Optimising Use ITS
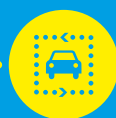## Smarter, better and more pleasant travel

DATA

C-ITS

IMMA

INCIDENTS

TRAVEL INFORMATION SERVICES

SUPERMARKET LOGISTICS

EVENTS

The seven themes of Beter Benutten ITS to 2017

Optimising Use ITS is working on better traffic flow on the road network, both within the city and outside it. Adding 'intelligence' to mobility shortens door-to-door journey times. Optimising Use aims to make a step change with intelligent transport systems (ITS) during the period until 2017. Our focus on seven themes in the follow-up programme is designed to influence the travel behaviour of travellers and hauliers and to facilitate a liveable, accessible and attractive city.

Ready for the future

The objective of Optimising Use Follow-up ITS (Beter Benutten Vervolg-ITS, or 'BBV-ITS') is twofold: measurable journey-time effects in specific regions before 2018 and sustainable continued development after 2018. The ITS programme helps to achieve these goals with joint measures that have national, regional and local impact. Over the next few years, we are looking to roll out intelligent transport systems and services on a large scale, involving more regions and sufficient numbers of users. We also want to advance technically and commercially. Our aim here is to achieve sustainable intelligent services that depend less, if at all, on permanent government investment. The Optimising Use Follow-up ITS programme implements the transition pathways mapped out by the government and the market in the 'Routekaart Beter Geïnformeerd op Weg', a road map for better in-transit information. Intelligence in and around the car will support communication between vehicles and the roadside. This will make autonomous driving possible in the future.

Customisation

Personal, privately-offered services influence the behaviour of individuals before and during a journey. Relevant factors include departure time, mode of travel, the chosen route or a good alternative, speeds, advice on merging and exiting and timely hazard alerts. The importance and use of these intelligent services differs per target group. For commuters who are used to travelling a set route, ITS services mainly offer convenience, fuel economy and time savings. For business travellers, this can make a difference of two or three appointments per day. They receive targeted advice on the quickest options in relation to incidents or events, during the 'last mile' in urban areas,

and regarding available parking spaces or loading and unloading bays for goods vehicles. ITS also offers the comfort of having information available on definite, up-to-the-minute arrival times. Furthermore, ITS allows vehicles and intersections to communicate with each other so that right of way can be granted geared to specific target groups such as public transport, cyclists or heavy goods vehicles.

Opportunities for cities

Intelligent mobility doesn't just make the journey easier, cheaper and more attractive for the traveller or the business community. It also offers opportunities for cities, by reducing unnecessary and undesirable mileage in the city. For example, no traffic past schools during the school day, no protracted searching for empty parking spaces or available loading and unloading areas and no unnecessary congestion around events. We can use ITS to make the city and its environs safer, more liveable, more accessible and economically more interesting.

Smart deals

Optimising Use ITS encourages cooperation between market parties, users and the government. The ball is in the market's court. Market parties are developing smart, tailor-made solutions for travellers. If large numbers of travellers use such services, these services and technologies will become cost-effective and their development will continue. Optimising Use is stimulating the market to develop healthy earnings models. It also links major players with each other and, together with the Connecting Mobility programme, ensures that preconditions are met. Optimising Use aims for 'smart deals' that will see travellers better served, businesses cutting unnecessary costs, and cities becoming more accessible.

Stakeholders

Various private stakeholders benefit from new intelligent facilities and services. Insurers, employers, car-rental companies, fleet owners and events organisers can reduce their costs and increase their returns by getting a better understanding of their target groups' travel and driving behaviour. In the Optimising Use programme, collaboration is sought with these parties in order to examine how they can profit from intelligent services from the perspective of their commercial interests. This boosts the development of customer-focused functionalities in new services and stimulates a future-proof market.

The Follow-up ITS programme focuses on seven themes

Supermarket logistics

Goods transporters often deliver their cargo to customers in the city. However, during the journey it is not clear which loading and unloading bays in the vicinity of the customer are available or which city route offers the least delay. By adding intelligence to lorries and buses, logistics companies are better able to plan their arrival and departures times and communicate with loading and unloading bays. As soon as they set off, drivers receive current information about their route and destination, such as departure time, journey time, preferred route and available loading and unloading bays. In this way, we prevent unnecessary mileage and unnecessary braking and accelerating within the city. This translates into less emissions in the urban area and cost savings for goods transporters.

Events

Congestion and traffic chaos around events and attractions are not exceptional. Events organisers and locations can make a difference for their visitors by developing information services around attractions, events and concerts and linking these to accessibility information. Their guests can then choose the proper mode of transport and the quickest route. During the journey and at the event they will also receive advice on how to reach their destination in the best and fastest manner. This is achieved with realtime information on expected travel times, available parking spaces and detours. By combining events and accessibility information intelligently in a user-friendly information service (app), the 'guest experience' starts and ends at one's own front door. The guest will come again. Other travellers share in the benefits as well: they can proceed on their way without any hindrance. The city will be better accessible by residents and visitors before, during and after events.

