



USMC Combat Development and Integration

“Advanced Planning Briefing to Industry”

April 30, 2012

LtGen Richard P. Mills

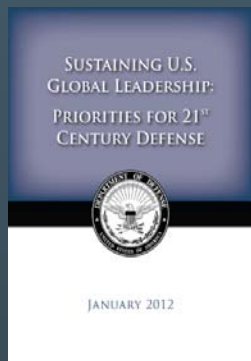
Deputy Commandant

Combat Development and Integration

Quantico, VA



We Are Not Standing Still



- Draw Down
- Preserve Specialized Capabilities
- Shift To The Pacific
- Anti-Access/Area Denial
- Reversibility



- **OEF, Libya, HA/DR**
- **Budget...Right Size The Corps**
 - 182k, Cyber, MARSOC, ISR
- **Modernization and Reset**
 - ACV, Sustain HMMWV, JLTV
 - F-35B, MV-22, H-1 Upgrades
 - Amphib and MPS
 - Committed to 2 MEB AE
 - Lightening the MAGTF
 - Expeditionary Energy
- **Expanded PME**
- **Ellis Group, Amphibious Skills**
 - (EW12 BA12)
- **“Every Marine A Rifleman”**



Balanced Affordable Portfolio

BOTTOM LINE: The USMC vehicle strategy provides for prioritized, essential capability and capacity within PB-13 constraints with flexible decision points informed by industry competition, government testing, and fiscal reality.

➤ **Balanced Portfolio**

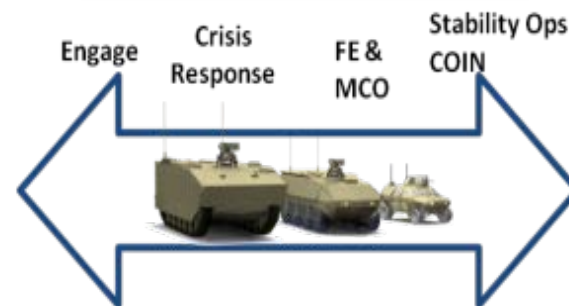
- Selective and sequential modernization for key gaps
- 33%-50+% of WIPEB Investment to ground vehicles
- Est Cost of Ground Veh Modernization: \$5.8B - \$10.7B (FY11\$)
- Extended Sustainment for remaining fleet

➤ **Knowledge & Decision Points, Cost-Informed Trades**

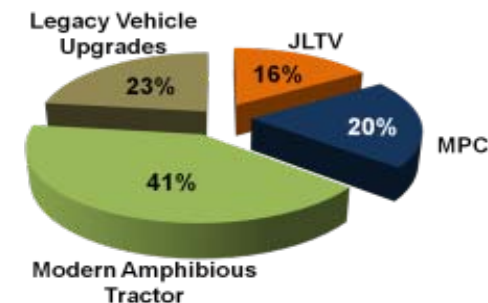
- Full Understanding of Cost
- Integrate mature technology
- Leverage past investment
- Reduce fleet ~10K vehicles (23%)
- Integrate MRAP w/in enduring Portfolio

