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Exhibit R-2, RDT&E Budget Item Justification: PB Amended 2014 Army **DATE:** May 2013

APPROPRIATION/BUDGET ACTIVITY					R-1 ITEM NOMENCLATURE							
2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>System Development & Demonstration (SDD)</i>					PE 0604622A: <i>Family of Heavy Tactical Vehicles</i>							
COST (\$ in Millions)	All Prior Years	FY 2012	FY 2013 [#]	FY 2014 Base	FY 2014 OCO ^{##}	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
Total Program Element	-	5.239	3.077	21.321	7.000	28.321	14.511	7.741	7.034	7.000	Continuing	Continuing
659: <i>Family Of Hvy Tac Veh</i>	-	0.000	0.050	19.272	7.000	26.272	9.464	3.000	3.000	3.000	Continuing	Continuing
65A: <i>MOVEMENT TRACKING SYSTEM (MTS)</i>	-	1.455	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing
E50: <i>TRAILER DEVELOPMENT</i>	-	1.930	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing
VR5: <i>TWV Protection Kits</i>	-	1.854	3.027	2.049	0.000	2.049	5.047	4.741	4.034	4.000	Continuing	Continuing

[#] FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012

^{##} This Budget Amendment, which includes Base and OCO funding for FY 2014, replaces the FY 2014 Base Budget Request only submission of April 2013

A. Mission Description and Budget Item Justification

This program element aligns system development and demonstration of Heavy Tactical Vehicles with Future Modular Force requirements to support combat and combat support missions. These missions include the following: line haul, local haul, and unit resupply. These trucks transport water, ammunition, and general cargo over all terrain and throughout the battle-space. Funding will also be used for developing the Army's next generation of tactical trucks, as part of the Army's Tactical Wheeled Vehicle Modernization Strategy. Funding in Project 659 supports the Family of Heavy Trucks (FHTV) Heavy Dump Truck (HDT). Funding in Project VR5 supports periodic, evolutionary upgrade of survivability and crew protection for Heavy Tactical Vehicles as described in the Long Term Protection Strategy.

In FY14, Army PM MRAP will execute research and development on survivability, mobility and storage technologies. Within the survivability arena, JPO MRAP will focus on improved underbody armor concepts to improve current capabilities and to accomplish this with no to only minimal increase in vehicle weight. Additional survivability efforts will work toward RPG/Shaped Charge threat defeat mechanisms that have a higher probability of defeating this prolific threat, as well as developments in Transparent Armor (TA) that will extend the life of the TA in order to reduce sustainment costs. Additional analysis of black box data recorders from vehicles operating in a home station training profile will also give us opportunities to reduce operating and sustainment costs when operating CONUS. Due to the size and increased weight of the enduring MRAP variants, mobility studies will be conducted to identify technologies that will regain levels of mobility that were traded off during previous survivability upgrades. Since a significant portion of the MRAP vehicles will be stored in APS locations, PM MRAP will also conduct corrosion protection efforts to develop strategies to minimize degradation of systems that are held in long term storage.

"FY 2014 OCO funds support upgrades for vehicles in ongoing combat operations."

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APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>System Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604622A: <i>Family of Heavy Tactical Vehicles</i>
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B. Program Change Summary (\$ in Millions)	FY 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total
Previous President's Budget	5.477	3.077	22.373	0.000	22.373
Current President's Budget	5.239	3.077	21.321	7.000	28.321
Total Adjustments	-0.238	0.000	-1.052	7.000	5.948
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-0.064	-			
• Adjustments to Budget Years	-0.174	-	0.000	7.000	7.000
• Other Adjustments 1	-	-	-1.052	0.000	-1.052

