

# **ACTIVITY REPORT**

## 2019 - 2020



## **ACTIVITY REPORT**

OCTOBER 2019 – SEPTEMBER 2020



## FOREWORD

### **FROM THE PRESIDENT'S DESK**

Dear friends,

The introduction to this annual activity report should have been the last one I pen as PIARC's President. As you're now well aware, the Covid-19 outbreak prompted your Council to postpone elections until 2021, so in all likelihood I'll be prefacing next year's report as well. I therefore won't use this occasion to assess my four years of presidency, so rich in events of all kinds, reserving such a retrospective for 2021 when I step down after 21 years spent in PIARC's governing bodies. As it turns out, the activity during these past 12 months is plenty dense for this space.

For starters, 2019-2020 witnessed two key moments in the life of our Association: the XXVIth World Road Congress held in Abu Dhabi (October 2019), and launch of the next work cycle (2020-23). A few words about the former, first. We focused on a region where our Association had little experience, yet one that offered lots of promise. Although the number of attendees was slightly less than expected, still I must underscore the exceptional quality of event organization and the generous hospitality of our Emirati hosts, who spared no effort to ensure that this Congress succeeded in perpetuating tradition while showcasing the latest technology, fully embodying the slogan "Connecting cultures, enabling economies". From this perspective, the event was a stunning success. I'll refrain from making reference to any particular session or presentation, as I wouldn't want to slight or overlook any of the other fine contributions. But as a regular participant at PIARC Congresses, I can assure you that the guality of the 2019 presentations was truly top-notch; this Congress also featured a range of content like none other, both during the traditional Technical Committee sessions and in the various workshops, prospective sessions, lectures and demonstrations held in the exhibition area. Such a robust offering attests to the vitality of our Association and our sector of activity. Once again, let's extend our warmest thanks to all those involved in this achievement. Another aspect of this Congress, so dear to the hearts of PIARC members and undoubtedly among our Association's strengths, was its family orientation, particularly noticeable when strolling the exhibition aisles. I'm not speaking here of cliques forming among colleagues, which would constrain our ability to embrace the future, but rather of genuine bonds of friendship built among regular Congress attendees, a kind that attracts and welcomes newcomers. At a time when events are forcing us to restrict movements and when the virtual imposes an increasing role in professional and human relations, I believe this is an opportune moment to reflect on how the time constraints and technological progress we're currently experiencing must not allow us to lose sight of the essential nature of roads, principally to connect people.

The second major milestone of this past period spanned a month of meetings in preparation to launch our 2020-23 work cycle, the culmination of several years of work on the Association's strategic plan, as the starting point of a journey that will take us to the Prague Congress in 2023. Before delving into its contents in greater detail, I'd first like to pay tribute to all those who contributed to drafting the cycle with such tremendous efficiency once the Abu Dhabi Congress had concluded. These meetings laid the foundation of our work program before the health crisis altered life for us all. Thanks also go to the experts who steadfastly pursue their activities within our Committees despite the difficulties of collaborating remotely and handling work overloads in their own organizations. And last but not least, our immense gratitude to Hélène Jacquot-Guimbal, Acting President of the Gustave Eiffel University, for hosting these meetings at her facility in Marne-la-Vallée, outside of Paris.



## FOREWORD

These meetings, which convened in France a total of 1,000 experts from 50 countries over a one-month period, were able to take place between the end of the Paris Region transit strikes and the first wave of the Covid-19 pandemic. Our experts were thus able to frame, under excellent conditions, their programs for the upcoming cycle by getting to know one another and refining work plans. One month later and the whole process would have been strikingly different. This initial contact - and it warrants repeating - subsequently enabled the Committees to work efficiently under the suboptimal conditions of remote settings, via videoconferencing, yet without substantially slowing the pace of their activities. They were thus able to lay the cornerstone for future efforts, notably seminars, in the hope of returning to normal operating conditions in the very near future.

But let's not lose ourselves in the dizzying heights of these successes. The pandemic will obviously be the main event of this past year; it weighs and will weigh heavily on our work for more months to come and ultimately renders us humble. We know less now than ever before what the future will bring, and it is entirely up to us to ensure resilient infrastructure - a key theme of the 2020-23 strategic plan - as well as resilient decision-making bodies. With this in mind, amidst all the turmoil, the Secretary General has taken the initiative to organize numerous "webinars", intended for as broad a cross-section of the world road community as possible, to exchange best practices, successes and mistakes in managing the pandemic within our various organizations. Your responses, like those of other members, can only be qualified as impressive, given the numbers of seminars and their participants, as well as the quality of these presentations. The information gathered, translated into our three working languages and available on the Association's revamped website, attests to our collective capacity to react and adapt. We'd like to express our gratitude here to the entire webinar organization team and their 90 or so speakers. This appreciation naturally extends to all General Secretariat staff, employees and technical advisers, who pulled out all the stops to ensure that everything ran smoothly and moreover made it all seem like business as usual.

Yes, this past year was in no way like the one we could have imagined upon concluding the Abu Dhabi Congress, but an intense and fruitful year nonetheless, during which personal ties, even more than our Association's intellectual and technical heritage, have played a key role in promoting PIARC's mission, while overcoming our physical separation. Let me take this precious opportunity to let you know that I look forward to seeing you in 2021, when we'll be able to draw a final assessment.

#### Claude Van Rooten

President

### **CONTENTS**

| 1. / | ACTIVITIES FROM OCTOBER 2019 TO SEPTEMBER 2020                   |
|------|------------------------------------------------------------------|
| 1.1  | COUNCIL                                                          |
| 1.2  | EXECUTIVE COMMITTEE                                              |
| 1.3  | CONFERENCE OF NATIONAL COMMITTEES                                |
| 1.4  | GENERAL SECRETARIAT                                              |
| 1.5  | CONGRESSES OF THE WORLD ROAD ASSOCIATION                         |
| 1.6  | TECHNICAL COMMITTEES AND TASK FORCES                             |
| 1.7  | SPECIAL PROJECTS                                                 |
| 1.8  | COVID RESPONSE TEAM                                              |
| 1.9  | COMMUNICATION                                                    |
| 1.10 | NEW LOGO AND A SINGLE BRAND ("PIARC")                            |
| 1.11 | PIARC WEBSITE WWW.PIARC.ORG7                                     |
| 1.12 | ONLINE MANUALS                                                   |
| 1.13 | PUBLICATIONS                                                     |
| 1.14 | TRANSLATION ACTIVITIES                                           |
| 1.15 | COOPERATION WITH OTHER ASSOCIATIONS/ORGANIZATIONS - PARTNERSHIPS |
| 1.16 | Software                                                         |
| 2. / | APPENDIX 1. THE ASSOCIATION IN 2020                              |
| 2.1  | ORGANISATION                                                     |
| 2.2  | GOVERNING BODIES                                                 |
| 2.3  | MEMBERS OF THE ASSOCIATION                                       |
| 2.4  | NATIONAL COMMITTEES                                              |
| 2.5  | GENERAL SECRETARIAT                                              |
| 3. / | APPENDIX 2. STRATEGIC PLAN 2020-2023                             |
| 4. / | APPENDIX 3. PIARC PUBLICATIONS                                   |
| 4.1  | TECHNICAL REPORTS FROM THE 2016-2019 CYCLE                       |
| 4.2  | SPECIAL PROJECT REPORTS PUBLISHED IN 2019                        |

#### 1. ACTIVITIES FROM OCTOBER 2019 TO SEPTEMBER 2020

#### 1.1 COUNCIL

The Abu Dhabi Council, held on October 4, 2020, on the eve of the XXVI<sup>th</sup> World Road Congress, assembled 160 delegates from 50 countries. Besides the usual institutional topics, the Council both approved a new annual fee structure for government members, applicable as of 2021, and adopted a financial strategy for the new work cycle 2020-2023 and beyond. This Council also bestowed the title of honorary Association member upon Richard Charpentier (Canada-Quebec), Yolande Daniel (France) and Friedrich Zotter (Austria).