➤ **Streamlined and Competitive Acquisition Process**

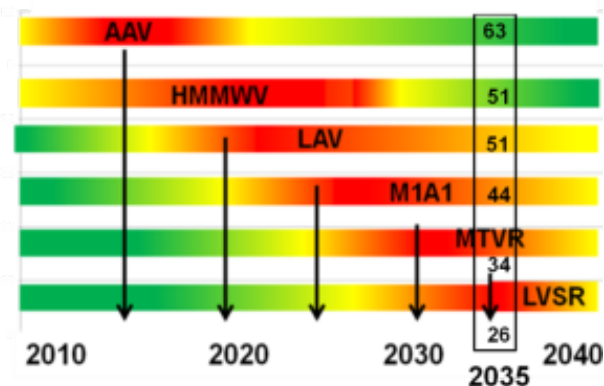
Aggregate Utility across ROMO



Vehicle Modernization FY12-30

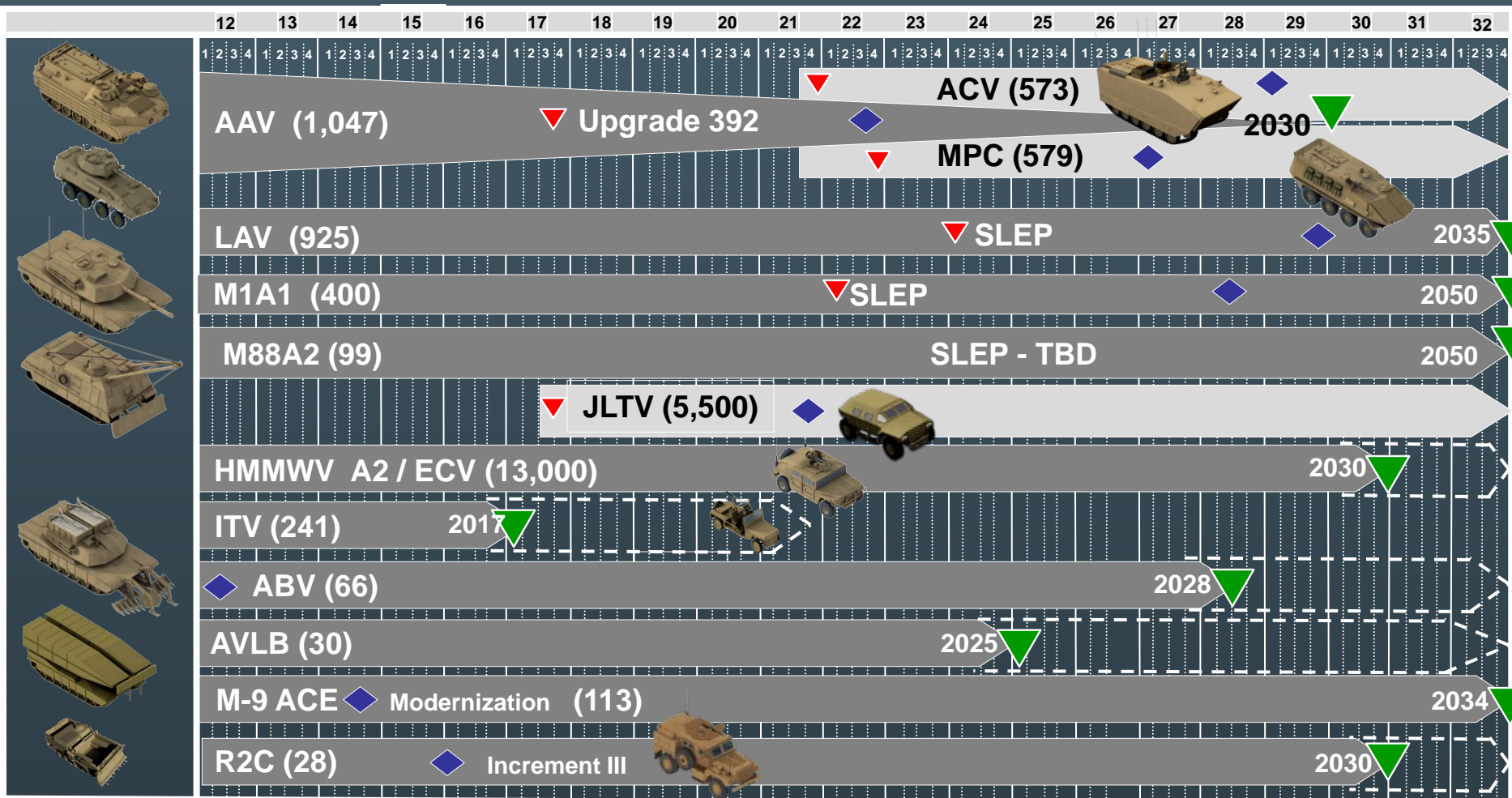


Years in Service – Fielding to 2035





Combat Vehicle Capability Road Map



LEGEND

- ▼ = Initial Operating Capability
- ◆ = Full Operating Capability
- ▼ = Item Exit Date
- - - SLEP or Replace TBD



Combat Vehicle Affordability

Mitigate Risk as the Joint Expeditionary Force in Readiness: Pursue a balanced portfolio of capabilities to account for the uncertainties of future threat, geographic and fiscal challenges