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Exhibit R-2A, RDT&E Project Justification: PB Amended 2014 Army									DATE: May 2013			
APPROPRIATION/BUDGET ACTIVITY 2040: Research, Development, Test & Evaluation, Army BA 5: System Development & Demonstration (SDD)					R-1 ITEM NOMENCLATURE PE 0604622A: Family of Heavy Tactical Vehicles				PROJECT 659: Family Of Hvy Tac Veh			
COST (\$ in Millions)	All Prior Years	FY 2012	FY 2013 [#]	FY 2014 Base	FY 2014 OCO ^{##}	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
659: Family Of Hvy Tac Veh	-	0.000	0.050	19.272	7.000	26.272	9.464	3.000	3.000	3.000	Continuing	Continuing
Quantity of RDT&E Articles												
# FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012												
## This Budget Amendment, which includes Base and OCO funding for FY 2014, replaces the FY 2014 Base Budget Request only submission of April 2013												
Note												
Family of Heavy Tactical Vehicles (FHTV) Heavy Dump Truck (HDT)												
Mine Resistant Ambush Protected (MRAP) Vehicle												
A. Mission Description and Budget Item Justification												
The Heavy Dump Truck (HDT) supports construction projects by loading, transporting and dumping payloads of sand and gravel aggregates, crushed rock, hot asphalt mixes, earth, clay, rubble, large boulders and other materials up to gross vehicle weight rating to job sites under worldwide climatic conditions. The HDT also serves as a quarry truck for the quick transport of bulk raw earth material to and from the crushing screening and washing plant and the asphalt mixing plant and the HDT also serves as a transportation asset for organizational equipment.												
The HDT is required to replace the M917 and F5070 HDT.												
In FY14, Army PM MRAP will execute research and development on survivability, mobility and storage technologies. Within the survivability arena, JPO MRAP will focus on improved underbody armor concepts to improve current capabilities and to accomplish this with no to only minimal increase in vehicle weight. Additional survivability efforts will work toward RPG/Shaped Charge threat defeat mechanisms that have a higher probability of defeating this prolific threat, as well as developments in Transparent Armor (TA) that will extend the life of the TA in order to reduce sustainment costs. Additional analysis of black box data recorders from vehicles operating in a home station training profile will also give us opportunities to reduce operating and sustainment costs when operating CONUS. Due to the size and increased weight of the enduring MRAP variants, mobility studies will be conducted to identify technologies that will regain levels of mobility that were traded off during previous survivability upgrades. Since a significant portion of the MRAP vehicles will be stored in APS locations, PM MRAP will also conduct corrosion protection efforts to develop strategies to minimize degradation of systems that are held in long term storage.												
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)								FY 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total
Title: Heavy Dump Truck								0.000	0.000	5.410	0.000	5.410
Description: Truck Test Assets												

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APPROPRIATION/BUDGET ACTIVITY 2040: Research, Development, Test & Evaluation, Army BA 5: System Development & Demonstration (SDD)	R-1 ITEM NOMENCLATURE PE 0604622A: Family of Heavy Tactical Vehicles	PROJECT 659: Family Of Hvy Tac Veh				
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total
FY 2014 Base Plans: Truck Test Assets						
Title: Test and Evaluation Description: Test and Evaluation		0.000	0.000	3.545	0.000	3.545
FY 2014 Base Plans: Test and Evaluation						
Title: Program Support Description: Program support.		0.000	0.050 0	0.150	0.000	0.150
Articles: FY 2013 Plans: Funds will provide program support to the Heavy Tactical Vehicles family.						
FY 2014 Base Plans: Funds will provide program support to the Heavy Tactical Vehicles family.						
Title: Prototype Design and Integration Description: Prototype Design and Integration		0.000	0.000	10.167	0.000	10.167
FY 2014 Base Plans: Prototype Design and Integration						
Title: Maxx Pro & MATV Description: Maxx Pro & MATV Test and Development		0.000	0.000	0.000	7.000	7.000
FY 2014 Base Plans: This project only has OCO dollars for FY12						
FY 2014 OCO Plans: Maxx Pro & MATV Test and Development						
Accomplishments/Planned Programs Subtotals		0.000	0.050	19.272	7.000	26.272

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APPROPRIATION/BUDGET ACTIVITY 2040: Research, Development, Test & Evaluation, Army BA 5: System Development & Demonstration (SDD)					R-1 ITEM NOMENCLATURE PE 0604622A: Family of Heavy Tactical Vehicles			PROJECT 659: Family Of Hvy Tac Veh			
C. Other Program Funding Summary (\$ in Millions)											
			FY 2014	FY 2014	FY 2014					Cost To	
Line Item	FY 2012	FY 2013	Base	OCO	Total	FY 2015	FY 2016	FY 2017	FY 2018	Complete	Total Cost
• Family of Heavy Tactical Vehicles: <i>Family of Heavy Tactical Vehicles (FHTV) DA0500</i>	645.008	54.983	28.731		28.731	20.351	28.069	30.998	7.262	Continuing	Continuing
• Truck, Dump: <i>Truck, Dump, 20T D16001</i>							26.077	26.084	37.088	Continuing	Continuing
• Mine Resistant Ambush Protected: <i>Mine Resistant Ambush Protected (MRAP) Mods (D03002)</i>			2.200	321.040	323.240					0.000	323.240
Remarks											
D. Acquisition Strategy											
Funds will provide for test assets, design and integration of Military specific requirements; test and evaluation; and program management in support of FHTV - Heavy Dump Truck (HDT).											
Funds will provide for test and evaluation, armor and underbody development and technology improvements in support of MRAP Vehicles - Maxx Pro and M-ATV.											
E. Performance Metrics											
Performance metrics used in the preparation of this justification material may be found in the FY 2010 Army Performance Budget Justification Book, dated May 2010.											
F. Major Performers											
N/A											

