2007 Tactical Wheeled Vehicles Conference (TWV)  
“Sustaining the Current Force-Improving the Future Force”

Monterey, California
4 - 6 February 2007

Agenda

Monday, 5 February 2007

Lieutenant General William E. Mortensen, USA, United States Army Materiel Command, “Tactical Wheeled Vehicle, Supporting the Warfighter”
- Future Tactical Truck System (FTTS) Advance Concept Technology Demonstration (ACTD) (Video)
- Platform Systems Demonstration (PSD) (Video)

Lieutenant General Ann E. Dunwoody, USA, Deputy Chief of Staff, Headquarters, Department of the Army, “Sustaining the Current Force & Improving the Future Force”
- Ice Fishing (Video)
- UNDI (Video)

Lieutenant General Clyde A. Vaughn, USA, Director, Army National Guard Bureau, “It takes the ARNG to be ARmy StroNG”

Major General Alan Bell, USA, Deputy Commanding General, US Army Reserve Command, “Preparing the Army Reserve for the Fight”

Major General Bruce Casella, USA, Commanding General, 63rd Regional Readiness Sustainment Command, “Equipping an Operational Army Reserve”

Lieutenant General Stephen Speakes, USA, Deputy Chief of Staff, G-8, “Balancing Modernization and Operational Needs”

Brigadier General Conant, USMD, Director, Capabilities Development Directorate, Marine Corps Combat Development Command, “USMC Ground Mobility”


Tuesday, 6 February 2007

Colonel Timothy G. Goddette, USA, Project Manager, Project Management Office, “PM Force Projection”

Colonel John “Steve” Myers, USA, Project Manager, Future Tactical Systems (Provisional); and Lieutenant Colonel Ben Garza (USMC), Project Manager, Joint Light Tactical Vehicle, “TWV Transformation Efforts”


Major General Mike Lenaers, USA, Commanding General, U.S Army Tank-Automotive and Armaments Command (TACOM), “Sustaining the Joint Force/Improving the Future Force”
- Golfer in the Woods (Video)

Brigadier General (P) James E. Chambers, Chief of Transportation, Commanding General/Commandant, U.S. Army Transportation School, “The U.S. Army Transportation Corps, TWV Transformation”
- Evolution of Army Truck (Video)

Mr. James B. Johnson, U.S. Army Developmental Test Command, “ATEC Testing in Support of the War”
The Right Product
At The Right Time
From The Right Source
At The Right Price
Sustaining the Joint Force/Improving the Future Force
4-6 FEB 2007
Welcome to the 2007 Tactical Wheeled Vehicles Conference.

Objective:
This annual seminar historically has brought the military service, industry, prime contractors, subcontractors and their suppliers together to discuss present and future wheeled vehicle requirements for all services. It has afforded an atmosphere for open discussions between the customers and the suppliers based on the needs of the military users. This is the only conference held specifically for the military's Tactical Wheeled Vehicle community.

The information presented is valuable to program managers, engineers, planners and marketers. In addition, open discussions will be invaluable to DoD planners and program managers. This year’s theme is:

“Sustaining the Current Force-Improving the Future Force”

Featured Speakers

Keynote Address
The Honorable Claude M. Bolton, Jr.
Assistant Secretary of the Army for Acquisition, Logistics and Technology (ASA(ALT))

United States Army Materiel Command (AMC)
General Benjamin S. Griffin, USA
Commanding General, AMC

Office of the Deputy Chief of Staff, Army G-4
Lieutenant General Ann E. Dunwoody, USA
Deputy Chief of Staff, G-4
Headquarters, U.S. Army

United States Army Reserve Command
Major General Alan Bell, USA
Deputy Commander,
United States Army Reserve Command

Congressional Panel
Moderator: Mr. Jay Kimmitt
Executive Vice President, Washington Operations
Oshkosh Truck Corporation

Office of the Deputy Chief of Staff, G-8,
Lieutenant General Stephen M. Speakes, USA
Deputy Chief of Staff, G-8
Headquarters, U.S. Army

United States Marine Corps - Joint Service Efforts
Brigadier General Thomas L. Conant, USMC
Director, Capabilities Development Directorate
Marine Corps Combat Development Command

United States Army National Guard
Lieutenant General Clyde A. Vaughn, USA
Director, Army National Guard, National Guard Bureau

Tactical Wheeled Vehicles (TWV) Modernization
Corporate Board of Directors
Moderator: Brigadier General John R. Bartley, USA
Program Executive Officer, Combat Support & Combat Service Support (PEO CS&CSS)

The schedule and room assignments contained herein are subject to change.

Cover graphic design by: Mark C. Barbes, PEO CS&CSS
Sunday, February 4, 2007

8:00 a.m. - 1:00 p.m.  
9th Annual NDIA TWV Golf Scramble (Sold-out)  
Black Horse Golf Course, Seaside, California  
8:30 a.m. shotgun start

2:30 p.m. - 7:00 p.m.  
Registration Check-in  
The DeAnza Ballroom Foyer  
The Portola Plaza Hotel at Monterey Bay

3:00 p.m. - 7:00 p.m.  
Welcome Reception and Super Bowl Party  
The DeAnza Ballroom I and II

Monday, February 5, 2007

7:00 a.m. - 8:00 a.m.  
Continental Breakfast  
The Monterey Conference Center

7:00 a.m. - 5:00 p.m.  
Registration Check-in Continues  
The Monterey Conference Center

8:00 a.m. - 8:10 a.m.  
Conference Overview & Welcome  
The Monterey Conference Center

8:10 a.m. - 8:15 a.m.  
NDIA Welcome  
The Monterey Conference Center

Mr. Gary Tull  
Vice President, Government Operations, AM General Corporation  
and Chairman, Tactical Wheeled Vehicle Division, NDIA

8:15 a.m. - 8:45 a.m.  
Keynote Address  
The Honorable Claude M. Bolton, Jr.  
Assistant Secretary of the Army for Acquisition, Logistics and Technology (ASA(ALT))

Session I:  
Chairman: Mr. John Stoddart, Executive Vice President and President, Defense, Oshkosh Truck Corporation,  
The Monterey Conference Center

8:45 a.m. - 9:15 a.m.  
United States Army Materiel Command (AMC)  
General Benjamin S. Griffin, USA  
Commanding General, Army Materiel Command

9:15 a.m. - 9:45 a.m.  
Office of the Deputy Chief of Staff, Army G-4  
Lieutenant General Ann E. Dunwoody, USA  
Deputy Chief of Staff, G-4  
Headquarters, U.S. Army

9:45 a.m. - 10:15 a.m.  
United States Army National Guard  
Lieutenant General Clyde A. Vaughn, USA  
Director, Army National Guard, National Guard Bureau
10:15 a.m. - 10:45 a.m.  Coffee Break  
Serra Ballroom Foyer

10:45 a.m. - 11:15 a.m.  United States Army Reserve Command  
Major General Alan Bell, USA  
Deputy Commander,  
United States Army Reserve Command

11:15 a.m. - 12:15 p.m.  Congressional Panel  
(Video Teleconference from Washington D.C.)

Moderator: Mr. Jay Kimmitt,  
Executive Vice President, Washington Operations, Oshkosh Truck Corporation

Panel Speakers:  
Mr. Dave Morrison, Staff Director,  
Defense Subcommittee, House Appropriations Committee  
Mr. Jesse Tollerson, Staff,  
House Armed Services Committee  
Ms. Sid Ashworth, Minority Staff Director,  
Defense Subcommittee, Senate Appropriations Committee  
Mr. Bruce Hock, Staff,  
Senate Armed Services Committee

12:15 p.m. - 1:00 p.m.  Lunch  
The DeAnza Ballroom I & II  
The Portola Plaza Hotel at Monterey Bay

Session II  
Chairman: Mr. Jack Reidy, President & CEO, Defense Products Marketing, Inc.

1:00 p.m. - 1:45 p.m.  Office of the Deputy Chief of Staff, G-8,  
Headquarters, Department of the Army  
Lieutenant General Stephen M. Speakes, USA  
Deputy Chief of Staff, G-8  
Headquarters, U.S. Army

1:45 p.m. - 2:45 p.m.  Joint IED Defeat Organization (JIEDDO)  
Dr. Robin Keese  
Deputy Director  
Joint IED Defeat Organization

2:45 p.m. - 3:15 p.m.  Coffee Break  
Serra Ballroom Foyer

3:15 p.m. - 4:00 p.m.  United States Marine Corps - Joint Service Efforts  
Brigadier General Thomas L. Conant, USMC  
Director, Capabilities Development Directorate  
Marine Corps Combat Development Command

4:00 p.m. - 4:30 p.m.  U.S. Army Developmental Test Command (ATEC)  
Brigadier General Frank D. Turner III, USA  
Commanding General  
U.S. Army Developmental Test Command

4:30 p.m. - 5:00 p.m.  U.S. Army Security Assistance Command (USASAC)  
BG Clinton T. Anderson  
Commanding General  
U.S. Army Security Assistance Command
Monday, February 5, 2007 (continued)

5:00 p.m. - 6:30 p.m.  Annual Conference Reception
The DeAnza Ballroom I and II
The Portola Plaza Hotel at Monterey Bay

   Evening on Own - Enjoy Monterey!

Tuesday, February 6, 2007

7:00 a.m. - 8:00 a.m.  Continental Breakfast
Serra Ballroom Foyer
The Monterey Conference Center

7:00 a.m. - 12:00 noon  Registration Check-in continues
Serra Ballroom Foyer
The Monterey Conference Center

**Session III**
Chairman: Mr. Tom Bagwell, Deputy Program Executive Officer
Combat Support & Combat Service Support (DPEO CS&CSS), U.S. Army

Serra Ballroom
The Monterey Conference Center

8:00 a.m. - 9:00 a.m.  Current Fleet Challenges
Colonel Scott Kidd, USA
Project Manager, Tactical Vehicles

Mine Protection & Route Clearance Vehicles
Colonel Timothy G. Goddette, USA
Project Manager, Force Protection

Each Project Manager will discuss perspectives and challenges of maintaining and sustaining the TWV fleet in wartime.

9:00 a.m. - 9:45 a.m.  Future Force Joint Light Tactical Vehicle
Colonel John "Steve" Myers, USA
Project Manager, Future Tactical Systems (Provisional)

Lieutenant Colonel Rubin "Ben" Garza, USMC
Product Manager, Joint Light Tactical Vehicle, Marine Corps Systems Command

PM's will present an overview of the Joint Light Tactical Vehicle (JLTV) program.

9:45 a.m. - 10:00 a.m  Coffee Break
Serra Ballroom Foyer

10:00 a.m. - 12:00 noon  Tactical Wheeled Vehicles (TWV) Modernization Corporate Board of Directors
Moderator: Brigadier General John R. Bartley, USA
Program Executive Officer, Combat Support & Combat Service Support (PEO CS&CSS)

Panel Members:

Major General Roger A. Nadeau, USA
Commanding General,
United States Army Research, Development and Engineering Command (RDECOM)

Major General William M. Lenaers, USA,
Commanding General,
United States Army Tank-automotive and Armaments Command (TACOM)

Brigadier General James Chambers, USA,
Commanding General/Commandant,
USA Transportation Center and School

12:00 noon  Wrap-up and Conclusion
Mr. Gary Tull
Vice President, Government Operations, AM General Corporation
and Chairman, Tactical Wheeled Vehicle Division, NDIA

- Adjourn until February 4, 2008 -
The National Defense Industrial Association wishes to acknowledge the following
Golf Tournament and Super Bowl Party Sponsors:

AM General

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BAE Systems

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Defense Products Marketing, Inc.

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Miltope Corporation
MTS Technologies, Inc
Nevada Automotive Test Center (Hodges Transportation, Inc.)
Oshkosh Truck Corporation
Pewag, Inc.
PPG Industries, Inc.
Premier Professional Systems, Inc.
Textron Marine and Land Systems
VSE Corporation

Thank-you for your generous support!
2007 Tactical Wheeled Vehicle Conference

Brigadier General Clinton T. Anderson
United States Army Security Assistance Command
USASAC Mission

• USASAC serves as the Army Executive Agent for Security Assistance materiel and services programs in support of US National interests

• USASAC has “Lifecycle Management” responsibility for all SA activity from Pre-LOR and Case Development through Case Execution and Case Closure

• USASAC serves as the proponent for the Army SA Information Management and Financial Policy

• USASAC provides policy and procedural direction to the Army SA community

• USASAC serves as the proponent for AMC SA Financial and Budget Execution
Security Assistance in Support of US Army Objectives

“How can we leverage FMS to help sustain critical product lines to surge production capability quickly to meet sudden warfighter requirements?”

*Institutional Army Task Force – task from VCSA

“…to facilitate Interoperability with allied and coalition partners and supported U.S. national security interests (Political, Military, Economic…)”

*Specified task – Foreign Military Sales (ST-FMS) – Army Campaign Plan Task

“…proactive Engagement….COCOM focus”

*Gen Griffin, AMC Commander

A collaborative Partnership with USASAC, the Army Acquisition Community, and the Defense Industry
Accomplishments in Support of Afghanistan

USASAC serves as single source of FMS Support to Afghanistan
- $6.5B program with unique mission of supporting U.S. War Fighters’ Train & Equip efforts
- Supporting up to projected 70,000-man Afghan military force and 60,000-man police force

Current Top Army FMS Programs:
- 11,320 Light Tactical Vehicles (LTV) on contract; 4,394 shipped since April 2005
- 1,512 Medium Tactical Vehicles (MTV) on contract; 1,083 shipped since August 2005
- 539 Heavy Tactical Vehicles (HTV) on contract; 300 shipped since May 2005
- Weapons, Vehicles and Individual Equipment to support an increase to the Afghani Security Forces capabilities

Strong Partnership with
Tank-Automotive Command (TACOM)
Current procurement options to support Iraq:
- Multinational Security Transition Command – Iraq (MNSTC-I) to date had procured most equipment through:
  - Joint Contracting Center - Iraq (JCCI) via direct commercial sales contracts
  - TACOM acquisition – non FMS channels
- To date USASAC:
  - Processed 48 FMS cases totaling $1.9B using Training & Equip Funds
  - In development of $1.3B in FMS cases to increase and modernize Iraqi Security Forces capability
- SAO cell in country continues to expand as mission expands

Current Top Army FMS Programs:
- HMMWVs – an additional 469 M1151s for the Iraqi Army
- Wheeled APCs – Requirement for 398 vehicles with expedited delivery
- Weapons and Individual Equipment to support an Iraqi Army increase
- Weapons and vehicles to support increase in police force capability
LEAN 6 Sigma Level of Effort

• Transform Cold War bureaucratic business processes into efficient, cost effective, and more responsive standardized business processes to increase customer satisfaction.

