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Exhibit R-2, RDT&E Budget Item Justification: PB 2023 Army **Date:** April 2022

| | |
|--|--|
| Appropriation/Budget Activity 2040: <i>Research, Development, Test & Evaluation, Army / BA 5: System Development & Demonstration (SDD)</i> | R-1 Program Element (Number/Name) PE 0604642A / <i>Light Tactical Wheeled Vehicles</i> |
|--|--|

| COST (\$ in Millions) | Prior Years | FY 2021 | FY 2022 | FY 2023 Base | FY 2023 OCO | FY 2023 Total | FY 2024 | FY 2025 | FY 2026 | FY 2027 | Cost To Complete | Total Cost |
|---------------------------|-------------|---------|---------|--------------|-------------|---------------|---------|---------|---------|---------|------------------|------------|
| Total Program Element | - | 4.371 | 2.055 | - | - | - | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 6.426 |
| E40: <i>LTV Prototype</i> | - | 4.371 | 2.055 | - | - | - | - | - | - | - | 0.000 | 6.426 |

A. Mission Description and Budget Item Justification

The Army Ground Mobility Vehicles (GMV) through enhanced tactical mobility will motorize the Infantry Brigade Combat Teams (IBCT) via 9-Soldier infantry squads with their associated equipment to move quickly around the battlefield. This capability is required across the range of military operations facing Infantry Brigade Combat Team (IBCT) units conducting crises response, initial entry, and selected decisive action missions. GMV deploys worldwide by sea, air, and land modes to support strategic deployment and operational maneuver in accordance with Army and Joint doctrine. This capability provides flexibility for entry operations (permissive and non-permissive) to counter threat anti-access strategies by using multiple austere entry points to bring in combined arms configured units.

The electric Light Reconnaissance Vehicle (eLRV) platform through electrification will provide commanders a substantial competitive advantage in the Multi-Domain Operational (MDO) Environment against threat capabilities through reduction in acoustic and thermal signature, silent mobility, increased dash speed, extended range, increased reliability and reduction in CL III requirements. These attributes will enhance lethality and survivability of the mounted reconnaissance squad, platoon and troop.

Funding supports modernization of the current Tactical Wheeled Vehicle fleets by investigating technology insertions including, but not limited to: predictive logistics, vetronics, Victory Architecture, autonomous operations and other emerging technologies. Funding also supports developing initial prototypes to enable refinement of Operational Requirements and early user feedback to support future sustainment and operational movement operating concepts.

PE 0604642A has no FY 2023 funding request.

| B. Program Change Summary (\$ in Millions) | FY 2021 | FY 2022 | FY 2023 Base | FY 2023 OCO | FY 2023 Total |
|---|----------------|----------------|---------------------|--------------------|----------------------|
| Previous President's Budget | 4.193 | 2.055 | 0.000 | - | 0.000 |
| Current President's Budget | 4.371 | 2.055 | 0.000 | - | 0.000 |
| Total Adjustments | 0.178 | 0.000 | 0.000 | - | 0.000 |
| • Congressional General Reductions | - | - | | | |
| • Congressional Directed Reductions | - | - | | | |
| • Congressional Rescissions | - | - | | | |
| • Congressional Adds | - | - | | | |
| • Congressional Directed Transfers | - | - | | | |
| • Reprogrammings | 0.178 | - | | | |
| • SBIR/STTR Transfer | - | - | | | |

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Congressional Add Details (\$ in Millions, and Includes General Reductions)

Project: E40: *LTV Prototype*

Congressional Add: *Infantry Squad Vehicle - Army requested transfer from OPA line 5*

