PIARC International Seminar on Asset Management for Rural and Low Volume Roads
24-26 May 2017, Santa Cruz de la Sierra - Bolivia
Introduction

The seminar about **Asset Management for Rural and Low Volume Roads** is part of International Seminars program organized by the World Road Association.

In the present period 2016-2019 the World Road Association within the Strategic Plan has the Strategic Theme D, which refers to the road infrastructure in order to improve the quality and efficiency of the road infrastructure through the effective management of road assets in accordance with the expectations of the user, the Government requirements and the sustainable development of peoples. Within this Theme there are the Technical Committee D.1 Asset Management and the Technical Committee D.4 Rural Roads and Earthworks.

Assessing the budget level needed to provide optimal maintenance for road infrastructure and balancing the needs of multiple assets with budgetary constraints is an important part of the work of road administrations. This is reflected in the work of Technical Committee D.1 Asset Management.

In the field of rural roads and earthworks, Technical Committee D.4 Rural Roads and Earthworks investigates road administrations response to adverse conditions as a result of climate change activities while considering the use of local, marginal, and secondary materials in rural and unpaved roads.

Within the program of work of the technical committees of D.1 and D.4 for the period 2016-2019 of PIARC, common lines of policies for our countries will be developed through the following topics:

D.1 Asset Management

- D.1.1 Road Asset Management Manual
- D.1.2 Dissemination and education
- D.1.3 Innovative approaches to Asset Management

D.4 Rural Roads and Earthworks

- D.4.1 Exposure of roads to climate change
- D.4.2 Local materials, practices and techniques
- D.4.3 Management of earthworks

The main objective is to analyze and increase the general awareness of professional and PIARC members about the proper asset management of rural roads with appropriate maintenance and continuing sustainable development of peoples.

The main aim of the seminar is the exchange of experiences, information and technology transfer about the asset management of rural and low volume roads. The Technical Committees will identify areas for research and will address gaps in knowledge for the
topic by presenting case studies and state of the art. The program has been designed to study a wide range of issues, particularly related to the management of road assets, rural roads and low volume roads, use of local materials and others for the stabilization of soils and the problems of particular interest for low and middle income countries.

The seminar is organized by the Technical Committees D.1 and D.4 along with the Plurinational State of Bolivia. The Technical Committees gather members from different countries of the world and their knowledge and experiences are shared and disseminated through publications, participation and organization of international seminars and the comparison of practices in different countries and regions of the world.

The seminar is open to the entire world community interested in rural and low-volume roads. It is also expected to act more specifically on the needs of the countries of the region which have similar geographical, climatic and socio-economic conditions.

Background

The road Asset Management, especially for rural and low volume roads is a key component of rural development, and that is a key development tool for developing regions by providing the basic service generated by the increase in agricultural incomes and better access to jobs. Rural roads are used as a starting point for poverty alleviation since it is agreed that investment in rural access and transport implicates an important improvement of the living conditions of the poorer sectors of our societies. Transport was also identified to have a great importance for the achievement of several of the targets set under the Millennium Development Goals (MDGs), and the 17 Sustainable Development Goals (SDGs) launched by United Nations.

Bolivia implemented the “Pro Vial” (Road Pro) program for the maintenance of the Road Network by the “Bolivian Road Administration” and the “Department of Public Services and Housing”. It is intended to replicate the program in rural networks through prefectures and municipalities. This maintenance program involves the communities along the road network, which mainly perform cleaning work of berms, ditches, drainage and others. Many times, they have performed major works, which have greatly alleviated the trafficability of routes in times of emergency, especially where access is difficult. The program aims at training the next stage groups in more specialized tasks such as signaling, which directly goes towards road safety.

Despite such significant progress in improving accessibility to these rural areas, the management and future maintenance of this rural road network should be expanded in a sustainable manner, with the participation of municipalities and local governments.