• Conducted 3 LEAN/Six Sigma (LSS) Value Stream Analysis (VSA)
  – Resulting in 23 LSS Rapid Improvement Events (RIEs) that analyzed many of our processes
  – Resulting in over 82 "Projects" and 147 "Do Its" that changed business process for the better

• To date over 190 Army Materiel Command (AMC) Foreign Military Sales (FMS) Admin Funded personnel have participated in a LEAN event or received LEAN training

Meeting New Challenges with New Thinking
The Bottom Line:

Managing **3791** cases with an undelivered value of **$16.5B**

**Total program value, $60B** – average $3.6B in annual sales. (Total sales for FY 06 -- $5.4 Billion).

- Each billion of FMS sales equals approximately 20,000 man-years of direct employment.
- FMS pays for 1148 man-years in AMC.

Army FMS is a link to 140 different Armies, 47 Air Forces, 26 Navies and 26 other country entities.
Brigadier General Clinton T. Anderson
United States Army Security Assistance Command
Back Up Charts
...leverage FMS to help sustain critical product lines

• Constant communication with Acquisition community
  – PM CCWS, PM ARH, PM Apache, PM Stryker
  – Regularly engage Program Executive Officers (PEOs)

• Frequent Participation in International Air/Trade Shows

• Daily Interaction with the Defense Industry
  – Raytheon - Sikorsky - General Dynamics (LS & OTS)
  – AM General - Boeing - ITT Industries
  – Lockheed Martin - Thales - BAE
  – Harris Radio - Armor Holdings - Bell/Textron
  – Colt - ATK - DynCorp International
  – DRS Technologies - VSE Corp
...facilitate Interoperability with allied and coalition partners

- Army Goal is to enhance the sharing of targeted technologies with our foreign partners to help offset development and fielding costs while not compromising our edge on the battlefield.

- Foreign Disclosure Officer advises and assists in all matters relating to co-production and technology disclosure
  - Reviews ITAR and MTCR issues
  - Coordination with DoD

- Country/System Examples:
  - NVDs – Australia, Azerbaijan, Colombia, Israel, Nepal
  - Helicopters – Algeria, Bahrain, Philippines, UAE, Saudi Arabia
  - Stinger – Norway
  - Tanks – Saudi Arabia, Australia
...COCOM focus

- Security Assistance LNO’s embedded in COCOM HQs and with MNSTC-I and CSTC-A to facilitate case development and execution.
- Plans Officer involvement in
  - COCOM Theater Security Cooperation Plans
  - Army Component Security Cooperation Plan
  - Army Security Cooperation Strategy
- Expedite success
  - Year end work
  - Iraq and Afghanistan equipping issues
  - NDAA section 1206 Program

Has paid BIG Dividends!
Army Coproduction

32 COPRODUCTION PROGRAMS WITH OVER $32 BILLION PROGRAM VALUE
Military Sales Policies

• THE PRESIDENT CERTIFIES ELIGIBLE COUNTRIES

• THE RELATIONSHIP WITH THE PURCHASING COUNTRY IS CRUCIAL … … THE U.S. DESIRES MORE THAN JUST A SIMPLE SELLER AND BUYER RELATIONSHIP

• EACH SALE IS MADE IN ACCORDANCE WITH THE POLICIES AND STRATEGIC INTERESTS OF THE U.S. GOVERNMENT

• THE U.S. GOVERNMENT WILL NEITHER MAKE NOR LOSE MONEY

• U.S. INDUSTRY DOES THE MARKETING -- U.S. DEFENSE DEPARTMENT PROMOTES THE ACQUISITION OF STANDARD SERVICE CONFIGURATION

• THE U.S. GOVERNMENT HAS NO PREFERENCE BETWEEN MILITARY SALES AND COMMERCIAL SALES

• MATERIEL IS EITHER SHIPPED FROM U.S. GOVERNMENT STOCKS OR FROM PRODUCTION -- THE U.S. ARMED FORCES HAVE PRIORITY

• OUR GOAL IS TO FIELD A TOTAL PACKAGE AND PROMOTE SELF-SUFFICIENCY
Program Executive Office for Combat Support & Combat Service Support

NDIA 2007 Tactical Wheeled Vehicle (TWV) Conference

JOHN R. BARTLEY
Brigadier General, USA
Program Executive Officer, Combat Support & Combat Service Support
Agenda

- Challenges
- TWV Transformation Goals
- TWV Board of Directors (BOD)
- TWV Strategy
- Long-Term Armor Strategy
- Strategy for Future Acquisitions
- Partnerships
Our Challenge

Evolving Threat Environment
Generating More Demands of Our Systems
TPE Completing 3rd Major Rotation and Getting Tired.
Accelerated Deployment of Multiple BDEs in FY07
Overarching TWV Transformation Goals

Four Main Warfighting Capabilities

Safety:
- Reduce Non-Combat Casualties
- Crew Compartment Crush Resistance
- Improved Crew Restraints
- Human Factors (Seating, Visibility, Reduction of Operator Fatigue)
- Integrated Driver Vision Aids
- Collision Avoidance & Stability Control
- Anti-Lock Brakes
- Suppression of vehicle fires
  - Predictive Failure System

Survivability:
- Armor Protection
- Force Protection/Self-Defense
- Vehicle Control Enhancement
- Reduced Aural & Visual Signatures

Reliability/Maintainability Leads to Supportability:
- Increased Reliability
- Reduced # of Tools
- Reduced Non-Operator Organic Maintenance Tasks
- Reduced Operator Maintenance Tasks
- Reduced Scheduled Maintenance Tasks and Intervals
- Decreased Mean Time To Repair (MTTR)
- Reduced Operator/Maintenance Training
- Parts Commonality

Distribution & Mission Enhancement:
- Force Sustainment
  - On-Board Power Generation
  - On-Board Water Generation
- Operational and Sustainment (O&S) cost savings
- Power Management/On-Board Power
- Deployability
  - Reduced Curb Weights
  - “Quick” Component/Kit Installation & Removal, and On-Board Storage
- Operational Range
  - Greater Distances
  - Increased Fuel Efficiency
- Distribution of Materiel, Equipment & People
- Network Centricity (C4ISR)
  - Integrated Hardware/Mass Storage Suite
  - Open Software Architecture
- Mobility
  - Improved Soft Soil Traversing Characteristics
  - Improved Vehicle Stability and Handling Characteristics
- Improved Vehicle Ride Dynamics (Vibration Reduction)

Configuration Management & Control

Equip our Joint Warriors with the World’s Best Capability, Today and Tomorrow
Mission: The TWV Board of Directors is a steering committee of key leaders that maintains oversight on the progress of transforming TWV strategy into reality and accomplishment of stated objectives.

Standing Members:
- MG Roger Nadeau, CG, RDECOM
- MG Mike Lenaers, CG, TACOM LCMC
- BG John Bartley, PEO CS&CSS
- BG James Chambers, Chief of Transportation
- MG Timothy Mchale, Director, Center for Logistics Readiness (G4)
- Mr. Al Resnick, Director, Requirements Integration Futures Center, TRADOC
- COL Johansen, Focused Logistics Division, G8

At Large Members – Included, but not Limited to:
- CG, Army Combined Arms Support Center
- CG, Army Test and Evaluation Command
- CG, Army Ordnance Center
- Commander, Combat Readiness Center
- ASA(ALT) Deputy for Acquisition Systems, HQ Army Material Command, USA
- ARMY G3, (DAMO-FMO) and G03, (DAMO-CI)
- Director of Supply, Ordnance, and Logistics Operation Division, USN
- Director, Logistics Plans, Policies, and Strategic Mobility Division, USMC
- Director of Logistics Readiness, (AFILG), USAF

Method:
- Monthly Status Updates
- Review, Deliberate, and Make Decisions Concerning Key TWV Issues
Key Activities this Past Year:

- Directed the FTTS ACTD Effort and Transition
- Shaped the Platform Performance Demonstrations
- Accelerated JLTV Forward
- Focusing S&T efforts for TWVs
  - Survivability ATO
  - Hybrid Electric ATO
- Conducted Modeling & Simulation to Address Risk in overweight Environment
TWV Strategy Changes

FTTS ACTD Now Feeds JLTV Requirements

CURRENT FORCE

FUTURE FORCE

Platform System Demonstration Complete
• Military Utility Assessment @ Ft. Lewis Mar 07
• JLTV CDD Approved 3QTR07

Targeting Nov 07 for MS B for JLTV

Update TWV Strategy Report this Year

FTTS ACTD
TWV Path Forward

2006 2007 2008 2009 2010 2020+

CURRENT FORCE  FUTURE FORCE

Current Fleet Upgrades
- Field or production line upgrades (VE, ECP, MWOs)
- RECAP (HMMWV, HEMTT, HET, PLS, Trls: M871, M872, M967, M969, M870)

Tech Insertion
- Expedited Modernization Initiative Procedure (EMIP)
- HMMWV
- FMTV
- HEMTT
- 915
- Trailers

Light/Medium + New Production
(Follow on Contracts)
LTAS is the second generation of TWV armoring strategies. It’s separate and distinct from current near-term SWA AoA efforts which fulfilled an urgent need.

**LTAS**
- Employs a modular concept – “A-Kit and B-Kit
  - Provides protection levels as mission dictates
  - Peacetime and wartime configurations
- Utilizes lessons learned from AoA

**Program continues for Medium and Heavy Fleets**

**Temporarily Suspended for Light Fleet Beyond M1151**
- GVW over maximum w/ Frag Kits
- Continue to improve and evaluate chassis enhancements
- JLTV will be designed to support the LTAS concept
  - JLTV/LTAS will continue to research lighter weight ballistic materials
Strategy for Future Acquisitions: Rapid Change & Upgrade of Large Number of Systems

- A Kit / B Kit Development
- Plug and Play Capability
- Modularity
- Flexibility

Giving the Commander in the Field the Ability to Adapt to Changes...to Mission...to Environment...to Technology!
Accomplishing More with Partnerships

- Stand on Each Other's Shoulders to Reach Higher and Achieve More Together - Focusing Resources to Achieve TWV Transformation
- Rely on Each Others Core Competencies
  - Complement vs. Duplicate
  - Leverage for Mutual Benefit
- Extend Relationships with Other Industry Partners to Deliver More Capability
  - EMIP
  - Platform Systems Development
- Utilize Government Resources
  - Easy Access to Labs & Technical Expertise
We are living in demanding times.

Breaking new ground in the rapid expansion of our truck fleets through modularity and transformation.

Need bold and innovative solutions to ever evolving threats to U.S. Forces across the globe.

We will ask for more with the primary goal of ... Equipping Our Joint Warfighters with the World’s Best Capability.
Preparing the Army Reserve for the Fight

Major General Alan Bell
Deputy Commanding General
U.S. Army Reserve Command

February 2007
Vision Statement

The Army Reserve is a community-based federal operational force of skill-rich Warrior-Citizens providing complementary capabilities for joint expeditionary and domestic operations.
Army Reserve Serving a Nation at War

165,444 Army Reserve Soldiers mobilized since 9/11
28,586 Army Reserve Soldiers mobilized today
20 Different Countries that Army Reserve Soldiers are serving in

The Human Toll
131 Army Reserve Soldier Deaths
943 Army Reserve Soldiers Wounded in Action
2 Army Reserve Soldiers Captured
Conditions Have Changed

THEN
- Discrete War
- War as Exception
- Mobilization of RC as Exception
- Whole Units
- Mass over Time
- AR-Supplementary Force
- Linear Battlefield
- Secure Rear Area
- Theaters of War

NOW
- Continuous War
- War as Norm
- Mobilization of RC as Norm
- Kludged Units
- Ready Now
- AR-Complementary Force
- Asymmetrical Battlefield
- No Secure Rear Area
- Global Operations
Commander’s Intent

It is my intent to ensure the Army Reserve continues to provide relevant, joint warfighting capabilities wherever and whenever the Nation requires.

