al dettaglio di generi alimentari; salumeria; drogheria

34 Commercio al dettaglio; di pane e prodotti da forno

35 Commercio al dettaglio di frutta e verdura fresca

36 Tabaccheria

37 Cartoleria e forniture per ufficio

38 Ferramenta

39 Commercio al dettaglio di fiori e piante

(se A4=2)

A4b

Artigianato

1 Sartoria, riparazioni sartoriali

2 Laboratorio tessile; lavorazione di filati; ricami

3 Tappezziere

4 Laboratorio di pelletterie; articoli in cuoio e calzature

5 Calzolaio, riparazione articoli in pelle

6 Corniciai, laboratori artigianali di lavorazione del legno

7 Fabbricazione e restauro di mobili

8 Laboratorio di riparazione orologi

9 Laboratorio orafo

10 Laboratorio di pasta fresca

11 Laboratorio di pasticceria fresca; laboratorio di gelateria

12 Laboratorio di prodotti di panetteria; prodotti da forno; pizza

(se A4=3)

A4c

Ho.re.ca

1 Pasticceria; gelateria

2 Bar senza cucina

3 Bar con cucina

4 Ristorante; tavola calda

5 Enoteca; vendita di bevande chiuse

6 Affittacamere per brevi soggiorni; case ed appartamenti per vacanze; bed and breakfast; residence

7 Albergo

(se A4=4)

A4d

Altre attività

1 Barbiere; parrucchiere; istituto di bellezza; manicure

2 Lavanderia

3 Artigiano di...

4 Grossista di...

5 Altro:_____

A2: DESCRIZIONE MAGAZZINI: dimensione dell'unità locale

A5

Area totale dell'unità Locale:

1 Numero Metri quadrati:_____

A6

Di cui magazzino:

1 Numero Metri quadrati:_____

A7 [DOMANDA FILTRO: indica n. magazzini]

Numero di magazzini esterni all'unità locale

0 0 (se non ha magazzini esterni all'unità locale) ->VAI ALLA DOMANDA C12

1 Numero magazzini esterni:_____

(se B7>=1) FARE TUTTE LE DOMANDE DA B8_1 A B11_1

A8_1
Parliamo ora del magazzino numero1.
In qualeComune si trova il magazzino 1?:
1 Stesso Comune dell'Unità Locale ([far comparire])
2 Nel Comune di Bologna, in Centro Storico
3 Nel Comune di Bologna, fuori dal Centro Storico
4 In altro Comune della Provincia di Bologna:_____[elenco]
5 Fuori provincia

A10_1
Magazzino 1: Distanza dall'unità locale
1 Km:_____

A11_1 [DOMANDA FILTRO: indica se magazzino esterno]
Magazzino 1: è Localizzato all'interno della provincia di Bologna?
1 Sì
2 No [non si fa il BLOCCO sulle Consegne]

A9_1
Magazzino 1: Superficie in mq
1 Numero Metri quadrati:_____

(se A7>=2) FARE TUTTE LE DOMANDE DA A8_2 a A11_2

A8_2
Parliamo ora del magazzino numero2.
In qualeComune si trova il magazzino 2?:
1 Stesso Comune dell'Unità Locale ([far comparire])
2 Nel Comune di Bologna, in Centro Storico
3 Nel Comune di Bologna, fuori dal Centro Storico
4 In altro Comune della Provincia di Bologna:_____[elenco]
5 Fuori provincia

A10_2
Magazzino 2: Distanza dall'unità locale

1 Km:_____

A11_2 [DOMANDA FILTRO: indica se magazzino esterno]

Magazzino 2: è Localizzato all'interno dell'area di studio?

1 Sì

2 No [non si fa il BLOCCO sulle Consegne]

A9_2

Magazzino 2: Superficie in mq

1 Numero Metri quadrati:_____

(se A7>=3) FARE TUTTE LE DOMANDE DA A8_3 a A11_3

A3: DESCRIZIONE EVENTUALE FLOTTA DI VEICOLI: Dati flotta / Flotta in dotazione

Valutare quali domande mantenere e quali è possibile togliere

A12

Hai una flotta in dotazione

1 Sì

2 No ->VAI ALLA DOMANDA D24

(se A12=1)

A12_1 [DOMANDA FILTRO: indica n. veicoli]

Di quanti veicoli è composta la flotta?

1 Numero veicoli della flotta:_____ (numero >0)

In caso di risposta affermativa alla A12, per ciascun veicolo indicato nella A12_1, ripetere domande da A13 a A23b

(se A12_1>=1) condizionamento valido per tutto il blocco del veicolo1

Dati Veicolo n. 1 (…)

A13_1

Parliamo del primo veicolo: Tipo di veicolo

1 Autocarro

2 Autovettura

3 Furgone

4 Altro (specificare):_____

A14_1

Veicolo1: Marca

1 Marca:_____

A15_1

Veicolo1: Modello

1 Modello:_____

A16_1

Veicolo1: Anno di immatricolazione

1 Anno:_____

A17_1

Veicolo1: Tipo di allestimento:

1 Congelati

2 Frigorifero

3 Gru

4 Pedana idraulica

5 Pick-up

6 Ribaltabile

7 Telonato

8 Trasporto valori

A18_1

Veicolo1: Portata totale a terra

1 Fino a 15 q.li

2 Da 15 A 35 q.li

3 Oltre 35 q.li

A19_1

Veicolo1: Alimentazione

1 Benzina

2 Elettrica

3 Gasolio

4 GPL

5 Metano

6 Ibrida (specificare):_____

A20_1

Veicolo1: Requisiti ecoambientali

0 Euro 0

1 Euro 1

2 Euro 2

3 Euro 3

4 Euro 4

5 Euro 5

6 Euro 6

A21_1

Veicolo1: Titolo di possesso

1 Own

2 Leasing

3 Rent

4 Altro:_____??????????

A22_1

Veicolo1: Sosta durante le ore di attività dell'unità locale

1 Stallo di sosta presso unità locale

2 Presso magazzino

3 Altro (specificare):_____

(se C22_1=1)

A23a_1

Veicolo1: Sosta presso unità locale

1 area privata

2 doppia fila

3 marciapiede/ sosta vietata/ fermata bus

4 piazzola pubblica carico/ scarico

5 sosta regolare su strada

(se A22_1=2)

A23b_1

Veicolo1: Sosta presso magazzino (compaiono elenco magazzini indicati in B7)

1 Mag1

2 Mag2

3 …….