Due to the Covid crisis, it was infeasible to hold the regular Council meeting scheduled for October 2020 in Dakar, Senegal. For this reason, the Council was requested to change the Association's Statutes, allowing for all necessary decisions to be made by means of electronic vote in case of *force majeure* and canceling the 2020 Council meeting. The corresponding decisions were made in September 2020 via an electronic consultation. Council decisions will be organized by online voting in November 2020.

#### **1.2 EXECUTIVE COMMITTEE**

The Executive Committee manages the Association in accordance with Council guidelines and decisions, with the goal (Goal 1) set by the Strategic Plan of constantly improving the Association's management and operations.

The Executive Committee normally holds two meetings a year. The first one took place on October 3, 2019 in Abu Dhabi (United Arab Emirates); the second one, scheduled for April 2020, was called off and replaced by a series of decisions agreed upon through electronic consultations. These decisions dealt with the organization of the Calgary Congress, new chapters of the Blue Guide (communication, partnerships, life of the technical committees), the future of HDM-4 and, naturally, specific provisions related to the Covid crisis.

Due to Covid, the Council agreed to extend the term of the current Executive Committee until December 31, 2021 (at the latest).

A list of current Executive Committee members is included in Appendix 1 of this report.

#### 1.2.1 Strategic Planning Commission

The Strategic Planning Commission (SPC) met on October 2, 2019 in Abu Dhabi (United Arab Emirates), as well as on March 4-5, 2020 in Paris (France) and September 21-22, 2020 by videoconference, under the chairmanship of Maria del Carmen Picón (Spain). Bojan Leben (Slovenia) was appointed Vice Chair by the Strategic Planning Commission.

The main issues addressed by the SPC in 2020 were:

- Monitoring the kickoff meetings held in Paris, January-February 2020, and the subsequent adjustments to the ToRs requested by the Technical Committees and Task Forces;
- Steering the activities of the Committees and Task Forces (organization, work plans, members' participation, cross-cutting issues, etc.);
- Launching new Task Forces in September- October (TF 2.1 New Mobility and Impact on Road Infrastructure and Transport, already part of the Strategic plan, and a new TF on Electric Road Systems, a promising outcome of the eponymic special project);
- Reviewing the special projects' program;
- Proposing minor updates to the Strategic Plan, to better reflect emerging needs from PIARC members and adjustments required by the Committees and Task Forces themselves.

#### **1.2.2** Finance Commission

The Finance Commission met on March 3-4, 2020 in Paris (France) and then again on July 21-22 by videoconference, under the chairmanship of Friedrich Zotter. In addition to its usual set of tasks, i.e. reviewing the previous year's accounts, implementing the current year's budget and preparing the next budget, the Commission also monitored enforcement of the financial strategy approved in Abu Dhabi.

The Association had its accounts certified by an external auditor, as has been the case every year since 2016, for legal reasons tied to the level of the subsidy provided by the French Ministry of Transportation. Not surprisingly, no specific concerns were raised.

The Finance Commission also drafted a number of proposals to deal with countries whose account is in arrears and to support the Secretary General's initiatives along these lines. It also contributed to a global debate on financing the Association through revenue generated from its Congresses. An analysis of these topics will continue in 2021.

#### **1.2.3** Communications Commission

The Communications Commission (ComCom) underwent drastic changes in 2019-2020, with departures of the Chair, Marie-Claude Petit (Canada) and Vice-Chair, Nick Koukoulas (Australia), replaced respectively by Claudine Tremblay (Canada-Québec) and Sheena Carrigan (Canada), the latter of whom is also in charge of Communications for the Calgary 2022 Congress. Two new members joined the Commission: Kirsten Graf-Landmann (Germany), and Allan Geoff (Australia).

In spite of the adverse conditions caused by the Covid pandemic, ComCom still held numerous online meetings and produced several key achievements for PIARC, among which:

- drafting of two new chapters of the Blue Guide on Communications and Partnerships, which were approved by the Executive Committee, accompanied by a short strategic document in both cases;
- finalization of the charter for use of the new logo and branding.

#### 1.3 CONFERENCE OF NATIONAL COMMITTEES

The National Committees held a one-day conference on the occasion of the Abu Dhabi Congress in October 2019, during which they further discussed the action plan developed by Saverio Palchetti (Italy), National Committees' representative, along with Marie Claude Petit (Canada), Claudine Tremblay and Claude Carrette (Canada-Québec). At the same Abu Dhabi meetings, the Executive Committee recognized the PIARC National Committee of Niger.

National Committees also hosted a webinar in April 2020 dedicated to their countries' response to the Covid crisis.

#### 1.4 GENERAL SECRETARIAT

The General Secretariat (GS) continued its main tasks, which include providing support to the Association's bodies, day-to-day running of the Association, participation in the work of Commissions and publication of the Routes/Roads magazine.

In addition, the following actions were carried out over the past year (described in greater detail on the following pages):

- publication of nearly all technical reports from the 2016-2019 cycle and two special projects (see Section 1.6). On the whole, over the two last years, 42 reports and case studies have been published on the PIARC website in English;
- maintenance of the Association's web-based manuals (see Section 1.12);
- cooperation with partner associations and institutions (see Section 1.12);
- handling of the Covid crisis across Association operations, e.g. by organizing numerous Executive Committee decisions by means of email consultation;
- development of a program of Covid-related webinars.

In 2019 and 2020, new Technical Advisors joined the General Secretariat, namely:

- Sabine Rosemann (Germany), to replace Kirsten Graf-Landmann, for Strategic Theme 4;
- Jun Takeuchi (Japan), to replace Yuya Namiki, for Strategic Theme 3;
- Leejee Park (Korea), to replace Hyunseok Kim, for Strategic Theme 1;
- Anna-Karin Salmi (Sweden), to replace Kajsa Ström, for partnerships;
- Éric Dimnet (France) as Technical Advisor on resilience and climate change, for a one-year period.

#### 1.5 CONGRESSES OF THE WORLD ROAD ASSOCIATION

#### **1.5.1** XV<sup>th</sup> International Winter Road Congress

Since the host country could not maintain the event's original website, it proved necessary to reissue the Final Proceedings of the 2018 Congress. The General Secretariat delivered these proceedings in September 2020 as a distinct website.

