WORLD ROAD ASSOCIATION

www.piarc.org

AASHTO Committee on Safety 2018

Establishing and disseminating knowledge worldwide
John Milton, TC.1.1 Road Safety Manual
What is PIARC
What is PIARC
Addressing members’ expectations

• Non-political, non-profit association established in 1909
• Aim: promote international cooperation on issues related to roads and road transport
• Consultative Status on the Economical and Social Council of United Nations
• With its broad membership and geographic diversity, the vision of the World Road Association is to become:
  “The world leader in the exchange of knowledge on roads and road transport policy and practices within the context of integrated, sustainable transport.”

• Recognised for the quality of our outputs
PIARC’s Four key missions

• Be a leading international forum for analysis and discussion of the full spectrum of transport issues related to roads and related transport;

• Identify, develop, and disseminate best practice and give better access to international information;

• Consider within its activities the needs of developing countries and countries in transition fully; and

• Design, produce, and promote efficient tools for decision making on matters related to roads and related transport.

• The Association mobilizes the expertise of its members

• Through operations guided by a 4-year Strategic Plan
Knowledge exchange: The core of PIARC

• PIARC mobilises international road and transport experts through more than 20 groups:
  • Ad-hoc dialogue among peers
  • Network building
  • Joint work towards commonly-agreed deliverables

• Our deliverables are widely accessible:
  • Reports, available in English, French and Spanish
  • Seminars or workshops
  • Online manuals
  • Software and tools

• PIARC Congresses are world-class focus points for:
  • Dissemination of these deliverables
  • Further discussions
Extensive membership base

- 121 National governments are members of the Association

- Members from a total of 140 countries
  - Regional authorities
  - Public and private members: industry, research etc.
  - Individual members

- More than 1 200 experts are currently mobilised in our working groups
42 National Committees

Objectives:

• Facilitate national exchanges on roads and road transport
• Promote the work of PIARC
• Liaise with national experts and issues

- Algeria, Argentina, Australia (Austroads), Austria,
- Belgium, Benin, Burkina Faso,
- Cameroon, Canada, Canada-Quebec, Chile, Congo, Czech Republic,
- Dominican Republic,
- Ecuador,
- France,
- Germany, Greece, Hungary,
- India, Ireland, Italy, Japan,
- Madagascar, Malaysia, Mali, Mexico, Mongolia, Morocco,
- New Zealand (Austroads),
- Paraguay, Poland, Portugal, Romania,
- Senegal, Slovak Republic, Slovenia, South Korea, Spain, Switzerland,
- United Kingdom, United States (AASHTO), Uruguay
Numerous and diverse outputs
PIARC outputs (1/2)

- Technical committee reports
  - 40 reports in 2012 – 2015
  - Available free of charge
- International seminars and workshops
  - 26 seminars and 7 workshops in 2012-2015
- The Winter Road and World Road Congresses
  - Andorra 2014, Gdansk 2018
  - Seoul 2015, Abu Dhabi 2019
- Routes/Roads magazine
  - Trilingual quarterly
PIARC outputs (2/2)

- Online Road Dictionary
- Online manuals:
  - Road safety web-manual
  - RNO and ITS web-handbook
  - Road Tunnels web-manual
  - ...
- Snow and Ice databook
- Software
  - HDM-4
  - DG-QRAM
PIARC reports

Downloadable pdf files
Available for free at www.piarc.org

• Cycle 2012-2015:
  • 40 technical reports were produced by the Technical Committees
  • Being published

• Cycle 2016-2017: 54 new reports
An extensive website: www.piarc.org

Services available:

- Knowledge Base
- Virtual Library
- Online road dictionary
- Congress proceedings
- Detailed information on the Association and its activities
- Etc.
Online road dictionary

• Technical Dictionary of Road Terms
• Mainly: English, French, German, Portuguese, and Spanish
• Plus 32 other languages
• 8th edition
• Online, free of charge
• Quarterly magazine
• Articles cover emerging road and road transport issues
• English, French and Spanish
• Print and online distribution
• 5,700 copies, readership in more than 140 countries
• Online version: routesroadsmag.piarc.org
Online Manuals: Easy access to knowledge

- Four online manuals have been developed by the Association:
  - Road safety
  - Road network operations and ITS
  - Road Tunnels
  - Asset management
- Two more are planned
- Comprehensive, state-of-the-art references
- Easy and attractive to use:
  - Free of charge
  - Case studies
  - Links to detailed technical material and other references
  - Can be downloaded and printed in chapters
PIARC Online Road Safety Manual: A comprehensive resource

- http://roadsafety.piarc.org/en

- Designed to help countries at every stage of infrastructure development fulfil road safety objectives
- It includes new thinking on road safety and offers a clear argument on why adopting a Safe System approach is crucial for your country
- A comprehensive, state-of-the-art international reference document and a “living” tool that can assist all countries in fulfilling key objectives

- The Road Safety Manual has been acknowledged in United Nations' resolution A/70/L.44 on road safety
PIARC Online Road Safety Manual: Free of charge

- Free of charge
- Available in English
- French and Spanish versions are being developed with the World Bank

