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Exhibit R-2, RDT&E Budget Item Justification: PB 2016 Army										Date: February 2015		
Appropriation/Budget Activity 2040: Research, Development, Test & Evaluation, Army / BA 5: System Development & Demonstration (SDD)					R-1 Program Element (Number/Name) PE 0605625A / Manned Ground Vehicle							
COST (\$ in Millions)	Prior Years	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
Total Program Element	-	96.820	49.134	49.247	-	49.247	-	-	-	-	-	195.201
FC8: BCT Ground Combat Vehicle	-	96.820	49.134	49.247	-	49.247	-	-	-	-	-	195.201

Note

Rform reflects Congressional Adjusted Base Number of \$49,134.

A. Mission Description and Budget Item Justification

Fiscal constraints and competing demands during budget uncertainty forced the Army to make hard choices between near-term readiness and modernizing current systems to meet near term capability gaps and developing the Ground Combat Vehicle (GCV). The Army concluded it was not the right time to develop the GCV and ended the program upon completion of the Technology Development (TD) phase in June 2014. The Army has benefited from investment in the GCV program and will use the insights gained to inform technology maturation efforts in support of a strategy for the Army's Future Fighting Vehicle (FFV) modernization program.

Although the GCV program ended at the conclusion of the TD phase, the Army still maintains their requirement to fully modernize their fleet of ground combat vehicles. The FFV program will continue to leverage information and insights gained from the GCV TD phase to allow the Army to make better informed decisions in the future regarding their Combat Vehicle Portfolio. The main goals of the FFV program are to conduct technical, cost, and risk assessments against selected capability trades and future technologies for a FFV system.

The funding in 2016 will support continuing advanced concept development, trade studies, technology maturation/testing, technical/operational/affordability analyses, and potential limited prototyping to assess future designs that integrate emerging Science and Technology advancements.

<u>B. Program Change Summary (\$ in Millions)</u>	<u>FY 2014</u>	<u>FY 2015</u>	<u>FY 2016 Base</u>	<u>FY 2016 OCO</u>	<u>FY 2016 Total</u>
Previous President's Budget	100.147	49.160	49.247	-	49.247
Current President's Budget	96.820	49.134	49.247	-	49.247
Total Adjustments	-3.327	-0.026	-	-	-
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-0.026			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-3.327	-			

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COST (\$ in Millions)	Prior Years	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
FC8: BCT Ground Combat Vehicle	-	96.820	49.134	49.247	-	49.247	-	-	-	-	-	195.201
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		
A. Mission Description and Budget Item Justification												
Fiscal constraints and competing demands during budget uncertainty forced the Army to make hard choices between near-term readiness and modernizing current systems to meet near term capability gaps and developing the Ground Combat Vehicle (GCV). The Army concluded it was not the right time to develop the GCV and ended the program upon completion of the Technology Development (TD) phase in June 2014. The Army has benefited from investment in the GCV program and will use the insights gained to inform technology maturation efforts in support of a strategy for the Army's Future Fighting Vehicle (FFV) modernization program.												
Although the GCV program ended at the conclusion of the TD phase, the Army still maintains their requirement to fully modernize their fleet of ground combat vehicles. The FFV program will continue to leverage information and insights gained from the GCV TD phase to allow the Army to make better informed decisions in the future regarding their Combat Vehicle Portfolio. The main goals of the FFV program are to conduct technical, cost, and risk assessments against selected capability trades and future technologies for a FFV system.												
The funding in FY 2016 will support continuing advanced concept development, trade studies, technology maturation/testing, technical/operational/affordability analyses, and potential limited prototyping to assess future designs that integrate emerging Science and Technology advancements.												
B. Accomplishments/Planned Programs (\$ in Millions)									FY 2014	FY 2015	FY 2016	
Title: Government System Engineering & Program Management									9.398	9.134	9.247	
Description: Provides for basic Government oversight of the Ground Combat Vehicle (GCV) and Future Fighting Vehicle (FFV) programs. Includes funding for government personnel (labor, travel, training, supplies) and other support (other government agencies, support contractors, automated data processing, communications, and equipment).												
FY 2014 Accomplishments: Oversight of the GCV TD contracts continued through 3Q FY 2014. Preliminary Design Reviews (PDR) were completed 1Q FY 2014 and a PDR report was completed. The GCV IPTs continued to oversee the technical development efforts of each separate contractor in order to monitor and track technical progress related to the development of the various subsystems. This included review and acceptance of all formal contract deliverables for the two contractor teams. The Project Management team supported TD contract close-outs 3Q FY 2014 and then develop detailed plans to facilitate the transition of the program to supporting FFV S&T efforts in FY 2015 and FY 2016.												
FY 2015 Plans:												

