

Study Tour and Thematic Workshop on “Urban Traffic Management and Intelligent Transport Systems”

Helmond region, The Netherlands. 30-31 May 2016



At the end of May 2016, over twenty participants from eight different countries joined the CIVITAS study tour and thematic workshop on Urban Traffic Management and Intelligent Transport Systems in the Helmond region. This double-event was organised by CIVINET The Netherlands & Flanders (DTV) and CIVITAS WIKI (TNO) and hosted by the municipality of Helmond. This location was chosen because the high tech automotive campus is located in this town and as a result many automotive and smart mobility innovations are being developed and implemented here.

The objectives of the study tour were:

- To obtain insights in current developments and innovations;
- To share and exchange (best) practices;
- To visit some of the Dutch ground breaking innovations on ITS and traffic management.

The first day was dedicated to visit a number of sites in the Province of North-Brabant. The second day was held at the Automotive Campus in Helmond where a number of experts presented their work and discussed it with the participants.

The majority of the participants of the event came from municipalities in The Netherlands and Flanders. But also municipalities from EU member states further away were attending the tour and the workshop. Both academics and consultants in the field of ITS or urban mobility joined the event.

First day

After a welcome from the organization and a round of introductions of all participants we started with a presentation by Daniel de Klein on behalf of the city of Helmond and the Automotive Campus. Followed by an introduction of the topic of Urban traffic management and ITS by Isabel Wilmink (TNO). She is currently leader of the CIVITAS thematic group on telematics and told the audience about the theory on ITS and urban mobility, CIVITAS findings and the latest urban ITS implementations in the Netherlands.

By bus we travelled to the city of Oss to visit the Road of the future. On the bus, during the trip to Oss, we saw a demo of the Compass 4D project that connected heavy vehicles with traffic lights in Helmond to give them priority at intersections, with the aim to reduce fuel consumption and travel times. The system was installed in the traffic lights in Helmond and made a quick trip through the city possible.

After reaching Oss, Patrick Megens from the city gave a presentation about recent projects. For example, several years ago Oss decided that the congested road going from the motorway into their city should be completely renewed with the latest technology and become 'the road of the future'. This innovative concept creates an entirely new mobility experience for drivers, cyclists and pedestrians. The Road, N329, is built to be CO2-neutral. Along the road fifty 'sunflowers' will also be placed filled with solar panels.



A sunflower with solar panels along the N329.

The N329 has also more futuristic features, including green lights next to the road. They are there partly for orientation, but also visualize the green wave offered on this road. If you follow the speed of the lights, you are guaranteed to have a green light at the next intersection.

In addition, underpasses have been built for crossing bicycle routes which were made interactive. With Bluetooth sensors, the tunnel recognises the cyclist entering the tunnel. The tunnel then presents a fun question to the cyclists, along with sounds and images, and gives the answer to the question when the cyclist is about to leave the tunnel – all to make the cyclist feel safer in the tunnel (social safety).

Unfortunately, a severe thunderstorm during the event prevented a visit of the tunnel on foot.

After dinner with the group, we waited until it went dark to visit the Van Gogh –Roosegaarde 'sparkling' cycle path near Eindhoven. This cycle path has been constructed recently and forms a section of the Van Gogh cycling route in Brabant. We saw a design of light and colour, inspired by the world-famous painting *The Starry Night* by Vincent van Gogh. This cycle path is based on the light-emitting technology of Smart Highway, the concept for intelligent, interactive roadways and joint innovation program of Heijmans and Studio Roosegaarde. Because the cycling path glows in the dark, conventional lighting along the cycling path is no longer needed.

Unfortunately it had been a day without any sun and heavy rain, so the cycling lane did not store much 'light' that day, but still we could see the glow of it.



The Van Gogh –Roosegaarde cycle path

Second day

The meeting location of the second day was at the Traffic management centre in the Automotive Campus in Helmond. We started with a series of presentations of the national road authority on the innovative traffic control centre. an experimental and development area within the South Netherlands traffic centre. The innovative Traffic Control Centre comprises the Innovation Desks and the Innovation Lab. Unique to the Traffic Control Centre is the possibility for parties to test and develop their smart mobility solutions in the Innovation Desks in a real-life environment: on a real road and, above all, on a real network. This makes evident straightaway what the effect of the solution is in practice. The kinds of mobility solutions that come to mind include new mobility services, systems, data connections, information provision, work processes, regulation scenarios, traffic guidance, in-car technologies and the like.

In addition to the Innovation Desks there is the Innovation Lab, the incubator of Smart Mobility, a place where the Triple Helix parties (industry, government and research) can meet and share knowledge. The Innovation Lab is there to prepare experiments, develop services and provisions, and to enable experiences to be shared with and gained from people in the field.

After the presentations, Carl Stolz (DTV) presented research on ghost traffic jams (traffic jams that suddenly occur without a specific reason) that takes place on the A58 motorway in the south of the Netherlands. Ghost traffic jams frequently occur on motorways and can be prevented or mitigated by reducing the speeds of motorists approach the section with the ghost traffic jam.

This part of the workshop was closed with a visit to the control room.



The Innovative Traffic Control Centre

After that Esra van Dam (TNO) presented the latest developments of ITS technology for bicycles and other two-wheelers. Tools like the airbag for cyclists were shown as well as sensors that detect cars and cyclists and gives the traffic users a warning to avoid a collision.

These kinds of technologies can be tested at the 'intersection of the future' that is located in front of the Automotive Campus. The intersection is equipped with a radar which detects the presence of cyclists. This information is transmitted via a dedicated Wi-Fi network to vehicles nearby. The approaching car picks up the signal, before the cyclists are visible to the driver and then the brakes are applied automatically. The workshop was concluded with a discussion on further research in this field and a visit to the intersection.



The intersection of the future in Helmond.

The response we received from the participants was very positive. They appreciated the full program, said that they gained a lot of new knowledge, and, just as important shared information and experiences with each other. The innovations in the field of urban ITS that were presented during the two days were perhaps a bit too advanced to implement on the short term in many cities across Europe, but the innovations presented gave a lot of inspiration to the participants of the event to continue with findings ways to improve urban traffic management in Europe.