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Exhibit R-3, RDT&E Project Cost Analysis: PB Amended 2014 Army												DATE: May 2013			
APPROPRIATION/BUDGET ACTIVITY 2040: Research, Development, Test & Evaluation, Army BA 5: System Development & Demonstration (SDD)						R-1 ITEM NOMENCLATURE PE 0604622A: Family of Heavy Tactical Vehicles				PROJECT 659: Family Of Hvy Tac Veh					
Management Services (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Prototype Design and Integration	C/CPFF	TBD:TBD	0.000	-		-		10.167	Jan 2014	0.000		10.167	0.000	10.167	0.000
Subtotal			0.000	0.000		0.000		10.167		0.000		10.167	0.000	10.167	0.000
Product Development (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Heavy Dump Truck (HDT) Test Assets	C/FFP	TBD:TBD	0.000	-		-		5.410	Jan 2014	0.000		5.410	0.000	5.410	0.000
Maxx Pro & MATV Development	MIPR	Various:Various	0.000	-		-		0.000		5.000	Feb 2014	5.000	Continuing	Continuing	Continuing
Subtotal			0.000	0.000		0.000		5.410		5.000		10.410			
Support (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Program Support	MIPR	TACOM:Warren, MI	0.000	-		0.050	Dec 2012	0.150	Dec 2013	0.000		0.150	Continuing	Continuing	Continuing
Subtotal			0.000	0.000		0.050		0.150		0.000		0.150			
Test and Evaluation (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Test and Evaluation	MIPR	TBD:TBD	0.000	-		-		3.545	Jun 2014	0.000		3.545	0.000	3.545	0.000
Maxx Pro & MATV Test	MIPR	Various:Various	0.000	-		-		0.000		2.000	Jan 2014	2.000	Continuing	Continuing	Continuing
Subtotal			0.000	0.000		0.000		3.545		2.000		5.545			

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APPROPRIATION/BUDGET ACTIVITY 2040: Research, Development, Test & Evaluation, Army BA 5: System Development & Demonstration (SDD)					R-1 ITEM NOMENCLATURE PE 0604622A: Family of Heavy Tactical Vehicles					PROJECT 659: Family Of Hvy Tac Veh				
	All Prior Years	FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract	
Project Cost Totals	0.000	0.000		0.050		19.272		7.000		26.272				

Remarks

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Exhibit R-4, RDT&E Schedule Profile: PB Amended 2014 Army												DATE: May 2013			
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>System Development & Demonstration (SDD)</i>						R-1 ITEM NOMENCLATURE PE 0604622A: <i>Family of Heavy Tactical Vehicles</i>						PROJECT 659: <i>Family Of Hvy Tac Veh</i>			

	FY 2012				FY 2013				FY 2014				FY 2015				FY 2016				FY 2017				FY 2018			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
Heavy Dump Truck (HDT) Test Assets																												
Program Management Support																												
Prototype Design and Integration																												
Testing																												
Maxx Pro & MATV Development																												
Maxx Pro & MATV Test																												

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Exhibit R-4A, RDT&E Schedule Details: PB Amended 2014 Army			DATE: May 2013
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>System Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604622A: <i>Family of Heavy Tactical Vehicles</i>	PROJECT 659: <i>Family Of Hvy Tac Veh</i>	

Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
Heavy Dump Truck (HDT) Test Assets	2	2014	2	2014
Program Management Support	1	2013	4	2015
Prototype Design and Integration	2	2014	4	2014
Testing	3	2014	1	2016
Maxx Pro & MATV Development	2	2014	2	2015
Maxx Pro & MATV Test	2	2014	2	2015

