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PIARC Special Project

**Management of road worksites
(work zones or construction sites)**

CALL FOR PROPOSALS

Deadline for submission of proposals: 31 January 2025

1 PURPOSE AND STRATEGIC SIGNIFICANCE

1.1 Introduction

Public administrations around the world continually seek ways to improve their transport infrastructure to meet the various needs of users while ensuring their safety and improving its resilience. These improvement activities translate into new worksites (also known as “work zones” or “construction sites”) along transport networks. In addition, maintenance and repair work is carried out on the existing infrastructure to ensure its longevity. These numerous worksites, which are sometimes simultaneous and in close proximity to one another, and managed by different public and private work providers, can interfere with the mobility of people and goods, create congestion, have an impact on safety, interrupt the regularity of public transport, affect the quality of life of local residents, impact on global warming, and alter the regional, national economy and vitality of the areas in question.

Road network resilience against climate change and other hazards is major and growing concern for road authorities and operators around the world. Since resilience of a road network is defined as its ability to resist, adapt to changing conditions, and recover positively from planned or unplanned disruptive events, its recovery speed, or elasticity—measured as the slope of the service level curve versus time after one or several disruptions—is highly influenced by the management of road worksites. Effective coordination and planning of these worksites can significantly enhance a network’s ability to restore its functionality quickly after disruptions, minimizing negative effects on mobility, safety, and the economy.

1.2 Definitions

Worksites: In the context of this project, a worksite means an area normally used for transport (roads, sidewalks, intersections, tramway tracks, etc.) that is partially or entirely closed to the public for repair, renovation, maintenance, or construction of the road assets itself or utilities using the road space. Worksites are a necessary part of the life cycle of our roads and streets. They are characterized by traffic pattern changes, narrowed rights-of-way, the presence of construction workers, and work vehicles frequently entering and leaving construction areas. The key function of work zones is to separate active construction from traffic, so there is a safe area for workers and traffic, including vulnerable road users, has a safe route around the work activity. A worksite is typically marked by signs, channelizing devices, barriers, pavement markings, and/or work vehicles. It extends from the first warning sign or high intensity rotating, flashing, oscillating, or strobe lights on a vehicle to the END ROAD WORK sign or the last Temporary Traffic Control device. The worksites are also known in different countries as “**work zones**” or “**construction sites**”. For the context of this call for proposals, we will take the three technical terms as synonyms at this stage of the call for proposals.

Direct impacts of worksites: the direct impacts of worksites can be on the road capacity (all or some modes, including transit); travel time; travel time reliability; road safety risks; impact on residential/commercial access and emergency services access; impact on accessibility for people with limited mobility; impact of noise pollution and air quality for local communities; impact of carbon footprint of the worksite itself.

Indirect impacts of worksites: economic impact on commercial activity depending on site size and works duration, increased traffic or congestion on detour routes, increased pollution by the traffic impacted by the worksite.

1.3 Context

Public administrations and network managers are constantly on the lookout for best practices to improve the way they manage roadworks, traffic disruptions and the safety of workers and road users, by putting forward innovative practices. The results of the work that would be carried out as part of this special project could benefit all members of the PIARC community, regardless of their country, region or hometown, and whether they are in a low- and middle-income country (LMIC) or high-income country (HIC). This project is in line with Vision Zero on safety, an approach widely shared across PIARC member organizations. The need for action to optimize worksite management, minimize disruptions caused by construction activities, and safety management has never been more urgent, especially in light of the major infrastructure investments announced in both North America and Europe. The U.S. Bipartisan Infrastructure Law (BIL), and European initiatives such as the NextGenerationEU recovery plan, provide for hundreds of billions of dollars/euros in infrastructure modernization. These massive investments will lead to a significant increase in construction activity, as well as a boom in road infrastructure connectivity, with projects incorporating new technologies for more efficient and safer road traffic management. It is therefore crucial to identify best practices in terms of worksite, traffic disruption and safety management. By adopting robust and effective measures now, we can help prevent crashes and incidents, reduce environmental impacts, ensuring optimum protection for workers and the success of infrastructure initiatives. Furthermore, roadworks create opportunities to encourage road users, including both people and goods, to shift towards greener modes of transport, such as public transport and rail, either during the works or as a result of the works with reserved lines for public transport or modes that we wish to promote. This shift supports the reduction of congestion, emissions, and contributes to achieving sustainable mobility goals.