(se A12_2>=2) condizionamento valido per tutto il blocco del veicolo2

Dati Veicolo n. 2 (…)

A13_2

Parliamo del secondo veicolo: Tipo di veicolo

1 Autocarro

2 Autovettura

3 Furgone

4 Altro (specificare):_____

A14_2

Veicolo2: Marca

1 Marca:_____

A15_2

Veicolo2: Modello

1 Modello:_____

A16_2

Veicolo2: Anno di immatricolazione

1 Anno:_____

A17_2

Veicolo2: Tipo di allestimento:

1 Congelati

2 Frigorifero

3 Gru

4 Pedana idraulica

5 Pick-up

6 Ribaltabile

7 Telonato

8 Trasporto valori

A18_2

Veicolo2: Portata totale a terra

1 Fino a 15 q.li

2 Da 15 A 35 q.li

3 Oltre 35 q.li

A19_2

Veicolo2: Alimentazione

1 Benzina

2 Elettrica

3 Gasolio

4 GPL

5 Metano

6 Ibrida (specificare):_____

A20_2

Veicolo2: Requisiti ecoambientali

0 Euro 0

1 Euro 1

2 Euro 2

3 Euro 3

4 Euro 4

5 Euro 5

6 Euro 6

A21_2

Veicolo2: Titolo di possesso

1 Own

2 Leasing

3 Rent

4 Altro:_____??????????

A22_2

Veicolo2: Sosta durante le ore di attività dell'unità locale

1 Stallo di sosta presso unità locale

2 Presso magazzino

3 Altro (specificare):_____

(se A22_2=1)

A23a_2

Veicolo2: Sosta presso unità locale

1 area privata

2 doppia fila

3 marciapiede/ sosta vietata/ fermata bus

4 piazzola pubblica carico/ scarico

5 sosta regolare su strada

(se A22_2=2)

A23b_2

Veicolo1: Sosta presso magazzino (compaiono elenco magazzini indicati in B7)

1 Mag1

2 Mag2

3 …….

(se A12_2>=3) condizionamento valido per tutto il blocco del veicolo3

Dati Veicolo n. 3 (…)

**********FINE BLOCCO VEICOLI**********

SEZIONE B FORNITURE: descrizione di una categoria di fornitori

B24 [DOMANDA FILTRO: indica numero categorie fornitori]

Quanti sono i tipi di fornitori da cui si rifornisce?

Consideri che appartengono alla stessa categoria di fornitori quelli con cui si intrattiene un rapporto contrattualmente assimilabile in termini di categoria merceologica fornita e modalità di rilascio/consegna della merce

Io direi (per essere più chiari e semplici possibile):

Appartengono alla stessa categoria di fornitori quelli simili per categoria merceologica fornita e modalità di rilascio/consegna della merce (franco destino, franco partenza, tentata vendita)

(non indicare il numero di fornitori ma il numero di categorie di fornitori)

1 Numero categorie fornitori:___ [si aprono tanti blocchi [da B25 a B26] quanti sono il numero di categorie]

(se B24>=1) condizionamento da applicare a tutto il blocco 1 da B25_1 a B26_1

BLOCCO 1 : Descrizione prima categoria di fornitori

B25_1

Nominativo/Identificativo della categoria di fornitori

1 _____

B27_1 Multipla

Categoria mercelogica:

1 Elenco:_____ (Condizionare all'attività dell'unità Locale, in base al file excel inviato)

B29_1 [DOMANDA FILTRO FONDAMENTALE: individua tipo fornitura e percorso]

Modalità rilascio/consegna

1 Consegna Franco destino (regia logistica a carico del mittente) -> VAI A DOMANDA C30

2 Rilascio franco Partenza (regia logistica a carico del destinatario) -> VAI A DOMANDA E76

3 Tentata vendita (il potenziale fornitore va direttamente all'unità locale) -> VAI A DOMANDA H106

B28_1 Multipla

Tipologia di fornitore nella categoria

1 Esercizio commerciale al dettaglio

2 Grossista

3 Produttore (agricolo/industriale/artigiano)

B26_1

Quanti fornitori appartengono a questa categoria?

1 Numero di fornitori:_____

(se B24>=2) condizionamento da applicare a tutto il blocco 2 da B25_2 a B26_2

BLOCCO 2 : Descrizione seconda categoria di fornitori

B25_2

Nominativo/Identificativo della categoria di fornitori

1 _____

B27_2 Multipla

Categoria mercelogica:

1 Elenco:_____ (Condizionare all'attività dell'unità Locale, in base al file excel inviato)

B29_2 [DOMANDA FILTRO FONDAMENTALE: individua tipo fornitura e percorso]

Modalità rilascio/consegna

1 Consegna Franco destino (regia logistica a carico del mittente) -> VAI A DOMANDA C30

2 Rilascio franco Partenza (regia logistica a carico del destinatario) -> VAI A DOMANDA E76

3 Tentata vendita (il potenziale fornitore va direttamente all'unità locale) -> VAI A DOMANDA H106

B28_2 Multipla

Tipologia di fornitore nella categoria

1 Esercizio commerciale al dettaglio

2 Grossista

3 Produttore (agricolo/industriale/artigiano)

B26

Quanti fornitori appartengono a questa categoria?

1 Numero di fornitori:_____

(se B24>=3) condizionamento da applicare a tutto il blocco 3 da B25_3 a B26_3

BLOCCO 2 : Descrizione terza categoria di fornitori

Ecc..

***************FINE DESCRIZIONE CATEGORIE FORNITORI****************

Descrizione di modalità di rilascio/consegna del Fornitore 1

(se B29_1=1)

BLOCCO C: Consegna franco destino

C30

Parliamo ora della categoria di fornitori [compare B25_1: nome categoria] dove la modalità di rilascio/consegna è : [compare B29_1: nome modalità]

Come è stata decisa questa modalità?

1 Imposta dal fornitore/mittente

2 Imposta dal negoziante intervistato

3 Concordato tra le parti

C31

Il mittente consegna con mezzi propri o si avvale di un operatore terzo?

1 Conto proprio

2 Conto terzi

3 Non so

(se C31=2)

C31_1

Mi può indicare il nominativo degli operatori che effettuano la consegna?

No/Non so

Cambiano ogni volta

Sì (specificare i nomi separati da;):_____ (è necessario??)