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Exhibit R-2A, RDT&E Project Justification: PB Amended 2014 Army										DATE: May 2013		
APPROPRIATION/BUDGET ACTIVITY 2040: Research, Development, Test & Evaluation, Army BA 5: System Development & Demonstration (SDD)					R-1 ITEM NOMENCLATURE PE 0604622A: Family of Heavy Tactical Vehicles				PROJECT 65A: MOVEMENT TRACKING SYSTEM (MTS)			
COST (\$ in Millions)	All Prior Years	FY 2012	FY 2013 [#]	FY 2014 Base	FY 2014 OCO ^{##}	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
65A: MOVEMENT TRACKING SYSTEM (MTS)	-	1.455	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing
Quantity of RDT&E Articles												
# FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012												
## This Budget Amendment, which includes Base and OCO funding for FY 2014, replaces the FY 2014 Base Budget Request only submission of April 2013												
Note												
Testing includes Information Assurance (IAVA), penetration testing, etc.												
A. Mission Description and Budget Item Justification												
Movement Tracking System (MTS) is a satellite based, asset visibility and situational awareness enabler that assists Combat Support/Combat Service Support (CS/ CSS) commanders and their staffs. MTS identifies and tracks the location of vehicles, communicates with vehicle operators, and redirects missions on a worldwide, near real-time basis during peacetime operations and war. MTS provides the capability to link ground level operators conducting missions and commanders/ managers that plan, direct, and control operations and allows for continuous CS/CSS asset visibility across the tactical area of operations. FY08/09 funding supported development of block modifications on the MTS. This block modification will develop and test interfaces to the Transportation Coordinator's Automated Information for Movement System (TC AIMS II) and Global Combat Support System-Army (GCCS-Army). FY12 funding continues interface development & testing.												
There is no FY14 Base or OCO funding for this project. The MTS program is being converged into the PM FBCB2 Joint Battle Command-Platform (JBC-P), as 'JBC-P Log'.												
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)												
							FY 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total	
Title: Movement Tracking System (MTS)							0.845	0.000	0.000	0.000	0.000	
Articles:							0					
Description: Funding is provided for the following effort												
FY 2012 Accomplishments:												
Will continue to provide improvements to the system												
Title: System Testing							0.610	0.000	0.000	0.000	0.000	
Articles:							0					
Description: Funding is provided for the following effort												

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Exhibit R-2A, RDT&E Project Justification: PB Amended 2014 Army				DATE: May 2013	
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>System Development & Demonstration (SDD)</i>		R-1 ITEM NOMENCLATURE PE 0604622A: <i>Family of Heavy Tactical Vehicles</i>		PROJECT 65A: <i>MOVEMENT TRACKING SYSTEM (MTS)</i>	

B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total
<i>FY 2012 Accomplishments:</i> Testing includes Information Assurance (IAVA) testing, penetration testing, etc.					
Accomplishments/Planned Programs Subtotals	1.455	0.000	0.000	0.000	0.000

C. Other Program Funding Summary (\$ in Millions)											
<u>Line Item</u>	<u>FY 2012</u>	<u>FY 2013</u>	<u>FY 2014 Base</u>	<u>FY 2014 OCO</u>	<u>FY 2014 Total</u>	<u>FY 2015</u>	<u>FY 2016</u>	<u>FY 2017</u>	<u>FY 2018</u>	<u>Cost To Complete</u>	<u>Total Cost</u>
• D16103: <i>Movement Tracking System (MTS)</i>	52.554									Continuing	Continuing
Remarks											
D. Acquisition Strategy RDTE efforts to support block development approach through a continuous series of overlapping modular development and integration testing to include multiple interface developments in support of follow-on production.											
E. Performance Metrics Performance metrics used in the preparation of this justification material may be found in the FY 2010 Army Performance Budget Justification Book, dated May 2010.											
F. Major Performers N/A											

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Exhibit R-3, RDT&E Project Cost Analysis: PB Amended 2014 Army												DATE: May 2013			
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>System Development & Demonstration (SDD)</i>						R-1 ITEM NOMENCLATURE PE 0604622A: <i>Family of Heavy Tactical Vehicles</i>						PROJECT 65A: <i>MOVEMENT TRACKING SYSTEM (MTS)</i>			
Product Development (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Software development, engineering, testing, program management	C/FP	Comtech Mobile Datacom Corp: Germantown, MD	14.751	1.305		-		-		-		-	Continuing	Continuing	Continuing
Subtotal			14.751	1.305		0.000		0.000		0.000		0.000			
Remarks Due to transfer of Movement Tracking System (MTS) from Program Executive Office Enterprise Information Systems (PEO EIS) to Program Executive Office for Command, Control and Communications - Tactical (PEO C3T), there was a change in the acquisition strategy. In lieu of a planned full and open competition, remaining hardware components and services will be purchased from DRS Tactical Systems, Inc. (under a GSA contract), Comtech Mobile Datacom Corporation (CMDC) and Engineering Solutions and Products, Inc. (ESP), under Force XXI Battle Command-Brigade-and-Below (FBCB2) contract.															
Test and Evaluation (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Software Testing	TBD	TBD:TBD	3.238	0.150		-		-		-		-	Continuing	Continuing	Continuing
Subtotal			3.238	0.150		0.000		0.000		0.000		0.000			
Remarks Prototype testing.															
			All Prior Years	FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals			17.989	1.455		0.000		0.000		0.000		0.000			
Remarks															