Congressional Add Subtotals for Project: E40

Congressional Add Totals for all Projects

| | FY 2021 | FY 2022 |
|--|---------|---------|
| | 2.289 | - |
| | 2.289 | - |
| | 2.289 | - |

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| Appropriation/Budget Activity 2040 / 5 | | | | | R-1 Program Element (Number/Name) PE 0604642A / <i>Light Tactical Wheeled Vehicles</i> | | | | Project (Number/Name) E40 / <i>LTV Prototype</i> | | | |
|--|-------------|---------|---------|--------------|--|---------------|---------|---------|--|---------|------------------|------------|
| COST (\$ in Millions) | Prior Years | FY 2021 | FY 2022 | FY 2023 Base | FY 2023 OCO | FY 2023 Total | FY 2024 | FY 2025 | FY 2026 | FY 2027 | Cost To Complete | Total Cost |
| E40: <i>LTV Prototype</i> | - | 4.371 | 2.055 | - | - | - | - | - | - | - | 0.000 | 6.426 |
| Quantity of RDT&E Articles | - | - | - | - | - | - | - | - | - | - | | |

Note

This project includes GMV (AGMV1.1), Infantry Squad Vehicle (ISV), SOCOM GMV1.1), & electric Light Reconnaissance Vehicle (eLRV) .

A. Mission Description and Budget Item Justification

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PE 0604642A has no FY 2023 funding request.

B. Accomplishments/Planned Programs (\$ in Millions)

| | FY 2021 | FY 2022 | FY 2023 |
|---|---------|---------|---------|
| Title: GMV Contract Test Support | 0.553 | 0.280 | - |
| Description: Funding is provided for Ground Mobility Vehicles (GMV) contractor test support. | | | |
| FY 2022 Plans: Completion of ISV GMV contractor test support. | | | |
| FY 2022 to FY 2023 Increase/Decrease Statement: | | | |

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| B. Accomplishments/Planned Programs (\$ in Millions) | | FY 2021 | FY 2022 | FY 2023 |
| No funding in FY2023. | | | | |
| <p>Title: GMV Test and Evaluation</p> <p>Description: Funding is provided for Ground Mobility Vehicles (GMV) testing events in the support of Full Rate Production (FRP) decision.</p> <p>FY 2022 Plans: Completion of ISV GMV testing which include Low Velocity Air Drop (LVAD), maintenance evaluation, and operational testing.</p> <p>FY 2022 to FY 2023 Increase/Decrease Statement: No funding in FY2023.</p> | | 1.529 | 1.002 | - |
| <p>Title: eLRV Prototypes</p> <p>Description: Funding is provided for the support of electric Light Reconnaissance Vehicle (eLRV) Prototypes.</p> <p>FY 2022 Plans: Funding is provided for the support of electric Light Reconnaissance Vehicle (eLRV) Prototypes.</p> <p>FY 2022 to FY 2023 Increase/Decrease Statement: No funding in FY2023.</p> | | - | 0.545 | - |
| <p>Title: eLRV Test and Evaluation</p> <p>Description: Funding is provided for electric Light Reconnaissance Vehicle (eLRV) testing events.</p> <p>FY 2022 Plans: Funding is provided for electric Light Reconnaissance Vehicle (eLRV) safety testing, developmental testing, and Soldier touch point events.</p> <p>FY 2022 to FY 2023 Increase/Decrease Statement: No funding in FY2023.</p> | | - | 0.153 | - |
| <p>Title: FY 2022 SBIR/STTR Transfer</p> <p>Description: Funding transferred in accordance with Title 15 USC ?638</p> <p>FY 2022 Plans: Funding transferred in accordance with Title 15 USC ?638</p> <p>FY 2022 to FY 2023 Increase/Decrease Statement:</p> | | - | 0.075 | - |

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|--|--|--|

| | | | |
|---|----------------|----------------|----------------|
| B. Accomplishments/Planned Programs (\$ in Millions) | FY 2021 | FY 2022 | FY 2023 |
| FY 2022 SBIR/STTR Transfer | | | |
| Accomplishments/Planned Programs Subtotals | 2.082 | 2.055 | - |

| | | |
|---|----------------|----------------|
| | FY 2021 | FY 2022 |
| Congressional Add: Infantry Squad Vehicle - Army requested transfer from OP.A line 5 | 2.289 | - |
| FY 2021 Accomplishments: Funding was a recolor of FY21 GMV OPA D15501 for ISV GMV Operational Testing. | | |
| Congressional Adds Subtotals | 2.289 | - |

