URSA MAJOR

Project Strategic Routing – Setup of a Bavarian Strategies Server and Demonstration of routing

Project information

Strategic routing is a cooperation project of the Bavarian Road Administration and the automotive industry. The basic concept of strategic routes is to communicate a route advice that is generated by infrastructure operators. Traffic information service-providers usually cover services for whole countries or even bigger areas and usually supply similar services for the entire area without incorporating local knowledge about individual cities.

This local knowledge could include local route advices due to events (such as sport events or demonstrations), short term road works or other measures taken by the operator. Road operators often spend much effort on creating traffic management plans and communicate them via variable message signs or web pages on the internet.

However, current navigation systems do not consider these strategies when calculating a route. Cooperation between the authorities and the suppliers of navigation services are of mutual interest.

A driver would benefit from the extra information supplied and would therefore be able to take the optimal route, calculated based on local knowle-

VMS, capable of displaying different routes

dge and prediction. On the other hand, the local authorities would be able to have more influence on the drivers and divert more traffic according to their plans.

Strategies Server

Different former research projects have already addressed the topic of strategic routing, e.g. Düsseldorf in motion (DMotion) or LENA4ITS. Within these projects a lot of important work has been done to enable the future development of the idea, like the creation of DATEX II profiles for strategic routing. The current Bavarian initiative is based on these developments and strives for moving towards an operational service offered by the road authority. The idea is to setup a strategic route server that makes use of the existing infrastructure.

This server will connect to the VMS backend systems in order to receive information of any change of the VMS display. An allocation table within the server contains the information, which information on the VMS is connected to which rerouting strategy. Finally the currently chosen rerouting strategy can be transmitted to service providers. The protocol used for the transmission of these strategies will be DATEX II. The German National Contact Point MDM will serve as the point of access for any service providers to receive the data.

Demonstration

To show the capability of the system from data source to display in an on-board system before the operational server exists, a demonstration scenario was set up.

Using a BMW test vehicle, the on-board navigation system of the car was reconfigured to send each route to a demonstration server after calculation. The server checked the route for any applying strategy and if necessary recalculated it.

Display in the vehicle demonstrator [source: BMW]

The entire system was tested during a soccer game of Bayern München. A test vehicle was equipped with the new strategic routing system and approached the Allianz Arena from different directions. The route offered by the improved navigation system was checked on compliance with the variable message signs. These test drives were performed before the strategic routes were activated, while the routes where active and after their deactivation.

Before and after the activation the calculated routes were purely based on the current traffic information. While the strategies were active, the routes were compliant to the recommendation on the variable message signs.

For further information please contact

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