Transportation Association of Canada
Association des transports du Canada

Review Request for Proposals

Micro-Utility Devices in Public Rights-of-Way: Considerations for Road Authorities

Issue Date: November 13th ,2026

Submission Deadline: 13:00 ET, December 14th, 2026

A. BACKGROUND

Micro-utility devices (MUDs; also called surface robots, sidewalk robots, or public-area mobile robots) are small, automated or remotely operated motorized vehicles owned by private companies, governments (e.g. municipalities) or individuals. They are used in areas where they may encounter members of the public such as on roads, sidewalks and pathways, and on private property including institutional campuses. Their possible use cases include goods delivery, infrastructure maintenance (e.g. snow removal), personal assistance, and scanning or surveillance.

Possible benefits of MUDs include operating cost savings, increased service levels, and reduced environmental impacts. Possible risks and challenges of MUDs include impacts on pedestrian and road user safety, possible obstructions of rights-of-way, and the need for legal/regulatory frameworks and public acceptance.

MUDs are an emerging technology, and Canadian public authorities are generally unprepared for their deployment. Road authorities lack an effective framework of best practices, guidelines and regulations to help them address MUDs, and could be unaware of the potential benefits that may be foregone by simply prohibiting MUDs.

B. OBJECTIVES

This project will help Canadian road authorities better understand the risks and benefits of MUDs, and facilitate the safe use of MUDs where desired. The scope of the project will be limited to MUDs operating in public rights-of-way where they may interact with unprotected or uninformed individuals. It will:

- Provide an overview of MUD technologies including their state of readiness (e.g. performance in cold climates and snowy conditions), digital infrastructure needs, and commercialization timeline.
- Describe the most likely public and private MUD use cases over the short (e.g. 0 to 5 years) and medium term (e.g. 5 to 15 years) in Canada, and for each use case identify possible scales of deployment, the nature of supportive services (e.g. data, traffic management) or infrastructure required for demonstration and operation, possible benefits, and possible risks (e.g. pedestrian and cyclist safety, equity, workforce development, public acceptance).

- Summarize international MUD trial findings and existing or planned MUD guidance and standards.
- Summarize the interests and concerns of Canadian road authorities and stakeholders, the roles and responsibilities of federal, provincial and municipal orders of government, and the applicable Canadian laws, by-laws, regulations and policies (including winter maintenance standards).
- Identify considerations around MUD verification/certification (e.g. relating to safety standards, insurance and licensing requirements, vehicle identification, data reporting/trip logging) and MUD safety regulation and enforcement (e.g. mechanisms, challenges and resource requirements).
- Identify gaps in knowledge or understanding that could be addressed through additional research and testing, guidance for MUD trials that focus on road user safety, privacy and security, and other recommended actions to develop needed guidance, tools and resources.
- Suggest a best-practices Municipal Regulatory Framework that will provide municipalities with implementable regulatory tool. This may include sample by-law language, permit requirements, operational restrictions, insurance requirements, enforcement mechanisms and data sharing provisions.
- An Accessibility Impact Assessment evaluating compatibility with accessibility standards such as Accessibility Standards Canada (ASC) requirements, Accessibility for Ontarians with Disabilities Act (AODA) requirements and other municipal accessibility policies.

Ultimately, the project will help Canadian road authorities develop policies and regulations in advance of a broad commercial rollout of MUDs, and thus support the goal of integrating MUDs devices safely into urban, rural and northern environments.

C. DELIVERABLES

The successful consultant will provide the following key deliverables:

Main Deliverables

The primary deliverables for the project will be a final report titled **Micro-Utility Devices in Public Rights-of-Way: Considerations for Road Authorities.** The final report will provide a comprehensive review of governance, policy, regulatory, and standards-development approaches related to MUDs in Canada and internationally. The analysis will draw on findings from a literature review of relevant governance models, guidance and standards development initiatives, including initiatives such as ISO/TC204 on intelligent transport systems, the ISO/4448 project on sidewalk robots, the Urban Robotics Research Foundation, and other international trials. It will also examine relevant federal, provincial/territorial, and municipal legislation and regulations, including those related to motor vehicle safety and rules of the road, to identify current interpretations, regulatory approaches, safety and accessibility concerns, and potential gaps.

