

UNCLASSIFIED

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

APPROPRIATION/BUDGET ACTIVITY					R-1 ITEM NOMENCLATURE							
2040: Research, Development, Test & Evaluation, Army BA 5: System Development & Demonstration (SDD)					PE 0605625A: Manned Ground Vehicle							
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	-	434.977	639.874	592.201	-	592.201	953.081	948.718	718.000	550.037	Continuing	Continuing
FC8: BCT Ground Combat Vehicle	-	434.977	639.874	592.201	-	592.201	953.081	948.718	718.000	550.037	Continuing	Continuing

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

^{##} The FY 2014 OCO Request will be submitted at a later date

Note

Other Adjustments 1: Changes due to revisions in GCV strategy as described in Mission Description and Budget Item justification.

A. Mission Description and Budget Item Justification

The Army requires an Infantry Fighting Vehicle (IFV) capability to rapidly deploy an overmatching infantry squad anywhere on the battlefield. The GCV IFV will provide the infantry squad with a highly mobile, protected, transport to the decisive locations on the battlefield. The GCV IFV will provide both destructive fires against threat armored vehicles and direct fire support for the squad during dismounted assaults. It will increase the Infantry's tactical mobility, survivability, and lethality against light and heavy armored threats across a variety of missions. The Ground Combat Vehicle (GCV) program was initiated on the basis of an Initial Capabilities Document (ICD) that was approved 10 December 2009. A Capabilities Development Document (CDD) is currently under review, with anticipated approval by the Joint Requirements Oversight Council (JROC) 3QFY2013. The accomplishments and funding reflected in this justification are based on these documents and on program milestone decision memoranda.

A Milestone (MS) A Defense Acquisition Board was conducted on 21 July 2011 and an Acquisition Decision Memorandum (ADM) was signed 17 August 2011. It granted the Army approval to enter a 24 month Technology Development (TD) phase. Two contracts were awarded on 18 August 2011. One contract was awarded to BAE Systems Land & Armaments, Limited Partnership(L.P). and one was awarded to General Dynamics Land Systems Inc. Following receipt of a protest, stop work orders were issued on 29 August 2011. The GAO denied the protest on 5 December 2011, and work resumed 6 December 2011. The following funding requirements/justifications reflect the impact of the 100 day delay caused by the protest.

Revisions to the GCV strategy were approved via an ADM that was signed on 16 January 2013. The Army's exploration of the capabilities trade-space and full range of alternatives prior to finalizing requirements has led to a modified set of requirements that require additional preliminary design effort. In addition, the results of the three pronged development effort were considered in revising the GCV strategy. Some relevant decisions included in the ADM were: the TD phase is to be extended by six months, a full and open competition for the Engineering and Manufacturing Development (EMD) phase will be conducted and contract award will be to a single vendor, and MS B will be conducted in late FY2014. The GCV Project Manager is currently taking steps to incorporate these decisions into the program. The following funding requirements/justifications reflect these decisions and are based on cost estimates generated by the Project Management Office.

The GCV program is using an incremental approach with the GCV IFV as the first increment (future increments have not yet been defined). Due to the aforementioned revision to the GCV strategy, the Technology Development phase (with 2 competing contractors) that effectively began 6 December 2011 will proceed for 30 months. Following Milestone B, currently planned for 3Q2014, the program is planning to award a single competitively selected 54 month contract for the Engineering and

UNCLASSIFIED

Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Army	DATE: April 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 0605625A: <i>Manned Ground Vehicle</i>
--	---

Manufacturing Development (EMD) phase. During EMD, the selected contractor will continue to refine designs and deliver prototypes to support engineering development, risk mitigation, and technical and operational tests. Milestone C is planned for 1QFY2019 and will immediately be followed with award of a Low Rate Initial Production (LRIP) contract to one contractor.

NOTE: The FY2013 Accomplishments/Planned Program reflect the revised GCV strategy but, the FY2013 budget breakouts reflect the submitted FY2013 President's Budget (the FY2013 words have been updated but not the dollars).

