

Executive Summary

The second in-person meeting for PIARC Task Force B.2 Road Design and Infrastructure for Innovative Transport Solutions was held in Melbourne, Australia on Thursday 4th and Friday 5th April 2019. The meeting included 17 members of the newly formed Task Force from France, Austria, Italy, South Korea, Australia, Canada, Czech Republic, China, Japan, Kenya and South Africa. The meeting was hosted by Matthew Hall (VicRoads) as the Australia representative on the Task Force and additional guests from Australia were also in attendance.

The Task Force is to investigate and will report on “*Automated vehicles: challenges and opportunities for road operators and road authorities.*” Task Force (TF) B.2 was formed mid-cycle to undertake the investigation in AV’s as an extension to the previous work of TF B.1 which investigated Cooperative ITS. The Task Force will complete its task brief beyond the end of the current cycle; however, progress of the TF work will be presented at the World Road Congress in Abu Dhabi in October 2019.

The previous July 2018 kick-off meeting for the new TF determined that all members will work together to contribute to a single report addressing the topic and as such there are no separate work groups within the Task Force.

To capitalise on the presence of a number of international experts visiting Australia for the meeting, an additional knowledge sharing session was held on Wednesday 3rd April which allowed a number of local representatives in CAV activities to share local project information and hear from overseas experience.

Background

The goal of Strategic Theme B is to encourage the improvement of access and mobility provided to the travelling public and industry through efficient road network operation and integration with other transport modes.

The formation of Task Forces, within the strategic plan, allows the investigation of critical issues. The smaller size and 2-year tenure of a task force enables a focused response to an issue as well as some flexibility to explore the topic. The aim is to produce targeted outcomes directly relevant to the topic being explored. The tenure of the TF B.2 will be through to mid-2020.

Task Force B.2 follows on from the work completed by Task Force B.1 which was to “Identify major considerations in the development and deployment of Vehicles-to-Infrastructure (V2I) and Vehicle-to-Vehicle (V2V) communication in road design and operations.”

At the kick-off meeting, a preliminary report structure was drafted and agreed by the TF members to form the basis for synthesising the contributions.

Term of Reference and Scope of Investigations

Topics to be covered as part of the TF investigation include:

- What will the impact of automated vehicles be on traffic management, on equipment requirements, on road safety, on maintenance strategies, on adaptive control and performance optimisation of the network, on infrastructure design
- How to cope with the different timeframes: IT equipment in cars have a short life span and is evolving very quickly, while road infrastructure assets have a life span of 20 to 100 years
- What roles can road authorities play and under what conditions, to support and encourage innovation and actual deployment, especially from the infrastructure-side; this includes business models
- The work will focus more on policy issues and less on technology developments, as these are extensively discussed already across many forums

The outcomes report is proposed to outline key topics explored and practical short- and medium-term recommendations for road authorities and operators. Among others: harmonised approaches, and suitable standard measures to road authorities and operators.

The TF will aim at representing a wide diversity of circumstances, including case studies from several countries and continents. The TF plans to make references, where available, to the work of other organisations (road agencies and associated national bodies), car manufacturers, IT companies, equipment manufacturers and service providers and their representative bodies.

Work Program

The source material is intended to be collected and collated by the TF members. It is intended that the material will represent state of the art from different countries (including roadmaps, pilot projects, research reports and relevant studies) and information for inclusion will come from bibliographical analysis of existing reports from various international organisations.

The kick-off meeting for the TF was held in Québec City, Québec, Canada in July 2018. In October 2018, an online Webex meeting was held to allocate the required bibliographic reviews to TF members to identify content for inclusion.

Following the April Melbourne meeting, a Webex meeting is scheduled for June 2019, an in-person meeting will be held during the World Road Congress in October 2019 and a final in-person meeting is proposed in the first quarter 2020.

Meeting Outputs

The April meeting was structured around reviewing the preliminary information assembled by the TF members from each of their jurisdictions. Most of information was from bibliographic reviews and was pre-populated into a previously agreed preliminary report structure that had been developed during the previous TF meetings.

Collation of information was undertaken across seven broad topics being:

- Physical Infrastructure
- Digital Infrastructure - 1 - Connectivity
- Digital Infrastructure - 2 - Digital Maps and Positioning
- Digital Infrastructure - 3 - Data Issues Common to Connectivity and Maps
- Impacts on Road Network Operations
- Responsibility and Financing
- Social Issues

Each TF member provided a brief summary of the information collected under each the topics which enabled general discussion of the content and the identification of topics that potentially required more input from TF members. Further opportunities for expanding the included information were identified.

