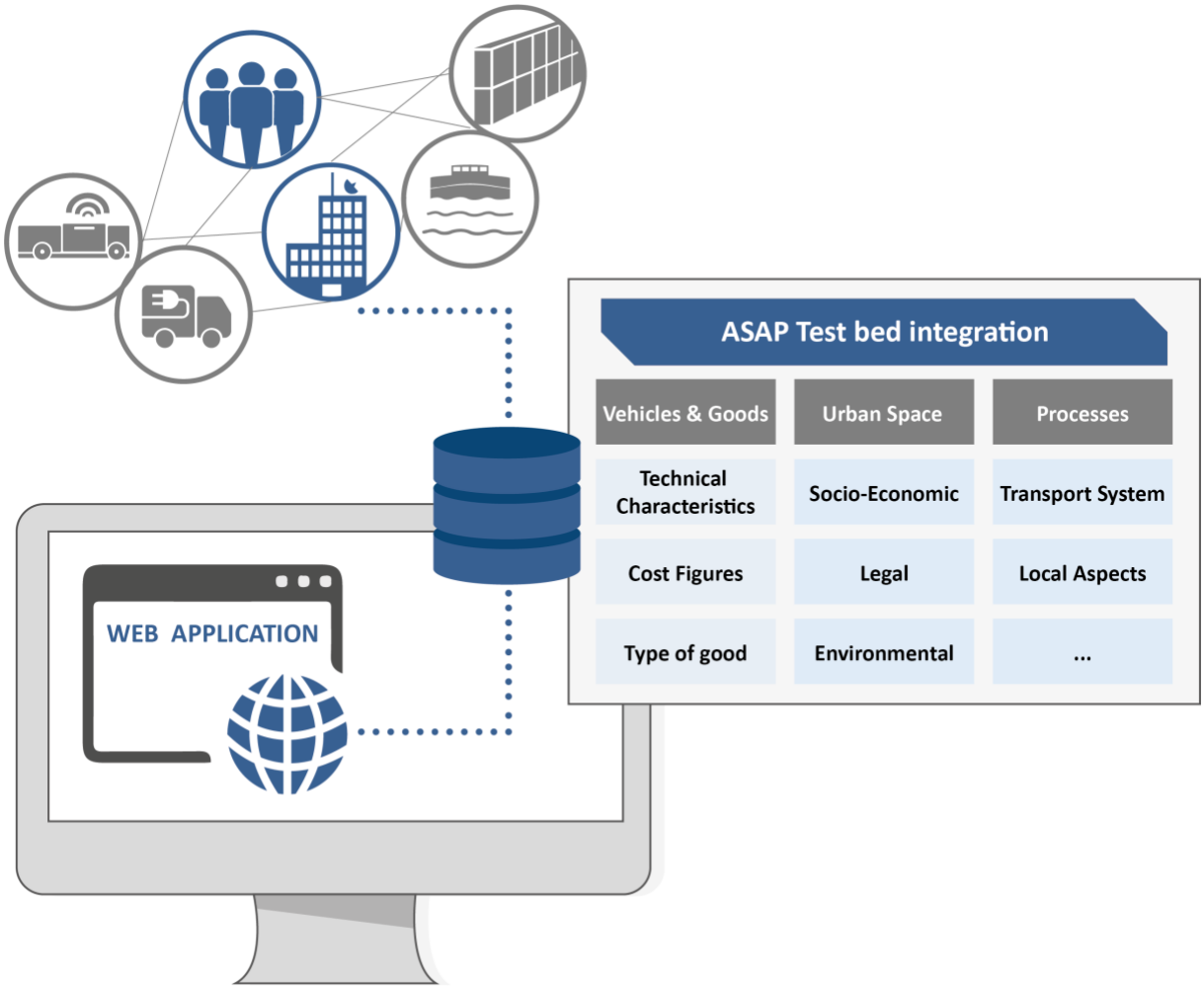
AWAKEN SLEEPING ASSETS PROJECT

D2.2 SULP Report: potential weaknesses and gaps, list of SDGs addressed in SULPs and their evaluation



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D2.2 SULP Report: potential weaknesses and gaps, list of SDGs addressed in SULPs and their evaluation

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Project partners

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Glossary

Abbreviation	
ASAP	Awaken Sleeping Assets Project
B2B	Business to Business
B2C	Business to Customer
CEP	Courier-, Express- and Parcel
C-ITS	Cooperative Intelligent Transport Systems
FQP	Freight Quality Partnership
FUA	Functional Urban Area
H2020	Horizon 2020 Programme of the European Commission
LTZ	Limited Traffic Zone
MDG	Millennium Development Goals
OPEC	Organisation of Petroleum Exporting Countries
OSZE	Organisation für Sicherheit und Zusammenarbeit in Europa
PM10	Particulate Matter
SDG	Sustainable Development Goals
StEP	Stadtentwicklungsplan
SUMP	Sustainable Urban Mobility Plan
SULP	Sustainable Urban Logistics Plan
UFT	Urban Freight Transport
UN	United Nations

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1. Introduction

1.1 What is a SULP?

When asked what a **S**ustainable **U**rban **L**ogistics **P**lan (or SULP) is many would simply answer: a **S**ustainable **U**rban **M**obility **P**lan (SUMP) for Logistics. Although this is not wrong per se it is still an oversimplification.

Figure 1: SUMP Cycle Rupprecht Consult 2019

According to Eltis – The urban mobility repository a SUMP can be defined as follows:
"Strategic plan designed to satisfy the mobility needs of people and businesses in cities and their surroundings for a better quality of life. It builds on existing planning practices and takes due consideration of integration, participation, and evaluation principles."[1]

During a SUMP Process a city analysis and evaluates the mobility situation, which also includes the distribution of goods within the city. However, it has become clear over the years that urban

[1] http://www.eltis.org/guidelines/what-sustainable-urban-mobility-plan (Access:14.7.21)

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freight distribution is incredibly complex and usually involves many different actors that often have divergent and opposing needs and requirements. Moreover, city administrations have traditionally not interfered in logistics issues and left it to the business community to organise itself. However, with increasing urbanisation and a growing demand from citizens for more people-friendly and liveable cities, i.e., a reduction in emissions, noise, and congestion, it is becoming increasingly clear to decision-makers in cities that urban freight transport (UFT) needs to be regulated. As this process is often too confusing and difficult for cities, there is a need for specific guidelines and good practice examples to support cities in incorporating UFT measures and policies into their sustainable mobility planning. SULPs are such guidelines.

1.2 Different Projects and Approaches towards SULPs

Over the past years several European Projects have been working on the task of preparing SULP Guidelines and/or developing and implementing actual SULPs with cities.

ENCLOSE Project

In 2015 the ENCLOSE[2] project published "Guidelines for developing and implementing a Sustainable Urban Logistics Plan" where they describe in detail the methodology approach they developed and also applied in the development of SULPs for their project partners that were all small and mid-sized historic towns (see figure 3 below).

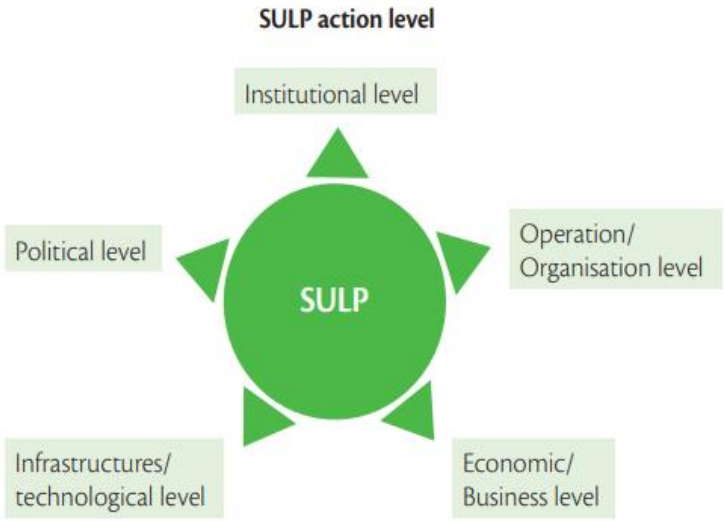

Figure 2: SULP Action Level - Enclose SULP Methodology

Similarly, to the SUMP process it is necessary that also a SULP integrates various objectives, ranging from socio economic to environmental. Also necessary is the involvement of all actors

[2] http://www.enclose.eu/

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involved in urban freight distribution processes. To do so, all different levels shown in Fig.2 need to be integrated and affected. Because logistics needs and requirements differ considerable depending on the background and characteristics of the respective city the ENCLOSE project developed a matrix with the key needs and requirements of each of the participating cities in the following areas: socio-economic, commercial, operational and technical.

Mobility Governance: services and measure

	Key needs & reqts.	Lucca	Trond.	Den'B.	Burgos	Almad.	Dund.	Alba I.	Serres	Balch.
Socio-economic	Reducing traffic impacts in the historical centre	■■■	■■■	■■■	■	■	■■■	■■	■■	■■■
	Increasing livability of urban environment	■■■	■	■	■■	■■	■■	■■	■■	■■
	Enhancing local economic development	■■			■■	■■	■■	■■	■■	■■
Commercial	Generate benefits on competitivn. & business	■■■	■■■	■■■	■■■	■■■	■■■	■■	■■■	■■
	Optimise logistics operations	■■■	■■■	■■	■■	■■	■■	■■	■■	■■
	Reduce costs, improve knowidg of delivery cost	■■■	■■■	■■■	■■	■■	■■■	■■	■■■	■
Operational	Improved city access regulations	■■■	■■■	■■■	■■	■■	■■	■■	■■■	■■■
	Support adoption/use of sustainable vehicles	■■	■■	■■	■■	■■			■■	
	Measures supporting transp. operators market.	■■	■	■	■	■	■■	■	■■	■
Technical	Systems to optimise fleet and delivery operations	■■■	■■■	■■	■■	■	■■	■	■■■	■■■
	Systems to optimise logistics operations	■■■	■■■	■■■	■■■	■■	■■	■■	■	■■
	Improved integration of logistics in urb. mobility	■■■	■■	■■	■■	■	■■	■■■	■■■	■■

Figure 3: Mobility Governance - Enclose SULP Methodology

From this matrix a solution's portfolio was identified that suited the particular cities. The solutions were a mixture of "soft and hard" measures. Their developed Methodology Approach has 11 specific steps, each of which is explained in detail using detailed examples from the developed SULPs of the participating cities. Their conclusion is that an effective SULP methodology should be based on a participatory approach that combines strong involvement of the political level (municipal involvement) and a consideration of user needs and operators' requirements. All elements of their methodology were tested in the nine partner towns that participated in the project and therefore have been tested "on-site" for their practicality.

The SULP elements

- E0: Setting the objective and target
- E1: Urban mobility scenario and priorities
- E2: Analyze the logistics context and processes
- E3: Setting requirements and logistics baseline
- E4: Identified measures and services vs. requirements
- E5: Service design
- E6: Organisation, business model and contracting
- E7: Assessment and impacts evaluation
- E8: roadmap di adopt the SULP
- E9: Responsibilities and implementation/ monitoring plan
- E10: Promotion and Communication Plan

Figure 4: SULP Elements (Source: Enclose Project)

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SULPiTER Project

According to the Interreg Project SULPiTER[3] "there are close mutual relations between SUMP and SULP, for example:

- SULP supports SUMP towards the achievement of the main goal of decreasing external impacts and costs (congestion, pollution, safety, etc.).
- SULP supports SUMP in identifying some common mobility scenarios such as the traffic situation.
- SULP and SUMP have mutual feedbacks on issues related to the road network and its control, an aspect that concerns both logistics and mobility."

The aim of the SULPiTER Project was to develop and adopt SULPs in the participating partner cities of Bologna, Budapest, Poznan, Brescia, Stuttgart, Maribor and Rijeka. These cities and technical partners have worked together with other local, regional and national public organsiations that were not partners in the project in the development of transnational governance tools. The project not only developed SULPs for the seven cities but also identified 126 measures that are important for the implementation of a SULP.

Within the project a template was created that made the separately and, in much detail, developed SULP documents easy to compare and transnational. Within this template all seven cities stated their most important issues and the SULP's specific objectives (strategic and operative). Each city or Functional Urban Area (FUA) for which the SULP was developed had to state both, strategic and operative goals they had for their SULP.

[3] Lucio Rubini et al. / Transportation Research Procedia 30 (2018) 255–2644, Transportation Research Procedia 00 (2018) 000–000

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The following template was provided which had to be adapted to the local needs and requirements:

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.
-

Figure 5: SULP Objectives City of Bologna (Source: SULPiTER)

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

Based on the developed Objectives of goals the strategies and associated actions were developed. The actions or measures that were chosen for the SULP were carefully with regard to the regulatory, technological, infrastructural, service, economic and energy demands.
The role of stakeholders was considered vital to the success of the SULP, thus, the project developed Freight Quality Partnership (FQP) guidelines.[4] These FQP guidelines were one of the easy-to-use tools for the preparation of a SULP that the project produced. The table below outlines the five steps on how to engage and manage the FQP that have been adopted in all seven cities of the SULPiTER project.

[4] https://www.interreg-central.eu/Content.Node/SULPiTER/D.T2.2.1-SULPiTER-FQP-guidelines-F.pdf

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Table 1:Steps to manage FQP (Source: Sulpiter Project)

Step 1 – Strategy Design	The goal is to set up strategic priorities for stakeholders' engagement within the scope of the specific Sustainable Urban Logistics Plan (SULP). This stage is crucial to ensuring the identification of issues and stakeholders, within three main areas: Strategic, Thematic, Territorial.
Step 2 – Setting up the FQP'S Objectives and Requirements	This step aims at the identification of Freight Quality Partnership (FQP)'s goals within the SULP, i.e. the most important objectives that the Freight Quality Partnership (FQP) has to achieve, and which benefits are expected. Starting from the identification of FQP's goals within the SULP, the purpose is to identify which ar the stakeholders' categories that have to be involved for a good FQP. Participation can be measured on a continuous scale, ranging from a low level to a high level of stakeholders' participation.
Step 3 – Mapping the Stakeholders	The goal is to ensure that, as far as possible, all relevant stakeholders are identified, and the output of this step is a list (table/database) indicating: Name of the stakeholder, Contacts, Stakeholder's category, Relation between the stakeholder and the SULP's decision making process (i.e. stakeholders with legal, financial or operational responsibilities in the city logistics issues, stakeholders just affected by the SULP's measures, etc.). Furthermore, a qualitative description of each stakeholder (i.e. preliminary pieces of information useful to define the role of the stakeholder in its supply chain, etc.) is needed. Interests/goals /expectations of the stakeholders should be identified.
Step 4 – Prioritising the Stakeholders	Once the stakeholders have been identified, it is crucial to reach the most relevant stakeholders to involve. Engaging all stakeholders in all issues is neither possible nor desirable. Therefore, it is necessary to prioritise stakeholders and issues to ensure that time, resources and expectations are well managed. The aim of this step is to produce a short list of 20 private stakeholders. The criteria to select them are basically based on three issues: ▪ Influence within the SULP's decision-making process. ▪ Relation with the SULP's decision-making process. ▪ Willingness and ability of stakeholders to collaborate
Step 5 – Engaging the Stakeholders	This step consists in planning and effectively carrying out engagement activities with the selected stakeholders. Once the stakeholders have been identified with respect to "why, which and for what" they should be engaged, it is crucial to finalise the approach to ensure their full participation. FQP with public authorities should be the first, followed by the FQP with the private stakeholders. They must be considered as two separated bodies running alongside. Nevertheless, overlapping and joint work is possible according to the Partner's strategy.

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Novelog Project

The Novelog Project was funded in the H2020 Programme of the European Commission (2015 – 2018) and developed a number of useful tools that support cities in the process of creating a SULP. The guidance they have provided aimed at helping the cities to "understand" their UFT environment, "focus" on the most suitable measures and policies, "assess" these measures and "guide" the cities towards a successful implementation. In total 12 cities and regions were involved in the project (Athens, Barcelona, Copenhagen, Emilia Romagna, Gothenburg, Graz, London, Mechelen, Pisa, Rome, Turin and Venice).

Contrary to the SULPiTER Project the Novelog Guidelines[5] suggest that the "SULP process is implemented separately from the SUMP procedure, and that it starts after the definition of the overall sustainable mobility vision of a city. The Novelog SULP development cycle was created from an adaption of the Eltis SUMP cycle[6] that proposed changes for Phase I and Phase II and the new proposed Novelog Cycle focus on the first six steps of a typical SUMP Process. The projects learnings stated that a separate SULP process is necessary because it is difficult to implement the SUMP methodology when it comes to UFT matters, it is difficult to assess the readiness of cities when it comes to UFT, also because there is usually a conservative legal framework at play and last but not least it is hard to consolidate a strategic vision for the future in cities when it comes to UFT matters.

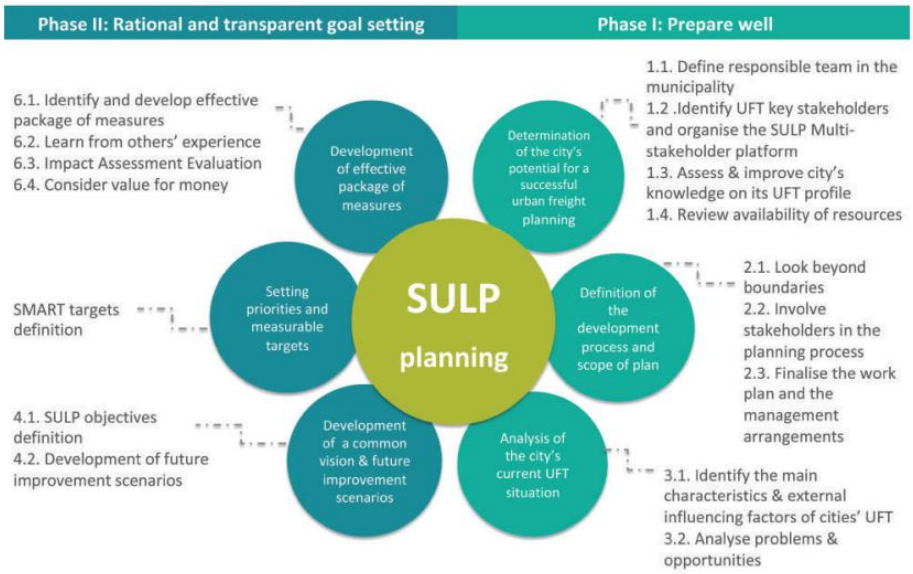

Figure 6: SULP Planning Cycle (Source: Novelog Project)

[5] https://civitas.eu/tool-inventory/novelog-sulp-guidelines
[6] https://www.eltis.org/mobility-plans/sump-concept

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Therefore, the project not only developed the to the “Novelog Guidelines for the planning and Development of SULPs” but also developed three other tools for assisting UFT planning. The first the “UNDERSTANDING your City Tool” (UCT) which helped to facilitate the interaction and reaching a consensus among the divergent stakeholders regarding the current and future state of their UFT environment. The second is a “Toolkit for City Impact” which was designed to assist cities to first assess and then FOCUS on those UFT measures that are actually applicable to the particular city in question. The third tool is an “Integrated assessment framework for UFT solutions” assisting the cities to evaluation the impact of a wide spectrum of UFT measures in real-life environments.