#### 1.5.2 XXVI<sup>th</sup> World Road Congress, Abu Dhabi, 6-10 October 2019

The XXVIth World Road Congress took place in Abu Dhabi (United Arab Emirates) and was attended nearly 5,000 visitors, including 1,500 delegates from 145 countries. A total of 75 sessions (technical sessions, keynote speeches, workshops) were held, and the exhibition attracted 150 exhibitors, including 26 national pavilions.

The Final Proceedings were published as a standalone website. Detailed session conclusions, as well as a separate general report, are available on the Proceedings website and provide detailed insights on this major event.

#### 1.5.3 XVI<sup>th</sup> World Winter Service and Road Resilience Congress

In spite of the Covid health crisis, preparation for the XVIth International Winter Road Congress progressed at a good pace. Major innovations are:

- renaming as the "XVIth World Winter Service and Road Resilience Congress";
- adding the resilience theme to the scope of the Congress, in addition to winter service;
- involving 9 Technical Committees in preparation of the international call for papers;
- making Spanish an official Congress language.

The PIARC international call for papers was published, with a deadline set to submit abstracts by November 2020.

#### 1.6 TECHNICAL COMMITTEES AND TASK FORCES

The 22 new Technical Committees (TCs) and Task Forces (TFs) held their kickoff meetings on the IFSTTAR premises near Paris, from mid-January to mid-February 2020. These meetings were attended by some 1,000 experts from 50 countries; they offered an opportunity for the General Secretariat to present the Association in depth and for experts to begin their work.

The Committees then continued working using electronic communication tools (e.g. teleconferencing), which have proven to be very efficient.

Since the cycle had just gotten underway, coupled with the Covid crisis, neither international seminars nor workshops were held in 2020.

#### **1.7 SPECIAL PROJECTS**

Two Special projects were completed and published during this past year, specifically:

- The Contribution of Road Transport to Sustainability and Economic Development, a project approved in 2017, launched in 2018 and only completed in 2020 (Ref. 2020SP01EN), published in English;
- Positive Energy Roads, completed in 2019 (Ref. 2019SP01EN), published in both English and Spanish.

Moreover, two new projects were approved in Abu Dhabi, for further development in 2020:

- Road related data and how to use them;
- Legal weight limits standards and their implications.

The final reports of these projects are expected to be available before the end of 2020.

#### 1.8 COVID RESPONSE TEAM

As was the case for all similar international organizations, PIARC's activities were seriously affected by the Covid crisis. Its in-person meetings were hampered, members had more pressing priorities, and day-to-day work was initially disrupted as public transit services were curtailed to a large extent in Paris. PIARC was fortunate to have held its kickoff meetings just between the outbreak of the pandemic and the lockdown mandated in France.

Nevertheless, our structure has proven to be both resilient and agile. Work quickly resumed at full pace, thanks to electronic tools and staff commitment; technical committees soon planned virtual meetings. But the most visible effect of our crisis response was the rapid organization of webinars on the pandemic, allowing PIARC members and the broader community to share their experiences dealing with Covid in road administrations and organizations. In all, 24 international webinars were held between March 25 and July 29, 2020, with 17 in English, three in French and four in Spanish, spearheaded by a small enthusiastic response team assembled by the Secretary General. The knowledge and practices collected led to the publication of comprehensive presentations (available in all 3 languages) on PIARC's website, and two briefing notes, also available on the web. These events combined gathered 90 speakers and over 1,500 participants from 94 countries.

See: <u>https://www.piarc.org/en/News-Agenda-PIARC/Coronavirus-PIARC-and-Covid-19</u>

#### **1.9 COMMUNICATION**

This period was particularly rich in communication activities; an intern (Master 2 level) provided valuable input. The main quantitative figures of our communication activities are as follows:

- a now well-established monthly newsletter in 3 languages (14 issues a year);
- publication of several corporate brochures (What is PIARC, PIARC Dictionary, Road Safety Manual, Partnering with PIARC, QRAM, etc.);
- an active presence on social media (4,000 followers on LinkedIn with 2 posts per week; 3,000 on Twitter with 500 posts per year);
- widespread dissemination of PIARC videos, available on our Website and YouTube;
- production of promotional videos shot at the Abu Dhabi Congress, in several languages.

#### 1.10 NEW LOGO AND A SINGLE BRAND ("PIARC")

A new logo and a single brand (PIARC) were decided in 2019, ahead of the Abu Dhabi World Road Congress. They were unveiled at the Congress's opening ceremony and promoted extensively in 2020. The Association has also liaised with National Committees to smoothly incorporate these changes.

#### 1.11 PIARC WEBSITE WWW.PIARC.ORG

The website was redesigned in order to match the Association's image and introduce more recent techniques, in particular to showcase "responsive web design". After an 8-year run with the existing design (the previous site was unveiled on the eve of the Mexico City Congress), the new site was officially launched at the Abu Dhabi Congress.

Besides a more modern look and up-to-date technical features, it is aimed at more user-friendly browsing, and the initial feedback from regular PIARC users has been generally positive.

The table below displays the website visitor statistics. A quick glance at the figures may lead to concluding that the site has experienced a sharp decline in the number of visits. This apparent loss of interest is in fact a consequence of the implementation of GPDR rules, which allow web users to reject the tracking cookies. This option seems to have been chosen by many visitors, since the decrease clearly begins with launch of the new website, authorizing this function for the first time. The electronic manuals, still unaffected by this change, on the other hand show a 30% increase, leading to the conclusion that actual website consultation has followed this same upward trend.

The average number of pages viewed per visit and average visit duration reveal a remarkably similar increase, by approx. 15%, thus demonstrating greater interest in site content.

| Period                               | 01/08/2017 -<br>31/07/2018 | 01/08/2018 -<br>31/07/2019 | 01/08/2019 -<br>31/07/2020 |  |
|--------------------------------------|----------------------------|----------------------------|----------------------------|--|
| Number of visits                     | 110 280                    | 103 646                    | 80,588                     |  |
| Number of single users               | 50 494                     | 49 823                     | 32,090                     |  |
| Number of pages viewed               | 547 740                    | 511 141                    | 461,038                    |  |
| Average number of pages per visit    | 4,97                       | 4,93                       | 5,72                       |  |
| Average duration of visits (minutes) | 4:34                       | 4:25                       | 5:17                       |  |

PIARC Website - Number of visits

Note: Consultations by the General Secretariat are not included in these statistics.

