

Participation of the Deutsches Zentrum für Luft- und Raumfahrt e.V. (DLR)

Development of strategies for tomorrow's traffic management

Has your navigational device ever re-routed you around congestion, only to take you through a quiet zone with speed limit 30 km/h (20 mph) -- past kindergartens, hospitals, or residential zones? In cooperation with the partners of the INVENT project, scientists of the DLR are developing strategies for re-routing traffic to avoid congestion -- without negative impacts on residential areas.



The goal is a harmonization and reconciliation of the interests both of drivers and of the community as a whole. The primary aim is to improve mobility by distributing motor vehicle traffic more efficiently within the existing roadway network, thus reducing the need for new road building. One solution approach for the future involves "self-organizing" traffic flow: The vehicles "converse" and exchange information such as congestion warnings. This inter-vehicle communication could involve the drivers themselves, their navigation devices, or additional devices in the vehicle.

The impact of the control strategies is being tested using an open-source software program

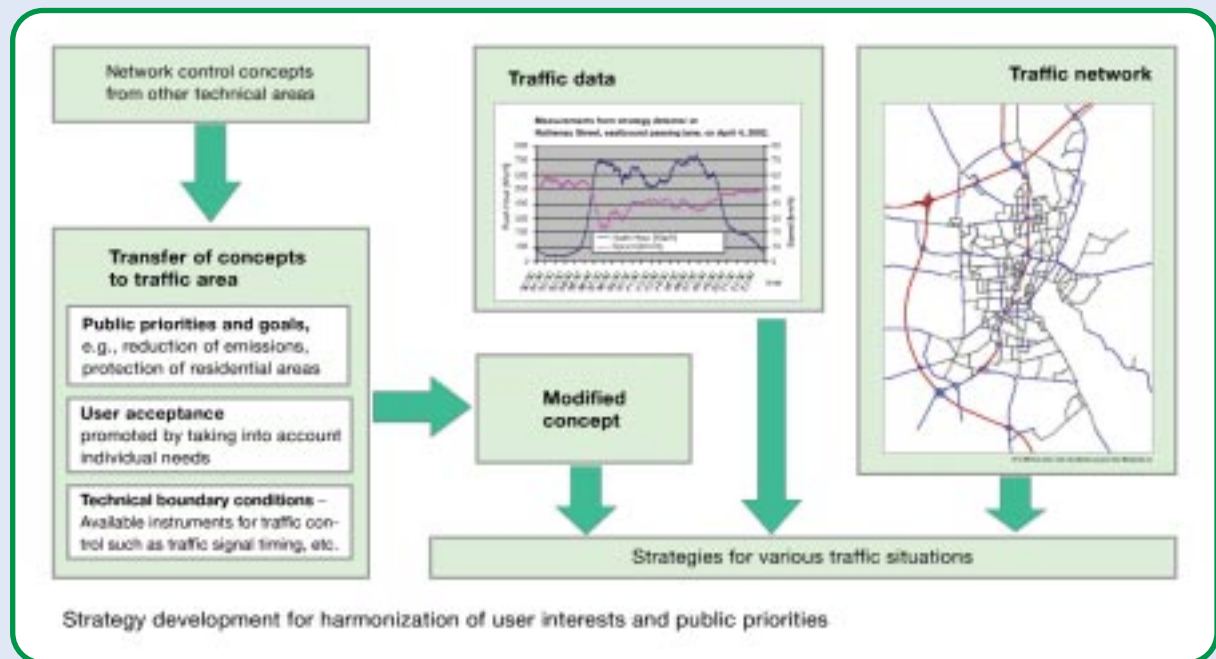
developed for this purpose by scientists of the DLR. In order to implement strategies that prove successful, there will be a close cooperation between the DLR, public authorities, traffic management centers, and private companies, such as providers of navigation devices and traffic information services. In this way, it will be feasible to provide navigation devices with current traffic information that can be used in routing while at the same time preserving the public interests -- via previously identified and activated management strategies. Thus, the driver will avoid both waiting in traffic jams and inadvertently driving through residential zones.

A further task of the DLR in this project is to identify new ways toward strategy development and to apply a general, interdisciplinary approach to this problem. Thus, a novel aspect of the work is to apply control strategies originally developed in other technical and scientific areas, where a variety of networks are encountered, serving in transport processes for information, particles, substances, or materials. Analogies to these network structures offer a considerable potential for application to traffic networks.



The research of the INVENT work packages is being carried out by the DLR Institute for Traffic Research in Berlin. The activities are integrated

into the component project “Traffic Network Equalization” of the INVENT project “Traffic Management 2010”



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