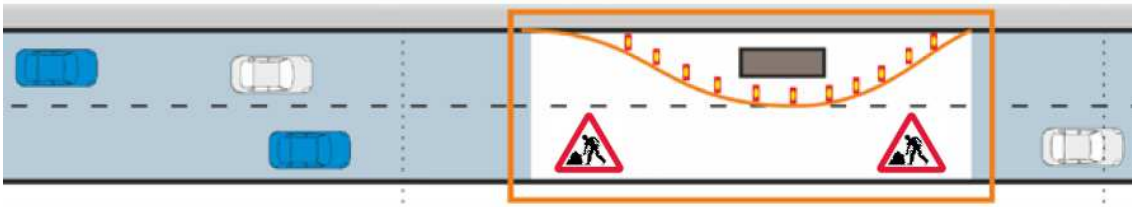
View this email in your browser



TransAID

Transition Areas for Infrastructure-Assisted Driving

Newsletter nr. 4 | May 2019

Welcome to the fourth newsletter of the European 'TransAID' Horizon 2020 project!

A lot of things have happened since you received our previous newsletter. We first and foremost presented TransAID at the ITS World Congress, organised multiple workshops, and published numerous conference papers.

In addition, we also published a lot of new deliverables. For example, the entire 'Traffic Management' suite of deliverables is now readily available for you to download and read. Furthermore, we released deliverables that outline TransAID's simulation environment, and to top it of, we have started our second iteration in which we will improve our case studies and subsequent simulations using the insights obtained from our work last year.

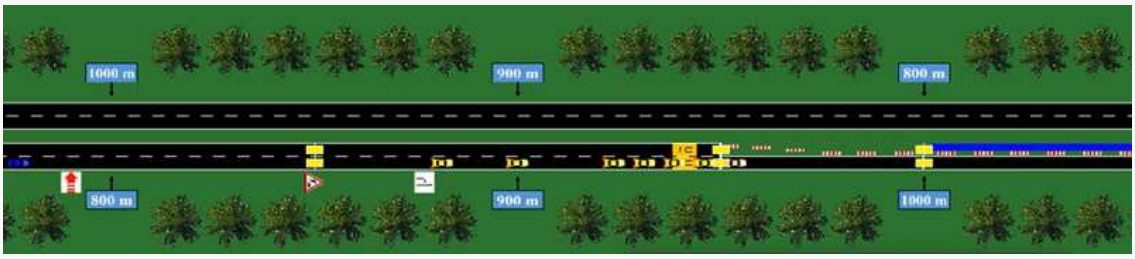
Enjoy your read!

Julian Schindler

Update on our research and development activities

TransAID stands for *Transition Areas for Infrastructure-Assisted Driving*. It is our aim to develop and demonstrate traffic management procedures to enable smooth coexistence of automated, connected, and conventional vehicles. This is especially applicable at locations and situations where automated vehicles have to change their level of automation due to missing sensor inputs, complex situations, ... TransAID is backed by a consortium of 7 partners from 6 European countries, and runs from September 2017 until August 2020.

You can find all our Deliverables at our website.

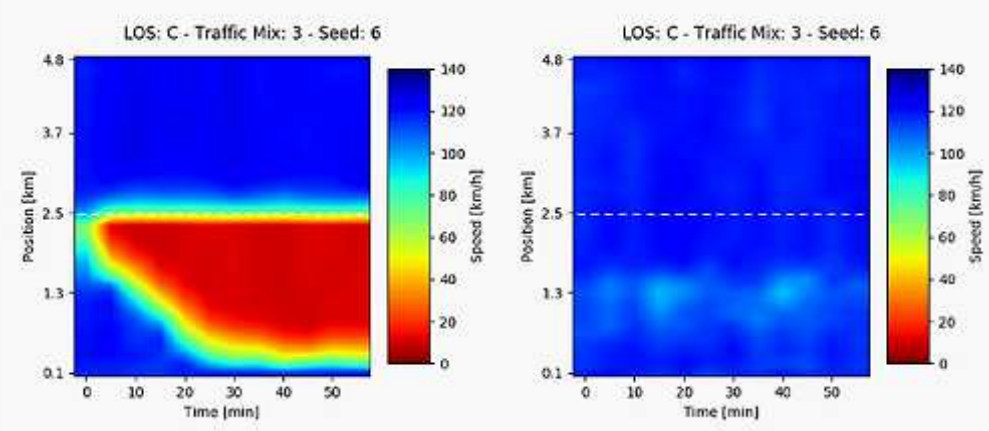


Impact of Traffic Management Measures

Our work during the past months focused on drafting and analysing traffic management measures that are suited to connected and/or autonomous vehicles in the presence of transition areas. To that end, we first published **Deliverable D4.1** which highlights the state-of-the-art of traffic management procedures, and TransAID's traffic management framework, positioned as an intermediary service provider. The bulk of the report discussed in detail the selected services and use cases, each time highlighting when, where, and how traffic measures should be applied.