PIARC2020EN

8

| Document                                                                                                                            | Downloads |
|-------------------------------------------------------------------------------------------------------------------------------------|-----------|
| Management documents                                                                                                                |           |
| Kick-off-meetings-Practical-Information.pdf                                                                                         | 316       |
| Standard-Agenda-2020-2023-Theme-X-version-18Nov2019.pdf                                                                             | 275       |
| Kick-off-meetings-Hotels.pdf                                                                                                        | 254       |
| Draft-Full-Description-ToRs-Section-2-2020-2023-Strategic-Plan.pdf                                                                  | 196       |
| Strategic-Plan-2020-2023-PIARC-World-Road-Association.pdf - Strategic Plan 2020-2023                                                | 195       |
| Kick-off-meetings-Practical-Information.pdf                                                                                         | 190       |
| New_KOM2020-Agenda-and-Outcomes-Jan2020.pdf                                                                                         | 185       |
| Standard-Agenda-2020-2023-Theme-X-version-18Nov2019_MCF-vPMQ.pdf                                                                    | 178       |
| Technical documents                                                                                                                 |           |
| 2019R47EN-Road-Safety-Catalogue-of-Case-Studies.pdf - Road Safety - Catalogue Of Case Studies                                       | 308       |
| 2019R02-EN.pdf - Road Tunnels: Vehicle Emissions and Air Demand for Ventilation                                                     | 261       |
| 2019R12EN.pdf - Security of Road Infrastructure                                                                                     | 243       |
| 2019R14EN.pdf - State of the Art in Monitoring Road Condition and Road / Vehicle Interaction                                        | 230       |
| 2019R27EN-Road-Safety-Evaluations-Based-on-Human-Factors-Method.pdf - Road Safety<br>Evaluations Based on Human Factors Method      | 228       |
| 2019R11EN.pdf - Connected Vehicles - Challenges and Opportunities for Road Operators                                                | 214       |
| 2019R19EN-Innovative-Innovative-Approaches-Asset-Management.pdf - Innovative Approaches to Asset Management                         | 212       |
| COVID-19-2020BN01EN.pdf - COVID-19: Key Lessons for the Road Community from the first PIARC Webinars                                | 208       |
| 2019R09EN.pdf - Disaster Information Management for Road Administrators                                                             | 196       |
| 05-05-B.pdf - Fire and Smoke Control in Road Tunnels                                                                                | 195       |
| 2019R32EN-Green-Paving-Solutions-And-Sustainable-Pavement-Materials.pdf - Green Paving Solutions and Sustainable Pavement Materials | 192       |
| 2019R12ES.pdf - Seguridad de la infraestructura vial                                                                                | 187       |
| 2019R13EN.pdf - Sustainable Multimodality in Urban Regions                                                                          | 186       |

PIARC2020EN

| 2019R26EN-Setting-Credible-Speed-Limits.pdf - Setting Credible Speed Limits - Case Studies Report                                                      | 175    |
|--------------------------------------------------------------------------------------------------------------------------------------------------------|--------|
| 2019R31EN-Best-Practice-Guide-to-Air-Quality-in-Relation-to-Road-Operations.pdf - Best Practice<br>Guide to Air Quality in Relation to Road Operations | 167    |
| 2019R10EN.pdf - Earthworks Manual                                                                                                                      | 161    |
| 2019R18EN-Big-Data-for-Road-Network-Operations.pdf - Big Data For Road Network Operations                                                              | 155    |
| Total : 12 258 different documents for 57 356 downloads                                                                                                | 57 356 |

#### Top 25 downloads from August 1, 2019 to July 31, 2020

#### 1.12 ONLINE MANUALS

The first three online manuals issued by the Association were introduced during the Seoul Congress in November 2015. Over the 2016-2019 work cycle, the relevant Technical Committees (TCs) were tasked with updating these manuals, the results of which were presented during the Abu Dhabi Congress.

In addition, the Association published a fourth manual in October 2017, dedicated to Road Asset Management.

In 2020, the electronic manuals have not undergone any major changes.

#### 1.13 PUBLICATIONS

#### **1.13.1** Technical reports

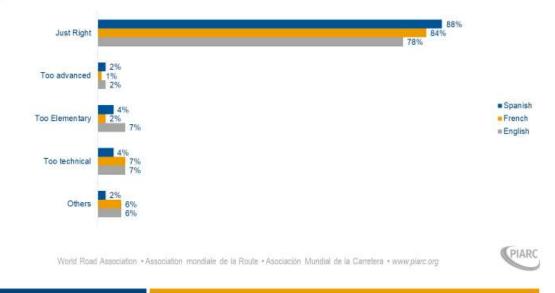
The following documents have been published online:

- Two special project reports;
- 27 new technical reports, as well as French and Spanish translations of reports published over the previous years.

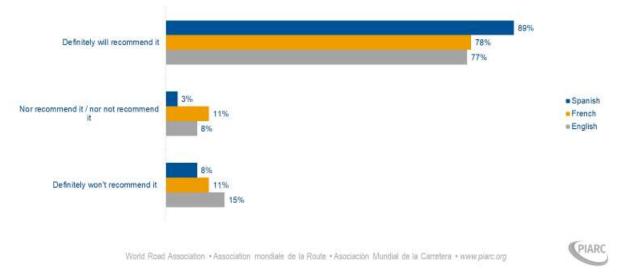
A detailed list of these documents is included in Appendix 3 of the present annual report.

A survey of PIARC report users is now being conducted systematically. Feedback to date has been extremely positive, hence a good sign of both the Association's relevance and the outstanding quality of our deliverables.

2019: Rate the technical content or expertise of the scope of the publication



## 2019: How likely are you to recommend the World Road Association's knowledge base to others?



#### 1.13.2 Routes/Roads magazine

The *Routes/Roads* magazine is one of the Association's essential outputs and largely contributes to its mission of knowledge dissemination. *Routes/Roads* is now printed in three separate monolingual editions in English, French and Spanish.

The topics covered since the Council meeting in Abu Dhabi are as follows:

- WRC PIARC Prizes RR 383, March 2020
- WRC General Report RR 384/85, June 2020,
- Road bridges RR 386, September 2020.

#### 1.14 TRANSLATION ACTIVITIES

The Association's decision to adopt 3 working languages and develop an active trilingual communication policy has significantly increased the volume of translations performed by the General Secretariat and its service providers or partners. Nevertheless, the broader use of a machine translation system has considerably eased the workload. This tool has also served to publish 75% of the technical reports in French and Spanish, after review by the relevant Technical Committees.

#### 1.15 COOPERATION WITH OTHER ASSOCIATIONS/ORGANIZATIONS - PARTNERSHIPS

Promoting cooperation with both regional associations of road administrations and international organizations having similar objectives is one of the goals set forth in the Association's Strategic Plan. Many events had to be cancelled due to the Covid outbreak or else turned into virtual ones. PIARC took part in the following events.

#### 1.15.1 National events and regional road organizations

- First Polish Congress of Road Infrastructure Management, 4-5 December 2019, Warsaw (Poland)
- 99th Annual Meeting of TRB, 12-16 January 2020, Washington (United States)
- 1st Digital Conference of ASEFMA (Spanish Association of Asphalt Manufacturers), 11 May 2020
- III Ibero-American Congress ITS, 1-3 June, 2020
- "1st Virtual Conference of the Paraguayan Road Sector", 7 July 2020
- LATAM Infrastructure Virtual Forum, 02-04 September 2020.

#### **1.15.2 Other organizations**

- World Bank's Conference Transforming Transportation (TT) and SuM4All meeting, 15-17 January 2020, Washington D.C. (USA)
- Third Global Ministerial Conference on Road Safety, 19-20 February 2020, Stockholm (Sweden)
- UNECE 82nd Inland Transport Committee, 25-28 February 2020, Geneva (Switzerland)
- UNRSC bi-annual meeting, 16 April 2020
- International Road Maintenance Day, 2nd April 2020
- UNRSC Webinar: The Ten Step Plan for Safer Road Infrastructure, 09 September 2020.