The report will incorporate findings from a survey of Canadian road authorities and other relevant stakeholders, including organizations focused on pedestrian safety and accessibility, to assess awareness of MUDs, current concerns, and areas requiring further guidance or action. Stakeholder consultations will be an important aspect of this project, and consultations with organizations, associations, and technology developers (including one or more interactive workshops) will be used to augment the literature and regulatory review and to validate key findings. These consultations should be conducted with Canadian organizations implementing MUDs on private

[1] https://www.tac-atc.ca/wp-content/uploads/TAC-Publication-Guidelines_2025-e.pdf
[2] https://www.tac-atc.ca/wp-content/uploads/pfp-guidelines.pdf

rights of way, as well as international jurisdictions with deployed and operational MUDs in public rights of way. Proposals are expected to provide a list of international jurisdictions or public authorities with active MUD implementation to be consulted as part of this project and justify the relevance of these jurisdictions to the Canadian context, including similarities in climate, snowfall, operating conditions, and regulatory frameworks. A key outcome of the project will be the identification of current practices, regulatory and governance gaps, stakeholder concerns, and opportunities to support the safe and effective integration of MUDs within Canadian transportation systems.

In addition to the content outlined above and in Section B, the final report will include an Executive Summary, Table of Contents, List of Figures, List of Tables, Glossary of Key Terms, Introduction, Conclusion, and References. All information compiled during the project, including cleaned survey results and relevant consultation findings, will be incorporated into the report. Appendices will contain supplementary material that is not appropriate for inclusion in the main body.

Other Deliverables/ Requirements:

Other deliverables will include:

- A table summarizing comments received during Project Steering Committee (PSC) review of deliverables, tracking who submitted each comment and specifying how the comment was addressed, to be updated after each commenting period (see Section D for anticipated PSC meetings).
- Bimonthly progress reports on task/schedule status and any perceived challenges, to be circulated to PSC members and presented at project meetings.
- A PowerPoint deck describing the work undertaken and report contents to be presented by the consultant team leader to online meetings of the PSC, Next-Generation Transportation Integrated Committee (NGTIC), Technology Council (TC), with the deck circulated in advance to the PSC, inclusive of the presenter's notes.
- A PowerPoint deck suitable for a 60-minute TAC webinar (i.e. 30-minute presentation followed by 30 minutes of questions) to be delivered by the consultant after the project is completed, providing a high-level overview of the report to a multidisciplinary audience.

The consultant will also provide:

- Microsoft Word/PowerPoint and PDF versions of the deliverables.
- All figures that contain text as separate files, with text accessible and editable by TAC for translation purposes; exceptions include where original-source French-language graphics are also provided, or where TAC agrees that the technical content should remain in English.
- Credits for images drawn from other sources, with evidence that written permission to reproduce them has been received.
- Any relevant spreadsheets in Microsoft Excel format.

Deliverables must be submitted in English. TAC will provide an electronic Word template with pre-set report headings and styles to which consultants must adhere, with any variations subject to TAC approval. In addition, the selected proponent must adhere to TAC's *Publication Guidelines* [1] and *Guidelines for Pooled-Fund Projects*[2].

[1] https://www.tac-atc.ca/wp-content/uploads/TAC-Publication-Guidelines_2025-e.pdf
[2] https://www.tac-atc.ca/wp-content/uploads/pfp-guidelines.pdf

D. SCHEDULE

The consultant should propose a project schedule that enables high-quality deliverables and varies from the following milestones only where a supporting rationale is provided:

- Contract award ..... January 2027
- PSC & Consultant Meeting – kickoff (online) ..... February 2027
- Submission of survey questions and list of known literature ..... March 2027
- PSC comments due on survey questions and list of known literature ..... April 2027
- Conduct literature scan ..... February 2027-March 2027
- Conduct survey..... March-May 2027
- Submission of literature scan results, survey results and draft ToC for project report ..... May 2027
- PSC comments due on March deliverables ..... June 2027
- PSC Meeting (online) ..... June 2027
- Submission of 50% report (including full literature scan and survey results) ..... September 2027
- PSC comments due on 50% report ..... October 2027
- PSC Meeting (online) ..... October 2027
- Submission of 100% report ..... January 2028
- PSC comments due on 100% report ..... February 2028
- PSC Meeting (online) ..... February 2028
- Submission of final report and memo to TAC committees, graphics and slide deck ..... May 2028
- Presentation to NGTIC and TC ..... Fall 2028
- TAC webinar delivery ..... Summer 2028

The PSC will include about 10 representatives of project funding partners, and will be an active project participant. Members will review draft deliverables and require at least 15 working days to submit comments. The consultant will respond to all comments, questions and suggestions, and requires at least 5 working days to review PSC comments and develop an initial response before meeting with the PSC. The consultant team leader is required to attend PSC meetings and presentations. Note that some number of online working meetings in addition to those listed above may be required, and would not constitute an increase in the scope of work.