1.4 Purpose of the project

The purpose of this Special Project is to collect information and data on best practices in worksite and traffic disruption management around the world, developing an overview of international issues associated with mobility, safety and the environment in a worksite context. This Special project must identify strategies and best practices in place within public administrations and transport network managers. This special project would also showcase various technological initiatives (advanced traffic management systems, intelligent transport systems, signing, communication to the users, construction methods that minimize any impacts on users: pedestrians, bicyclists, motorcyclists, drivers of light vehicles, heavy vehicles...) to improve safety, mobility and accessibility for the entire population (including local communities and people with disabilities), and reduction of direct and indirect environmental impacts of worksites. It could also assess innovative practices that encourage solo drivers to use alternative modes of transportation. Additionally, it could explore solutions related to freight, an often-overlooked aspect. More broadly, it could address the notions of coordination and planning between work providers.

Worksites are usually seen by road users and neighbours as nuisances. The Special Project must also address best practices in using worksites to improve the image of the road sector and raising awareness of road contribution to sustainable transport solutions.

The key questions this Special Project will seek to address are:

1. What are the current practices, including best practices, in worksites management and coordination around the world? What are the current governance models for management and coordination of different worksites and their traffic disruptions around the world? Including their analysis and tools. In terms of strategies to group several interventions for the same section at the same time or differing them over time. Having several worksites at the same time in one itinerary or differing them over time. And their implications on their different impacts (mobility, safety, environment...).
2. What are the opportunities, barriers and risks for worksites management in LMIC and HIC? How can we improve worksites management both in LMIC and HIC?
3. Which technologies can be used to improve worksites management? How ITS and communications between infrastructure and vehicles can contribute to better worksites management?
4. What are the best practices and future vision regarding worksites and autonomous vehicles - level 4?
5. What new capabilities can be brought to bear to address existing challenges; what solutions can be improved with emerging AI technology in the short term.
6. What are the best practices in terms of informing different stakeholders, inside and outside a road authority or operator, of the future works in order to coordinate different their interventions.
7. How can we reduce impact on road traffic through worksites management? Both in terms of worksite zone and in terms of announcing it and deviating traffic to alternative routes or other transport modes when appropriate. How can we best cope with traffic disruptions? How are large trucks and buses informed of lane closures and detours?
8. What are the best practices for managing detour routes and coordinating with navigation assistance providers, such as Google and other technology companies, to optimize traffic flow and minimize unintended impacts on municipal or regional road networks? How can agreements and collaborations with these providers, as well as with media and other stakeholders, be leveraged to enhance communication and efficiency in detour planning and implementation?
9. How can we improve road safety in worksites through worksites management? Both for road users and for road workers. Taking particularly into account the vulnerable road users and the vulnerable workers. What are the best practices to avoid vehicle intrusions into the worksites (work zones)?
10. What are the best practices to safely accommodate large truck and buses traveling through worksites? What are the best practices for construction vehicles entering/exiting the worksites (work zones)?
11. What are the best practices in reducing environmental direct and indirect impacts of worksites through worksites management?
12. What are the best practices for reducing worksites impact on adjacent residential streets?
13. What are the best practices for reducing worksites impact on adjacent businesses (restaurants, shops, schools, hospitals, services, etc.)?
14. What are the best practices allowing the road administrators to offer a safe road usage around worksites for persons with limited mobility, hearing, visually impaired?