Following this work, we released **Deliverables D4.2** and **D4.3**, whereby we simulated the various selected use cases in SUMO, in order to determine the impact of our proposed traffic management measures. The results of simulations were assessed by the safety, efficiency, and environmental indicators implemented in WP3.

Our baseline simulations confirmed the hypothesis that a coordinated distribution of takeover events can prevent a drop in traffic efficiency in areas where an accumulated occurrence of transitions may be expected.



Our work also resulted in **Deliverable D3.2** which introduced a cooperative manoeuvring framework and its simulation in the microscopic traffic simulator SUMO. In addition, we adapted and fine-tuned the AV/driver models proposed in Deliverable D3.1.

An Integrated Platform for the Simulation and Assessment of Traffic Management Procedures in Transition Areas
Furthering our work, we released **Deliverable D6.1** which describes the iTETRIS software framework to be used for the integrated simulation. It consists of the microscopic traffic simulator *SUMO*, the network communications simulator *ns-3*, and the middleware *iCS.* All of them are open-source programs. The deliverable describes the technical interfaces that the traffic management application modules can use. It also outlined the tools to assess the simulation results by statistical and visual analysis.

V2X-based Cooperative Sensing and Driving in Transition Areas
Because our traffic management measures require the use of communications between vehicles, and between vehicles and the road infrastructure, we need to be able to gather information about the traffic stream through cooperative sensing, and support in the coordination of the vehicles maneuvers through cooperative maneuvering. To that end, **Deliverable D5.2** first describes the different type of sensors that are available at the vehicle-side and infrastructure-side, and presents novel mechanisms for the fusion of sensor information. Secondly, it defines the first version of the message flows, necessary to implement the cooperative driving manoeuvres specified in the traffic management measures of the different TransAID services.

TransAID enters it second iteration!

The infrastructure-assisted management solutions in TransAID are developed and tested in two iterations, each taking half of the project's total duration. During the first iteration, the focus was on studying aspects of transition of control (ToC) and transition areas (TAs) through basic scenarios. The goal of the first iteration was to gain experience with all aspects relevant to TAs and the mitigating measures.

During the second iteration, that experience is used to improve/extend the measures while at the same time increasing the complexity/realism of the scenarios. Moreover, it is used to enhance AV and driver models to accurately capture the effects of ToCs/MRMs on safety, traffic efficiency, and the environment. Based on our extensive findings, and the proposed work for the TransAID project, we selected five scenarios for the second iteration, as well as overall improvements/extensions regarding vehicle modelling and cooperation. These vehicle modelling aspects and improvements/extensions, including among others CACC and dynamic ToC triggering, are described in the new **Deliverable D2.2**.

TransAID Symposium in Paris, France (9 June 2019)

The **3rd Workshop on "Connected, Cooperative, and Autonomous Driving"** will be held on Sunday, June 9, 2018 in Paris, France, in conjunction with the IEEE Intelligent Vehicles Symposium (IV 2019), one of the major annual conferences of the IEEE Intelligent Transportation Systems Society (ITSS). The Workshop targets connected, cooperative, and autonomous technologies for cooperative and automated road transport. The workshop also features an Industry Panel with experts from related industries, which will again foster the interactive exchange of academia and industry.

The workshop is expected to be very interactive. Participants will have an excellent opportunity to discuss with and to challenge distinguished speakers and panellists. The technical areas to be discussed include, but are not limited to the following: Connected and Automated Vehicles, V2X communications, C-ITS deployment, Standardisation, 5G research and testing, Connected and cooperative systems, and Impacts evaluation of connected, cooperative and automated transport.

Current workshop partners are TransAID, MAVEN, C-Mobile, Inframix, CoEXIST, AutoMate, and IEEE Future Networks.

For more information, please visit **https://iv2019.org/**

Have you seen us?

