

**STATEMENT OF NEED FOR OFFICE OF NAVAL RESEARCH TOTAL OWNERSHIP  
 COST CORROSION/DURABILITY ROAD METHODOLOGY DEVELOPMENT STUDY  
 TEST VEHICLE**

1. Operational Profile. Vehicle must be capable of towing 10,000 pounds while transporting a 7-10 man crew of approximately 1750-2500 lbs, and equipment of approximately 600 lbs. The vehicle must be capable of operating in a Marine Corps mission environment and meet the parameters listed below.

**Attributes of the Test Vehicle**

<b>Attributes</b>	<b>Description</b>
Mission Profile	Primary Roads: 12% Secondary Roads: 68% Cross-country: 20%
Payload not towing 10,000 lb load [Note 1]	3620 lbs (T); 6240 lbs (O)
Payload towing 10,000 lb load	2,350 lbs (T); 3,100 (O)
Towed Load	10,000 lbs
Curb Weight (CW) [Note 2]	Less than or equal to 10,000 lbs (T)
Speed (On-road)	45 MPH on 3% grade @ GVW [Note 3] 55 MPH on 2% grade @ GVW 55 MPH on 0% grade @ GCVW [Note 4]
Speed (Off-road)	15 MPH @ GCVW
Longitudinal	60% @ GVW 45% @ GCVW
Slide Slope	40% @ GVW 30% @ GCVW
Range (On-road) with onboard fuel	300 miles @ GVW
Fording Depth while towing the 10,000 lb load	30" w/o kit 60" with kit
Vertical Step while towing the 10,000 lb load	Less than and equal to 24"
Tire Damage	Run-flats (T); CTIS (O)
Transportability	Surface: Common rail carrier and commercial tractor-trailer. Air: Internal C-130, C-141, C-17, & C-5 Ship: U. S. Navy amphibious assault shipping, landing craft and Landing Craft Air Cushioned (LCAC), Maritime Prepositioned Fleet (MPF) and commercial shipping. Helicopter/Tilt Rotor: External CH-53E and MV-22.
Helicopter/Tilt Rotor External Lift @ 150 knots [Note 5]	CH-53E for 50 NM (T); 110 NM (O) MV-22 for 50 NM (T); 110 NM (O)

Attributes	Description
Communication/ Electronics	Mount organic Marine Corps communication (T) and navigation equipment (O)
Ammunition	Certified for ammunition transport
Receptacles	NATO slave cable receptacles
Tool Storage	Sufficient to provide secure, weatherproof storage for all on-vehicle-equipment
Pintle Hitch	Front and rear pintle
Ballistic Protection	Ballistic protection is not required, but may be considered for follow-on efforts
Weapons mount	Weapons mount is not required, but may be considered for follow-on efforts
Vehicle Operators	Operated by incidental drivers
Environmental Conditions	Operable at standard basic hot and cold temperatures or 125 to -25 degree Fahrenheit
Operational Condition	<ul style="list-style-type: none"> <li>- Operable in NBC contamination environment</li> <li>- Operated &amp; maintained by personnel in MOPP IV</li> <li>- Withstand decontamination</li> <li>- Operated &amp; maintained by personnel in standard cold weather clothing</li> </ul>

Notes	
1	Crew weight @ 250 lbs per individual and complete equipment weight estimated @ 130 lbs per piece.
2	Curb Weight (CW) - vehicle with full fuel tank, all vehicle Basic Issue Items (BII), and without payload, crew, or towed load. This supports the MV-22 external load of $\leq 10,000$ lbs for 50 NM mission radius @ approximately 150 knots.
3	Gross Vehicle Weight (GVW) - vehicle with full fuel tank, all vehicle Marine Corps issue Basic Issue Items (BII), maximum payload, crew, and without towed load.
4	Gross Combine Vehicle Weight (GCVW) - vehicle with full fuel tank, all vehicle Basic Issue Items (BII), maximum payload, crew, and towed load
5	External on CH-53 and MV-22 is threshold. MV-22 lift capacity is smaller than the CH-53, thus the parameters will be set around MV-22 lift.