



Smart goods deliveries in urban areas

Cities can be more attractive if traffic flows smoothly and safely with no jams. The systematic coordination of the transportation of goods between city centre locations can greatly contribute towards this goal.

- The most important thing in enhancing urban logistics is for different actors to share a common vision, says **Erika Kallionpää**, who lectures at Tampere University of Technology's Transport Research Centre Verne.
- Every city has its own special features. You must examine each specific city's logistical problems at a local scale.

Kallionpää was involved in preliminary studies for the Citylog project, particularly examining urban logistical problems related to shops and service centres. The study focused on Tampere city centre and the stretch of the main shopping street Hämeenkatu between Tammerkoski rapids and the railway station, with a view to practical development.

Narrow streets and cramped unloading sites

Local businesses feel that the most serious problems concern cramped loading and unloading points, difficulties keeping deliveries on schedule, and individual outlets' limited opportunities to influence logistics.

The city centre's narrow streets are also problematic. Loading bays built in the 1980s may be totally underscaled for today's purposes. Problems within cities often relate to specific bottleneck locations. A shortage of suitable parking places forces delivery drivers to use pavements, disturbing pedestrians and other road-users, and often resulting in parking fines to be paid by their firms.

The logistical environments of cities are quite different from those for longer distance transportation. Distances are short, but tightly packed buildings and other existing infrastructure may greatly limit the choices of routes and vehicles. Trunk journeys account for the majority of deliveries in terms of time and distance, but costs and environmental impacts are mainly generated in relation to deliveries and pickups.

Many stakeholders additionally have to be considered in the context of urban logistics, each with their own needs and demands concerning how logistics should be enhanced. Continuous changes in the operating environment and increased environmental awareness mean that new logistics models need to be devised to make urban logistics more sustainable and more efficient.



Further R&D work needed

Further studies could usefully be conducted in collaboration with transportation firms, the public sector and other stakeholders. The improvement and optimisation of loading and unloading points and better route planning could alleviate many routine problems. Different retail businesses could even cooperate on the organisation of deliveries. Kallionpää lists other issues that could be examined, including surveys of the potential for underground logistical links in city centres.

– We've planned a follow-up to the preliminary study that would focus on developing urban logistics around Finland, says Kallionpää. – We're already considering a mobile application provisionally called 'Töötti', which could improve the coordination of delivery schedules.

Another goal is to further examine visions for the future of urban logistics, as well as opportunities related to GPS systems and accessibility analyses.

In the longer term it would be worth considering the designation of low-emission zones in central urban districts, where only low-emission delivery vehicles and shared loading points would be permitted. The viability of shared loading centres would have to be assessed first, however, comparing benefits and investment costs.

Unpredictable impacts of internet shopping

Kallionpää feels that the growth of internet shopping is a trend that could result in new kinds of distribution points, also in city centre locations. So far it is hard to estimate the related future flows of delivered goods and returned goods, or whether internet shopping will ultimately increase or decrease the numbers of deliveries needed in city centres.

– It would be interesting to examine the impacts of the increased use of the internet for groceries shopping in countries where this trend has become more widespread earlier than in Finland, for instance, adds Kallionpää.

Smart urban logistics – Citylog

*The TransSmart research programme covers issues including smart solutions for urban logistics. Tampere University of Technology's Transport Research Centre Verne has used funding from Fintrip to conduct preliminary studies for the Citylog project, in which researchers Erika Kallionpää, **Lasse Nykänen** and **Heikki Liimatainen** surveyed opportunities for the development of smart urban logistics in a study area extending along Tampere's main shopping street Hämeenkatu. The Citylog preliminary study project was set up through collaboration between the TransSmart programme and the Fintrip network.*

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