- No single system can meet all of our protected mobility needs
- A balanced portfolio better accounts for the full range of future challenges and prevents overinvestment in any one capability

Reduce the fleet by over **20%** (9,600 vehicles = \$2.3B in cost avoidance)

Selectively modernize 20% of fleet thru 2035 to address key gaps & obsolescence drivers

Sustain the remaining **80%** well past normal service life

Control modernization cost by:

- Employing ***mature technology***, reducing complexity and increasing reliability
- Maximizing ***industry competition*** and a ***streamlined acquisition process***
- Using a ***systems engineering approach*** validated by government test
- Making ***cost informed trades*** to achieve minimum essential capability

Design Fleet Mix Options and Task Organization that provide minimum essential *capacity* within a balanced capability portfolio. (*GS Lift / Combat Vehicle Mobility for 12 of 31 Battalions*)

Keep Calm
and
Carry On



Questions





• BACKUPS



Guidance For the Development of the Force

Capability Guidance...three overarching capabilities

1. Reasserting our Naval and Amphibious character
2. Preparing and Supporting Marines
3. Commanding, Controlling, and Coordinating Operations

Capacity Guidance...two tasks

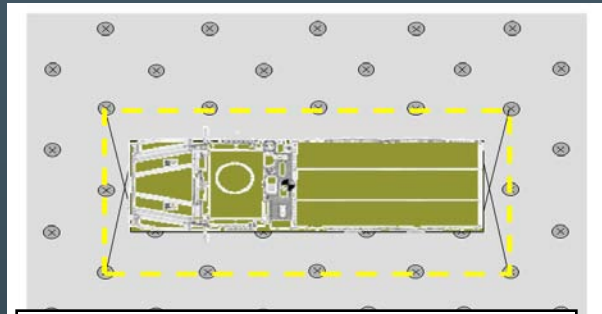
1. Continue to source 25,000 Marines to conduct operations worldwide
2. Enhance our capability to conduct amphibious operations across ROMO

Capacity priorities:

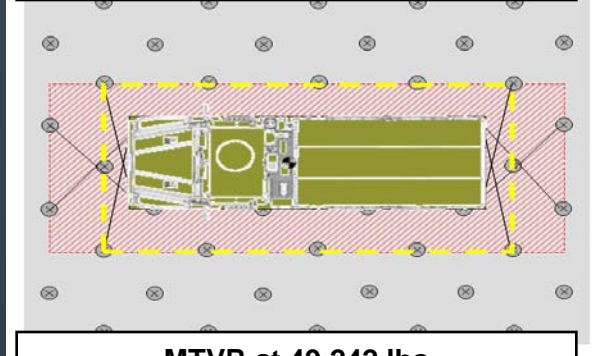
- 2 MEB AE and MEF CE aboard amphibious shipping with MPSRONS reinforcing
- Provide tactical mobility for the MEF AE
- Seabased sustainment
- C2 in a sophisticated cyber environment
- Continuously forward-deploy 3.0 MEUs
- Continue to evolve combat effectiveness



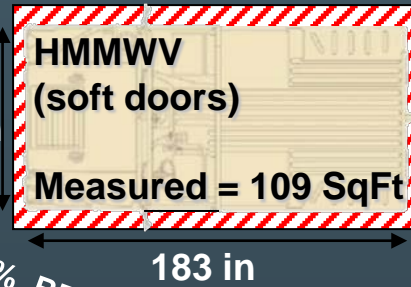
Gaining Weight and Losing Space



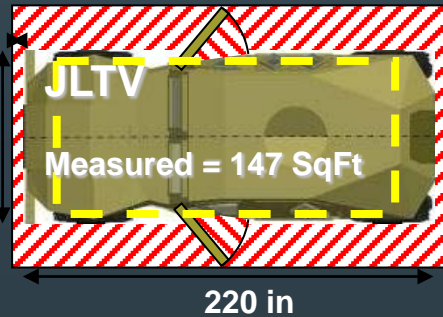
MTVR at 39,000 lbs
(unarmored cab with mobile load)
Requires 4 tie-down points