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Exhibit R-4, RDT&E Schedule Profile: PB Amended 2014 Army										DATE: May 2013			
APPROPRIATION/BUDGET ACTIVITY					R-1 ITEM NOMENCLATURE					PROJECT			
2040: Research, Development, Test & Evaluation, Army					PE 0604622A: Family of Heavy Tactical Vehicles					65A: MOVEMENT TRACKING SYSTEM (MTS)			
BA 5: System Development & Demonstration (SDD)													

	FY 2012				FY 2013				FY 2014				FY 2015				FY 2016				FY 2017				FY 2018			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
MTS Full Deployment																												

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Exhibit R-4A, RDT&E Schedule Details: PB Amended 2014 Army		DATE: May 2013
APPROPRIATION/BUDGET ACTIVITY 2040: Research, Development, Test & Evaluation, Army BA 5: System Development & Demonstration (SDD)	R-1 ITEM NOMENCLATURE PE 0604622A: Family of Heavy Tactical Vehicles	PROJECT 65A: MOVEMENT TRACKING SYSTEM (MTS)

Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
MTS Full Deployment	4	2013	4	2013

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COST (\$ in Millions)	All Prior Years	FY 2012	FY 2013 [#]	FY 2014 Base	FY 2014 OCO ^{##}	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
E50: TRAILER DEVELOPMENT	-	1.930	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing
Quantity of RDT&E Articles												
# FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012												
## This Budget Amendment, which includes Base and OCO funding for FY 2014, replaces the FY 2014 Base Budget Request only submission of April 2013												
A. Mission Description and Budget Item Justification												
This program element supports continued modernization of the Army's trailer fleet. The FY 2012 funds support tire improvement efforts intended to extend the life of the tire. FY 2012 funding will compare capabilities of the current M1000 Trailer to Objective Requirements, perform capability gap analysis, market surveys and propose concept trailers to meet future objective requirements. Modernized trailers are better able to match the capabilities of today's improved tactical wheeled vehicles and tractors.												
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)								FY 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total
Title: Tire Improvement and Next Generation Trailer Study. Articles: Description: Funding is provided for the following efforts. FY 2012 Accomplishments: The tire improvement effort is to improve wear and identify aging characteristics that will be used to improve future tires. The Next Generation Heavy Trailer Study will compare capabilities of the current M1000 Trailer to Objective Requirements, perform capability gap analysis, market surveys and propose concept trailers to meet future objective requirements. Modernized trailers are better able to match the capabilities of today's improved tactical wheeled vehicles and tractors.								1.869	0.000	0.000	0.000	0.000
								0				
Title: SBIR/STTR Articles: Description: SBIR/STTR FY 2012 Accomplishments: SBIR/STTR								0.061	0.000	0.000	0.000	0.000
								0				
Accomplishments/Planned Programs Subtotals								1.930	0.000	0.000	0.000	0.000

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APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>System Development & Demonstration (SDD)</i>					R-1 ITEM NOMENCLATURE PE 0604622A: <i>Family of Heavy Tactical Vehicles</i>			PROJECT E50: <i>TRAILER DEVELOPMENT</i>			
C. Other Program Funding Summary (\$ in Millions)											
Line Item	FY 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
• Semi-Trailer Flatbed 40T	0.596	7.097	7.111		7.111					Continuing	Continuing
M870A1: <i>Semi-Trailer Flatbed 40T</i>											
M870A1 SSN D00700											
Remarks											
D. Acquisition Strategy											
Research, development, test, and evaluation efforts to support design, development and build of system trailer improvements.											
E. Performance Metrics											
Performance metrics used in the preparation of this justification material may be found in the FY 2010 Army Performance Budget Justification Book, dated May 2010.											
F. Major Performers											
N/A											

