

IMPALA

Intermodal nodes as urban logistics centers

Ein Projekt finanziert im Rahmen der 4. Ausschreibung des Programms **Mobilität der Zukunft Gütermobilität**

IMPALA aims at investigating how the use of intermodal nodes as urban logistics centers can be redesigned, including alternative fuel vehicles, with the goal of significantly reducing emissions for goods transportation in cities and whether further R&D questions arise.

The research results show that the implementation of an urban logistics center at an intermodal node is possible and sensible, since the existing infrastructure (storage and handling) is most often sufficient. Usually intermodal urban nodes are located in well developed and accessible sites, thereby a large part of the inner urban last-mile distribution can be performed by electric vehicles starting from such a location. IMPALA has established that approx. 75% of the considered urban distribution tours have a total length below 85 km and are thereby practicable with current electric vehicle ranges.

Intermodal nodes can be used as consolidation centers. Goods can be transported to the center using larger vehicles and then be distributed to smaller vans for last mile distribution, thereby reducing the total number of traveled distance (see Figure 1).

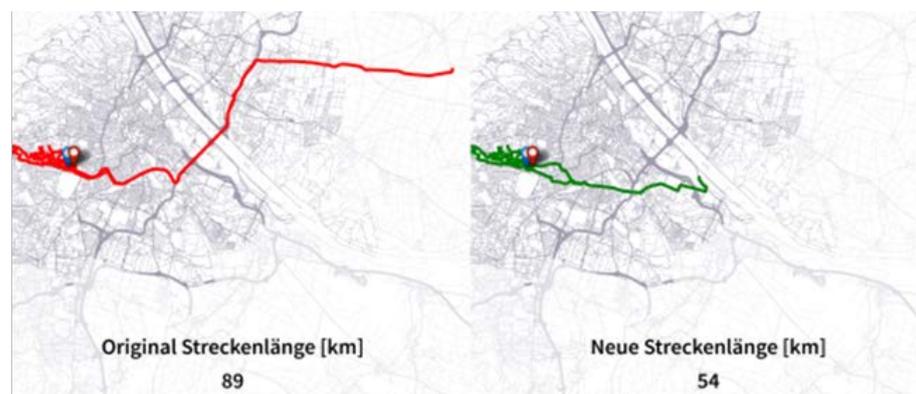


Figure 1: Reduced tour length by using the intermodal node (Hafen Wien) as starting point

Besides a basic analysis of the feasibility of such a concept the following application scenarios have been investigated in detail:

- Food distribution and consolidation at Hafen Wien
- Supply for urban gastronomy by barge with subsequent last-mile distribution

In both cases organizational, functional, and technological concepts have been established in order to define the requirements for a possible implementation. Within the developed concepts vehicle sharing solutions for consolidated delivery are considered in the cases of multiple users. Thereby higher rates of utilization and a reduction of traveled kilometers can be achieved.

Based on these promising results a high interest by small and medium companies has been registered. However, there is still a need for further research in order to achieve a successful implementation of such a scheme:

- Conceptualization and implementation of non-discriminating load consolidation among multiple partners
- Planning of electric vehicle tours and recharging operations
- Cost effectiveness study for the use of electric vehicles
- System architecture for computer aided planning of dynamic goods consolidation, and ensuring data protection

The above topics build the basis for defining future research projects on a national and transnational level for the successful use of intermodal nodes as urban logistics centers.

Kontaktdaten:

AIT Austrian Institute of Technology GmbH
DI Dr. Jakob Puchinger
jakob.puchinger@ait.ac.at
+43 664/210-65-09



ECONSULT Betriebsberatungsgesellschaft m.b.H.
Mag. Jürgen Schrampf
j.schrampf@econsult.at
+43-664-819 20 55



Wiener Hafen und Lager Ausbau- und
Vermögensverwaltung, GmbH & Co KG
DI Peter Rojko
rojko@hafenwien.com
+43 1 72716-220



tina international GmbH
DI Vincent Neumayer, Bakk.techn.
vincent.neumayer@tinainternational.com
+43 664 854 05 26