In this evaluation tool the project defined impact areas, criteria and related indicators.
Novelog identified seven impact AREAS:

(1) Economy and energy
(2) Environment
(3) Transport and Mobility
(4) Society
(5) Policy and measure maturity
(6) Social acceptance
(7) User Uptake

Linked to those impact areas are 24 (26) **CRITERIA** for the impact assessment, these are:

Table 2: Criteria for Impact Assessment (Source: Novelog Project)

Environment and Transport and Mobility Indicators	Social cost Benefit Indicators (Impact area: 1)	Transferability and Adaptability indicators (Impact areas: 5, 6 and 7)	Risk Indicators (relating to Impact Areas 1, 3, 4, 5 and 6)
Air quality	Energy	Background	Economic and Financial risk index
GHG	Development	Social Approval	IT, infrastructure and technology
Noise	Benefits	Flexibility	Living standards
Level of service	Costs	Adaptability	Managerial Risk
Safety and security		Consensus	Social approval
Transport system		Transferability	
UFT vehicles		Success	

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In total **136 INDICATORS** were identified for the above-mentioned areas and criteria. For more detailed information please refer to the document[7] or contact the project coordinator[8].

The Novelog Project also defined the dimensions of the UFT environment. Below are 13 of the identified **City UFT Characteristics**:

- Vehicle type/size
- Number of deliveries/collections
- Quantity of goods delivered/collected
- Time of day of delivery/pick-up
- Time to carry out deliveries/pick-ups
- Loading/Unloading activities
- Journey length
- Journey speed
- Empty running
- Environmentally friendly distribution
- Loading/Unloading on street space management
- Loading activities: docking/rendez-vous with truck supplier/load of the boat/load factor
- Delivery activities: round trip delay

Within the project a survey was carried out by interviewing about 150 experts in the field of UFT in Europe. Through these surveys and together with the involved cities a minimum set of operational parameters were identified that describe the UFT characteristics of a city and they constitute the minimum knowledge a city needs to possess with regard to their urban logistics issues. The table below shows this minimum data set that is required to understand a city's UFT:

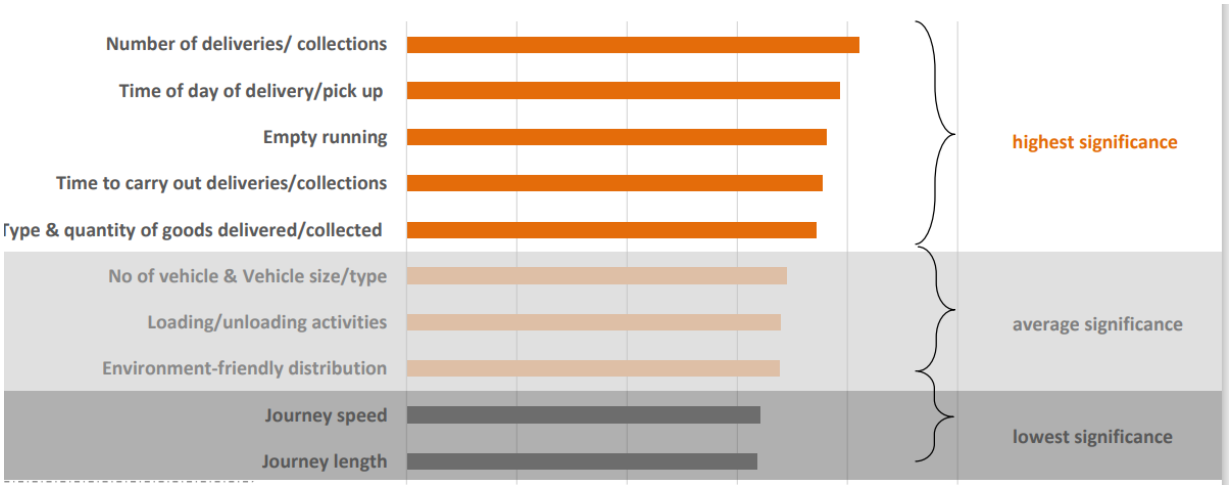

Figure 7: UFT Characteristics (Source: Novelog Project)

From stakeholder interviews and surveys with a broad variety of stakeholders it was also possible for the project to shed light on the main factors that influence the UFT environment.

[7] https://civitas.eu/tool-inventory/novelog-sulp-guidelines
[8] NOVELOG (imet.gr)

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From Figure 8 it becomes apparent that supply chain stakeholders and logistics experts consider "**User requirements**" as the most influencing factor. For municipal officials and public authorities on the other had **"Logistics Solutions"** and "**Economy & demographics"** are judged as the most influential.

Somewhat surprisingly "New technologies" have not been considered particularly important. The projects' researchers concluded that in general no very high ratings have been assigned for any particular category, possibly because the stakeholders all considered that a multitude of factors always interact and therefore no single factor alone was judged to be absolutely critical. Rather, it is the interaction of different characteristics that distinguishes UFT.

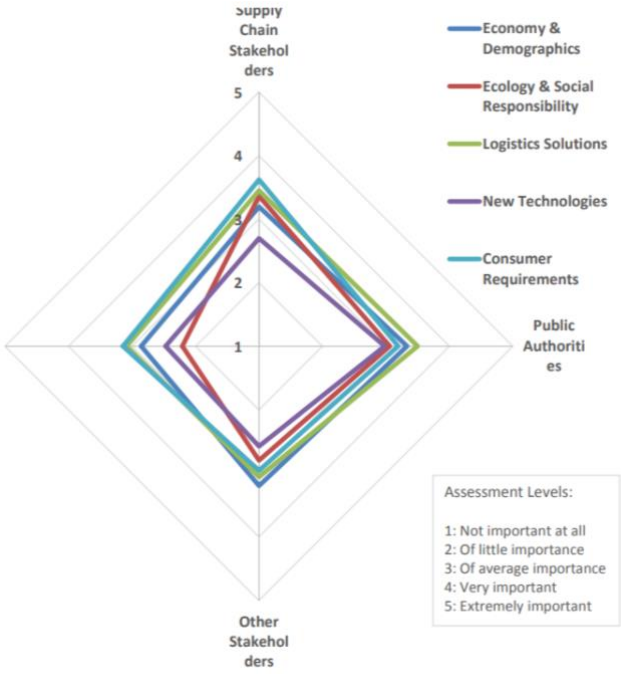

Figure 8: Influence Factors of UFT Environment (Source: Novelog Project)

The project also suggested an optimal mixture of Stakeholders in the stakeholder platform responsible for decision making: supply chain stakeholders 25%,public authorities 25%, other stakeholders (industry, commerce association, research, academia, consumer associations, etc.) 38% and experts 12%.

Topic Guide Sustainable Urban Logistics Planning

In June 2019 the Directorate General for Mobility and Transport of the European Commission, together with the project coordinator of the Novelog project (HIT/CERTH) published a revised or updated version of the Novelog SULP guide which focusses on the first 8 SUMP principles and puts them into the context of a SULP. These new guidelines draw heavily on the results of the Novelog project and integrate the tools developed during Novelog. In addition, however, this topic guide emphasises the link between SULP and SUMP and simply expands the steps of a traditional SUMP by stating that in a SULP, priorities are defined and measures and are selected that improve the effectiveness of UFT in the entire functional area.

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Figure 9: Updated SUMP Cycle (Source: Topic Guide)

According to the Topic Guide the 8 SUMP Principles relevant for the development of a SULP are:

1. Plan for sustainable mobility in the functional city
2. Develop a long-term vision and a clear implementation plan
3. Assess current and future performance
4. Develop all transport modes in an integrated manner
5. Cooperate across institutional boundaries
6. Involve citizens and relevant stakeholders
7. Arrange for monitoring and evaluation
8. Assure quality

These principles have also been taken into consideration in the detailed analysis of the different SULPs in Chapter 2.

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As stated above the Topic guide for SULP guidance and development is heavily based on the development of a SUMP. For this 3 Phases, 8 steps and 25 associated activities from the SUMP cycle are adapted to address urban logistics aspects.

By maintaining the basic structure of the SUMP cycle, the SULP process is in line with the overall SUMP vision of the city. It is recommended by the authors to start the SULP implementation only when an overall sustainable mobility vision is already in place and the sustainable distribution and service trips can be aligned with it.

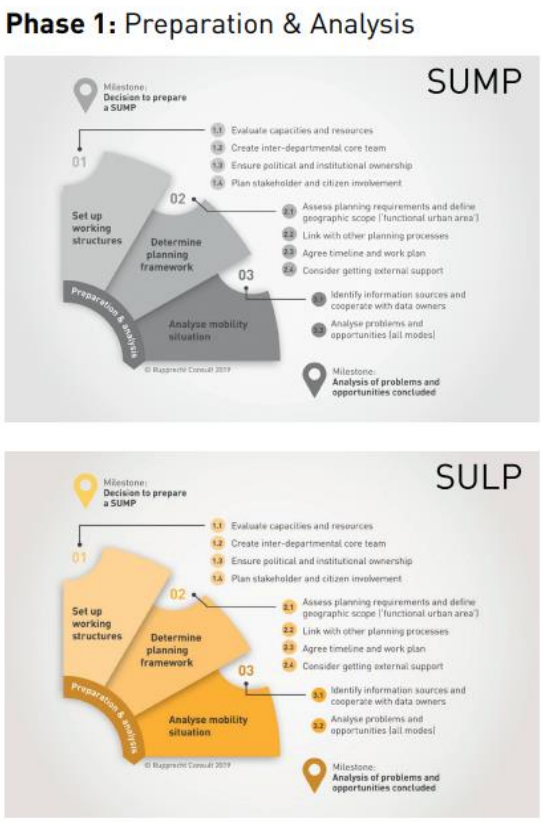

Figure 10: Comparison: SUMP & SULP Cycles (Source: Topic Guide)

In consultation with the leader of Work Packages 3 (Evaluation of existing testbeds) and 4 (Development of Method and Web-Application) the Fraunhofer Institute for Material Flow and Logistics (FHG-IML) it was decided that within the ASAP project the most recently developed **SULP Cycle from the Guidelines from the Topic Guide of the EC** would form the basis for the ASAP SULP Platform. For more information on the ASAP SULP Platform please refer to chapter 1.3.

1.3 SDGs in the Transport Sector

Previous work on SULP Development, like demonstrated in the projects elaborated in the previous chapters has not really taken the relation to the Sustainable Development Goals (SDGs) into consideration. Yet to achieve the transformation that is outlined in the 2030 Agenda for Sustainble Development and the 17 SDGs is absolutely linked to enabling sustainable, low carbon transport and mobility.

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The SLOCAT Partnership and Project (2019) has aimed to demonstrate the link between Sustainable, low carbon Transport and the SDGs and have identified SDGs where transport has the greatest impact:

Ending poverty (SDG1)

Ending hunger (SDG2)

Empowering women and girls (SDG5)

Ensuring sustainable and modern energy (SDG7)

Building resilient infrastructure (SDG9)

Making cities sustainable (SDG11)

Actions taken to combat climate change and its impacts (SDG13).

SLOCAT has developed their own “Wheel on Transport and the SDGs” which demonstrates the various interactions in more detail. Four cross-cutting areas have been identified to showcase the different interactions. These are Equitable, Healthy, Green and Resilient. Each of these themes is linked to fundamental areas, both, in socio-economic and environmental systems that are affected by a change in transport behaviour.

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Figure 11: SLOCAT Wheel on Transport and the SDGs (Source: SLOCAT)

By analysing all SDGs for their relationship to sustainable, low carbon transport and mobility SLOCAT has come up with a detailed list of relevant targets within each cross-cutting theme.

Within the ASAP Project all SDGs and their targets were also analysed for their relevance and link to urban logistics topics. This analysis is detailed in chapter 4 ”SDGs and their relation to logistics and SULPs”.

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1.2 The ASAP Project

Background

The Awaken Sleeping Assets Project (ASAP) directly responds to the fact that most cities in Europe today have to deal with problems that are characterised on the one hand by the enormous growth in e-commerce and therefore a massive increase in inner-city logistics journeys, and on the other hand by the fact that the logistics industry has so far largely been left to its own devices when it comes to organising logistics processes. The strong increase in logistics trips, which in addition to e-commerce is of course also caused the growing urbanisation rates, affects the quality of life in urban areas due to noise and pollution as well as congestion. Congestion not only has a negative impact on the cities themselves and their inhabitants, but also leads to a reduction in the efficiency of logistics operators and therefore to financial losses.

European cities are also characterised by a compact inner-city area with a mixture of working and living functions with often narrow and irregular streets. As space is scarce in these cities, city authorities are increasingly faced with the task of using the existing often scarce public space for people and to banish fossil fuel vehicles, which are the predominant current logistics tool, from the urban space.

Definition of Sleeping Assets

The definition of a “Sleeping Asset” in ASAP is any existing underused or inactive infrastructure or resource that might be utilised for sustainable urban logistics purposes. Such structures that might not have been recognized for their logistics value yet might include:

1. **Neglected routes** without congestion problems: every city has routes that have not yet been recognized to function as an instrument for logistics. Such routes include **waterways** and various types of **tracks** including **underground** tracks or tracks of the **industrial rail** network. Waterways, in particular, are present in almost all cities (river, canal, etc.) and are usually hardly used for transport purposes. Urban waterways are separated from congestion on roads and have a high potential to alleviate the problems caused by increasing freight and logistics needs. They can be combined with low/zero emission vehicles and possibly connected, automated vehicles resulting in integrated systems for logistics and freight operations in urban areas. Because the above listed routes are separated from the already overburdened and congested road infrastructure, their usage will provide a definite advantage.

Neglected Routes	
Waterways	**Tracks & Others**
▪ Rivers	▪ Industrial Rail Network
▪ Canals	▪ Tramlines
▪ Seaside	▪ Rail Tracks
▪ River Delta	▪ Bus or Bike lanes

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2. **Under-used resources** within the city also different types of (public transport) vehicles could be used for consolidation and transport. These resources mostly consist of vehicles such as ferries, trains, buses at off-peak times but also HGVs and vans running empty one way. The French company Fludis has also demonstrated that boats can be used as floating, mobile consolidation centres. Similar models can be explored with trams or railway wagons. Many public transport services are predominantly used during peak hours but have spare capacity during the rest of the day or during night-time. ASAP proposes to use this capacity productively and to develop strategies and measures that lead to improved utilization and bring advantages for all involved stakeholders: logistics, suppliers, and organisations, residents and visitors within cities

Underused Resources	
Vehicles for Passenger Transport	**Empty running vehicles**
▪ Ferries ▪ Trains ▪ Trams ▪ Buses	▪ HGVs ▪ Vans ▪ Other empty return vehicles

3. **Idle Infrastructure** can help to make cargo bikes or other zero emission vehicles more effective for last mile transportation within cities as it is necessary to consolidate goods and services near the delivery area. Thus, so-called city hubs or consolidation centres are an absolute prerequisite. In the past, consolidation centres have often been uneconomic and unprofitable, because available logistics areas within the city are not only sparse but very expensive. Within previous projects[9] we could demonstrate that profitable and effective business models can be developed in cooperation between city administrations and logistics industry by utilizing underused buildings or garages.

Idle Infrastructure	
▪ Retail Units ▪ Train Stations ▪ Seaside Buildings	▪ Airports ▪ Car Parks ▪ Parking Garages

Objectives and Expected Results

The unique selling proposition of the project with which the project consortium is breaking new ground is based in the project's objectives:

(1) to activate and promote underused or inactive infrastructure or resources for sustainable urban logistics.

(2) to provide testing structures (testbeds) for innovative urban logistics systems.

[9] www.cyclelogistics.eu

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(3) to combine these activities to build a new Sustainable Urban Logistics Planning platform (SULP-Platform)

ASAP Testbeds

Within the five implementing cities there are in total 14 existing testbeds all of which relate to one for the above-mentioned classes pr sleeping assets (I: Neglected routes, II: Underused Resources and III: Idle Infrastructure). Not every city will implement all three different classes of Sleeping Assets, rather all cities will have a certain focus. With the testbeds in Hamburg focussing on Idle (and new) Infrastructure and Vienna and Paris mainly working in the area of Neglected routes and Düsseldorf and Stockholm heavily relating to Underused Infrastructure. A detailed overview of the individual Testbeds and their implementations can be found on the project's website.

The data that will be collected within the testbeds that will be fed into the ASAP SULP-Platform will include:

- Vehicle related data (loading capacity, trip distance, etc.)
- Goods related data (CEP, waste, construction, etc.)
- Urban space related data (socio-economic, environmental, political)
- Process related data.

1.3 Why an ASAP SULP-Platform?

ASAP has identified certain week points on other available SULP Platforms or in projects dealing with SULP which were the impetus for developing the ASAP SULP Platform:

- The platforms have neither an embedded and standardized method for the SDG [10] assessment nor profound information on real existing testbeds (poor level of information),
- The Novelog platform is not updated anymore, with a last update on 29/06/2018, which corresponds to the end-of-project
- The Novelog platform has no upscaling strategy and no open-access-approach,
- Users cannot interact with each other or ask open questions to a user community
- Future-related Cooperative Intelligent Transport Systems (C-ITS) topics are not considered at all in the existing platforms
- The measures are not clearly described or animated and there is no clear transfer of ideas or concepts available.

Based on these shortcomings ASAP and has determined to concentrate on utilising the data from the project's testbeds which have been selected according to the overall concept of using "Sleeping Assets" for logistics purposes. Beyond simply utilising data from the existing testbeds

[10] UN Sustainable Development Goals – a set of 17 Goals adopted by all 193 United Nation member states https://sustainabledevelopment.un.org/topics

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in the partner cities comprehensive information about socio-geographic information related to the testbeds, regulatory framework information and a categorisation of specific barriers that might hamper of prevent the usage of sleeping assets. In addition, the platform will recommend which goods are best matched with the different sleeping asset categories and which logistical requirements are needed for different commodity groups in the respective classes of urban areas.

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2. Analysis of existing SULPs

The task of this present document was the in-depth analysis of existing SULPs in relation to SDGs. The target was to screen between 5 and 7 existing SULP (or similar strategy documents) of different cities. To point out possible weaknesses of gaps within these SULPs we first analyse the existing documents with regard to:

1. General context of the city in question, including the general climate goals they've set for themselves.
2. Other related plans, strategies or policy documents that are available in these cities, and might be relevant in supporting the SULP.
3. Goals the cities aim to achieve with the SULP particularly in view of logistics-related externalities.
4. How the existing SULPs assure stakeholder inclusion, if there exists cross-institutional cooperation in the city and if there are any underlying requirements that have to be met, like collaborations with particular institutions, etc.
5. Evaluation
6. Modal solutions that are considered within the strategy paper
7. Any problems and / or gaps that could be identified in the existing SULPs
8. Any relevant additional information and/or possible remarkable aspects
9. SDGs that are addressed (indirectly) in the respective SULPs (or strategy documents).

In total we have analysed SULPs or similar strategy documents from six cities: Stockholm, Vienna, Hamburg, Gothenburg, Berlin, and Lucca.

