



# ***US Marine Corps Tactical Wheeled Vehicle Strategy Update***

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# *Framing the Discussion*

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At MCCDC we;

- Observe – by receiving various ‘demand signals’,
  - Investments in future, investments in current
- Orient – in order to adapt the force to win
  - View through the lense of integration
- Decide –
  - 2 year strategy cycle for TWVs in order to resource decisions
- Act –
  - Integration is key - organizational, operational, technical
  - Work has been done, more work to do...



# Marine Corps Strategy Background

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- Task from 2006 Strategic Planning Guidance:
  - P. 10: ***“(U) The Marine Corps will consider capability alternatives for review by the DAWG to support a single two MEB forcible entry operation. Additionally, the Marine Corps will propose an appropriate mix of ground combat vehicles to support irregular warfare operations.”***
- Task from 19 March 2008 OUSD (C) Memo:
  - ***“Army and Marine Corps to provide a Combat and Tactical Vehicle Strategy to USD (Comptroller) by 18 July.”***

***It is not a plan to provide an armored seat for every Marine***



# *Joint Perspective on TWV Uncertainties*

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- **Uncertainties**

- When are deployed vehicles coming back?
- How many are coming back? (FMS)
- What condition they will be in?
- Availability of Recap Funding after return
- New threats/enemies
- JLTV Costs and Performance

- **Assumptions**

- Returning vehicles will be fully Reset
- 10/20 maintenance standards
- TWV funding will remain the same or decrease slightly
- Average cost of JLTV will be \$268k – \$400k
- JLTV will meet draft CDD performance thresholds



# Vehicles under Evaluation - 2008

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**MPC**



MPC provides protected mounted maneuver capability to the infantry across the range of military operations in mechanized formations.

**MRAP**



MRAP is best suited for Route Reconnaissance and Engineer / EOD mission roles. The current off-road capability hampers this vehicle. No current configuration to perform as shelter carrier.

**HMMWV**



Even though this vehicle meets air transportability requirements, the lack of protection and payload prevents this from being used in theater today outside FOBs.

**UAH/ECV**



Although this meets air transportability and has slightly better protection than the HMMWV, this platform has sacrificed payload and operational range for protection.

**ECV 2**



Expanded Capability Vehicle (ECV2) restores the HMMWV payload lost to armor, but at the cost of reduced transportability. Improves protection to ECV standards and improves reliability as it is designed for the armor and payload combination.

**JLTV**



Joint Light Tactical Vehicle (JLTV) provides a balanced capability to support the full spectrum of world-wide operations. Given the current platforms' limitations, highest priority for this vehicle is for the Force Application mission roles.