Seminar Objective

The main objective of the Seminar is to provide a common platform for experts to share experiences and discuss issues and challenges related to planning, providing maintaining
of rural roads in a sustainable manner. Innovations regarding the participation of local communities in the whole process are also part of the overall objective of the seminar.

**Topics**

The seminar will broadly cover the following topics.

I **Experience in the management of road asset management in the region and future challenges**

II **Best Practices for planners and professionals in the development and sustainability of rural access**

III **Framework, project requirements and maintenance.**
   - Planning and other pre-requisites including the involvement of local communities.
   - Financing, organization and management.
   - Maintenance practices.
   - Enforcement of maintenance contracts and alternatives.

IV **Community participation in rural roads**

   Maximizing the participation of local communities:
   1. in the overall planning / prioritization of phase;
   2. in the initial phase of construction;
   3. In the routine maintenance and repair phase.

V **Sustainable Rural Roads - The Path**

**Seminar Venue**

The seminar will take place in the city of Santa Cruz de la Sierra from May 24th to May 26th, 2017 in Santa Cruz de la Sierra - BOLIVIA

Santa Cruz has an area of 370.621 km2. One third of this area is mountainous region and the rest is spread over the Amazon floodplain which covers the eastern part of the Country. In the north Santa Cruz joins the department of Beni, in the east borders on the Republic of Brazil. In the south of the department Chuquisaca and Paraguay join Santa Cruz de la Sierra. The approximate population of Santa Cruz is 2,000,000 inhabitants. The departmental capital is the city of Santa Cruz de la Sierra.
Methodology

The methodology for the International Seminar will consist of (a) plenary sessions with presentations by leading experts, b) round of questions to the speakers, and (c) the conclusions and resolutions.

In each of the precedent parts there will be enough time allocated for discussion with the audience.

The plenary sessions will include presentations from experts of PIARC Technical Committees D.1 and D.4, as well as local, regional and international leading experts.

Languages

The official language of the seminar will be Spanish with simultaneous translation into English.

Participation

The topic of the seminar and methodology interest a wide variety of stakeholders, so the following sectors are expected to attend:

- Members of PIARC Technical Committee D.1 and D.4.
- Ministries, organizations and administrations dealing with rural connectivity.
- Research organizations with particular expertise in rural roads and low volume roads asset management and their maintenance.
- Representatives of multilateral funding agencies.
- Several Organizations of United Nations related to accessibility and mobility for the rural communities.
- Practicing engineers, construction companies and consultants who possess expertise in the development and management of rural and low volume roads.
- Community development specialists, groups or associations that have a special interest in the subject.
## Seminar Program