<u>B. Program Change Summary (\$ in Millions)</u>	<u>FY 2012</u>	<u>FY 2013</u>	<u>FY 2014 Base</u>	<u>FY 2014 OCO</u>	<u>FY 2014 Total</u>
Previous President's Budget	449.387	639.874	1,416.884	-	1,416.884
Current President's Budget	434.977	639.874	592.201	-	592.201
Total Adjustments	-14.410	0.000	-824.683	-	-824.683
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-14.410	-			
• Other Adjustments 1	-	-	-824.683	-	-824.683

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2014 Army										DATE: April 2013		
APPROPRIATION/BUDGET ACTIVITY 2040: Research, Development, Test & Evaluation, Army BA 5: System Development & Demonstration (SDD)					R-1 ITEM NOMENCLATURE PE 0605625A: Manned Ground Vehicle				PROJECT FC8: BCT Ground Combat Vehicle			
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
FC8: BCT Ground Combat Vehicle	-	434.977	639.874	592.201	-	592.201	953.081	948.718	718.000	550.037	Continuing	Continuing
Quantity of RDT&E Articles												

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

^{##} The FY 2014 OCO Request will be submitted at a later date

A. Mission Description and Budget Item Justification

The Army requires an Infantry Fighting Vehicle (IFV) capability to rapidly deploy an overmatching infantry squad anywhere on the battlefield. The GCV IFV will provide the infantry squad with a highly mobile, protected, transport to the decisive locations on the battlefield. The GCV IFV will provide both destructive fires against threat armored vehicles and direct fire support for the squad during dismounted assaults. It will increase the Infantry's tactical mobility, survivability, and lethality against light and heavy armored threats across a variety of missions. The Ground Combat Vehicle (GCV) program was initiated on the basis of an Initial Capabilities Document (ICD) that was approved 10 December 2009. A Capabilities Development Document (CDD) is currently under review, with anticipated approval by the Joint Requirements Oversight Council (JROC) 3QFY2013. The accomplishments and funding reflected in this justification are based on these documents and on program milestone decision memoranda.

A Milestone (MS) A Defense Acquisition Board was conducted on 21 July 2011 and an Acquisition Decision Memorandum (ADM) was signed 17 August 2011. It granted the Army approval to enter a 24 month Technology Development (TD) phase. Two contracts were awarded on 18 August 2011. One contract was awarded to BAE Systems Land & Armaments, Limited Partnership (L.P.) and one was awarded to General Dynamics Land Systems Inc. Following receipt of a protest, stop work orders were issued on 29 August 2011. The GAO denied the protest on 5 December 2011, and work resumed 6 December 2011. The following funding requirements/justifications reflect the impact of the 100 day delay caused by the protest.

Revisions to the GCV strategy were approved via an ADM that was signed on 16 January 2013. The Army's exploration of the capabilities trade-space and full range of alternatives prior to finalizing requirements has led to a modified set of requirements that require additional preliminary design effort. In addition, the results of the three pronged development effort were considered in revising the GCV strategy. Some relevant decisions included in the ADM were: the TD phase is to be extended by six months, a full and open competition for the Engineering and Manufacturing Development (EMD) phase will be conducted and contract award will be to a single vendor, and MS B will be conducted in late FY2014. The GCV Project Manager is currently taking steps to incorporate these decisions into the program. The following funding requirements/justifications reflect these decisions and are based on cost estimates generated by the Project Management Office.

The GCV program is using an incremental approach with the GCV IFV as the first increment (future increments have not yet been defined). Due to the aforementioned revision to the GCV strategy, the Technology Development phase (with 2 competing contractors) that effectively began 6 December 2011 will proceed for 30 months. Following Milestone B, currently planned for 3Q2014, the program is planning to award a single competitively selected 54 month contract for the Engineering and Manufacturing Development (EMD) phase. During EMD, the selected contractor will continue to refine designs and deliver prototypes to support engineering development, risk mitigation, and technical and operational tests. Milestone C is planned for 1QFY2019 and will immediately be followed with award of a Low Rate Initial Production (LRIP) contract to one contractor.