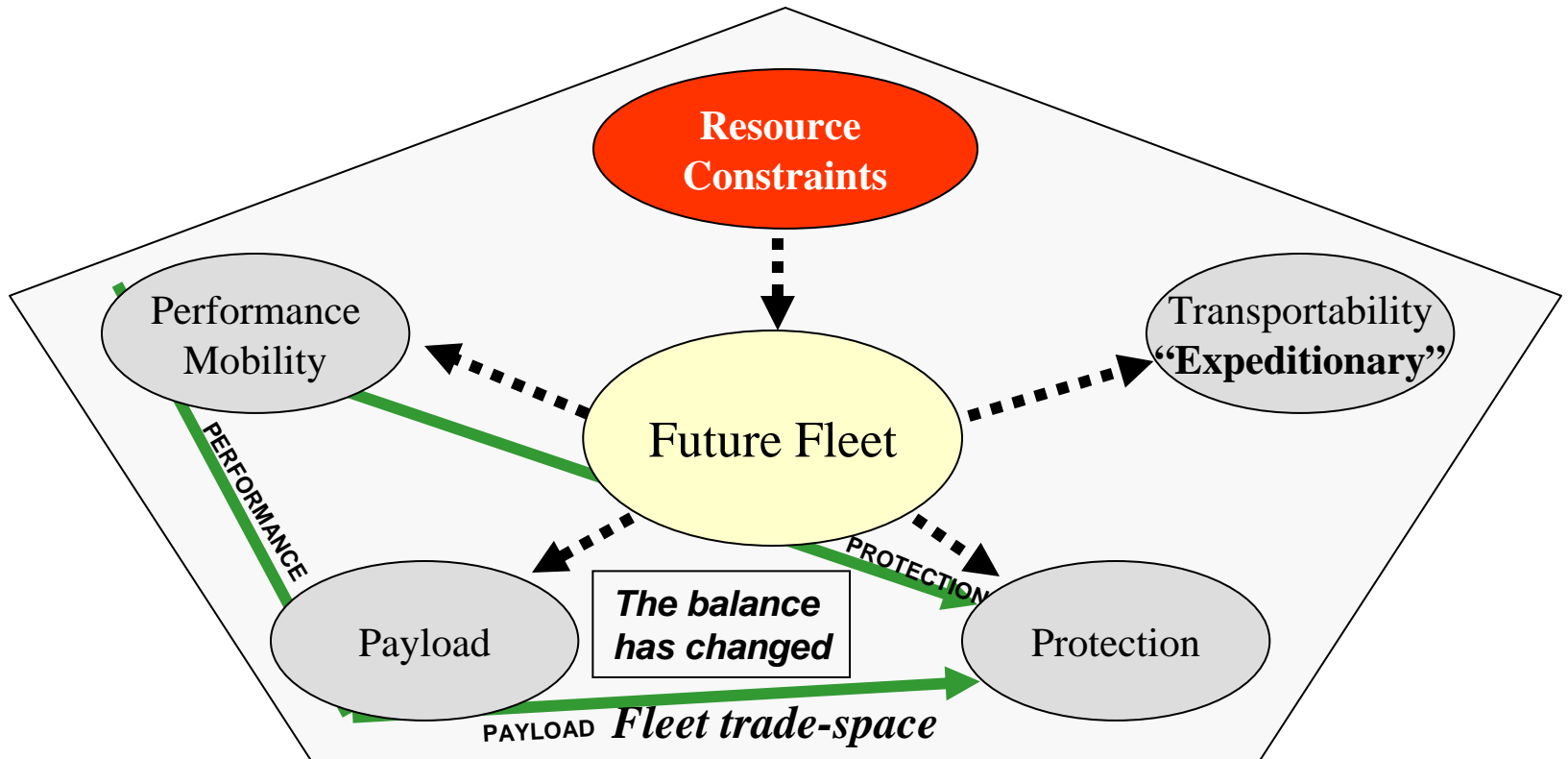
**ITV**



Internally Transportable Vehicle (ITV) lightens the load for MV-22 inserted combat forces by transporting unit ammo, sustainment and equipment, in an internally transportable design.



# Primary Considerations of the TWV Strategy



**Optimize force capabilities through a mixed, balanced fleet of vehicles to support the expeditionary force.**



# Strategy Overview

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- The Marine Corps has a flexible strategy
- In light of the changing security environment and the Marine Corps' expeditionary nature the strategy will;
  - Take maximum advantage of existing platforms
  - Emphasize a mixed fleet approach that spans the "iron triangle"
  - Integrate MRAP into the fleet mix
  - Transition to a fleet of tactical vehicles that have scalable protection (integrated A-kit and armor B kits)
- We will do this through a series of Decision Points that examine changing conditions





# ***USMC Ground Combat Tactical Vehicle Strategy***

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- The Marine Corps is designed to base and deploy three balanced MEFs.
  - One MEF is capable of a 2 MEB sea based JFEO with 1 MEB in Assault Follow On Reserve.
  - All MEFs are capable of irregular warfare and sustained operations ashore across the range of military operations.
- Tactical vehicles to support the strategy will be based on an appropriate balance of performance, protection, payload, and transportability.
- Unifying Concepts
  - Provide tactical flexibility to support dispersion and concentration of force
  - Maintain strategic agility to support expeditionary nature of USMC
  - Ensure the vehicle fleet is sustainable strategically, operationally and tactically





