

Request for Proposals (RFP)
Autonomous Vehicle Research Testbed:
Service Vehicle Pilot



Issue Date:	January 27, 2020
Pre-Proposal Conference:	February 6, 2020, 1PM EST
Proposal Inquiry Period Ends:	February 12, 2020
Pre-Proposal Due Date:	February 21, 2020, 8PM EST
Proposal Due Date:	March 27, 2020, 8PM EST

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I. PROPOSAL INTRODUCTION

Proposal Purpose

US Ignite, Inc. (“US Ignite”) is seeking proposals from technology partners to deploy, operate and maintain autonomous vehicles (“AV”) to help serve the needs of U.S. Army Installation at Fort Carson, near the city of Colorado Springs, Colorado. The objective of this request for proposal is to complete an Autonomous Service Vehicle Pilot (“the Pilot”) as part of the AV Research Testbed. The use cases for the Pilot may include airfield maintenance, equipment delivery and personnel transportation. Examples of a Service AV may include, but are not limited to:

- Automated inspection vehicle for airfield ramps and taxiways
- Foreign Object Debris (FOD) detection and removal on runways
- Airfield, taxiway and runway sweeper
- Equipment delivery tractor for transporting tools, fuels or maintenance equipment
- Package delivery between facilities via roadways or dedicated paths
- Point-to-point personnel transportation vehicle for ride hailing service

This Service AV RFP is released in support of the Fort Carson AV Testbed Program. US Ignite has previously released an RFP for an On Base Shuttle Pilot for the program. The Pilot will be a public-private partnership with US Ignite – there will be a 6-month initial period of performance (the “Pilot Term”) and a 6-month option period.

The Selected Proposer(s) shall be responsible for the development of project management documents (as specified), AV operations, maintenance and service as required during the duration of the Pilot Term.

Project Goals

The Pilot will explore advancements in mobility and automation to optimize operational efficiencies and improve the lives of Soldiers and their Families. Fort Carson’s controlled installation environment also connects to the larger Colorado Springs region, making it an ideal research testbed for at-scale development of next-generation transportation technology.

It is US Ignite’s vision that the project will be used to inform the following overall goals:

- Use research with AVs and sensor-based technologies to help the Department of Defense reduce transportation costs, improve public safety, and deliver faster services on military installation sites
- Serve as an ideal Case Study for other smart installations to leverage AVs
- Develop a methodology for evaluating the operational safety of the system in various deployment settings

RFP Submission

All RFP responses must be received by March 27, 2020 8:00 pm Eastern Standard Time. Proposals will be reviewed and evaluated in private. Any proposal received after the time stipulated will not be considered and will be rejected or returned to the Proposer.

Proposals should be submitted via email to: meghan.histand@us-ignite.org. Proposals shall be in the proposal format as described in this RFP. Proposers will receive an email from US Ignite confirming

receipt of proposal.

The Evaluation Committee reserves the right to reject any and all proposals, and to accept any proposal or proposals as submitted, or as modified, which in the opinion of the Evaluation Committee will be in the best interest of US Ignite.

DISCLAIMERS

US IGNITE RESERVES THE RIGHT TO WITHDRAW THIS RFP AT ANY TIME AND FOR ANY REASON, AND TO ISSUE SUCH CLARIFICATIONS, MODIFICATIONS, AND/OR AMENDMENTS, AS IT MAY DEEM APPROPRIATE. RECEIPT OF PROPOSAL MATERIALS BY US IGNITE OR SUBMISSION OF A PROPOSAL TO US IGNITE CONFERS NO RIGHTS UPON THE PROPOSER NOR OBLIGATES US IGNITE IN ANY MANNER. US IGNITE RESERVES THE RIGHT TO WAIVE MINOR IRREGULARITIES IN PROPOSALS, IF SUCH ACTION IS IN THE BEST INTEREST OF US IGNITE AND THE FORT CARSON COMMUNITY. ANY SUCH WAIVER SHALL NOT MODIFY THE REMAINING RFP REQUIREMENTS OR EXCUSE THE PROPOSER FROM FULL COMPLIANCE WITH THE RFP SPECIFICATIONS AND OTHER CONTRACT REQUIREMENTS IF THE PROPOSER IS AWARDED THE CONTRACT.