--LTG Jack C. Stultz
Chief, Army Reserve
Army Reserve Support to ARFORGEN

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<tr>
<th>R/T - 1</th>
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<th>Ready</th>
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<td>INDIVIDUAL</td>
<td>COLLECTIVE</td>
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| • Individual Training  
  • Combat veterans reintegrate | • Army Reserve Function Exercise  
  (Squad / Crew / Team Training) | • External Evaluation  
  • Units in Army Reserve Warrior Exercise (Company Team Training) | | |

| Available for Possible Homeland Security Missions  
(size of unit/parts of unit needed to vary) | Mission in Theater Identified | Locked in for Theater Mission |
|---------------------------------------------|-----------------------------|-------------------------------|

1. RECONST / CONST  
2. TRAIN  
3. VALIDATE CERTIFY  
4. DEPLOY  

- INDIVIDUAL TRAINING  
- COLLECTIVE TRAINING  
- SET FORCE  
- READY AVAILABLE FORCE
Army Reserve in the Past
Army Reserve Equipping Sources

- New procurement
- The redistribution or cascading of equipment from the Active Component
- Recapitalization and Overhaul of old (Legacy) equipment
- Congressional adds
- National Guard and Reserve Equipment Appropriation (NGREA)
- Supplemental
Army Reserve Challenge: Age of Equipment

M35 Series 2.5-Ton Truck
- Economical Usage Life: 20 years
- Average USAR Fleet Age: 24 years

M900 Series 5-Ton Truck
- Economical Usage Life: 20 years
- Average USAR Fleet Age: 24 years

M915 Line-Haul Tractor
- Economical Usage Life: 20 years
- Average USAR Fleet Age: 35 years
<table>
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<th>EQUIPMENT ITEM</th>
<th>ITEM COST</th>
<th>TOTAL COST</th>
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<tbody>
<tr>
<td>LIGHT MED TACTICAL VEHICLE (LMTV) 2.5-T TRUCK</td>
<td>$176,428</td>
<td>$425,367,908</td>
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<tr>
<td>MEDIUM TACTICAL VEHICLE (MTV) 5-TON TRUCK</td>
<td>$183,333</td>
<td>$761,381,949</td>
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<tr>
<td>TRUCK CARGO PLS 10X10 M1075</td>
<td>$360,139</td>
<td>$106,241,005</td>
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<tr>
<td>PLS TRAILERS</td>
<td>$46,731</td>
<td>$25,094,547</td>
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<tr>
<td>HIGH MOBILITY MULTI-PURPOSE WHEELED VEHICLE</td>
<td>$61,665</td>
<td>$303,700,125</td>
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<tr>
<td>HIGH MOBILITY MULTI-PURPOSE WHEELED VEHICLE (HMMWV) UP-ARMORED M1114</td>
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Total Unfunded Vehicle Requirements: $1.826 Billion
Army Reserve Solution: Force Protection to the Soldier
Progress in Army Reserve Logistics

- Implementing logistics program that directly supports the Army Force Generation (ARFORGEN) model.
- Reduced the backlog of equipment, redeployed from Iraq and Afghanistan, for inspection, repair, and/or overhaul from 14,000 to less than 1,500 items.
- Achieved a maintenance readiness level of 91 percent for reportable equipment on hand as fully mission-capable.
- Provided Rapid Fielding Initiative equipment to 62,000 Army Reserve Soldiers.
- Integrated 7,014 pieces of equipment transferred from the Active Component to the Army Reserve.
- Inducted 5,337 major end items and 30,725 items for calibration into Depot maintenance.
- Identified $742 million of Army Reserve stay-behind equipment retained in Iraq for replacement (such as HMMWVs, Trucks, Material Handling Equipment and communication equipment).
- Retired 6,800 M16A1 rifles from Army Reserve units in preparation for M16A2, M16A4, and M4 rifle replacement fielding.
### Equipping an Operational Reserve

- The modernization of light-medium trucks (75 percent are not Modular Force compatible or deployable and are not integral to training and operational efficiency).

- The modernization of medium line-haul tractors (50 percent do not support single-fleet policy and are not integral to training and operational efficiency).

- Modular Force equipment needed to support designated individual and collective training locations, including unit level collective training in a field environment.
Equipping an Operational Army Reserve

- **Sustainment Issues:**
  - Fully fund FY2013 force structure, including replacement of battle and attritional losses due to Operation Iraqi Freedom/Operation Enduring Freedom and the increased training tempo.
  - Fully fund Army Reserve participation in the development and fielding of GCSS – A/T and SALE.
  - Assure depot maintenance funding at 90 percent or better.
  - Recapitalize tactical truck inventory.
  - Retain Army Reserve tactical maintenance contract labor to reduce mobilization and training equipment backlogs.
Army Reserve Solution: Equipment Shortfalls

- Implementing Equipment Campaign Plan to work NGREA
- Cross-leveling massive quantities of equipment
- Continuing to execute $92.0M for Depot Rebuild
- Implementing new Army Reserve Equipping Strategy
- Outsourcing Maintenance
The Centerpiece of the Army Reserve

The American Soldier!
BACK-UP SLIDES
### Army Reserve Challenge: Age of Equipment

#### Average age of equipment exceeds Economical Usage Life

<table>
<thead>
<tr>
<th>CURRENT ON-HAND ITEM</th>
<th>*EUL</th>
<th>AVG AGE</th>
<th>MOD</th>
<th>ITEM</th>
<th>STATUS</th>
</tr>
</thead>
<tbody>
<tr>
<td>2.5-Ton Truck (M35 Series)</td>
<td>20</td>
<td>35</td>
<td>LMTV</td>
<td></td>
<td>RED</td>
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<tr>
<td>5-Ton Truck (M900 Series)</td>
<td>20</td>
<td>24</td>
<td>MTV</td>
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<td>YELLOW</td>
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<tr>
<td>HMMWV (All Models)</td>
<td>15</td>
<td>15</td>
<td>HMMWV</td>
<td></td>
<td>YELLOW</td>
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<tr>
<td>M915 Line Haul Tractor</td>
<td>20</td>
<td>24</td>
<td>M915A3</td>
<td></td>
<td>YELLOW</td>
</tr>
<tr>
<td>5 Ton &amp; 20 Ton Dump Trucks</td>
<td>15/22</td>
<td>24</td>
<td>M917A1</td>
<td></td>
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<tr>
<td>M878 5-Ton Yard Tractor Truck</td>
<td>10</td>
<td>5</td>
<td>M878A2</td>
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<tr>
<td>M871 22.5-Ton Semi-Trailer</td>
<td>30</td>
<td>20</td>
<td>M871A3</td>
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<tr>
<td>50K Rough Terrain Cargo Handler</td>
<td>10</td>
<td>10</td>
<td>53K RTCH</td>
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<tr>
<td>10K Variable Reach Forklift</td>
<td>15</td>
<td>15</td>
<td>ATLAS</td>
<td></td>
<td>YELLOW</td>
</tr>
</tbody>
</table>

- **Yellow** = Fleet Average Age > than ½ EUL and < EUL
- **Orange** = Fleet Average exceeds EUL + 10 years
- **Red**   = Fleet Average Age exceeds EUL + 10- 20yrs
## Army Reserve Challenge: Unfunded Modernization Requirements

<table>
<thead>
<tr>
<th>EQUIPMENT ITEM</th>
<th>TOTAL REQ</th>
<th>ON HAND</th>
<th>ALL SOURCES</th>
<th>SHORT</th>
<th>ITEM COST</th>
<th>TOTAL Short COST FY2006</th>
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</thead>
<tbody>
<tr>
<td>LIGHT MEDIUM TACTICAL VEHICLE (LMTV) 2.5-TON TRUCK</td>
<td>3665</td>
<td>1254</td>
<td>3104</td>
<td>-2411</td>
<td>$176,428</td>
<td>$425,367,908</td>
</tr>
<tr>
<td>MEDIUM TACTICAL VEHICLE (MTV) 5-TON TRUCK</td>
<td>4527</td>
<td>374</td>
<td>4527</td>
<td>-4153</td>
<td>$183,333</td>
<td>$761,381,949</td>
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<tr>
<td>TRUCK CARGO PLS 10X10 M1075</td>
<td>922</td>
<td>627</td>
<td>627</td>
<td>-295</td>
<td>$360,139</td>
<td>$106,241,005</td>
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<tr>
<td>PLS TRAILERS</td>
<td>1232</td>
<td>695</td>
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<td>-537</td>
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<td>HIGH MOBILITY MULTI-PURPOSE WHEELED VEHICLE (HMMWV)</td>
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<td>12,220</td>
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<td>-4925</td>
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<td>$303,700,125</td>
</tr>
<tr>
<td>HIGH MOBILITY MULTI-PURPOSE WHEELED VEHICLE (HMMWV) UP-ARMORED M1114</td>
<td>914</td>
<td>7</td>
<td>7</td>
<td>907</td>
<td>$146,844</td>
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</tr>
<tr>
<td>TRUCK TRACTOR LINE HAUL (M915A3)</td>
<td>2247</td>
<td>1813</td>
<td>1813</td>
<td>-434</td>
<td>$162,968</td>
<td>$70,728,112</td>
</tr>
</tbody>
</table>

*ALL SOURCES = P1-R, NGREA, CONG ADDS*
Modernization Challenges

Army Reserve
requires $1.6B/yr
over the POM

Army Reserve
 PROCUREMENT

As of

P-1R  NGREA  Cong Adds  Supplemental  Total
Current Equipment Status

Assessment based on service life, usage, and EOH as of 31 Dec 06.

- Light Truck Fleet: RED
- Light/Medium Truck Fleet: RED
- Medium Truck Fleet: RED
- Heavy Truck Fleet: AMBER
- MHE: RED
Current reconstitution efforts are directed to the following levels:
- Organizational, DS and GS maintenance personnel perform joint Technical Inspections
- Equipment is repaired at DS/GS levels to Fully Mission Capable and Safety Items
- Organizational maintenance completes repairs to -10/-20 standard
- Only those items recognized as unserviceable through the TI
- The frame of vehicles are only inspected visually.

The result is that our equipment will have unidentified frame and systems fatigue and will suffer “delayed desert damage” from foreign substances left in assemblies and components not disassembled for inspection or repair.

We can expect to see severe or even catastrophic maintenance failure of our redeployed equipment. This will occur even in CONUS at peacetime OPTEMPO, beginning no later than FY 2008. Sustainment costs for this equipment will rapidly exceed funding.
There are three means by which to correct this problem:
- Depot maintenance conducted as soon as possible after arrival in CONUS.
- Recapitalization of the equipment as soon as possible after redeployment.
- Procurement of replacement equipment between FY 06-11.

The solutions, however, are not funded.
- Depot maintenance faces an $372.2M shortfall from validated requirement to funded levels over FY08-13 POM years.
- Recapitalization currently only addresses 3200 M998 HMMWVs, 162 PLS trucks and 66 HETs. This only 33% of our projected numbers for M998A0/1 HMMWVs and 14% of HETs on-hand in FY 2011.
- Procurement planned previous to OIF was based on known shortages.
- Shortages must be reduced and equipment, which is non-deployable or is barely compatible, replaced, to achieve the Modular, “Plug and Play” Army envisioned by the CSA.
- Immediate funding of $1.6B to meet Modularity through ARFORGEN is required, with $300M a year over the POM to sustain the momentum and maintain the force.
Summary

• Lack of adequate funding stream to purchase or upgrade TWV fleet

• Reduced or decremented system quantities and delayed fieldings impacts the ability to meet Transformation goals

• Aging equipment is expensive and labor-intensive to maintain and sustainment funding must be increased

• Substitute or in-lieu-of items perpetuate incompatibility and interoperability issues. These incompatibility issues create impediments to supporting the digitized force and OIF requirements

• Limited benefit from Army Recap program for the Army Reserve

BOTTOM LINE:
• Shortage of new equipment procurement (P-1R) makes funding provided through NGREA, Congressional Add and support of Depot Maintenance Programs vital to the readiness of the Army Reserve TWV fleet
Light Truck Fleet

- 17,145 REQ, 12,220 O/H, 29% Short
- 1,452 identified as AOA = SBE CAT 5
- Shortage includes 907 M1114 UAH
- 73% of M998 fleet early production A0
- Deployed 71% of fleet to OIF1, 2 & 3
- 875 CUCV O/H ILO in TDA
- 3,905 M998A0 to M1097A0 RECAP funded for FY06-11
Equipment Assessment

- Light/Medium Truck Fleet
  - 3,665 REQ, 3,104 O/H, 15% Short
  - 1,254 LMTV REQ, SUB by 1,850 M35 series trucks
  - 443 LMTV Planned Procurement
  - Current procurement leaves over 1,000 M35 trucks O/H in FY 2011
Equipment Assessment

- Medium Truck Fleet AMBER
  - 4,527 5 Ton Tactical Truck REQ, 4,527 O/H, 0% Short
  - 374 MTV, Subs 4,119 M900 series, 34 M800 series
  - Majority of tractors still require ABS MWO
  - Limited numbers of MTVs being released for deploying units
  - 286 MTV Planned Procurement
Equipment Assessment

- Medium Truck Fleet (M915 Series) AMBER
  - 2,247 5 Ton Line Haul Tractor REQ, 1,813 O/H, 19% Short
  - 468 A0 and 631 M915A1 O/H
  - 181 A0 being converted to M915A4, 293 programmed
Equipment Assessment

- Medium Truck Fleet RED
  - 922 PLS Truck REQ, 627 O/H, 22% Short
  - 1,22 PLS trailers REQ, 695 O/H, 54% Short
  - 292 identified as AOA = SBE CAT 5
  - 76 PLS Planned Procurement
  - 667 HEMTT REQ, 635 O/H, 5% Short
Equipment Assessment

- **Medium Truck Fleet**
  - 601 M870 trailers REQ, 515 O/H, 14% Short
  - 723 M871 trailers REQ, 1,130 O/H, 0% Short
  - 1,140 M872 trailers REQ, 1,849 O/H, 0% Short
  - 1,260 M967 tankers REQ, 1,069 O/H, 15% Short
  - 377 M969 tankers REQ, 468 O/H, 0% Short
  - 480 7.5K tankers REQ, 275 O/H, 43% Short
Equipment Assessment

- Heavy Truck Fleet **AMBER**
  - 343 HET tractors REQ, 338 O/H, 7% Short
  - 343 HET trailers REQ, 336 O/H, 2% Short
  - 743 M916 tractors REQ, 625 O/H, 16% Short
  - 49 M920 tractors REQ, 61 O/H, 0% Short
Equipment Assessment

- Materiel Handling Equipment RED
  - 566 4K RTFL REQ, 479 O/H, 15% Short
  - 235 6K RTFL REQ, 223 O/H, 5% Short
  - 810 ATLAS & 10K RTFL REQ, 483 ATLAS & 307 10K O/H, 2% Short
  - 222 53K & 50K RTCH REQ, 87 53K & 69 50K RTCH O/H, 30% Short
Depot Maintenance Program (FY06)

- FY2006 Execution: $92.062M
- 180 M931/2 tractors
- 117 M105 trailers
- 45 M101 trailers
- 14 10K RTFL
- 35 4K RTFL
- 25 HEMTT
- 153 HMMWV
- 146 M923/25 trucks
- 41 5000K M967 tankers
- 40 5000K M969 tankers
- 40 M870 semi-trailers
- 60 M872 semi-trailers
- 140 M871 semi-trailers
- 2300 NVG
DEPOT MAINTENANCE CONTRACTOR SUPPORT

FY 06

- LEAR SIGLER $12.2M
  - Trailers, HMMWV, Bridge Boats
- VSE Corp $15.0M
  - Trailers, Fuel/Water Pumps, Decons
- HoneyWell $1.5M
  - 5 Ton Trucks
- Detyens Shipyards $1.8M
  - Watercraft LCU 2000
- Metal Trades $1.7M
  - Watercraft LCU 2000
- Marine Industries NW $2.1M
  - Watercraft LCU 2000
Equipping an Operational Army Reserve

National Defense Industrial Association
Tactical Wheeled Vehicle Conference.