MTVR at 49,242 lbs
(armored cab with mobile load)
Requires 8 tie-down points

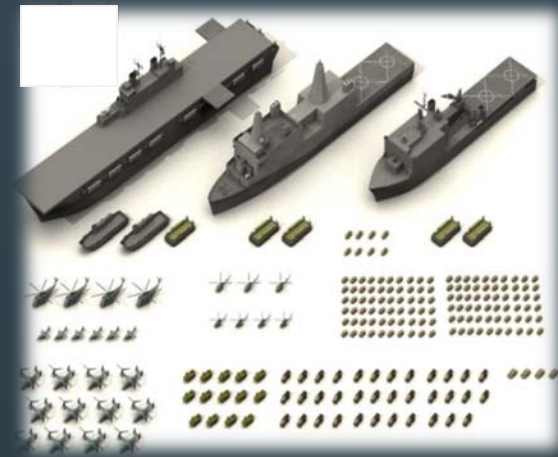


70% BROKEN STORAGE FACTOR



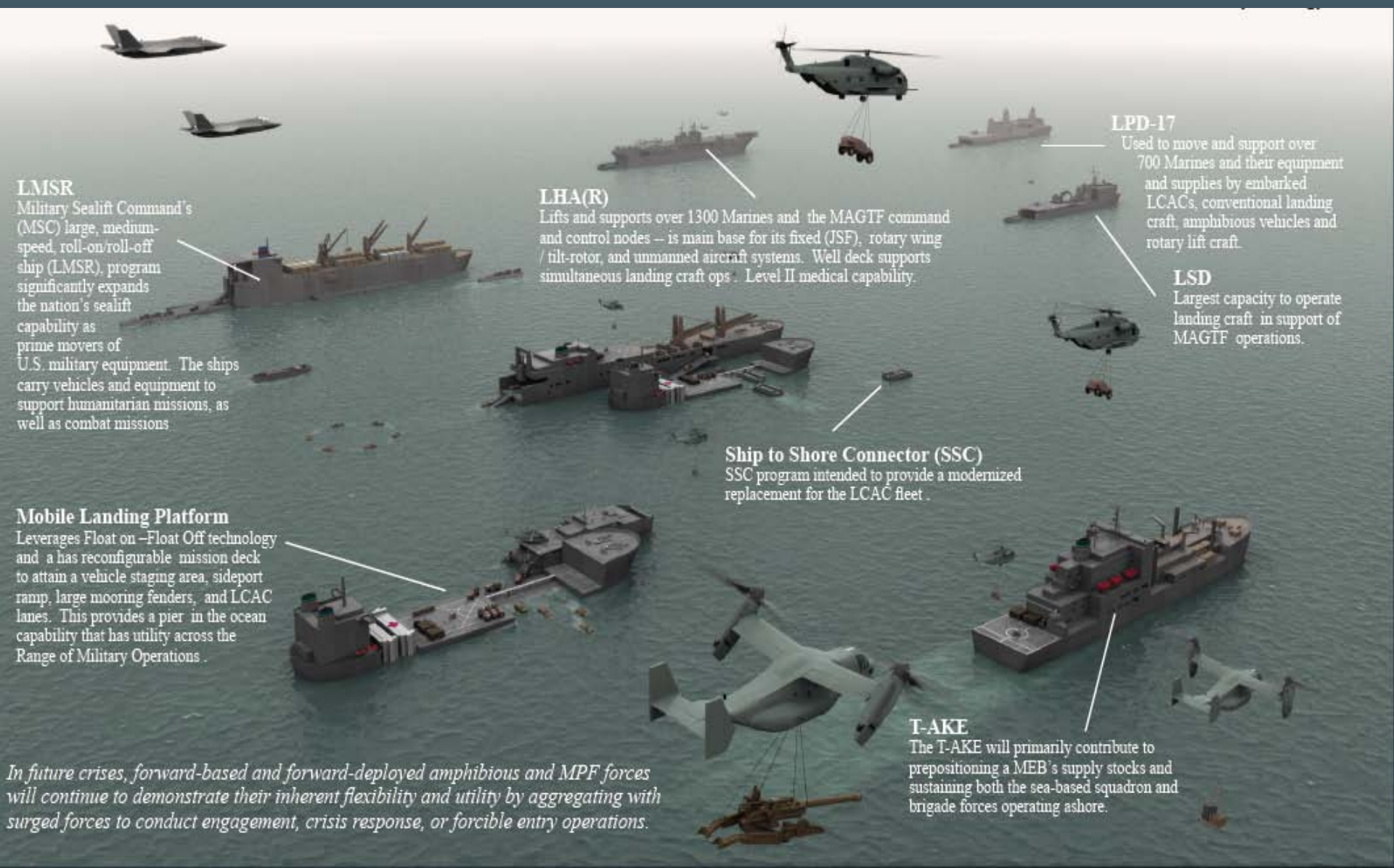
- Weight of added armor is driving our MAGTF to 'weight out' before we "square out"
- Innovative approaches to design, not just materials