15. What are the current and best practices in terms of users' information about worksites, including real time information to light and heavy vehicles?
16. What efficient initiatives can be taken outside the worksites to reduce their impact? Such as promotion of alternatives to solo driven, toll reduction in alternative routes, etc.
17. How infrastructures should be designed to prevent long interventions (as a reference here is the categories of work durations https://mutcd.fhwa.dot.gov/pdfs/11th_Edition/part6.pdf on the road at the construction stage or at the maintenance stage, thus causing major inconvenience to road users and a high level of exposure for workers?

1.5 References for the project

The following resources are to supplement the literature review/research for this project for the practices and recommendations in the US. This new project shouldn't be limited to the specific information shared in the publications or found on the National Work Zone Safety Information Clearinghouse website.

- [MUTCD 11th Edition – Part 6](#)
- [Home — Work Zone Safety Information Clearinghouse](#)
- [Commercial Motor Vehicle \(CMV\) Safety in Work Zones – FHWA Work Zone](#)
- [Project Coordination in Work Zones — Work Zone Safety Information Clearinghouse](#)
- [Smart Work Zones — Work Zone Safety Information Clearinghouse](#)
- [Accommodating Pedestrians — Work Zone Safety Information Clearinghouse](#)
- [Contracting Strategies – FHWA Work Zone](#)
- [Syntheses of Research Related to the Use and Implementation of Advanced Technology to Improve Work Zone Management — Work Zone Safety Information Clearinghouse](#)
- [Intrusion Alarms — Work Zone Safety Information Clearinghouse](#)

2 METHODOLOGY AND APPROACH

2.1 Key areas and approach

The answer should include a description of the approach to be taken to collecting and compiling the information being requested. Please take into account that the first two points on this chapter are the two key areas for consideration in the project and a more thorough description is expected.

The proposal should answer the following questions about the tenderer's approach:

1. How will you collate information from different road administration authorities, traffic regulators, road operators, other public administrations and relevant industry from international road sector, including successful and unsuccessful case studies, national strategies and pilot projects that deal with management of worksites?
2. LMIC represent an important share of PIARC membership and it is crucial that their needs, opportunities and challenges are addressed within PIARC activities.
 - a. How will the study consider the reality of lower to middle-income countries?
 - b. How will case studies from LMIC be collated?
 - c. How will their needs be taken into account?
 - d. How will some of the findings of the project be identified as particularly suitable for LMIC?
 - e. How will you ensure any recommendations/next steps can be implemented by LMIC?
3. How will the study identify opportunities, challenges and risks, as well as enablers and barriers to delivery worksites management?
4. What will be the study milestones in terms of deliverables? What will be the approach for monitoring the progress and to include the inputs from the Project Oversight Team (POT)? It is recommended to organize monthly videoconferences, and to share with the POT regularly intermediate deliverables asking for feedback.
5. How will the management of the project be organized, including quality assurance and quality control without taking significant resources from the project?
6. How will you mobilize the skills needed to complete this work? We consider that the range of skills needed includes understanding road design, road construction, road maintenance, road safety, road impacts to environment, road traffic and mobility, knowledge of road realities across the globe, among others.
7. How will the study make recommendations to National Road Administrations, road and transport agencies, and PIARC members specifically, to improve worksites management?
8. How will the study propose recommendations to PIARC for taking further into account this project and to include the outcomes of the project in the current work of PIARC Technical Committees such as 3.1, 3.3, 2.4, 2.5 and others in the current cycle 2024 – 2027?

2.2 Options

The proposal can be structured as a core proposal plus additional option.

The bid would then include a core proposal within the proposed budget, and then some options which would be described in detail as well as priced on additional budget.

If the bid is selected, PIARC would place the order for the core proposal and maybe as well for some of the options. This would be done at PIARC's discretion.

In any case, the core proposal must answer all the expectations which are presented in this call for proposals document.