II. ABOUT US IGNITE, FORT CARSON, AND THE PROGRAM

US Ignite Overview

US Ignite is a national nonprofit, a 501(c)(3), that is accelerating the smart city movement – and creating value for an entire ecosystem – by guiding communities into the connected future, creating a path for private sector growth, and advancing technology research that’s at the heart of smart city development. Why is this important? Because local governments need to improve the quality of life and ensure economic development in their communities, particularly during a time of rapid technological change. Businesses recognize the importance of the emerging market around smart communities and need to find commercial strategies that are repeatable, scalable, and sustainable. And foundations and federal agencies need to channel their institutional aims into efforts ranging from cutting-edge research to practical economic development initiatives that deliver measurable benefits. As a trusted partner, US Ignite brings this entire smart city ecosystem together, successfully pairing financial investment with technical and organizational expertise. Through the public-private partnership programs we run, US Ignite is a catalyst for communications network advancement, and for innovation in smart city services that are powered by a new generation of technologies. You can read more about US Ignite’s programs on its [website](#).

US Ignite initiated the Autonomous Vehicle Research Testbed and AV Shuttle Pilot in October 2019 in coordination with Fort Carson, neighboring Colorado Springs, and the University of Colorado’s Research and Engineering Center for Unmanned Vehicles (RECUV). This endeavor is funded by the U.S. Army Engineer Research and Development Center (ERDC). It is designed to use research with AVs and sensor-based technologies to help the Department of Defense reduce transportation costs, improve public safety, and deliver faster services on military installation sites.

About Fort Carson

Fort Carson is a United States Army installation located in unincorporated El Paso County, Colorado. Fort Carson is the "Best Hometown in the Army – Home of America's Best." One of the Army's youngest installations, Fort Carson, the Mountain Post, is an Army post located southwest of Colorado Springs, Colorado. This post is recognized as one of the world's premier locations to lead, train, and maintain while preparing soldiers to win on the battlefield.

Below are some population statistics regarding Fort Carson (with over 65,000 active duty, family members, reserve military civilians, and contractors living or working on Fort Carson):

- 66% under 30
- 28% under 21 years old
- 14 % are female
- Approx. 60% are married
- 53% of spouses are under 30
- 51% of children under the age of 7PPO

With over 70 percent of service members living off base, the development of new sensor-driven and AV-related technologies in Fort Carson has the power to improve road safety and decrease congestion not only within the installation but also in the surrounding communities, like Colorado Springs. Smart military posts, like smart cities around the country, must explore advancements in mobility and automation that leverage sensors and big data to optimize operational efficiencies and improve the lives of Soldiers and their Families. Fort Carson's controlled installation environment also connects to the larger Colorado Springs region, making it an ideal research testbed for at-scale development of next-generation transportation technology.

III: INFORMATION FOR PROPOSERS

Proposal Process

Below is vital information and instructions for Proposers regarding this Request for Proposals (the "RFP") related questions, RFP submissions, and RFP review.

1. Pre-Proposal Conference: There will be an online pre-proposal webinar held on February 6, 2020 at 1:00 pm Eastern Standard Time. At this webinar, Proposers will view a brief description of the expected outcomes of the Service AV deployment. If you would like to register for the pre-proposal webinar, please email Meghan.Histand@us-ignite.org. The slides and the recording of the webinar will be made available to the public on the US Ignite webpage at www.us-ignite.org/news.
2. RFP Questions: Any questions regarding this RFP should be submitted by e-mail at Meghan.Histand@us-ignite.org, on or before February 12, 2020. Questions received after this deadline may not be considered. All questions and answers made to US Ignite will be posted publicly on the US Ignite webpage at www.us-ignite.org/news.
3. Preliminary Proposal Contents: A Proposer must submit a Preliminary Proposal in the format specified in this RFP - please see Section IV for more details. Submission of a Preliminary Proposal is required to be eligible to submit a Full Proposal.
4. Preliminary Proposal Deadline: A Proposer's Preliminary Proposal must be received by US Ignite no later than February 21, 2020 by 8:00 pm Eastern Standard Time. Submitters will receive feedback by March 10, 2020 indicating either encourage or discourage towards a complete Full Proposal submission. A Proposer is welcome to submit a Full Proposal by the proposal deadline, regardless of an encourage or discourage decision.
5. Full Proposal Contents: A Proposer must submit a Full Proposal in the format specified in this RFP. No other format will be considered. A Proposal will consist of two separate documents: 1)

