

3rd Workshop report

Low-Carbon logistics planning

Oslo 27-28 June 2017



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1. WORKSHOP DESCRIPTION

The workshop in Oslo on low-carbon logistic planning was aimed to enable the exchange of experiences among the partners participating in the project, representing metropolitan areas with different characteristics, regarding the number of inhabitants, urban planning and legal configuration. From the data collected in the inventory about the theme of “low-carbon logistic planning”, the major issues were identified, to be detailed in direct discussion between the partners during the work sessions.

The topic of low-carbon logistic planning shown to be a topic that many of the partners have limited experience and/or limited legislative possibility to manage. The inventories raised many questions that were the topic of discussion in the work sessions. The partners of Oslo and Akershus decided to dedicate a larger proportion of the program to presentations from the private sector and other governmental bodies and stakeholders than what has been common in previous workshops. The goal of this was to inspire good debate in the work sessions.

2. SUMMARY FROM THE PRESENTATIONS

CLIMATE AND ENERGY STRATEGY FOR OSLO – AGENCY FOR CLIMATE, CITY OF OSLO

Head of mobility Eric Rambech explained the climate and energy strategy for Oslo developed during a three-year multidisciplinary and cross-sectoral process. More than 40 organisations were involved, including agencies within the City of Oslo, the business community, research institutions, and state-owned enterprises. The strategy entails ambitious targets for reductions in greenhouse gas emissions, which are set to be reduced by 50% by the year 2020 and 95% by 2030 compared to the 1990 level. These main goals are broken down into target areas for transport, energy, buildings, waste, as well as climate management.

Sixty-five percent of the CO₂ emissions in Oslo are from the transport sector – a high share from a city that has very limited emissions from its energy sector and not much industrial activity. The planned approach to achieving emission cuts in transport is in ensuring a shift from the private car to public transport, to promoting biking and walking, and to making the distribution of goods more efficient. In addition, a shift to low or zero emission (non-fossil) transport is the key.

The climate and energy strategy is supported by 16 key initiatives. While in the transport sector traffic reduction is an important mean, most initiatives are oriented towards easier, cheaper and better use of zero-emission vehicles (cars, vans, trucks and even ships).

A climate budget introduced for the implementation and follow-up of the strategy aims to answer the following key questions:

- How big are the emission reductions that are needed?
- What measures have to be implemented?
- When should results start filtering through?
- What are the municipality costs?

The climate and energy strategy is available [here](#).



THE ENVIRONMENTAL POLICY OF NORWAY'S LARGEST GROCERY WHOLESALER – ASKO

Silje Eikrem presented the environmental policy of ASKO, which is Norway's largest grocery wholesaler and distributor, serving 16,000 customers using more than 600 trucks every day. ASKO's ambitious environmental goals by the year 2020 are: use of 100% renewable fuels, 20% reduced energy consumption, and self-sufficiency in the provision of clean energy/renewable energy. Reaching these goals means acquiring ISO 14001 certification, establishing environmental accounts, setting internal quotas for environmental purposes, and carrying out sustainability assessments for investments.

Among initiatives and measures already achieved is the procurement of Norway's first batteryelectric truck in 2016. This vehicle has a payload of 7 tonnes and a range of 200 kilometres, while charging takes five hours to complete. ASKO uses biofuels and, at present, ASKO has 16 trucks using Hydro-treated Vegetable Oils (HVO), 5 biogas trucks and 2 bioethanol trucks. The company operates on different levels, optimising distribution by focusing on increased fill rate, reduced "air" in packaging, increased volume per mile and improved driving behaviour. In the period 2009 to 2016, the fill rate increased by 36%, while overall CO₂ emissions per m³ freight decreased by 48.9% from 2008 to 2017.

THE ZERO NON-FOSSIL DEVELOPMENT PROGRAMME

Torfinn Belbo presented ZERO's vision for emission-free commercial transport. With a focus on technology, ZERO is an environmental foundation putting forward modern solutions to the climate problem. It pushes for (i) electric vehicles, (ii) hydrogen vehicles and (iii) biofuels if a fossil-free transport sector is ever to be achieved in Norway. A key point is that much can be achieved with smarter logistics planning, but that zero cannot be reached without a technological shift.