3 FINAL DELIVERABLES

The final deliverables will include:

3.1 Technical Report

The final Technical Report should generally include inputs and sections around the items listed below. Variations to this list may be proposed, but with justification and arguments for PIARC's consideration:

- A literature review.
- A collection of case studies¹ with an overview of practices and regulations and their challenges, risks and opportunities.
- International survey results² (if undertaken) or international study conducted by the company aimed at analyzing worksites management.
- Analysis of current practices, standards and regulations for worksites management. How these regulation and standards should be further developed.
- Toolkit for PIARC member organization to approach worksites management.
- Conclusions and recommendations for PIARC members and PIARC itself to consider.

A possible structure of the final report could be as follows, although bidders are free to propose their own structures with a rationale:

Executive Summary

1. Introduction: project background, objectives and scope.
2. Methodology and approach.
3. Outcomes of the literature review.
4. Outcomes of the international survey.
5. Case studies analysis from around the world.
6. Description and analysis of the current situation for worksites management.
7. Description of potential opportunities and challenges in this field.
8. Conclusions of the study.
9. Recommendations for road administrations, LMIC and PIARC.
10. References
11. Appendices (such as complete inputs from survey, additional results of the literature review, etc.)

Each chapter of the report should make reference to LMIC, when relevant. A chapter inside the report's conclusions, with possible **specific recommendations for LMIC** should also be considered.

The specific recommendations for public administration bodies and transport regulators are a key element of the report. They should be relevant for policy advisors, decision makers, practitioners and operators, including from the perspective of understanding and meeting the needs of motorcyclists.

The specific recommendations for PIARC could include recommendations to liaise with specific industries, take part in existing conferences and/or how to integrate the outcomes inside PIARC Technical Committees current work 2024-2027.

3.2 Dissemination material

¹ PIARC POT will support the dissemination of surveys and call for case studies among Technical Committees and member countries, but the responsibility to ensure appropriate answers to the surveys and call for case studies remains within the bidder of this call for proposals.

Presentation material to present the results of the Special Project at PIARC Council meeting in 27-28 October 2025 in Goyang, Korea.

The selected tenderer will also be invited to join the meeting physically or via videoconference. The retained option should be specified in the proposal.

3.3 Voluntary contribution to the next PIARC Congress

Voluntary contribution to the Session on the Special Projects inside the World Winter Service and Road Resilience Congress in Chambéry, France, 10-13 March 2026. Retained consultant will be invited to join the session (participation is optional) and to provide inputs to the Session program. This contribution will be requested after finalizing the project and out of the project budget. So, this point is provided as information.

3.4 Intellectual property and formats

The final products will be submitted in electronic form in English, using the PIARC template for Technical Report and PIARC template for PowerPoint presentations.

The report will be owned by PIARC and it will acknowledge the contribution of the external consultant.

PIARC will ensure translation into French and Spanish. In addition, they will make it available free of charge in the World Road Association's Virtual Library to ensure a large world outreach for the report.

4 KEY DATES

The proposal should also include a proposed draft of a work schedule. The schedule should identify dates or timeframes for accomplishing major milestones in the project. The work schedule will include monthly videoconference meetings and dates or timeframe for an interim product or products that allows adequate time for review and feedback prior to the final deliverable. The schedule must be completed, and final report should be delivered by 3 October 2025, so PIARC can proceed to translation and dissemination of document in advance to participants to PIARC Council meeting foreseen in Goyang, Korea, 27-28 October 2025.

These are some of the milestones to be included in the offer:

- Beginning of February 2025: Kick-off videoconference meeting.
- Intermediate milestones to be proposed by the tenderer.
- 10 September 2025: Final draft report for POT to comment on until 24 September 2025.
- 3 October 2025: Finalization of the report in English including all final comments from POT.
- 13 October 2025: Finalization of Council presentation.
- 27-28 October 2025: Presentation at PIARC Council meeting, in presence in Andorra or by virtual participation.

- 10-13 March 2026, Voluntary presentation at the World Winter Service and Road Resilience Congress in Chambéry, France.

5 PROPOSED BUDGET

Please provide a general budget for the project. The funding requested from PIARC should not exceed 36,300 Euros, all taxes included. The budget should include a general itemization of the costs of the major work elements of the project and a provisional schedule of invoicing.

