PROJECT OVERVIEW

„iQ mobility – Integrated Quality and Mobility Management for Road Traffic in the Berlin Region“ is a joint research project being undertaken by various partners from the federal states of Berlin and Brandenburg.

The project was started in autumn 2004 and is subsidized by the Federal Ministry of Economics and Technology within the "Traffic Management 2010" research focal point. From a total of 114 projects that participated in a national call for tender, iQ mobility was one of nine projects juried worthy of sponsorship.

At a total volume of approx. 9 million Euro, subsidies of more than 4 million Euro for the project will thus flow into the Berlin/Brandenburg region.

Up until February 2008, experts from industry, information technology, and public transport as well as operators of traffic information and traffic control centres in Berlin and Potsdam will be working closely together.

The project is managed by the Berlin Senate Department of Urban Development and supported by the Federal state of Brandenburg. This means that the already high technological level in traffic management can be further developed in a regional solution in the metropolitan area of Berlin and Brandenburg.

TARGET: QUALITY ENHANCEMENT THROUGH INTELLIGENT AND INTER-MODAL TRAFFIC CONTROL

Whilst the solution to increasing traffic volume in the past has been to steadily expand the road network, the consensus amongst professionals and politicians today is that continually extending road infrastructure is not the answer. Indeed, from both an environmental and cost point of view this often exacerbates the situation.

The aim of the research project is to improve the quality of road traffic on the existing road network in the whole region by using intelligent traffic control measures. For this purpose, there will be a tighter networking and further development of local traffic management and the control centres in Berlin, Potsdam and the federal state of Brandenburg.

Further quality criteria to be considered besides traffic parameters (flowing traffic, congestion, travel times) are the effects on air pollution and noise as well as road accidents.

Here, research emphasis is put on:

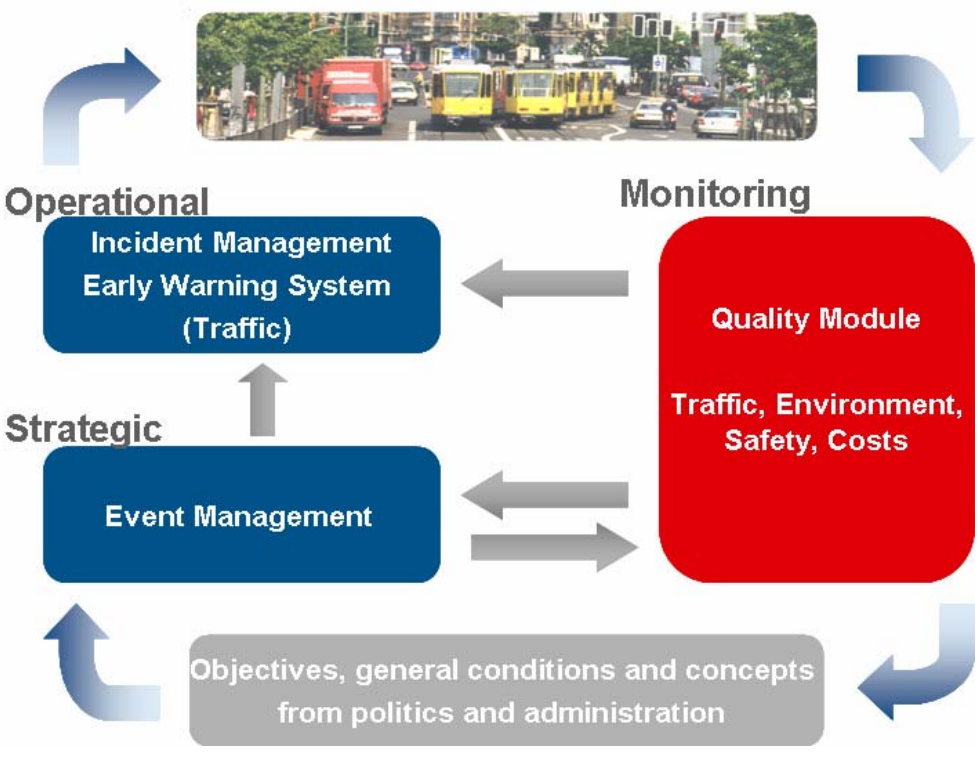
- the control of road traffic in the whole region of Berlin-Brandenburg with the two control centres, Berlin and Potsdam;

- the reduction of congestion duration and frequency by applying coordinated information and control strategies in the case of predictable events such as large scale events, construction sites or demonstrations;
- timely intervention and counteraction in the case of foreseeable incidents;
- the consolidation of existing traffic, environmental and accident data from different sources in order to set up a comprehensive quality assessment system for road traffic based on up-to-the-minute data;
- the use of the consolidated data for analysing the current situation, for performance control and for the improvement of future traffic control measures.