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2014 Army		DATE: April 2013		
APPROPRIATION/BUDGET ACTIVITY 2040: Research, Development, Test & Evaluation, Army BA 5: System Development & Demonstration (SDD)	R-1 ITEM NOMENCLATURE PE 0605625A: Manned Ground Vehicle	PROJECT FC8: BCT Ground Combat Vehicle		
NOTE: The FY2013 Accomplishments/Planned Program reflect the revised GCV strategy but, the FY2013 budget breakouts reflect the submitted FY2013 President's Budget (the FY2013 words have been updated but not the dollars).				
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2012	FY 2013	FY 2014
Title: Government System Engineering & Program Management		68.580	96.250	71.262
Articles:		0	0	
Description: Provides for basic Government oversight of the Ground Combat Vehicle (GCV) program. Includes funding for government personnel (labor, travel, training, supplies) and other support (other government agencies, support contractors, automated data processing, communications, and equipment).				
FY 2012 Accomplishments: Provided integrated program management for all development activities by executing the GCV three-pronged development effort. The Program Mangement Office (PMO) provided United States Code (USC) Title 10 oversight to the TD contractors. The GCV Earned Value Management (EVM) team evaluated cost and schedule performance against the established Performance Measurement Baselines (PMB) and Integrated Master Schedules (IMS) for each separate contractor. The GCV Integrated Product Teams (IPTs) oversaw 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. These deliverables have been used to support execution of the GCV knowledge based management plan through completion of Knowledge Points (KP) 1 and 2. The government management team also oversaw each separate contractor as they performed systems engineering, requirements analysis, functional analysis, configuration management, risk management, interface management, data management, technical reviews, trade studies, modeling and simulation, specialty engineering, software engineering, test and training. The PMO completed the assessments of selected non-developmental vehicles. The PMO, in conjunction with TRADOC, also continued analysis related to the dynamic Analysis of Alternatives (AoA) update. All information from the three-pronged strategy has been used to begin detailed preparation of Milestone B products and to support the maturation/approval of the GCV Capability Development Document (CDD).				
FY 2013 Plans: Provide integrated program management for all development activities by continuing to execute the GCV knowledge based management plan and by providing USC Title 10 oversight to the TD contractors. The GCV Earned Value Management (EVM) team will continue to evaluate cost and schedule performance against the established Performance Measurement Baselines (PMB) and Integrated Master Schedules (IMS) for each separate contractor. The GCV IPTs will continue 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 includes review and acceptance of all formal contract deliverables for the two contractor teams. The government management team will also continue to oversee each separate contractor as they perform systems engineering, requirements analysis, functional analysis, configuration management, risk management, interface management,				

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2014 Army		DATE: April 2013		
APPROPRIATION/BUDGET ACTIVITY 2040: Research, Development, Test & Evaluation, Army BA 5: System Development & Demonstration (SDD)	R-1 ITEM NOMENCLATURE PE 0605625A: Manned Ground Vehicle	PROJECT FC8: BCT Ground Combat Vehicle		
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2012	FY 2013	FY 2014
data management, technical reviews, trade studies, modeling and simulation, specialty engineering, software engineering, test and training. An emphasis for the Government team in FY2013 will be on supporting each contractor's Preliminary Design Review (PDR), currently planned for 1QFY2014. Approximately 35 contract deliverables are associated with each PDR and they must be reviewed and approved by the Government team prior to the reviews. Information generated from the three-pronged strategy will be used to complete an updated performance specification for inclusion in both the TD contracts and the EMD Request for Proposal (RFP), which is planned for release in 1QFY2014. The final reports for both the non developmental vehicle assessment and the Dynamic AoA Update will be completed. Continue preparation of approximately 40 documents to support the Milestone B. The Milestone B is currently planned for 3QFY2014, but a pre-MS B review is anticipated 1QFY2014 to support the release of the EMD request for proposal. FY 2014 Plans: Oversight of the TD contracts will continue through 3QFY2014. Preliminary Design Reviews will be held 1QFY2014. The GCV IPTs will continue 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 includes review and acceptance of all formal contract deliverables for the two contractor teams. The GCV program transitions to the EMD phase in 3Q2014, with the planned award of a competitively selected contract. An EMD Request for Proposal (RFP) will be developed and released 1QFY2014. A Source Selection Evaluation Board (SSEB) will be conducted 1-3QFY2014 to evaluate proposals. Approximately 40 documents required for the Milestone B will be completed. Following contract award, a start-of-work meeting will be held. This will be followed by Integrated Baseline Reviews (IBRs) for the prime contractor and relevant sub-contractors. These will likely be initiated 4QFY2014.				
Title: Contractor Systems Engineering/Program Management Description: Provides for contractor basic development, engineering, and management for the GCV 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 2012 Accomplishments: : Continued preliminary design of subsystems focusing on size, weight, power, and cooling requirements. System Requirement Reviews (SRRs) and System Functional Reviews (SFRs) were completed for both contractor teams 2-3QFY2012. Completed the designs for the subsystem test assets. Completed initial delivery of the integrated set of architecture artifacts. GCV Hot Benches were designed to support integration of hardware and software sub-components prior to vehicle level integration. Vehicle and modular armor mock-ups were designed and fabricated. Completed design studies to allow identification of Engineering and Manufacturing Development (EMD) long lead hardware requirements. Cost and Operational Effectiveness Analyses (COEAs) and Affordability Assessments were delivered by both contractor teams. Integrated Baseline Reviews (IBRs) were successfully		285.777 0 Articles:	386.269 0	266.552

