FAQs – Traction Aids for Ground Vehicle Mobility

Last updated July 31, 2025

What is the expected Technology Readiness Level (TRL) for proposed solutions at the time of submission, and are there specific TRL milestones applicants are expected to reach during the performance period?

The materials themselves should be at TRL 6 or higher. It is preferred if they are available as a commercial product. However, system TRL could be acceptable at TRL 4 to allow for maturity over the lifetime of the project if components are viable.

Is the primary issue sinking in the sand and getting stuck, or a need for increased traction to allow forward movement? We are unclear if the below statement asks for a load distribution or traction solution. Please explain and, if possible, provide examples for the following: "limit the displacement of soil grains and reduce the slippage of vehicles traversing the area."

The primary issue is that unconfined sands have limited shear strength and displace along the surface under wheel loads. This ultimately leads to sinkage, but not in the same way that soils with low compressive strength display. Providing traction or confinement to the surface is expected to improve mobility. Structural systems designed for load displacement are acceptable, but the priority is reduced weight, volume, and cost.

What is the maximum anticipated tire load and pressure?

Unique scenarios will exist where loads and pressures are higher, but the intended test condition is in the range of 12,000 lb for wheel loads and 85 psi for tire pressure.

What is the maximum anticipated track load and pressure?

Systems are not expected to support tracked vehicles.

What is the minimum road width?

Minimum width is 12 ft, but desired width is in the range of 16-20 ft.

Do you have a color requirement or preference?

Color is not a consideration at this time.

Are there specific terrain classifications—such as those defined by MIL-STD, NATO STANAG, or other U.S. Army guidelines—against which the proposed materials and systems are expected to be evaluated?

Terrain could include a variety of soil types, slopes, and natural geological features or vegetation. No standards are available.

Will testing occur in dry sand only, or also in saturated/mixed soils?

Both dry and partially saturated soil conditions are applicable.

Are tracked and wheeled vehicles both included in this mobility analysis?

Materials or systems are not intended for tracked vehicles at this time.

What are the expected maximum setup time and manpower constraints for deploying the material?

Materials or systems will be evaluated for time to emplace and manpower/equipment required among other categories. No requirement currently exists for minimum standards.

Are solutions expected to be reusable or are they envisioned to be single-use?

Single use applications are permissible but recoverable systems are desired.

Will field mobility trials follow MIL-STD, NATO STANAG, or ASTM standards?

Field mobility trials may deviate from acquisition testing guidelines to adapt to intended environmental use. Component level testing will follow ASTM standards depending on the type of material. Site conditions and test vehicles will be defined based on submissions received and test resources available.

Are there temperature, UV, chemical, or abrasion resistance requirements for the proposed materials?

There are no specific requirements. All factors listed could be included for consideration.

Will materials/overall system be expected to perform under wet, frozen, or chemically contaminated soil?

Materials/systems should perform in wet conditions. Frozen or chemically contaminated soils are less likely to be considered.

Is there a target for volume-to-coverage ratio (e.g., how many square feet of surface must fit within a cubic foot or pallet)?

There is no requirement, but smaller footprints are desired.

Should the packaging be man-portable or compatible with specific military logistics platforms (e.g., HMMWV, JLTV)?

There is no requirement, but reduced logistics burden is desired.

Are there specific requirements for flame retardancy, environmental toxicity, or biodegradability?

There is no specific requirement at this time.

Is the intent to deploy these materials and the overall system across large surface areas to form temporary roads or corridors for sustained movement of military convoys (light and heavy vehicles), or are they primarily intended for localized use (e.g., to assist stuck vehicles or small units in traversing particularly difficult terrain)?

The intent is for temporary corridors over a localized area (i.e. 100 – 1,000 m).

Will deployment scenarios include sloped terrain or pitched surfaces, or are the materials expected to function primarily on flat or near-flat ground? If sloped terrain is included, are there target grade percentages or pitch angles we should account for?

Materials/systems are intended for use in the natural environment, so uneven ground with geological features or vegetation could be prevalent. No specific requirement exists for maximum values.

Is the primary goal to prevent vehicles from becoming immobilized (mobility assurance), or to recover vehicles that are already immobilized (vehicle recovery support)?

The primary goal is to prevent immobilization.

To better assess scalability and investment feasibility, could ERDC provide any insight into the anticipated order volume or rough order of magnitude (ROM) demand for this type of traction aid solution? Specifically:

- **Does ERDC view this as a one-time procurement for demonstration purposes, or is there a longer-term vision for recurring or programmatic use across Army engineering units or broader DoD applications?**

  The R&D phase would include limited procurements. Any acquisitions at larger scale would be based on operational needs or funded acquisition programs.

- **Is there any internal estimation of the total addressable footprint (e.g., square footage or use cases per brigade, per deployment scenario) that could help industry partners gauge potential market size?**

  A capability production document does not exist at this time; therefore, such targets cannot be established.

Could ERDC clarify how proprietary or sensitive information submitted in response to this RFI will be handled, stored, and shared? Specifically:

- **Will respondents be allowed to mark specific sections of their submission as Proprietary or For Official Use Only (FOUO)?**

  During the initial submission, respondents should not include proprietary information. Information safeguards can be established as needed for future communications.

- **What safeguards are in place to ensure that proprietary technical data, trade secrets, or intellectual property are not disclosed to non-authorized parties, including potential competitors or third-party evaluators?**

  Respondents should not provide proprietary technical data, trade secrets, or intellectual property at this time. Appropriate safeguards can be established if this information is exchanged in the future.