- Key principles for each of the topics are included and discussed in the sections - 3 Main Parts, 12 chapters
- Case studies and links to detailed technical material and other references
- Can be downloaded and printed in chapters
PIARC Online Safety Manual
Global Steering Committee

UNECE

World Health Organization

European Investment Bank

THE WORLD BANK

Asian Development Bank

International Transport Forum

CAF

Échanger connaissances et techniques sur les routes et le transport routier / Exchange knowledge and techniques on roads and road transportation
Why a Road Safety Manual

- A global crisis of death and serious injury in road crashes
- A largely preventable problem
- Safe Systems Approach is recommended for adoption in all countries
- Leadership and institutional capacity are vital for results
- An urgent development priority
Foundation: Safe Systems Approach

• Shift from crash prevention in general towards prevent deaths and injuries
• Directly addresses the needs of vulnerable road users and others
• Encourages safety to be designed into developing road networks rather than being considered an afterthought
WELCOME TO THIS WORLD ROAD ASSOCIATION GUIDE

THE NEW ROAD SAFETY MANUAL (RSM) IS DESIGNED TO HELP COUNTRIES AT EVERY STAGE OF INFRASTRUCTURE DEVELOPMENT TO FULFILL ROAD SAFETY OBJECTIVES.

It is aligned with key pillars for the United Nations Decade of Action for Road Safety 2011-2020:

- Pillar 1: Road Safety Management;
- Pillar 2: Safer Roads and Mobility;
- Pillar 4: Safer Road Users.

This comprehensive resource builds on the broad range of knowledge and experience provided by PIARC in the first edition. It includes new thinking on road safety and offers a clear argument on why adopting a Safe System approach is crucial for your country.

The Safe System approach aims for a more forgiving road system that takes human fallibility and vulnerability into account. Under the Safe System approach, everyone (public agencies, automobile manufacturers, road users, enforcement officials, and others) must share the responsibility for road safety outcomes.

The manual is split into three parts and can be downloaded in chapters.

Key principles for each of the topics are included and discussed in the sections, with case studies and links to detailed technical material and other references.

http://roadsafety.piarc.org
PART 1

STRATEGIC GLOBAL PERSPECTIVE

Chapter 1: Scope of Road Safety Problem
Chapter 2: Key Developments in Road Safety
PART 2

ROAD SAFETY MANAGEMENT

Chapter 3: The Road Safety Management System
Chapter 4: The Safe System approach
Chapter 5: Effective management and use of safety data
Chapter 6: Road safety targets, investment strategies, plans, and projects

http://roadsafety.piarc.org
PART 3

PLANNING, DESIGN & OPERATION

Chapter 7: Roles, responsibilities, policy development, and programmes
Chapter 8: Design for road user characteristics and compliance
Chapter 9: Infrastructure Safety Management: Policies, standards, guidelines, and tools
Chapter 10: Assessing potential risks and identifying issues
Chapter 11: Intervention selection and prioritisation
Chapter 12: Monitoring and evaluation of road safety interventions

http://roadsafety.piarc.org
Resolution adopted by the General Assembly nr. 70/260

Improving global road safety

adopted on 15 April 2016 - diffused on 2 May 2016
RSM Development Process

• 2nd Edition (in progress)
  • Strategic Plan (‘16-’20)
  • INTERNATIONAL TC C1: Policies and programs for road safety
  • INTERNATIONAL TC C2: Design and Operations of Safer Road Infrastructure
  • Steering Committee for the Road Safety Manual
A Strategic Plan guides our activities
# Strategic Plan for 2016-2019

<table>
<thead>
<tr>
<th>A. Management and finance</th>
<th>B. Access and mobility</th>
<th>C. Safety</th>
<th>D. Infrastructure</th>
<th>E. CC-Environment - Disasters</th>
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<tr>
<td>A.1 Performance of transport administrations</td>
<td>B.1 Road Network Operations / ITS</td>
<td>C.1 National road safety policies and programs</td>
<td>D.1 Asset management</td>
<td>E.1 Adaptation strategies / Resilience</td>
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<tr>
<td>A.2 Road transport system economics and social development</td>
<td>B.2 Winter services</td>
<td>C.2 Design and operations of safer road infrastructure</td>
<td>D.2 Pavements</td>
<td>E.2 Environment considerations in road projects and operations</td>
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<td>A.3 Risk management</td>
<td>B.3 Sustainable multimodality in urban areas</td>
<td>C.3 Risk management</td>
<td>D.3 Bridges</td>
<td>E.3 Disaster management</td>
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<td>A.4 Freight</td>
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<td>D.4 Rural roads and earthworks</td>
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<td>D.5 Road tunnels operations</td>
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</table>

| A.1 Innovative financing | B.1 Road design & infrastructure for innovative solutions | C.1 Infrastructure security | | |
| A.2 Coordinating National and Subnational adm. | | | | |
PIARC and road safety
Strategic Theme Safety
12 recent Technical Reports (2012-2015)