# Capabilities needed in the full vehicle fleet

## Capability Categories

		Heavy	Medium	Light	
<b>Combat Vehicles</b>	<b>Maneuver</b>	Capability optimized to maneuver combat units conducting forcible entry from seaward Lines of Departure to inland objectives and major combat operations.	Capability to maneuver combat units conducting forcible entry from the high water mark to inland objectives and major combat operations.	Capability optimized to provide protected mobility for combat units' crew served weapons, C4 teams, and cargo for organic logistics teams conducting forcible entry from the high water mark to inland objectives, major combat operations, SSTR and IrW.	Forcible Entry & MCO*
		Maneuver capability to support SSTR** and IrW.***	Capability to maneuver combat units conducting SSTR and IrW.	Capability to maneuver combat unit fire teams when employed in SSTR and IrW.	Irregular Warfare
<b>Tactical Vehicles</b>	<b>Logistics</b>	Capability optimized to distribute heavy cargos and services in logistics units supporting forcible entry from high water mark and in support of major combat operations.	Capability optimized to distribute medium cargos and services in logistics, combat support and combat units supporting forcible entry from high water mark and in support of major combat operations.	Capability optimized to distribute light cargos and sustainment services in logistics, combat support and combat units supporting forcible entry from high water mark and in support of major combat operations.	Forcible Entry & MCO
		Capability when armored to distribute heavy cargos in logistics units supporting SSTR and IrW.	Capability when armored to distribute medium cargos in logistics, combat support and combat units supporting SSTR and IrW.	Capability when armored to distribute light cargos and sustainment services in logistics, combat support and combat units supporting SSTR and IrW.	Irregular Warfare
<b>Expeditionary Attributes</b>	Capable of employment from strategic airlift, strategic sealift, amphibious task force vessels, assault craft, MPF, MPF Future.				
	Capable of employment from Intra-theater fixed wing aircraft.				
				Capable of employment from rotary wing aircraft.	

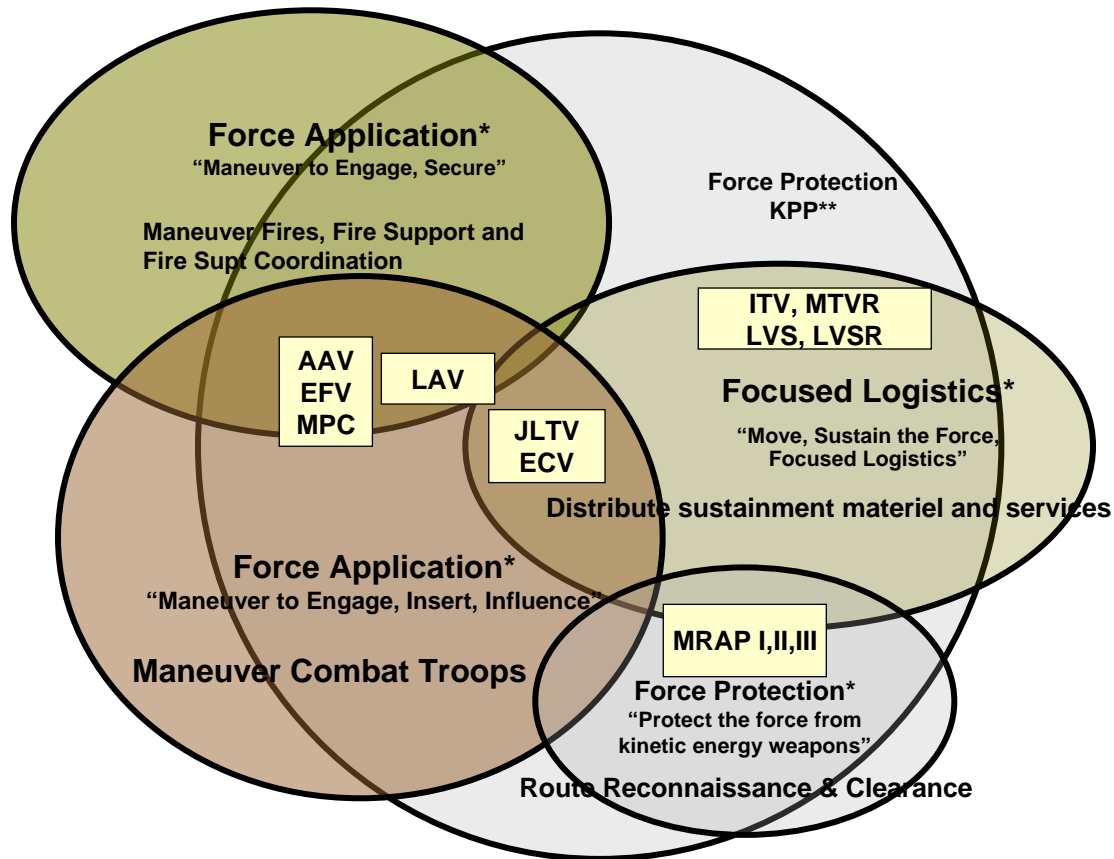
**Combat vehicle** - a vehicle, with or without armor, designed for a specific fighting function.