(se C31=2)

C31_2

Alcuni di loro sono corrieri espressi?

1 Si

2 No

(se C31=2)

C31_3

In genere l'operatore preleva anche da fornitori di altre categorie?

1 Si Si chiede quali???

2 No

C32 [DOMANDA FILTRO FONDAMENTALE: indica se fare SOTTOBLOCCO consegna]

Dove avviene la consegna? SINGOLA O MULTIPLA???????????

1 Consegna all'unità locale -> VAI A DOMANDA D34 (si fa solo SOTTOBLOCCO D 'consegne')

2 Consegna al magazzino deposito dell'esercente intervistato

(se C32=2)

C32_1

Elenco magazzini indicati: selezionare

1 Mag1 (se mag. interno area -> VAI a dom. D34, poi a DOM. G58 (consegne+conto proprio ritiri)

2 Mag2 (se mag. esterno area -> VAI a dom. G58 (SOLO conto proprio ritiri)

3 Mag3…….

Se la consegna avviene in posti diversi, unità locale e/o più magazzini sia interni che esterni, bisogna fare

percorsi differenziati in base al luogo di consegna?

*******************FINE BLOCCO CONSEGNA FRANCO DESTINO*******************

SE B29_1=2

BLOCCO E: Rilascio franco partenza

E76

Come è stata decisa questa modalità?

1 Imposta dal fornitore/mittente

2 Imposta dal negoziante intervistato

3 Concordato tra le parti

E77 [DOMANDA FILTRO FONDAMENTALE: indica se fare SOTTOBLOCCO D o F]

Abitualmente il ritiro avviene con mezzi propri o ci si avvale di uno o più operatori terzi?

1 Conto proprio -> si fa CONTO PROPRIO AUTOAPPROVVIG.(sottoblocco F) : vai a dom. F83

2 conto terzi -> si fa CONSEGNE (sottoblocco D) : vai a domanda E78, poi sottoblocco D

(se E77=2)

Descrizione delle Consegne e/o del giro di ritiri in Conto proprio

E78

Nominativo dell'operatore?

1 No/Non so

2 cambiano ogni volta

3 Sì (specificare i nomi separati da;):_____ (è necessario??)

E79

Alcuni di loro sono corrieri espressi?

1 Sì

2 No

E80

In genere l'operatore preleva anche da fornitori di altre categorie?

1 Sì

2 No

Se E80=2

E80_1

Da quali altre categorie di fornitori preleva?

1 Categoria fornitori1

2 Categoria fornitori2

3 Categoria fornitori3

---------- eccetera

E81

Dove avviene la consegna?

1 Consegna all'unità locale -> VAI A DOMANDA D34 (si fa solo SOTTOBLOCCO D 'consegne')

2 Consegna al magazzino deposito dell'esercente intervistato

Se E81=2

E82

Quali e quanti magazzini sono coinvolti in un giro?

1 Mag1 (se mag. interno area -> VAI a dom. D34, poi a DOM. G58 (consegne+conto proprio ritiri)

2 Mag2 (se mag. esterno area -> VAI a dom. G58 (SOLO conto proprio ritiri)

3 Mag3 ----------

**********FINE BLOCCO RILASCIO FRANCO PARTENZA**********

SE B29=3

BLOCCO H: Tentata vendita

Consegne (FARE TUTTO IL sottoblocco D delle consegne: da domanda D34 a D56

(se C32=1 o (C32=2 e C32_1=magazzino interno))

Oppure (se E81=1 o (E81=1 e E82=magazzino interno))

Oppure (se B29=3)

SOTTOBLOCCO D: Consegne: descrizione di una o più consegne

D34

Con quale frequenza riceve la merce da questa categoria di fornitori?

1 Una o più volte al giorno

2 Una o più volte alla settimana

3 Una o più volte al mese

4 Una o più volte l'anno

(se D34=1)

D35_1

Quante volte al giorno?

1 Numero

(se D34=2)

D35_2

Quante volte a settimana?

1 Numero

(se D34=3)

D35_3

Quante volte al mese?

1 Numero

(se D34=4)

D35_4

Quante volte all'anno?

1 Numero

(se D34=1) risposte multiple

D36a

Può indicare i giorni in cui la consegna NON avviene?

1 Lunedì

2 Martedì

3 Mercoledì

4 Giovedì

5 Venerdì

6 Sabato

7 Domenica

(se D34=2) risposte multiple

D36b

Indicare i possibili giorni in cui avvengono le consegne

1 Lunedì

2 Martedì

3 Mercoledì

4 Giovedì

5 Venerdì

6 Sabato

7 Domenica

(se D34=3) risposte multiple

D36c

Può indicare i mesi in cui la consegna NON avviene?

1 Gennaio

…

…

12 Dicembre

(se D34=4) risposte multiple

D36d

Indicare tutti i possibili mesi in cui avvengono le consegne

1 Gennaio

…

…

12 Dicembre

D37

Questa categoria di fornitori in genere quali tipi di colli consegna?

1 pallett

2 roll

3 cassetta

4 stand

5 scatola

6 Altro:_____

D38

Dimensione di un collo

Indicare la dimensione dei colli (max 255 caratteri)

Se ci sono colli di tipo diverso indicare il tipo di collo e la sua dimensione separati da ;

(Esempio: scatola: 20x30x40; cassetta: 20x30x40)

1 Dimensione collo :_____

D39

Indicare il peso medio di un collo (max 255 caratteri)

Se ci sono colli di tipo diverso indicare il tipo di collo e il suo peso separati da ;

(Esempio: scatola: 5kg; cassetta: 3kg)

1 Peso medio di un collo tipo (kg): _____

D40

Numero di colli massimo (Senza considerare la tipologia di colli indicare il numero di pezzi/colli ricevuti da questa categoria di fornitori)

1 Numero massimo:_____

D41

Numero di colli medio

1 Numero medio:_____

D42

Numero di colli minimo

1 Numero minimo:_____

D43

Ci sono periodi di picco?

1 Sì

2 No

(se la 43=1)

D43_1

Quali sono i periodi di picco? (mesi, giorni, periodi dell'anno, ecc.)

1 Periodi:_____

(se la 43=1)

D44

In che modo variano le consegne? (varia il numero di consegne, quantità di merce consegnata, ecc.)

1 Descrizione:_____

D45

Ci sono periodi di morbida?

1 Sì

2 No

(se la 45=1)

D46

Quali sono i periodi di morbida?