IMMA

IMMA stands for Integrated Mobility Management Architecture and combines the knowledge and experience gained in the areas of ITS, rush hour avoidance, bicycle projects and behaviour. It is a qualification for the organisation of baseline measurements and the recruitment, following and rewarding of participants in, for example, bicycle and rush hour avoidance projects and traffic studies. IMMA provides a uniform, efficient and verifiable way of executing all this for example by using apps, with due regard for participants' privacy. A privacy protocol gives users the certainty that privacy laws are being applied.

In other words, IMMA offers multiple benefits. Travellers benefit from the certainty of compliance with safety and privacy legislation offered by project participation. In addition, participation is made more easy. Market parties can make their business cases profitable, while governments can reduce the time and costs involved in public procurement procedures for and the subsequent execution of rush hour avoidance, cycling and research projects. In addition, IMMA projects can be evaluated and adjusted in similar ways.

Incidents

Annually, between 20,000 and 30,000 lorries and some 200,000 passenger cars break down. The resulting traffic jams cause much unexpected delay. By taking smart measures, we can reduce the number of breakdowns and, by the same token, traffic jams. With ITS services we are able to inform drivers in good time - during or prior to their journey - of any increased risk of problems for their vehicle or en route. For example, we can measure tyre pressure and exceedance of the maximum load of vehicles, and provide individual feedback directly. We can also inform lorry drivers well in advance of maximum clearance heights or obstacles they will encounter en route. They will then choose an alternative route in good time, which will reduce the number of incidents and avoid unnecessary delays. A data platform serves to streamline information sharing between public and private organisations directly involved in handling incidents, such as road managers, salvage companies and insurers. The goals are complete, realtime registration and shorter processing times.
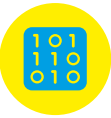
Data

With intelligent combinations of the available traffic and transport data we can develop services that make specific and current information available to every traveller. This includes all types of information and various kinds of travellers and users, such as parking information for visitors in city centres, bicycle data and data sharing about shipping traffic and inland navigation (Blue Wave, or Blauwe Golf). To render such data available and usable, the market parties and authorities make agreements about:

• which data they make available
• how they supply it and
• the quality requirements of the data (contents, reliability, currency etc.).

If a lot of useful data becomes available, it is interesting for market parties to combine these intelligently into information or route advice services for travellers. By making agreements, facilitating preconditions and defining standards we create opportunities for the market and, by the same token, for users. This calls for collaboration between, for example, market parties, users, road managers and municipalities.

Travel information services

Travel information services (pre-trip and on-trip) enable travellers to travel smarter, easier and simpler. They receive customised travel information with an app on their smartphone or navigation system. With this personalised travel information, they then determine themselves when and how they will travel (by car, train or bus). In the car, they can also opt for driving task support (regarding speed, lane choice and the like). The advice is based on current information from carriers (public transport companies), loops in the road surface or other users of information services. As government and market parties jointly make current information available as much as possible, the group of smart travellers will grow rapidly and gain a choice of services.

C-ITS

Cars, lorries, public transport, bicycles and emergency services communicate with each other and with traffic lights and other beacons and sensors. That, in essence, is what C-ITS is about. By offering road users new route advice services that use fast data transfer, they are connected with each other as well as the roadside infrastructure and we can advise them in real time about driving tasks, such as speed, lane choice, merging and exiting, roadworks and hazards. In this way, road users will anticipate traffic out of their view. In addition, certain road users can have right of way, for example at intelligent intersections. Not only do such intersections know that traffic will be coming, but also what kind of traffic and where it is headed. This means the traffic light can stay green a little longer when a heavy lorry comes up, so it will not need to brake and accelerate as much. This avoids extra emissions and promotes the free flow of traffic. Cyclists, buses or trams can be given priority as well, depending on the location, route and the municipality's policy. By aligning traffic flows this way, travel times are shortened and traffic safety and air quality are improved. With C-ITS, market parties coordinate the intelligent communication. Road managers facilitate them with data and access to roadside systems. They also determine the frameworks, such as the standards for particulate matter, prioritising user categories or traffic density near schools.

Where do we go from here?

Since October 2015, the twelve Optimising Use regions, market parties and other public and private partners have been working together on the concrete implementation of the project plans for the seven themes. Until 2018, the progress made will be continuously measured and evaluated. Keep your eye on the website www.beterbenutten.nl/its to stay abreast of the progress made with the themes and ITS projects of Optimising Use.

Optimising Use ITS: regions work together

SUPERMARKET LOGISTICS
* Groningen-Assen

DATA
* Midden-Nederland

C-ITS
* Amsterdam | Midden-Nederland | Brabant

TRAVEL INFORMATION SERVICES
* Arnhem-Nijmegen

EVENTS
* Arnhem-Nijmegen

IMMA
* Maastricht

INCIDENTS
* Rotterdam

STAKEHOLDERS
* Rotterdam

* Theme leaders

Groningen-Assen

Leeuwarden

Zwolle-Kampen

Amsterdam

Steden-driehoek

Twente

Haaglanden

Midden-Nederland

Rotterdam

Arnhem-Nijmegen

Brabant

Maastricht