Invoices will be processed only for completed and approved items, with 10% of each invoice payment to be held back until final deliverables have been accepted by the Project Oversight Team and approved by PIARC.

In line with EU regulations, the payment will take place 60 days after the acceptance of the invoice by the POT.

Since a timing delivery of the outputs is at the essence of the Special Projects mechanism, late penalties could be applied if the external consultant fails to deliver the outputs in the proposed milestones. In line with French regulations, if the delay is the contractor's responsibility, the penalties will be 1% of the budget per week of delay, with a grace period of 15 days, and up to a maximum of 5% of the budget.

6 PROPOSED EXPERTS AND INTERNATIONAL NETWORK

The proposal should also include a description of the relevant expertise that qualifies the contractor to undertake the project. Specifically:

- Please describe any past or current work projects that relate to the subject of this proposal.
- Please also identify the person or persons who will be working on this project, describing their roles and estimated contribution to the project in expertise and time, and providing information on their backgrounds, experience and expertise.
- Please provide information about any other international network, other than the World Road Association, from which the tenderer could receive inputs.

7 PROJECT OVERSIGHT AND PROPOSALS EVALUATION

The project will be overseen by a project evaluation and steering committee called "Project Oversight Team" (POT) to select the preferred tenderer and assist in the development of the project. These experts will be drawn from PIARC membership and will include representatives from several technical committees. Some experts will be nominated by member countries and PIARC General Secretariat staff.

The POT will assess proposals and select the preferred tenderer on the basis of its assessment of:

- a) Technical approach and methodology (up to 35 points): how the tenderer addresses the project objectives and deliverables, how effective and resilient the proposed approach and methodology are, including proposed international case studies and addressing the needs of different PIARC member countries, in particular the LMIC.
- b) Proposed work plan including intermediate milestones (up to 15 points).
- c) Value for money offered by the tenderer (up to 20 points): including the time offered by different contributors of the tenderer's team.
- d) Experience of the proposed team on the holistic vision of the road sector (up to 10 points).
- e) Experience of the proposed team on worksite management and transportation/traffic engineering (up to 10 points).
- f) International experience and network of the proposed team (up to 10 points).

The POT will oversee the progress of the Project, including participating in periodic calls, reviewing interim and final products. The POT will also provide any relevant information from the PIARC work to the selected tenderer (e.g., information obtained from surveys) for use in the project. In addition to review and oversight by the POT, input may also be sought from the other members of Technical Committees and the PIARC Executive Committee and Strategic Planning Commission.

8 PROPOSAL SUBMISSION

Proposals should include the elements identified in this Call for Proposals.

Answers must include the following content and characteristics, otherwise they could not be taken into consideration:

1. Executive Summary (maximum 1 page long).
2. Introduction to the tenderer organization/company (maximum 2 pages; appendixes can be added).
3. Understanding worksite management in the road sector and Special Project requirements: project background, scope and objectives (maximum 1 page).
4. Proposed methodology and approach (answering to section 2 of current call for proposals).
5. Potential options and deliverables:
 - Additional options if relevant.
 - Technical report.
 - Council presentation.
 - Congress contribution.
6. Work schedule (please provide a definition of tasks and deliverables in a time frame).
7. Budget:
 - Proposed budget for PIARC.
 - Working time included in the budget for different contributors of the proposed team.
 - Proposed schedule of invoices (to be linked to deliverables).
8. Proposed experts, organization of the team and international network
 (Maximum a half page by individual, including their experience in the road sector, in the mobility needs, in public policy, their international experience and their experience in LMICs; longer CVs and additional information can be added as appendixes to the proposal.)

9. Appendices

Page limitations:

The 8 first points should be developed in a maximum of 20 pages.

The whole document should have a maximum of 50 pages including the appendices.

Proposals should be submitted electronically in English to the World Road Association General Secretariat at:

gen-sec-piarc@piarc.org

no later than:

31 January 2025

For any questions, please send E-mail to gen-sec-piarc@piarc.org