**Tactical Vehicle** - a vehicle having military characteristics resulting from military research and development processes, designed primarily for use by forces in the field in connection with, or in support of tactical operations.  
*Joint Pub 1-02*

\*Forcible Entry / Major Combat Operations  
 \*\*Stability, Security, Transition and Reconstruction  
 \*\*\*Irregular Warfare (IrW)



# Vehicle association with Joint Capability Areas

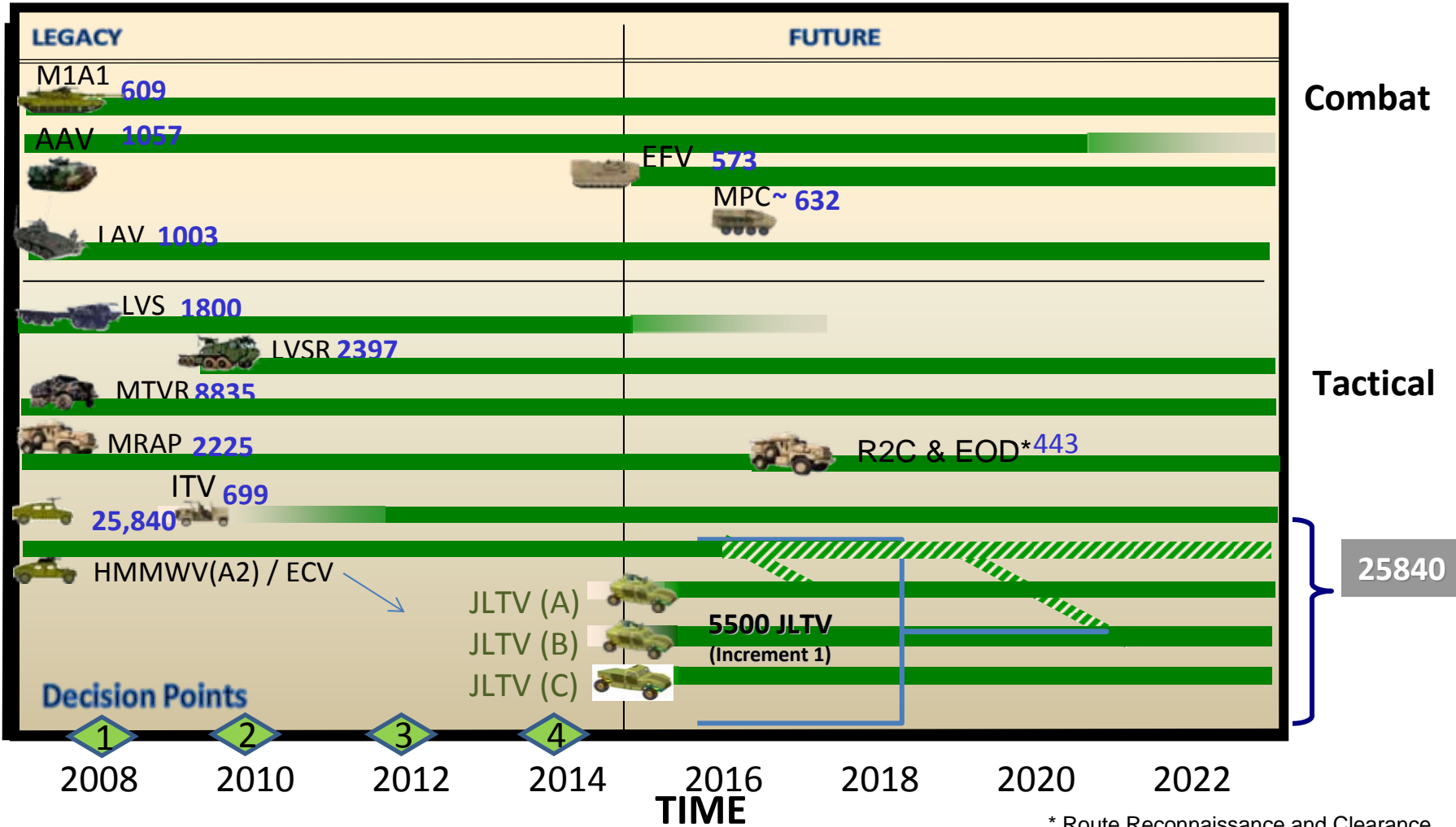


Vehicles of the strategy have multiple capabilities supporting the expeditionary MAGTF. The strategy also fields light, medium and heavy capacities to accomplish similar missions, but the full capabilities of the tactical vehicle fleet will be needed to address the full range of military operations.



# Decision Points to Mitigate Risk

Vehicle



\* Route Reconnaissance and Clearance  
Explosive Ordnance Deposal



# Key Issues at Decision Points

(as of Jan 2009)

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Decision Point 1, (POM 10);

- a. Armoring - define near term armor kits for legacy vehicles.
- b. Programs - define investment profile for; ECV/JLTV mix and near term armor kits.



Decision Point 2, (POM 12);

- a. Armoring - approve long term armoring strategy (% of vehicles armored, all categories)
- b. Strategic lift – approve baseline MEB vehicle quantities on based on strategic lift.
- c. Programs - define investment profiles; MS A for MPC, MS B for JLTV, armor kits for legacy vehicles.
- d. Recap – approve ECV recapitalization based on life cycle cost effectiveness, impact of MARCENT op tempo.
- e. Policy - Review policy recommendations on establishing a vehicle ‘Equipment Allowance Pool’ or Pre Positioning alternatives to mitigate MEB weight growth.



Decision Point 3, (POM 14).

- a. Programs - determine investment profiles; MS B for MPC, MS C for JLTV, armor kits for legacy vehicles.
- b. Recap - approve MRAP and MTRV recapitalization decisions.
- b. Policy – Implement policy changes if required to mitigate impact of vehicles on MEB weight growth (Equipment Allowance Pool, Pre Positioning, other).