Today, Norway has more than 100,000 electric passenger cars (EVs), but only a few thousand electric vans. ZERO is driving a project aimed at accelerating deployment and development of emission-free commercial vans and trucks. In the project they consider vehicles, charging infrastructure and policy instruments such as vehicle taxation, financial support schemes and road regulations. In the Oslo region, driving forces behind this include the establishment of low-carbon emission zones and climate taxes on toll roads, accelerated rollout of charging points (including dedicated points for commercial vehicles), energy stations, a hydrogen strategy and biogas for transport.

NORSULP

Karin Fossheim and Jardar Andersen at Norway's Institute of Transport Economics presented the NORSULP (Sustainable Urban Logistics Plans in Norway) project.

In Staff Working Document 524 (2013) "A call to action on urban logistics", the European Commission pointed to three key challenges facing urban logistics:

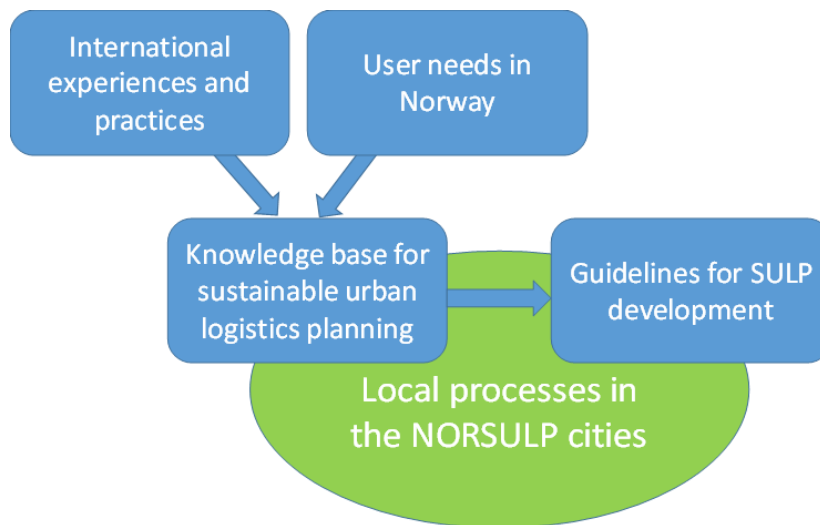
1. One is a lack of focus and strategy on urban logistics, with only a few cities having a clearly identified official responsible for urban logistics.
2. Another is a lack of coordination among the actors involved in urban logistics, and in many cases insufficient dialogue between city authorities and private actors who operate there.



3. Yet another is a lack of data and information, which makes it difficult to improve operational efficiency and long-term planning.

A coordinated effort to optimise urban logistics should be in the interest of stakeholders such as authorities, logistics operators and other businesses. Several European cities are now working on Sustainable Urban Logistics Plans (SULPs). These are bringing local actors together, improving planning and initiating the actions needed to improve the performance and sustainability of urban logistics.

NORSULP will develop guidance for urban logistics planning in a Norwegian context, thus facilitating Sulp development in Norwegian cities and regions. The nine Norwegian local authorities actively involved in the project (Oslo, Bergen, Trondheim, Stavanger, Kristiansand, Tromsø, Fredrikstad, Drammen and Bodø) will support initiation of the Sulp processes. Financed by the Norwegian Research Council's Transport 2025 Program and the Norwegian Public Roads Administration, NORSULP is led by the Institute of Transport Economics (TØI), which collaborates with SINTEF in research activities. The approach is illustrated in Figure 1.



In the first part of the project, the experiences of the United Kingdom and Scandinavian countries with SULPs and urban freight planning indicate that freight planning in Europe is limited, but is gradually increasing. UK and Scandinavian plans, which include elements of urban freight, are often organised strategically with an action plan, or as part of an urban mobility plan. The plans have regional or local visions for urban freight – visions that come into practice through selected policy measures. It is important that these measures satisfy the needs of freight, people and business in the area.

It is too early to say whether the concept of a Sustainable Urban Logistics Plan has been fully applied in these countries. However, the logistics plans focus on sustainability, with some country-specific differences in terms of economic growth, environmental protection and social equity. The regional perspective challenges the explicit focus on urban freight, but at the same time it is important that the regional perspectives against an urban/city aspect are considered. Emphasising a regional perspective can shift the content from urban issues to heavy goods vehicles and long-haul transport resulting in different policy measures.