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Exhibit R-3, RDT&E Project Cost Analysis: PB Amended 2014 Army												DATE: May 2013		
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>System Development & Demonstration (SDD)</i>						R-1 ITEM NOMENCLATURE PE 0604622A: <i>Family of Heavy Tactical Vehicles</i>				PROJECT E50: <i>TRAILER DEVELOPMENT</i>				

Product Development (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total				
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost To Complete	Total Cost	Target Value of Contract
Tire Improvement	MIPR	TARDEC:Warren, MI	2.399	1.438	May 2012	-		-		-		-		Continuing	Continuing	Continuing
Next Generation Heavy Trailer Study	C/CPFF	Omnibus Contractor:TBD	0.000	0.492	Feb 2012	-		-		-		-		Continuing	Continuing	Continuing
Subtotal			2.399	1.930		0.000		0.000		0.000		0.000				

			All Prior Years	FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals			2.399	1.930		0.000		0.000		0.000		0.000			

Remarks

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Exhibit R-4, RDT&E Schedule Profile: PB Amended 2014 Army										DATE: May 2013			
APPROPRIATION/BUDGET ACTIVITY					R-1 ITEM NOMENCLATURE					PROJECT			
2040: Research, Development, Test & Evaluation, Army					PE 0604622A: Family of Heavy Tactical Vehicles					E50: TRAILER DEVELOPMENT			
BA 5: System Development & Demonstration (SDD)													

	FY 2012				FY 2013				FY 2014				FY 2015				FY 2016				FY 2017				FY 2018			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
Tire Improvement																												
Next Generation Heavy Trailer Study																												

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Exhibit R-4A, RDT&E Schedule Details: PB Amended 2014 Army			DATE: May 2013
APPROPRIATION/BUDGET ACTIVITY 2040: Research, Development, Test & Evaluation, Army BA 5: System Development & Demonstration (SDD)	R-1 ITEM NOMENCLATURE PE 0604622A: Family of Heavy Tactical Vehicles	PROJECT E50: TRAILER DEVELOPMENT	

Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
Tire Improvement	3	2012	4	2013
Next Generation Heavy Trailer Study	3	2012	1	2014

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Exhibit R-2A, RDT&E Project Justification: PB Amended 2014 Army									DATE: May 2013			
APPROPRIATION/BUDGET ACTIVITY 2040: Research, Development, Test & Evaluation, Army BA 5: System Development & Demonstration (SDD)					R-1 ITEM NOMENCLATURE PE 0604622A: Family of Heavy Tactical Vehicles				PROJECT VR5: TWV Protection Kits			
COST (\$ in Millions)	All Prior Years	FY 2012	FY 2013 [#]	FY 2014 Base	FY 2014 OCO ^{##}	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
VR5: TWV Protection Kits	-	1.854	3.027	2.049	0.000	2.049	5.047	4.741	4.034	4.000	Continuing	Continuing
Quantity of RDT&E Articles												
# FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012												
## This Budget Amendment, which includes Base and OCO funding for FY 2014, replaces the FY 2014 Base Budget Request only submission of April 2013												
A. Mission Description and Budget Item Justification												
This program element supports periodic, evolutionary upgrade of survivability and crew protection for Heavy Tactical Vehicles (HTV) as described in the Long Term Protection Strategy. The upgrades will leverage from Army Technology Objective's (ATO) survivability and Army Research Laboratory's (ARL) research and development activities to develop and evaluate kits to adapt and anticipate changing threat environments, protection gaps, or improve the operating performance, efficiency, and reliability of HTV systems with protection kits installed by application of weight reduction technology.												
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)								FY 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total
Title: Design and Build Armor Kits. Articles:								0.973 0	0.000	0.850	0.000	0.850
Description: Design and build prototype kits for the Heavy Tactical Vehicle systems. FY 2012 Accomplishments: Design and build prototype kits that represent production alternatives in terms of form, fit, and function sufficient to validate the required protection levels and kit interface to the vehicle platform. FY 2014 Base Plans: Design and build prototype kits that represent production alternatives in terms of form, fit, and function sufficient to validate the required protection levels and kit interface to the vehicle platform.												
Title: Armor Analysis of Alternatives Articles:								0.173 0	0.000	0.000	0.000	0.000
Description: Armor Analysis of Alternatives FY 2012 Accomplishments: Perform engineering analysis and present design concepts for an armor solution.												
Title: Vulnerability Modeling and Simulation Articles:								0.120 0	0.000	0.120	0.000	0.120