1 Periodi:_____

(se la 45=1)

D47

In che modo variano le consegne?

1 Descrizione:_____

D48 (risposte multipe)

Quali sono gli orari abituali di consegna

1 0-6

2 6-7

3 7-8

4 8-9

5 9-10

6 10-11

7 11-12

8 12-13

9 13-14

10 14-15
11 15-16
12 16-17
13 17-18
14 18-19
15 19-20
16 20-21
17 21-24

D49
Come viene stabilito l'orario di consegna?
1 imposto dal mittente
2 imposto dal destinatario (intervistato)
3 imposto dall'operatore del trasporto
4 concordato con il mittente
5 concordato con l'operatore di trasporto
6 deciso in base a regolamentazione di accesso

(Se l'orario di consegna è stato imposto all'intervistato: (D49=1,3))
D50 (risposte multipe)
Quale fascia oraria alternativa preferirebbe?
1 0-6
2 6-7
3 7-8
4 8-9
5 9-10
6 10-11
7 11-12
8 12-13
9 13-14
10 14-15
11 15-16
12 16-17
13 17-18
14 18-19
15 19-20

16 20-21

17 21-24

D51

Tempo abituale di consegna/scarico merci

1 meno di 10 minuti

2 da 10 a 20 minuti

3 più di 20 minuti

D52 [questa domanda si può togliere??]

(Oltre alla firma per ricevuta) Quali operazioni vegnono compiute all'interno dell'unità locale quando si riceve la merce?

1 Disimballaggio

2 Accertamento conformità ordine

3 Accettazione

4 Quali altre risposte inserire?????

9 Altro:_____

D53 [questa domanda si può togliere??]

Quanto durano in media queste operazioni?

1 meno di 5 minuti

2 da 5 a 9 minuti

3 da 10 a 14 minuti

4 da 15 a 20 minuti

5 più di 20 minuti

Veicoli utilizzati

D54

Prevalentemente quali veicoli sono utilizzati per la consegna?

1 Autocarro

2 Autovettura

3 Furgone

4 Altro:_____

5 Non so

D55

Prevalentemente quale punto di sosta viene utilizzato per l'operazione di carico/scarico presso l'unità locale?

1 area privata

2 piazzola pubblica carico/ scarico

3 sosta regolare su strada

4 marciapiede/ sosta vietata/ fermata bus

5 doppia fila

6 Non so

D33

Ha chiarimenti o precisazioni da fare, che ancora non le abbiamo chiesto?

1 Testo:_____

D56

Sarebbe disponibile a ricevere merci fuori degli orari di apertura dell'unità locale?

TOOL: Sarebbe disponibile a ricevere le consegne in orari differenti da quelli di apertura dell'unità locale?

1 Sì

2 No

*****************FINE SOTTOBLOCCO D:'CONSEGNE'**************************

Descrizione di modalità di rilascio/consegna del Fornitore 2

(se D24>=2) condizionamento da applicare a tutta la SEZIONE B : da domanda C30 a D56

C30

Parliamo ora della categoria di fornitori [compare B25_2: nome seconda categoria] dove la modalità di rilascio/consegna è : [compare B29_2: nome modalità]

Come è stata decisa questa modalità?

1 Imposta dal fornitore/mittente

2 Imposta dal negoziante intervistato

3 Concordato tra le parti

Eccetera, come per categoria di fornitori 1

Altre SEZIONI B con le altre categorie fornitori

Dopo aver descritto tutti i fornitori e le modalità di rilascio/consegne (anche con eventuali descrizioni di consegne)

(se E77=1 di uno o più categorie di fornitori) Fare Sottoblocco F (autoapprovvigionamento).

SOTTOBLOCCO F: CONTO PROPRIO AUTOAPPROVVIGIONAMENTO

Descrizione del giro tipo di autoapprovvigionamento

F83

Quali veicoli della flotta sono utilizzati per operazioni di autoapprovvigionamento da fornitori?

1 Elenco dei veicoli in flotta: selezionare

F84

Quali di queste categorie di fornitori sono toccate nel giro di autoapprovvigionamento che mi sta descrivendo?

		SI	NO
F84_1	Categoria fornitori1	__	__
F84_2	Categoria fornitori2	__	__
F84_3	Categoria fornitori3	__	__
F84_n	Categoria fornitoriN	__	__

F85

Quanti fornitori sono toccati durante il giro?

1 Numero:_____

F86

Quanti di questi sono localizzati in provincia di Bologna?

1 Numero:_____

F87

Origine del giro di autoapprovvigionamento

1 Presso unità locale

2 Presso Magazzino 1

3 Presso Magazzino 2

4 Presso Magazzino N

5 Altro:_____

F88

Destinazione del giro di autoapprovvigionamento[DOMANDA FILTRO: indica se fare SOTTOBLOCCO G: conto proprio ritiri]

1 Presso Unità Locale

2 Presso Magazzino 1 ▫ si fa sottoblocco G: conto proprio ritiri

3 Presso Magazzino 2 ▫ si fa sottoblocco G: conto proprio ritiri

4 Presso Magazzino N ▫ si fa sottoblocco G: conto proprio ritiri

5 Altro:_____

F90

Orario abituale di inizio del giro di autoapprovvigionamento

1 0-6

2 6-7

3 7-8

4 8-9

5 9-10

6 10-11

7 11-12

8 12-13

9 13-14

10 14-15

11 15-16

12 16-17

13 17-18

14 18-19

15 19-20

16 20-21

17 21-24

F91

Frequenza di conto proprio autoapprovigionamento

1 Una o più volte al giorno

2 Una o più volte alla settimana

3 Una o più volte al mese

4 Una o più volte l'anno

(se F91=1)

F92_1

Quante volte al giorno?

1 Numero

(se F91=2)

F92_2

Quante volte a settimana?

1 Numero

(se F91=3)

F92_3

Quante volte al mese?

1 Numero

(se F91=4)

F92_4

Quante volte all'anno?