Major General Bruce Casella
Commanding General
63d Regional Readiness Sustainment Command

5 February 2007
Vision Statement

The Army Reserve is a community-based federal operational force of skill-rich Warrior-Citizens providing complementary capabilities for joint expeditionary and domestic operations.
Army Reserve Serving a Nation at War

165,444 Army Reserve Soldiers mobilized since 9/11
28,586 Army Reserve Soldiers mobilized today
20 Different Countries that Army Reserve Soldiers are serving in

The Human Toll
131 Army Reserve Soldier Deaths
941 Army Reserve Soldiers Wounded in Action
2 Army Reserve Soldiers Captured
Conditions Have Changed

THEN
- Discrete War
- War as Exception
- Mobilization of RC as Exception
- Whole Units
- Mass over Time
- AR-Supplementary Force
- Linear Battlefield
- Secure Rear Area
- Theaters of War

NOW
- Continuous War
- War as Norm
- Mobilization of RC as Norm
- Kludged Units
- Ready Now
- AR-Complementary Force
- Asymmetrical Battlefield
- No Secure Rear Area
- Global Operations

5 Feb 2007 NDIA
Commander’s Intent

It is my intent to ensure the Army Reserve continues to provide relevant, joint warfighting capabilities wherever and whenever the Nation requires.

--LTG Jack C. Stultz
Chief, Army Reserve
Army Reserve Support to ARFORGEN

R/T - 1
INDIVIDUAL
- Individual Training
- Combat veterans reintegrate

R/T - 2
INDIVIDUAL
- Army Reserve Function Exercise (Squad / Crew / Team Training)

R/T - 3
COLLECTIVE
- External Evaluation
- Units in Army Reserve Warrior Exercise (Company Team Training)

Available
- Mobilize
- Mob Station Validation
- Deploy
- Operational Mission

Ready
- External Evaluation and Validation at Combat Training Center (or equivalent)
- Battalion/Company External Evaluation

Mission in Theater Identified
- Locked in for Theater Mission

Locked in for Possible Homeland Security Missions
(size of unit/parts of unit needed to vary)

RECONST / CONST

TRAIN

VALIDATE CERTIFY

DEPLOY

INDIVIDUAL TRAINING
COLLECTIVE TRAINING
SET FORCE
READY AVAILABLE FORCE

3/6/07 NDIA
Army Reserve Equipping Sources

- New procurement
- The redistribution or cascading of equipment from the Active Component
- Recapitalization and Overhaul of old (Legacy) equipment
- Congressional adds
- National Guard and Reserve Equipment Appropriation (NGREA)
- Supplemental
Army Reserve Challenge: Age of Equipment

M35 Series 2.5-Ton Truck
Economical Usage Life: 20 years
Average USAR Fleet Age: 35 years

M900 Series 5-Ton Truck
Economical Usage Life: 20 years
Average USAR Fleet Age: 24 years

M915 Line-Haul Tractor
Economical Usage Life: 20 years
Average USAR Fleet Age: 24 years
# Army Reserve Challenge: Unfunded Modernization Requirements

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- Continuing to execute $92.0M for Depot Rebuild
- Implementing new Army Reserve Equipping Strategy
- Outsourcing Maintenance
The Centerpiece of the Army Reserve

The American Soldier!

5 Feb 2007 NDIA
Questions?
The US Army Transportation Corps

TWV Transformation

NDIA

Tactical Wheeled Vehicle Conference

BG(P) James E. Chambers

Chief of Transportation
Commanding General, US Army Transportation Center
Commandant, US Army Transportation School
<table>
<thead>
<tr>
<th></th>
<th>PAST</th>
<th>PRESENT</th>
<th>FUTURE</th>
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<tr>
<td>Doctrine</td>
<td>Force XXI</td>
<td>Modular Force</td>
<td>Future Force</td>
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<tr>
<td>Organization</td>
<td>Separate Movement Control &amp; Materiel Management Centers</td>
<td>Theater Distribution Management Center</td>
<td>Global Distribution</td>
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<tr>
<td>Training</td>
<td>Branch Schools</td>
<td>Distribution Training Facility</td>
<td>Logistics University</td>
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<tr>
<td>Materiel</td>
<td>M915/HET, M1/M2/3</td>
<td>FMTV/PLS/LHS/HET, Stryker/M1/M2/3</td>
<td>Robotics/JLTV/MTV, FCS/Stryker</td>
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<td>Leader Development</td>
<td>Branch</td>
<td>Branch &amp; Multi-functional</td>
<td>Certified Logistician</td>
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<td>Personnel</td>
<td>Branch Specific</td>
<td>Increased Multi-functional</td>
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<td>Facilities</td>
<td>Iron Mountain</td>
<td>Theater Distribution Hub</td>
<td>Inventory In-motion</td>
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MODULAR FORCE
TRANSPORTATION
STATIONING

Europe

Kuwait

South Korea
HMMWV Egress Assistance Trainer
Advances in Tactical Wheeled Vehicle Training

Motion-based Driver Trainer
Advances in Tactical Wheeled Vehicle Training

HMMWV Egress Assistance Trainer

Virtual Combat Convoy Trainer
Advances in Tactical Wheeled Vehicle Training

HMMWV Egress Assistance Trainer
Motion-based Driver Trainer
Virtual Combat Convoy Trainer

The Warrior Skills Trainer/EST 2000
Advances in Tactical Wheeled Vehicle Training

HMMWV Egress Assistance Trainer

Motion-based Driver Trainer

The Warrior Skills Trainer

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Advances in Tactical Wheeled Vehicle Training

Drivers Training Facility
Advances in Tactical Wheeled Vehicle Training

Drivers Training Facility
Advances in Tactical Wheeled Vehicle Training

HMMWV Egress Assistance Trainer

Motion-based Driver Trainer

The Warrior Skills Trainer

Convoy Live Fire Training

Convoy Live Fire Training

Drivers Training Facility

Drivers Training Facility
Advances in Tactical Wheeled Vehicle Training

HMMWV Egress

The Warrior Skill

Laser Convoy Counter Ambush Training

Drivers Training Facility

Convoy Live Fire Training
Advances in Tactical Wheeled Vehicle Training

- HMMWV Egress Assistance Trainer
- Motion-based Driver Trainer
- The Warrior Skills Trainer/EST 2000
- Virtual Combat Convoy Trainer
- Convoy Live Fire Training
- Drivers Training Facility
- Laser Convoy Counter Ambush Training

Driver Vision Enhancer (Night Vision Enhancer)
Advances in Tactical Wheeled Vehicle Training

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- Motion-based Driver Trainer
- Virtual Combat Convoy Trainer
- The Warrior Skills Trainer/EST 2000
- Driver Vision Enhancer (Night Vision Enhancer)
- Drivers Training Facility
- Convoy Live Fire Training
- Laser Convoy Counter Ambush Training
QUESTIONS?
USMC Ground Mobility

Information Brief to The 2007 Tactical Wheeled Vehicles Conference
5 February 2007

Brigadier General Conant
Director, Capabilities Development Directorate
Marine Corps Combat Development Command
Quantico, Virginia
Purpose

• Information brief on:
  – Overview of Strategic Planning Guidance (SPG) and USMC response.
  – Expeditionary Fighting Vehicle (EFV)/Joint Forcible Entry Operations (JFEO) requirements and risk.
  – Near term strategy for Mine Resistant Ambush Protected (MRAP) Vehicles.
  – Long term requirements development for USMC Ground Mobility.
    • Joint Light Tactical Vehicle (JLTV)
    • Marine Personnel Carrier (MPC)
Task from 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. (Suspense: May 1, 2006.)”

Overarching Defense Strategy:
“Shift from conventional to irregular capability.”
Strategic Transformation & Implementation

• Where we were: A general purpose force organized, trained and equipped principally for traditional threats.
  – Approached irregular challenges as a subset of MCO.
  – Recent experience has highlighted the need for resources focused on irregular warfare.
  – QDR and SPG have directed a shift to irregular.

• Where we are going: A general purpose force organized, trained and equipped for irregular and traditional threats.
  – Risk: Accepting risk in strategic agility, while enhancing tactical capability.
  – Divestment: Divesting resources from EFV program.
  – Reinvestment: Reinvesting in mobility for irregular operations.
SPG Adjusted Ground Tactical Mobility

**Traditional**

Marine Corps Program of Record

- Supports OMFTS & Forcible Entry
- 1013 EFVs
- 11 1/3 Inf Bns Lift

**Irregular**

SPG Adjusted

2 x MEB Forcible Entry + Appropriate Mix to Support IW

**2 x MEB FE**

- Supports JFEO/MCO
- 573 EFVs by 2020
- 8 1/3 Inf Bns Lift

**MCO**

- Supports MCO/IW
- 600 MPCs by 2018
- 3 Inf Bns Lift or
- 6 Inf Bns Lift (MPC + JLTV)

**GWOT**

- Supports IW
- CTV/JLTV Family
  - 825 by 2015
  - 1375 by 2020
- Augments 16 Inf Bns . . . and
- 3 Inf Bns Lift (JLTV) . . . or
- 6 Inf Bns Lift (MPC + JLTV)

Current

- 3 x Amphib MEB
- 3 x MPF MEB

Accepting Risk

- 2 x Amphib MEB
- 1 x MPF MEB

Tactical Flexibility

- MPC Co’s CTV/JLTV

Optimized for IW

- JLTV Augmentation
- MPC Surge Capacity

2006 POR

- 11 1/3 Bns Lift

2015 Goal

- 14 1/3 Bns Lift

2020 Goal

- 21 Bns Lift
Balancing Ground Tactical Mobility

- Shift to Irregular
- Enable Distributed Operations
- Increase Ground Tactical Mobility for GCE

- Increase Joint/Coalition Interoperability
- Enhance Force Protection

**Ground Mobility Initiative -- Transforming the Force**

**Combat Vehicle Balance**
- FEO
- IW/MCO

**Expeditionary Fighting Vehicle**
- 1013 Vehicles
  - Over the Horizon Capable
  - Enhanced
  - C2 (OTM)
  - Fires
  - NBC

**Ground Mobility Enhancements**
- 7322 Vehicles
  - 573 EFVs
  - 600 MPCs
  - 5500 JLTVs (Increment 1)
  - 649 ITVs

**Focus on OMFTS**

**Focus on Irregular Warfare**

MRAP Vehicles Survivability Bridge to JLTV / MIC -- Current Theater Requirements
Internally Transportable Vehicle (ITV)

Program Description

• The ITV will provide a deployed MAGTF with a ground vehicle that is internally transportable in the MV-22 tilt-rotor aircraft, CH-53, and MH-47 aircraft.

• The vehicle will serve primarily as a high mobility weapons-capable platform to support a variety of operations and provide enhanced mobility for Irregular Warfare.

Program Status

• Acquisition Objective = 649

• IOC: 2007
• FOC: 2011

• Supports DO Concept of Operations.

• Unit Cost $120,000 as produced by GDLS.
Joint Light Tactical Vehicle (JLTV)

Program Status

• Acquisition Objective = 5,500 (Increment 1)
  • IOC: 2012
  • FOC: 2018 (Estimated)

Program Description

• HMMWV replacement vehicle (over time).

• Developing Gov owned Technical Data Package for the Combat Tactical Vehicle requirements set.

• JLTV Family of Vehicles with multiple Mission Role Variants (MRV) and trailers (Combat, Combat Support, Combat Service Support).

• Supports USMC Ground Mobility Initiative and USMC response to Strategic Planning Guidance shift to Irregular Warfare.

• Increased survivability, mobility, and sustainablity in a networked environment.

• JLTV MOA with U.S. Army transitioning to Joint Program Office.
Marine Personnel Carrier (MPC)

Program Description

• The MPC is envisioned to provide General Support lift to USMC Infantry and Light Armor Battalions.

• Supports USMC Ground Mobility Initiative and USMC response to Strategic Planning Guidance shift to Irregular Warfare.

• Requirement will be fully defined through FY07 analytical effort via AoA and CDD.

• Will consider Gen II LAV(P), Stryker / Gen III and other COTS solutions.

• Striving for an expeditionary platform that balances the protection, payload, and performance attributes.

Program Status

• Acquisition Objective = 600

• IOC: 2012 (Estimated)

• FOC: 2016 (Estimated)
Mine Resistant Ambush Protected (MRAP) Vehicles

Program Description
• Current Theater requirement.
• V-shaped hull, higher ground clearance and a robust armor package yield a significant increase in force protection over the current tactical wheeled vehicle fleet.
• 3 Categories in the Family of MRAP vehicles:
  • CAT I: Mine Resistant Utility Vehicle (MRUV), urban operations, 6 PAX
  • CAT II: Joint EOD Rapid Response Vehicle (JERRV)/Cougar, multi mission (convoy escort, transport, ambulatory, EOD, Combat Engineer), 10 PAX
  • CAT III: Buffalo, mine/IED clearance operations, 6+ PAX
• 65 CAT II and 4 CAT III USMC MRAP in Theater.

Program Status
• Acquisition Objective = 3,594
• MROC validated requirement for 1,022 MRAP vehicles.
• Rqmt growth from 1,022 to 3,594 includes OIF UAH & MAK HMMWV replacement and supporting establishment allowance.
Summary

• 43% reduction in EFV Acquisition Objective provides:
  – Forcible Entry (2 x MEB)
  – Irregular Warfare & MCO Capability Sets

• JLTV and MPC initiatives are the appropriate combat vehicles to support IW, MCO and JFEO.

• EFV program resource reinvestment to support JLTV and MPC is required to achieve SPG.

• MRAP vehicles provide survivability bridge to JLTV & MPC and meet current theater requirements.
Questions
Sustaining the Current Force & Improving the Future Force

5 February 2007

Lieutenant General Ann E. Dunwoody
Deputy Chief of Staff, G-4
Headquarters, Department of the Army
“We are in a dangerous, uncertain, and unpredictable time. As we continue our mission worldwide and prepare to increase our commitment in Iraq, we face challenges that exceed the level of demand envisioned in the recent quadrennial review of defense strategy.”