C. Other Program Funding Summary (\$ in Millions)

| <u>Line Item</u> | <u>FY 2021</u> | <u>FY 2022</u> | <u>FY 2023</u> <u>Base</u> | <u>FY 2023</u> <u>OCO</u> | <u>FY 2023</u> <u>Total</u> | <u>FY 2024</u> | <u>FY 2025</u> | <u>FY 2026</u> | <u>FY 2027</u> | <u>Cost To</u> <u>Complete</u> | <u>Total Cost</u> |
|---|----------------|----------------|-------------------------------|------------------------------|--------------------------------|----------------|----------------|----------------|----------------|-----------------------------------|-------------------|
| • D15505: <i>Ground Mobility Vehicles (Light) GMV (L)</i> | 29.247 | 44.807 | 34.316 | - | 34.316 | 36.967 | - | - | - | Continuing | Continuing |

Remarks

D. Acquisition Strategy

Ground Mobility Vehicles (GMV) Phase I: Per AROC on 10 August 2018 following the Army's funding reprioritization, the Army's direction was to procure 127 vehicles for USASOC, and 170 for Army GMV 1.1 for 3 Airborne IBCTs.

GMV Phase II: A firm fixed priced production contract was awarded to General Motors (GMV) Defense on 26 June 2020 following successful prototype determination and findings from the ISV OTA. Per AROC on 08 February 2019, the Vice Chief Secretary of Army (VCSA) approved the procurement objective of 11 IBCT sets at 59 vehicles per IBCT (649 vehicles) to be completed by FY 2024. During a follow on AROC on 22 February 2019, the VCSA approved the ISV annex to the approved SOCOM GMV1.1 Capabilities Production Document which approved the total requirement for the ISV program.

electric Light Reconnaissance Vehicle (eLRV) :

PL GMV conducted market research and Industry coordination to assess industry capabilities and verify maturity of integration in support of an Army Requirements Oversight Council in April 2021. eLRV Abbreviated-Capability Development Document (A-CDD) was validated July 2021. PL GMV will utilize a two-phased acquisition strategy for eLRV.

Proposal Development and Phase I Prototyping: Initial development will include industry engagements with draft reviews of proposal language and feedback from stakeholders. Prototyping will be broken down into two sub phases. Sub phase 1a Initial Prototypes: award will use novel acquisition approaches to up to four vendors

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|--------------------------------------|--|------------------------------|
| 2040 / 5 | PE 0604642A / <i>Light Tactical Wheeled Vehicles</i> | E40 / <i>LTV Prototype</i> |

to procure two prototypes each for limited safety/performance testing and a Soldier Touch Point (STP) focusing on electric drive, off road mobility and range/duration. Sub phase 1b Operational Prototypes: down select to up to four vendors to procure three prototypes each for additional safety/performance testing and STP focusing on operational effectiveness of militarized prototypes.

Phase II Production : Utilize Soldier Feedback and test data obtained in Phase I presented in a Knowledge Point to inform updates to Capability Development Document (CDD) and proposed path forward. Courses of Action (COA) for path forward: COA1 approved CDD entry at Milestone C, COA2 execute MTA-RF, COA3 approved CDD entry at Milestone B, and COA 4 Off Ramp.

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2023 Army **Date:** April 2022

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|--|--|--|

| Management Services (\$ in Millions) | | | | FY 2021 | | FY 2022 | | FY 2023 Base | | FY 2023 OCO | | FY 2023 Total | Cost To Complete | Total Cost | Target Value of Contract |
|---|------------------------|--------------------------------|-------------|---------|------------|---------|------------|--------------|------------|-------------|------------|---------------|------------------|------------|--------------------------|
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Prior Years | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | | | |
| FY 2022 SBIR/STTR Transfer | TBD | TBD : TBD | - | - | | 0.075 | | - | | - | | - | 0.000 | 0.075 | - |
| Subtotal | | | - | - | | 0.075 | | - | | - | | - | 0.000 | 0.075 | N/A |