1 Numero

(se F91=1) risposte multiple

F93a

Giorni esclusi (indicare i giorni in cui la consegna NON avviene)

1 Lunedì

2 Martedì

3 Mercoledì

4 Giovedì

5 Venerdì

6 Sabato

7 Domenica

(se F91=2) risposte multiple

F93b

Indicare i possibili giorni in cui avvengono le consegne

1 Lunedì

2 Martedì

3 Mercoledì

4 Giovedì

5 Venerdì

6 Sabato

7 Domenica

(se F91=3) risposte multiple

F93c

Mesi esclusi (indicare i mesi in cui la consegna non avviene)

1 Gennaio

…

12 Dicembre

(se F91=4) risposte multiple

F93d

Indicare tutti i possibili mesi in cui avvengono le consegne

1 Gennaio

…

…

12 Dicembre

F95

Tipo di colli

1 pallett

2 roll

3 cassetta

4 stand

5 scatola

6 Altro:_____

F96

Dimensioni del collo

Indicare la dimensione dei colli (max 255 caratteri)

Se ci sono colli di tipo diverso indicare il tipo di collo e la sua dimensione separati da ;

(Esempio: scatola: 20x30x40; cassetta: 20x30x40)

1 Dimensione collo :_____

F97

Peso del collo

Indicare il peso medio di un collo (max 255 caratteri)

Se ci sono colli di tipo diverso indicare il tipo di collo e il suo peso separati da ;

(Esempio: scatola: 5kg; cassetta: 3kg)

1 Peso medio di un collo tipo (kg): _____

F98

Numero di colli massimo (Senza considerare la tipologia di colli indicare il numero di pezzi/colli ricevuti da questa categoria di fornitori)

1 Numero massimo:_____

F99

Numero di colli medio

1 Numero medio:_____

F100

Numero di colli minimo

1 Numero minimo:_____

F101

Ci sono periodi di picco?

1 Sì

2 No

(se F101=1)

F101a

Quali sono i periodi di picco? (mesi, giorni, periodi dell'anno, ecc.)

1 Periodi:_____

(se F101=1)

F101b

In che modo variano i ritiri? (varia il numero di consegne, quantità di merce consegnata, ecc.)

1 Descrizione:_____

F102

Ci sono periodi di morbida

1 Sì

2 No

(se F102=1)

F102a

Quali sono i periodi di morbida?

1 Periodi:_____

(se F102=1)

F102b

In che modo variano i ritiri?

1 Descrizione:_____

F103

Orari abiturali di scarico merci a destinazione in area di studio

0-6

6-7

7-8

8-9

9-10

10-11

11-12

12-13

13-14

14-15

15-16

16-17

17-18

18-19

19-20

20-21

21-24

F104

Tempo abituale di scarico merci a destinazione in area di studio

1 da 10 a 20 minuti

2 meno di 10 minuti

3 più di 20 minuti

F89

Ha chiarimenti o precisazioni da fare, che ancora non le abbiamo chiesto?

1 Testo:_____

(Se F84_1=2 or F84_2=2 or F84_3=2 or..)

F105

Lei mi ha detto che questo giro di autoapprovvigionamento non tocca tutti i fornitori con Rilascio Franco Partenza. [se si riesce: far comparire categorie non toccate]

Potrebbe descrivere un altro giro di autoapprovvigionamento presso queste categorie non toccate?

1 Sì

2 No

(se F105=1)

F89_1

Può descriverci con le sue parole questo altro giro di autoapprovvigionamento?

1 Testo:_____

**********FINE SOTTOBLOCCO F: autoapprovvigionamento**********

Dopo aver descritto tutti i fornitori (con le eventuali consegne) e gli eventuali giri di autoapprovvigionamento…., se le consegne (anche con autoapprovv.) vengono effettuate in magazzini diversi dall'unità locale), cioè (se C32=2 oppure E81=2 oppure F88>1)

Fare il Sottoblocco G (Conto proprio Ritiri)

SOTTOBLOCCO G: CONTO PROPRIO RITIRI

Descrizione del ritiro della merce dai propri magazzini

G57

Quali e quanti magazzini sono coinvolti in un giro?

(Tool) Normalmente, in un giro di ritiro quali e quanti magazzini tocca?

1 Elenco dei magazzini dichiarati: Selezionare

G59

Quali veicoli della flotta vengono utilizzati per operazioni di ritiro/consegna da proprio magazzino?

1 Elenco dei veicoli della flotta = selezionare

G60

Frequenza conto proprio ritiro

1 Una o più volte al giorno

2 Una o più volte alla settimana

3 Una o più volte al mese

4 Una o più volte l'anno

(se G60=1)

G61_1

Quante volte al giorno?

1 Numero

(se G60=2)

G61_2

Quante volte a settimana?

1 Numero

(se G60=3)

G61_3

Quante volte al mese?

1 Numero

(se G60=4)

G61_4

Quante volte all'anno?

1 Numero

(se G60=1) risposte multiple

G62a

Giorni esclusi (indicare i giorni in cui la consegna NON avviene)

1 Lunedì

2 Martedì

3 Mercoledì

4 Giovedì

5 Venerdì

6 Sabato

7 Domenica

(se G60=2) risposte multiple

G62b

Indicare i possibili giorni in cui avvengono le consegne

1 Lunedì

2 Martedì

3 Mercoledì

4 Giovedì

5 Venerdì

6 Sabato

7 Domenica

(se G60=3) risposte multiple

G62c

Mesi esclusi (indicare i mesi in cui la consegna non avviene)"

1 Gennaio

…

…

12 Dicembre

(se G60=4) risposte multiple

G62d

Indicare tutti i possibili mesi in cui avvengono le consegne

1 Gennaio

…

…

12 Dicembre

G63 BATTERIA con (risposte multiple)

Quali categorie merceologiche vengono ritirate da questi magazzini?

Merce1 Merce2 Merce3

G63_1 magazzino1 __ __ __

G63_2 magazzino2 __ __ __

G63_3 magazzino3 __ __ __

G63_n magazzino4 __ __ __

G64

Tipo di colli

1 pallett

2 roll

3 cassetta

4 stand

5 scatola

6 Altro:_____

G65

Dimensione collo

Indicare la dimensione dei colli (max 255 caratteri)

Se ci sono colli di tipo diverso indicare il tipo di collo e la sua dimensione separati da ;

(Esempio: scatola: 20x30x40; cassetta: 20x30x40)

1 Dimensione collo :_____

G66

Indicare il peso medio di un collo (max 255 caratteri)

Se ci sono colli di tipo diverso indicare il tipo di collo e il suo peso separati da ;

(Esempio: scatola: 5kg; cassetta: 3kg)

1 Peso medio di un collo tipo (kg): _____

G67

Numero di colli massimo (Senza considerare la tipologia di colli indicare il numero di pezzi/colli ricevuti da questa categoria di fornitori)

1 Numero massimo:_____

G68

Numero di colli medio

1 Numero medio:_____

G69

Numero di colli minimo

1 Numero minimo:_____

G70

Ci sono periodi di picco?

