

## Executive Summary

The fifth meeting of PIARC Technical Committee C.1 (National Road Safety Policies and Programs) was held in Lisbon, Portugal, on 17-20 April 2018. The meeting was Chaired by Roberto Arditi (Italy) and comprised delegates from Italy, USA, Poland, France, Denmark, Portugal, Sweden, Morocco, China, and Australia.

The Technical Committee meeting was held in conjunction with the International Conference on Road Safety, hosted in association with Infraestruturas de Portugal (IP) and Instituto da Mobilidade e dos Transportes (IMT). The conference was held over two days, with four paper sessions. The conference attracted around 150 delegates.

The activities of TC C.1 are divided into two working groups:

- Working Group 1 (WG1) aims to update and promote the **PIARC Road Safety Manual**.
- Working Group 2 (WG2) involves the production of a new **report on the implantation of the Safe System approach** including the development of performance metrics to support infrastructure safety. A secondary task involves production of case studies for use in the manual.

The objective of the Technical Committee meeting was to report progress on the work program for road safety, including development of the Working Group reports, sharing of case studies and determining the next steps. Work is well advanced, with reports on track for release at the World Congress, to be held in Abu Dhabi in 2019.

WG1 will be providing updates to various sections of the global Road Safety Manual while WG2 will provide a report on global uptake of the Safe System approach. This includes collecting key strategy documents, information on policies, and performance indicators. A measure of progress towards Safe System objectives, or Safe System 'cultural shift' is also being developed. WG2 have also produced over 30 case studies (examples of Safe System practice) for inclusion in the Road Safety Manual.

The next Technical Committee meeting will be held in Beijing, China from 15-19 October 2018.

## Background

Within the PIARC Strategic Plan, Strategic Theme C includes activities on safety. The stated goal of this theme group is "to improve the safety and efficiency of road transport, including the movement of people and goods on the network, while effectively and widely promulgating knowledge of all aspects of road safety and encouraging implementation of positive practices". The theme group contains two committees:

- TC C.1 National Road Safety Policies and Programs.
- TC C.2 Design and Operations of Safer Road Infrastructure.

There is also a Task Force on Infrastructure Security (TF C.1).

TC C.1 National Road Safety Policies and Programs comprises two working groups. The first (WG1) is led by John Milton (USA) and Rainer Kienreich (Austria). This group's activities are aimed at updating the Road Safety Manual. This manual is the global guide to road infrastructure safety, produced by the Australian Road Research Board (ARRB) with substantial input from Australian experts, and launched in 2015 at the World Road Congress (see <https://roadsafety.piarc.org/en>). It is a PIARC 'flagship' document and attracts enormous international attention.

The other working group (WG2) is led by Dr Blair Turner (ARRB, Australia) and Dr Paul de Leur (ICBC, Canada) with a focus on implementation of the Safe System approach (WG2).

The meeting in Lisbon was the fifth for the group. This meeting was held in association with an international conference on road safety, held in conjunction with the International Conference on Road Safety, hosted in association with Infraestruturas de Portugal (IP) and Instituto da Mobilidade e dos Transportes (IMT).

## Meeting and Conference Outputs

### **Working Group 1 – Road Safety Manual**

Working Group 1 Leader – John Milton, Washington State Department of Transportation in the USA led the group. Key outcomes are that:

- 10-chapter updates have been completed, and these are being reviewed internally.
- Additional case studies are being finalised. This includes a review of the reports from previous cycles of PIARC and how they should be included in case studies, libraries and references within the text of Road Safety Manual (RSM).
- Updates of interest include improvements to Chapter 2 to reflect latest global changes, including the new UN Global Road Safety Trust Fund, UN Targets, UN Resolution and the reference to PIARC RSM in that UN Resolution.
- Case studies are being moved to a library of resources which will free up space.
- A dissemination webinar was held which included 519 attendees from 43 countries. There was a high degree of satisfaction with content.
- Significant content updates will be provided in several chapters based on the work from Working Group 2 (see below).