“The changed conditions of warfare necessitate that we can no longer accept risk in how we equip our combat support and combat service support units. There are no front lines in today's battle space. We must equip all units with force protection, night vision goggles, crew served weapons, radios, and other critical items needed to operate.”
We can no longer afford to accept risk in how we equip & sustain the Army

Our leadership has gone to bat for more resources

Our challenge is getting our arms around what we need

Your challenge is giving our Soldiers the best industry has to offer

We Count On You To Make A Difference
Unclassified

From

Tiered Readiness (Peace)
ALO'd Units
("Have's and Have Not's")

Legacy Force
Division Centric

OPTEMPO
Predictable Training Cycles

Ownership
Train & Deploy W/ Assigned Equip

To

Cyclic Readiness (War)
Available And Ready Forces Ready To Fight

Modularity
Lethal, Agile, Deployable

High OPTEMPO
Increased Equipment Use By 4x

Stewardship
Army Owned, Unit Leased

Not Business As Usual...
**ARMY READINESS**
Have sustained OEF/OIF for 5 years ground equipment readiness > 85%

**INDUSTRIAL BASE PRODUCTION**
Twice pre-war levels
Greatest output since Vietnam

**ARMY PREPOSITIONED STOCKS**
Transformed and reset APS-4 in Korea and APS-5 in Kuwait; source for surge

**SUSTAINMENT**
Historically underfunded base programs
Supplemental funding of $17.1B for reset

**PROPERTY ACCOUNTABILITY**
Achieving corporate visibility for $230B enterprise

**LOG AUTOMATION FUNDING**
Building a state of the art enterprise
Up $800M from FY 06 funding

**SUPPORT TO OTHER SERVICES**
Approximately $193M in depot support

**OIF EQUIPMENT RETROGRADE**
From 3,496 vehicles to 12,332
FY05 FY07

READINESS
Congressional support has provided the necessary means for the Army to undertake disciplined, orderly ways of reconstituting and resetting the force ensuring the ends of restoring and building combat power.

Have reset over 200,000 pieces of equipment and weapons.

$17.1B

Sustaining the Current Force & Improving the Future Force

CALL TO DUTY
Boots On The Ground

Unclassified

Moving Out On All Fronts...
Our Challenge =

Understanding & Capturing The Total Requirements

Seeing And Knowing What We Have, Who Has It & What Condition It's In

Holistic Fielding, Funding, & Modernization Strategy

We Cannot Accept Risk...
Increasing Demands

- **Adjust (Surge)**
  - 5BCTs + Enablers

- **Accelerate**
  - 1 HBCT + 1 IBCT

- **Grow**
  - The Army by 74.2K

- **Convert**
  - Remaining Legacy Force

- **Rebalance**
  - Active/Reserve Components, Combat Arms, Combat Support, Combat Service Support

- **Reset**
  - Replace Damaged, Destroyed, War-weary Equipment

- **Modernize**
  - From 2 1/2 Ton 800 Series Trucks To Future Combat System

- **Mobilize and Deploy**
  - National Guard & Reserve; Active Duty

Driving Requirements Up
Living Thru the Perfect Storm
Not Knowing What We Have...

- Limited Wartime Accountability
- Attached and detached units
- GWOT
- Modularity
- ARFORGEN
- Shortage of supply specialists
- Legacy Logistics Systems
- COTS
- RFI and REF
- Credit Cards
- COTS
- Deployment equipment lists
- Theater Provided Equipment
- New Equipment Fielding
- Operational Needs Statements
- Left Behind Equipment
- Sensitive Item Accountability
- Multiple Hand Receipts/Property Books
- Thousands of Property Transfers

Equipping Success Had Unintended Consequences
Recovering from the Perfect Storm

Getting After It...

Gaining Visibility Over Our Enterprise

CORPORATE VALUE
FROM $124B TO $230B

CORPORATE VISIBILITY
FROM 21.8 M TO 3.4B ITEMS VISIBLE

OPERATION TOTAL RECALL PHASE I
2269 WEAPONS/NVD FOI NOW VISIBLE IN PBUSE

FINANCIAL LIABILITY
FROM $850M TO $767M; $83M COST AVOIDANCE

DATABASE CLEANSING
FROM 872K INVALID ENTRIES TO 0

LOG AUTOMATION FUNDING
FROM FY06 FUNDING - UP $800M
STILL NEED $1.1B

CONTAINER MGMT / RETROGRADE
FROM $13.1M TO $2M IN DETENTION COSTS

PBUSE FUNDING AND FIELDING
FROM $0 TO $ 58M IN FUNDING; FROM 0-33% FIELDING TO TDA PBOS

CENTRAL ISSUE FACILITIES
FROM $1.5B TO 2.3B VALUE VISIBLE IN CIF-ISM
$10M IN EXCESS USED TO OFFSET NEW BUYS

DEPLOYMENT TIMELINES
FROM 120 DAYS TO 90 DAYS

LEAN SIX SIGMA / LOG POLICY
FROM 450 DAYS TO 115 DAYS TO CHANGE POLICY
FROM 24 STEPS TO 10 STEPS

RAPID FIELDING INITIATIVE
FROM 0 TO 70% OF 850K LINS VISIBLE (CIF-ISM / PBUSE)

READINESS - AMC MANAGED LINs
FROM 4700 LINS TO 300-400 LINS;
ELIMINATED 900 USR LINS THAT WERE S4 RATING

ARFORGEN - SUBSTITUTE LINS / REGS
FIXING REGULATIONS TO ACCURATELY REFLECT READINESS
REPORTING; ELIMINATING INNACURATE REPORTING FOR
OBSOLETE EQUIPMENT (OVER 20K TRKS/NVGS)

Gaining Visibility Over Our Enterprise
What We Need From You... 
The Best Industry Has to Offer

Our Equipment Must Be:

- Safe
- Reliable
- Maintainable
- Supportable
- Trackable

Soldiers' lives depend on it

And Most Importantly Protect Our Soldiers
Let's renew our commitment to America's most treasured asset...

Soldiers are the centerpiece of our Army.

Living the Warrior Ethos - on duty protecting the Nation and the society they serve.
Questions?
Where We've Been
Success: Army Logistics Transformation

Aug 06—SDDC ADCON to AMC
Approved Oct 06

Jun 06—Army Service Uniform Approved
Available 4th Qtr FY 07

Feb 06—ASC Concept Design Approved
Stood Up 22 Sep 06

Oct 05—Review DOL Functions (IMA/AMC)
Maint Functions Transferred Oct 06

Jul 05—ARFORGEN Approved
Executing Now

Dec 04—Joint Capable Concept of Support Approved
Employing Concept Today

Nov 04—ESCs, Sus Bde Designs Approved
5 ESC/11 Sus Bdes as of Sep/06

Sep 04—TSC Design Approved
1st, 167th, 8th TSCs Stood Up in FY06

Accelerating The Momentum Of Logistics Transformation
MISSION
Develop, acquire, field, and support materiel solutions that optimize the “System of Systems” approach to project and sustain joint forces worldwide.

OTHER SIGNIFICANT PROCUREMENT EFFORTS
- Add-on-Armor Construction/ MHE Equipment
- Route Clearance Vehicles
- Aerial Delivery (JPADS)
- Water Bottling

Project Manager
COL Timothy G. Goddette
( Incoming - COL Steve Myers)

Deputy PM Acquisition: Ms. Patricia Plotkowski
Deputy PM Logistics: Mr. Dan Lorentz
Deputy PM Technology: Mr. Fred Balling

MISSION
- Assured Mobility Systems
  PM, LTC Jerry Winberry (ARNG)
- Army Watercraft Systems
  PM, LTC Philip Schoenig
- Combat Engineering, Material Handling Equipment
  PM, LTC (P) Carol Solesbee (ARNG)
- Petroleum & Water Systems
  PM, LTC Michael Recenello (USAR)
- Force Sustainment Systems
  PM, LTC Craig Rettie
- Product Line Management Office
  LTC Marc Wilson (USAR)
Programs

Mine Protection & Route Clearance Vehicles

- Buffalo MPCV
- IVMMD
- JERRV MMPV
- RG-31 MMPV

Bridging Systems

- BEB
- CBT → LHS
- DSB
- IRB
- REBS

Combat Equipment

- Add-On-Armor
- IHMEE
- Family of Loaders
- ATEC
- DOZER
- Grader
- HyEx

Material Handling Equipment

- 4K Forklift
- 6K Forklift
- ATLAS
- RTCC
- RTCH
ADJUST:
- Accelerated the transition of Mine Protected Vehicles PEO AMMO and JIEDDO/Marine Corps by 6-months
- Within a 6 month period, improved MPV Operational Rate from 70% to 85-90% while inventory increased 68.3%
- Contracted, tested, produced and fielded ($85.8M) AoA kits with 50% SLEP/RESET in CONUS, to include 13 CE/MHE systems across the Army, Navy and USMC
- Established a RESET management office with the TACOM ILSC PSID and TARDEC to optimize resourcing decisions across the product life cycle resulting in $219M in FY07
- Received 25% of available TACOM SSTS funds

SUSTAIN:
- Supporting the war fight; continuing production; managing fleets; modernizing and enabling the modular force
  - Processed 513 Contract Actions, 51 Milestone Decisions with 22 personnel changes (hiring, retirement, promotion, transfers in/out) out of 107 personnel
  - Established Fleet Planners in both PAWS and AMS
  - Find opportunities to build jointness into each Product Line
  - 25% reduction in Travel ($500,000)

Supply & Demand

7 SSEBs in FY07
Resource Management

Human Capital:
- Core: 107
- DS Matrix: 218
- Military: 18
- # of “P” Forms Submitted: 78
- # of Core/Matrix Personnel per ”P” Form: 4

Overtime:
- Overtime Hours FY05 – 3,593.93 = 1.72 Man Years
- Overtime Hours FY06 ~ 34,794.28 = 16.73 Man Years

PM Challenge: RESET and RE-ISSUE
- HMMWV: High Density Fleet Walk Away – Throw Away
- MPV: Low Density Fleet Walk Away – Fix (Repeat)

Bottom Line: Sustainment is Different for Low Density Systems
RCV Contractor Logistics Support (CLS)
- Push Robust ASL and Repairs Forward (ALT & Transport)
- Quarterly Analysis of Parts – “Make Adjustments”
- Consolidate Repairs (JERRV with RCV’s)
- Facilities and Tools to do the job
- Jointness still a challenge

Lean6Sigma (Organic)
- Lack of standardized contract logistics scopes and deliverables
- No up-front reassessment of logistics support decisions
- Lack of routine registering of field issues and sharing of information / Inadequate configuration control process
- Lack of standardized procedures and training for logistics managers (Pubs & Provisioning)
- DLA processes not sensitive to needs of Low Density (non-demand supported) systems
Support Partnership Initiatives

Laundry
Advanced
System (LADS)

- Mobile Field Laundry System for Quartermaster Field Service Companies (FSC)
- Transitioning From CLS to DLA
- AAO: 164
- Total Parts: 2000+
- High Risk Parts: 189
  - DSC Philadelphia
  - 90 Parts on DVD Contracts to Date
    - Includes 38 Parts on DVD Contract with OEM, Guild
  - Expect up to 20 DVD Contracts in Total to Support High Risk Parts

Lightweight
Water Purifier (LWP)

- Five Modules (Control, UF, High Pressure Pump, RO, Chemical Injection), Four Service Pumps, Two 1,000 Gallon Tanks, & One 3kW TQG
- AAO: 380
- Total Parts:
- High Risk Parts: 275
  - DSC Columbus
  - Expect One DVD Contract with OEM, MECO
  - Awaiting Award

Initiatives At Sustainment Phase for These Systems Need to Focus Future Efforts Earlier in Life Cycle
Support Partnership Initiatives

**Buffalo Mine Protected Clearance Vehicle (MPCV)**
- ONS Req: 80
- Total Parts: 4300
- ASL: 700

**Interim Vehicle Mounted Mine Detector (IVMMD)**
- ONS Req: 79
- Total Parts: 4500
- ASL: 837

**JERRV Medium Mine Protected Vehicle (MMPV)**
- ONS Req: 128
- Total Parts: 5200
- ASL: 464

**RG-31 Medium Mine Protected Vehicle (MMPV)**
- ONS Req: 321
- Total Parts: 5100
- ASL: 1193
Challenges and Impacts

- (A) “Joint” Plan to sustain MRAP Vehicles
- (L) Expertise in Provisioning and Publications lacking
- (T) JP8 Fuel Requirement & COTS Engine Technology Requirement diverging
- Jointness is usually a result of informal coordination
- Resourcing Decisions NOT in synch with ARFORGEN
- MOD Line’s needed to “Make Adjustments”, Budget for uncertainty
Questions?
ATEC Testing In Support of the War

James B. Johnson

U.S. Army Developmental Test Command

6 Feb 07
Understand Who We Are

- Full Spectrum Testing
  - All phases of testing; developmental, operational & evaluation
- Major Contributor
  - Testing and Evaluating over 400 systems
  - 1100 test events worked daily
  - ATEC Forward – Forward Operational Assessment Teams in Iraq & Afghanistan
- Large, complex organization
  - 8000+ personnel
  - 26 Locations, 17 States, Operate on 1/3 Army’s Land mass…impacted by BRAC
  - Mostly reimbursable; competitive, efficient
  - $5 Billion capital investment in facilities/instrumentation
- Value-added
  - Information for Army decision makers to ensure Warfighters have the right capabilities
  - Rapid testing in support of the Global War on Terrorism
Where We Are

ATEC manages 1/3 Army’s Land

Legend
- Headquarters
- Major Test Facility
- Operational Test Dir
DTC – Who We Are

Ranges and Test Sites

Diverse test services to ensure effectiveness, interoperability, and safety
Items Being Tested by DTC

- Mine Rollers
- Munitions Testing
- IED Defeat
- UGV
- ARH
- FMTV
- MGS
- MRAP
Tactical Wheeled Vehicle
Up-Armoring Test Effort

Ballistic Testing

Coupons

Blast Mines

Roadside IEDs
Tactical Wheeled Vehicle
Up-Armoring Test Effort
Automotive Testing

Roadway Simulator

NATO Lane Change

Brake Testing
Tactical Wheeled Vehicle Up-Armoring Test Effort

Trade-Offs

Consider armor weight and future upgrades during initial design.

Choose more rugged automotive components.

Vehicle must stay in balance.