By providing guidance and a methodology for urban freight planning, governments can promote the up-take of urban freight plans.

The project mapped stakeholder perspectives related to urban logistics planning through interviews and questionnaires among public and private stakeholders in the cities involved. There was overall interest in and willingness to develop an urban freight plan across all stakeholder groups. However, public sector stakeholders claimed that it could be challenging, as the responsibility for logistics planning was spread across municipal agencies. Today, urban freight transport is handled rather haphazardly, and rarely is it overseen by more than one person or department within a municipality. There are different responsibilities related to land-use, building permissions, regulations, parking and accessibility. With scarce resources and a focus on passenger transport, both politically and among citizens, allotting priority to urban freight is a challenge.

From a private sector stakeholder perspective, it is unclear whether stakeholder opinion will be acted upon, i.e. whether a plan will result in specific measures improving the delivery situation.

Overall, municipalities believe that their knowledge on the topic is limited. When, as in Norway, the responsibility for urban freight is spread across different agencies, an urban freight plan can improve the situation. It can provide the municipality with guidance on how to tackle these issues locally and it results in freight planning integrated with passenger transport. Currently, integrated urban mobility plans are of little use in Norwegian cities. However, it could be important to start with a separate urban freight plan, later aiming at combining the elements of mobility and logistics. It is important to emphasise that there are also other considerations just as important as logistics. These plans are means to seeing the overall urban freight situation in the city and not just with a focus on specific measures. An urban freight plan can contribute to attainment of the climate and environmental targets set by European, national, regional and local governments and to more efficient business and thriving city life.

“An urban freight plan can help private stakeholders to organise and run their business more efficiently, thus reducing their costs” (LSP, private communication, 11 May 2016). Private stakeholders feel that urban freight planning can improve their working conditions while at the same time improve the climate and environment. Municipalities today are among private stakeholders found to be uncoordinated. They find it difficult to figure out who to contact regarding specific issues, since it is sometimes different people dealing with them. An urban freight plan can provide a framework for the industry to work towards and it is an opportunity to see what the public sector thinks of future urban freight transport in their city.

To summarise, we have identified the following key drivers (and barriers) behind the start-up of local low-carbon logistics planning: in Norway the key drivers for local SULPs are:

- Integrated urban freight planning with existing plans and other ongoing processes
- Engaged individuals – established relationships
- National and regional authorities and research support
- Network and sharing of experiences between cities



Some potential barriers that should be considered are:

- Difficulties in allotting priority among several other important plans and needs of cities and their citizens. Challenges in determining priorities – urban freight compared to pedestrians, cycling, etc.
- Capacity in terms of time and resources locally. Having sufficient resources among stakeholders is important in getting them to participate in cooperation meetings or forums
- Political agenda
- Fragmented responsibility and inconsistency in personnel

3. REPORT FROM WORK SESSIONS

On the second day of the conference, the participants in the workshop were divided into groups and set to discuss five aspects of low-carbon logistics planning:

- Sustainability and low-carbon logistics planning
- Cooperation between planning levels and the private sector
- Promotion of clean vehicles and alternative fuels and modes of transport
- Trends and future roles of the public sector
- Setting up a demonstration project for inner city logistics

Each group dealt with two of the five topics. The main discussion items are summarised below, while conclusions across the workshop sessions are given at the end of the paper.

TOPIC 1 SUSTAINABILITY AND LOW-CARBON LOGISTICS PLANNING

This session dealt with the need to balance sustainability and efficiency and was about how urban logistics plans may ensure a sustainability focus contributing to viable cities.

Combining emission reductions with an emphasis on efficiency improvements is a challenge because people do not necessarily experience the consequence of not planning for sustainability. The municipality has too little information about the impact of deliveries for cities and business. People and businesses are unaware of the consequences of ordering door-to-door instant deliveries. Hence, dissemination and awareness are important. An urban freight plan can provide stakeholders with information – different fees and permits can be included in the plan.

An important question concerned which of the sustainability elements (efficiency, environment or society) is the most important in improving city logistics. While the municipality focuses mostly on social and environmental issues, businesses mainly emphasise efficiency. However, the best solution is based on the compromise achieved when the municipality knows the needs of businesses and citizens. Low-carbon logistics planning should be part of



an urban mobility plan and land-use plans since space is an important consideration in urban freight. The combination of regional and municipal planning is also important.