### **Working Group 2 – Implementation of the Safe System approach**

Working Group 2 Leader – Blair Turner, Australian Road Research Board led the group. Key outcomes are that:

- A survey has been issued and over 30 responses have been received, including from leading road safety countries (e.g. Sweden, United Kingdom, Netherlands) as well as those in low and middle-income countries.
- The survey has collected information on implementation of the Safe System from countries with a focus on safe road infrastructure.
- The survey includes data on:
  - Policies and practice used when implementing the Safe System approach.
  - Level of uptake of the Safe System (including a newly developed measure on ‘culture change’ relating to this uptake).
  - Key performance indicators that are being used to set targets and track performance when implementing Safe System policies.
- The results from the survey are currently being analysed, and a draft report is due in July.
- Outputs from this survey will result in a report, but also in the update of the Road Safety Manual (particularly sections on the Safe System approach).
- The results may also lead to development of a benchmarking tool that will assist countries or jurisdictions within countries to compare their progress towards Safe System objectives and identify key initiatives that might assist in this task.
- The results from the survey will also be of relevance to WHO, who are conducting a global data collection exercise as part of their reporting against global Sustainable Development Goals.

In addition to these activities, the group finalised a number of case studies, intended for inclusion in the Road Safety Manual. Over 30 case studies, most of which provide examples of Safe System practice have been produced. It is intended that these will form the basis of a standalone report as well as being included in the manual. The list of case studies is provided as Appendix 1 to this report.

## **International Conference**

Day 3 and 4 of the trip involved an international conference on road safety. The program is included as Appendix 2 to this summary, while presentations can be found at the following link: <https://roadsafety-cnpce-piarc.webnode.pt/presentations-apresentacoes/>. A presentation was provided by the Australian delegate (Dr Blair Turner) on 'Safe System – State of the art' and is available from this link: <https://drive.google.com/file/d/1GNLym08SHCtcOPicI---ia4O5HE-2OR9/view>.

Other notable presentations included summaries on progress towards the Safe System by delegates from the US, Portugal, Spain South Africa, Poland and China. There were also two panel discussions, one of which included the Australian delegate (Round Table: New Roles of Transport Administrations and Infrastructure Managers with New Tendencies and Technologies on Mobility).

## **Learnings for Australia and/or New Zealand**

The content on Safe System implementation is highly relevant for Australian and New Zealand jurisdictions. Of highest interest will be the Safe System performance indicators identified from various countries, and particularly those countries with good safety records. Discussions with road agencies in Australia highlight that all jurisdictions see the value of such measures. One or two have started a process to develop these, but all have indicated they will benefit from the study findings. The indicators relating to infrastructure performance is a high priority for many.

In addition, information on policy and programs relating to Safe System implementation will also be valuable.

The Road Safety Manual is intended as an international guide to the implementation of safe road infrastructure and is based on Safe System principles. Much of the content is aimed at those working in low and middle-income countries. However, there is also considerable content of interest to those working in Australia and New Zealand. The development of the manual highlighted several issues where gaps exist in the delivery of safety in both countries. These gaps were highlighted in a report to the Austroads Road Safety Taskforce following the completion of the manual, and documented in a conference paper (Turner, 2016). The same issues remain relevant. There is very useful content on management of safe road infrastructure, including requirements regarding risk assessment; the importance of data, target setting and performance tracking for decision making; and new risk assessment approaches. There is also useful information on the importance of innovation.

## **Conclusions and Future Meetings**

The Working Group is on schedule to deliver an update to the Road Safety Manual and a report on Implementation of the Safe System approach later next year. The next proposed meeting is from 15-19 October 2018 in Beijing, China.

**BLAIR TURNER**  
**PRINCIPAL TECHNOLOGY LEADER**  
**AUSTRALIAN ROAD RESEARCH BOARD**  
**April 2018**

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## Appendix 1: List of case studies for inclusion in the Road Safety Manual