These strategy documents have been selected for analysis because the first three cities are partners in the ASAP project (Stockholm, Vienna and Hamburg) and it will therefore be easy to receive information about the effectiveness of the actual implementation of these planning documents in real life settings. For both Gothenburg and Berlin, there are close links with relevant stakeholders and consultation with relevant players will therefore be facilitated. Lucca was selected because the SULP was created in the first EU-project mentioned in Chapter 1.2. The Enclose Project was one of the first EU-projects which had dealt with the development and implementation of SULPs and developed SULPs for nine small and medium sized European towns. In the chapters 2.1 – 2.6 below, the detailed analysis of the six SULPs is described. Chapter 3 gives an overview of the input from City Administrations with regard to obstacles and problem areas and first-hand lessons learnt concerning the implementation of SULPs and other strategic documents.

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2.1 Analysis of SULPs in various EU-cities

2.1.1 Stockholm

General Context

The analysed document is called the **Stockholm Freight Plan** and the purpose of this document is to take a holistic approach to the City's goods-related work and point a way forward. By means of this plan, the City wishes to communicate its perspective on the development of freight transport clearly and to create the right expectations amongst key industry stakeholders.

In the City of Stockholm, the current population of about 950,000 inhabitants is expected to rise to about 1.3 million by 2040. The City of Stockholm aims to build 140,000 new homes between 2010-2030. The freight transport of the future needs to fulfil accessibility, safety, environmental and climate requirements. Planning directions for Stockholm foresee the following points[11]:

1. **Assessibility and predictability for freight transport must increase**
   Freight deliveries in the city must be allowed to operate efficiently, with a good level of accessibility and predictability for stakeholders. Enhanced predictability can be achieved by easier access to goods receiving points and better urban mobility in the system as a whole.
2. **The negative impact of freight transport on the environment and the city's attractiveness must be reduced**
   The freight transport of the future needs to fulfil accessibility, safety, environmental and climate requirements. Solutions must be characterised by new thinking and innovation as well as an intelligent combination of transport modes depending on, for example, geographical location and type of traffic flow. By developing efficient and sustainable transport solutions, freight transport in the City's public spaces can be optimised, thereby contributing to its attractiveness
3. **Freight Transport must be developed through close collaboration between City and other key stakeholders.**
   The City of Stockholm has limited right of disposition over the region's and the city's freight transport, which is why a broad collaboration between public and private stakeholders is necessary. New collaborations and models must be developed and tested, and academia also plays an essential role in this regard. Active knowledge exchange and competitive intelligence as well as close collaboration with other stakeholders are all crucial for the

[11] Directly taken from the Stockholm Freight Plan

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sustainable development of freight transport, and these are and must remain cornerstones of the city's goods-related work.

In answer to the above points the City of Stockholm has the following **General Climate Goals**:

Related Plans, Strategies, Policies

This plan is one part of the **Urban Mobility Strategy**. Other plans that are part of the Urban Mobility Strategy for Stockholm and that all interconnect are: Cycling Plan, Pedestrian Plan, Parking Plan, Transit Netwok Plan, Traffic Safety Progamm.

Also, there are **further programmes and strategies** of Stockholm that relate to freight transport these are :

- The Environmental Programme
- The Strategy for a Fossil Fuel-free Stockholm by 2040
- The Strategy for Green Vehicles and Renewable Fuels
- The Quay Strategy for the Ports of Stockholm
- The Waste Plan
- World-class Business Parks
- Strategy for Stockholm as a Smart and Connected City

Goals regarding logistics related externalities

70% Swedish emissions from the transport sector must decrease by 70% by 2030 (compared to 2020) and total emissions must hit net-zero by 2045. At the moment they are following an Action Plan to achieve these goals. The objectives within the Action Plan 2018-2022 are:

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(1) Regulation and instruments

Examples of activities in this area

- Conducting more test projects for heavy freight transport at night, with a focus on enhanced knowledge of noise issues.
- Designing and implementing new regulations for heavy freight transport at night.
- Continuous review and evaluation of freight transport-related regulations, for example loading zones and vehicle restrictions

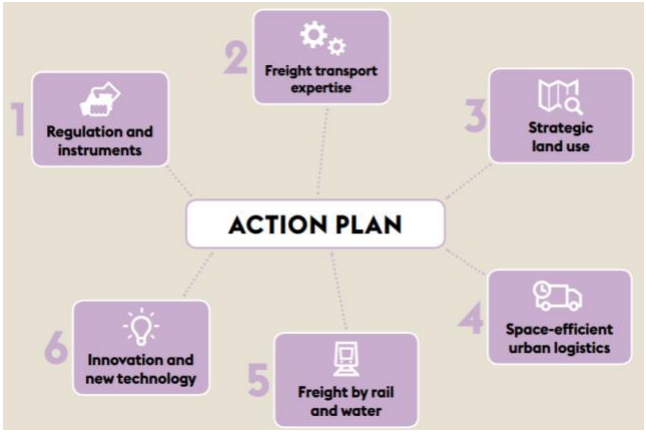

Figure 12: Action Plan City of Stockholm

(2) Freight Transport Expertise

Examples of activities in this area

- Raising the level of knowledge and awareness of freight transport in the technical administrations within the city.
- Developing new methods of freight transport measurement so as to improve knowledge of its extent and development.

(3) Strategic Land Use

Examples of activities in this area

- Protecting and developing the City’s dedicated industrial areas.
- Working to maintain the quays that are of the greatest significance to freight transport
- An excavation material management plan for the City, including developed mechanisms for better supervision of construction logistics in the City’s projects

(4) Space-efficient Urban Logistics

Examples of activities in this area

- Developing the #ÄLSKADESTAD collaboration further.
- Promoting the use of light electric vehicles for last-mile transportation

(5) Freight by Rail and water

Examples of activities in this area

- Conducting a pilot project for transport of construction waste by water in urban environments.
- Conducting a pilot project for parcel deliveries that includes local shipping.

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- Promoting the increased use of freight transport by rail to the region

(6) Innovation and new technology

Examples of activities in the area

- Promoting the development of geofencing in urban environments through collaboration at national level.
- Investigating enhanced urban mobility for freight deliveries on access roads and ring roads

Stakeholder inclusion and Cross-institutional cooperation

The Stockholm Municipality is aware of it's ability to **influence freight transport** within the city through **regulations and various municipal instruments**. This is partly because the municipaliy actively involves many different departments and institutions in the decision making processes. These include: Stockholm County Council, Stockholm Urban Planning Department,

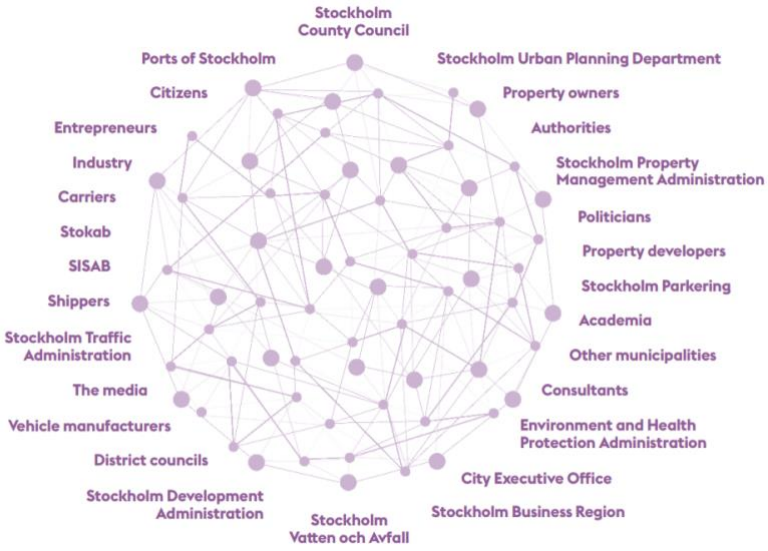

Figure 13: Influences on Freight Transport Stockholm

Stockholm Property Managment Administration, Stockholm Parking Department, Other Municipalities, Environment and Health Protection Administration, City Executive Office, Stockholm Business Region, Stockholm Vatten och Avall, Stockholm Development Adminstration, District councils, Stockholm Traffic Administation, Ports of Stockholm.

In addition to this **cross-institutional cooperation** the municipality also makes sure that other stakeholder get involved. Starting with citizens the city also involves entrepreneurs, industry, carriers, Shippers, various media, vehilce manufacturers, consultants, research organisations, property developers and of course politicians.

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Evaluation

Measures and activities are continuously monitored, but the plan is only valid until 2022 and thus rather short term now.

Modal Solutions

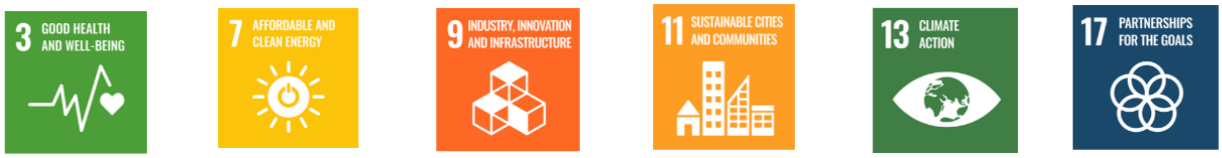
Problems and/or Gaps

Handling productivity is a key factor not often considered.

Additional Information and/or possible remarkable aspects

According to the climate policy framework adopted in 2017, Swedish emissions from the transport sector must decrease by 70 percent between 2010 and 2030, and Sweden's total emissions must hit net-zero by 2045. The City of Stockholm aims to become fossil fuel-free as early as 2040, and the City's climate strategy, the "Strategy for a fossil-fuel free Stockholm by 2040", paves the way to achieving this.

Addressed SDGs



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2.1.2 Vienna

General Context

In the case of the City of Vienna the analysed SULP was the Action Plan: **"Sustainable Logistics 2030+ Lower Austria – Vienna".** For this strategic document the **City of Vienna** and the surrounding area of **Lower Austria** together developed plans on how to handle the increasing traffic volumes of future years.

Vienna, as the second-largest German-speaking city after Berlin also hosts a several major international organisations including UN, OPEC and OSCE. The city has been named as "the most livable city in the world" for ten times and is aware that to hold this title it is necessary to continuously improve and become more sustainable to ensure this quality for it's 1.9 million inhabitants (2,6 million in the metropolitan area).

The 2020 released Courier, Express & Parcel (CEP) industry report[12] for Vienna showed an increase of + 9% and a total of 95 million parcels being delivered in 2019. That is currently 36 parcels per inhabitant per year and the forecast continues to show significant growth; by 2025 the volume will be around 150 million parcels!

The growth in the CEP market now comes entirely from the B2C sector, i.e. parcels to private individuals, while the business sector (B2B) is slightly declining.

Therefore the central elements of the SULP (Logistik 2030) are:

- Plan and secure the city logistics space in advance.
- Goods consolidation with the help of new business models with Freight Village, hubs, and consolidation.
- Efficient solutions for parcel delivery.
- Sustainable logistics concepts for companies doing large construction works.
- Incentives for accelerated (zero-emission) fleet changes including cargo bikes.
- Digital information and services to increase efficiency and use of public space.
- Regulations for city logistics.
- Actively communicate services and costs of logistics.

To achive the goals of the above listed **8 central elements a total of 35 measures** (short-, medium and long-term) have been developed. Each measure specifies if only Lower Austria and Vienna or both are included. In addition to the regional and municipal authorities the Chamber of commerces (Lower Austria and Vienna) might also be involved.

[12] https://www.logistik2030.at/?p=1352 (retrieved August 2021)

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Each of the 35 measures has also been rated with regard to:

1. **Triple A rating**: rating regarding investment costs and running costs or implementation risks (A-B-C.
2. **Impact rating**: how relevant the respective measure is with regard to improving the transport and logistics system.

Related Plans, Strategies, Policies

STEP 2025 is a strategy paper of the City of Vienna that sets the direction of urban development at the level of society as a whole up to the year 2025. The document describes principals and initatives that are to guide Vienna's development in eight chapters. Based on the goals of the STEP 2025 various sectoral concepts were developed. These include:

- **Green and Open Space** – based on the objective of the STEP 2025 this concept sets the direction for green and open space planning
- **Mobility** - mobility services in Vienna should be fair, healthy, compact, ecological, robust and efficient. It is about becoming "mobile with each other".
- **Public Space** – Public Space as a social space for communication and exchange
- **Policentric Vienna** – Vienna aims to create an urban structure with diverse centres. The sectoral concept deals with current and future uses and functions of centres.
- **Productive City** – the loss of land for commercial and industrial enterprises is to be reduced in the future. The goal is to secure around 5% of Vienna's total area as business sites.
- **Energy Spatial Planning** - combines energy planning and urban planning. It thus enables synergies and the best possible utilisation of existing resources.
- **Highrise Buildings** – their construction will be examined more closely in the future and the involvement of citizens also in the quality assurance process will be promoted.

The necessity of measures in the area of freight transport and logistics are also anchored in the **Austrian Climate and Energy Strategy** as well as in the **mobility concepts** of **Lower Austria** and **Vienna**.

Goals including logistics related externalities

The goals of the SULP of Vienna are focused on making the urban logistics solutions of the future more sustainable, future-orientated and resilient. Therefore five important goals were defined that also focus on various logistics related externalities like air (No_x, PM_x, CO_2, etc.) and noise pollution, congestion, climate change and safety:

1. **Solving conflicts** associated with moving and stationalry freight and individual traffic.
2. **Saving CO_2**.
3. **Reducing traffic volume** without sacrificing performance and quality.

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4. Developing logistics and transport concepts that meet with **broad consensus**.
5. Developing and accompanying **pilot projects**.

In addition to the 5 main goals there are several other areas that are important for their implementation. These area the area of **digitalisation and broadband/5G-extension** as a basis for further further interconnectedness and the development of further business and logistics locations. Sustainable energy and innovation in the area of mobility are also connected and therefore Vienna promotes **cooperations and innovations in the energy and mobility fields**. Particularly through funding of new pilot projects and their development into upscalable solutions. The city and the region also empowers local and **regional production and workspaces particularly in the area of automation**. Last, but by far not least the strategy focuses on **transport safety** as an important societal concern.

Other important measure that can contribute to reach the goals is the implementations of **urban access regulations** and laws. Although the words themselves and their implementation might be unpopular but experience in many EU cities has shown that measures like Low Emission Zones (implemented in Vienna), Urban Road Tolls, Zona Traffico Limitato (ZTL), Emergency Pollution Schemes etc., are usually effective.

Stakeholder inclusion and Cross-institutional cooperation

For the conception of the ”Sustainable Logistics 2030+ Lower Austria – Vienna” strategy paper Four different project promotors were mobilized. The SULP is backed by the Province of Lower Austria, the City of Vienna, the Chamber of Commerce of Lower Austria and the Chamber of Commerce of Vienna. In addition to this more than **300 diverse stakeholders** were involved in a multi-stage process that would enable both a sustainable development and the integration and utilization of emerging technological developments. The formate to elaborate strategies were interviews, working groups and project committees. Around **100 experts** from various fields **actively participated** in the Logistics 2030+ Action Plan.

Figure 14: Sustainalbel Logistics 2030+ Lower Austria and Vienna

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Another **200 people provided online feedback on interim results**.This comprehensive stakeholder process and the interdisciplinary approach guarantee broad support for the action plan and its implementation.

Within the City of Vienna several bodies and departments worked in cooperation. Among those were: City Councillor for Urban Development, Transport, Climate Protection, Energy Planning and Citizen Participation, State Councillor for Finance & Mobility,

Department for Urban Development and Urban Planning, Department Spatial Planning and Overall Transport Affairs.

Table 3: Logistics Stakeholder List Vienna

Members of the Stakeholder Board	Wider Stakeholder Group (about 300 persons from different sectors)
REWE International AG	Transport companies, freight forwarders
Veloce Botendienste GmbH	Logistics service managers
Frankstahl Rohr & Stahlhandels Gmbh	Courier, express, parcel services
Venz GmbH	Craft, trade, service providers
Kastner GroßhandelsgmbH	Industry
Stadt Umland Management Süd	Gastronomy, tourism
Österreichische Post AG	Land/real estate development, construction industry
Frauenthal Service AG	Infrastructure operators
Bezirksvorsteher des 21. Wiener Gemeindebezirkes, Stadt Wien	Politics, administration
Wiener Hafen GmbH & Co KG	Transport, urban and spatial planning
Q Logistics GmbH	Companies in passenger transport
Bürgermeisterin der Stadtgemeinde Wolkersdorf a. D	Technology sector, logistics/transport control
Rail Cargo Austria AG	Representation of focus and population groups
Rektor der Fachhochschule des bfi Wien	Experts for sustainable logistics and development trend
BVL Bundesvereinigung Logistik Österreich	
BMK Federal Ministry for Climate Action, Environment, Energy, Mobility, Innovation and Technology	

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Evaluation

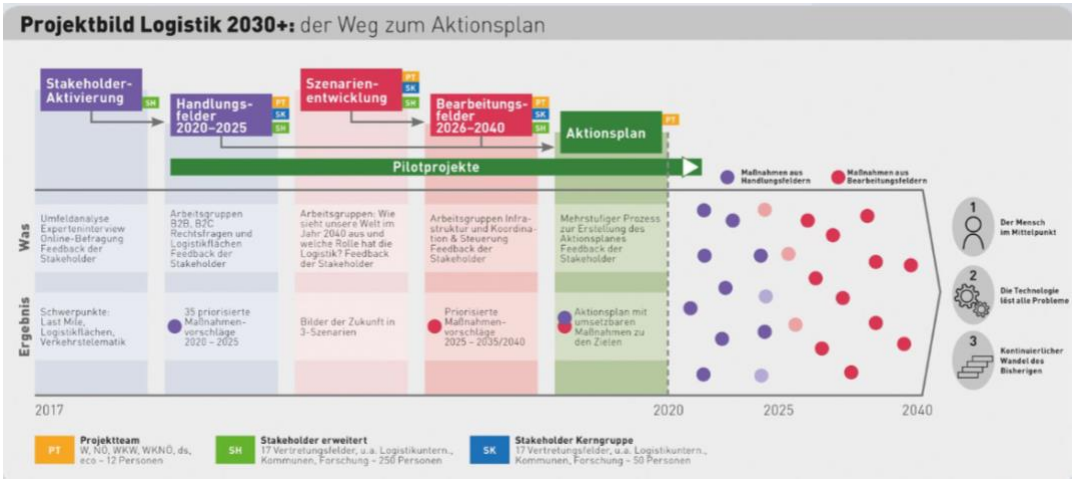

Figure 15: Logistik 2030+ (Source: Strategy Paper Vienna and lower Austria)

The SULP divides the work to be achieved in three stages. Stage 1 – short term to be completed between 2020 – 2021. Stage 2 – medium term goals 2022 – 2025 and finally the realisation of all goals in stage 3 – long term between 2026 and 2030. The strategy foresees to evaluate the completed measures at different suitable timepoints and to decide on the next steps accordingly.