1 Sì

2 No

(se la G70=1)

GE70a

Quali sono i periodi di picco? (mesi, giorni, periodi dell'anno, ecc.)

1 Periodi:_____

(se la G70=1)

G70b

In che modo variano i ritiri? (varia il numero di consegne, quantità di merce consegnata, ecc.)

1 Descrizione:_____

G71

Ci sono periodi di morbida

1 Sì

2 No

(se la G71=1)

G71a

Quali sono i periodi di morbida? (mesi, giorni, periodi dell'anno, ecc.)

1 Periodi:_____

(se la G71=1)

G71b

In che modo variano i ritiri? (varia il numero di consegne, quantità di merce consegnata, ecc.)

1 Descrizione:_____

G72

Orari abiturali di scarico merci a destinazione in area di studio(???)

1 0-6

2 6-7

3 7-8

4 8-9

5 9-10

6 10-11

7 11-12

8 12-13

9 13-14

10 14-15

11 15-16

12 16-17

13 17-18

14 18-19

15 19-20

16 20-21

17 21-24

G73

Tempo abituale di scarico merci a destinazione in area di studio

1 meno di 10 minuti

2 da 10 a 20 minuti

3 più di 20 minuti

G74

Punto di sosta per l'operazione di scarico

1 area privata

2 piazzola pubblica carico/ scarico

3 sosta regolare su strada

4 marciapiede/ sosta vietata/ fermata bus

5 doppia fila

6 Non so

G58

Ha chiarimenti o precisazioni da fare su come avviene queso giro tipo, che ancora non le abbiamo chiesto?

1 Testo

G75

Vuole descrivere un altro giro di ritiro merci?

Sì

No

G58_1 lasciare questa domanda??

Può descriverci con le sue parole questo altro giro tipo di ritiri in conto proprio?

1 Testo

********** FINE SOTTOBLOCCO G: conto proprio ritiri **********

SEZIONE L:. CONSEGNE AI CLIENTI FINALI

L106

Effettua abitualmente consegne a domicilio ai clienti finali?

1 Sì -> vai alla domanda L107

2 No -> vai alla domanda M128

L107

La consegna viene effettuata con mezzi propri o ci si avvale di un operatore terzo?

1 Conto proprio

2 Conto terzi

(se L107=2)

L108

L'operatore che effettua la consegna è un corriere espresso

1 Sì

2 No

(se L107=2)

L109

Mi può indicare il nome?

1 Nome:_____

L110

Quali veicoli della propria flotta utilizza per operazioni di consegna ai clienti finali?

1 Elenco dei veicoli propri: selezionare

L111

Origine della consegna

1 Elenco di unità locale e magazzini

L112

Quale è il numero medio di destinatari servizi nel giro di consegne "tipo"?

1 Numero medio:____

L113

Quanti di questi all'interno dell'area di studio?

1 Numero medio:____

L115

Frequenza consegna

1 Una o più volte al giorno

2 Una o più volte alla settimana

3 Una o più volte al mese

4 Una o più volte l'anno

(se L115=1)

L116_1

Quante volte al giorno?

1 Numero

(se L115=2)

L116_2

Quante volte a settimana?

1 Numero

(se L115=3)

L116_3

Quante volte al mese?

1 Numero

(se L115=4)

L116_4

Quante volte all'anno?

1 Numero

L117

Periodi

1 Elenco

(se L115=1)

L117a

Giorni esclusi (indicare i giorni in cui la consegna NON avviene)

1 Lunedì

2 Martedì

3 Mercoledì

4 Giovedì

5 Venerdì

6 Sabato

7 Domenica

(se L115=2)

L117b

Indicare i possibili giorni in cui avvengono le consegne

1 Lunedì

2 Martedì

3 Mercoledì

4 Giovedì

5 Venerdì

6 Sabato

7 Domenica

(se L115=3)

L117c

Mesi esclusi (indicare i mesi in cui la consegna non avviene)

1 Gennaio

…

…

12 Dicembre

(se L115=4)

L117d

Indicare tutti i possibili mesi in cui avvengono le consegne

1 Gennaio

…

…

12 Dicembre

L118

In genere quali tipi di colli consegna?

1 pallett

2 roll

3 cassetta

4 stand

5 scatola

L119

Dimensione dei colli

Indicare la dimensione dei colli (max 255 caratteri)

Se ci sono colli di tipo diverso indicare il tipo di collo e la sua dimensione separati da ;

(Esempio: scatola: 20x30x40; cassetta: 20x30x40)

1 Dimensione collo :_____

L120

Indicare il peso medio di un collo (max 255 caratteri)

Se ci sono colli di tipo diverso indicare il tipo di collo e il suo peso separati da ;

(Esempio: scatola: 5kg; cassetta: 3kg)

1 Peso medio di un collo tipo (kg): _____

L121

Numero di colli massimo (Senza considerare la tipologia di colli indicare il numero di pezzi/colli ricevuti da questa categoria di fornitori)

1 Numero massimo:_____

L122

Numero di colli medio

1 Numero medio:_____

L123

Numero di colli minimo

1 Numero minimo:_____

L124

Ci sono periodi di picco?

1 Sì

2 No

(se la L124=1)

L124a

Periodo di picco(mesi, giorni, periodi dell'anno, ecc.)

1 Periodi:_____

L124b

In che modo variano i ritiri? (varia il numero di consegne, quantità di merce consegnata, ecc.)

1 Descrizione:_____

L125 Ci sono periodi di morbida

1 Sì

2 No

(se la L125=1)

L125a

Quali sono i periodi di morbida?

1 Periodi:_____

(se la L125=1)

L125b

In che modo variano i ritiri?

1 Descrizione:_____

L126

Orari abituali di inizio consegna

0-6

6-7

7-8

8-9

9-10

10-11

11-12

12-13

13-14

14-15

15-16

16-17

17-18

18-19

19-20

20-21

21-24

L127

Orari abituali di fine consegna

0-6

6-7

7-8

8-9

9-10

10-11

11-12

12-13

13-14

14-15

15-16

16-17

17-18

18-19

19-20

20-21

21-24

L114

Ha chiarimenti o precisazioni da fare su come avviene queso giro tipo di consegne ai clienti finali, che ancora non le abbiamo chiesto?