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2014 Army			DATE: April 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 0605625A: <i>Manned Ground Vehicle</i>		PROJECT FC8: <i>BCT Ground Combat Vehicle</i>	
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)			FY 2012	FY 2013	FY 2014
conducted, Each contractor team continued to perform program management using Earned Value Management and Technical Performance Measures (TPMs) to report cost, schedule and technical status.					
FY 2013 Plans: Conduct and support TD subsystem prototype testing. Utilize the System Integration Environment and the Hot Bench to mature subsystem designs. Deliver approximately 35 data items and then conduct the GCV system level Preliminary Design Review (PDR) 1QFY2014. Conduct subsystem PDRs 2-4QFY2013. Following PDRs, initiate detailed design of subsystems focusing on size, weight, power, and cooling requirements. Perform program management using EVM and TPMs to report cost, schedule and technical status. Prepare and submit all contract deliverables.					
FY 2014 Plans: Contractors will perform program management using EVM and TPMs to report cost, schedule and technical status. All required contract deliverables will be prepared and delivered. Each of the current contractors will continue and complete the Technology Development phase. This includes: conducting system level Preliminary Design Reviews 1QFY2014, conducting and completing component/subsystem maturation testing by 3QFY2014, conducting hot-bench integration 1-3QFY2014, and conducting and performing assessments of initial component/subsystem reliability growth tests. A single prime contract is planned for the EMD phase of the GCV program. This will be awarded 3QFY2014. EMD design and maturation activities will commence and will be based on the approved Capability Development Document and the related GCV performance specification. Specific activities will depend on the final approved performance requirements and on which contractor is selected for the EMD phase. In FY2014, the selected contractor is expected to initiate EMD by finalizing and awarding contracts to all applicable subcontractors and suppliers. The prime contractor team will then initiate detailed design for any planned early integration assets. In addition, the contractor team will begin preliminary design of the full system prototypes that will reflect the final GCV IFV configuration. System Integration Laboratories (SILs) and/or "Hot Benches" will be designed, fabricated, facilitated, and then used to support early integration / test of selected subsystems. The prime contractor will conduct a start-of-work meeting 4QFY2014 and will then will support the Government led IBR at the prime contractor's location. The prime contractor will lead IBRs at all applicable subcontractor locations. The IBRs will commence 4QFY2014.					
Title: Contractor Prototypes			4.298	99.860	141.103
Articles:			0	0	
Description: Provides for procurement and fabrication of subsystem test assets required by the Technology Development (TD) contract and for system level prototypes planned in the EMD phase. Does not include material consumed in support of component level engineering efforts.					
FY 2012 Accomplishments:					