#### 1.15.3 Partnership strategy

Besides its limited participation in external events, PIARC has developed a detailed strategy regarding regional, thematic and other partners, with the Executive Committee's adoption of a new chapter in the Blue Guide, the publication of a promotional brochure on partnerships, and the review and update of its current Memoranda of Understanding.

#### 1.16 SOFTWARE

#### 1.16.1 HDM-4

Two workshops were devoted to HDM-4 during the World Road Congress, and discussions progressed throughout the year via a series of videoconferences. A consultant was hired by the UK's DFID (as it is now called) to derive a business plan that would enable development and updates to HDM4. No clear timetable has emerged thus far.

#### 1.16.2 QRAM

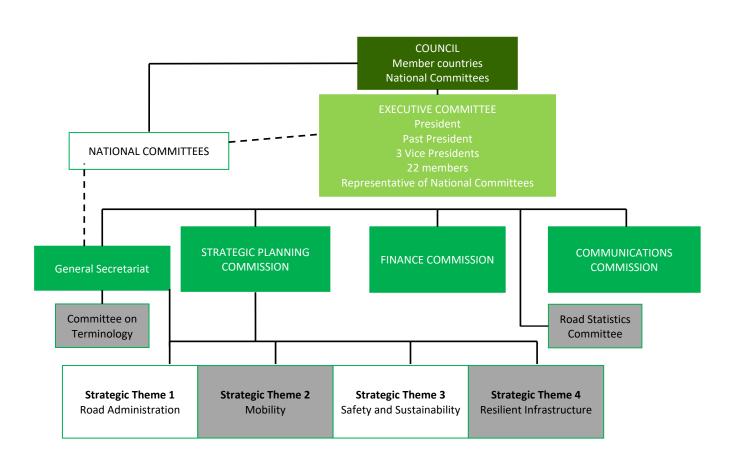
As sales of the updated software continued to rise, a training session was organized in Geneva in December 2019. All further training activity was forced to stop following outbreak of the pandemic. In the meantime, the terms of reference of the second phase of the update were prepared and the tender launched in late September 2020. The update (featuring new functionalities) should be released in 2022.

#### 2. APPENDIX 1. THE ASSOCIATION IN 2020

#### 2.1 ORGANISATION

The World Road Association (PIARC), established in 1909 as a non-profit organization, is the oldest international association concerned with all issues related to roads and road transportation. The Association was granted consultative status by the United Nations Economic and Social Council in 1970.

The current organizational structure will be described below.



#### 2.2 GOVERNING BODIES

The Council is the highest governing body responsible for the Association. At its meeting held on October 4, 2019 in Abu Dhabi (United Arab Emirates), 160 delegates, representing 50 member countries were present.

As of September 1, 2020, the Executive Committee comprises the following membership:

- President: Claude Van Rooten (Belgium)
- Past President: Oscar de Buen Richkarday (Mexico)
- Vice-Presidents: Cheick Oumar Diallo (Mali), Shigeru Kikukawa (Japan), Miguel Ángel Salvia (Argentina)
- Members: Ahmed Al Hammadi (United Arab Emirates), Sandrine Chinzi (France), Mārtiņš Dambergs (Latvia / BRA), Lena Erixon (Sweden/ NVF), Cedric Ivan Escalante Sauri (Mexico), Thomas Everett (USA), Stephen Fidler (United Kingdom), Stefan Krause (Germany), Bojan Leben (Slovenia), Kang Hoon Lee (Rep. of Korea), José Miguel Ortega (Chile), Ramón Pepín (Dominican Rep.), Marie-Claude Petit (Canada), Maria del Carmen Picón (Spain), Massimo Schintu (Italy), Claudine Tremblay (Canada-Québec), Dejin Wu (People's Rep. of China), Friedrich Zotter (Austria), Zulakmal bin Haji Sufian (Malaysia), and Saverio Palchetti (Italy), representative of National Committees on the Executive Committee
- Secretary General: Patrick Malléjacq (France).

Three Commissions, chaired by Executive Committee members, assist in all Executive Committee activities, namely:

- Strategic Planning Commission (SPC), chaired by Maria del Carmen Picón (Spain) ;
- Finance Commission, chaired by Friedrich Zotter (Austria);
- Communications Commission, chaired by Claudine Tremblay (Canada-Québec) since October 2020.

#### 2.3 MEMBERS OF THE ASSOCIATION

There are five categories of Association members: national governments, regional authorities, collective members, individual members, and honorary members.

As of September 1, 2020, the Association's member countries include 124 national member governments, from around the world. Some two-thirds of the member countries are developing countries or countries in transition. In addition, there are 478 collective members and 1,079 individual members from more than 140 countries.

| ALGERIA            | CROATIA        | LATVIA           | SALVADOR)               |
|--------------------|----------------|------------------|-------------------------|
| ANDORRA            | CUBA           | LITHUANIA        | SAUDI ARABIA            |
| ANGOLA             | CYPRUS         | LUXEMBOURG       | SENEGAL                 |
| ARGENTINA          | CZECH Rep.     | MADAGASCAR       | SINGAPORE               |
| AUSTRALIA          | DENMARK        | MALAYSIA         | SLOVAK REPUBLIC         |
| AUSTRIA            | DOMINICAN Rep. | MALI             | SLOVENIA                |
| AZERBAIJAN         | ECUADOR        | MALTA            | SOUTH AFRICA            |
| BAHRAIN            | EGYPT          | MAURITANIA       | SPAIN                   |
| BANGLADESH         | ESTONIA        | MAURITIUS        | SRI LANKA               |
| BELGIUM            | FINLAND        | MEXICO           | SWAZILAND               |
| BENIN              | FRANCE         | MOLDAVIA         | SWEDEN                  |
| BHUTAN             | GABON          | MONGOLIA         | SWITZERLAND             |
| BOLIVIA            | GERMANY        | MOROCCO          | SYRIA                   |
| BOTSWANA           | GHANA          | MYANMAR          | TANZANIA                |
| BRAZIL             | GREECE         | NAMIBIA          | THAILAND                |
| BULGARIA           | GUATEMALA      | NEPAL            | TOGO                    |
| BURKINA FASO       | GUINEA         | THE NETHERLANDS  | TONGA                   |
| BURUNDI            | HONDURAS       | NEW ZEALAND      | TUNISIA                 |
| CAMBODIA           | HUNGARY        | NICARAGUA        | TURKEY                  |
| CAMEROON           | ICELAND        | NIGER            | UGANDA                  |
| CANADA             | INDIA          | NORWAY           | UKRAINE                 |
| CANADA-QUÉBEC      | INDONESIA      | PAKISTAN         | UNITED KINGDOM          |
| CAPE VERDE         | IRAN           | PANAMA           | UNITED STATES OF        |
| CHAD               | IRELAND        | PAPUA NEW GUINEA | AMERICA                 |
| CHILE              | ISRAEL         | PARAGUAY         | UNITED ARAB<br>EMIRATES |
| CHINA (PEOP. REP.) | ITALY          | PERU             | URUGUAY                 |
| COLOMBIA           | JAPAN          | PHILIPPINES      | UZBEKISTAN              |
| CONGO (REP.)       | KENYA          | POLAND           | VENEZUELA               |
| CONGO (DEM REP)    | KOREA (Rep.)   | PORTUGAL         | VIET NAM                |
| COSTA RICA         | KUWAIT         | ROMANIA          | YEMEN                   |
| CÔTE D'IVOIRE      |                | RUSSIA           | ZIMBABWE                |
|                    |                |                  |                         |

#### PIARC National Member Governments (as of September 1, 2020)

#### 2.4 **NATIONAL COMMITTEES**

In several member countries, National Committees have been established (or in some cases existing organizations have been recognized as acting in the role of National Committees) to: promote the Association, provide leadership at the national scale within the road community, contribute to ensuring greater participation in Association activities, and expand dissemination of the work of Technical Committees. The National Committees representatives meet once a year in conjunction with the Council meeting.