Technical Proposal (limit is 20 pages); and, 2) Cost Proposal. Please review V: PROPOSAL CONTENT in detail to learn more about the required Full Proposal sections and contents.

6. Full Proposal Deadline: A Proposer's Full Proposal response to this RFP must be received by US Ignite no later than March 27, 2020 at 8:00 pm Eastern Standard Time. Any Full Proposal received after this time will not be considered and will be rejected and returned without review. Full Proposals should be emailed to Meghan Hstand at Meghan.Hstand@us-ignite.org.
7. Oral Presentations: Select responsive Proposers may be required to make an oral presentation (in person or via teleconference) of the proposed solution to US Ignite and other project stakeholders. US Ignite will notify select responsive Proposers of the date, time, and location for the presentation.
8. On Site Demos: Select Proposers may be invited to provide live demonstrations at the Proposer's facility or other location mutually agreed upon by the Proposer and US Ignite. These demonstrations shall take place during the month of April 2020. More information will be shared with select Proposers at a later date.
9. Review of Proposals: US Ignite will review all proposals submitted and will ensure that all proposals are reviewed in a fair, competitive, transparent, and in-depth manner.

Other Considerations

1. Services Being Procured: This RFP, released by US Ignite, seeks to procure a vendor(s) to deploy, operate, and maintain a Service AV on Fort Carson, Colorado. For more information, please refer to Appendix A – Scope of Services, attached to this RFP.
2. Authority to Transact Business in Colorado: Each Proposer shall provide documentation, submitted with its proposal that confirms that the Proposer is authorized to conduct business in the State of Colorado.
3. Insurance: The Insurance requirements for any Agreement that may be awarded pursuant to this RFP are set forth in Appendix C -Insurance Requirements, attached to this RFP.
4. Master Services Agreement and Task Order: If US Ignite elects to make an award(s) to a Proposer(s), then US Ignite will prepare and send a Master Services Agreement (MSA) and Task Order(s) to the successful Proposer(s). No award will be finalized without a fully executed MSA.
5. No Offer by US Ignite: This RFP does not constitute an offer by US Ignite to enter into an agreement. This RFP is simply an invitation for offers from interested Proposers. No offer shall bind US Ignite.
6. Accept and Rejection of Proposals: US Ignite may reject any or all proposals in whole or in part, waive a technicality, make awards in a manner deemed in the best interest of US Ignite and unless otherwise specified by the organization, accept any item in the proposal.
7. Multiple Awards: US Ignite reserves, at its sole discretion, the option to make awards to multiple Proposers. Multiple awards may be made on the total Scope of Services or components of the Scope of Services.
8. Ownership of Proposals: Each Proposal submitted to US Ignite will become the property of US

Ignite, without compensation to a Proposer, for US Ignite use. US Ignite will not share proposals with any individuals or entities outside of the US Ignite review team and its key project stakeholders - ERDC, Fort Carson, and RECUV. Proposers should mark any proprietary information within the proposal.