TOPIC 2 COOPERATION BETWEEN PLANNING LEVELS AND THE PRIVATE SECTOR

This session emphasised cooperation in logistics planning at local city and metropolitan/regional levels as well as between the public and private sectors.

Cooperation between planning levels

The roles and responsibilities allocated to different planning levels in SMART-MR countries are all different. In Rome, there are four levels of authority in the region, all of different political colour, which makes it a challenge for the levels of authority to cooperate. Budapest and Ljubljana, have no regional level, and the municipalities focus on local planning without any formal dialogue with the surrounding regions. In Porto, the regional level has no decision power, which makes cooperation difficult. In Helsinki, there are two regional levels – logistics is included in the land-use plan for the Uusimaa region, but not in the Helsinki region. To summarise, there is limited cooperation between the levels of authority in Rome, Porto, Budapest and Ljubljana. In Helsinki and Norway, politicians are more interested, and aware of, the importance of sustainable logistics.

Collaboration with the private sector

The authorities must understand the motivation of the various stakeholders, but act as decision-makers. In public/private partnerships, the public sector is responsible for initiating the processes, opening the dialogue, regulating behaviour, and ensuring that private companies comply with whatever has been agreed. It is also important to monitor the quality of operations to focus on how the measures optimise operations/lower the time of delivery.

TOPIC 3 PROMOTING CLEAN VEHICLES AND ALTERNATIVE FUELS AND MODES OF TRANSPORT

In this session, the group discussed how to motivate freight carriers into using urban consolidation centres (UCC) and switching to smaller, environmentally friendlier vehicles for inner-city transport. Using a UCC could be either compulsory or voluntary. Sometimes there is opposition, so it is better to develop UCCs through dialogue as a voluntary cooperative between public and private entities (with incentives to use, for example, with space for storage/depots for individual supply chains).

In the market for zero emission vehicles, rapid development of battery technologies will make vehicles more competitive, but in the meantime incentives such as reduced road tolls are needed. Other supporting measures could be low emission zones and parking places reserved for electric vehicles. For logistics, new vehicle models need to be dimensioned, with cities “promising” car manufacturers that there will be sufficient demand.



Still, it has to be acknowledged that there is a need for different vehicles for different segments, e.g. cargo bikes cannot deliver heavy loads.

TOPIC 4 TRENDS AND FUTURE ROLES

This session dealt with emerging trends challenging the roles of local and regional authorities. Several were discussed:

- Smaller vehicles and space for goods pick-up
- Technology-driven solutions
- Night deliveries
- Showrooms in city centres – Internet ordering – neighbourhood pick-up
- 3D printing and transport of materials
- Self-driving vehicles? Robots? Automated distribution?
- Increasing e-commerce?
- Areas and software for a consolidation centre.

Short delivery times generate transport and fragmented freight flows, although one possible way of reducing this is to introduce taxes for city distribution, depending on the time of day and distance. The structure of terminals may also need to change so that transshipment points are closer to city centres and ensure space for logistics activities. For the public sector, walking and cycling should not be considered enemies of logistics; all activities are crucial in vibrant cities.

TOPIC 5 HOW TO SET UP A DEMONSTRATION PROJECT FOR INNER CITY LOGISTICS

The discussions in this session emphasised the importance of having demonstration projects for clean city logistics and building private/public partnerships. Examples of the different experiences of SMART-MR cities in this domain are:

- Barcelona has an urban consolidation centre with climate-neutral last-mile operations serving both private and municipal recipients free of charge.
- Rome has run a three months' electric van pilot project in the city centre.
- Porto is now implementing a demonstration of mail distribution, bikes, electric scooters and vans.

The development process of new pilots would benefit from the public sector having a clear urban freight vision including steps/measures. Evaluation of the pilots is important and the public sector has a role in ensuring that this takes place. One possible source of revenue for pilots is advertising, such as “Stadsleveransen” in Gothenburg.

KEY CONCLUSIONS FROM THE WORKSHOP SESSIONS

Low-carbon logistics planning is not the key task of most participants, but discussions nevertheless showed that there was a willingness to work with logistics planning, and that the topic is acknowledged.