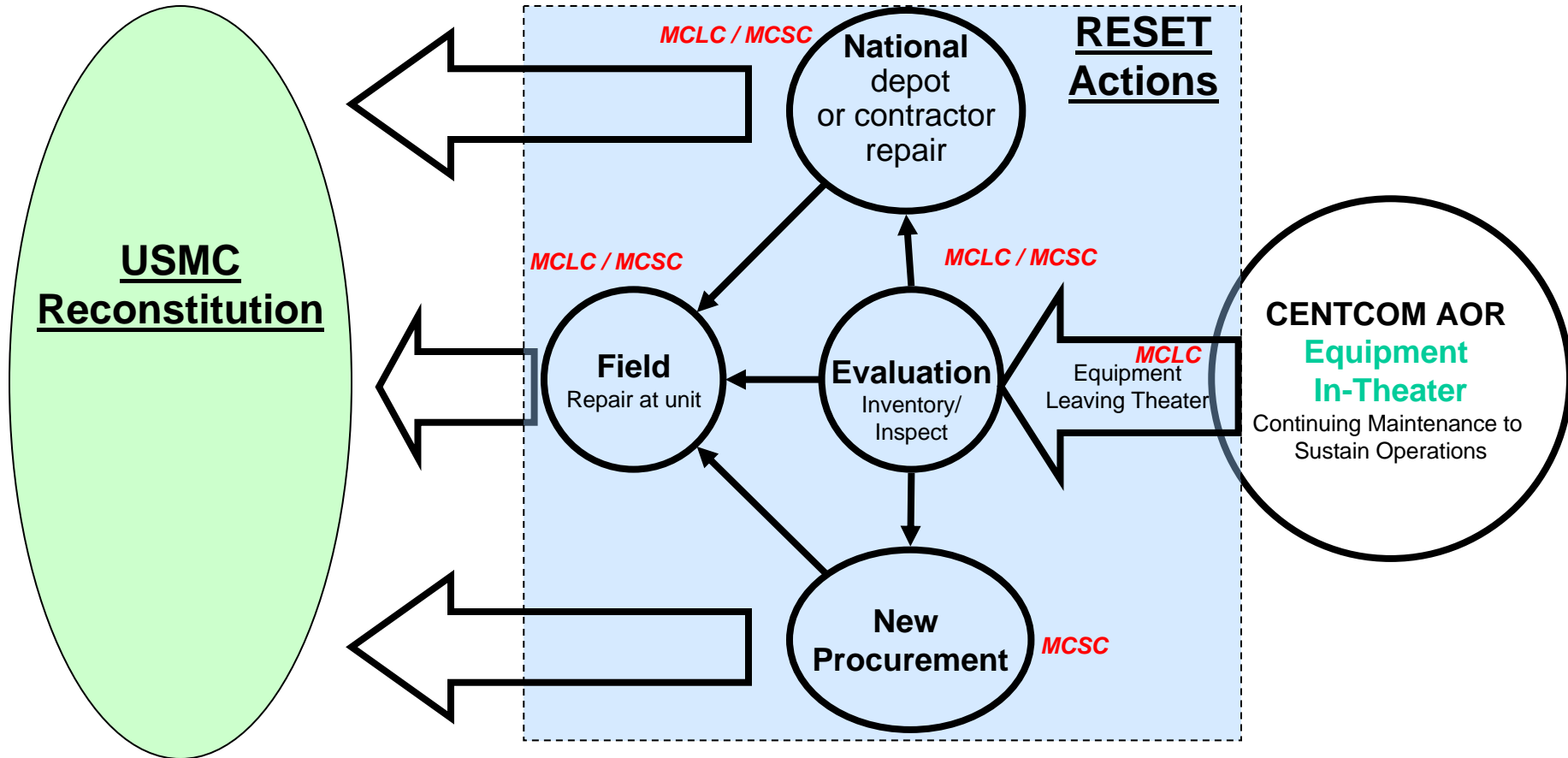


Decision Point 4, (POM 16).

- a. Programs - determine investment profiles; MS C for MPC, FRP and Increment II for JLTV.
- b. Strategic lift – align baseline MEB vehicles with ship program updates if required.
- c. Recap – align ECV recap plans with Army estimating End of Service Life for ECV.