9. Term of Contract: The period of performance will be a 6-month initial period of performance with a 6-month option period. For the purposes of creating a work plan, Proposers can assume a late-April 2020 start-date.
10. Business Classifications/NAICS Codes: US Ignite seeks qualified Small Businesses (SB), Small Disadvantaged Business (SDB), 8(a) Certified SDB, Historically Underutilized Business Zone Small Business (HUBZone SB), Service-Disabled-Veteran-Owned Small Business (SDVOSB), or Woman-Owned Small Business (WOSB) concerns. Example NAICS codes for this RFP include the following: 441110 (New Car Dealers), 441120 (Used Car Dealers), 423110 (Automobile and Other Motor Vehicle Merchant Wholesalers), 485320 (Limo Drivers), 485310 (Taxi Service), 532112 (Lease of Passenger Cars without Drivers), 532111 (Passenger Car Rental), 485113 (Bus and Other Motor Vehicle Transit), 485210 (Bus Passenger Transportation). NAICS codes are not limited to the list provided in this section.
11. Additional Policies: Please note that the Proposer may need to access Fort Carson and would need to follow Fort Carson's Access Control Policies. Individuals that do not have a Department of Defense (DoD) Identification (ID) Card and require entry onto Fort Carson Installation will be subjected to a National Crime Information Center Check (NCIC Check). The individual must have a valid U.S. or State issued photo ID, or U.S. Passport to show for proof of identity. If the individual is driving a vehicle, he/she must have a valid driver's license with current registration and insurance for the vehicle being driven on the installation. All identification presented must meet the requirements of the Real ID Act. All persons requesting unescorted access will continue to be vetted through the NCIC prior to being issued a locally produced ID or pass. If a visitor requesting access does not have REAL ID Act compliant form of identification and cannot provide supplemental identity proofing documents, they must be escorted at all times while on the installation. Vendors will only be granted access onto Fort Carson Installation if the NCIC III check on the individual shows no disqualifying issues in the check. More information on accessing Fort Carson is available at www.carson.army.mil/organizations/des.html.
12. Hazmat Protocols: The Fort Carson Environmental Battle Book provides guidance on how hazardous materials are to be managed on the installation. The document is available at: <https://www.carson.army.mil/assets/docs/dpw/stormwater/environmental-battlebook.pdf> It is appropriate for the Proposer's Hazmat plan to follow the guidance provided in this document.

RFP Policies and Procedures

1. It is US Ignite's intent to select the Proposer that provides the best solution for the Fort Carson community's needs.
2. US Ignite reserves the right to amend this RFP.
3. Each Full Proposal will be examined to determine whether it is responsive to the requirements of this RFP. All responsive Full Proposals will be evaluated in accordance with criteria deemed to be

in US Ignite best interests.

4. The Proposer's response to this RFP, as may be subsequently modified in negotiations with US Ignite, may be included as exhibits in any contracts that US Ignite may execute with the Proposer.
5. US Ignite reserves the right to reject any or all of the Proposals, or any part thereof, submitted in response to this RFP, and reserves the right to waive formalities, if such action is deemed to be in the best interest of US Ignite. US Ignite reserves the right to request additional information from any Proposer.
6. While US Ignite is under no obligation to contact Proposers for clarifications, it reserves the right to do so. Depending on the number and quality of the Proposals submitted, US Ignite, at its sole discretion, may elect to interview all or some of the Proposers during the selection process and to request presentations, including demonstrations of products and services.
7. The decision to award a contract shall be based on the Proposer's ability to provide quality services and products and to comply with all applicable laws, rules and regulations, including without limitation local preferences and suppliers.
8. The award to a Proposer of a contract will be made as judged to be in the best interest of US Ignite and the Fort Carson community.
9. This RFP is not intended and shall not be construed to commit the US Ignite to pay any costs incurred in connection with any Preliminary Proposal or Full Proposal or to procure or contract for any services.
10. All documents submitted as a part of this RFP shall become the property of US Ignite.

IV. PRELIMINARY PROPOSAL CONTENT

Preliminary Proposals are required and must be submitted to Meghan.Histand@us-ignite.org by 8pm Eastern Standard Time on February 21, 2020. Proposers will receive feedback within 15 days indicating either an encourage or discourage finding. An encourage finding generally indicates that the proposal appears to be responsive to the program guidelines and goals and is a candidate for further development. A discourage finding generally indicates that the project is not responsive to this RFP, or has serious conceptual flaws that would not benefit from further development as a Full Proposal submission in this submission window.

