

# Description of Vehicles

## Types of Army Vehicles, Weights, and Speeds

Army vehicles are currently being used more extensively on road than in the past, at higher speeds than anticipated in the past. This trend will continue and is further complicated by the extreme heat experienced in current and anticipated future deployment areas.

In the past, off road mobility and durability were emphasized, consequently YPG has 100+ miles of established unpaved test courses, both level and hilly of varying severity plus slopes, standard obstacles, etc.

Future Army vehicles will be faster on road and more agile off road. The trend is from ultra-heavy transport vehicles (>140,000 lb GVW) and heavy tracked combat vehicles to families of improved wheeled vehicles which include both combat and support variants. There will be continued emphasis on developing unmanned systems for high hazard missions. New families of lighter, faster tracked vehicles may also be developed.

For discussion purposes the future Army fleet is divided into six categories of vehicles.

Wheeled Vehicles					Tracked Vehicles
High Speed, Agile Light Vehicles	Wheeled Combat & Derivative Vehicles 6x6, 8x8	Medium Transport & Support Vehicles w/wo Trailers	Heavy Transport Vehicles w/wo Trailers	Tank Transporters	
WT < 20,000 lbs	WT 20,000 to 60,000 lbs	WT 20,000 to 80,000 lbs	Wt 80,000 to 140,000 lbs	Over 140,000 lbs	All
Axle Loads to 10,000 lbs	Axle Loads to 15,000 lbs	Axle Loads to 20,000 lbs	Axle Loads to 25,000 lbs	Axle Loads to 30,000 lbs	N/A
Max Speed 120 MPH	Max Speed 110 MPH	Max Speed 100 MPH	Max Speed 90 MPH	Max Speed 60 MPH	Max Speed 50 MPH
Examples:	Examples:	Examples:	Examples:	Examples:	Examples:
Replacement HMMWV	Improved Stryker	Family of Medium Tactical Vehicles (FMTV)	Uprated Palletized Load Systems	Uprated Tank Transporter	Bradley Fighting Vehicle
Military Derivatives of Private Sector Vehicles	Uprated FCS	Palletized Load System (PLS) w/o Trailer	M915/M916 Line Haul Trucks w/trailers	Heavy Equipment Transporters	Abrams Tank
Future High Agility Vehicles	Future Wheeled Combat and Direct Support Vehicles	Future Truck (Army)			

Figure 1



The upgraded HMMWV (Fig. 1) is representative of the up to 20,000 lb GVW wheeled vehicles (10,000 lb max axle) used extensively by the Army. Many vehicles in this weight range may be derivatives of commercially available vehicles and have similar performance characteristics to those in the marketplace (120 MPH). Additional credit will be given during the downselect process to proposals that commit to having all constructed facilities available to the Army for testing this class of vehicle.

The STRYKER family of multi-mission wheeled vehicles and the Family of Medium Tactical Vehicles (FMTV), Figures 2 & 3 represent vehicles in the up to 80,000 lb GVW weight class (axle loads to 15,000 lb, speeds eventually in the 100 MPH range). These vehicles, and their derivatives, will become faster and more agile, as new technologies are integrated.

This category of vehicle will become a growing percentage of the Army's vehicle fleet. Consequently, additional credit will be awarded during the competitive selection phase for designs and commitments to construct joint use facilities, beyond the Minimum Army Requirement, which provide expanded capabilities for testing vehicles of this type.

Figure 2



Figure 3



Figure 4



Figure 4 illustrates the M1120 HEMTT which is one of the standard Army forward resupply vehicles in the up to 140,000 lb GVW weight class. The HEMTT as shown is 66,000 lb GVW, the trailer (not shown) adds just under 37,000 lb additional. Max. axle loadings are 20,000 lb which are within current design parameters for Federal highways consequently these trucks are road legal throughout the U.S.

This multi-functional vehicle, and its derivatives, will be in the Army inventory for decades.

Figure 5



Figure 5 illustrates the M1074; Palletized Load System (PLS) which is the standard Army forward resupply vehicle in the up to 140,000 lb GVW weight class. The PLS as shown is 88,000 lb GVW, the trailer adds just under 50,000 lb additional. Max. axle loadings are 20,000 lb which are within current design parameters for Federal highways consequently these trucks are road legal throughout the U.S.

This multi-functional vehicle, and its derivatives, will be in the Army inventory for decades. It is the Army's primary heavy forward resupply vehicle.

Figure 6



Figure 6 illustrates the M916 M2/M3 Line Haul Tractor which when used with a fully loaded trailer has a gross vehicle weight of 130,000 lb. However, axle loadings remain within or close to the 25,000 lb general upper limit for over the highway travel consequently the M915/M916 family of heavy line haul trucks are legal on Federal highways.

These vehicles are military derivatives of commercially available line haul tractors. These, or equivalent, vehicles will also remain as the Army's standard over the highway resupply vehicles for decades. These vehicles currently are the most speed capable of the heavy trucks (90+ MPH), when fully loaded have the highest axle loads, and have the largest percent of paved road vs. unpaved road use.

Figure 7



Figure 7 illustrates the Army's Heavy Equipment Transporter (HET) with tank payload. This class of vehicle (GVW >140,000 lbs) would not be tested on the high-speed track, but would use the upgraded Dynamometer Course along with tracked vehicles.