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B. Accomplishments/Planned Programs (\$ in Millions)		FY 2014	FY 2015
The Project Management team will be significantly scaled back, but will continue to provide oversight to planned contract efforts. The contract efforts will be focused on advanced concept development, technology risk reduction, and integration of S&T developed components. The Government Future Fighting Vehicle (FFV) team will also lead, integrate, and collaborate across technical and analytical efforts with the S&T and Requirements communities. FY 2016 Plans: The Project Management team will continue to provide oversight to planned contract efforts. The contract efforts will be focused on advanced concept development, technology risk reduction, and integration of S&T developed components. The Government Future Fighting Vehicle (FFV) team will also lead, integrate, and collaborate across technical and analytical efforts with the S&T and Requirements communities.			
Title: Contractor Systems Engineering/Program Management Description: Provides for contractor basic development, engineering, and management for the GCV and FFV prime contracts, less prototype hardware and software development (which are captured in the following sections). Includes material consumed in support of component level engineering efforts. FY 2014 Accomplishments: Contractors performed program management using Earned Value Management (EVM) and Technical Performance Measures (TPMs) to report cost, schedule and technical status. All required contract deliverables were prepared and delivered. Each of the current contractors continued and completed the GCV Technology Development phase. This included: conducted system level Preliminary Design Reviews 1Q FY 2014, conducted and completed component/subsystem maturation testing 3Q FY 2014, conducted hot-bench integration 1Q-3Q FY 2014, and conducted and performed assessments of initial component/subsystem reliability growth tests. FY 2015 Plans: Contractors will conduct concept development work and subsystem risk reduction, in collaboration with planned S&T efforts. Concept development effort will initially evolve from the design concepts developed under the GCV TD phase and will result in development and delivery of concept data packages that include: 3 dimensional/Computer Aided Design (CAD) model representations, bill of materials, product structure / weight tape / power and energy balance, and cost estimate. In addition, a variety of technical and operational analyses and trades are expected to be completed. FY 2016 Plans: Contractors will conduct concept development work and subsystem risk reduction, in collaboration with planned S&T efforts. Concept development effort will initially evolve from the design concepts developed under the GCV TD phase and will result in development and delivery of concept data packages that include: 3 dimensional/Computer Aided Design (CAD) model		67.226	40.000
			40.000

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B. Accomplishments/Planned Programs (\$ in Millions)			FY 2014	FY 2015	FY 2016
representations, bill of materials, product structure / weight tape / power and energy balance, and cost estimate. In addition, a variety of technical and operational analyses and trades are expected to be completed.					
Title: Government Tests			1.800	-	-
Description: Provides for costs incurred by the government to perform and validate system-related test activities. This element also includes costs of the detailed planning, conduct, support, data reduction, and reports from such testing. The actual test articles (i.e., functionally configured systems) are excluded from this element as they are included in the prototype manufacturing section.					
FY 2014 Accomplishments: The additional GCV TD phase risk mitigation assets were tested at Government test facilities 1Q-3Q FY 2014. In addition, re-test of the existing subsystem test assets were performed after updates that reflected the revised performance specification. The TEMP was finalized.					
Title: Contractor Software			18.396	-	-
Description: Provides for contractor software development efforts for the GCV prime contracts. This includes all software related to the various subsystems, training, logistics, vehicle management, and battle command integration.					
FY 2014 Accomplishments: GCV TD contractors refined Software Architecture Design Documents (SADDs) and all architectural significant use case and software requirement specifications.					
Accomplishments/Planned Programs Subtotals			96.820	49.134	49.247
C. Other Program Funding Summary (\$ in Millions)					
N/A					
Remarks					
D. Acquisition Strategy					
The Army will continue to engage with the prime contractors from the Ground Combat Vehicle (GCV) Technology Development (TD) Phase, to conduct system level trade studies and integrated assessments using their designs relative to a new Future Fighting Vehicle (FFV). In addition, the contractors will perform design excursions based on the Bradley Fighting Vehicle. The data provided will be utilized by the Army to determine if the acquisition of a new FFV is the preferred choice over a modification to existing Fighting Vehicles.					