63%





Naval Integration is Critical



LMSR
Military Sealift Command's (MSC) large, medium-speed, roll-on/roll-off ship (LMSR), program significantly expands the nation's sealift capability as prime movers of U.S. military equipment. The ships carry vehicles and equipment to support humanitarian missions, as well as combat missions.

Mobile Landing Platform
Leverages Float on - Float Off technology and has reconfigurable mission deck to attain a vehicle staging area, sideport ramp, large mooring fenders, and LCAC lanes. This provides a pier in the ocean capability that has utility across the Range of Military Operations.

LHA(R)
Lifts and supports over 1300 Marines and the MAGTF command and control nodes -- is main base for its fixed (JSF), rotary wing / tilt-rotor, and unmanned aircraft systems. Well deck supports simultaneous landing craft ops. Level II medical capability.

LPD-17
Used to move and support over 700 Marines and their equipment and supplies by embarked LCACs, conventional landing craft, amphibious vehicles and rotary lift craft.

LSD
Largest capacity to operate landing craft in support of MAGTF operations.

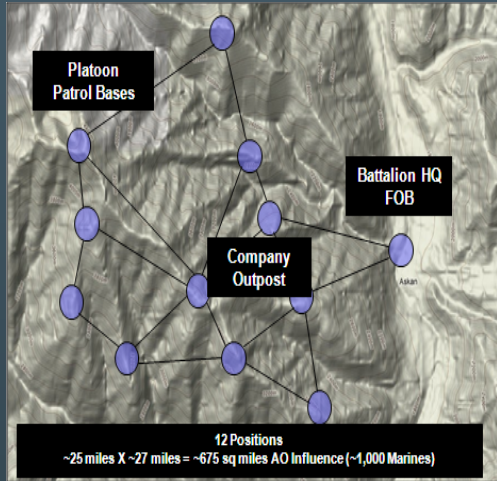
Ship to Shore Connector (SSC)
SSC program intended to provide a modernized replacement for the LCAC fleet.

T-AKE
The T-AKE will primarily contribute to prepositioning a MEB's supply stocks and sustaining both the sea-based squadron and brigade forces operating ashore.

In future crises, forward-based and forward-deployed amphibious and MPF forces will continue to demonstrate their inherent flexibility and utility by aggregating with surged forces to conduct engagement, crisis response, or forcible entry operations.



Why Things Have Changed



- 250% Increase in Radios
- 300% Increase in IT/Computers
- 200% Increase in # of Vehicles
- 75% Increase in Vehicle WGT
- 30% Decrease in MPG
 - MTRV – 4.3 MPG
 - HMMWV – 8.0 MPG
 - MRAP – 4.0 MPG