Modal Solutions

Additional Information and remarkable aspects of the particular document

Each of the 35 described measures lists a series of associated actions. E.g., Measure 01 addresses the safeguarding and assignment of logistics areas. After a short explanation of the aims of the respective measure several action points are listed and the time-frame of each action point is defined. In addition to the definition of the Triple-A and Impact rating it is also specified for each measure which of the four project promotors (Vienna, Lower Austria, Chamber of Commerce Lower Austria) is responsible.

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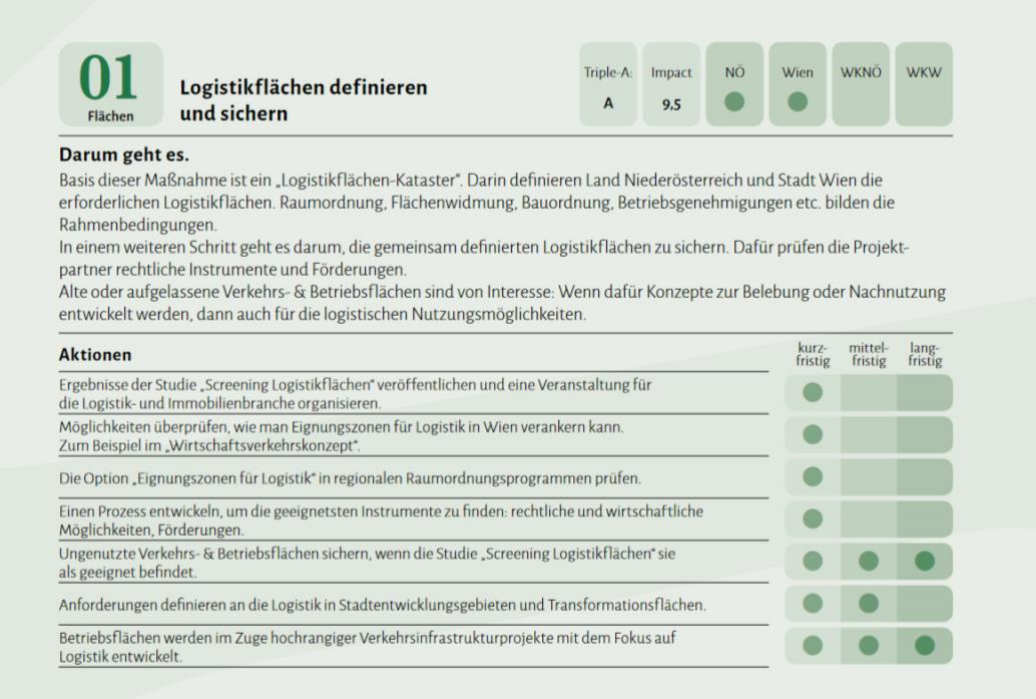
The document also lists and describes a series of various pilot projects that are currently in implementation. One of these pilot projects is the HUBERT project (https://www.stadtlogistik.at/) which will also serve as a testbed in the ASAP project. In order to reduce the increasing number of freight trips in urban areas goods can be bundled in a hub within the city area, independent of the company (white label hub). In order to test the effects, the City Hub HUBERT pilots solutions. For this purpose, the City of Vienna has set up the "Agile Team", which has developed a business plan for it. The business model is cost covering after three years with start-up financing. If successful, the model can be scaled up in the long term.



01 Flächen — **Logistikflächen definieren und sichern**

Triple-A:	Impact	NÖ	Wien	WKNÖ	WKW
A	9,5	●	●		

Darum geht es.

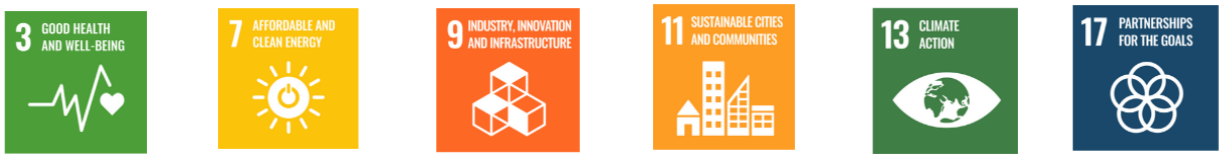
Basis dieser Maßnahme ist ein „Logistikflächen-Kataster". Darin definieren Land Niederösterreich und Stadt Wien die erforderlichen Logistikflächen. Raumordnung, Flächenwidmung, Bauordnung, Betriebsgenehmigungen etc. bilden die Rahmenbedingungen.
In einem weiteren Schritt geht es darum, die gemeinsam definierten Logistikflächen zu sichern. Dafür prüfen die Projektpartner rechtliche Instrumente und Förderungen.
Alte oder aufgelassene Verkehrs- & Betriebsflächen sind von Interesse: Wenn dafür Konzepte zur Belebung oder Nachnutzung entwickelt werden, dann auch für die logistischen Nutzungsmöglichkeiten.

Aktionen	kurz-fristig	mittel-fristig	lang-fristig
Ergebnisse der Studie „Screening Logistikflächen" veröffentlichen und eine Veranstaltung für die Logistik- und Immobilienbranche organisieren.	●		
Möglichkeiten überprüfen, wie man Eignungszonen für Logistik in Wien verankern kann. Zum Beispiel im „Wirtschaftsverkehrskonzept".	●		
Die Option „Eignungszonen für Logistik" in regionalen Raumordnungsprogrammen prüfen.	●		
Einen Prozess entwickeln, um die geeignetsten Instrumente zu finden: rechtliche und wirtschaftliche Möglichkeiten, Förderungen.	●		
Ungenutzte Verkehrs- & Betriebsflächen sichern, wenn die Studie „Screening Logistikflächen" sie als geeignet befindet.	●	●	●
Anforderungen definieren an die Logistik in Stadtentwicklungsgebieten und Transformationsflächen.	●	●	
Betriebsflächen werden im Zuge hochrangiger Verkehrsinfrastrukturprojekte mit dem Fokus auf Logistik entwickelt.	●	●	●

Figure 16: Definition of Logistics Areas Vienna

Another pilot project is the MIHU project that analysed the possibilities for inter-organisational cooperation in a midi-hub in Vienna. A midi-hub is an inner-city freight consolidation centre that has the capacity, to supply a larger part of the city with goods. It can be used jointly by several services for example, courier express parcel services. The project analyses and tests suitable locations within the city of Vienna. The effects of different hub systems are assessed and effects on traffic tested.

Addressed SDGs



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2.1.3 Hamburg

General Context

The analysed document is called ” **City-wide concept for the Last Mile: Creation of a Roadmap for the Free and Hanseatic City of Hamburg**”.

Hamburg is the second-largest city in Germany after Berlin and 7th largest city in the European Union with a population of over 1.84 million. Hamburg's urban area has a population of around 2.5 million and its metropolitan area is home to more than five million people. According to the study, Hamburg has the following neighbourhood types:

- City centre and centres
- Densified mixed areas in perimeter block development
- Single-family and two-family house areas / purely residential areas
- Rows and peripheral large housing estates Commercial and industrial areas
- New urban districts
- Other development structures

With regard to the **General Climate Goals** Hamburg aims to achieve:

Related Plans, Strategies, Policies

„Mehr Stadt in der Stadt – Chancen für mehr urbane Wohnqualitäten in Hamburg“

Goals regarding logistics related externalities

The City of Hamburg has made a decision for a conscious pursuit of the vision of moving away from singularly established pilot projects towards a city-wide roadmap, the main contents of which were defined in the terms of reference as follows: "City-wide concept for the last mile".
as follows: "Overall urban concept for the last mile".

In order to achieve these goals the project procedure below is followed:

- Analysis of the **initial situation**: CEP volume and structure of transport, evaluation of existing concepts in Hamburg, spatial structure of the city;
- **Stakeholder participation**: Involvement of the administrative units, integration of further stakeholders through interviews and workshops, citizens' forums;
- Literature and **best practice** research;
- Catalogue of measures according to **neighbourhood types**;
- **Potential analysis**;
- Integrated last mile concept with **recommendations for action**;
- **Dissemination** of results.

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The analysed document presented a very detailed analysis of the different neighbourhood types in Hamburg (see general city context) including a detailed on-site data collection of data relating to: general traffic situation in various neighbhourhoods; the role of CEP-traffic in neighbourhoods; and related conclusions. The Status Quo analyis of CEP-traffic and a prognosis of the effects of these different traffic streams was followed by an in-depth collection and analysis of international Best Practice expamples with regard to: Road safety, effects on traffic performance; effects on CEP and last mile traffic; emissions effect on air and climate,space efficiency; and environmental quality.

The outcome of the work invested was a smart CEP - roadmap that is layed out in 24 defined steps. This was followed by the establishment of an **urban delivery traffic steering committee** as a central body that would accomany and oversee the implementation. A central **urban contact point** for all delivery traffic issues was defined and a clearing house for the registration and **mediation of spaces** was established. Also defined were construction **standards for micro-depots** and pick-up points and an inventory of pick-up points was established and included in urban planning by integrating delivery infrastructure into **formal urban planning**. As a next step an inventory of delivery zones was created and targets for their expansion were defined.
Because **cargo bikes** are an important envisaged modal solution for CEP delivery in Hamburg it was self evident that an inventory of the **cycling network** and definition of targets for its expansion and upgrading was needed. This was complemented by a basic study on infrastructure requirements for **electric delivery traffic**.

Another analysis that was carried out identified **neighbourhoods** with particular **need for action** with regard to the above established points. This was accompanied by and information campaign for citizens and the public to ensure efficient approval procedures for innovative concepts.
The next steps carried out were the following:

- Creation of sufficient delivery zones and establishment of efficient delivery zone management
- Creation of first micro depots and pick-up points
- Privileging cycling and zero-emission vehicles
- Restrictions on conventional vehicles
- Creation of the remaining required micro-depots and pick-up points
- Expansion of cycling infrastructure according to the needs of cargo bikes
- Expansion of electric distribution networks and public charging infrastructure
- Legal examination and, if necessary, introduction of delivery concessions

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- Creation of a municipal player for the handling and coordination of delivery transports
- Establishment of a digital delivery platform / innovative city logistics.

Stakeholder inclusion, Cross-institutional cooperation and underlying requirements

A detailed analysis of the different actors in Hamburg that are involved in urban logistics transport issues is complex and wide-ranging. It also became obvious that at least three city authorities needed to be involved. In addition, to public actors (see below) a number of private actors from different sectors were involved in the planning.

Table 4: Logistics Actors in Public and Private Sector (Vienna)

Actors in the public sector	Private actors
Authority for Interior and Sport	CEP and other logistics sector
Authority for Economic Affairs	Real estate and construction industry, housing industry
Transport and Innovation Authority for Urban Development and Housing	Retail trade
District authorities	Transport companies
Public transport companies	Business Improvement Districts
	Citizens and Citizens associations

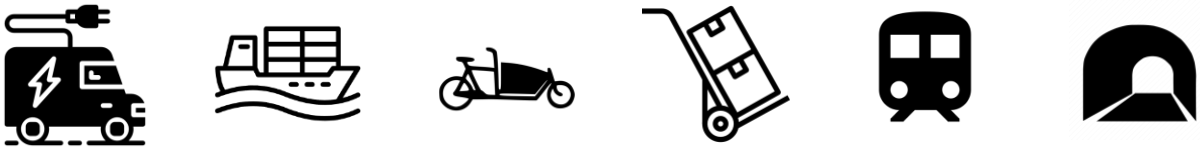
Evaluation

Short term: Analyis of starting point through: quantitative models regarding CEP consignments; Structuring of the urban area and the types of neighbourhoods; Analysis of political environment; Actor analysis and examination of the relevant responsibilities in the public sector;

Medium term until 2025 - Long Term until 2030 and beyond:

There is a detailed To Do list which is not only limited to the measures to directly influence delivery traffic, but all the framework conditions to be created and fundamental political issues to be discussed. All measures are also assigned to the actors responsible for them.

Modal Solutions



Alternative Vehicle types analyses: e-vans, cargo bikes, drones, boats, tunnelsystems (hyperloop, Smart City Loo, Cargo-sous-terrain), public transport, new concepts with private cars, pick-up points, micro or macro deport or hubs, delivery zones, night delivery.

Problems and/or Gaps

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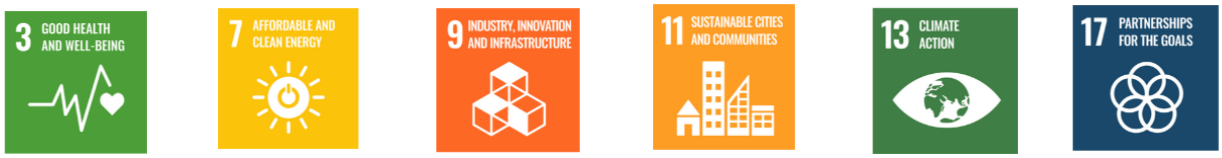
Despite the fact that the in-depth analysis and detailed research that has gone into the preparation of this concept the focus is only on last mile and thus lacks in information and plans for all other logistics areas that a city should consider when preparing a SULP.

Additional Information and remarkable aspects of the particular document

The document recognises how difficult it is to include all necessary actors and even to know who they are. It also recognises that it is often not possible for communes to take control of the businesses in the private sector and that communication and agreed cooperation is the key. Often the commune is also dependent on national regulations.

Addressed SDGs



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2.1.4 Gothenburg

General Context

For the purpose of the analyis of SULPs or similar logistics strategy documents we also analysed the **"Gothenburg 2035 – Transport Strategy for a close-knit city"**.[13]

It-is estimated that by 2035 Gothenburg will have 150,000 more residents and 80,000 more jobs, and the city will be the core of a labour market region with 1.7 million inhabitants. This will produce numerous challenges but at the same time an invaluable opportunity to create a cohesive city that lives up to ambitious environmental objectives – an opportunity not available to every city.

The Transport Stratgy focusses on 3 areas:

- Travel (easily accessible regional centre),
- Urban space (more attractive city environments) and
- Transport of goods (logistics centre for Scandinavia).

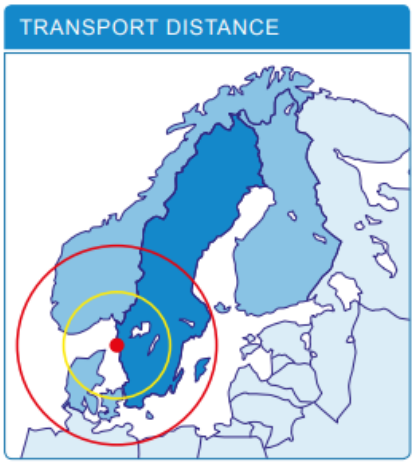
For the purpose of the present analysis we only focused on the **Goods Transport Strategy.**

The Goods and Transport Strategy for Gothenburg aims to achieve the following coals by building on multi-stakeholder collaborations:

- **Ensuring good accessibility for goods transport** in Gothenburg while at the same time **reducing negative local environmental effects**
- **Regional** collaborations in the establishment of logistics centres and transport-intensive operations
- **Stimulating innovation in collaboration** with academic institutions and businesses

On a secondary level the strategy also outlines the several **implementation principles**:

- Begin with investments that facilitate travel within, through or around the inner city
- Ensure that accessibility is maintained while the close-knit city is being realised
- Support innovation and the introduction of new solutions, and allow Gothenburg to be a testing ground
- Make use of the potential in a meaningful dialogue with businesses and inhabitants.



A very large part of Sweden's, Norway's and Denmark's industrial capacity lies within a couple of hours' transport distance of Gothenburg. The radii shown are of 300 and 500 kilometres around Gothenburg.

Figure 17: Transport Radii Gothenburg Logistics Area

[13] https://goteborg.se/wps/wcm/connect/6c603463-f0b8-4fc9-9cd4-c1e934b41969/Trafikstrategi_eng_140821_web.pdf?MOD=AJPERES

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With regard to the **General Climate Goals** Stockholm aims to achieve:

Related Plans, Strategies, Policies

The Goods Transport Strategy is part of the **Transport Strategy** for a close knit city that also contains sections on Travel (in general) and Urban Space. Moreover the Transport Strategy has been developed together in parallel with the **Development Planning Strategy** and the **Green Strategy** and is based, as they are, on the Comprehensive Plan adopted in 2009. There also exists a **RiverCity Vision** that feeds into the three strategy documents. Together the three strategy papers provide the city with a clear path for the next 20 years.

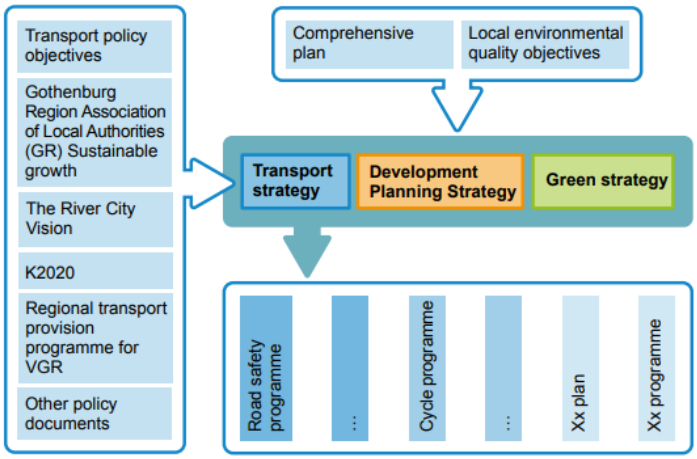

Figure 18: Interlink of different Urban Strategies Gothenburg

In addition to the three strategy papers and the underlying Comprehensive Plan from 2009 there are also a number of other policies and programmes which are linked to the other strategies and influence each other. These are for example the Road Safety Programme, the Parking Policy, the Cycling Programme and the Acessibility Programme.

Apart from plans and strategy papers that solely focus on Gothenburg there are also related documents which have important effects for the entire region. This is for instance the West Sweden Agreement that also includes information about the **West Link rail tunnel** and a **congestion charge** that was agreed. The long-term public transport related goals of the city are described in the **regional transport provision programme for West Götaland**. With this programme the region hopes to increas the number of public transport journeys from currently 1:4 to 1:3 by 2025.

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Goals regarding logistics related externalities

Associated with the **3 objectives** of the Goods Transport Strategy:

1. **Ensuring good accessibility for goods transport in Gothenburg while at the same time reducing negative local environmental effects**

   The City of Gothenburg has three environmental quality objectives. These are: Clean Air, Good Build Environment and Only natural Acidification.

Table 5: Environmental Objectives Gothenburg

Clean Air	Good Built Environment	Natural Acidification
The Air in Gothenburg must not harm citizen's health or cause recurring problems.	Good urban structures are created through cooperation of different departments.	Tolerance Levels of land an water will not be exceeded.
The daily mean value for particles (PM10) may not exceed 35 micrograms/m3 in 2013.	At least 90 per cent of Gothenburg's inhabitants will by 2020 have an outdoor level near their homes that does not exceed 60 dBA Leq.	Total emissions of sulphur dioxide in Gothenburg will be reduced to less than 670 tons/year by 2025, which is a 60 per cent reduction from 2006 levels. Emissions from maritime transport will be reduced to less than 100 tons/year in the same period (a 90 per cent reduction).
The annual mean value for particles (PM2.5) may not exceed 12 micrograms/m^3 in 2013	At least 95 per cent of the city's preschools and compulsory schools will by 2020 have access to play areas with a maximum of 55 dBA Leq, and all city parks will by 2020 have levels that do not exceed 50 dBA Leq in most of the park space.	Emissions of nitrogen dioxide in Gothenburg will be reduced to less than 7 500 tons/year by 2015, compared with 2006 (a 30 per cent reduction).
The annual mean value for NO_2 may not exceed 20 micrograms/m^3 at 95 per cent of all preschools and schools in Gothenburg and by the homes of 95 per cent of Gothenburgers by 2020.		