M&S can be leveraged to
- Optimize armor design
- Make performance vs. Protection tradeoffs

Armor Weight

Threat Level

Vehicle Design

Ground clearance
Geometry/Shape
Structural Strength
Payload Capacity
Powertrain
Axle Loading
Example of Successful Team Effort
(Long Term Armoring Strategy – LTAS)

- Classified ballistic performance specification developed up-front (PMO, ATEC, ARL).
- PMO hosted Industry day at Selfridge ANGB (29 Nov 05)
- IPT formed to coordinate T&E (PMO, OEM/subs, ARL, ATEC, others)
  - Design reviews open to IPT (forum to share ideas and work problems)
  - Army T&E and R&D communities had opportunity to provide input
    - Modeling to help optimize armor designs
    - Lessons learned from testing many systems (Free Advice!)
Advice / How We Can Help You

- Obtain security clearances (personnel and facility)
- Access to Developmental Test Command Proving Grounds
  - Thru PMO for Government Sponsored Programs
  - Testing for Private Industry
    - Design maturation/R&D (Controlled Access to data)
  - Requests for Test Services
    - Thru IPT Coordination Process
    - Direct Requests thru DTC website (www.dtc.army.mil)
Keys for Success

- Clearly Articulated Requirements
- Leveraging Previous Testing and Hardware in the Loop Simulation
- Early involvement of IPT members (team effort)
- Allocate realistic time and resources for T&E

*Testing is an integral part of the design maturation process!*
THE HMMWV ... From Hummer to Groaner

“HUMMER”

M998 HMMWV 4x4 High-Mobility Multipurpose Wheeled Vehicle

Mission Creep

“Groaner”

M1151A1 with the Objective Frag Kit 5

6,390 POUNDS ADDED

... THAT’S OVER 2/3 OF AN ORIGINAL HMMWV

Growth in the Number of Up Armored HMMWVs

Growth in the Weight of Up Armored HMMWVs

M1114 with the Objective Frag Kit 5 & GPK

M1114 / M1151 Actual Weight Measured in Theater (Max) with Frag Kit 5 & GPK

M1114 / M1151 with the Objective Frag Kit 5 & GPK

Growth in the Weight of Up Armored HMMWVs

Growth in the Weight of Up Armored HMMWVs

M1114 Base

M998

M1114 / M1151 with Frag Kit 5

M1114 / M1151 with Frag Kit 5 & GPK

M1114 / M1151

Growth in the Number of Up Armored HMMWVs

Growth in the Number of Up Armored HMMWVs
Mission Creep on All Vehicles

- RHINO II IED
- Mine Roller Kit
- Cyclone
- Interrogation Arm
- Gunner Shield
- Gyrocam

Unclassified
Made for OIF / OEF?

Works great here …

But what about here?
Failures

- **UAH – Frame Cracks**
- **FMTV – Frame Cracks (LSAC)**
- **HEMTT – Cab Cracks (AoA)**
- **5-ton – Cab / Firewall Cracks (AoA)**
- **M915 – Cab Cracks (AoA)**
# Refurbishing AoA Vehicles in SWA

<table>
<thead>
<tr>
<th>Tactical Vehicle Type</th>
<th>Desired Annual Refurbishment Rates</th>
</tr>
</thead>
<tbody>
<tr>
<td>HMMWV Vehicles</td>
<td>Desired Annual Refurbishment Rate: 8.5% of fleet per year (1,800 HMMWVs per year)</td>
</tr>
<tr>
<td>Heavy Tactical Vehicles * **</td>
<td>Desired Annual Refurbishment Rate:</td>
</tr>
<tr>
<td></td>
<td>HET system (M1070 Tractor and M1000 Trailer): 50% of Fleet/year (236 HET systems/year)</td>
</tr>
<tr>
<td></td>
<td>HEMTT and PLS: 25% of Fleet per year (741 HEMTTS and 387 PLS’ per year)</td>
</tr>
<tr>
<td>Medium Tactical Vehicles * **</td>
<td>Desired Annual Refurbishment Rate:</td>
</tr>
<tr>
<td></td>
<td>FMTV: 25% of fleet per year (595 FMTVs per year)</td>
</tr>
<tr>
<td></td>
<td>M939: 25% of fleet per year (310 M939s per year)</td>
</tr>
<tr>
<td>Line Haul Tactical Vehicles * **</td>
<td>Desired Annual Refurbishment Rate:</td>
</tr>
<tr>
<td></td>
<td>M915s: 50% of fleet per year (686 vehicles per year)</td>
</tr>
</tbody>
</table>

* Estimated: 70% Firm Fixed Price, 30% Time and Materials

** Three Request for Proposals and Three separate Four Year IDIQ contracts
Keeping the Balance

Protection

M1114
W / FRAG
Kit 5 & GPK

Performance

Payload

Unclassified
Keeping the Balance

Protection

M1114 W / FRAG Kit 5 & GPK

Performance

Payload

Unclassified
We will need to RESET Armored Vehicles upon return

- Can we go to a Long Term Armor Strategy during RESET?
- What is the Cost?
- Will we have the dollars?

- A Kit = Frame, Attachments, Hard to Install Armor, commo wiring, mounting points for Gunner's Protection Kit + will need non-Armor panels and glass (Install during RESET vs old cab)

- B Kit = Armor Panels and Armor Glass
ARFORGEN
REQUIRES RAPID RESET BETWEEN CYCLES

- Align Soldier assignments with a unit’s operational cycle (~36 months)
- Soldiers arrive, train, deploy, and depart together
- Improves cohesion and training effectiveness

CHALLENGES:
- Very short RESET window
- Soldiers not available
- Keep costs reasonable
  - Super – Service
  - Mandatory Parts Replacement
- Touch Units Once in 3 Years
ARFORGEN
Reset Support... a Continuing Requirement

Opportunities:
14 AC + 5 RC BRIGADES
RESET EACH YEAR

Will provide predictability for RESET parts

Where are the Dollars? Parts or Labor?

Operating and Support Cost 72%
PM HBCT Condition Based Maintenance (CBM+)
Condition Based Readiness Analysis (CoBRA)

- Functional data from electronic control modules
- Platform sensors and Data
- Automatic data collection, storage and transmission (transparent to the unit)
- Unique item tracking to key components

Maintenance and Logistics analytical tools and reports
- Correlate Maintenance actions with data collected
- Risk reduction with Fort Knox Fielding
- Establishes the foundation for the LCMC CBM+ Capability

Vehicle Configurations

Vehicle Configurations

Operational HBCT BTN to be selected from 2BCT, 4ID

FY06 Effort:
- Funded by $7M RDTE Bill + $3.2M Congressional Add
- Gets existing data off of data bus for analysis
- Completion of that analysis is unfunded - $5M (FY08) Balance of original scope
“We appreciate your advice”
“Need to be faster, more agile, less bureaucratic... Need to fight this every day”
Yesterday’s AMC – Major Subordinate Commands

- HQAMC
- TACOM
- AFSC
- AMCOM
- USASAC
Recent Mission Changes

Maintenance
- TRADOC Fleet Management
- Field Logistics Readiness Centers (FLRCs)
- Directorate of Logistics (DoL) Functions
  - Maintenance
  - Supply
  - Ammunition
- Depot Capability and Forward Repair Activity

Management
- Pre-Deployment Training Equipment (PDTE)
- Left Behind Equipment (at home)
- Theater Provided Equipment (TPE)
- Property Accountability
Why Change?

National Strategic Level ↔ Operational Level ↔ Tactical Level

HQ AMC

Overview

Mission Synch & Optimization

Commodity/Weapon System/Fleet Focus

Organizational Alignment
Mission Analysis
Capability Assessment
Task Review
Training Management
Readiness

Overall

Army Sustainment Command

Life Cycle Management Commands

• AMC’s Face to the Customer
• Global “Reach Back” to AMC – Direct Customer Feedback
• Logistics Synchronizer for ARFORGEN

Key to E2E Logistics Connectivity

Why Change?

As of 13 Dec 06
What’s On The Horizon?

Funding

• FY07 Base Budget
• FY07 $17.1B Bridge Supplemental
  – Procurement $8.5B
  – O&M $8.6B
• FY07 Main Supplemental
Rebuild (Reset)
Same Model

Two Paths

One Outcome

Selected Upgrade (Recap)
New Model

Upgrade Warfighting Capability

Extended service life
Reduced Operating and Support (O&S) Cost
Enhanced Capability
Improved:
Reliability
Safety
Maintainability
Efficiency

M1A1 AIM XXI
UH-60A
CH-47D
M88A1
M9 ACE
PATRIOT
SEE
FIREFINDER
ELEC SHOPS
FAASV

Digitized to M1A2 Basic
AH-64A to AH-64D
UH-60A to UH-60L/M
CH-47D to CH-47F
M88A1 to M88A2
Upgrade 60 to 70 Tons to AVLB
BRADLEY A2 to BRADLEY A3
MLRS to MLRS A1
Track upgrade only to M113 A3
HEMTT to HEMTT ESP
M998 HMMWV to M1097R
Tactical Wheeled Vehicles

Current Fleet

- Technology Insertions
  - Current Focus is Protection

Future Vehicles

- Mine Resistant Ambush Protected (MRAP) Vehicle
- Joint Light Tactical Vehicle (JLTV)
Team Effort
Partnering=Success

- Shingo Award Winners
- ISO 9000/14000
- Improved Performance
- Robert T. Mason DoD Maintenance Award Winner
- Expanding Partnerships

AMC Public-Private Partnerships in FY06
Partnerships ~ 340
Totaling ~ $374.9M
Thoughts to Leave You With

- AMC is transforming from an institutional to an operational command
- AMC’s mission is to support the Warfighter
  - Army Field Support Brigade
  - Brigade Logistics Support Teams
- Tactical Wheeled Vehicle Community is key to our Outcome
- We are synchronizing acquisition, logistics, and technology
- We are on a wartime footing for production and repair – Need Your Support
Focused on the WARFIGHTER
TWV Transformation Efforts

COL Steve Myers (USA)
and LtCol Ben Garza (USMC)

6 February, 2007
Agenda

- Evolution of Light Tactical Vehicles
- Input to JLTV timeline
- Market Research (EMIP & PSD)
- Science & Technology programs
  - Army and ONR S&T
  - FTTS ACTD Overview
  - MSV and UV Vehicle Capabilities and Lessons Learned
  - ONR S&T Support to JLTV
  - CTV Technology Demonstrator
- Who’s Who in JLTV Program Planning
- Current JLTV Acquisition Schedule
- Summary
Light Tactical Vehicle Evolution: Jeep to JLTV

<table>
<thead>
<tr>
<th>Year Range</th>
<th>Model</th>
<th>Technology Improvements</th>
</tr>
</thead>
<tbody>
<tr>
<td>1959-1984</td>
<td>M151</td>
<td>Redesigned for the Military. Featuring a longer wheelbase, softer ride, more powerful engine, manual transmission, and four wheel independent suspension</td>
</tr>
</tbody>
</table>
| 1984-1995  | M1025 | A0 Series (1984-93) 6.2L diesel engine, 3 spd transmission, 2,500 lb. payload (incl. crew), Up to 3,632 lb. Payload (shelter carrier) 86,237 produced  
A1 Series (1991-95) Improved drivetrain, Improved suspension 8,899 produced  
A2 Series (1994-present) 6.5L engine, 4 spd electronic trans, 9,000 lb. winch, CTIS ready, 4,400 lb. payload (incl. crew), 9,013 produced |
| 1993-?     | M1114/M1151 | Expanded Capacity Vehicles (1993-present)  
5,100 lb. payload (M1113, M1151/1152, incl. crew)  
Heavy Up-Armored HMMWV (M1114 UAH) |
| 2010-Future| JLTV FOV | Integrated Survivability (Armor), Integrated C4ISR (space, weight, power)  
Net Payload Capacity with Armor  
Improved Mobility with and without Armor |

Today’s Light Vehicle is More Complex - Modernization Cycles Accelerating
Differences between HMMWV & JLTV Programs

- Governance Army Only
  - MDA is PEO CS&CSS
  - Mandatory reports fewer initiatives
  - Initiatives
    - Add on Armor
    - Safety

- Governance Joint Services
  - User Community
    - AMCB
    - TRADOC/MCCDC
    - GOSC
    - Joint Staff
  - DAB/OIPT Members
  - Secretary of the Army
  - Secretary of the Navy
  - HQMC/CG MCSC

- MDA is DAE

- Mandatory reports greater initiatives
  - Concept Decision
  - Time Defined Acquisition
  - Fuel Reduction
  - Companion trailers designed to integrate with FOV
Joint Light Tactical Vehicle (JLTV) FOV Inputs


CURRENT FORCE  FUTURE FORCE

BLUF: Efforts will enable us to be smarter requirements and specification writers
EMIP and PSD Demonstrations
Open to Industry

Market Education – not Source Selection

- **EMIP** held demonstrations for 145 technology ideas during 2006
- YUMA, AZ Jan 06 and Three Quarterly Demos at Warren
- Process continuously demonstrates mature component technologies (lower risk)
- Useful to JLTV CDD and CPD as well as Current Fleet Technology Insertion
- Next EMIP Technology Application Idea deadline 16 Feb 07 for April Demos
- Technology Priorities
  - Improved Safety
  - Improved Survivability
  - Improved Reliability, Maintainability, and Supportability
  - Distribution and Mission Enhancements

- **PSD** reviewed 32 systems during Aug 06 in Dec 07 reviewed the FTTS UVs and MSV with companion trailers
- Final report due Feb 07 to TWV BOD
- Demos invaluable in providing insights into potential performance which will support requirements development
  - Eg: GVW approaching 19,000 lb appears essential to meet LTAS protection and payload requirements
  - Eg: Power to weight ratio of 30HP/Ton appears essential to meet or exceed objective speed/acceleration requirement
  - Eg: GVW breakpoint for soft soil mobility appears to be in the 16,000-17,000 lbs range
  - Eg: Transportability by Helo and C-130 are further challenging constraints

Open to Industry

EMIP Technology Application Idea
Technology Priorities
- Improved Safety
- Improved Survivability
- Improved Reliability, Maintainability, and Supportability
- Distribution and Mission Enhancements

PSD Overview
(click box for movie)
FTTS ACTD funded two contractors to develop Utility Vehicle Demonstrators
- Specifications based on FCS requirements
- Currently leveraging ACTD to support JLTV program
  - FTTS ACTD has and is transitioning information (Phase 1 M&S) to JLTV Requirements process and will continue with existing scope
  - FTTS ACTD Phase 2 will demonstrate JLTV Utility Vehicle “like” Mission Role Variant from two Tier 1 suppliers in an Operational Environment (Ft. Lewis)