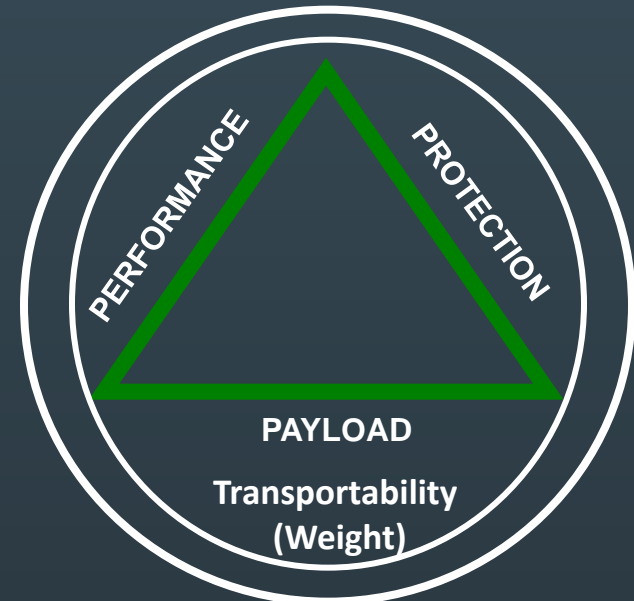
Distributed and Extensive Dismounted Ops

- Large AO's with long duration patrols (8 – 10 days)
- Dependent on Comm/Electric gear & Supply
- Harsh environment & heavy combat load
- Long distance & terrain requires more transmission power
- Battery resupply every 48 hrs

- **Technology will not solve the problem**
 - There are no significant advances in lightweight armor just around the corner
 - Active Protection Systems are reaching technical maturity but still significant integration required
 - CREWS effective against limited threat types

- The challenge = how to balance the "Iron Triangle" and Increasing Costs
- Armoring weight for both vehicles and personnel reduces tactical mobility.
- Protection gained by armor, but also by TTPs & METT-TS evaluation
- Armor is scalable, but only to a degree

Cost & Energy Efficiency





Transportability Challenge

Ground Vehicles and Equipment



DESIGN LOADOUT	NEAR TERM (2007-12)	NOTIONAL FUTURE(2012 →)
M151/trlr 3,000 lb	M998/armr 7,653 lb	JLTV ~20,000 lb
M35 2.5T 12,580 lb	MTVR w/MAS 49,242 lb	MTVR w/MAS 49,242 lb
M48 MBT 104,000 lb	M1A1 135,200 lb	M1A1 140,000
AAV 52,000 lb	AAV7A1 51,000 lb	NAV 72,500 lb



Ground Vehicles and Equipment up to 3x Heavier

Aircraft



CH 46A 13,000 lb	MV 22 46,990 lb	MV 22 46,990 lb
AV 8B 24,512 lb	AV 8B 24,512 lb	JSF 46,217 lb
CH 53A 22,900 lb	CH 53E 48,710 lb	CH 53K ~55,000 lb
1,227 tons	2,549 tons	~3,553 tons



MV-22 weighs almost 3x CH 46A

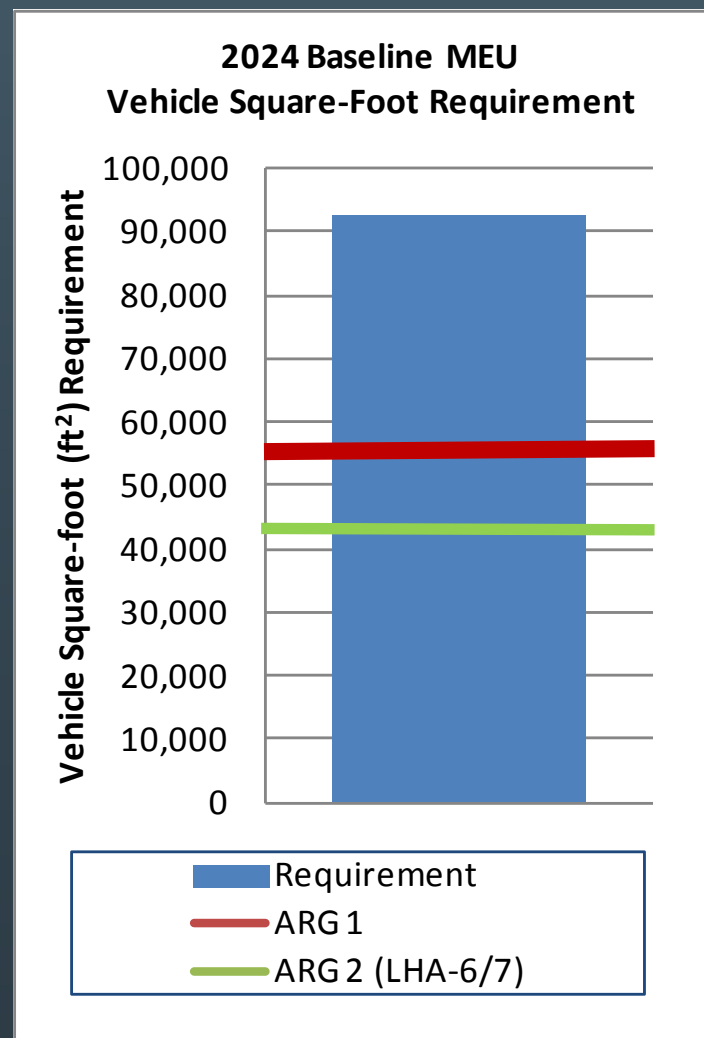
F-35B JSF weighs almost 2x AV-8B Harrier