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2. **Collaborating regionally in the establishment of logistics centres and transport-intensive operations.**
   The City of Gothenburg aims for a close cooperation and connection between issues of goods transport and the urban planning process. This should also support the fact that goods transport needs to be efficient but also sustainable and not impair the safety of citizens. Whenever possible rail and water will be the preferred solution over road transport, particularly where heavy traffic vehicles are concerned. The city is also exploring the possiblity of ”Electrification of roads for the transport or goods.”
3. **Stimulating innovation in collaboration with academic institutions and business**
   Gothenburg aims to be at the leading edge of logistics and wants to become a world leader of climate smart goods handling and is in the process of creating platforms of different relevant stakeholders to stimulate a dialoge that will enable the implementation of various measures.

The above three specific **Effect Targets** that have been set because Gothenburg aims to become the Logistics Centre of Scandinavia. The targets also relate to many externalities that are connected with logistics operations.

- Transport times and variations in transport times on road and rail to and from important industry and logistics areas do not increase, remaining in 2035 at their 2014 levels.
- The impact of transport of goods on air quality, noise and acidification will be reduced to below 2014 levels.
- Gothenburg will be rated the best logistics location in the Nordics in leading rankings, and will generally be regarded as a leader in climate-smart transport.

Stakeholder inclusion, Cross-institutional cooperation and underlying requirements

The responsible people in the City of Gothenburg are aware that goods transport issues in general and the aim to become a world leader in goods handling in particular demands the organsiation of **solution-oriented teams** in which different administrations, municipal companies and even state actors work togehter. For the Transport Strategy also there exists involvment of the Swedish Transport Administration and Gothenburg’s Urban Transport Administration and other departments that cover Urban Space and general transport as well as the environmental administration. For cooperation with private businesses the **creation of platforms and external forums** are in preparation that include representatives of the transport business, industry, retailing, property owners and stakeholder organisations.

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Evaluation

In Gothenburg the "goals" measurements and monitoring started 2014 and is supposed to be seen through until 2050. Medium-term goals are to reduce the CO2 Emissions from road transport by 80% by 2030 compared to levels in 2010 and the cut CO2 Emissions from shipping by 20% in the same timeframe.
In the long-term the goal is to have achieved an overall sustainable and equitable level of all GHG emissions by 2050.

Modal Solutions

Additional Information and remarkable aspects of the particular document

Gothenburg is the largest port in Scandinavia, which handles a considerable proportion of Sweden's exports and imports. Half of the industrial capacity in the Scandinavia is located within a 300 km radius of Gothenburg; if the radius is extended to **500 km**, it includes **70 per cent of Scandinavia's industrial capacity**. This creates opportunities for the city to become a world leader in efficient and climate-smart transports.

Gothenburg is in the process of going from being a small city to a large city. With unique conditions, such as access to development land in central locations, a strong business sector and successful academic institutions, as well as the city's strategic location in Scandinavia, this transformation has every chance of succeeding – but it will require an overall perspective.

Addressed SDGs

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2.1.5 Berlin

General Context

The document analysed for the City of Berlin is called "**Integrated Commercial Transport Concept Berlin**" (Integriertes Wirtschaftsverkehrskonzept Berlin) and was elaborated already in 2005, making Berlin one of the first cities that paid attention to logistics issues. An **update** of the concept is currently **in preparation**.

Highlights of what goods and freight transport means in Berlin:

- Supplying of goods and merchandise for trade and industry, including more than 1,100 supermarkets in Berlin alone
- Supplying around 800 hotels and other accommodation facilities in Berlin as well as approximately 9,400 catering establishments (as of February 2020)
- Delivering an average of more than 400,000 parcels daily by an estimated 2,500 courier, express and parcel service (CEP) delivery vehicles
- Supplying construction sites and the transport of excavated soil
- Disposing of waste and recycling materials in Berlin, including around 798,000 tonnes of household waste and around 103,000 tonnes of organic waste in 2019
- Movement of people employed, for example in around 41,500 Berlin companies (2018) in the "provision of professional, scientific and technical services" sector

With regard to the **General Climate Goals** Berlin aims to achieve:

Related Plans, Strategies, Policies

The Integrated Commercial Transport Concept is tightly connected with planning documents from other **sectoral urban development plans**. In addition, the Integrated Commercial Transport concept is also connected with the "Clean Air and Action Plan" (2005) with regard to the implementation of an environmental zone, the "Land Use Plan" and several Urban development plans (Stadtentwicklungspläne - StEP). These are: StEP Transport 2025, StEP Commerce 2030; StEP Climate 2.0 and the "EpB" – Development Concept for the manufacturing sector.

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Goals regarding logistics related externalities

The City of Berlin has defined **three quality targets** with several associated **action targets** in order to guarantee a sustainable urban and transport development.

Table 6: Quality and Action Targets Berlin

Quality Targets	Action Targets1
1.Ensure the functionality of the commercial transport system	1.1 Ensuring the functionality of the transport networks - Providing the necessary infrastructure and maintenance of the road transport network and the rail network for freight transport - Steady traffic flow - Ensuring sufficient shares of commercial traffic in off road transport capacity
	1.2 Ensuring the accessibility of sources and destinations of freight and passenger economic traffic
	1.3 Providing the necessary logistical areas and infrastructures for planning purposes and infrastructures
2. Integrating commercial transport in a way that is compatible with the city	2.1 Increasing traffic safety
	2.2 Improvement of the traffic-influenced quality of stay in urban space urban space - Reduction of air pollutant loads caused by traffic (benzene, nitrogen dioxide, particulate matter PM 10, carbon monoxide, PAHs) with the aim of achieving a significant undercutting (25%) of the limit values contained in the EU daughter directives by 2015 - Reduction of noise pollution in main roads in particular with a high proportion of residents in each of the 3 level ranges above 65, 61-65 and 56-60 db(A) at night; reduction of noise exposure for at least 25,000 affected persons, by 2015 - Reduction of spatial and temporal conflicts of use
	2.3 Improving planning climate of cooperations
3. Reducing ecological consequences of commercial transport	3.1 Reduction of transport-related environmental use - Reduction of the transport-related consumption of natural resources (energy, free land/soil) - Reduce transport-related greenhouse gas emissions by 25% from 2000 to 2015 and 50% by 2025
	3.2 Improving the conditions for the modal shift of of motorised road transport
	3.3 Reduction of motor vehicle kilometres in commercial transport

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In the following the several topics of the new Mobility Law for Berlin[14] are described. This law has two new sections: ”Commercial goods transport and new mobility” and contains the following new regulations:

- **Urban compatibility of commercial transport**: Delivery traffic to become more urban-friendly, for example by avoiding rush hours as much as possible and using more and more low-emission vehicles, particularly safe, low-emission delivery vehicles and processes, which will also be taken into account in the awarding of public contracts in the future.
- **Functionality of commercial transport**: areas for commercial transport will be secured. Existing infrastructure facilities of the railways and waterways as well as the public inland ports will be maintained or reactivated as needed. Local freight transfer points are to be planned from the outset when planning new neighbourhoods. A new guideline for determining the need for delivery and loading areas with concrete quality and quantity specifications is to support the districts in planning. The establishment of delivery and loading zones for shops and businesses is given priority over the establishment of other parking spaces (except parking spaces for people with mobility impairments).
- **Exchange platform for commercial transport**: is to serve the regular exchange between actors in commercial transport with the responsible bodies from politics and administration.
- **Platform for traffic-relevant data**: Transport-relevant data should be made available on a publicly accessible online platform. This supports public and private providers in the development of new mobility services.
- **Framework conditions that promote innovation**: The Senate Department responsible for transport defines targets for innovative mobility and logistics services and appoints a contact person for the monitoring and testing of corresponding model projects in order to make the best possible use of the positive effects of technical-logistical developments for the transport turnaround.

Stakeholder inclusion and Cross-institutional cooperation

The Integrated Commercial Transport Concept of Berlin also foresees the inclusion of many different stakeholders. From the City administration side these include **several cross-institutional cooperations** with deplartments like: Mobility Advisory Council, Senate administrations and members of the Berlin House of Representatives mobility associations, representatives of the interests of people with mobility impairments, districts, Logistics sector and associations.

[14] https://www.berlin.de/rbmskzl/aktuelles/pressemitteilungen/2021/pressemitteilung.1042695.php

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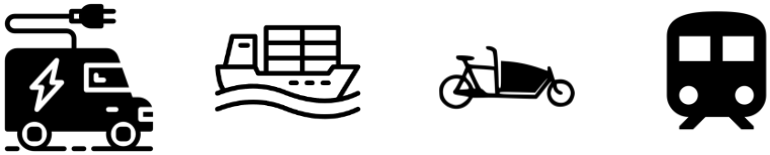
Although the Integrated Commercial Transport Concept was prepared by the Senat Department for Urban Development the authors were supported not only by the University of Technology Hamburg but also by a large number of external experts from the logistics industry and logistics associations, ministry of infrastructure ans spacial planning State of Brandenburg, Deutsche Bahn, Freie Universtity of Berlin, Berlin Port, Chamber of Trade, Chamber of Industry and Commerce, District Office Schöneberg-Tempelhof, and District office Mitte.

Evaluation

Not available

Modal Solutions



Addressed SDGs

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2.1.6 Lucca

General Context

The **Sustainable Urban Logstics Plan of the City of Lucca** was developed during / as part of the European Project **Enclose**[15].

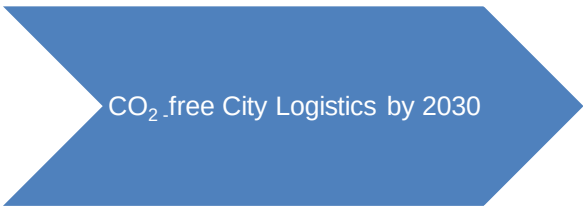
The city of Lucca has a population of about 80.000 inhabitants and an area of slighly over 185km^2 with an average density of approximately 430 inhabitants per square kilometer. A survey conducted in 2006 identified in the area more than 1.400 commercial and artisan shops. This number plus other professional businesses raise the number of economc activities that can potentially be served by urban logistics services to 1900. The city suffers from very bad air quality and tries to counteract this with the current regulations: Access regulations to the historic city centre including specific rules for commercial vahicles and goods distribution (Limited Traffic Zone (LTZ), Pedestrian Area, 30km/h for heavy vehicles). There also exists an air quality monitoring system, a permit management system and LTZ access control system a managment and control system of parking areas.

The air quality is particularly bad in Lucca where the PM10 limit was exceeded 100x in 2010 and the local government understands that there is an urgent need to improve air quality and reduce pollutants. Figure 18 shows the recorded daily average values in 2010.

NO2:	35 mg / m^3
NOx:	55 mg / m^3
PM10:	31 mg / m^3
SO2:	2 mg / m^3
O3:	60 mg / m^3

Figure 19: Recorded daily emission values 2010 Lucca

With regard to the **General Climate Goals** Lucca aims to achieve:



Related Plans, Strategies, Policies

At the time when the SULP was developed there were **several major plans already in place** that could support the goals of the SULP. These plans were:

- Action Plan for Sustainable Energy,
- Forecasting and planning report,
- Subscription of Covenant of Mayors

[15] http://www.enclose.eu

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- Climate Change Plan
- Cycling Plan

In addition to the above plans the preparation of several other plans was in progress:

- Urban Traffic Plan
- Sustainable Mobility Plan
- City Planning

The city plans (present and future) were also in line with the policies of the European Commission (e.g., EC White Paper).

Goals regarding logistics related externalities

The overall objective of the SULP of the City of Lucca is to create a **smarter urban freight distribution system** in the urban area of Lucca, for a better quality of life for residents, tourists and visitors, actively pursuing the improvement of the urban environment of the city.

The **policy directives** on which the SULP of Lucca was developed are closely related:

- Improving air quality and urban environment,
- Reducing the carbon footprint of freight transport in the urban context,
- Minimising the negative impacts of distribution activities on the liveability of cities
- Ensuring the efficiency and effectiveness of freight transport
- Improving the quality of logistics services
- Ensuring and improving the accessibility
- Encouraging low-emission and electric vehicles
- Ensuring efficiency and safety in the roads and transportsystem
- Reducing externalities due to heavy traffic
- Governing mobility through innovative technologies.

Measures to be carried out to reach these goals

- Reinforcing the services provided by Luccaport
- Introducing a technological approach to loading/unloading bays
- Reinforcing the LTZ access regulations following the principle “polluter pays”
- Enhancing the technologies supporting mobility
- Agreement with transport operators
- Cargo bikes

Stakeholder inclusion, Cross-institutional cooperation and underlying requirements

Several departments of the city administration collaborate actively with users and stakeholders, associations and citizens.

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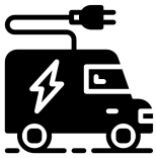
Evaluation

Prior to the preparation of the present SULP for Lucca the uban context of the city was analysed in great detail. Areas that were analysed included:

- **Territoral and Socio-Economic Context**: this also included the different commodities sectors within the city.
- **Environmental Context**: including an evaluation of relative contributions of transport emissions.
- **Road System and Mobility**: including flows and types and frequency of vehicles
- **Regulatory Aspects**: including regulations, access provisions and parking possibilities in the urban area.
- **Technological Context for Mobility**: including permit managment and LTZ Access Control syte, managment and control system for parking areas and Air quality monitoring system.

The extensive analysis already involved important stakeholders and they are thus expected to be more involved in the execution of the plans goals. The plan has short term and medium-term goals that will be referenced in 2020 and 2030.

Modal Solutions



Problems and/or Gaps

Focus on delivery of goods to shops and HoReCa and private individuals. No real focus on construction and reverse logistics. In addition their number of used modal solutions is very limited and not sufficient. By shifting to a large number of small vehicles the danger arises that the problem is not solved, but congestion and impact are moved to the surrounding city areas.

Additional Information and remarkable aspects of the particular document

One of the main measures associated with the SULP of Lucca is to reinforce the services provided by **Luccaport,** which is a consolidation centre offering the following services:

- Dedicated services for residents, including elderly and disadvantaged users,

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- Services for tradesmen, artisans, organisations, service agencies, dedicated services for hotels, restaurants and tourists, transportation agencies and operators of logistics. Also, storage, delivery, reverse logistics, consolidation, packaging, etc.

Also remarkable is that very extensive data are available in the city for delivery vehicles, numbers of businesses, freight flow, type of goods, type of deliveries, etc. And that during the SULP a specific **Promotion and Communication Plan at local level** was developed.

Addressed SDGs

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2.2 Conclusions of SULP Analysis

In addition to the analysis of the above-mentioned SULPs or similar documents from six cities, the project partners from Stockholm and Hamburg provided further input to get a better overview of possible obstacles, problem areas, the necessary involvement of key stakeholders when it comes to creating and implementing SULPs. When looking at the documents from the different cities it is important to notice that their scope and content varies greatly. Urban logistics or Urban Freight Transport can be described as all good flows and freight transport within and through the urban area. Courier, Express and parcel delivery as well as postal services make up only part of these transport flows, also construction, Hotel/Restaurant/Café (HoReCa) deliveries and many more as well as waste management and reverse logistics. What makes urban logistics particularly challenging is that many different stakeholders are involved with often differing interests. In many cities structures are missing that allow for effective planning, management, and participatory processes. Instead, we find a wide variety of regulatory laws and legal frameworks that can sometimes hamper the need of changing processes and requirements due to innovation, new demands and simply changes within the city's infrastructure and environment. In order for all logistics systems to be viable, functional and flexible, they have to be scalable and applicable, if best, to most types of freights and goods to be transported. However, many of the analysed SULPs or related documents within the different cities have a much narrower focus. The SULP of the city of Lucca for instance focussed on the delivery of shops within the inner-city area and HoReCa. Often, existing SULPs only focus on inner-city areas and on first/last mile logistics and are linked to Courier, Express and Parcel Deliveries. Even when the strategy document has a broader focus issues related to construction logistics and/or reverse logistics and waste management are not included.

Looking at the goals, scopes, and measurability, it becomes clear that sometimes only the reduction of CO_2 emissions is in the foreground and other negative impacts and emissions are not considered at all. Focussing solely on a reduction of CO_2 emissions is problematic also because ways to measure CO_2 emissions based on e.g., last mile logistics data are often not available, which is a specific problem in Hamburg. Setting quantifiable targets in these strategy documents can also be problematic. Therefore, the City of Stockholm has deliberately avoided setting measurable and quantifiable targets in its Freight Plan, arguing that the Freight Plan should remain changeable to adapt to new and innovative ways of planning as needed. Keeping the format of these documents general, flexible and with no detailed solutions described also has a positive effect when it is necessary to adapt due to unforeseen circumstances.

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In order to enable timely countermeasures in the event of problems or changes in the framework conditions, it is necessary to provide for sufficient and, above all, regular monitoring and evaluation steps. These updates can then be used as a basis for reorientation. Frequently recurring problem areas in the elaboration and implementation of SULP measures in the cities are:

- A limited number of available regulatory measures which leads to the need to resort to pull measures
- Legal restrictions and bans that make some measures difficult to implement
- Scepticism and clear refusal of white label measures on the part of CEP providers
- Availability of space particularly in inner city areas making it difficult to find locations for innovative logistics solutions.

The Awaken Sleeping Asset Project seeks to provide inspiration and data-based know-how for users of the ASAP Platform by providing as many best practice examples as possible, based on the existing and simulated testbeds of the project.

Another complicating issue in the elaboration and implementation of SULPs and the measures they set out is the fact that most of these plans are not binding because they are policy documents and do not contain regulatory elements that make them binding. It would therefore be very advantageous to have the approval of, for example, the municipal council or a senate resolution for such documents.

The involvement of as many different stakeholders as possible and the willingness of these actors, who often pursue very different interests, to work together is also beneficial. It is therefore particularly important to involve as many different city departments in the process as possible, as, for example, an urban planning department may have objections to preservation orders. If a logistics department already exists in a city, all the better, but in addition, all technical departments of the city should be involved in any case. These are for example: urban planning, urban development, environment and health, transport, and mobility as well as real estate department.

Another important point is to align and link SULPs or similar strategy documents with other existing planning documents and concepts of the city in question. Examples of important other related plans are transport and mobility plans, urban development strategies, energy plans, etc.

In none of the documents analysed was there any indication that the different SDGs played a role in the development of the strategy documents related to logistics and freight strategies. However, in interviews with the city of Stockholm, it was confirmed that it is the city's policy to always use the urban mobility strategy as the basis of development for new planning documents and the various SDGs are integrated into the mobility strategy in Stockholm. The guidance on "How to SULP", which will be part of the ASAP Platform, will enable visitors to the platform to see the impacts and links between individual logistics projects and the SDGs.