Submission of a Preliminary Proposal is required to be eligible to submit a Full Proposal. Required components and page limitations for the Preliminary Proposal are given below. US Ignite reserves the right to request that Proposers provide additional "Other Required Documents and Information" during the review process.

The Preliminary Proposal must consist of two elements: The Project Description and Team Qualifications. No other sections are required, nor should they be included in the Preliminary Proposal.

1. Project Description (5-page limit): The Project Description includes the following clearly labeled elements:
 - a. Organization Name, Project Title, and Executive Summary: Include the Organization

- Name, the Project Title, and a one paragraph Executive Summary.
- b. Project Proposal: Describe in detail, the project proposal and AV configuration. Elaborate on the use cases the vehicle is designed for and how the Pilot will benefit Fort Carson.
 - c. AV Technical Specifications: Provide a diagram, illustration or photograph of the vehicle and a table of specifications including the overall dimensions, weight, powertrain configuration and AV technologies utilized on the vehicle such as sensors, lidar, radar, GPS, etc.
 - d. Operational Performance and Safety Records: Summarize any reports or third-party verifications that document the operational performance and safety of the AV.
 - e. Long-Term Vision: Include a write up on how participation in the Fort Carson AV Testbed supports your organization's long-term vision to make an impact on society.
 - f. Budget: Estimated pricing for proposed project approach (6-month period of performance with the option to extend for another 6-months). US Ignite intends to award a firm-fixed price contract.
2. Team Qualifications (1-page limit per key personnel): For the proposed key team members of the project, describe their proposed role in the Pilot and their qualifications and contributions that demonstrate relevant experience.

For all documents, except figures, captions, tables, please use only a font size of 11 points or larger.

Checklist of Preliminary Proposal Elements

Preliminary Proposal (Required to Submit a Full Proposal)		
Proposal Documents	Components	Required?
Project Description	Organization Name, Project Title, and Executive Summary	Yes
	Project Proposal	Yes
	AV Technical Specifications	Yes
	Operational Performance and Safety Records	Yes
	Long Term Vision	Yes
	Budget	Yes
Team Qualifications	Proposed Team Members' role in the Pilot and their qualifications and contributions that demonstrate relevant experience	Yes

V. FULL PROPOSAL CONTENT

As noted above, a Proposer must submit a complete Full Proposal in the format specified in this RFP. No other format will be considered. A Full Proposal will consist of two separate documents: 1) Technical Proposal; and, 2) Cost Proposal. A Proposer is welcome to submit a Full Proposal by the proposal deadline, regardless of an encourage or discourage decision.

For all documents, except figures, captions, tables, please use only a font size of 11 points or larger.

Technical Proposal Requirements

Each Proposer must submit a Technical Proposal. The Technical Proposal is limited to 20 pages. The following is a summary of the information required to be contained in the Technical Proposal:

1. Cover Page: The cover page should include the following information: The cover page should state the purpose of the submittal and be signed (e-signature preferred) by a representative of the offering organization authorized to bind the Proposer, including the representative's title, address, and telephone number.
2. Organization Overview: Provide a description of your organization and briefly describe what makes your organization a good fit for the RFP, and how your technology makes you unique in the AV industry. Please also provide a statement as to whether the Proposer is involved in any litigation associated with work in progress or during the past five years.
3. References: Provide a list of three professional references US Ignite can contact. Please include the following: a summary of the work provided, the name of the organization, the main point of contact, phone number, and email address.
4. Management Summary: The Management Summary should provide an overview of the Proposer's qualifications to accomplish the project. Note that resumes should be provided in item #10 below (resumes do not count against the 20-page limit). The Management Summary should include a description of the Proposer's capabilities and experience of the Proposer's Team.
5. Teaming and Organization Structure: The Proposer should also provide a table(s) and exhibit(s) that include the following information:
 - a. The proposed key members of the project;
 - b. Description of their roles and responsibilities;
 - c. A summary of other relevant projects and experience; and
 - d. The Proposer's Organizational Chart.
6. AV Experience
 - a. Discuss Proposer's experience, qualifications, and skills (deployment, operation, and maintenance) as they relate to the AV project pitched. The Proposer should provide past examples of use cases that relate to work similar to what US Ignite is trying to achieve in the Pilot.