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2014 Army		DATE: April 2013		
APPROPRIATION/BUDGET ACTIVITY 2040: Research, Development, Test & Evaluation, Army BA 5: System Development & Demonstration (SDD)	R-1 ITEM NOMENCLATURE PE 0605625A: Manned Ground Vehicle	PROJECT FC8: BCT Ground Combat Vehicle		
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2012	FY 2013	FY 2014
Initiated hardware procurement and integration of the subsystem test assets required of each contractor (Rocket Propelled Grenade (RPG) Protection Subsystem Prototype and Mine Blast Subsystem Prototype Test Article). FY 2013 Plans: Complete fabrication, integration, and delivery of the subsystem test assets required of each contractor (Rocket Propelled Grenade (RPG) Protection Subsystem Prototype and Mine Blast Subsystem Prototype Test Article). Following modification of the current TD contracts, additional risk mitigation assets will be fabricated and delivered. The specific risk mitigation assets have not yet been defined, but may include automotive test rigs and selected electronic components. FY 2014 Plans: The selected EMD contractor will procure hardware to support early integration assets to support his development strategy. Fabrication and assembly of any such early integration assets will be completed by 3QFY2015. Long lead material for the full system prototypes (12) will be placed on contract beginning 4QFY2014. As required, fabrication for hull structures will be initiated for the full system prototypes.				
Title: Government Tests Articles: 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 2012 Accomplishments: Completed detailed test planning, coordination and safety requirements development and coordination efforts in support of the Subsystem Prototype testing. In addition, initiated development of the Test and Evaluation Master Plan (TEMP) required to support Milestone B. FY 2013 Plans: Subsystem Prototype testing will be conducted at Government test facilities during 2-3QFY2013. The subsystem test assets will be tested, as required. This includes testing of the Rocket Propelled Grenade (RPG) Protection Subsystem Prototypes and Mine Blast Subsystem Prototype Test Articles against relevant threats. A draft of the TEMP will be completed to support a pre-Milestone B review 1QFY2014. PM GCV will continue to procure test threats to support future Survivability/Force Protection testing, and test ammunition to support future integration testing and Lethality testing. Detailed test planning will be initiated for the Engineering		6.690 0	15.527 0	59.620

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2014 Army			DATE: April 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 0605625A: <i>Manned Ground Vehicle</i>		PROJECT FC8: <i>BCT Ground Combat Vehicle</i>	
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)			FY 2012	FY 2013	FY 2014
and Manufacturing Development (EMD) phase. Army Test and Evaluation Command will also be funded to develop the System Evaluation Plan.					
FY 2014 Plans: The additional TD phase risk mitigation assets will be tested at Government test facilities 1-2QFY2014. In addition, re-test of the existing subsystem test assets will be performed after updates that reflect the revised performance specification. The TEMP will be finalized to support the Milestone B 3QFY2014. The Army Test and Evaluation Command will support the GCV Operational Test Agency Milestone B Assessment Report. Detailed test planning will continue for the Engineering and Manufacturing Development (EMD) phase, to include planning associated with the testing in support of the Live Fire Test and Evaluation Strategy. As required, test threats and test ammunition that has a long lead time will be procured.					
Title: Contractor Software			39.925	41.968	53.664
Articles:			0	0	
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 2012 Accomplishments: Continued the development of initial software builds in support of testing of the subsystem test assets. Defined and established software development and integration environments. Initiated work on development of Software Requirements Specification, interface requirements specification, and software architecture definition/description. Formulated software build plan to align with system and subsystem requirements development, and began software development and integration. Created vehicle model and selected subsystem models (e.g. mobility, survivability, etc.).					
FY 2013 Plans: All software requirements and interfaces for the early software build will be baselined to allow software development to complete in support of iterative software integration. Conduct early software integration using emulators and surrogates to verify correct subsystem behaviors and interfaces. Conduct qualification and regression testing and delivery of the software build to support subsystem level integration. Initiate subsequent software build/development efforts and incrementally build up the functionalities in meeting vehicle delivery schedules. Update software architecture with specific implementation features for all Government furnished software subsystems.					
FY 2014 Plans: TD Contractors refine Software Architecture Design Documents (SADDs) and all architectural significant use case and software requirement specifications. After award of the EMD contract, the selected contractor will initiate software builds to support full up					