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Exhibit R-2A, RDT&E Project Justification: PB Amended 2014 Army			DATE: May 2013		
APPROPRIATION/BUDGET ACTIVITY 2040: Research, Development, Test & Evaluation, Army BA 5: System Development & Demonstration (SDD)		R-1 ITEM NOMENCLATURE PE 0604622A: Family of Heavy Tactical Vehicles		PROJECT VR5: TWV Protection Kits	
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)					
	FY 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total
Description: Vulnerability Modeling and Simulation					
FY 2012 Accomplishments: Vulnerability analysis will provide the AEC evaluator with potential vulnerabiities in armor design. Will support a safety confirmation and materiel release.					
FY 2014 Base Plans: Vulnerability Model & Simulation/ Army Materiel Systems Analysis Activity (AMSAA) Model & Simulation					
Title: Survivability Modeling and Simulation	0.250	0.000	0.159	0.000	0.159
Articles:	0				
Description: Modeling and Simulation to predict survivability performance of the armor design.					
FY 2012 Accomplishments: Modeling and Simulation to predict survivability performance of the armor design.					
FY 2014 Base Plans: Modeling and Simulation to predict survivability performance of the armor design.					
Title: Test and Evaluation.	0.000	2.427	0.750	0.000	0.750
Articles:		0			
Description: Funding is provided for the following effort.					
FY 2013 Plans: Continuation of test and evaluation of Tactical Wheel Vehicle protection kits. It consists of ballistic evaluations, automotive performance, and durability mileage sufficient to assess kit performance against established vehicle and ballistic requirements. Testing will determine capabilities and limitations of the protection kit integration onto the vehicle platform.					
FY 2014 Base Plans: Continuation of test and evaluation of Tactical Wheel Vehicle protection kits.					
Title: Program Management	0.280	0.600	0.170	0.000	0.170
Articles:	0	0			
Description: Funding is provided for program management heavy tactical office support.					

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Exhibit R-2A, RDT&E Project Justification: PB Amended 2014 Army					DATE: May 2013	
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>System Development & Demonstration (SDD)</i>			R-1 ITEM NOMENCLATURE PE 0604622A: <i>Family of Heavy Tactical Vehicles</i>		PROJECT VR5: <i>TWV Protection Kits</i>	

B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total
<i>FY 2012 Accomplishments:</i> Program Management support <i>FY 2013 Plans:</i> Program Management support <i>FY 2014 Base Plans:</i> Program Management support					
<i>Title:</i> SBIR/STTR <div style="text-align: right;"><i>Articles:</i></div>	0.058 0	0.000	0.000	0.000	0.000
<i>Description:</i> SBIR/STTR <i>FY 2012 Accomplishments:</i> SBIR/STTR					
Accomplishments/Planned Programs Subtotals	1.854	3.027	2.049	0.000	2.049

C. Other Program Funding Summary (\$ in Millions)											
<u>Line Item</u>	<u>FY 2012</u>	<u>FY 2013</u>	<u>FY 2014 Base</u>	<u>FY 2014 OCO</u>	<u>FY 2014 Total</u>	<u>FY 2015</u>	<u>FY 2016</u>	<u>FY 2017</u>	<u>FY 2018</u>	<u>Cost To Complete</u>	<u>Total Cost</u>
• 005: <i>Family of Heavy Tactical Vehicles (FHTV) (DA0500)</i>	654.008	54.983	14.731		14.731	28.751	33.669	30.998	7.262	0.000	824.402
• 003: <i>Family of Medium Tactical Vehicles (FMTV) (D15500)</i>	434.030	388.485	273.910		273.910					0.000	1,096.425
• 000: <i>Tactical Wheeled Protection Kits - D04003</i>	39.908	69.163	51.258		51.258	89.245	84.507	75.000	87.000	0.000	496.081
Remarks											
D. Acquisition Strategy											
FY12 funds were executed via Military Interdepartmental Purchase Request (MIPR) to Army Research Laboratory (ARL). Armor kit design contract to be determined.											