| Product Development (\$ in Millions) | | | | FY 2021 | | FY 2022 | | FY 2023 Base | | FY 2023 OCO | | FY 2023 Total | Cost To Complete | Total Cost | Target Value of Contract |
|---|------------------------|--|-------------|---------|------------|---------|------------|--------------|------------|-------------|------------|---------------|------------------|------------|--------------------------|
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Prior Years | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | | | |
| GMV Contractor Test Support | Various | General Motor Defense (GM-D) : Various | 0.456 | 0.553 | Feb 2021 | 0.280 | Aug 2022 | - | | - | | - | 0.000 | 1.289 | - |
| GMV Test Assets | Various | General Motor Defense (GM-D) : Various | 0.366 | - | | - | | - | | - | | - | 0.000 | 0.366 | - |
| GMV Prototypes | Various | Various : Various | 3.143 | - | | - | | - | | - | | - | 0.000 | 3.143 | - |
| eLRV Prototypes | TBD | TBD : TBD | - | - | | 0.545 | May 2022 | - | | - | | - | 0.000 | 0.545 | - |
| Subtotal | | | 3.965 | 0.553 | | 0.825 | | - | | - | | - | 0.000 | 5.343 | N/A |

| Support (\$ in Millions) | | | | FY 2021 | | FY 2022 | | FY 2023 Base | | FY 2023 OCO | | FY 2023 Total | Cost To Complete | Total Cost | Target Value of Contract |
|---------------------------------|------------------------|--------------------------------|-------------|---------|------------|---------|------------|--------------|------------|-------------|------------|---------------|------------------|------------|--------------------------|
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Prior Years | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | | | |
| GMV Program Management Support | Various | PM Office : Selfridge ANG | 0.337 | - | | - | | - | | - | | - | 0.000 | 0.337 | - |
| Subtotal | | | 0.337 | - | | - | | - | | - | | - | 0.000 | 0.337 | N/A |

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| Exhibit R-4, RDT&E Schedule Profile: PB 2023 Army | | Date: April 2022 |
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| Event Name | FY 2021 | | | | FY 2022 | | | | FY 2023 | | | | FY 2024 | | | | FY 2025 | | | | FY 2026 | | | | FY 2027 | | | |
|---|------------------|---|---|---|---------|---|---|---|---------|---|---|---|---------|---|---|---|---------|---|---|---|---------|---|---|---|---------|---|---|---|
| | 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 |
| GMV ISV Production Qualification Testing (PQT) | ████████████████ | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| GMV ISV Operational Testing | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| GMV ISV First Unit Equipped (FUE) | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| GMV ISV Phase II Operational Testing | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| GMV ISV Full Rate Production (FRP) | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| GMV ISV Maintenance Evaluation | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| eLRV Army Requirements Oversight Council (AROC) | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| eLRV Industry Day #1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| eLRV Request for Project Proposal (RPP) Development | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| eLRV Industry Day #2 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

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| Exhibit R-4A, RDT&E Schedule Details: PB 2023 Army | | Date: April 2022 |
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Schedule Details

| Events | Start | | End | |
|---|---------|------|---------|------|
| | Quarter | Year | Quarter | Year |
| GMV ISV Production Qualification Testing (PQT) | 1 | 2021 | 3 | 2022 |
| GMV ISV Operational Testing | 4 | 2021 | 4 | 2021 |
| GMV ISV First Unit Equipped (FUE) | 3 | 2022 | 3 | 2022 |
| GMV ISV Phase II Operational Testing | 4 | 2022 | 4 | 2022 |
| GMV ISV Full Rate Production (FRP) | 1 | 2023 | 1 | 2023 |
| GMV ISV Maintenance Evaluation | 4 | 2023 | 4 | 2023 |
| eLRV Army Requirements Oversight Council (AROC) | 3 | 2021 | 3 | 2021 |
| eLRV Industry Day #1 | 3 | 2021 | 3 | 2021 |
| eLRV Request for Project Proposal (RPP) Development | 1 | 2022 | 1 | 2024 |
| eLRV Industry Day #2 | 3 | 2023 | 3 | 2023 |