The Association has, in all, 47 National Committees or organizations recognized to act as a National Committee.

| National Committees           |                |              |                 |  |
|-------------------------------|----------------|--------------|-----------------|--|
| Algeria                       | Chile          | Italy        | Portugal        |  |
| Argentina                     | Congo (Rep.)   | Japan        | Romania         |  |
| Austroads ( <i>Australia,</i> | Côte d'Ivoire  | Korea (Rep.) | Senegal         |  |
| New Zealand)                  | Czech Republic | Madagascar   | Slovak Republic |  |
| Austria                       | Dominican Rep. | Malaysia     | Slovenia        |  |
| Belgium                       | Ecuador        | Mali         | Spain           |  |
| Benin                         | France         | Mexico       | Switzerland     |  |
| Bulgaria                      | Germany        | Mongolia     | Tanzania        |  |
| Burkina Faso                  | Greece         | Morocco      | Tunisia         |  |
| Cameroon                      | Hungary        | Niger        | United Kingdom  |  |
| Canada                        | India          | Paraguay     | United States   |  |
| Canada-Québec                 | Ireland        | Poland       | Uruguay         |  |

#### 2.5 **GENERAL SECRETARIAT**

As of October 1, 2020, the PIARC General Secretariat includes:

- a Secretary General, Patrick Malléjacq, and Deputy Secretary General, Robin Sébille, both appointed by France;
- a Technical Director, Miguel Caso Flórez, appointed by Spain and Mexico; •
- seven Technical Advisors appointed by Japan, South Korea, Sweden (full-time), France, Germany, Mexico and • Poland (part-time) for various durations;
- six permanent PIARC salaried staff: Véronique Anselin (executive assistant), Alain Charles (web manager), • Marina Domingo Monsónis (communications), Cécile Jeanne (publications), Hanitra Rabetaliana (accounting), and Nathalie Sabbah (administrative assistant);
- two interns: Mugiao Chen (enrolled in a Bachelor's degree program in computer science), and Eva Den Broeder (student in communications).

With regard to the seven Technical Advisors, their respective situations are as follows:

- Verónica Arias Espejel (Mexico) is based in Mexico City. Since September 2015, she has been working part-time for the General Secretariat and monitors the work of Strategic Theme 1 (Road Administration);
- Leejee Park (South Korea) joined the PIARC General Secretariat in March 2020, to monitor Strategic Theme 2 (Mobility); she should have been based in Paris but returned to Seoul because of Covid and works remotely;
- Jun Takeuchi was appointed by Japan and monitors Strategic Theme 3 (Safety and Durability);
- Sabine Rosemann (Germany) works part-time in Paris and is in charge of monitoring Strategic Theme 4 (Resilient • Infrastructure);
- Anna-Karin Salmi (Sweden) oversees the development of PIARC partnerships;
- Aleksandra Cybulska (Poland) joined the team on June 1, 2019 as Event Planning Coordinator (part-time position); she will also head Association training activities;
- Éric Dimnet (France) joined PIARC in September 2020 for one year (part-time) and will develop a manual on • resilience.

#### 3. APPENDIX 2. STRATEGIC PLAN 2020-2023

The Council approved the Strategic Plan 2020-2023 at its meeting in Abu Dhabi (United Arab Emirates) in October 2019. The Council assigned the Executive Committee to proceed with any minor modifications that may result from comments submitted by Council members, based on both discussions held at the Abu Dhabi Congress and suggestions forwarded by the Technical Committees.

The Strategic Plan establishes a series of goals for the Association, in addition to shaping the activity of Technical Committees within four Strategic Themes, each led by a Coordinator.

| Strategic memes for the 2020-2025 period                                                                                                                                                                                                                                                                                                                                                                                                                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |  |  |  |  |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|--|--|--|
| Strategic Theme 1                                                                                                                                                                                                                                                                                                                                                                                                                                        | Strategic Theme 1 - Road Administration                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |  |  |  |  |
| Goal                                                                                                                                                                                                                                                                                                                                                                                                                                                     | The external operating context related to road infrastructure and road transport is constantly<br>evolving in response to large social, economic, and environmental shifts. This affects the financing<br>and risk managing for the construction, rehabilitation, and maintenance of road assets that are<br>priorities in transportation, since sometimes the public-sector budgets are not enough to meet<br>future funding requirements. In addition, safety and security in road systems, technological<br>advances, data-driven and digitalization of road infrastructure, as well as resilience to climate<br>change and extreme weather events are challenged issues that all Road Administrations are facing.                                                                                                                                                                                                                                                                                          |  |  |  |  |
| Coordinator                                                                                                                                                                                                                                                                                                                                                                                                                                              | Ernesto BARRERA GAJARDO (Chile)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |  |  |  |  |
| Strategic Theme 2                                                                                                                                                                                                                                                                                                                                                                                                                                        | - Mobility                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |  |  |  |  |
| GoalThe goal of this Strategic Theme is to provide good knowledge and some sustainable answer<br>communities in the fields of people mobility and goods transportation, taking into account w<br>follows: challenges for mobility policies mentioned above, the opportunity of new technolog<br>the increasing need to have a good alignment between mobility policies and the broader goal<br>communities, in a context where those goals are changing. |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |  |  |  |  |
| Coordinator                                                                                                                                                                                                                                                                                                                                                                                                                                              | André BROTO (France)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |  |  |  |  |
| Strategic Theme 3                                                                                                                                                                                                                                                                                                                                                                                                                                        | - Safety and Sustainability                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |  |  |  |  |
| Goal                                                                                                                                                                                                                                                                                                                                                                                                                                                     | <ul> <li>There is a growing awareness worldwide that the strategy and policies, which are formulated by road administrators and transport-related organizations, enhance safety and security in road systems during the design, construction, and operation of road infrastructure. This environment steers them to producing practical solutions to improve road safety with further developed technologies and to raise awareness of cybersecurity for strengthening road and transportation security.</li> <li>Pursuing the efficient road operation especially in winter service, optimizing the maintenance cost of road assets, and contributing to the sustainable environment are also essential for road administrators and transport-related organizations to manage road infrastructure successfully.</li> </ul>                                                                                                                                                                                    |  |  |  |  |
| Coordinator                                                                                                                                                                                                                                                                                                                                                                                                                                              | Shigeru KIKUKAWA (Japan)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |  |  |  |  |
| Strategic Theme 4                                                                                                                                                                                                                                                                                                                                                                                                                                        | - Resilient Infrastructure                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |  |  |  |  |
| Goal                                                                                                                                                                                                                                                                                                                                                                                                                                                     | <ul> <li>Roads are important, and in some cases even critical, infrastructures that make an important contribution to the social and economic well-being of the society. In this context, ensuring the availability, safety and reliability of road transport infrastructure is crucial. This should include, in addition to normal operation, in particular planning, preparation, response and rehabilitation in the event of unplanned and unforeseen natural or other events, and also includes the safe operation of road networks in the event of events that may have an indirect impact on availability and reliable operation, such as pandemics or black swan events.</li> <li>Against this background, owners and operators of roads are required to proactively manage risks for the infrastructure itself and its users. This poses the challenge of assessing all existing threats and, if necessary, taking measures to ensure availability as far as possible under all conditions.</li> </ul> |  |  |  |  |
| Coordinator                                                                                                                                                                                                                                                                                                                                                                                                                                              | Jürgen KRIEGER (Germany)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |  |  |  |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |  |  |  |  |