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3. SDGs and their relation to logistics and SULPs

4.1 Sustainable Development Goals (SDGs)[16]

The United Nations renewed and replaced their eight original Millennium Development Goals (MDGs) in 2015 with a new set of international development goals: the seventeen Sustainable Development Goals and government around the world have pledged to meet the SDGs by 2030. The 17 SDGs with their 169 targets are much more ambitious than the original MDGs and have been created to offer new visions and challenges for various actors around the globe.
The 2030 Agenda for Sustainable Development which focusses on economic, social, and environmental aspects with inequality as it's heart, set a time frame of 15 years in which the world needs to achieve the seventeen SDGs.
The SDGs provide guidance on how to achieve a better and more sustainable future for our planet by addressing the global and interconnected challenges that affect our world today.

4.2 The ASAP Project and the relation to SDGs

The ASAP Project is funded through the ERA-NET Cofund Urban Accessibility and Connectivity (ENUAC). This programme aims at creating and testing new solutions and approaches for sustainable urban mobility and through this call 15 projects were funded.[17] Each of the projects had to address at least one of the five call challenges. The ASAP project concentrates on the challenge of "Developing and supporting the implementation of innovative mobility systems and services with a potential to contribute to sustainable urban mobility."
Launched in 2019, the JPI Urban Europe Strategic Research and Innovation Agenda (SRIA 2.0) recognises that in practice, urban development and urban governance must deal with multiple and sometimes conflicting goals and objectives. This means that it is required that they prioritise among several issues and strategies. The SRIA 2.0 highlights four urban dilemmas in particular:

- **Dilemma 1: Digital transformation in urban governance,**
- Dilemma 2: From urban resilience to robustness,
- **Dilemma 3: Sustainable land use and urban infrastructures, and**
- Dilemma 4: Inclusive public spaces for urban quality of life.

[16] https://ec.europa.eu/environment/emas/emas_for_you/news/news86_en.htm
[17] ENUAC Projects Catalogue

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ASAP is particularly related to dilemmas 1 and 3. In addition to the SRIA 2.0 dilemmas ASAP also relates to several SDGs, specifically to **SDG11 - Sustainable Cities and Communities** and **SDG 9 – Industry Innovation and Infrastructure**.

One of the tasks of the project is to analyse existing SULPs and their relation to SDGs. During this analysis, all SDGs were studied in detail to establish if any other SDGs than No. 9 and 11 had a relevance for the ASAP Project in particular, and to Logistics in general.
The table below shows the results of this analysis. The first two columns list the respective Goals and their associated targets. In a next steps information about the addressed criteria is provided. These might include socio-economic, financial, political, environmental, or other aspects. Finally, explanations are provided on why we believe that all SDGs are in some ways or others relevant to Logistics. In this last column there are also a selection of related indicators presented that have relevance to ASAP to varying degrees.

This first selection of indicators will be used for the establishment of a methodical framework after Project Partners and further data sources have been consulted. This will ensure that the data collected from the 14 existing and 11 intended testbeds will provide the right input for the establishment of the project's web-application, the ASAP SULP Platform.

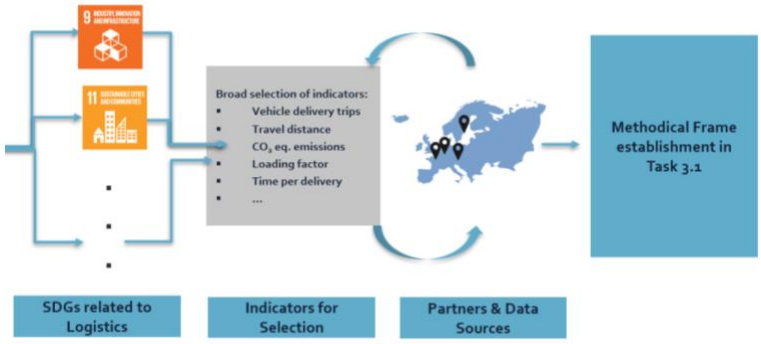

Figure 20: Process of Establishment of Methodical Frame in ASAP

The table on the next side lists the SDGs in the order of most to least important for the ASAP Project.

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SDG	SDG - Targets	Related Criteria	ASAP and UFT – Related Indicators
9 Industry, Innovation and Infrastructure Build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation 	**9.1 Develop quality, reliable, sustainable and resilient infrastructure, including regional and transborder infrastructure, to support economic development and human well-being, with a focus on affordable and equitable access for all** 9.2 Promote inclusive and sustainable industrialization and, by 2030, significantly raise industry's share of employment and gross domestic product, in line with national circumstances, and double its share in least developed countries **9.3 Increase the access of small-scale industrial and other enterprises**, in particular in developing countries, to financial services, including affordable credit, and their integration into value chains and markets **9.4 By 2030, upgrade infrastructure and retrofit industries to make them sustainable, with increased resource-use efficiency and greater adoption of clean and environmentally sound technologies and industrial processes, with all countries taking action in accordance with their respective capabilities** **9.5 Enhance scientific research, upgrade the technological capabilities of industrial sectors in all countries, in particular developing countries, including, by 2030, encouraging innovation and increasing the number of research and development workers per 1 million people by [x] per cent and public and private research and development spending** **9.a Facilitate sustainable and resilient infrastructure development in developing countries through enhanced financial, technological and technical support to African countries, least developed countries, landlocked developing countries and small island developing States** 9.b Support domestic technology development, research and innovation in developing countries, including by ensuring a conducive policy environment for, inter alia, industrial diversification and value addition to commodities	**MAKE SMART CHOICES** **Addressed Aspects:** 1. Economic aspects 2. With special focus on R&D and other forms of inventive activities 3. Indirect Economic Impacts such as infrastructure investments and services supported *see: Global Reporting Initiative Standards – GRI 203 – Indirect Economic Impacts (2016)* *https://www.globalreporting.org/how-to-use-the-gri-standards/gri-standards-english-language/* 4. Digitalization initiatives and effects on other areas of business and living	ASAP measures strongly contribute to the development of innovative, reliable, sustainable and resilient urban logistics solutions. The concept offers opportunities for innovative start-up and more research and facilitates resource efficiency. This contributes to the following targets of this SDG: 9.1, 9.3, 9.4, 9.5 Related Indicators: • Business development • Generated income • Diversification of local economy and industry • Investment costs • Operating costs (management, wages, fuels, warehousing, handling, transhipment, infrastructure and or equipment depreciation • Maintenance costs • Public acceptance • # innovation projects/initiatives in logistics in the city • # start ups in logistics and services • # online hits "smart urban logistics" • # the word „logistics" in national and regional development plans and strategy papers • Gross domestic expenditures on R&D by sector • HR in science and technology • R&D personnel by sector • Patent applications to the European Patent Office • **Related to ASAP: share of rail and inland waterways in total freight transport** • See all indicators and data: https://ec.europa.eu/eurostat/web/main/data/database

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	9.c Significantly increase access to information and communications technology and strive to provide universal and affordable access to the Internet in least developed countries by 2020		
11 Sustainable cities and communities Make cities and human settlements inclusive, safe, resilient and sustainable 	11.1 By 2030, ensure access for all to adequate, safe and affordable housing and basic services and upgrade slums 11.2 By 2030, provide access to safe, affordable, accessible and sustainable transport systems for all, **improving road safety,** notably by expanding public transport, with special attention to the needs of those in vulnerable situations, women, children, persons with disabilities and older persons 11.3 By 2030, enhance inclusive and sustainable urbanization and capacity for participatory, integrated and sustainable human settlement planning and management in all countries 11.4 Strengthen efforts to protect and safeguard the world's cultural and natural heritage 11.5 By 2030, significantly reduce the number of deaths and the number of people affected and decrease by [x] per cent the economic losses relative to gross domestic product caused by disasters, including water-related disasters, with a focus on protecting the poor and people in vulnerable situations 11.6 By 2030, reduce the adverse per capita environmental impact of cities, including by paying special attention to air quality and municipal and other waste management 11.7 By 2030, provide universal access to safe, inclusive and accessible, green and public spaces, in particular for women and children, older persons and persons with disabilities 11.a Support positive economic, social and environmental links between urban, peri-urban and rural areas by strengthening national and regional development planning 11.b By 2020, increase by [x] per cent the number of cities and human settlements adopting and implementing integrated policies and plans towards inclusion, resource efficiency, **mitigation and adaptation to climate change**, resilience to disasters, develop and implement,	**LOVE WHERE YOU LIVE** **Addressed Aspects:** 1. Social aspects such as Livability and Social Equality 2. Ecological and human health related aspects in terms of emissions and air pollution 3. Political aspects and participation of citizens 4. Safety issues in terms of mobility, but also emergency and disaster management	The ASAP concept is based on the idea to activate, use and promote underused or inactive infrastructure and resources in cities for urban logistics purposes. This will lead to an increased quality of life and more safety. This basically contributes to all the targets of this SDG. Related indicators: • GHG emissions • Noise emissions • Air quality • Reliability of service (punctuality, quality, quantity, customer satisfaction, market response) • Safety and security (accidents, damages) • Congestion • Space exploitation • UFT vehicles (traffic throughput, load factor) • Energy consumption • Reduction of surface sealing • # deaths by FTV (freight transport vehicles) • # Days with air pollution above limit value • City Ranking quality of life index • Settlement area per capita • Overcrowding poverty rate by poverty status • See all indicators and data: https://ec.europa.eu/eurostat/web/main/data/database

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	in line with the forthcoming Hyogo Framework, holistic disaster risk management at all levels 11.c Support least developed countries, including through financial and technical assistance, in building sustainable and resilient buildings utilizing local materials		
7 Affordable and Clean Energy Ensure access to affordable, reliable, sustainable and modern energy for all 	7.1 By 2030, ensure universal access to affordable, reliable and modern energy services 7.2 By 2030, increase substantially the share of renewable energy in the global energy mix **7.3 By 2030, double the global rate of improvement in energy efficiency** **7.a By 2030, enhance international cooperation to facilitate access to clean energy research and technology, including renewable energy, energy efficiency and advanced and cleaner fossil-fuel technology, and promote investment in energy infrastructure and clean energy technology** 7.b By 2030, expand infrastructure and upgrade technology for supplying modern and sustainable energy services for all in developing countries, in particular least developed countries and small island developing States	**USE CLEAN ENERGY** **Addressed Aspects:** 1. Energy Education 2. Energy Consumption within and outside organizations 3. Energy intensity Reduction of energy consumption Reduction in energy requirements of products and services *see: Global Reporting Initiative Standards – GRI 302: Energy (2016)* *https://www.globalreporting.org/how-to-use-the-gri-standards/gri-standards-english-language/*	ASAP measures will help to increase energy efficiency and lower energy consumption, they will make processes more efficient and use more clean energy (or zero emission) options. This is connected to the target 7.3 / a of this SDG. Related Indicators: • GHG emissions • Noise emissions • Reliability of service (punctuality, quality, quantity, customer satisfaction, market response) – why in the context of energy? • # of alternative vehicles • # km driven/year with alternative vehicles • # saved energy (Kwh) • Primary energy consumption • Final energy consumption • Share of renewable energy in gross final energy consumption by sector • Energy import dependency by products • Greenhouse gas emissions intensity of energy consumption • See all indicators and data: https://ec.europa.eu/eurostat/web/main/data/database
8 Decent work and economic growth Promote sustained, inclusive and sustainable economic growth,	8.1 Sustain per capita economic growth in accordance with national circumstances and, in particular, at least 7 per cent gross domestic product growth per annum in the least developed countries 8.2 Achieve higher levels of economic productivity through diversification, technological upgrading and innovation, including through a focus on high-value added and labour-intensive sectors **8.3 Promote development-oriented policies that support productive activities, decent job creation, entrepreneurship, creativity and innovation, and**	**DO GOOD WORK** **Addressed Aspects:** 1. Socioeconomic criteria 2. Supporting social and sustainable business models	ASAP and the use of the ASAP concept should lead to new technologies and new job possibilities and might also provide the possibility of new start-ups (see incharge). ASAP employs the use of cargo bikes they are a particularly low level entry point for persons that cannot afford cars or have no driving licence. This all contributes to ensure jobs for all levels of society and thus can make a contribution against poverty. This all can contribute to target 8.3, 8.5, 8.6 and 8.7 of this SDG.

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full and productive employment and decent work for all 	**encourage the formalization and growth of micro-, small- and medium-sized enterprises, including through access to financial services** 8.4 Improve progressively, through 2030, global resource efficiency in consumption and production and endeavour to decouple economic growth from environmental degradation, in accordance with the 10-year framework of programmes on sustainable consumption and production, with developed countries taking the lead **8.5 By 2030, achieve full and productive employment and decent work for all women and men, including for young people and persons with disabilities, and equal pay for work of equal value** **8.6 By 2020, substantially reduce the proportion of youth not in employment, education or training** 8.7 Take immediate and effective measures to secure the prohibition and elimination of the worst forms of child labour, eradicate forced labour and, by 2025, end child labour in all its forms, including the recruitment and use of child soldiers 8.8 Protect labour rights and **promote safe and secure working environments** for all workers, including migrant workers, in particular women migrants, and those in precarious employment 8.9 By 2030, devise and implement policies to promote sustainable tourism that creates jobs and promotes local culture and products 8.10 Strengthen the capacity of domestic financial institutions to encourage and expand access to banking, insurance and financial services for all 8.a Increase Aid for Trade support for developing countries, in particular least developed countries, including through the Enhanced Integrated Framework for Trade-Related Technical Assistance to Least Developed Countries 8.b By 2020, develop and operationalize a global strategy for youth employment and implement the Global Jobs Pact of the International Labour Organization		Related Indicators: • Investment costs • Operating costs (management, wages, fuels, warehousing, handling, transhipment, infrastructure and or equipment depreciation • Maintenance costs • Public acceptance • # new jobs in sustainable logistics (unemployed in jobs now) • Working conditions and social security in sustainable logistics jobs • # SMEs • Real GDP per capita • Investment share of GDP by institutional sectors • Young people neither employed nor in education or training by sex or citizenship • Employment rate by sex or citizenship • Long-term unemployment rate • In work at-risk-of-poverty rate • Resource productivity and domestic material consumption • See all indicators and data: https://ec.europa.eu/eurostat/web/main/data/database

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13 Climate Action Take urgent action to combat climate change and its impacts 	13.1 Strengthen resilience and adaptive capacity to climate-related hazards and natural disasters in all countries **13.2 Integrate climate change measures into national policies, strategies and planning** **13.3 Improve education, awareness-raising and human and institutional capacity on climate change mitigation, adaptation, impact reduction and early warning** 13.a Implement the commitment undertaken by developed-country parties to the United Nations Framework Convention on Climate Change to a goal of mobilizing jointly $100 billion annually by 2020 from all sources to address the needs of developing countries in the context of meaningful mitigation actions and transparency on implementation and fully operationalize the Green Climate Fund through its capitalization as soon as possible **13.b Promote mechanisms for raising capacity for effective climate change-related planning and management in least developed countries, including focusing on women, youth and local and marginalized communities** * Acknowledging that the United Nations Framework Convention on Climate Change is the primary international, intergovernmental forum for negotiating the global response to climate change.	**ACT ON CLIMATE** **Addressed Aspects:** 1. Ecological Aspects 2. Political Aspects (Climate Policy) 3. Societal Aspects in terms of rising awareness for taking part in climate actions	ASAP measures enable cities to use sustainable urban logistics solutions that will have a particular connection to targets 13.2 and 13.3 and b. Related Indicators: • GHG emissions (and intensity of energy consumption) • Noise emissions • Air quality • Public acceptance • Reduced fossil fuels • Space exploitation for human/nature use • % renewable energy in transport • Tons transported with alternative transport vehicles • # word “sustainable logistics” in strategy papers, government agreements of city • # of activities/initiatives/projects on sustainable logistics national/regional • Climate related economic losses by type of event • Share of renewable energy in gross final energy consumption by sector • See all indicators and data: https://ec.europa.eu/eurostat/web/main/data/database
17 Partnerships for the Goal Strengthen the means of implementation and revitalize the Global Partnership for Sustainable Development	Finance 17.1 Strengthen domestic resource mobilization, including through international support to developing countries, to improve domestic capacity for tax and other revenue collection 17.2 Developed countries to implement fully their official development assistance commitments, including to provide 0.7 per cent of gross national income in official development assistance to developing countries, of which 0.15 to 0.20 per cent should be provided to least developed countries 17.3 Mobilize additional financial resources for developing countries from multiple sources 17.4 Assist developing countries in attaining long-term debt sustainability through coordinated policies aimed at	**COME TOGETHER** **Addressed Aspects:** 1. Socioeconomic Aspects 2. Focus on Cooperation between State, Corporate and Private Actors 3. Stakeholder Involvement 4. Sharing and Dissemination of Knowledge and Best Practices 5. Cooperation and Support within and across national boundaries	The ASAP concept is strongly based on the building up and strengthening of multi-stakeholder partnerships and therefore connects to targets 17.14, 17.16 and 17.17. Related Indicators: • Number of PPPs • Number of policies • Transferability • Stakeholder acceptance /awareness • # projects/cooperations on sustainable logistics national and regional level • # word “sustainable logistics” in strategy papers and government agreements

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	fostering debt financing, debt relief and debt restructuring, as appropriate, and address the external debt of highly indebted poor countries to reduce debt distress 17.5 Adopt and implement investment promotion regimes for least developed countries Technology 17.6 Enhance North-South, South-South and triangular regional and international cooperation on and access to science, technology and innovation and enhance knowledge sharing on mutually agreed terms, including through improved coordination among existing mechanisms, in particular at the United Nations level, and through a global technology facilitation mechanism when agreed upon **17.7 Promote the development, transfer, dissemination and diffusion of environmentally sound technologies to developing countries on favourable terms, including on concessional and preferential terms, as mutually agreed** 17.8 Fully operationalize the technology bank and science, technology and innovation capacity-building mechanism for least developed countries by 2017 and enhance the use of enabling technology, in particular information and communications technology **Capacity-building** 17.9 Enhance international support for implementing effective and targeted capacity-building in developing countries to support national plans to implement all the sustainable development goals, including through North-South, South-South and triangular cooperation Trade 17.10 Promote a universal, rules-based, open, non-discriminatory and equitable multilateral trading system under the World Trade Organization, including through the conclusion of negotiations under its Doha Development Agenda 17.11 Significantly increase the exports of developing countries, in particular with a view to doubling the least developed countries' share of global exports by 2020 17.12 Realize timely implementation of duty-free and quota-free market access on a lasting basis for all least		• Official development assistance as share of gross national income • See all indicators and data: https://ec.europa.eu/eurostat/web/main/data/database