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For the FY 2016 Budget, the Army will continue combat vehicle concept development and synchronization with planned Government S&T investments which will eventually form the foundation for a future fighting vehicle program. The Project Management Office is assessing the full impact of this decision and will ultimately formalize a future fighting vehicle acquisition strategy. <u>E. Performance Metrics</u> N/A		

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Army												Date: February 2015			
Appropriation/Budget Activity 2040 / 5						R-1 Program Element (Number/Name) PE 0605625A / Manned Ground Vehicle				Project (Number/Name) FC8 / BCT Ground Combat Vehicle					
Product Development (\$ in Millions)				FY 2014		FY 2015		FY 2016 Base		FY 2016 OCO		FY 2016 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Contractor System Engineering and Prog. Mgt GCV/FFV	SS/CPFF	BAE / GDLS, Sterling Heights, MI : .	985.543	67.226	Dec 2013	40.000	May 2015	40.000	Jan 2016	-		40.000	Continuing	Continuing	Continuing
Contractor Prototypes GCV	SS/CPFF	BAE / GDLS, Sterling Heights, MI : .	65.659	-		-		-		-		-	Continuing	Continuing	Continuing
Contractor Software GCV	SS/CPFF	BAE / GDLS, Sterling Heights, MI : .	64.082	18.396	Dec 2013	-		-		-		-	Continuing	Continuing	Continuing
Subtotal			1,115.284	85.622		40.000		40.000		-		40.000	-	-	-
Support (\$ in Millions)				FY 2014		FY 2015		FY 2016 Base		FY 2016 OCO		FY 2016 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Government System Engineering and Prog. Mgt GCV/FFV	Various	PM Ground Combat Vehicle : Warren, MI	212.474	9.398	Nov 2013	9.134	Oct 2014	-		-		-	Continuing	Continuing	Continuing
Government System Engineering and Prog Mgt FFV	Various	PM FFV : Various Locations	0.000	-		-		9.247	Nov 2015	-		9.247	-	9.247	-
Assessment of Selected Non-developmental Vehicles (ASNV) GCV	Various	Various Locations : Various Locations	38.304	-		-		-		-		-	-	38.304	-
Subtotal			250.778	9.398		9.134		9.247		-		9.247	-	-	-
Test and Evaluation (\$ in Millions)				FY 2014		FY 2015		FY 2016 Base		FY 2016 OCO		FY 2016 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Government Tests & Modeling & Simulation GCV	Various	PM Ground Combat Vehicle : Warren, MI	29.310	1.800	Jan 2014	-		-		-		-	Continuing	Continuing	Continuing
Subtotal			29.310	1.800		-		-		-		-	-	-	-

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	Prior Years	FY 2014		FY 2015		FY 2016 Base		FY 2016 OCO		FY 2016 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	1,395.372	96.820		49.134		49.247		-		49.247	-	-	-
Remarks													

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Exhibit R-4, RDT&E Schedule Profile: PB 2016 Army	Date: February 2015
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Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0605625A / <i>Manned Ground Vehicle</i>	Project (Number/Name) FC8 / <i>BCT Ground Combat Vehicle</i>
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Event Name	FY 2014				FY 2015				FY 2016				FY 2017				FY 2018				FY 2019				FY 2020			
	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
Technology Development Phase GCV																												
(1) Preliminary Design Review GCV																												
(2) TD Contract Completion GCV																												
Advanced Concept Development FFV																												

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Exhibit R-4A, RDT&E Schedule Details: PB 2016 Army	Date: February 2015
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Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0605625A / <i>Manned Ground Vehicle</i>	Project (Number/Name) FC8 / <i>BCT Ground Combat Vehicle</i>
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Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
Technology Development Phase GCV	4	2011	3	2014
Preliminary Design Review GCV	1	2014	1	2014
TD Contract Completion GCV	3	2014	3	2014
Advanced Concept Development FFV	1	2015	4	2016