# Reset



*MCSC and MCLC will perform the majority of reset actions*



# *Reset of Equipment*

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- Reset – focus on equipment used in combat operations
- Varied equipment types (motor transport)
  - Quantity (7,087 individual pieces of equipment)
  - Vehicles (HMMVWs, MRAPS, MTVRs, LVS)
  - Trailers (i.e. - Trailer, Ribbon Bridge)
  - Tool Kits (i.e. – Organizational Maintenance, 3d echelon)
- Varied equipment utilization rates in OIF
- Damage unknown until actual physical inspection
- Risk of latent damage
- Immediate demand for returning equipment
  - OIF-OEF transition (continuing combat operations)
  - Home station shortfalls



# Reset of Equipment

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- 86 types of equipment
  - LVS, MTRV, MRAP, HMMVW
  - Tool kits, trailers
- Equipment Reset Strategy
  - Procurement
  - Depot
  - Field Maintenance
  - No Reset (Theater Unique Equipment not needed elsewhere)
- Estimated Reset Cost - **\$1,034,831,914.00**
  - Procurement -                      ↑ \$18,830,062.00
  - Depot –                                 \$931,762,192.00
  - Field Level -                         | \$84,255,660.00
- Way Ahead
  - HQMC – Publish USMC Ground Equipment Reset and Reconstitution Plan
  - Simulate log chain performance, monitor, and adjust
  - Continue to update cost estimates
  - Continue to develop detailed plans in anticipation for reset (i.e. – depot statements of work and contracted support)



# ***USMC Armoring and Protection Strategy***

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- USMC currently has no signed Armoring strategy to match the GCTV Strategy.
  - MROC DM 65-2007 requires all vehicles to have protective features, but no definitions.
- Rising armor weight reduces transportability
  - Especially troubling from SeaBase.
- 'On record' approach to vehicle armoring expected to be costly for Naval enterprise as a whole.





# Issues

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- Tactical Mobility challenge = "Iron Triangle"
- TTPs, METT-TS evaluation also = Protection
- Armor is scalable, but only to a degree





## *Key Issues for Analysis*

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- Effects on transportability via Air Mobility Command (AMC), Maritime Prepositioning Force (MPF) and MEU/Amphibious Ready Group (ARG) shipping, and MAGTF tactical airlift.
  - Surface transportability will include connectors, Joint High Speed Vessel, Landing Craft Air Cushion, and Landing Craft Utility
- Effects on expeditionary employment of MAGTF operating from a sea base
- Effects on mobility
- Effects on mission requirements/capability/performance
  - Reductions in payload, operational availability, fuel consumption, RAM
  - Increases in support requirements, maintenance time
  - Storage of armor kits
- Effects on the service life of the vehicles and equipment requiring armor/protection enhancements



# *Unifying Concepts*

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- Armoring solution has three layers
  - 2 year decisions points in GCTV
  - Operational decision on what vehicle mix to use
  - Tactical decision to change armor based on threat
- Force Protection is not a mission unto itself
- Top down decision making required
  - Armoring strategy
  - Force Protection standards given to commanders
    - Where do we accept risk?



# Summary

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- The magnitude of the TWV fleet dictates that modernization will have to be approached incrementally, incorporating decision points along the way.
- The Marine Corps will;
  - Take maximum advantage of the current fleets and emphasize a mixed fleet approach that spans the “iron triangle”,
  - Transition to a fleet of tactical vehicles that have scalable protection (integrated A cab and armor B kits),
  - Conduct reset and recap maximizing commonality among the families of vehicles to enhance logistics supportability,
  - Develop metrics and definitions of protection to determine percentage of vehicle fleets to be armored
  - Fuse the signed GCTV Strategy with the with Armoring Strategy to fully inform the 2 year decision cycle resourcing TWV investments.



***Questions?***