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	developed countries, consistent with World Trade Organization decisions, including by ensuring that preferential rules of origin applicable to imports from least developed countries are transparent and simple, and contribute to facilitating market access Systemic issues Policy and institutional coherence 17.13 Enhance global macroeconomic stability, including through policy coordination and policy coherence **17.14 Enhance policy coherence for sustainable development** 17.15 Respect each country's policy space and leadership to establish and implement policies for poverty eradication and sustainable development **Multi-stakeholder partnerships** **17.16 Enhance the global partnership for sustainable development, complemented by multi-stakeholder partnerships that mobilize and share knowledge, expertise, technology and financial resources, to support the achievement of the sustainable development goals in all countries, in particular developing countries** **17.17 Encourage and promote effective public, public-private and civil society partnerships, building on the experience and resourcing strategies of partnerships** Data, monitoring and accountability 17.18 By 2020, enhance capacity-building support to developing countries, including for least developed countries and small island developing States, to increase significantly the availability of high-quality, timely and reliable data disaggregated by income, gender, age, race, ethnicity, migratory status, disability, geographic location and other characteristics relevant in national contexts 17.19 By 2030, build on existing initiatives to develop measurements of progress on sustainable development that complement gross domestic product, and support statistical capacity-building in developing countries		

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1 No Poverty End poverty in all its forms everywhere 	**1.1 By 2030, eradicate extreme poverty for all people everywhere, currently measured as people living on less than $1.25 a day** 1.2 By 2030, reduce at least by half the proportion of men, women and children of all ages living in poverty in all its dimensions according to national definitions 1.3 Implement nationally appropriate **social protection systems** and measures for all, including floors, and by 2030 achieve substantial coverage of the poor and the vulnerable **1.4 By 2030, ensure that all men and women, in particular the poor and the vulnerable, have equal rights to economic resources, as well as access to basic services, ownership and control over land and other forms of property, inheritance, natural resources, appropriate new technology and financial services, including microfinance** 1.5 By 2030, build the resilience of the poor and those in vulnerable situations and reduce their exposure and vulnerability to climate-related extreme events and other economic, social and environmental shocks and disasters 1.a Ensure significant mobilization of resources from a variety of sources, including through enhanced development cooperation, in order to provide adequate and predictable means for developing countries, in particular least developed countries, to implement programmes and policies to end poverty in all its dimensions 1.b Create sound policy frameworks at the national, regional and international levels, based on pro-poor and gender-sensitive development strategies, to support accelerated investment in poverty eradication actions	**HELP END POVERTY** **Addressed Aspects:** 1. Socioeconomic Aspects and Factors related to Poverty 2. Political Aspects that contribute to poor economic conditions in a country (e.g. Corruption Index) 3. Financial aspects e.g. fostering responsible fields of foreign direct investment 4. Social equality	ASAP employs the use of cargo bikes they are a particularly low-level entry point for persons that cannot afford cars or have no driving licence. This all contributes to ensure jobs for all levels of society and thus can make a contribution against poverty. This is connected to targets 1.1 and 1.4 of this SDG. Related Indicators: • GDP per city inhabitant • Fuel costs • Costs of delivery vehicles (purchase and upkeep) • Social approval (how measure? Qualitative: Surveys; Focus Groups Quantitative indicators: • **Relevant for ASAP:** People at risk of poverty or social exclusion by degree of urbanisation • **Relevant for ASAP:** People at risk of poverty or social exclusion by NUTS region • See all indicators and data: • https://ec.europa.eu/eurostat/web/main/data/database[18] • Generated income • Socio-political index • # of jobs in sustainable logistics services (+ new jobs) probably hard to find specific data for cities and metropolitan regions in this context Cost of logistics service compared to avg. income

[18] *Note: For Related Indicators please see: https://ec.europa.eu/eurostat/de/web/main/data/database and go to (1) Tables on EU Policy (2) Sustainable development indicators to see all proposed indicators for the SDGs*

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3 Good Health and Wellbeing Ensure healthy lives and promote well-being for all at all ages 	3.1 By 2030, reduce the global maternal mortality ratio to less than 70 per 100,000 live births 3.2 By 2030, end preventable deaths of newborns and children under 5 years of age 3.3 By 2030, end the epidemics of AIDS, tuberculosis, malaria and neglected tropical diseases and combat hepatitis, water-borne diseases and other communicable diseases 3.4 By 2030, reduce by one third premature mortality from non-communicable diseases through prevention and treatment and promote mental health and well-being 3.5 Strengthen the prevention and treatment of substance abuse, including narcotic drug abuse and harmful use of alcohol **3.6 By 2020, halve the number of global deaths and injuries from road traffic accidents** 3.7 By 2030, ensure universal access to sexual and reproductive health-care services, including for family planning, information and education, and the integration of reproductive health into national strategies and programmes 3.8 Achieve universal health coverage, including financial risk protection, access to quality essential health-care services and access to safe, effective, quality and affordable essential medicines and vaccines for all **3.9 By 2030, substantially reduce the number of deaths and illnesses from hazardous chemicals and air, water and soil pollution and contamination** 3.a Strengthen the implementation of the World Health Organization Framework Convention on Tobacco Control in all countries, as appropriate 3.b Support the research and development of vaccines and medicines for the communicable and non-communicable diseases that primarily affect developing countries, provide access to affordable essential medicines and vaccines, in accordance with the Doha Declaration on the TRIPS Agreement and Public Health, which affirms the right of developing countries to use to the full the provisions in the Agreement on Trade-Related Aspects of Intellectual Property Rights regarding flexibilities to protect public health, and, in particular, provide access to medicines for all	**STAY WELL** **Addressed Aspects:** 1. Social Aspects 2. Education and Training on Healthy Living 3. Rising Awareness in terms of mental and physical well-being, medical care and vaccinations	ASAP employs the use of cargo bikes, zero emission delivery and sustainable urban logistics solutions. This contributes to more active mobility among logistics workers and less emissions and increased safety all leading to more good health and wellbeing. (Connection to the following targets of this SDG: 3.6, 3.9/d) Related Indicators: • Reduced obesity rate • Reduced cardio-pulmonary diseases • Less accidents due to traffic • Reduction of air pollution in urban areas • Reduction of noise in urban areas • Reduction of surface sealing in urban areas • Deaths due to preventable diseases • People suffering from noise emissions according to their risk of poverty • See all indicators and data: https://ec.europa.eu/eurostat/web/main/data/database

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	3.c Substantially increase health financing and the recruitment, development, training and retention of the health workforce in developing countries, especially in least developed countries and small island developing States **3.d Strengthen the capacity of all countries, in particular developing countries, for early warning, risk reduction and management of national and global health risks**		
4 Quality Education Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all 	4.1 By 2030, ensure that all girls and boys complete free, equitable and quality primary and secondary education leading to relevant and effective learning outcomes 4.2 By 2030, ensure that all girls and boys have access to quality early childhood development, care and pre-primary education so that they are ready for primary education 4.3 By 2030, ensure equal access for all women and men to affordable and quality technical, vocational and tertiary education, including university **4.4 By 2030, increase by [x] per cent the number of youth and adults who have relevant skills, including technical and vocational skills, for employment, decent jobs and entrepreneurship** 4.5 By 2030, eliminate gender disparities in education and ensure equal access to all levels of education and vocational training for the vulnerable, including persons with disabilities, indigenous peoples and children in vulnerable situations 4.6 By 2030, ensure that all youth and at least [x] per cent of adults, both men and women, achieve literacy and numeracy 4.7 By 2030, ensure that all learners acquire the knowledge and skills needed to promote sustainable development, including, among others, through education for sustainable development and sustainable lifestyles, human rights, gender equality, promotion of a culture of peace and non-violence, global citizenship and appreciation of cultural diversity and of culture's contribution to sustainable development 4.a Build and upgrade education facilities that are child, disability and gender sensitive and provide safe,	**LEARN AND TEACH** **Addressed Aspects:** 1.Socioeconomic aspects 2. Social Equality and Access to quality education according to non-discriminatory principles 3. Life-long Learning 4. Reduction of School Drop Outs 5. Support of schools and other educational institutions	ASAP and the use of the ASAP concept should lead to new technologies and new job possibilities and might also provide the possibility of new start-ups (see incharge). This all can contribute target 4.4. of this SDG. Related Indicators: • Availability of infrastructure and technology innovations • Public acceptance/awareness • Transferability of best practices • # people reached with knowledge/info (dissemination) • See all indicators and data: https://ec.europa.eu/eurostat/web/main/data/database

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	non-violent, inclusive and effective learning environments for all 4.b By 2020, expand by [x] per cent globally the number of scholarships available to developing countries, in particular least developed countries, small island developing States and African countries, for enrolment in higher education, including vocational training and information and communications technology, technical, engineering and scientific programmes, in developed countries and other developing countries 4.c By 2030, increase by [x] per cent the supply of qualified teachers, including through international cooperation for teacher training in developing countries, especially least developed countries and small island developing States		
5 Gender Equality Achieve gender equality and empower all women and girls 	5.1 End all forms of discrimination against all women and girls everywhere 5.2 Eliminate all forms of violence against all women and girls in the public and private spheres, including trafficking and sexual and other types of exploitation 5.3 Eliminate all harmful practices, such as child, early and forced marriage and female genital mutilation 5.4 Recognize and value unpaid care and domestic work through the provision of public services, infrastructure and social protection policies and the promotion of shared responsibility within the household and the family as nationally appropriate 5.5 Ensure women's full and effective participation and equal opportunities for leadership at all levels of decision-making in political, economic and public life 5.6 Ensure universal access to sexual and reproductive health and reproductive rights as agreed in accordance with the Programme of Action of the International Conference on Population and Development and the Beijing Platform for Action and the outcome documents of their review conferences **5.a Undertake reforms to give women equal rights to economic resources, as well as access to ownership and control over land and other forms of property, financial services, inheritance and natural resources, in accordance with national laws**	**TREAT EVERYONE EQUALLY** **Addressed Aspects:** 1. Social Equality 2. Socioeconomic aspects (e.g. Equal business opportunities and equal and fair wages) 3. Awareness for sexism in all population and age groups 4. Support a fair distribution of care time between men and women	Many of the measures in the various ASAP testbeds are not like usual logistics solutions (less heavy work, more technology) and thus also offer more opportunities to for females in the job market. Also, further research will be needed and the number of women in academia is increasing and supported. Also, with regard to cargo bike riders – there are more women riders than among usual CEP drivers. This is connected to target 5.6a/b/c of this SDG. Related Indicators: • Business development • Strength and diversification of local economy • Social approval • Generated income • Socio-political index • # women working in sustainable logistics compared to total # employees • Comparison of income women/men • See all indicators and data: https://ec.europa.eu/eurostat/web/main/data/database

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	5.b Enhance the use of enabling technology, in particular information and communications technology, to promote the empowerment of women **5.c Adopt and strengthen sound policies and enforceable legislation for the promotion of gender equality and the empowerment of all women and girls at all levels**		
10 Reduced Inequalities Reduce inequality within and among countries 	10.1 By 2030, progressively achieve and sustain income growth of the bottom 40 per cent of the population at a rate higher than the national average 10.2 By 2030, **empower and promote the social, economic and political inclusion of all,** irrespective of age, sex, disability, race, ethnicity, origin, religion or economic or other status 10.3 **Ensure equal opportunity and reduce inequalities of outcome**, including by eliminating discriminatory laws, policies and practices and promoting appropriate legislation, policies and action in this regard 10.4 Adopt policies, especially fiscal, wage and social protection policies, and progressively achieve greater equality 10.5 Improve the regulation and monitoring of global financial markets and institutions and strengthen the implementation of such regulations 10.6 Ensure enhanced representation and voice for developing countries in decision-making in global international economic and financial institutions in order to deliver more effective, credible, accountable and legitimate institutions 10.7 Facilitate orderly, safe, regular and responsible migration and mobility of people, including through the implementation of planned and well-managed migration policies 10.a Implement the principle of special and differential treatment for developing countries, in particular least developed countries, in accordance with World Trade Organization agreements 10.b Encourage official development assistance and financial flows, including foreign direct investment, to States where the need is greatest, in particular least developed countries, African countries, small island	**BE FAIR** **Addressed Aspects:** 1.Social Aspects 2. Economic Aspects	ASAP and the use of the ASAP concept should lead to new technologies and new job possibilities (lower entry level) and might also provide the possibility of new start-ups (see incharge). This contributes to the following targets connected to this SDG: 10.2, 10.3 Related Indicators: • Business development • Strength and diversification of local economy • Local and regional development • # accessible jobs • # good jobs (income, conditions, social security) • # people in job coming from unemployment • # apprentices • Purchasing power adjusted GDP per capita • Relative median at-risk-of-poverty gap • Income share of the bottom 40 % of the population • People at risk of poverty or social exclusion by degree of urbanisation • See all indicators and data: https://ec.europa.eu/eurostat/web/main/data/database

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	developing States and landlocked developing countries, in accordance with their national plans and programmes 10.c By 2030, reduce to less than 3 per cent the transaction costs of migrant remittances and eliminate remittance corridors with costs higher than 5 per cent		
12 Responsible Consumption and Production Ensure sustainable consumption and production patterns 	12.1 Implement the 10-year framework of programmes on sustainable consumption and production, all countries taking action, with developed countries taking the lead, taking into account the development and capabilities of developing countries **12.2 By 2030, achieve the sustainable management and efficient use of natural resources** 12.3 By 2030, halve per capita global food waste at the retail and consumer levels and reduce food losses along production and supply chains, including post-harvest losses **12.4 By 2020, achieve the environmentally sound management of chemicals and all wastes throughout their life cycle, in accordance with agreed international frameworks, and significantly reduce their release to air, water and soil in order to minimize their adverse impacts on human health and the environment** 12.5 By 2030, substantially reduce waste generation through prevention, reduction, recycling and reuse **12.6 Encourage companies, especially large and transnational companies, to adopt sustainable practices and to integrate sustainability information into their reporting cycle** 12.7 Promote public procurement practices that are sustainable, in accordance with national policies and priorities 12.8 By 2030, ensure that people everywhere have the relevant information and awareness for sustainable development and lifestyles in harmony with nature 12.a Support developing countries to strengthen their scientific and technological capacity to move towards more sustainable patterns of consumption and production 12.b Develop and implement tools to monitor sustainable development impacts for sustainable tourism that creates jobs and promotes local culture and products	**LIVE BETTER** **Addressed Aspects:** 1.Social Aspects 2.Economic and organizational aspects 3.Political aspects e.g. Policy Framework and state subsidies for sustainable development 4.Measures to change individual behaviour towards a society that acts in an environmental-friendly and responsible way	ASAP will also try to improve reverse logistics and waste management. It therefore also has a connection to targets 12.2, 12.4 and 12.6 Related Indicators: • Reduced GHG and noise emissions • Space exploitation • Less waste, • More efficient clearing of waste • Transparency in reporting • Consolidation in transport and reduction of single deliveries • Circular material use rate • Generation of waste excl. major mineral wastes by hazardousness • GVA in environmental goods and services sector • Energy productivity • See all indicators and data: https://ec.europa.eu/eurostat/web/main/data/database

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	12.c Rationalize inefficient fossil-fuel subsidies that encourage wasteful consumption by removing market distortions, in accordance with national circumstances, including by restructuring taxation and phasing out those harmful subsidies, where they exist, to reflect their environmental impacts, taking fully into account the specific needs and conditions of developing countries and minimizing the possible adverse impacts on their development in a manner that protects the poor and the affected communities		
15 Life on land Protect, restore and promote sustainable use of terrestrial ecosystems 	15.1 By 2020, ensure the conservation, **restoration and sustainable use of terrestrial** and inland freshwater **ecosystems** and their services, in particular forests, wetlands, mountains and drylands, in line with obligations under international agreements 15.2 By 2020, promote the implementation of sustainable management of all types of forests, halt deforestation, restore degraded forests and increase afforestation and reforestation by [x] per cent globally 15.3 By 2020, combat desertification, restore degraded land and soil, including land affected by desertification, drought and floods, and strive to achieve a land degradation-neutral world 2 Taking into account ongoing World Trade Organization negotiations, the Doha Development Agenda and the Hong Kong ministerial mandate. 15.4 By 2030, ensure the conservation of mountain ecosystems, including their biodiversity, in order to enhance their capacity to provide benefits that are essential for sustainable development **15.5 Take urgent and significant action to reduce the degradation of natural habitats, halt the loss of biodiversity and, by 2020, protect and prevent the extinction of threatened species** 15.6 Ensure fair and equitable sharing of the benefits arising from the utilization of genetic resources and promote appropriate access to such resources 15.7 Take urgent action to end poaching and trafficking of protected species of flora and fauna and address both demand and supply of illegal wildlife products 15.8 By 2020, introduce measures to prevent the introduction and significantly reduce the impact of	**LOVE NATURE** **Adressed Aspects:** 1. Ecological awareness towards the vulnerability of terrestrial ecossystems 2. Responsible use of natural resources for both economic and societal purposes 3. Protection and restoration of nature and wildlife	The use of already available resources and infrastructure in ASAP that have so far not been used for logistics purposes will prevent more public space to be used for such purposes and thus will probably enable cities to use public space for recreational purposes and reduce and hopefully reverse the degradation of natural habitats by restoring or implementing more green spaces. Thus, there is a connection to targets: 15.1, 15.5 and 15.9. Related indicators: • Space exploitation • # m^2 reused assets/non sealed surface • # alternative smaller vehicles – space requirement compared to conventional vehicles • # saved energy by cycling • Reduction of emissions • Share of forest area • Surface of terrestrial sites designated under Natura 2000 • Soil sealing index • Estimated soil erosion by water • See all indicators and data: https://ec.europa.eu/eurostat/web/main/data/database

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	invasive alien species on land and water ecosystems and control or eradicate the priority species **15.9 By 2020, integrate ecosystem and biodiversity values into national and local planning, development processes, poverty reduction strategies and accounts** 15.a Mobilize and significantly increase financial resources from all sources to conserve and sustainably use biodiversity and ecosystems 15.b Mobilize significant resources from all sources and at all levels to finance sustainable forest management and provide adequate incentives to developing countries to advance such management, including for conservation and reforestation 15.c Enhance global support for efforts to combat poaching and trafficking of protected species, including by increasing the capacity of local communities to pursue sustainable livelihood opportunities		
2 Zero Hunger End hunger, achieve food security and improved nutrition and promote sustainable agriculture 	2.1 By 2030, end hunger and ensure access by all people, in particular the poor and people in vulnerable situations, including infants, to safe, nutritious and sufficient food all year round 2.2 By 2030, end all forms of malnutrition, including achieving, by 2025, the internationally agreed targets on stunting and wasting in children under 5 years of age, and address the nutritional needs of adolescent girls, pregnant and lactating women and older persons 2.3 By 2030, double the agricultural productivity and incomes of small-scale food producers, in particular women, indigenous peoples, family farmers, pastoralists and fishers, including through secure and equal access to land, other productive resources and inputs, knowledge, financial services, markets and opportunities for value addition and non-farm employment 2.4 By 2030, ensure sustainable food production systems and implement resilient agricultural practices that increase productivity and production, that help maintain ecosystems, that strengthen capacity for adaptation to climate change, extreme weather, drought, flooding and other disasters and that progressively improve land and soil quality	**EAT BETTER** **Addressed Aspects:** 1. Food Security and Supply 2. Social equality in terms of access to healthy food 3. Education and Awareness in terms of healthy eating	ASAP deals with the sustainable care of people. Logistics enables easy and affordable access to supplies, including food. Processes, infrastructures and means of transport contribute significantly to a functioning supply. • Availability of services to people (% population) • Accessibility of supply (% population) • Obesity Index according to BMI • See all indicators and data: • https://ec.europa.eu/eurostat/web/main/data/database