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Exhibit R-2A, RDT&E Project Justification: PB Amended 2014 Army		DATE: May 2013
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>System Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604622A: <i>Family of Heavy Tactical Vehicles</i>	PROJECT VR5: <i>TWV Protection Kits</i>
<p>FY13 funds are expected to be executed via Military Interdepartmental Purchase Requests (MIPRs) to US Army Tank-Automotive Research, Development and Engineering Center (TARDEC), and government test centers, such as, Army Evaluation Center (AEC), Operational Test Center (OTC), and Army Test Eval Center (ATEC). Live Fire testing, Automotive, Operational and Shaker testing are planned.</p> <p>FY14 funds are expected to be executed via Military Interdepartmental Purchase Requests (MIPRs) to US Army Tank-Automotive Research, Development and Engineering Center (TARDEC) and government test centers, such as, Army Evaluation Center (AEC), Operational Test Center (OTC), and Army Test Eval Center (ATEC).</p> <p><u>E. Performance Metrics</u></p> <p>Performance metrics used in the preparation of this justification material may be found in the FY 2010 Army Performance Budget Justification Book, dated May 2010.</p> <p><u>F. Major Performers</u></p> <p>N/A</p>		

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Exhibit R-3, RDT&E Project Cost Analysis: PB Amended 2014 Army												DATE: May 2013			
APPROPRIATION/BUDGET ACTIVITY 2040: Research, Development, Test & Evaluation, Army BA 5: System Development & Demonstration (SDD)						R-1 ITEM NOMENCLATURE PE 0604622A: Family of Heavy Tactical Vehicles						PROJECT VR5: TWV Protection Kits			
Management Services (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
SBIR/STTR	C/TBD	WARREN, MI:TBD	0.000	0.058		-		-		-		-	0.000	0.058	0.000
Subtotal			0.000	0.058		0.000		0.000		0.000		0.000	0.000	0.058	0.000
Product Development (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Analysis of Alternatives/ Design and Build Armor Kits	SS/CPFF	OshKosh Truck Corporation:OshKosh, WI	0.000	0.173	Feb 2012	-		-		-		-	Continuing	Continuing	Continuing
Design and Build	MIPR	TBD:TBD	0.000	0.973	May 2012	-		0.850	Oct 2013	0.000		0.850	0.000	1.823	0.000
Vulnerability Modeling and Simulation	MIPR	Army Research Lab:Adelphi, MD	0.000	0.120	Aug 2012	-		0.120	Aug 2014	0.000		0.120	Continuing	Continuing	Continuing
Survivability Modeling & Simulation	MIPR	TARDEC:Warren, MI	0.000	0.250	Aug 2012	-		0.159	Aug 2014	0.000		0.159	0.000	0.409	0.000
Subtotal			0.000	1.516		0.000		1.129		0.000		1.129			
Support (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Program Support	MIPR	TARDEC:Warren, MI	0.000	0.280	Feb 2012	0.600		0.170	Jul 2014	0.000		0.170	0.000	1.050	0.000
Subtotal			0.000	0.280		0.600		0.170		0.000		0.170	0.000	1.050	0.000
Test and Evaluation (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Test and Evaluation	MIPR	Various Locations:Various Locations	0.000	-		2.427		0.750	Aug 2014	0.000		0.750	Continuing	Continuing	Continuing

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Exhibit R-3, RDT&E Project Cost Analysis: PB Amended 2014 Army												DATE: May 2013		
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>System Development & Demonstration (SDD)</i>						R-1 ITEM NOMENCLATURE PE 0604622A: <i>Family of Heavy Tactical Vehicles</i>				PROJECT VR5: <i>TWV Protection Kits</i>				

Test and Evaluation (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Subtotal			0.000	0.000		2.427		0.750		0.000		0.750			

	All Prior Years	FY 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	0.000	1.854	3.027	2.049	0.000	2.049			

Remarks

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Exhibit R-4, RDT&E Schedule Profile: PB Amended 2014 Army										DATE: May 2013			
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>System Development & Demonstration (SDD)</i>					R-1 ITEM NOMENCLATURE PE 0604622A: <i>Family of Heavy Tactical Vehicles</i>					PROJECT VR5: <i>TWV Protection Kits</i>			

	FY 2012				FY 2013				FY 2014				FY 2015				FY 2016				FY 2017				FY 2018			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
Armor Analysis of Alternatives (HET)																												
Design and Build Armor Kits																												
Vulnerability Model & Simulation																												
Survivability Model & Simulation																												
Test and Evaluation																												
Program Support																												

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Exhibit R-4A, RDT&E Schedule Details: PB Amended 2014 Army			DATE: May 2013
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>System Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604622A: <i>Family of Heavy Tactical Vehicles</i>	PROJECT VR5: <i>TWV Protection Kits</i>	

Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
Armor Analysis of Alternatives (HET)	2	2012	4	2012
Design and Build Armor Kits	2	2012	2	2015
Vulnerability Model & Simulation	4	2012	3	2017
Survivability Model & Simulation	2	2012	3	2017
Test and Evaluation	1	2013	3	2017
Program Support	2	2012	4	2017