TECHNICAL STRUCTURE – THE IQ MOBILITY CONTROL LOOP

The integrated quality and mobility management system iQ mobility is structured as a control loop with the following modules:

- the **Quality Module**, which continuously monitors and evaluates the quality of road traffic
- **Strategic Traffic Management** for predictable events such as large scale events, the exceeding of critical values, and construction sites
- **Operational Traffic Management** for operational incidents and for the detection of disturbances as they arise



In practice, the integration of the modules could be as follows:

The quality module calculates, for example, the level of air pollutants for all street sections of the main street network based on current traffic and weather data. This would enable early detection of streets exceeding critical values. Solutions developed in strategic traffic management could then be implemented in time to influence traffic through targeted traffic information and the changing of traffic signal cycles in the whole network. Closures of streets for motorized traffic would thus be prevented.

PROJECT STATUS - FIELD TESTS IN AUTUMN 2007

A prototype of the iQ mobility system is already available. In autumn 2007, field tests will be carried out in Berlin and Potsdam where the system will be tested for its technical reliability and efficiency. The results of the field tests will be available in spring 2008.

In Berlin-Mitte, three field tests are scheduled:

- The purpose of the field test “Incident Management at Large Scale Events” on Straße des 17. Juni between Großer Stern and Brandenburg Gate is to analyse the efficiency of traffic management measures focusing on traffic guidance and traffic organization at large-scale events. Since this street section is regularly used for such events, control strategies are to be developed for the inter-modal traffic management on the alternate routes to be available for call-up at the Traffic Control Centre.
- The field test “Environmental Traffic Management” in Leipziger Straße will analyse the efficiency of traffic management measures implemented for the reduction of traffic-induced pollution by fine particles (carbon, particulate matters) and nitrogen oxides (NO_2) as well as noise. For this purpose, continuous and situation-related (dynamic) operational control measures will be tested. The efficiency analysis of these measures (calculation of air and noise pollution as well as calculation and analysis of traffic quality) is based on comprehensive traffic and meteorological data that are provided online.
- The field test "Event and Incident Management with Construction Projects at Alexanderplatz" will analyse the efficiency of current traffic information in the case of foreseeable traffic disturbances. It is to be expected that the construction works currently underway in the area of Alexanderplatz will lead to traffic disturbances and congestions. The objective of the field test is to determine whether targeted information will lead to a shift in traffic, thus reducing the extent of the expected interferences with traffic.

The focus of the field tests in Potsdam will be on the interdependency of individual traffic and public transport.

- In the field test "Incident Management Zeppelinstraße", the interdependency of public transport and individual traffic will be analysed for the event that a street section which is normally used by both individual traffic and the tramway, is temporarily closed to road

traffic (street section reserved for trams only). Strategies for the redistribution and reduction of traffic and the increase of the flow rate are the measures which are to be applied in the field test. In order to gauge the anticipated shifting in traffic, the field test area extends to the reserve street network in the adjoining districts "Postdam West" and "Brandenburger Vorstadt" as well as in the "Sanssouci" park.

- The field test "Event Management Nuthestraße (L40)" will be carried out within the reconstruction project of the L40 (Nuthestraße) between Berliner Straße and Babelsberger Straße, which was started in December 2006 and is expected to be completed in May 2008. With focus put on the analysis of the interdependence of public transport and individual traffic, strategies for the traffic redistribution and reduction will be implemented in the construction site area where only one track is available for the tramway and possibilities for road traffic are equally reduced.

OUTLOOK

Provided that positive results are gained from the field tests, the iQ mobility system will be integrated into the existing traffic management and control systems in Berlin and Potsdam. Thereby the foundations for the implementation of the inter-modal quality and management system for road traffic will have been laid.

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