

A3 - Dynamic Traffic Management and Hard Shoulder Running

Project description: Motorway A3 - Installation of a Traffic Management System with dynamic speed limits and hard shoulder running between Oberhausen and Leverkusen.

Project information

Motorway A3 is an essential part of the trans-European transport network TEN-T. The motorway is located in the Rhine-Alpine corridor and runs from the border to the Netherlands in the north through the Rhine-Ruhr metropolitan region, further through the Rhine-Main region as well as Franconia and Eastern Bavaria to the border to Austria. Its characteristics make the motorway A3 to one of the most significant north-south connections within the TEN-T network as well as an important freight axis between the Dutch ports and the regions south of the Alps.

In North Rhine-Westphalia, traffic load on the motorway A3 has increased significantly, particularly in the section between Oberhausen interchange and Leverkusen interchange as junction with the Cologne motorway ring road. Up to 150,000 vehicles per day travel on the mainly six-lane motorway section between Oberhausen and Leverkusen. At the same time, the motorway has a high proportion of freight transport of up to 20%.

To address the challenge of increasing traffic volume by means of ITS, a Traffic Management System (TMS) will be implemented along the 62km long motorway section.

The implementation of the TMS will take place in three spatially separate construction sections. In the section with the highest traffic load between the motorway junctions Hilden and Ratingen-Ost, the TMS is supplemented by a hard shoulder running system. 84 new gantries with a total of 430 Variable Message Signs (VMS) will be built on this section of the motorway. In addition, 60 cameras and 47 additional variable message signs for the hard shoulder running will be installed between Hilden and Ratingen-Ost. The cameras will be used to check whether broken down vehicles on the hard shoulder prevent its availability as additional lane.

Obtaining high-quality information (traffic volume, speeds) for controlling the system is a critical success factor. Therefore, the section of the motorway will be equipped with an extended traffic detection system. Environmental sensors will detect dangerous weather conditions such as fog or heavy rain at an early stage. Basis of traffic and weather data acquisition will be the installation of additional 250 loop detectors and 16 weather stations.

The impact on traffic

The Variable Message Signs (VMS) of the Traffic Management System (TMS) are used to control the traffic dynamically, depending on the current traffic situation. The VMS include bans on overtaking for freight transport as well as dynamic speed limits depending on traffic volume. In addition, Hazard warnings are displayed in the event of accidents, traffic jams or construction sites, and weather warnings can be displayed as supplementary information if required.

In conclusion, TMS ensure the harmonisation of traffic speed and encourage situation-adapted driving. This in turn stabilises traffic flow and has a positive impact on road safety by reducing congestion and accidents significantly.

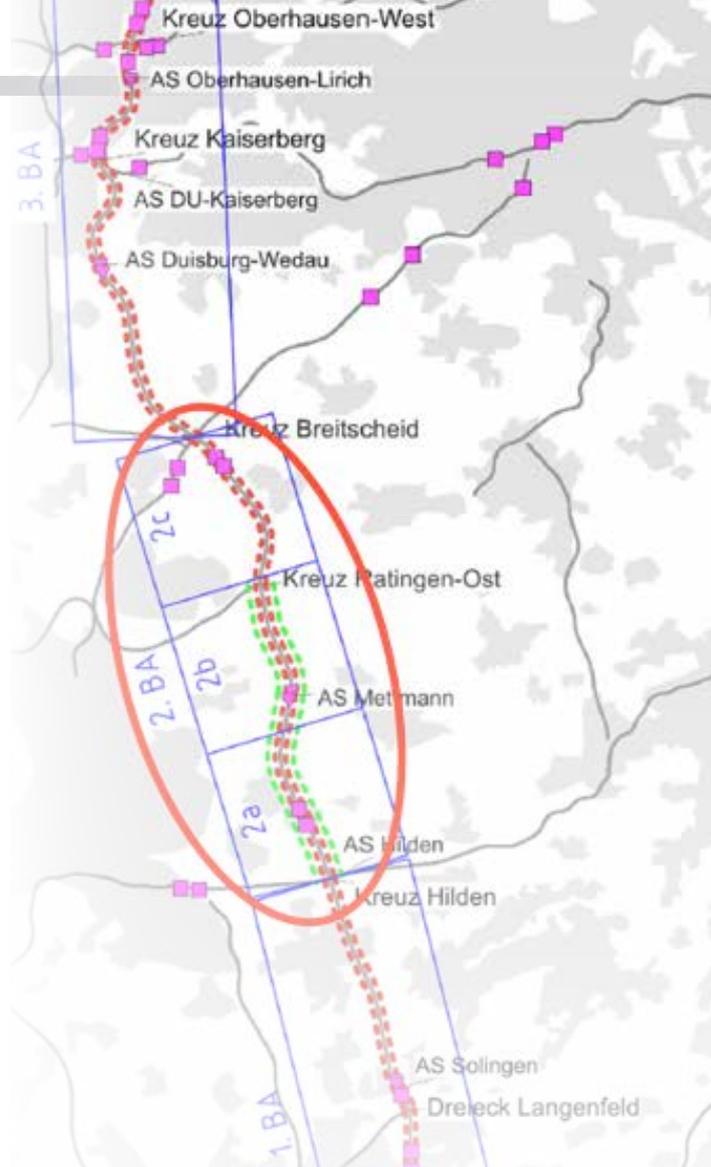


Figure top: Construction sections and traffic control systems on motorway A3 between Leverkusen interchange and Oberhausen interchange - red dashed line: dynamic speed limit and hazard warning, green dashed line: hard shoulder running, pink dots: dynamic rerouting

Figure left: Camera pole for hard shoulder running

For further information please contact

Benno Hense | Ministerium für Verkehr des Landes Nordrhein-Westfalen
Stadttor 1 | 40219 Düsseldorf

Tel.: +49 (0)211 3843 - 4 261 | E-Mail: benno.hense@vm.nrw.de