Strategic Themes for the 2020-2023 period

The list of PIARC Technical Committees and Task Forces, with the names of the Chairs and the English, French and Spanish-speaking Secretaries, is shown on the following page. Technical Committees and Task Forces are associated with one of the four Strategic Themes outlined above, while the Terminology Committee and Road Statistics Committee report directly to the General Secretariat.

|                                                                                      | Chair                               | English-speaking Secretary        | French-speaking Secretary               | Spanish-speaking Secretary                 |
|--------------------------------------------------------------------------------------|-------------------------------------|-----------------------------------|-----------------------------------------|--------------------------------------------|
| TC 1.1 Performance of Transport Administrations                                      | Christos S. XENOPHONTOS<br>(USA)    | Alan COLEGATE (Australia)         | Joseph AHISSOU (Benin)                  | José Manuel BLANCO SEGARRA<br>(Spain)      |
| TC 1.2 Road and Transport Planning for Economic and<br>Social Development            | Fabio PASQUALI (Italy)              | Mark BROWN (UK)                   | Abdelkader FAHAM (Algeria)              | Alicia Haydee LORDI (Argentina)            |
| TC 1.3 Finance and Procurement                                                       | Francesco SCIAUDONE (Italy)         | Francesco MICCI (Italy)           | Jean-Max GILLET (France)                | Hector OVALLE (Mexico)                     |
| TC 1.4 Climate Change and Resilience of Road Networks                                | Caroline EVANS (Australia)          | Louis BETTINI (Australia)         | Fabien PALHOL (France)                  | Juan Fernando MENDOZA SÁNCHEZ<br>(Mexico)  |
| TC 1.5 Disaster Management                                                           | Yukio ADACHI (Japan)                | Neil FISHER (New Zealand)         | Alain LEFEBVRE (Belgium)                | Marcelo MEDINA SANTIBANEZ (Chile)          |
| TF 1.1 Well-prepared Projects                                                        | Monique AUBRY<br>(Canada-Québec)    | Chris FURNEAUX (UK)               | Michel DÉMARRE (France)                 | Clemente POON (Mexico)                     |
| TC 2.1 Mobility in Urban Areas                                                       | Andrea SIMONE (Italy)               | lan PATEY (UK)                    | Sandrine ROUSIC (France)                | Luis MIRANDA-MORENO<br>(Canada-Québec)     |
| TC 2.2 Accessibility and Mobility in Rural Areas                                     | Souleman OUSSIMAN<br>(Burkina Faso) |                                   | Imen MAKHLOUF (Tunisia)                 | Mariano BARONE (Argentina)                 |
| TC 2.3 Freight                                                                       | Martin RUESCH (Switzerland)         | Tiffany JULIEN (USA)              | Bernard JACOB (France)                  | Carlos SANTILLAN DOHERTY (Mexico)          |
| TC 2.4 Road Network Operation / Intelligent Transportation<br>Systems                | Valentina GALASSO (Italy)           | James ELLIOTT (UK)                | Kaouther MACHTA (Tunisia)               | Daniel RUSSOMANNO (Argentina)              |
| TF 2.1 New Mobility and its Impact on Road infrastructure<br>and Transport - To come | tbd                                 | tbd                               | tbd                                     | tbd                                        |
| TF 2.2 Electric Road Systems                                                         | Jan PETTERSSON (Sweden)             | Doros NICOLAIDES (UK)             |                                         | Jesús LEAL BERMEJO (Spain)                 |
| TF B.2 Automated Vehicles                                                            | Éric OLLINGER (France)              | lan PATEY (UK)                    | Abdelmename HEDHLI (France)             | Ana Luz JIMÉNEZ ORTEGA (Spain)             |
| TC 3.1 Road Safety                                                                   | John MILTON (USA)                   | Lucy WICKHAM<br>(United-Kingdom)  | Lise FOURNIER (Canada-Québec)           | Roberto LLAMAS RUBIO (Spain)               |
| TC 3.2 Winter Service                                                                | Peter NUTZ (Austria)                | Steven LUND (USA)                 | Stéphanie GAUDÉ (France)                | José Carlos VALDECANTOS ALVAREZ<br>(Spain) |
| TC 3.3 Asset Management                                                              | Gerardo FLINTSCH (USA)              | James SMITH (Canada)              | Pascal ROSSIGNY (France)                | Miguel VALDES FLORES (Chile)               |
| TC 3.4 Environmental Sustainability in Road Infrastructure<br>and Transport          | Eric DIMNET (France)                |                                   | Mathieu CHABOT-MOREL<br>(Canada-Québec) | Sergio LÓPEZ NORIEGA (Mexico)              |
| TF 3.1 Road Infrastructure and Transport Security                                    | Saverio PALCHETTI (Italy)           | Chris JOHNSON (Canada)            | Philippe CHANARD (France)               |                                            |
| TC 4.1 Pavements                                                                     | Margo BRIESSINCK (Belgium)          | Gina AHLSTROM (USA)               | Aïda BERGAOUI SRIHA (Tunisia)           | José del CERRO GRAU (Spain)                |
| TC 4.2 Bridges                                                                       | Kiyohiro IMAI (Japan)               | Joseph HARTMANN (USA)             | Pierre GILLES (Belgium)                 | Gonzalo ARIAS HOFMAN (Spain)               |
| TC 4.3 Earthworks                                                                    | Patrick BOISSON (France)            | Paul NOWAK (UK)                   | Yasmina BOUSSAFIR (France)              | Natalia PÉREZ GARCIA (Mexico)              |
| TC 4.4 Tunnels                                                                       | Ingo KAUNDINYA (Germany)            | Tiago MASSINGUE<br>(South Africa) | Jean-Claude MARTIN (France)             | Rafael LOPEZ GUARGA (Spain)                |
| TF 4.1 Road Design Standards                                                         | Mariusz KIEC (Poland)               | Margaret NGOTHO OGAI<br>(Kenya)   |                                         |                                            |
| Terminology                                                                          | Bernard JACOB (France)              | Mitsuru SAITO (USA) - acting      | Emanuela STOCCHI (Italy)                | David CALLEJO GOMEZ (Spain)                |
| Road Statistics                                                                      | Hirofumi OHNISHI (Japan)            | Tomonobu TANINO (Japan)           |                                         |                                            |

