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Urban Freight for Livable Cities:
-How to deal with collaboration and trade-offs.

B. Multi-level and multi-modal interaction: Interaction between different levels of administration and modes of transportation

The urban context of intermodal road-rail transport – implications for urban sustainability and modal shift strategies

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Intermodal road-rail transport (IRRT) has a significant urban dimension that affects the environmental benefits of a modal shift from road to rail. Due to the general environmental benefits of rail in terms of energy use and emissions a modal shift can reduce climate and air pollution impacts. However, these benefits are achieved at the expense of higher traffic impacts in sensitive urban areas. The activities that are most critical to the local environmental impacts are pre- and post-haulage (PPH), which often takes place during rush hour and hence contributes to urban congestion, noise and local air pollution. Despite the fact that a modal shift might be beneficial at large, it can be a disturbing factor for the origin and destination cities as it increases congestion and air pollution in sensitive urban environment. This can have negative implications for modal shift strategies, since investments in intermodal terminals, which are a prerequisite for future growth of rail freight, are likely to be opposed by local authorities.

In addition to this geographical trade-off in the environmental consequences of a modal shift, the urban context has also implications for the general environmental improvement potential of IRRT. In order to compensate for the traffic and air pollution impacts of inefficient PPH operations in urban areas, a certain distance needs to be covered to achieve enough savings in CO_2 emissions on the long haul by rail. Assuming a further introduction of alternative fuels in the road freight sector, which potentially decreases the environmental benefits of rail on the one hand, and increasing congestion problems in cities, which increases the traffic impacts of PPH on the other hand, the break-even distance for achieving a relative environmental benefit by shifting modes is likely to increase in the future.

In its current form the urban context of IRRT therefore limits both the environmental benefits and the modal shift potential of rail freight. A modal shift strategy can only be successful if it takes into account urban sustainability issues, which encourages cities to include rail freight in their strategic urban transport plans. In turn, the required change in the way urban transport is organised to balance different interests is likely to have an impact on IRRT networks. Exploiting the potentials of shifting transport modes requires IRRT to be understood in the light of sustainable urban freight transport. Policy planning therefore must consider the interactions of urban transport and IRRT instead of handling them as separate policy concerns. Local authorities, which are responsible for land-use and transport planning, have an important role to play if a sustainable modal shift is to be achieved.