- The Role of Road Engineering in Combatting Driver Distraction and Fatigue Road Safety Risks
- Human factors guidelines for a safer man-road interface
- Fixed fire fighting systems in road tunnels: Current practices and recommendations
- Improving safety in road tunnels through real-time communication with users
- Human factors in road design. Review of design standards in nine countries
- Road accident investigation guidelines for road engineers
- Comparison of national road safety policies and plans
- Road safety inspection guidelines for safety checks of existing roads
- Best practices for road safety campaigns
- Improvements in safe working on roads
- State of the practice for cost-effectiveness analysis, cost-benefit analysis and resource allocation
- Best practice for road tunnel emergency exercises

Échanger connaissances et techniques sur les routes et le transport routier / Exchange knowledge and techniques on roads and road transportation
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<tr>
<td>The Role of Road Engineering in Combatting Driver Distraction and Fatigue Road Safety Risks</td>
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</table>

**Date:** 2016

**Number of pages:** 73

**Purpose of the report:**
Driver distraction and fatigue are a problem because, as remarkable as our abilities are, we humans are fallible and our abilities have limitations. Driver distraction and fatigue incorporates elements of both limitations and fallibility. On top of our limitations and fallibilities, driving a vehicle is a surprisingly complex task that involves numerous elements.

**Recommendations:**
The review of the extensive literature related to driver distraction and fatigue, found an overwhelming focus on driver education and enforcement strategies seeking to encourage drivers to avoid being distracted or fatigued while driving. This might explain why it was also found that many jurisdictions have sought to combat driver distraction and fatigue by raising awareness of the risk, establishing rules (such as to prohibit texting) and imposing significant penalties to discourage non-compliance. However, it was also found that driver distraction and fatigue are distinct and each comprise a number of separate elements that can be detrimental to road safety in different ways.
<table>
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<tbody>
<tr>
<td>Human factors guidelines for a safer man-road interface</td>
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</table>

**Date:** 2016

**Number of pages:** 78

**Purpose of the report:**

In the case of road safety, the Human Factors concept considers road characteristics that influence a driver's right or wrong driving actions. It understands the causes of road users' operational mistakes as the first step in a chain of actions which may proceed to an accident. Many often observed operational mistakes result from a direct, subconscious interaction between road characteristics and road users' threshold limit values of perception, information processing and action. Because the driver's reaction characteristics can not be changed, attention should be focused on a self-explaining road design.

**Recommendations:**

This guideline explains the relationship between several road characteristics that trigger wrong perception and therefore also wrong driving reactions, most of which happen subconsciously. Detailed examples and sketches allow the engineer to understand the relationship between misleading and irritating road characteristics and operational mistakes. They can be used as a kind of checklist in "on-the-spot" investigation of black spots or single vehicle accidents or in road safety inspections (RSI). They can also be used to qualify planning and design processes in road safety audits (RSA).
Strategic Plan for 2016-2019
Six Forthcoming reports

- National Road Safety policies evolution
- Road Safety Audit guidelines
- Vulnerable road users
- Human factors in road design and operations including driver distraction and fatigue.
- Setting credible speed limits
- Catalogue of design, operations and maintenance safety problems and potential countermeasures for LMIC
Conclusions
PIARC CONGRESSES
Save the dates!

• 15th International Winter Road Congress
  • Gdansk, Poland
  • 20 – 23 February 2018

• 26th World Road Congress
  • Abu Dhabi, United Arab Emirates
  • 6 – 10 October 2019

• 16th International Winter Road Congress
  • Calgary, Canada
  • February 2022
Thank you for your attention

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@PIARC_Roads
World Road Association PIARC
Strategic Plan for 2016-2019

• The Association’s activities are guided by a **4-year Strategic Plan**

• The new Plan covers the period 2016-2019

• It has been prepared through **an in-depth process** under the leadership of the Strategic Planning Commission – chaired by Jeff Paniati (USA)

• It was **formally approved** by the Association’s Council in Seoul in November 2015
# PIARC Strategic Theme C Safety
## Meetings and seminars 2016 - 2019

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<tr>
<th>TC/TF</th>
<th>2nd half 2016</th>
<th>1st half 2017</th>
<th>2nd half 2017</th>
<th>1st half 2018</th>
<th>2nd half 2018</th>
<th>1st half 2019</th>
<th>October 2019 (with World Road Congress)</th>
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<tr>
<td>TC C.1 National road safety policies and programs</td>
<td>Rome</td>
<td>Marrakech (Morroco) (with Workshop)</td>
<td>Teheran (with Seminar) 23-27 Nov 2017</td>
<td>Lisbon (Portugal)</td>
<td>Beijing (with Seminar ) 15-19 Oct 2018</td>
<td>Malaysia (tbc)</td>
<td>Abu Dhabi</td>
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<tr>
<td>TC C.2 Design and operations of safer road infrastructure</td>
<td>Florence</td>
<td>Santiago de Chile (with Workshop)</td>
<td>Rome 06-07 Dec 2017</td>
<td>Ottawa (Canada) April 2018</td>
<td>Beijing (with Seminar ) 15-19 Oct 2018</td>
<td>Malaysia (with Seminar) April 2019</td>
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