ONR S&T complements ACTD outputs by funding five additional vendors M&S to assess JLTV specific requirements contained in draft CDDs (30 Nov 06)
- ONR will demonstrate a JLTV Combat Tactical Vehicle Variant

Combined Army/USMC S&T will have provided 11 vendor’s detailed M&S and 4 clean sheet of paper demonstrators prior to JLTV MS B - reducing program risk and helping shaping Future TWV requirements
Armor Holdings (AH) – FTTS Demonstrator

Maneuver Sustainment Vehicle (MSV) & Companion Trailer (CT)

Survivability & Force Protection
- Monocoque cab
- Modular Armor Kit
- Front, rear and side cameras
- NBC system
- Collision avoidance
- 2 person cab

Network Centricity
- Integrated communications suite
- Integrated computer system

Sustainability
- 30 kW exportable AC power
- Enhanced On-board Diagnostics
- Lube for Life (bushings & bearings)

Transportability
- 96"w x 102"h x 406"l
- C-17 transportable
- 49,000 lbs. Curb Weight
- 75,000 lbs. Gross Vehicle Weight

Mobility
- Parallel Hybrid Electric Propulsion
- Air Suspension Height Control (ASHC) and Load Monitoring System (LMS)
- Central Tire Inflation System (CTIS) / run-flat
- Anti-Lock Braking System (ABS)

Payload
- 13 Tons - Residual Payload w / B Kit

Distribution
- Multi-functional LHS & MHE crane hook lift and a forklift
- 6,100 lbs at 23 feet MHE
- 13,200 lbs at 24’ 3” LHS

Operational Range
- 300 miles

- C9 8.4L engine (335 kW @ 2200 rpm)
- 4 NiMH batteries 8.5 amp hrs, 336 Volts
- Integrated starter/generator (ISG) 120kW peak, 100 kW continuous
- 7 speed hydrokinetic automatic transmission

MSV Companion Trailer (CT)

Commonality with MSV
- Axles, suspension, wheels, tires, brakes, ABS, Central Tire Inflation System (CTIS), 24 Volt CAN/Bus System

Distribution
- Receives Flat Racks and ISO containers from Truck Load Handling System (LHS)
- Move loads and trailer without truck

Mobility
- 3 Axle with semi-autonomous operation
- Steering on Axle #1 and #3
- Turning radius (Autonomous): 20 ft-8 in
- Max speed 1.89 MPH
- Vertical Obstacle 24 in Step
- Gradient (Autonomous) – 30%
- Air Bag Independent Wishbone Suspension with ride height control
- 230 mm Jounce, 200mm Rebound
- Central Tire Inflation System (CTIS)

Deployability
- Self-Powered offload C-130 and operational watercraft Joint Requirement

Operational Range
- Range 65 miles
- Power Diesel Engine (73 HP)
- Hydrostatic Drive Train
- Tethered Coupled / Wireless Uncoupled Control

as of 30 Jan 07
International Military Group – FTTS Demonstrator

Utility Vehicle (UV) & Trailer

Survivability & Force Protection
- Monocoque cab
- Modular Armor Kit
- 2 person cab

Network Centricity
- Integrated communications suite
- Integrated computer system

Sustainability
- Limited on-board diagnostics
- 75kW integrated, exportable AC power

Transportability
- 92” w x 83” h x 221” l
- CH-47 and C-130 Transportable
- Demonstrator curbweight = 18,600 lbs
- Reducible weight = 16,400 lbs

Mobility
- Parallel Hybrid electric propulsion
- Torsion bar suspension, passive shocks
- Designed for adjustable ride height control
- Central Tire Inflation Systems (CTIS)
- Rear axle steer
- Anti-Lock Braking System (ABS)

Payload
- 3400 lb payload with integral armor
- On-board crane with 800 lb lift @ 8’

Operational Range
- Over 555 mile range

UV Companion Trailer

Commonality with UV
- Common tires, suspension, brakes with truck

Payload
- 5500 lb payload
### Lockheed Martin – Owego – FTTS Demonstrator

**Utility Vehicle (UV) & Trailer**

<table>
<thead>
<tr>
<th>Survivability &amp; Force Protection</th>
</tr>
</thead>
<tbody>
<tr>
<td>- Monocoque cab</td>
</tr>
<tr>
<td>- Modular Armor Kit</td>
</tr>
<tr>
<td>- Machine Gun Ringmount</td>
</tr>
<tr>
<td>- 2 crew + 1 jump seat</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Network Centricity</th>
</tr>
</thead>
<tbody>
<tr>
<td>- Integrated communications suite</td>
</tr>
<tr>
<td>- Integrated computer system</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Sustainability</th>
</tr>
</thead>
<tbody>
<tr>
<td>- Limited on-board diagnostics</td>
</tr>
<tr>
<td>- 8kW integrated exportable AC power</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Transportability</th>
</tr>
</thead>
<tbody>
<tr>
<td>- 95&quot; w x 90&quot; h x 229&quot; l</td>
</tr>
<tr>
<td>- CH-47 &amp; C-130 Transportable</td>
</tr>
<tr>
<td>- Demonstrator curbweight = 21,600 lb</td>
</tr>
<tr>
<td>- Reducible curbweight = 19,705 lb</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Mobility</th>
</tr>
</thead>
<tbody>
<tr>
<td>- Parallel Hybrid electric propulsion</td>
</tr>
<tr>
<td>- SLA suspension with Air Spring, passive shocks</td>
</tr>
<tr>
<td>- Adjustable Ride height control (4 position)</td>
</tr>
<tr>
<td>- Central Tire Inflation (CTIS)</td>
</tr>
<tr>
<td>- Anti-Lock Braking System (ABS)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Payload</th>
</tr>
</thead>
<tbody>
<tr>
<td>- 3300 lb payload with A-kit armor</td>
</tr>
<tr>
<td>- On-board crane with 1000 lb lift @ 5'</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Operational Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>- 528 mile range</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>UV Companion Trailer</th>
</tr>
</thead>
</table>

**Commonality with UV**

- Common tires, suspension, brakes with truck

**Payload**

- 6100 lb payload
Lessons Learned from the ACTD

That industry presently has products which potentially can meet many of our present and future requirements..... but not all, trades will be required

Integration of advanced technologies on new systems is possible.... but seldom without a significant effort and risk

Must be realistic in our requirements..... understand there is going to be limited dollars available
ONR is conducting studies, analyses and technology development efforts in the areas of concepts, survivability, and mobility

- Technology evaluations and trade studies
  - Awarded Contract to Nevada Automotive Test Center (NATC)
  - Validation of JLTV CDD and performance specification

- Fabricate a Gap 1 technology demonstrator
  - Nevada Automotive Test Center
  - Build, test, and evaluate a Combat Tactical Vehicle demonstrator platform

- Concept studies/mockup construction
  - Awarded contracts to AM General, General Dynamics, BAE, Cadillac Gage, Oshkosh
  - Generate concepts for FOV:
    - Near term concept (for MS B)
    - Far term concept (MS C and beyond)
    - Future technology investment areas
  - Deliverables aligned with key acquisition events
ONR (NATC) – Technology Demonstrator
Combat Tactical Vehicle (CTV)

Survivability & Force Protection
- 6 Marine/Soldier cab
- Monocoque Aluminum-based V-Shaped Lower Hull with Integrated Armor/Structure
- Modular Armor Kit
- Blast-Mitigating Seats
- Air Conditioning w/ Modular NBC
- Automatic Fire Suppression
- Accepts Multiple Weapons Stations

Network Centricity
- Integrated communications suite

Sustainability
- Limited on-board diagnostics
- 10Kw on the Move & 30Kw Stationary Integrated, exportable AC power

Transportability
- 96" w x 220" l Operational Ht = ~ 86 inches & Reducible Ht = 76.4 inches
- CH53/CH47 EAT & C130 Transportable
- MPS & Amphibious shipping
- Demonstrator curb weight = 15,600 lbs

Mobility
- 322 Hp Detroit Diesel 926
- 6-Speed Twin Disc Transmission with Integral Transfer Case
- SLA Independent w/ 3-Position Ride Height Adjustment & 24" Wheel Travel
- Central Tire Inflation Systems (CTIS)
- Anti-Lock Braking System (ABS) w/ Integrated Stability Control

Payload
- 6000 lb payload with integral armor

Operational Range
- 400 miles
ONR/RDECOM are conducting studies, analyses and technology development efforts in the areas of concepting, survivability, and mobility.

**Mobility Initiatives:**

- Advanced suspension development
  - Awarded contract to L-3 Communications
- Mature Magneto-Rheological (M-R) fluid technology

- Transportability studies
  - Address critical ship and aircraft interface

- Fuel efficiency improvement initiatives
  - Define military duty cycles and conduct hybrid electric vehicle (HEV) studies
  - Conduct modeling and simulation to quantify vehicle energy usage
  - Pursue innovative powerplant and vehicle accessory energy reduction technologies

**Survivability Initiatives:**

- Requirements Analysis (Threats out to 2017), Technology Assessments (Industry & Govt.), Modeling & Simulation (Mine Protection, Operational Effectiveness), Technology Development/Maturation (Armor spin outs, non-Armor technologies)

- Integrated Survivability: Modular, Reconfigurable, System Engineering Design Approach
Who’s Who in JLTV Program Planning

- **Science and Technology**
  TARDEC/ONR
  - Technology development for large database of information to support requirements development

- **Requirements Development**
  CASCOM/ MCCDC
  - CDD development and staffing for approval

- **Materiel Development**
  PEO CS&CSS/MARCORSYSCOM
  - Milestone documentation development and approval for MS B

- **Program Governance**
  OSD/ARMY/NAVY
  - Program Certification and Milestone Decisions
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JLTV Acquisition Schedule

As of 1 Feb 07 - NDIA

Science & Technology
(ONR & TARDEC)
Demonstrations

Studies & Assessments
FTTS ACTD M&S (Phase 1)
FTTS ACTD Demonstrators (Phase 2)
JLTV Req’s Study & Demonstrator
JLTV Concept Design BAAs

JLTV Requirements
(MCCDC & TRADOC)
Joint Initial Capabilities Document (JICD)
Evaluation of Alternatives (EoA)
Capability Development Document (CDD)

JLTV Acquisition
(MARCORSYSCOM & PEO CS&CSS)
Establish JPO
Acquisition Program Documentation
DAB/MS B Preparation and Staffing
Draft RFP Prep/Comments/Revision
Final RFP/ Source Selection
Award SDD Contract(s)
SDD

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~17~
Summary

Entering Program at the MS B NOV 07

Draft RFP late Feb/early Mar 07; Final RFP May 07
– check FedBizOps

JLTV is an opportunity for Industry… this is where you spend your IR&D

RFP info will also be posted at the JLTV website
http://contracting.tacom.army.mil/ssn/jltv.htm

JLTV@tacom.army.mil
Sustaining the Current - Improving the Future

February 2007
Technology Insertion

- Condition Based Maintenance
- Exportable Power Source
- Increased Survivability
- Increased Internal Alternator/Generator Power Source

Technology to the Warfighter Quicker
Future

- Suspension Performance
- Hybrid Electric
- Composite Armor Shell
- Internal/External Power Enhancement
M1114 / Golden HMMWV Power

- CROWS
- ITAS TOW
- BPMTU
- CREW 2 (DUKE)
- SINCgars & VIC-3
- DAGR / PLGR
- DVE
- Blue Force Tracker (FBCB2)
- LRAD

Other Possible Equipment:
- Blowtorch
- Rhino II
- Double Shot
- MTS
- FH MUX
- Micro Climate cooling vest
- Harris Radio
- CHAMELEON
- Duke 2 plus
**Power Draw on 200A HMMWV Alternator**

With electrical systems used in theater

<table>
<thead>
<tr>
<th>Item</th>
<th>Steady State (A)</th>
<th>Surge (A)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Engine, drivetrain &amp; accessories</td>
<td>5</td>
<td>30</td>
</tr>
<tr>
<td>A/C on High (Low Steady State = 16A)</td>
<td>23</td>
<td>40</td>
</tr>
<tr>
<td>Dual Long Range SINCgars</td>
<td>2.25</td>
<td>18.5</td>
</tr>
<tr>
<td>Blue Force Tracker</td>
<td>0.015</td>
<td>2.5</td>
</tr>
<tr>
<td>DAGR</td>
<td>0.25</td>
<td>1.5</td>
</tr>
<tr>
<td>EPLRS</td>
<td>2.5</td>
<td>35</td>
</tr>
<tr>
<td>DUKE</td>
<td>13</td>
<td>30</td>
</tr>
<tr>
<td>AFES (Surge at discharge only)</td>
<td>0.1</td>
<td>25</td>
</tr>
<tr>
<td>VIS (Surge for 15ms on cueing)</td>
<td>2</td>
<td>20</td>
</tr>
<tr>
<td>DVE (estimate)</td>
<td>2</td>
<td>4</td>
</tr>
<tr>
<td>BPMTU (see smart-charging note*)</td>
<td>0.24</td>
<td>60</td>
</tr>
<tr>
<td>VIC-3</td>
<td>1.35</td>
<td>15</td>
</tr>
<tr>
<td><strong>Total in Amps:</strong></td>
<td><strong>51.705</strong></td>
<td><strong>281.5</strong></td>
</tr>
</tbody>
</table>