Urban logistics is not given priority in many public administrations. In Sustainable Urban Mobility Plans (SUMP) it is sometimes claimed that urban logistics are incorporated; however, at best the topic is briefly mentioned. One explanation might be that politicians get more support for dealing with urban mobility issues compared to urban logistics. Creating networks like SMART-MR or NORSULP can increase our knowledge of urban freight solutions and place urban logistics on the agenda.

Several group discussions touched on the issue of limited data on urban logistics, which makes planning difficult. More information is needed to support planning and policy development, which requires local and regional authorities interacting with the private sector.

Another finding is that it may be easier to work with the private sector through collaboration than try to change its behaviour through regulations and restrictive measures. One conclusion was that it might be cheaper to offer support from the city rather than to force behavioural change. One measure by which to do this is through an urban freight plan, since this can be used as a way of providing stakeholders with information.

Finally, the regional dimension of urban logistics should be kept in mind, with the interaction between cities and their hinterland key to the overall efficiency and environmental performance of the logistics system.

4. SITE VISIT

The first day of the workshop included a walk in Oslo's city center to give the workshop participants some insight into some of the ongoing projects and state of the art related to low emission vehicles, car free city center, and low-carbon city distribution.

LOW-CARBON TEST DRIVE

The first stop was a display of an electric car and a cargo bike from Bring (Norway Post). Employees in Bring were also available to share their experience with using the vehicles in their work. It was also hydrogen cars at site, and it was possible to test drive both a hydrogen car and the cargo bike.

CHARGING GARAGE FOR EVS

The City of Oslo has transformed an old bomb shelter and existing parking garage to a garage dedicated to EVs. It contains 86 charging stations, and to access the garage the car owners need to download an app. The app also gives information on the number of available places.

The cost of setting up one charging station in the garage has costed approx. € 5000, compared to approx. € 6500 if the charging station is set up in the street.

CAR FREE CITY CENTER

The car free city center initiative was enacted by the City Council in April 2016, and will last until 2019. The first measures were implemented the summer of 2017. The aim is to create a better urban environment within a large area of the city center (approximately 1,3 km²). City life, pedestrians, cyclists and public transport will take



precedence over private cars. A city center with less cars make more room for life in the streets and pleasant meeting areas.

The primary focus is to improve city life, and reducing traffic from private cars is used as means to achieve this. Freed areas previously occupied by cars can be used by the municipality, organizations, business and inhabitants to everything from outside dining, culture activities, art, bicycle stands or playgrounds.

Six pilots were established in the center of Oslo during the spring and summer of 2017. The participants had a closer look at the building of an outdoor office space powered by solar cells, and the ongoing transformation of the City Hall's extended court yard from a street with two-way traffic to a public space with art installations, furniture and planters.

The participants also got the chance to learn about the gradual introduction of car traffic restrictions, dialogue with the local businesses, and how the temporary measures will be evaluated before permanent measures will be implemented.

In 2017 approximately 300 parking spots has been eliminated. The work continues through the summer of 2018. In total, around 700 street parking spots for private cars will be eliminated. According to a poll done last year, more than 50 percent of the inhabitants of Oslo are now positive to a city center will less cars.

CARGO BIKE MICRO TERMINAL

DHL Express have started delivery of parcels and express goods for Oslo central area using electric cargo bikes, replacing diesel engined cargo vans. This is made possible by establishing a small depot or micro terminal in central Oslo, and reorganize the logistics with this new infrastructure. One cargo van picks up the goods at the DHL main terminal some 20 km north of Oslo, and transports the load to the microterminal, in the early morning hours, for further distribution with electric cargo bikes.

At present DHL serves Oslo central area with 8 cargo vans. The new micoterminal system will reduce the number of vehicles to only 5. The e-bikes are charged over night at the micro terminal. The DHL vans ships the parcels to the container early in the morning, and subsequently the e-bikers transport the goods the last mile in the offices and shops opening hours. According to DHL it is profitable to exchange the vans with e-bikes. One e-bike costs some € 10.000, and a diesel van costs € 60.000 +. This is a development project, and hopefully it will work satisfactorily, and as such the electric cargo bike services will be extended to other parts of Oslo.

The project is a cooperation effort between DHL, City of Oslo/The Bicycle Agency and the Norwegian Public Roads Administration/City Logistics project. The Institute for Transport Economics will evaluate the results in due course.