### Wednesday, May 24, 2017

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<tr>
<th>Time</th>
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<th>Institution</th>
<th>Name</th>
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<tbody>
<tr>
<td>8:30 to 9:30</td>
<td>Registration</td>
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<tr>
<td>9:30 to 10:30</td>
<td><strong>Opening session</strong></td>
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<td>Presentation of authorities</td>
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<tr>
<td></td>
<td>Speech delivered by PIARC’s Vice President</td>
<td>PIARC</td>
<td>Lic. Miguel Ángel Salvia</td>
<td>Argentina</td>
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<td></td>
<td>Speech delivered by PIARC’s Technical Director</td>
<td>PIARC</td>
<td>Ing. Miguel Caso Flórez</td>
<td>Spain</td>
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<td></td>
<td>Speech delivered by PIARC’s TC D.1 President</td>
<td>PIARC</td>
<td>Dr. Ing. Thomas Linder</td>
<td>Germany</td>
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<tr>
<td></td>
<td>Speech delivered by PIARC’s TC D.4 President</td>
<td>PIARC</td>
<td>Ing. Roberto Sandóval Farfán</td>
<td>Bolivia</td>
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<td></td>
<td>Speech delivered by the ABC’s Executive President</td>
<td>ABC - Administradora Bolivia</td>
<td>Ing. Noemí Eliana Villegas</td>
<td>Bolivia</td>
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<td></td>
<td>Speech delivered by the Minister of Public Works and Housing</td>
<td>Ministerio de Obras Publicas</td>
<td>Ing. Milton Claro</td>
<td>Bolivia</td>
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<td></td>
<td>Speech delivered by the President of the Plurinational State of Bolivia</td>
<td>Estado Plurinacional de Bolivia</td>
<td>President Evo Morales Ayma</td>
<td>Bolivia</td>
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<tr>
<td>10:30 to 11:00</td>
<td>Tea / Coffee Break</td>
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<tr>
<td>11:00 to 11:20</td>
<td><strong>Technical Session I: Experience in the management of road asset management in the region and future challenges</strong></td>
<td>TC D4 - Dirección de Vialidad</td>
<td>Ing. Osvaldo Aguayo</td>
<td>Chile</td>
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<td></td>
<td>Basic Roads in Chile</td>
<td>Min. Obras Públicas</td>
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<td>Inclusive Roads: CAF Vision to include communities adjacent to road corridors.</td>
<td>CAF - Corporación Andina de Fomento</td>
<td>Ing. Andrés Oneto</td>
<td>Peru</td>
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<tr>
<td>12:00 to 12:20</td>
<td>ABC Level of investment in Bolivia for Construction and Maintenance in Primary Road Network.</td>
<td>ABC - Administradora Bolivia</td>
<td>Ing. Erick De Las Heras</td>
<td>Bolivia</td>
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<td></td>
<td>Round of questions to the speakers</td>
<td>Ing. Manuel Guzmán</td>
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<tr>
<td>12:20 to 14:30</td>
<td>Lunch Break</td>
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<tr>
<td>14:30 to 14:50</td>
<td><strong>Technical Session II: Best Practices for planners and professionals in the development and sustainability of rural access</strong></td>
<td>TC D1 – Virginia Tech Transport Institute</td>
<td>Prof. Gerardo Flintsch</td>
<td>USA</td>
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<td></td>
<td>PIARC efforts to educate the asset management workforce of tomorrow</td>
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<td></td>
<td>Adaptation of transport infrastructures and networks to climate change.</td>
<td>TC D4 - CEREMA</td>
<td>Ing. Veronique Berche</td>
<td>France</td>
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<td></td>
<td>Applications of HDM-4 to low volume roads.</td>
<td>TC D1 – Mexican Institute of Transport</td>
<td>Ing. Ricardo Solorio</td>
<td>Mexico</td>
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<td></td>
<td>Environmental and social responsibility ex post of construction and conservation phase of road assets.</td>
<td>ABC - Administradora Bolivia</td>
<td>Ing. Jonatan Lazarte</td>
<td>Bolivia</td>
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<tr>
<td>15:50 to 16:10</td>
<td>Round of questions to the speakers</td>
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<td>16:10 to 16:40</td>
<td>Tea / Coffee Break</td>
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<td>16:40 to 17:00</td>
<td>Management of earthworks</td>
<td>TC D4 – GRIInfra &amp; Egis</td>
<td>Ing. Guy Raoul Isabelle Lappe</td>
<td>France</td>
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<tr>
<td>17:00 to 17:20</td>
<td>Peru’s low-volume rural road asset management – Advancing the support to the Subnational Transport Program (PATS)</td>
<td>WB - World Bank</td>
<td>Ing. Ramon Muhoz Raskin</td>
<td>Bolivia</td>
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<tr>
<td>17:20 to 17:30</td>
<td>Round of questions to the speakers</td>
<td>Ing. Sofia Guerrero</td>
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<tr>
<td>17:30 to 17:40</td>
<td>Conclusions of the Day</td>
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Thursday, May 25, 2017