E. BUDGET

This project's maximum budget is **$73,000**; this amount includes all fees and expenses but excludes applicable taxes. Only fixed-price proposals will be accepted, and price is not a factor in their evaluation. Proposals exceeding the maximum budget will be disqualified. TAC will not accept invoices for cost overruns (fees or expenses) associated with the original scope of work. Note the lead consultant must be a TAC member organization, and that no more than 20% of the final budget may be assigned to subconsultants that are not TAC member organizations.

[1] https://www.tac-atc.ca/wp-content/uploads/TAC-Publication-Guidelines_2025-e.pdf
[2] https://www.tac-atc.ca/wp-content/uploads/pfp-guidelines.pdf

A detailed cost breakdown is requested as part of the proposal; invoices must link billing amounts to the percentage of completion of major tasks. TAC will retain a 10% holdback at the end of the project until the final deliverables have been approved by the Technology Council and accepted by TAC. All work conducted in the 12 months leading up to March 31 of each year must be invoiced by that date.

F. PROPOSAL REQUIREMENTS

The proposal should address the following subjects.

Project understanding – Demonstrate a clear understanding of the project's scope and objectives, describe challenges that might be encountered in its execution, and propose measures to resolve them.

Methodology – Describe major tasks, major information sources, planned analyses, and possible limitations. Although the working language for this project is English, the consultant will be expected to review literature and communicate with stakeholders in French, as required.

Schedule – Propose a project schedule that enables high-quality deliverables, using Section D as guidance.

Resources – Identify a total cost with fees broken down by task and team member, as well as travel or other expenses. Proposals stating a total cost greater than the maximum budget specified in Section E will be disqualified.

Consultant team – Identify a project leader and team members including subconsultants, describe their roles, and identify their experience on similar or otherwise relevant projects as well as any experience with TAC projects and processes. The lead consultant must be a TAC member organization.

References – Identify three organizations for which senior members of the consulting team have conducted similar or otherwise relevant projects, including the organization's address and the name and telephone number of an individual familiar with the proponent's work. TAC reserves the right to request additional references.

Conflict of interest declaration – Disclose possible financial or organizational conflicts of interest in conducting the project; for example, the proponent's ownership, relationships or proprietary rights and interests could be perceived as jeopardizing its objectivity. Identify mitigating strategies for any such circumstances.

Proposals should include:

- A covering letter (not more than two pages long)
- Table of contents (optional)
- Main body (not more than 10 pages long, with 12-point single-spaced text and one-inch margins)
- Additional pages for:
    - Project cost breakdown (one page)
    - Project schedule (one page)
    - Project team organization chart (one page)
    - References

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- Conflict of interest declaration
- Team lead and principal(s) résumés (each not more than four pages long total)

Any material in excess of these scope and length parameters will be deleted from proposals before evaluation.

G. PROPOSAL EVALUATION

TAC's Project Manager (see Section I, below) must receive a PDF version of the proposal by email **no later than 13:00 ET on December 14th, 2026**.

Email any questions regarding this Request for Proposals to TAC's Project Manager **by November 20th, 2026**. Addenda with responses will be posted to the RFP page on TAC's website as soon as possible, but no later than **November 28th, 2026**. Note that proponents are responsible to check for addenda.

The PSC will conduct short interviews with the top proponents. This will allow the PSC to ask targeted questions and better assess the proponents' understanding of the project, proposed methodology, and ability to translate their approach into practical outcomes.

H. PROPOSAL EVALUATION CRITERIA

Proposals will be evaluated by the PSC based on the criteria listed in Table 1.

When top proponents have average scores within five points of each other, the selection will be made by a vote of PSC members.

Table 1: Proposal Evaluation Criteria

Evaluation Criteria	Weight
Understanding: Understanding of scope, objectives and desired deliverables	20
Methodology: Methodology for project delivery, and level of detail of each included task	35
Workplan: Adequacy of work plan and resources to ensure quality within required timeframes	15
Team: Demonstrated qualifications, experience and competence of consultant lead and team members in areas relevant to this project	30 (15 for team lead + 15 for team members)
TOTAL	***100***

I. PROJECT ADMINISTRATION

A contract for consulting services must be established with the consultant before work can begin.

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[2] https://www.tac-atc.ca/wp-content/uploads/pfp-guidelines.pdf

TAC maintains an online collaborative platform to enable documentation sharing for this project. The working language for this project is English, though the consultant will be expected to review literature and communicate with stakeholders in French, as required.

TAC's Project Manager will act as liaison between the PSC and the consultant for this project and will work with the PSC to review project deliverables and ensure objectives are met. For more information, contact:

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