

World Road Association (PIARC)
TC B.1: Road Network Operations/Intelligent
Transportation Systems
Munich, Germany, 3-4 May 2018



Executive Summary

Technical committee (TC) B1 'Road Network Operations (RNO) and Intelligent Transport Systems (ITS)' is tasked to deliver the following:

- Update of the RNO-ITS Manual website.
- Lost Cost ITS report.
- Big Data for Road Network Operation report.

The 5th (of 8) semi-annual meeting was held in Munich in 3-4 May 2018. The members reviewed compiled materials and draft reports. Tasks to complete the report were discussed.

Technical sessions covered the following:

- Overview of related research at Technical University of Munich (TUM).
- Regulation and ethics issue of automatic driving.
- Bluetooth technology for motorway management.
- Tunnelling for Second Munich S-bahn.

Australia will host the 7th meeting (April or May 2019) of TC B1.

Background

The technical committee (TC) B1 'Road Network Operations (RNO) and Intelligent Transport Systems (ITS)' has three objectives to be delivered at the end of the 2016-2020 cycle as follows:

- Maintenance and improvement of the RNO-ITS Manual: update the website and its contents.
- Report on Low Cost ITS: use of smartphones and other cost-effective technologies for RNO.
- Report on Big Data for Road Network Operations.

This report covers the 5th out of 8 semi-annual meeting over the 2016-2020 cycle of PIARC which was held in Munich from 3 to 4 May 2018. The meeting was chaired by Jacques Ehrlich and attended by 23 members from various countries.

Work Program

Since the last meeting (November 2017), work on all three work streams have been progressing. The working groups' progress are on-track.

The 6th meeting will be held in November 2018 (Cape Town), in conjunction with the 'International Seminar on Integrated Road Transport and Mobility'. Details can be downloaded from the link below: <https://www.piarc.org/ressources/documents/INTERNATIONALS-SEMINARS-PROCEEDINGS/International-Seminar-Cape-Town-November-2018/28668,International-Seminar-First-Announcement-TC-B1-B3-B4-Integrated-Road-Transport-Mobility-Cape-Town-November-2018-World-Road-Association-PIARC.pdf>

Australia will host the 7th meeting (week of 9-11 April or 7-9 May 2019) in Melbourne at ARRB's office in Port Melbourne. As part of the 7th meeting, a half-day technical session will be organised together with Australian and New Zealand participants.

The 8th meeting and final meeting will be held in October 2019 (Abu Dhabi) during the World Road Congress.

Meeting outputs

The following were the meeting outputs:

- The draft reports were discussed, and the next steps for completion planned. There was no significant change in the reports (refer to the 5th meeting minutes for the contents of the technical reports). The discussion was mainly in the details of the reports.
- Presenters and panellists were assigned for the Cape Town seminar (November 2018), including the agenda for technical committee's technical session.
- The outline of the 7th meeting in Melbourne was discussed.

Emerging issues

There was no emerging issue to note.

Learnings for Australia and/or New Zealand

There were three technical presentations and one technical visit:

- Overview of related research at Technical University of Munich (TUM).
- Regulation and ethics issue of automatic driving.
- Bluetooth technology for motorway management.
- Tunnelling for Second Munich S-bahn.

Overview of related research at Technical University of Munich (TUM)

Mobility is one of the strategic research areas of TUM. Key themes include:

- Mobility behaviour, user perspective, integrated land-use, policies and accessibility.
- Modelling and simulation of transport systems, impact of efficiency, environment and safety.
- Mobility management, dynamic control, connected systems, automated driving.
- Data processing, analytics, big data, system architectures, quality management.
- Vehicle-route interaction, rail and road superstructure.

Regulation and ethics of automatic driving

Many technological problems cannot be addressed by manufacturers alone. In particular, this includes liability in the case of automatic driving. These questions require a legal foundation in order to make costs and benefits calculable for manufacturers. If well-designed, such guidelines will in turn not restrain, but accelerate the development of new technologies. Moreover, many questions cannot be left to manufacturers alone. Dilemma situations call for a legal framework. These questions can only be answered institutionally.

Against this background, the 'Ethics Commission on Automated and Connected Driving' was appointed by the German government in September 2016. The 14-member committee consisted of experts from a widerange of disciplines (e.g. law, philosophy, industry, consumer organisation). In June 2017, the commission presented its final report, which included 20 ethical rules for automated and connected vehicular traffic.

The report can be downloaded from the link below:

https://www.bmvi.de/SharedDocs/EN/publications/report-ethics-commission.pdf?__blob=publicationFile

Bluetooth technology for motorway management

TUM is conducted research and development on the application of Bluetooth data for the management of motorways. They have applied this technology for travel time estimation and traffic state estimation. This has been utilised for traveller information systems and incident detection.

Tunnelling for Second Munich S-bahn

Munich is building a second east-west S-Bahn tunnel beneath Munich city.

Dissemination

This report is recommended for note of the Austroads Network Task Force and the Traffic Management Working Group.

The 5th meeting achieved its purpose. The direction of the reports and website has been re-calibrated and specific contents that need to be prepared were identified and assigned. The technical sessions and tour were informative.

Australia and New Zealand will host the 7th meeting. Discussion on hosting the meeting is on-going.

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