#### TECHNICAL COMMITTEES / TASK FORCES 2020-2023 – LIST OF CHAIRS AND SECRETARIES

#### 4. APPENDIX 3. PIARC PUBLICATIONS

#### 4.1 TECHNICAL REPORTS FROM THE 2016-2019 CYCLE

#### In English: 26 reports

- 2018R18EN Big Data for Road Network Operations
- 2019R19EN Innovative Approaches to Asset Management
- 2019R20EN General Principles to Improve Accessibility for Persons with Reduced Mobility in Road Tunnels
- 2019R21EN Evaluating the Transformation of Transport Administrations
- 2019R22EN Framework on Measuring Effectiveness and Efficiency of Transport Administrations
- 2019R23EN Truck-Traffic on Highways for Sustainable, Safer and Higher Energy Efficient Freight Transport
- 2019R24EN National Policies for Multi-Modal Freight Transport and Logistics
- 2019R25EN Adaptation Methodologies and Strategies to Increase the Resilience of Roads to Climate Change
- 2019R26EN Setting Credible Speed Limits
- 2019R27EN Road Safety Evaluations Based on Human Factors Method
- 2019R28EN Damage and Deterioration Assessment Decision-Making for Highway Bridge Safety
- 2019R29EN Technical and Economic Considerations of Bridge Rehabilitation Methods
- 2019R30EN Refinement of PIARC's International Climate Change Adaptation Framework for Road Infrastructure
- 2019R31EN Best practice guide to air quality in relation to road operations
- 2019R32EN Green paving solutions and sustainable pavement materials
- 2019R33EN Reducing the life cycle carbon footprint of pavements
- 2019R34EN Ex post evaluation of road projects
- 2019R35EN Journey time and travel reliability
- 2019R36EN Traffic noise best practice guide
- 2019R37EN Bridge design towards improved inspection and maintenance
- 2019R38EN General Concept and Requirements for Asset Management Training Courses
- 2019R39EN Implementation of national safe system policies: a challenge
- 2019R41EN Road Safety Audits
- 2019R42EN Large Underground Interconnected Infrastructure
- 2019R43EN Review of practices using marginal and secondary materials in rural and industrial areas
- 2019R47EN Road Safety Case studies

#### In French: 21 reports

- 2019R03FR Prévention et réduction des accidents en tunnels
- 2019R05FR Introduction au concept de FMDS pour l'exploitation de tunnels routiers
- 2019R15FR Bonne gouvernance, lutte contre la corruption et mesures d'intervention, notamment le développement d'une culture de la transparence et de la responsabilité
- 2019R16FR Évaluation des approches opérationnelles du risque
- 2019R17FR Catalogue des risques des projets
- 2019R18FR Big data pour l'exploitation des réseaux routiers
- 2019R19FR Approches innovantes dans la gestion d'infrastructures routières
- 2019R20FR Améliorer l'accessibilité des personnes à mobilité réduite dans les tunnels routiers
- 2019R21FR Évaluer la transformation des administrations des transports
- 2019R22FR Cadre de référence pour la mesure de l'efficacité et de l'efficience des administrations de transport
- 2019R26FR Définir des limites de vitesse crédibles Rapport d'études de cas
- 2019R28FR Prise de décisions en matière d'évaluation des dommages et de la détérioration pour la sécurité des ponts routiers
- 2019R29FR Considérations techniques et économiques des méthodes de réhabilitation des ponts
- 2019R30FR Amélioration du cadre international d'adaptation aux changements climatiques de PIARC pour les infrastructures routières
- 2019R32FR Solutions écologiques et matériaux soutenables pour la construction de chaussées
- 2019R33FR Réduire l'empreinte carbone des chaussées sur leur cycle de vie
- 2019R37FR Conception des ponts en vue d'améliorer l'inspection et l'entretien
- 2019R39FR Le défi de la mise en œuvre des politiques nationales de type "système sûr"
- 2019R40FR Document méthodologique pour l'établissement d'un catalogue national et guide de dimensionnement des chaussées
- 2019R41FR Examen des lignes directrices internationales en matière d'audit de sécurité routière, avec une attention particulière pour les pays à revenu faible et intermédiaire
- 2019R42FR Grandes infrastructures souterraines interconnectées

#### In Spanish: 23 reports

- 2019R08ES Desarrollo internacional de métodos de aplicación de fundentes químicos Estado de la técnica y buenas prácticas
- 2019R15ES Buen gobierno y medidas anticorrupción y de respuesta incluyendo el desarrollo de una cultura de transparencia y de rendición de cuentas
- 2019R16ES Evaluación de enfoques organizacionales de riesgos
- 2019R17ES Catálogo de riesgos de proyectos
- 2019R19ES Enfoques innovadores para la gestión de activos
- 2019R20ES Principios generales para mejorar la accesibilidad de las personas con movilidad reducida en los túneles de carretera
- 2019R21ES Evaluación de la transformación de las administraciones de transporte
- 2019R22ES Marco para medir la eficacia y eficiencia de las administraciones de transporte
- 2019R23ES Autotransporte carretero para un transporte de mercancías sostenible, más seguro y con mayor eficiencia energética
- 2019R24ES Políticas nacionales de transporte multimodal de mercancías y logística
- 2019R25ES Metodologías y estrategias de adaptación para aumentar la resiliencia de las carreteras al cambio climático Enfoque de estudios de caso
- 2019R26ES Establecimiento de límites de velocidad creíbles Informe de estudios de caso
- 2019R27ES Evaluación de la seguridad vial con base en el método del factor humano
- 2019R28ES Toma de decisiones para la evaluación de daños y deterioro de la seguridad de los puentes de carretera
- 2019R29ES Consideraciones técnicas y económicas de los métodos de rehabilitación de puentes
- 2019R30ES Refinamiento del marco internacional de la PIARC para la adaptación al cambio climático de la infraestructura carretera
- 2019R32ES Soluciones de pavimentación ecológicas y materiales de pavimentación sostenibles
- 2019R33ES Reducción de la huella de carbono del ciclo de vida de los pavimentos
- 2019R37ES Diseño de puentes para mejorar la inspección y el mantenimiento
- 2019R39ES La aplicación de políticas nacionales sobre el sistema seguro : un reto"
- 2019R41ES Examen de las directrices de auditoría de la seguridad vial en el mundo, con especial atención a los países de ingresos bajos y medianos
- 2019R42ES Grandes infraestructuras subterráneas interconectadas

#### 4.2 SPECIAL PROJECT REPORTS PUBLISHED IN 2019

#### **In English**

- 2019SP01EN Positive Energy Roads
- 2020SP01EN The Contribution of Road Transport to Sustainability and Economic Development (2018)

#### **In Spanish**

• 2019SP01ES - Carreteras de energía positiva



Copyright by the World Road Association. All rights reserved. World Road Association (PIARC) La Grande Arche, Paroi Sud, 5e étage, F-92055 La Défense cedex