*NOTE: BPMTU smart-charging: 12-60A while charging turret batteries; only during low alternator loads; 0.050-0.240A with charged turret batteries*
<table>
<thead>
<tr>
<th>Item</th>
<th>Steady State (A)</th>
<th>Surge (A)</th>
</tr>
</thead>
<tbody>
<tr>
<td>CROWS</td>
<td>16</td>
<td>32</td>
</tr>
<tr>
<td>Rhino II (850 watts)</td>
<td>40</td>
<td>45</td>
</tr>
<tr>
<td>Blowtorch</td>
<td>60</td>
<td>190</td>
</tr>
<tr>
<td>Double Shot</td>
<td>&lt;1</td>
<td>&lt;2</td>
</tr>
<tr>
<td>PLGR</td>
<td>0.075</td>
<td>0.125</td>
</tr>
<tr>
<td>MTS</td>
<td>1.7</td>
<td>3.5</td>
</tr>
<tr>
<td>FH MUX</td>
<td>3.57</td>
<td>3.57</td>
</tr>
<tr>
<td>Micro Climate cooling vest (estimate)</td>
<td>1</td>
<td>3</td>
</tr>
<tr>
<td>ITAS TOW</td>
<td>38</td>
<td>45</td>
</tr>
<tr>
<td>Harris Radio</td>
<td>&lt;20</td>
<td>20</td>
</tr>
<tr>
<td>CHAMELEON</td>
<td>12</td>
<td>60</td>
</tr>
<tr>
<td>Duke 2 plus (estimate)</td>
<td>20</td>
<td>40</td>
</tr>
</tbody>
</table>
Balancing Modernization and Operational Needs

NDIA Tactical Wheeled Vehicle Conference

LTG Stephen Speakes

5 February 2007
Agenda

- Evolving Strategic Environment
- An Army at War
- Army Modernization
- New Methods
- Way Ahead
• Relentless cycle of changing tactics
  • Increasing lethality of enemy weapons (hyper kinetic)
  • Increasing importance of human dimension
  • Increasing importance of information operations

• 360° battlefield
  • Extended distances and borders
  • Complex terrain (urban, mountain, jungle, & littoral)
  • Dispersed targets

• Paramilitary and terrorist forces
  • Other types on the horizon
  • Adversaries have “gone to school” on US operations
• Surging in FY07

• Accelerating in FY08

• Growing in FY09-13

• Modernizing now – future

• Changing the Mobilization Policy
Managing Shortages

Operational Demand > QDR Strategy > Resources

Supplemental

Program
Army Resourcing Strategy

- **Initial April 2006 Fiscal Guidance**
  - FY08: $100B
  - FY09: $110B
  - FY10: $120B
  - FY11: $130B
  - FY12: $140B
  - FY13: $150B

- **Revised October President’s Budget Fiscal Guidance**
  - FY08: $120B
  - FY09: $125B
  - FY10: $130B
  - FY11: $135B
  - FY12: $140B
  - FY13: $145B

- **Current Fiscal Guidance (Includes Growth)**
  - FY08: $110B
  - FY09: $120B
  - FY10: $130B
  - FY11: $140B
  - FY12: $150B
  - FY13: $160B

- **FY07 President’s Budget**
  - FY08: $110B
  - FY09: $115B
  - FY10: $120B
  - FY11: $125B
  - FY12: $130B
  - FY13: $135B

- **Initial April 2006 Fiscal Guidance**
  - FY08: $100B
  - FY09: $110B
  - FY10: $120B
  - FY11: $130B
  - FY12: $140B
  - FY13: $150B
Base and Supplemental Funding

Actual Execution
*Includes Chem Demil
**Includes JIEDDO

Appropriations

President’s Budget FY08 (Planning)

<table>
<thead>
<tr>
<th>Year</th>
<th>Actual Execution</th>
<th>Appropriations</th>
<th>President’s Budget FY08 (Planning)</th>
</tr>
</thead>
<tbody>
<tr>
<td>FY04</td>
<td>$38B</td>
<td>$96B*</td>
<td>TBD</td>
</tr>
<tr>
<td>FY05</td>
<td>$58B</td>
<td>$101B*</td>
<td>TBD</td>
</tr>
<tr>
<td>FY06</td>
<td>$68B**</td>
<td>$100B*</td>
<td>TBD</td>
</tr>
<tr>
<td>FY07</td>
<td>Final Request Pending</td>
<td>$110B</td>
<td>TBD</td>
</tr>
<tr>
<td>FY08</td>
<td>Request Pending</td>
<td>TBD</td>
<td>TBD</td>
</tr>
<tr>
<td>FY09</td>
<td>TBD</td>
<td>TBD</td>
<td>TBD</td>
</tr>
<tr>
<td>FY10</td>
<td>TBD</td>
<td>TBD</td>
<td>TBD</td>
</tr>
<tr>
<td>FY11</td>
<td>TBD</td>
<td>TBD</td>
<td>TBD</td>
</tr>
</tbody>
</table>

*Includes Chem Demil
**Includes JIEDDO

FY04 FY05 FY06 FY07 FY08 FY09 FY10 FY11

Request Pending

($49B in Title IX)
Army Investment Accounts

Investment Spending as a Percent of Total Army Spending

Investment Spending (Constant 2000 Dollars)


$10B $15B $20B $25B $30B $35B

10% 15% 20% 25% 30% 35%

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Army Modernization

**Industrial Age:**
Overwhelm with Force

**Uncertainty**

**Future**

**Information Age:**
Empower the Soldier

**Current**
The Army’s Modernization Program

Threat + Missions Implies C²ISR Force Protection Maneuver

Changed environment implies changes in procurement.
Spin Out FCS Capabilities to Bridge Current to Future

Modular Heavy BCT

Recapitalization

Modular FCS BCT

✓ Networked
✓ More Sensors
✓ More Combat Vehicles
✓ More Infantry Squads
✓ More Deployable
✓ Fewer Soldiers
✓ More Capable

Current

Future
Current: UAH

MRAP & Captains of Industry

Future: JLTV

We need help from industry in accelerating this process!
New Methods

• Working with Congress to create programming flexibility

• Working jointly with sister services to identify joint solutions

• Working cooperatively with industry to find solutions faster

• Working within the government to balance current force & future force
• Continue to fill the holes
  • Make Army modular force a reality

• Reset the force
  • Keep an Army at war ready

• Grow the force
  • Build strategic depth

• Modernize the force
  • Empower and protect the Soldier
  • Network the Soldier
Questions ??
The Army National Guard
est. 13 December 1636

LTG Clyde A. Vaughn
Director, Army National Guard

Winter 2007

It takes the ARNG to be ARmy StroNG
History of the Army National Guard

The Congress Shall Have Power:

➢ To provide for calling forth the militia to execute the laws of the union, suppress insurrections and repel invasions;

➢ To provide for organizing, arming, and disciplining, the militia, and for governing such part of them as may be employed in the service of the United States, reserving to the states respectively, the appointment of the officers, and the authority of training the militia according to the discipline prescribed by Congress

-- U.S. Constitution, Article I, Section 8
Resetting the ARNG for the Decade Ahead

Operational Force

Trained
Predictable
Strong
Equipped
Accessible
Organized
Bridging Strategy
ARNG Strength FY95 to FY07 (YTD)
ARNG Strength FY04 to Present

EOM December 2006: 347,129

350 at 370!
Guard Recruiter Assistant Program, G-RAP, is a “Performance Based” contracted recruiting assistance program with a sponsorship component available for Prior Service (PS) and Non-Prior Service (NPS) recruiting efforts.

- **Total RAs:** 121,624
- **Active RA’s:** 107,692
- **Potential Soldiers:** 49,392
- **All Accessions:** 24,911
- **PS Accessions:** 5,750
- **NPS Accessions:** 19,161

As of 30 JAN 07
Resetting the ARNG for the Decade Ahead

Strong

Organized
ARNG ES and FSA FY96-FY08

*ES AS OF 31 DEC 06

- Force Structure Allowance
- End Strength
Resetting the ARNG for the Decade Ahead

- Trained
- Predictable
- Strong
- Accessible
- Organized
Cold War Era MOB Process

- C3 Resourced/ But Deploy C1
- Personnel ALO’d Down
- FS/ES Imbalance

Sup $$$

Post-MOB Tasks e.g. BCT:
- SRP - 4
- PMI IWQ/CSWQ/WTT - 8
- Maint TI Garrison - 2
- CPX TOC OPS-TOCS in field - 8
- SQD PLT collective TNG - 16
- Gunner Qual Ranges - 23
- Specialty TNG Garrison - 16
- TAC Mov’t FTX/STX - 6
- Urban Ops STX-FOB - 8
- BN/BDE FTX-FOB - 8
- MRE - 31

39 days during year
NO VALIDATION

Alert for TNG
MOB Order
Dental & Med

MOB Date

3 months
6 months
**Take Risk Pre-MOB**
- Come as you are to MOB Station
- Fill to Warfight levels thru Army Sourcing
- Long Post MOB Training Cycle
- One Time Deployment (24m consecutive)

**Reality : Cross-leveling by other units**
- No force pool
- Old Equip not deployed; NET at MOB station
- 24m cumulative
- Same ratio – 1 deployment : 24m
- Campaign generates requirement for > one deployment
- 18m is too much if Soldiers expected to do multiple rotations
Operational Reserve MOB Process

Year 1
Year 2
Year 3
Year 4
Year 5
Year 6

Pre-MOB Tasks e.g. NET:
- Gunnery/Range Qual
- Med/Dental
- Validated Tasks
- Mission Specific TNG

Sup $$$

Pre-MOB Date

Post-MOB

1 Year
39 days + (y)

Post-MOB Tasks (x-y)
Resetting the ARNG for the Decade Ahead

- Trained
- Equipped
- Accessible
- Organized
- Strong
- Predictable
• A critical enabler in deployed and domestic missions, plus training

• Existing shortages hinder training and readiness

• Obsolescence detracts from capabilities

• Procurement and fielding of modern TWV to ARNG units must be accelerated
Dynamic Requirements and EOH

- Redeploying Units
- Units in Combat Zone
- Southwest Border Security
- Modularity
- State Emerg
- ARFORGEN
- Operational Deployments
- Defense Support to Civil Authorities (DSCA)
- QDR
- Units Building Readiness
- Units in Pre Deployment Cycle

FMR
TAA

ARNG Equipping Requirements Over Time

Facts & Assumptions:
- "Like AC" MTCE
- "Like AC" Fill
- Accounts for Modernization
- Uses AERD 4.1 as Start Point
- Assumes Avg. Attrition Rate of 4%
- Assumes Avg. of $2B per year in Cascades
- Assumes 3% Inflation per Year

Total Projected Funding (FY05 to FY13) is $35.95B = FY13 ARNG EOHR: 75%

Predictability of receipt of funding
- Higher
- Lower 4
**Critical Shortages:**

- UP-Armored HMMWVs
- 5 Ton Tractors
  - 5 Ton Dump Trucks
  - 5 Ton Cargos
  - HEMTT LHS
  - Fuel Tankers
  - Trailers
Future funding requirements for all vehicles

Critical shortages include:

**FMTVs Vehicles:** Plan is to Distribute new procurement and cascade of M900s to retire M35s first

- New LMTVs replace M35s
- New MTVs replace M900 Series
- Displaced M900 vehicles trickledown and replace M35s

**HMMWV’s:** Major shortages impacting Pre-MOB or Post-MOB Training, HLS Missions, and Deployments. New Procurement and Recapitalization Supporting Readiness Improvements

**HEMTT LHS:** Convert Cargo’s to LHS

**PLS Trucks and Trailers:** Overall Shortages

**Competitors For Equip**
- SBE/TPE
- APS-6
- Combat Losses
- Reset / Reconstitution / Recap
- Modularity
- Operational Needs Statements
- Mission Essential Equipment List
- Training Sets
TWV EOH HLS for Non-deployed Units

Critical Dual Use LINs Against FY08 Requirements With Subs

TWV State AVG 38%

0 – 64%  65 – 84%  85 – 100%

[Map showing distribution of TWV EOH HLS for Non-deployed Units across states]
## FISCAL YEAR 2008 APPROVED
## ARNG 1 - 25 EQUIPMENT MODERNIZATION SHORTFALLS

<table>
<thead>
<tr>
<th>Equipment</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>HMMWV</strong></td>
<td>Tactical Trailers (M872A4)</td>
</tr>
<tr>
<td><strong>FMTV</strong></td>
<td>Communication Systems (JNN, HF Radios, SINCGARS)</td>
</tr>
<tr>
<td><strong>HTV</strong> (HEMTT/LHS/PLS)</td>
<td>Aviation Systems (CH-47F)</td>
</tr>
<tr>
<td><strong>M916A3 LET / M870A3</strong> (Light Equipment Transporter / Trailer)</td>
<td>ABCS (Suite of Systems)</td>
</tr>
<tr>
<td><strong>M917A2</strong> (20-Ton Dump Truck)</td>
<td>Digital Enablers (STAMIS, CAISI, VSAT)</td>
</tr>
<tr>
<td>All Terrain Crane (ATEC)</td>
<td>Movement Tracking System</td>
</tr>
<tr>
<td>M9 ACE SLEP</td>
<td>Night Vision (Thermal Weapons Sights, Driver's Vision Enhancer)</td>
</tr>
<tr>
<td>Route and Area Clearance Systems (GSTAMIDS, NMMD)</td>
<td>Tactical Water Purification System</td>
</tr>
<tr>
<td>Horiz Const Systems (EMMs, Asphalt Mixing Plant, Asphalt Paving Machine, 250 CFM Compressor)</td>
<td>Tactical Quiet Generators</td>
</tr>
<tr>
<td>Small Arms (M4, M240B, M249, MK-19)</td>
<td>Precision Strike (M777A1 Howitzer, LW155, M119A2 Howitzer, 105mm)</td>
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<tr>
<td></td>
<td>Profiler</td>
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<tr>
<td></td>
<td>LLDR/FS3</td>
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<tr>
<td></td>
<td>GLPS</td>
</tr>
<tr>
<td></td>
<td>Chemical (Alarm/Detectors, JSTDS-SS, CBPS Shelters)</td>
</tr>
</tbody>
</table>

**NOTE:** NOT SHOWN IN A PRIORITY SEQUENCE
Resetting the ARNG for the Decade Ahead

Predictable
Strong
Accessible
Equipped
Organized

Bridging Strategy

Trained
Strong
Resetting the ARNG for the Decade Ahead

Operational Force

Trained
Predictable
Strong

Equipped
Accessible
Organized

Bridging Strategy
State of the ARNG Since 9/11

Level of Activity

Total Soldiers on a mission as of 1 February 2007

- Iraqi Freedom: 32,733
- Enduring Freedom: 8,033
- Operation Noble Eagle: 395
- Presidential Res. Call Up: 0
- Balkans / MFO: 4,022
- Force Protection: 5
- State Active Duty: 1,553
- Airport Security: 0
- Operation Jump Start: 5,386
- Hurricane Support: 0
Questions?

For 370 Years – Strong and of Good Courage