1 Testo:_____

******************FINE BLOCCO CONSEGNE AI CLIENTI FINALI******************

SEZIONE M: Problemi e suggerimenti

M128 Quali sono i principali problemi riscontrati nelle operazioni di carico e scarico delle merci nella sua azienda?

1 Mancanza di spazi specificatamente predisposti

2 Difficoltà di accesso dei mezzi ai luoghi di carico/scarico

3 Orario di consegna

4 Durata delle operazioni di carico/scarico

5 Sicurezza della merce (pericolo di furti, smarrimenti o rottura)

6 Difficoltà di trasporto della merce dal luogo di fermata del veicolo al locale o viceversa

7 Necessità di uso di carrelli o apparecchi di sollevamento

8 Mancanza di coordinamento tra le diverse consegne

M129 Suggerimenti

_____

Survey on industrial distribution

1. General company characteristics

A.1.1.

1.1 Company sector (NACE Classification with 3 digits)	

1.2 Location of Local Unit (address, zip code, city)	

1.3 Administrative location (address, zip code, city)	

1.4 Annual turnover in the last three years (€)

2014	2015	2016

1.5 Total Employees in the last three years (by typology)

Type/Year	2014	2015	2016
Workmen			
Administrative workers			
Managers			
Drivers			

1.6 Vehicle fleet

Your company owns a fleet of road vehicles? ☐ Yes ☐ No

If 'yes', please insert the number of vehicle owned by type

	≤ 1.5 t	>1.5 t, ≤ 3.5 t	>3.5 t, ≤ 5 t	>3.5 t, ≤ 12 t	>12 t
Number of vehicles					
Average age					
EURO V					
EURO VI					
Used for restocking activities (share)					
Used for distribution activities (share)					

1.7 Warehouse

His company has at its disposal a warehouse? ☐ Yes ☐ No

If 'yes', please specify:

	For production activities		For distribution activities	
Your company owns it?	☐ Yes	☐ No	☐ Yes	☐ No
Dimension (m^2)				
It is close to the local unit?	☐ Yes	☐ No	☐ Yes	☐ No
If no, specify address	Address:_____		Address:_____	

1.8 Rail yard

His company has at its disposal a rail yard? ☐ Yes ☐ No

If 'yes', please specify:

Number of railways

Distance from closest train station (km)

Your company owns railway wagons? ☐ Yes ☐ No

If yes, specify the number Number:_____

1.9 Freight produced and sold for freight type *(Time reference: last quarter, provide data up to main 5 freight in tons*last quarter)*

Freight type (according to a classification to be defined)	**Quantity produced (ton*quarter)**	**Quantity Shipped/outcoming (ton*quarter)**	**Quantity received/incoming (ton*quarter)**

2. Incoming and outcoming freight flows

2.2 Freight type incoming from outside the FUA *(Time reference: last quarter, provide data up to 5 freight types ordered by number of shipments)*

Freight type(according to a classification to be defined)	Number of shipments	Average quantity for shipment (ton*quarter)	Total quantity (ton*quarter)	Usually Origin from… (*)	Main Transport mode (share) (**)	Main Sender type (share) (***)	Transport cost (€)

(*) 1: North Italy; 2: Center Italy; 3: South Italy; 4: UE; 5: extra UE; it is possible to include the other provinces of the region

(**) 1: road; 2: rail; 3: other (specify);
(***) 1: Manufacturing activity; 2: Warehouse/Distribution center; 3: Retail activity.

2.3 Freight type incoming from inside the city *(Time reference: last quarter, provide data until 5 freight types ordered by number of shipments)*

Freight type (according to a classification to be defined)	Number of shipments	Average quantity for shipment (ton*quarter)	Total quantity (ton*quarter)	Usually Origin From (Address or zip code) (*)	Main Transport mode (share) (**)	Main Sender type (share) (***)	Transport cost (€)

(*) Specify the origin of the shipment
(**) 1: road; 2: rail; 3: other;
(***) 1: Manufacturing activity; 2: Warehouse/Distribution center; 3: Retail activity.

2.4 Freight type outcoming to outside the city *(Time reference: last quarter, provide data until 5 freight types ordered by number of shipments)*

Freight type (according to a classification to be defined)	Number of shipments	Average quantity for shipment ton*quarter)	Total quantity (ton*quarter)	Usually Destination To… (*)	Main Transport mode (share) (**)	Main Recipient type (share) (***)	Transport cost (€)

(*) 1: North Italy; 2: Center Italy; 3: South Italy; 4: UE; 5: extra UE;
(**) 1: road; 2: rail; 3: other;
(***) 1: Manufacturing activity; 2: Warehouse/Distribution center; 3: Retail activity.

2.5 Freight type outcoming to inside the city *(Time reference: last quarter, provide data until 5 freight types ordered by number of shipments)*

Freight type (according to a classification to be defined)	Number of shipments	Average quantity for shipment (ton*quarter)	Total quantity (ton*quarter)	Usually Destination To (Address or zip code) (*)	Main Transport mode (share) (**)	Main Recipient type (share) (***)	Transport cost (€)

(*) Specify the origin of the shipment
(**) 1: road; 2: rail; 3: other;
(***) 1: Manufacturing activity; 2: Warehouse/Distribution center; 3: Retail activity.

2.6 Freight type incoming/outcoming details. ***Considering the first filled line in tables 2.2, 2.3, 2.4, 2.5, when the transport mode is 'road', please provide the following information related to one shipment.***
If the shipment requires more than a stop, please fill a row for each stop. Consider only the first five stops.

Reference table	Vehicle type (ton) (+)	Load quantity (ton)	Load Unit (*)	Time (**)	Type of transport (***)	Sender/ Recipient (#)	Travelled distance (km)	Number of stops (##)	Number of journey	Transport cost (€)
2.2										
1)										
2)										
3)										
4)										
X										
2.3										
1)										
2)										
3)										
4)										
X										
2.4										
1)										
2)										
3)										
4)										
X)										
2.5										
1)										
2)										
3)										
4)										
X										

(+) According to the classification in question 1.6

(*) 1: package, 2: pallet, 3: container, 4: bulk, 5: other

(**) 1: Morning 1 (before 11:00), 2: Morning 2 (before 13:00), 3: Afternoon

(***) 1: own account, 2: thirdy party

(#) 1: Manufacturing activity; 2: Warehouse/Distribution center; 3: Retail activity.