To move into the next phase of the report development, the topics were allocated to pairs of TF members to work together on first developing a skeleton structure of the sections, as outlined above. The broad structure is to be discussed and agreed during a Webex meeting scheduled for June 2019. Further information, to fill in the identified gaps, can also be contributed up until the June meeting.

Following on from the Webex meeting, TF members will proceed with full development of their draft chapters in the pairs allocated along with assistance from other TF members. It is proposed to have the draft chapters ready for review by the next in-person meeting, scheduled to align with the World Road Congress to be held in Abu Dhabi in October 2019.

A final in-person meeting is being considered to finalise the report in the first quarter 2020. A location yet to be determined.

As a number of the members on TF B.2 have carried over from TF B.1, some of the outstanding TF B.1 matters and planning for the World Road Congress were also discussed during the meeting.

The TF members also discussed and agreed on the structure of the dedicated session that will be hosted by TF B.1 at the World Road Congress in Abu Dhabi in October 2019. The session will cover the work of TF B.1 (including dissemination of the final report) and TF B.2 (discussion of the draft report content).

The assistance of Chris Jones, previous Austroads CAV Program Manager, and Dennis Walsh (TMR), the Australian corresponding member for the TF, are also acknowledged in assisting with material for inclusion in the TF activities.

The assistance of Jessica Franklin (VicRoads) and support from John Wall (Austroads) is acknowledged in the organisation and preparations for the TF B.2 Meeting and associated activities.

Emerging issues

There are no current emerging issues directly identified from the Task Force activities at this stage.

It is noted that the TF meeting in Melbourne coincided with the European Commission vote on the future of C-ITS standards. The European Commission has since adopted new rules to step up the deployment of its Cooperative Intelligent Transport Systems (C-ITS) on Europe's roads. *"This decision gives vehicle manufacturers, road operators, and others the long-awaited legal certainty needed to start large-scale deployment of C-ITS services across Europe, while remaining open to new technology and market developments."* Violeta Bulc, EU Commissioner for Mobility.

Given Australia's general alignment with the European approach for C-ITS deployment, this decision provides some optimism for further strengthening of aligned deployment paths across Australia.

Learnings for/from Australia and/or New Zealand

A significant amount of content has been provided for inclusion in the draft report development, principally sourced from a number of Austroads reports prepared under the Austroads CAV Program over the last two years including:

- AP-R551-17 Safety Benefits of Cooperative ITS and Automated Driving in Australia and New Zealand
- AP-R580-18 Implications of Traffic Sign Recognition (TSR) Systems for Road Operators
- AP-R581-18 Connected and Automated Vehicles (CAV) Open Data Recommendations

Further information on more recent reports and project outcomes are currently being sought for inclusion.

Update on Task Force B.1 Reporting

The principal output from the previous Task Force B.1 is a report to: *"Identify major considerations in the development and deployment of Vehicles-to-Infrastructure (V2I) and Vehicle-to-Vehicle (V2V) communication in road design and operations."*

The report is in the final stages of review by the PIARC General Secretariat (GS) following the addressing of comments from the first review by the GS. Upon completion of the review by the GS, final updates will be made to the French and Spanish versions after which publication will follow. When available, the report will be circulated to Austroads.

CAV International Knowledge Sharing Session

On Wednesday 3rd April, John Wall, Austroads CAV Program Manager hosted an opportunity for members of the Austroads CAV Steering Committee to meet and network with visiting international members of the PIARC Task Force B.2 to share experiences and learnings from various CAV projects and activities around the world. The session was followed by a social networking event.

Australian projects and activities presented included:

- Austroads Connected & Automated Vehicle Program
- The CITI Project, NSW
- AIMES, VIC
- Austroads Program/Projects

- VicRoads Activities on CAV trials

International activities were also presented by the following international TF members:

- France (Eric OLLINGER)
- Austria (Martin BOHM)
- Canada (Matthew KRECH)
- China (Jian–Carlos GAO)
- Czech Republic (Petr ZAMECNIK)
- Italy (Luigi CARRARINI and Ugo DIBENNARDO)
- Kenya (Margaret N. OGAI)

During the session, it was especially noted by the TF member from Austria that the reports published by Austroads as part of the CAV Program are recognised overseas as being of very high quality and of great technical standard.

Information from the session can be made available upon request.

The assistance from John Wall (Austroads), Scott Benjamin (WSP) and Jessica Franklin, (VicRoads) are acknowledged in the organisation and contributions for the Knowledge Sharing Session.

Conclusions and Recommendations

The Task Force will continue with the next steps as outlined in the meeting outcomes and work program.

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