Technical Session III: Framework, project requirements and maintenance

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<th>Time</th>
<th>Title</th>
<th>Institution</th>
<th>Name</th>
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<tbody>
<tr>
<td>09:00</td>
<td>Neighbouring Roads in Santa Cruz – Bolivia</td>
<td>SEDCAM - Servicio Departamental de Caminos</td>
<td>Ing. Jhonny Soria</td>
<td>Bolivia</td>
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<tr>
<td>09:20</td>
<td>The use of local materials around the world</td>
<td>TC D4 - CEDEX</td>
<td>Ing. Aurea Perucho</td>
<td>Spain</td>
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<tr>
<td>09:40</td>
<td>Solutions and technological innovations for the improvement of low traffic routes</td>
<td>CAF - Corporación Andina de Fomento</td>
<td>Ing. Otoniel Fernandez</td>
<td>Colombia</td>
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<tr>
<td>10:00</td>
<td>Road environment and accidents in Bolivia’s Primary Road Network</td>
<td>ABC - Administradora Boliviana de Carreteras</td>
<td>Ing. Gustavo Espinoza</td>
<td>Bolivia</td>
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<tr>
<td>10:20</td>
<td>Asset management in Chile</td>
<td>TC D1 – Ministry of Public Works</td>
<td>Ing. Miguel Valdes</td>
<td>Chile</td>
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<td>10:40</td>
<td>Round of questions to the speakers</td>
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<td>11:00</td>
<td>Tea / Coffee Break</td>
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Technical Session IV: Community participation in rural roads

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<tbody>
<tr>
<td>11:20</td>
<td>Asset management models for growing economies</td>
<td>TC D1 – National Roads and Motorways</td>
<td>Ing. Marcin Nowacki</td>
<td>Poland</td>
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<tr>
<td>11:40</td>
<td>Multimodal transport in Comunidad Andina</td>
<td>Comunidad Andina</td>
<td>Ing. Alan Octavio Vera Velasco</td>
<td>Bolivia</td>
</tr>
<tr>
<td>12:00</td>
<td>The Role of capability development in road asset</td>
<td>TC D1 – UPM &amp; Transport Agency</td>
<td>Prof. Fernando Varela Soto Ing. David Darwin</td>
<td>Spain New Zealand</td>
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<tr>
<td>12:20</td>
<td>Round of questions to the speakers</td>
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<td>12:40</td>
<td>Lunch Break</td>
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Technical Session V: Sustainable Rural Roads - The Path

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<tr>
<td>14:30</td>
<td>Economical and Social Profits in Rural Roads</td>
<td>TC D4 - AAC</td>
<td>Ing. Haydeé Lordi</td>
<td>Argentina</td>
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<tr>
<td>14:50</td>
<td>Affordable data collection (Tim Massart, Belgium)</td>
<td>TC D1 - Belgian Road Research Centre</td>
<td>Ing. Tim Massart</td>
<td>Belgium</td>
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<tr>
<td>15:10</td>
<td>Geometric Design Standards for Rural Roads with IMD &lt;200veh / day - Case PERU.</td>
<td>TC D4 - FNTRD</td>
<td>MDI Ing. Victor Arévalo Lay</td>
<td>Peru</td>
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<tr>
<td>15:30</td>
<td>General Requirements for Road Asset Management Education Courses</td>
<td>TC D1 - Heller Ingenieurgesellschaft</td>
<td>Ing. Slawomir Heller</td>
<td>Germany</td>
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<tr>
<td>15:50</td>
<td>Round of questions to the speakers</td>
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<td>16:10</td>
<td>Tea / Coffee Break</td>
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Closing Session - Round Table

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<tr>
<td>16:30</td>
<td>Closing Session - Round Table</td>
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<tr>
<td>17:00</td>
<td>Conclusions of the Seminar</td>
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<tr>
<td>17:20</td>
<td>Honors and Closing Ceremony</td>
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<td>18:30</td>
<td>Gala Dinner</td>
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Friday May 26, 2017

The Technical Visit will be made to the La Angostura - Samaipata Route.
We will see the difficulties of a mountain road with low volume traffic, according to the geographic, geotechnical and geometric characteristics.

We will visit the Archaeological Ruins of El Fuerte - Samaipata, UNESCO World Heritage Site
Call for Papers

The abstract of the papers should not exceed 150-200 words and in general, and it may be submitted in English or Spanish.