Items are an example of DoD growth.



2024 Baseline MEU Embarkability

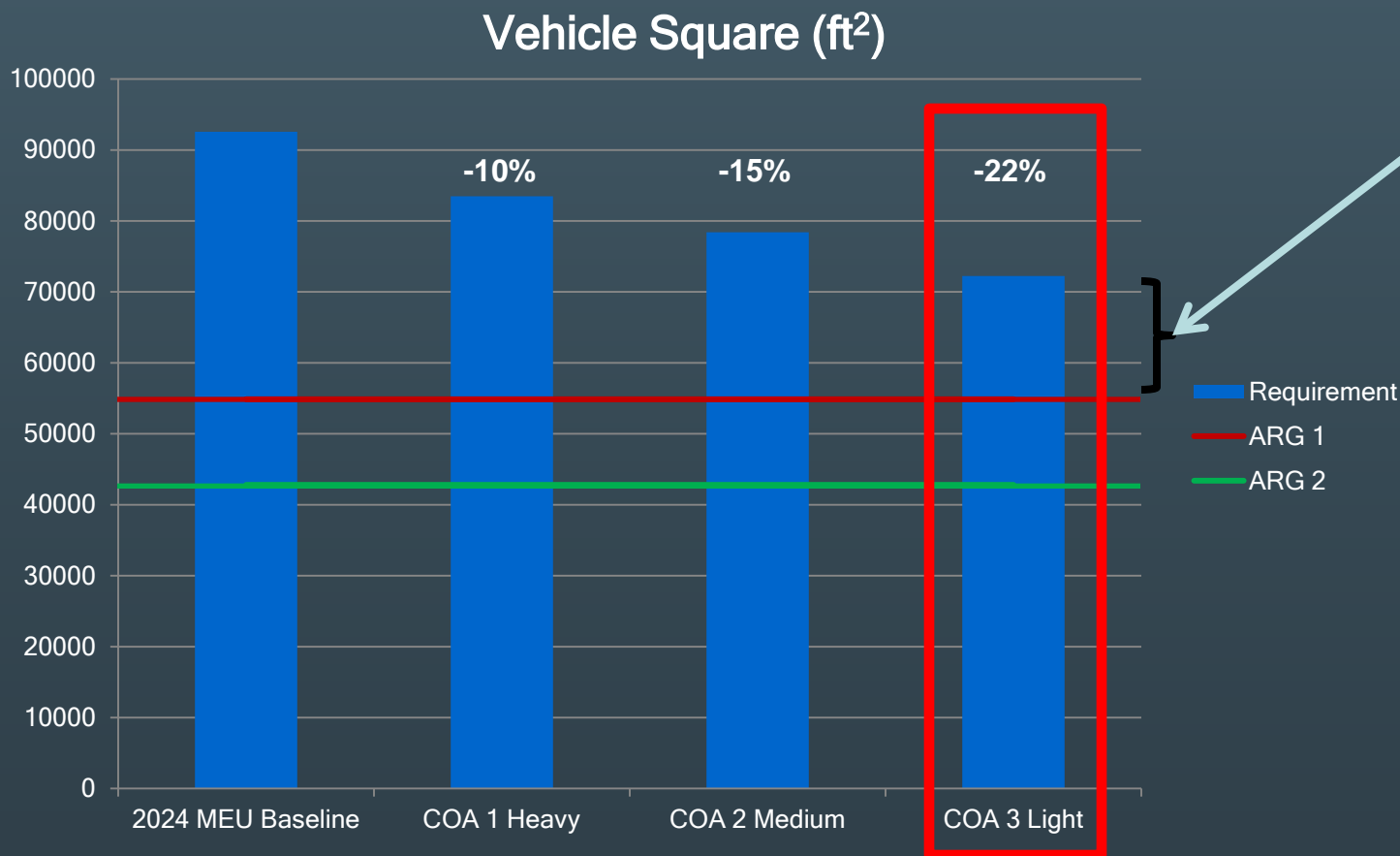
- 2024 Baseline MEB and MEU are used to inform USMC investment decisions.
- 2024 Baseline MEU significantly exceeds amphibious shipping constraints.
- PP&O concern that the Marine Corps is getting too big, heavy, and expensive to remain an expeditionary force-in-readiness if we continue down the path towards the 2024 Baseline MEU and MEB.
- As the GCE Advocate, PP&O's task is to provide recommendations to CD&I in those areas we believe we can accept risk IOT lighten the MAGTF and remain an expeditionary force-in-readiness. For example:
 - Is the "2/3 ride" policy still valid?
 - Is the armor policy still valid?
 - What equipment should be core for the MEU
 - What equipment should be core-plus (perhaps still required by the Marine Corps but retained at the MEB level, not MEU level)?