### List of Case Studies

- Case Study 1: SEA TO SKY HIGHWAY IMPROVEMENT PROJECT (CANADA)
- Case Study 2: MINNESOTA TOWARDS ZERO DEATH (TZD) INITIATIVE
- Case Study 3: DANISH ROAD SAFETY ACCIDENT INVESTIGATION BOARD (AIB)
- Case Study 4: DATA COLLECTION AND ANALYSIS: DANISH ROAD TIB
- Case Study 5: DANISH ROAD STANDARDS: SOLUTIONS IMPLEMENTED VOLUNTARILY
- Case Study 6: INTERPLAY BETWEEN PUBLIC AUTHORITY, INDIVIDUALS AND SOCIETY
- Case Study 7: DANISH ROAD SAFETY COMMISSION NATIONAL ACTION PLAN 2013
- Case Study 8: NEW ZEALAND: SAFE SYSTEM ASSESSMENT FRAMEWORK
- Case Study 9: HUNGARY: ROAD DESIGN OF "RAPID WAY" NARROW CROSS SECTION
- Case Study 10: PUERTO RICO: RUMBLE STRIPS
- Case Study 11: PUERTO RICO: CRASH CUSHIONS
- Case Study 12: PORTUGAL: COIMBRA DELINEATION AND BARRIERS
- Case Study 13: PORTUGAL: IP4 EXPRESSWAY IMPROVEMENTS
- Case Study 14: "SAFE-SYSTEM" DEMONSTRATION CORRIDOR FOR BELIZE
- Case Study 15: HIGHWAY SAFETY TO CHERISH LIFE: LARGE INVESTMENT IN CHINA
- Case Study 16: COASTAL HIGHWAY EXPANSION PROJECT, EL SALVADOR
- Case Study 17: ENGLAND: TARGETING 90% OF TRAVEL ON 3-STAR+ ROADS BY 2020
- Case Study 18: MAKING SAFETY A GLOBAL STANDARD
- Case Study 19: SAVING LIVES THROUGH GLOBAL POLICY
- Case Study 20: "CRASH TESTING" ROADS FOR SAFETY IN INDIA
- Case Study 21: INDIARAP: SAVING LIVES THROUGH POLICY AND ROAD UPGRADES
- Case Study 22: STAR RATING DESIGNS FOR KARNATAKA, INDIA
- Case Study 23: MALAYSIA BLACK SPOT PROGRAM: BEFORE & AFTER STAR RATINGS
- Case Study 24: IMPROVING THE SAFETY OF MEXICO'S ROAD NETWORK
- Case Study 25: IMPROVING PEDESTRIAN SAFETY ON MOLDOVA'S M2-R7 CORRIDOR
- Case Study 26: UPGRADING THE SAFETY OF THE ROAD NETWORK IN PARAGUAY
- Case Study 27: SLOVAKIA: 3 STAR OR BETTER ROAD UPGRADES
- Case Study 28: SAFETY RANKING SLOVENIA'S ROAD NETWORK
- Case Study 29: CZECH NATIONAL ROAD SAFETY STRATEGY
- Case Study 30: IDENTIFICATION OF HAZARDOUS ROAD LOCATIONS
- Case Study 31: IMPROVING THE SELF-EXPLAINING PERFORMANCE OF CZECH ROADS

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## Appendix 2: International Road Safety Conference Program

(please see the following link for full presentations: : <https://roadsafety-cnpce-piarc.webnode.pt/presentations-apresentacoes/>)

### Program

### April 19th

08:30AM - 09:00AM Conference Registration

09:00AM - 09:30AM **Welcome Address**

**António Laranjo**, Infraestruturas de Portugal (IP), CEO, Portugal  
**Eduardo Peralta Feio**, Instituto da Mobilidade e Transportes (IMT), CEO, and first Portugal Delegate of PIARC, Portugal  
**Patrick Malléjacq**, General Secretary of the World Road Association, PIARC, France  
**Roberto Arditi**, Chairman of PIARC Technical Committee on Policies and Programs for Road Safety, SINA, Italy  
**Pedro Marques**, Minister for Planning and Infrastructure, Portugal

09:30AM - 11:00AM **Journey 1: The Safe System Approach / O Sistema do Transporte Seguro**

**Moderator:** **Imelda Julies**, Project Manager of the South African National Roads Agency (SANRAL), South Africa

"Safe System State of the Art", **Blair Turner**, Australian Road Research Board (ARRB), Principal Technology Leader, Australia  
"Vision Zero and human factors design principles", **Ruggero Ceci**, Swedish Transport Administration, Safety Advisor, Sweden  
"Sustainable Safety - Targeting Zero Fatal Crashes", **John Milton**, Washington State Department of Transportation, Director of Quality Assurance and Transportation System Safety, USA

**Discussion and Conclusions**

11:00AM - 11:30AM Networking Break

11:30AM - 01:00PM **Journey 2: Road Safety Policies and Programs / Políticas e Programas de Segurança Rodoviária**

**Moderator:** **John Milton**, Washington State Department of Transportation, Director of Quality Assurance and Transportation System Safety, USA