(##) Total number of stops to load/unload the vehicle. If over 10, please enter "M" to indicate many stops.

3. Infrastructures and services for logistics activities

3.1 Indicate the infrastructures and the services for logistics activities that are important for your company. Indicate any problem and / or action.

Infrastructure type	Problems (i.e. congestion, lack of services)	Actions (i.e. maintenance)
Primary roads (Roads, Highways)		
_____	_____	_____
_____	_____	_____
Interports- rail yard-rail terminals		
_____	_____	_____
_____	_____	_____
Ports		
_____	_____	_____
Airports		
_____	_____	_____
_____	_____	_____

Observations

_____

_____

3.2 Considering his experience, there are on the market transport and logistics companies able to meet the needs of the company?

☐ Yes
☐ No

Observations

_____

Questionnaire to transport operators

QUESTIONNAIRE TO TRANSPORT OPERATORS

0 General information on the company

0.1 Name of the company .....

Contact person .....

Address .....

Municipality .....

Type of company

☐ 1 SpA ☐ 2 Ltd ☐ 3 . . ☐ 4 … ☐ 5 … ☐ 6 … ☐ 7 Other _____

Interviewee

☐ 1 Owner ☐ 2 Employee ☐ 3 Manager ☐ 4 Other_____

1 Transport activity

1.1 How many vehicles in the fleet (owned or leased)?

	Number of vehicles	
	Ownership	Leasing/Rent
Van		
Light Truck		
Truck		

1.2 Fill in the form below on the base of the type of vehicles above

Type (Van/Light Truck/Truck)_____

Brand _____ Model _____

Year of registration _____

Outfit

☐ Tarpaulin ☐ hydraulic platform ☐ Crane ☐ Dumper ☐ Traditional van

☐ Cooled ☐ Refrigerated ☐ Armored ☐ Pick-up

other _____

Weight (total) ☐ up to 1.5 t ☐ from 1.5 to 3.5t ☐ from 3.5 t

Fuel

☐ Gasoline ☐ Diesel ☐ Gas ☐ Hibrid ☐ Electric

Environmental features

☐ Euro 1 ☐ Euro 2 ☐ Euro 3 ☐ Euro 4 ☐ Euro 5 ☐ Euro 6

2 Information on the trip

2.1 Origin of the trip (Municipality, typical address)

_____

2.2 Sequence of movements

Types of consignors/consignee. Report the number in the forms below.

☐ 1 Manufacturing facility ☐ 5 Hotel, restaurant, bar

☐ 2	Warehouse	☐ 6	End user
☐ 3	Retailer	☐ 7	Bank, public offices, …
☐ 4	Shop	☐ 8	Other_____

Types of goods. Report the number in the forms below.

(The list is to be decided on the basis of the local situation. An example is provided here).

1	Prodotti alimentari freschi (carne, ortofrutta, latticini, prodotti freschi da forno, etc.)	14	Ferramenta, prodotti in metallo
2	Prodotti alimentari conservati	15	Prodotti chimici, colori e solventi, concimi
3	Bevande	16	Componenti e accessori per veicoli, veicoli, rottami
4	Tabacchi	17	Carburanti, lubrificanti, combustibili e bombole a gas
5	Detergenti, detersivi, prodotti per l'igiene	18	Materiale da costruzione e per l'edilizia in genere, igienico - sanitari
6	Articoli di cancelleria, carta e cartone, giocattoli, prodotti in gomma e plastica	19	Animali vivi, accessori e cibi per animali
7	Prodotti farmaceutici, cosmetici, parasanitari	20	Consegne a domicilio di alimentari o pasti pronti
8	Tessuti, filati, abbigliamento, pelletteria, articoli sportivi	21	Servizio di lavanderia
9	Orologeria, oreficeria, bigiotteria, profumeria, argenteria, cristalli	22	Altro (specificare) ----------
10	Libri, dischi, videocassette, giornali e riviste		
11	Fiori e piante		
12	Elettrodomestici e telefoni, computer, articoli fotografici e ottici, componenti elettrici		
13	Legnami e mobili, accessori per la casa, prodotti in vetro e ceramica, arredamenti		

Pickup/Delivery N. **1 of N**

Address _____

Typer of Consignor _____ Name of Consignor _____

Type of Consignee _____ Name of Consignee _____

Operation ☐ Pickup ☐ Delivery

Type of goods _____

ADD as many pickup/delivery operations as required by the sequence of stops

2.3 What is the frequency of the movements?

☐ One or more a day

or

☐ One or more a week — frequency: ☐ M ☐ T ☐ W ☐ T ☐ F ☐ S (days)

or

☐ One or more a month

or

☐ Some months a year — frequency: ☐ Jan ☐ Feb ☐ Mar ☐ Apr ☐ May ☐ Jun ☐ Jul ☐ Aug ☐ Sep ☐ Oct ☐ Nov ☐ Dec (months)

2.4 Which is the usual total weight of the goods picked up or delivered?

	never	rarely	often	always
less than 100 kg	☐	☐	☐	☐
from 100 kg to 1 t	☐	☐	☐	☐
more than 1 t	☐	☐	☐	☐

(never = less than 1 on 10; rarely = 2 to 5 times on 10; often = 6 to 9 times on 10; always 10 times on 10)

2.5 Which are the usual hours for the movements?

0-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-24

2.6 Which is the average duration of a delivery?

	never	rarely	often	always
less	☐	☐	☐	☐

than 10 minutes				
from 10 to 20 minutes	never	rarely	often	always
more than 20 minutes	never	rarely	often	always

3 Information on deliveries

3.1 Vehicles during deliveries are usually parked

- in private reserved area ☐
- in loading bays ☐
- in parking space on the road ☐
- double park ☐
- on the sidewalk ☐

3.2 Are you available to deliver in other hours?

Yes ☐ No ☐

3.3 Preferred delivery hours

0-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-24

4 Main issues (example to be customized)

4.1 Which are the main issues you experience during the delivery of goods?

- ☐ lack of loading/unloading space
- ☐ difficulty to access loading/unloading space
- ☐ delivery hours
- ☐ duratin of loading/unloading
- ☐ safety risk of goods
- ☐ difficulty to move goods from parking to the shop
- ☐ need to use transpallet to move goods
- ☐ lack of coordinatio of deliveries
- ☐ Other _____

5 Suggestions to improve deliveries