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2014 Army								DATE: April 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 0605625A: <i>Manned Ground Vehicle</i>			PROJECT FC8: <i>BCT Ground Combat Vehicle</i>				
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)								FY 2012	FY 2013	FY 2014	
prototype integration. These software builds will be completed in an incremental fashion and then tested in System Integration Laboratories (SILs) prior to integration on the vehicle assets. The EMD software build plans will be developed 4QFY2014.											
Title: Assessment of Selected Non-developmental Vehicles (ASNV) Articles:								29.707 0	0.000	0.000	
Description: ASNV represents the second prong of the GCV TD three-prong approach as outlined in the 17 August 2011 Milestone A ADM. The ASNV includes comprehensive assessments of multiple configurations and families (mixes) of vehicles which could provide affordable, effective and suitable capability in the required timeframe. This element provides for the testing and analysis associated with the ASNV effort. Basic PM oversight of the effort, however, is included in Government Systems Engineering and Program Management. FY 2012 Accomplishments: FY 2012 Description: Continued technical and operational assessments. Leveraged the most cost effective means of gathering data, to include physical vehicle assessments and simulation / modeling. Provided data for each ASNV excursion to the GCV Integrated Concept Team (ICT) to support the GCV Capability Development Document (CDD) and Milestone B scheduled for 3QFY2014.											
Accomplishments/Planned Programs Subtotals								434.977	639.874	592.201	
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
• Ground Combat Vehicle (GCV): <i>Ground Combat Vehicle (GCV)</i>									287.649	Continuing	Continuing
Remarks											
D. Acquisition Strategy											
An Acquisition Decision Memorandum (ADM) was signed 17 August 2011. It granted the Project Management Office approval to enter a 24 month Technology Development (TD) phase. Two contracts were awarded on 18 August 2011. One contract was awarded to BAE Systems Land & Armaments, L.P. and one was awarded to General Dynamics Land Systems Inc. Due to a protest, stop work orders were issued on 29 August 2011. The Government Accountability Office denied the protest on 5 December 2011, and work resumed 6 December 2011. For the ongoing TD phase, the Army has been maturing its requirements by using key program imperatives to shape trade space and to ensure convergence on an affordable and achievable set of requirements. The TD phase contracts have allowed contractors to trade selected capability to support the path to an affordable set of requirements and to reduce program cost and risk. In addition to the effort related to the TD contracts, PM GCV has conducted assessments of selected non-											

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2014 Army		DATE: April 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 0605625A: <i>Manned Ground Vehicle</i>	PROJECT FC8: <i>BCT Ground Combat Vehicle</i>
developmental vehicles and supported a dynamic update to the Analysis of Alternatives (AoA). This "three pronged effort" (TD contracts, vehicle assessments, and dynamic AoA update) is generating data that will ensure a well informed Milestone B. Revisions to the GCV strategy were recently approved via an Acquisition Decision Memorandum signed on 16 January 2013. It recognized that the Army's exploration of the capabilities trade-space and full range of alternatives prior to finalizing requirements MS B decision, has led to a modified set of requirements that require additional preliminary design effort. It likewise acknowledged that the results of the three pronged development effort were considered in revising the GCV strategy. Decisions included in the ADM were: 1) The TD phase is to be extended by six months, 2) A full and open competition for the Engineering and Manufacturing Development (EMD) phase will be conducted and contract award will be to a single vendor, 3) Planned procurement of long lead items for EMD prototypes is not authorized, 4) The Milestone C decision shall be planned for FY2019, and 5) Milestone B will be conducted in late FY2014, following a pre-EMD Defense Acquisition Board first quarter FY2014 (which must occur prior to releasing the EMD Request for Proposal). The GCV Project Manager is currently taking steps to incorporate these decisions into the program. The GCV program is using an incremental approach with the GCV IFV as the first increment (future increments have not yet been defined). Due to the aforementioned revision to the GCV strategy, the Technology Development phase competitive development contracts that effectively began 6 December 2011 will proceed for 30 months. Following Milestone B, currently planned for 3Q2014, the program is planning to award a single competitively selected 54 month contract for the EMD phase. During EMD, the selected contractor will continue to refine designs and deliver prototypes to support engineering development, risk mitigation, and technical and operational tests. Milestone C is planned for 1QFY2019 and will immediately be followed with award of a Low Rate Initial Production (LRIP) contract to one contractor. <u>E. Performance Metrics</u> 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.		