"The Portuguese Road Safety Strategy 2020", **Jorge Jacob**, Autoridade Nacional de Segurança Rodoviária (ANSR), CEO, Portugal  
"Policies to unlock the win-win investment in safer infrastructure", **Rob McInerney**, International Road Assessment Programme (IRAP), CEO, Australia  
"Measures for Safer Roads in Spain", **Ana Blanco**, General Directorate for Traffic, Associated Deputy Director for Traffic, Spain  
"Plans for the safety of Iranian roads", **Javad Hedayati**, General Manager of Iran Road Maintenance and Transportation Organization (RMTO), Iran

**Discussion and Conclusions**

01:00PM - 02:00PM Networking Lunch

02:00PM - 03:30PM **Journey 3: The Role of Infrastructure on Road Safety / O Papel da Infraestrutura na Segurança Rodoviária**

**Moderator:** **Dorota Marzyńska**, General Directorate for National Roads and Motorways (GDDKiA),

**Member of the Road Traffic Safety and Traffic Management Department in the GDDKiA Branch in Katowice, Poland**

"The Role of the infrastructure on Road Safety – The Portuguese Case", **Ana Tomaz**, Road and Rail Safety Department Director, Infraestruturas de Portugal (IP), Portugal

"Highway Safety Improvement Program", **Karen Scurry**, Federal Highway Administration (FHWA), Program Manager, USA

"A new conceptual design for the motorways of the future: perspectives of safety", **Malika Seddi**, Association of Motorway and Facilities Concessionaire in France (ASFA), Director of International Affairs and Customer Service, France

"Introduction to Research on Light Environment of Expressway Tunnel for Safety & Energy-Saving Guizhou",

**Richard Stone/Lianfu Shi**, Guizhou Transportation Planning Survey & Design Academe Co, Ltd, Vice General Manager, China

**Discussion and Conclusions**

03:30PM - 04:00PM Networking Break

04:00PM - 05:30PM **Round Table: Effectiveness and Acceptance of Road Safety Policies and Programs**

**/ Eficácia e Aceltação das Políticas e Programas de Segurança Rodoviária**

**Moderator:** **António Pinelo**, Centro Rodoviário Português (CRP), VP, Portugal

## April 20th

- 09:30AM - 11:00AM **Journey 4: New Trends and Technologies in Mobility: Impacts on Road Safety / Novas Tendências e Tecnologias na Mobilidade: Impactos na Segurança Rodoviária**  
**Moderator:** **Laurent Carnis**, French Institute of Science and Technology for Transport, Development and Networks (IFSTTAR), Researcher, France  
“C ROADS PORTUGAL - cooperative systems linking Citizens to Roads towards zero road safety fatalities”, **Ricardo Tiago**, Instituto da Mobilidade e Transportes (IMT), Portugal  
“Can Automated Vehicles and Smart Roads be the ultimate solution towards Vision Zero?”, **Leonardo Annese**, Italian National Roads Authority (ANAS), International Affairs Senior Officer, Italy  
“Evolution of Polish road infrastructure toward safety”, **Pađło Przemysław**, General Directorate for National Roads and Motorways (GDDKiA), Head of the Road Traffic Safety and Traffic Management Department in the GDDKiA Branch in Wrocław, Poland  
**Discussion and Conclusions**
- 11:00AM - 11:30AM Networking Break
- 11:30AM - 12:15AM **Round Table: New Roles of Transport Administrations and Infrastructure Managers with New Tendencies and Technologies on Mobility / Novas Funções das Administrações Rodoviárias e Gestores de Infraestrutura com a chegada das Novas Tendências e Tecnologias na Mobilidade**  
**Moderator:** *to be confirmed*
- 12:15AM - 12:40AM **Conclusions of the Conference**  
**Moderators:** **Roberto Arditi**, Chairman of PIARC Technical Committee on Policies and Programs for Road Safety, SINA, Italy  
**Ana Tomaz**, Road and Rail Safety Department Director, Infraestruturas de Portugal (IP), Portugal
- 12:40AM - 01:00PM **Official Closing of the Conference**  
**António Laranjo**, Infraestruturas de Portugal (IP), CEO, Portugal  
**Eduardo Peralta Feio**, Instituto da Mobilidade e Transportes (IMT), CEO, Portugal
- 01:00PM - 02:00PM Networking Lunch
- 02:00PM - 05:00PM **Technical Visit**  
Ponte 25 de Abril “Pilar 7 Bridge Experience”