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	2.5 By 2020, maintain the genetic diversity of seeds, cultivated plants and farmed and domesticated animals and their related wild species, including through soundly managed and diversified seed and plant banks at the national, regional and international levels, and ensure access to and fair and equitable sharing of benefits arising from the utilization of genetic resources and associated traditional knowledge, as internationally agreed 2.a Increase investment, including through enhanced international cooperation, in rural infrastructure, agricultural research and extension services, technology development and plant and livestock gene banks in order to enhance agricultural productive capacity in developing countries, in particular least developed countries 2.b Correct and prevent trade restrictions and distortions in world agricultural markets, including through the parallel elimination of all forms of agricultural export subsidies and all export measures with equivalent effect, in accordance with the mandate of the Doha Development Round 2.c Adopt measures to ensure the proper functioning of food commodity markets and their derivatives and facilitate timely access to market information, including on food reserves, in order to help limit extreme food price volatility		
6 Clean Water and Sanitation Ensure availability and sustainable management of water and sanitation for all	6.1 By 2030, achieve universal and equitable access to safe and affordable drinking water for all 6.2 By 2030, achieve access to adequate and equitable sanitation and hygiene for all and end open defecation, paying special attention to the needs of women and girls and those in vulnerable situations 6.3 By 2030, improve water quality by reducing pollution, eliminating dumping and minimizing release of hazardous chemicals and materials, halving the proportion of untreated wastewater and increasing recycling and safe reuse by [x] per cent globally 6.4 By 2030, substantially increase water-use efficiency across all sectors and ensure sustainable withdrawals and supply of freshwater to address water	**SAVE WATER** **Addressed Aspects:** 1.Ecological Aspects 2.Economic Aspects 3.Social Aspects Related to Water withdrawal, water discharge and water consumption; additional: potential water stress as well as changes in water storages according to specific areas *see: Global Reporting Initiative Standards– GRI 303: Water and Effluents*	ASAP pushes the use of existing structures and infrastructure and the use of alternatively powered vehicles. This also reduces the man-made impact on nature and thus also protects soil and groundwater. • # m2 reused infrastructures/non sealed surface trough ASAP measures • Population having neither a bath, nor a shower, nor indoor flushing toilet n their household by poverty status • Population connected to at least secondary waste water treatment • Biochemical oxygen demand in rivers • Nitrate in groundwater

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	scarcity and substantially reduce the number of people suffering from water scarcity 6.5 By 2030, implement integrated water resources management at all levels, including through transboundary cooperation as appropriate 6.6 By 2020, protect and restore water-related ecosystems, including mountains, forests, wetlands, rivers, aquifers and lakes 6.a By 2030, expand international cooperation and capacity-building support to developing countries in water- and sanitation-related activities and programmes, including water harvesting, desalination, water efficiency, wastewater treatment, recycling and reuse technologies 6.b Support and strengthen the participation of local communities in improving water and sanitation management	*(2018) https://www.globalreporting.org/how-to-use-the-gri-standards/gri-standards-english-language/*	• Phosphate in rivers • Water exploitation index • Bathing sites with excellent water quality by locality • See all indicators and data: https://ec.europa.eu/eurostat/web/main/data/database
14 Life below water Conserve and sustainably use the oceans, seas and marine resources for sustainable development 	14.1 By 2025, prevent and significantly reduce marine pollution of all kinds, in particular from land-based activities, including marine debris and nutrient pollution 14.2 By 2020, sustainably manage and protect marine and coastal ecosystems to avoid significant adverse impacts, including by strengthening their resilience, and take action for their restoration in order to achieve healthy and productive oceans 14.3 Minimize and address the impacts of ocean acidification, including through enhanced scientific cooperation at all levels 14.4 By 2020, effectively regulate harvesting and end overfishing, illegal, unreported and unregulated fishing and destructive fishing practices and implement science-based management plans, in order to restore fish stocks in the shortest time feasible, at least to levels that can produce maximum sustainable yield as determined by their biological characteristics 14.5 By 2020, conserve at least 10 per cent of coastal and marine areas, consistent with national and international law and based on the best available scientific information 14.6 By 2020, prohibit certain forms of fisheries subsidies which contribute to overcapacity and overfishing, eliminate subsidies that contribute to illegal, unreported and unregulated fishing and refrain from	**CLEAN OUR SEAS** **Addressed Aspects:** 1.Social and educational criteria 2. Sustainable fishing practices 2. Waste treatment 3. Policy regulations with special focus on plastic use and disposal to reduce oceanic pollution	ASAP deals with the holistic view of logistics and thus also with the potentials of the return transport of packaging materials. In this way, the responsible use of resources and the avoidance of uncontrolled disposal can be increased. • # projects dealing with waste collection • Tons of collected waste • Water quality by locality • Global mean ocean surface acidity • See all indicators and data: • https://ec.europa.eu/eurostat/web/main/data/database

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	introducing new such subsidies, recognizing that appropriate and effective special and differential treatment for developing and least developed countries should be an integral part of the World Trade Organization fisheries subsidies negotiation2 14.7 By 2030, increase the economic benefits to Small Island developing States and least developed countries from the sustainable use of marine resources, including through sustainable management of fisheries, aquaculture and tourism 14.a Increase scientific knowledge, develop research capacity and transfer marine technology, taking into account the Intergovernmental Oceanographic Commission Criteria and Guidelines on the Transfer of Marine Technology, in order to improve ocean health and to enhance the contribution of marine biodiversity to the development of developing countries, in particular small island developing States and least developed countries 14.b Provide access for small-scale artisanal fishers to marine resources and markets 14.c Ensure the full implementation of international law, as reflected in the United Nations Convention on the Law of the Sea for States parties thereto, including, where applicable, existing regional and international regimes for the conservation and sustainable use of oceans and their resources by their parties to those regimes		
16 Peace and Justice Strong Institutions Promote peaceful and inclusive societies for sustainable development	16.1 Significantly reduce all forms of violence and related death rates everywhere 16.2 End abuse, exploitation, trafficking and all forms of violence against and torture of children 16.3 Promote the rule of law at the national and international levels and ensure equal access to justice for all 16.4 By 2030, significantly reduce illicit financial and arms flows, strengthen the recovery and return of stolen assets and combat all forms of organized crime 16.5 Substantially reduce corruption and bribery in all their forms 16.6 Develop effective, accountable and transparent institutions at all levels	**MAKE PEACE** **Addressed Aspects:** 1.Social and societal aspects 2. Political Aspects (e.g. Social Fairness and equality, Anti-Corruption)	ASAP focuses on sustainable development. Accordingly, jobs and business relationships should also be fair. Furthermore, decision-making and processes for shaping the future should be transparent and inclusive. • # involved people/citizens in development processes • # stakeholder workshops • # jobs with good working conditions • See all indicators and data: https://ec.europa.eu/eurostat/web/main/data/database

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	16.7 Ensure responsive, inclusive, participatory and representative decision-making at all levels 16.8 Broaden and strengthen the participation of developing countries in the institutions of global governance 16.9 By 2030, provide legal identity for all, including birth registration 16.10 Ensure public access to information and protect fundamental freedoms, in accordance with national legislation and international agreements 16.a Strengthen relevant national institutions, including through international cooperation, for building capacity at all levels, in particular in developing countries, to prevent violence and combat terrorism and crime 16.b Promote and enforce non-discriminatory laws and policies for sustainable development		

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4. The ASAP Platform and “How to SULP”

At the time this report was compiled, the ASAP SULP platform was in the development phase. It will therefore only be possible to describe the platform and its functions in more detail at a later stage in the project.

With feedback from the other two Research Organisation Partners in the project (BOKU and Armines), the partner responsible for the development of the ASAP Platform, Fraunhofer IML, has made a first draft of the ASAP Platform by defining which different functions the ASAP Platform should cover.
Of course, the ASAP Platform and the information it contains will largely relate to the vision of the Awaken Sleeping Assets project, which is to activate underused or inactive or ineffectively used infrastructures or resources in terms of sustainable urban logistics. In this respect, most of the information presented on the platform will be fed by data from the ASAP testbeds in Hamburg, Paris, Stockholm and Vienna, Hamburg.

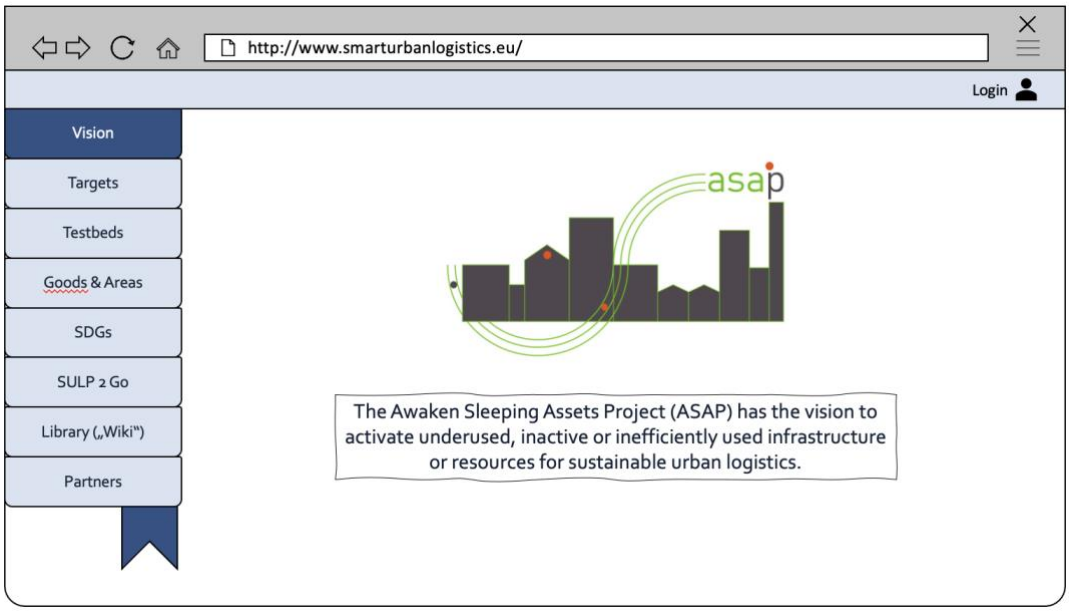

Figure 21: Overview ASAP Platform (Source: FHG-IML)

The aim is to make the ASAP Platform a "one-stop-shop" where visitors can find all information on the following topics, based on the data of the testbeds:

- What processes are necessary to implement such alternative logistics concepts,
- What to understand about the interactions between urban areas, good flows and logistics concepts their success factors and hurdles

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- Scientific background on the indicators used
- How to set up a SULP

And all this in an easy-to-understand format and with a focus on providing inspiration for the use of previously neglected urban recourses and infrastructures.

Much of the platform's information will be generated from the ASAP testbeds. Interested visitors will find out which of the different sleeping assets, which are divided into 3 categories, the respective testbed belongs to. These categories are

1. Neglected routes,
2. Underused resources and
3. Idle or new infrastructure.

The different testbeds can of course also be found via the different testbed classes. For each testbed, there should be detailed information about the definition of the sleeping asset, as well as an exact description of the testbed, with detailed information about the individual steps of the implementation, which should help followers to install such a testbed themselves. There will be information about which stakeholder groups are involved and which urban areas are particularly suitable for this particular testbed. The urban parameters that will be used are for example: population density, demographics, land use, business density and sectors, road-specific parameters, topography. Furthermore, information is presented on which goods are most suitable for the respective test bed and urban area. If available, videos and photographic material about the test bed will also be provided.
Information about implementation tips and listing of possible hurdles will be provided as well as contact details of the implementing partners and an indication of the necessary budget.
The platform will also provide easy-to-understand, practical, state-of-the-art insights on how to implement a successful SULP.

Another important topic of the project, which is not yet addressed in the various existing SULP platforms, is the importance of Co-operative Intelligent Transport Systems (C-ITS). ASAP addresses in detail the opportunities that new technologies and C-ITS solutions present for sustainable urban logistics. These findings, some of which are coupled with simulations, will also be incorporated into the platform.

As a distinctive feature the ASAP SULP Platform, will also focus on SDG impact in the context of urban logistics.

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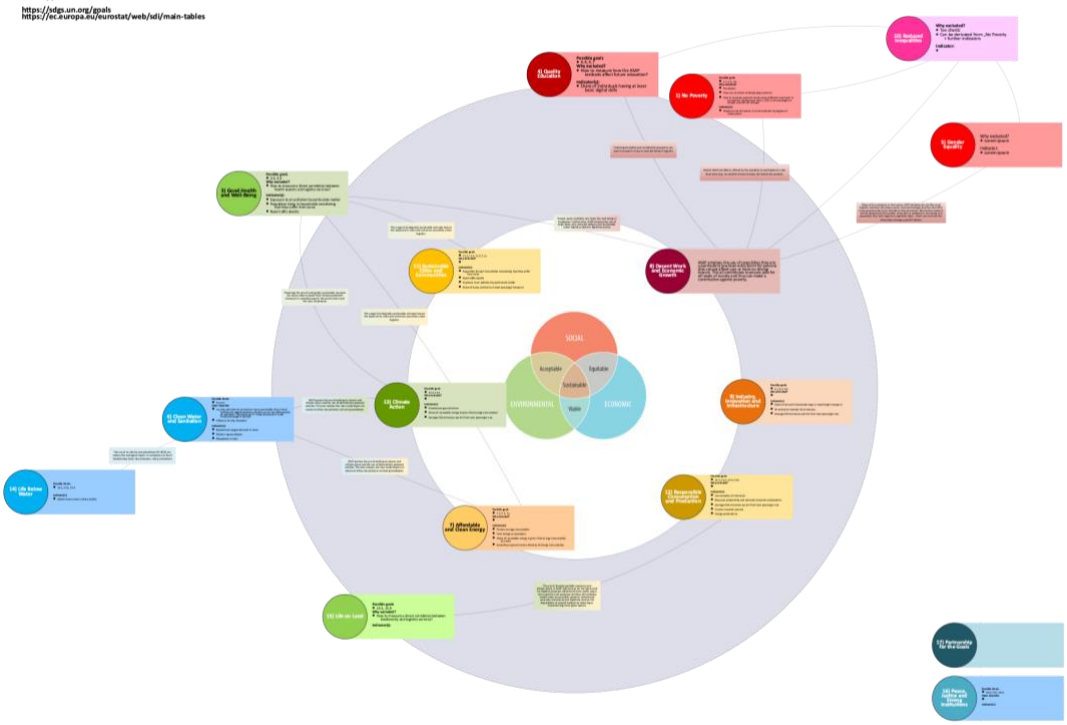

Figure 22: SDGs and their relation to Urban Logistics (Source: FHG-IML)

The project will try to establish an SDG-related framework to evaluate urban logistics concepts. Because and the interplay between urban logistics and SDGs will be analysed both, based on data from the testbeds in the partner cities and in previous work in this field.

While the overall SDG targets are well defined, there is currently a lack of concrete definitions and measurement tools to achieve them, as both the targets and their indicators are often not well suited to assessing the exact impact on urban logistics. More information on this topic can be found in the deliverable: “D3.1 Monitoring and evaluation plan including indicators (linked to SDGs) and how to operationalize and measure them”.

Another planned feature of the Platform is an information page or "wiki" for sustainable urban logistics, which will not only contain a glossary explaining the different terms such as SULP, SUMP, C-ITS and the different sleeping assets, but will also list other European projects and measures as well as existing SULPs from all over Europe.

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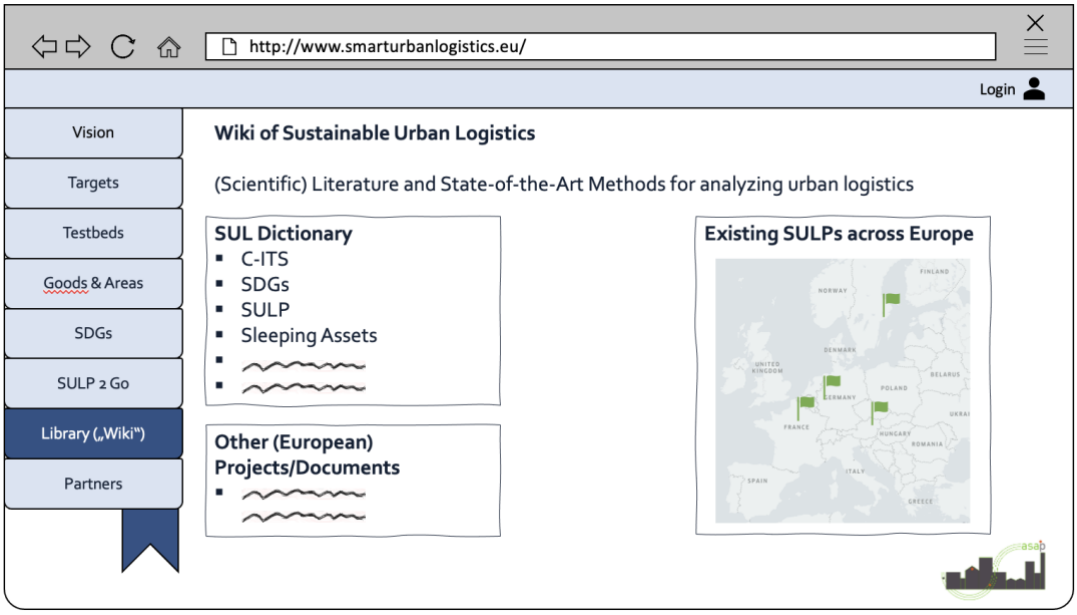

Figure 23: Detail ASAP Platform (Source: FHG-IML)

5. Conclusions

A central objective of the Awaken Sleeping Assets Project is to build a new Sustainable Urban Logistics Planning (SULP) Platform based on the use of underused or inactive infrastructure and resources in 14 existing and 11 planned testbeds in the partner cities. This SULP Platform is intended to become a tool that can support cities specifically in activating such sleeping assets based on the information provided in the platform and to provide them with State-of-the arts insights on how to create a successful SULP in an effective and easy way. Unlike other platforms the project intends to provide users also with the possibility to gain a better understanding of the interplay between SDGs, their targets and indicators and sustainable urban logistics solutions. Another crucial feature of the platform will be a section that guides visitors “How to SULP”. To better understand what is needed in this regard the present document provides an analysis of previous projects that have focused on establishing SULPs. Further, 6 actual SULP or similar strategy documents have been examined in view of their shortcomings. These shortcomings are an often-narrow focus on certain logistics sectors, areas, or type of emissions, inflexible or unrealistic goals, and topics related to new technologies and C-ITS solutions. Therefore, the ASAP SULP guide should provide interested stakeholders with insights into best practices of sustainable urban logistics solutions that will include success factors and hurdles. In a further level the guide will provide a detailed understanding of the impacts of the solutions and their evaluations. In short it will be a flexible, quick guide on how to implement a SULP that thinks further than simple CO_2 emissions and includes problems generated by circular economy and waste management and

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demonstrates innovations and new ideas in within the area of urban logistics can be adapted and integrated successfully.

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