Abstract should address to the following mail: seminarbolivia2017@gmail.com

Call for Papers is as follows:

Submission of abstracts January 31, 2016
Review of abstracts and notification to authors February 28, 2016
Presentation of the full article March 31, 2017

Full articles must be submitted with the presentations of the Seminar for publication

PIARC Special Fund

The PIARC Special Fund can cover up to 100% of travel expenses or up to 100% of the accommodation costs of participants from developing countries (lower middle income and low income countries). It can cover the cost of one participant per PIARC member subject to the agreement of the First Delegate. Requests for Special Fund assistance should be made by the First Delegate to the PIARC General Secretariat e-mail: info@piarc.org.

The precepts for the use of the Special Fund are available on the PIARC website: www.piarc.org.in the Blue Guide.

Record

a. Share

Delegates from high income countries: 250 $US
PIARC members from high income countries: 220 $US
Delegates from low and middle income countries: 150 $US
PIARC members from low and middle income countries: 120 $US
Delegates from Bolivia (Local Government): 500 Bolivianos
Students: 200 Bolivianos

b. Registration Deadline: May 10, 2017

The registration form will be published in the website separately.

Accommodation

There are a few hotels located near the event and the participants may choose where they want to stay upon their necessities. The Bolivian Road Administration made some arrangements and discounts with a few hotels.

Coming up the alternatives of hotels with the code GMB2224:

1. Buganvillas Hotel Suites & Spa
   Hotel de 5 estrellas, Zona Rio Piraí
   Dirección: Av. Roca y Coronado 901, Santa Cruz de la Sierra, Bolivia
   Teléfono: +591 3 3551212
   ventas@hotelbuganvillas.com contact person - Marcela Perez

2. Hotel Casa Blanca
   Zona Rio Piraí
   Dirección: Av. Marcelo Terceros Bánzer, Santa Cruz de la Sierra, Bolivia
   Teléfono: +591 3 3434444

3. Hotel Camino Real Santa Cruz
   Hotel de 5 estrellas
   Dirección: Avenida San Martin & Calle k, Cuarto Anillo, Santa Cruz, Bolivia
   Teléfono: +591 3 3423535
   ventas4@caminoreal.com.bo; ventas5@caminoreal.com.bo
   contact person - Luis Mojica

4. Hotel Radisson
   Hotel de 5 estrellas
   Dirección: Avenida Segunda #4, Colinas Del Urubo, Santa Cruz, Bolivia
   Teléfono: +591 3 3718000
   Web: [https://www.radisson.com](https://www.radisson.com)
   mariaclaudia.valdivieso@ghlhoteles.com contact person - Claudia Baldivieso
Travel and Transportation

Santa Cruz is well connected to the rest of the country and the world through railways, roads and its international airport Viru Viru. Transportation to and from the venue of the hotels will be the responsibility of the organizers.

Climate

The climate in may is nice in Santa Cruz. The daytime temperatures range is between 25-35 °C. Practice you need only light clothing, even at night.

Visa Requirements

In general, the following documents are required for obtaining visa for Bolivia:

- Original passport valid for at last six months
- Visa fees
- The supporting documents, if necessary
- Completed application
However, the procedures, requirements and deadlines may vary from country to country. Please check with your embassy or consulate to obtain complete and accurate information.

**Details of contact with the local organizers**

For scientific issues

Ing. Roberto Sandóval Farfán  
Chair of PIARC TC D4  
Tel-Fax: +591 33446249  Mob. +591 72100022  
E-Mail rsandoval@cigeco.com.bo

Dr. Ing. Thomas Linder  
Chair of PIARC TC D1  
Tel/Fax: +49 89/2192-3539  
E-Mail chairtc41@stmi.bayern.de

For general issues

seminarbolivia2017@gmail.com

The website for registration and information

[www.seminariobolivia2017.com](http://www.seminariobolivia2017.com)