UNCLASSIFIED

Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Army												DATE: April 2013			
APPROPRIATION/BUDGET ACTIVITY 2040: Research, Development, Test & Evaluation, Army BA 5: System Development & Demonstration (SDD)						R-1 ITEM NOMENCLATURE PE 0605625A: Manned Ground Vehicle				PROJECT FC8: BCT Ground Combat Vehicle					
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
Contractor System Engineering and Prog. Mgt	PO	TD Phase - BAE / GDLS, Sterling Heights, MI:EMD Phase TBD	274.947	285.777	Aug 2011	386.269	Nov 2012	266.552	Jun 2014	-		266.552	Continuing	Continuing	Continuing
Contractor Prototypes	PO	TD Phase - BAE / GDLS, Sterling Heights, MI:EMD Phase TBD	2.582	4.298	Aug 2011	99.860	Nov 2012	141.103	Jun 2014	-		141.103	Continuing	Continuing	Continuing
Contractor Software	PO	TD Phase - BAE / GDLS, Sterling Heights, MI:EMD Phase TBD	4.677	39.925	Aug 2011	41.968	Nov 2012	53.664	Jun 2014	-		53.664	Continuing	Continuing	Continuing
Subtotal			282.206	330.000		528.097		461.319		0.000		461.319			
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
Government System Engineering and Prog. Mgt	Various	PM Ground Combat Vehicle:Warren, MI	92.378	68.580	Dec 2011	96.250	Mar 2013	71.262	Dec 2013	-		71.262	Continuing	Continuing	Continuing
Assessment of Selected Non-developmental Vehicles (ASNV)	Various	Various Locations:Various Locations	8.597	29.707	Jun 2012	-		-		-		-	0.000	38.304	0.000
Subtotal			100.975	98.287		96.250		71.262		0.000		71.262			
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
Government Tests & Modeling & Simulation	Various	PM Ground Combat Vehicle:Warren, MI	7.093	6.690	Dec 2011	15.527	Mar 2013	59.620	Dec 2013	-		59.620	Continuing	Continuing	Continuing
Subtotal			7.093	6.690		15.527		59.620		0.000		59.620			

UNCLASSIFIED

Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Army										DATE: April 2013				
APPROPRIATION/BUDGET ACTIVITY 2040: Research, Development, Test & Evaluation, Army BA 5: System Development & Demonstration (SDD)					R-1 ITEM NOMENCLATURE PE 0605625A: Manned Ground Vehicle					PROJECT FC8: BCT Ground Combat Vehicle				
	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	390.274	434.977		639.874		592.201		0.000		592.201				

Remarks

UNCLASSIFIED

Exhibit R-4, RDT&E Schedule Profile: PB 2014 Army			DATE: April 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 0605625A: <i>Manned Ground Vehicle</i>		
			PROJECT FC8: <i>BCT Ground Combat Vehicle</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
Prototype Subsystem Testing																												
Preliminary Design Review																												
Milestone B																												
EMD Contract Award																												
Engineering / Manufacturing Development																												
Critical Design Review																												
1ST Full-up Prototype Vehicle																												
Production Qualification Test (PQT)																												
Limited User Test																												
Production Readiness Review (PRR)																												

UNCLASSIFIED

Exhibit R-4A, RDT&E Schedule Details: PB 2014 Army			DATE: April 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 0605625A: <i>Manned Ground Vehicle</i>	PROJECT FC8: <i>BCT Ground Combat Vehicle</i>	

Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
Prototype Subsystem Testing	2	2013	4	2013
Preliminary Design Review	1	2014	1	2014
Milestone B	3	2014	3	2014
EMD Contract Award	3	2014	3	2014
Engineering / Manufacturing Development	3	2014	4	2018
Critical Design Review	1	2016	1	2016
1ST Full-up Prototype Vehicle	1	2017	1	2017
Production Qualification Test (PQT)	1	2017	4	2018
Limited User Test	1	2018	3	2018
Production Readiness Review (PRR)	4	2018	4	2018