Lighten the MAGTF (LTM) Background COA Comparison

(COAs developed by CD&I-led Working Group)



- Lightest COA still leaves significant amount of cargo on pier

- LCE trucks, containerized cargo, etc., sacrificed in favor of GCE ground mobility and armor

- Translates to loss of flexibility, relevance
PRECISELY in CMC-directed "sweet spot" on ROMO

COAs reduce vehicle square requirements and improve fit for embarkation.
Still cannot meet shipping constraints.



Overview of LTM “Light” COA (COA 3)

- Relevant assumptions pertaining to COA 3:
 - Maintained armored lift policy (e.g. 2/3-ride)
 - Maintained vehicle armoring policy (e.g. ½ MATV protection)
- Takeaways regarding capabilities embarked under COA 3:
 - No tanks embarked
 - No LW155s embarked
 - No MTVRs embarked for GCE
 - Only 2 MTVRs embarked for LCE
 - Embarked **125 JLTVs** for GCE/LCE
- **Following existing armoring and armored lift policies results in significant loss of capability.**

-GCE Branch was tasked to develop an “expeditionary” COA where we changed mobility and armoring assumptions as necessary to develop a fully embarkable core capability.



Lighten The Marine (Materiel and Non-Materiel)

Cost

- ❑ Capture total ownership costs of weight

Facilities

- ❑ MCLB Albany, MCLB Barstow, Blount Island Command focusing primarily on maintenance and prepositioning.
- ❑ Infantry Immersive Trainer

Personnel

- ❑ Global Combat Support System-Marine Corps

Doctrine

- ❑ How “lighter” translates to “Maneuver Warfare”
- ❑ Modification to TTPs
- ❑ LTM in policies, regulations, and orders
- ❑ Changes to Concepts



Leadership

- ❑ Equipment Oversight Board
- ❑ Sourcing Oversight Board ISO Equipment Oversight Board
- ❑ LTM Campaign Plan

Organization

- ❑ Develop/evaluate TO&E
- ❑ Common Baseline T/O and T/E for MEB and MEU

Training

- ❑ Weight and energy discipline as important as weapons discipline
- ❑ Squad Immersive Trainer
- ❑ Combat Hunter

Material

- ❑ Total Life Cycle
- ❑ Science and Technology (S&T)
- ❑ GCSS (Global Combat Support Sys)
- ❑ Ground Renewable Expeditionary Energy Network Systems (GREENS)
- ❑ Solar Powered Alternative Communication Energy Systems (SPACES) 3rd Bn 5th Marines
- ❑ Lighter ammunition
- ❑ MERS Roadmap

Listed LOOs are Individual Marine Focused

Endstate: MAGTF Travels Lighter, Moves Faster and Becomes More Flexible