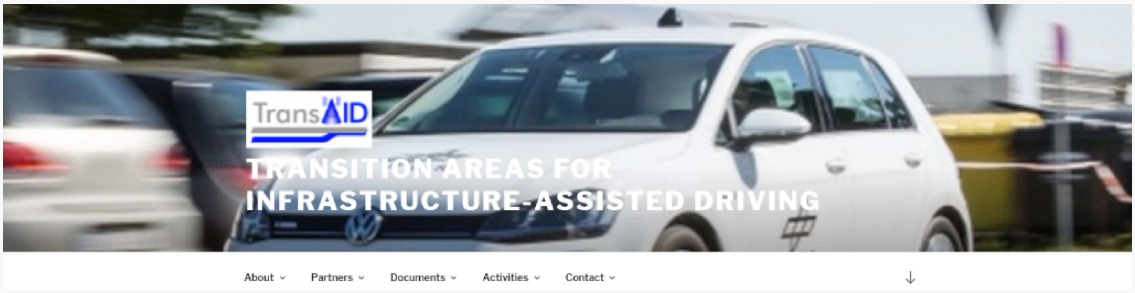
- 11-12/09/2018 | Germany | 22nd International Forum on Advanced Microsystems for Automotive Applications (AMAA)
- 17-21/09/2018 | Denmark | 25th ITS World Congress
- 15-17/10/2018 | Portugal | 16th International Conference on ITS Communications (ITST)
- 19/10/2018 | online | ETSI ITSWG1-Maneuver Coordination Service drafting session
- 24/10/2018 | UK | MAVEN-TransAID joint workshop on connected & automated vehicles & urban traffic management
- 04-07/11/2018 | Hawaii | IEEE Intelligent Transportation Systems Conference (ITSC)
- 13-15/11/2018 | Japan | SIP-adus Workshop/Impact Assessment 2018
- 21-22/11/2018 | The Netherlands | Car 2 Car Communication Consortium (C2C-CC)
- 5-7/12/2018 | Taiwan | IEEE Vehicular Network Conference (VNC)
- 14/12/2018 | The Netherlands | Joint Workshop of Dynniq and Delft University of Technology

- 18/12/2018 | Finland | Joint Workshop of Dynniq, Tampere University of Technology and Tampere University
- 18-19/12/2018 | Athens (Greece) | 4th ITS Hellas Conference and Exhibition
- 23/01/2019 | France | ETSI ITSWG1 – TS 103 324 / TR 103 562 Drafting Session on Collective Perception
- 29/01/2019 | UK | Joint Workshop of Dynniq and Imperial College London
- 2-3/04/2019 | Belgium | EU CAD2019 Conference
- 4/04/2019 | Belgium | ARCADE Joint CAD Network Stakeholder Workshop

Join us at:

- 13-15/05/2019 | Germany | SUMO User Conference
- 29-31/05/2019 | Greece | 47th ASECAP Days
- 03-06/06/2019 | The Netherlands | European ITS Congress
- 7/06/2019 | The Netherlands | 2nd International Symposium on Driving Science
- **09-12/06/2019 | France | IEEE Intelligent Vehicles (IV)**
- 24-25/10/2019 | Greece | 9th International Congress on Transportation Research (ICTR 2019)
- 29/6-03/07/2020 | The Netherlands | Forum on Integrated and Sustainable Transportation System (FISTS)

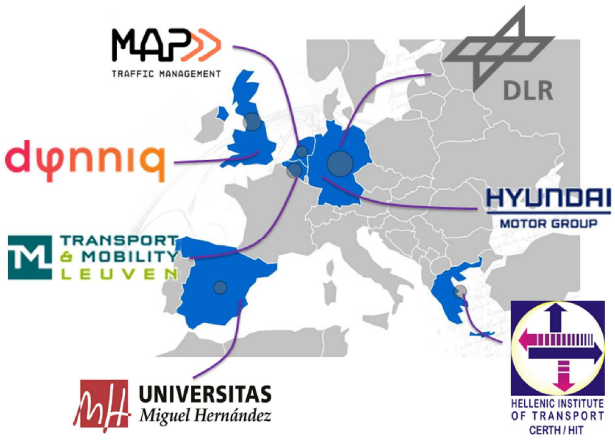
You can access all available information via our website!



Contact information

If you want to get in touch with the TransAID project, please send us an email message at info@transaid.eu, or contact our Project Coordinator Mr. Julian Schindler, or our Dissemination Leaders Mrs. Meng Lu and Mr. Sven Maerivoet.

The TransAID Consortium consists of 7 partners from 6 European countries: DLR, CERTH, Dynniq, Hyundai Motor Group



European Technical Center, MAP Traffic Management, Transport & Mobility Leuven, and Universitad Miguel Hernandez de Elche (UMH).

In addition, there are also 12 associated partners: Attikes Diadromes, Car2Car-Communication Consortium, DGT, ECTRI, EURECOM, Huawei, IKUSI, ITS Niedersachen, Region of Central Macedonia, Rijkswaterstaat, TRL, and University of Twente.

This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 723390.

This newsletter is published by the TransAID consortium in English and informs about the achievements of the project. The sole responsibility for the content of this newsletter lies with the authors. It does not necessarily reflect the opinion of the European Commission. The European Commission is not responsible for any use that may be made of the information contained therein.

Our mailing address is:
Transport & Mobility Leuven Diestsesteenweg 57A Kessel-Lo 3010 Belgium


mailchimp