- b. Describe the Proposer's history, length of time in business, locations, types of services offered and direct experience in providing the services detailed in the RFP.
7. Work Plan, Schedule, and Overall Support: Please review Appendix A – Scope of Services in detail when crafting your response.
 - a. Provide Proposer's work plan to illustrate the firm's competence and capacity to perform the services outlined in Appendix A – Scope of Services. The work plan should include risk identification and mitigation strategy.
 - b. Provide a Project Plan of all work to be completed. The schedule should be formatted in weeks from the notice to proceed. Proposers should assume a late-April 2020 start date. The Project Plan should also contain the Proposer's intended approach for pre-acceptance testing, AV delivery, and deployment, post-acceptance testing, timeline and development of project deliverables, inclement weather response, ability to program any changes in route, staffing needs, a high-level work plan, schedule, and other documentation as appropriate.
 - c. Describe Proposer's ability to provide local, on-site support, AV and system maintenance, and ongoing program management for the items detailed in Appendix A – Scope of Services.
 - d. Include in Project Plan procedures used for adjusting the operational domain of the AV. This may include expanded routes, increased service area, or expanded hours of operation through the duration of the pilot.
 - e. Explain how Proposer will address challenges for Pilot, such as weather extremes, camouflaged personnel, building, and vehicle paint scattering LIDAR, limited charging stations
 - f. Describe an Operations Plan to provide the proposed level of service. Include the number of vehicles, hours of operations, as well as charging, service and inspection schedules, remote or on-board safety operator routines and daily on-site supervision procedures.
 - g. Provide a description of the daily operational safety and emergency plans, including Hazmat Protocols.
8. Partners: Describe any partners (i.e., subcontractors) that you plan to involve in the project. US Ignite encourages the proposal to involve small disadvantaged businesses.
9. Small Business (SB) or Small Disadvantaged Business (SDB): Indicate whether the prime organization (subcontractor organization) qualifies as a Small Business (SB), Small Disadvantaged Business (SDB), 8(a) Certified SDB, Historically Underutilized Business Zone Small Business (HUBZone SB), Service-Disabled-Veteran-Owned Small Business (SDVOSB), or Woman-Owned Small Business (WOSB) concerns.
10. Resumes of Proposed Staff: Provide resumes for the Project Manager and other key members of the proposed project team. The page limit for each resume is 2 pages. Resumes of proposed staff do not count against the 20-page limit and should be provided as an attachment.

Cost Proposal Requirements

Each Proposer must submit a Cost Proposal using the form provided by US Ignite in Appendix B - Cost Proposal. The Cost Proposal will become part of the MSA and Task Orders if an Agreement is awarded pursuant to this procurement.

The Cost Proposal must support the Scope of Services contained in the RFP and fully encompass all activities in the Proposer’s proposal. US Ignite intends to issue a fixed-price contract for up to 6-months, with a 6-month option period to a suitable Proposer(s) who demonstrates the capacity to deliver the quality scope of services and is the most responsive to the requirements of the RFP.

US Ignite will provide payments monthly for the duration of the contract. Please note that US Ignite will pay fees supported by evidence of bona fide services rendered. US Ignite will not enter into a retainer agreement which pays fees in advance to an organization or individual to secure or keep services when required.

Checklist of Full Proposal Elements

Full Proposal		
Proposal Documents	Components	Required?
Technical Proposal	Cover Letter	Yes
	Organization Overview	Yes
	References	Yes
	Management Summary	Yes
	Teaming and Organization Structure	Yes
	AV Experience	Yes
	Support Plan	Yes
	Work Plan, Schedule, and Overall Support	Yes
	Partners	Yes
	Small Business or Small Disadvantaged Business Status	Yes
	Resumes	Yes

Cost Proposal	Appendix B - Cost Proposal	Yes
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VI. PROPOSAL EVALUATION

US Ignite will first verify that the submitted Full Proposals satisfy the proposal content requirements and qualify to be evaluated by the Evaluation Committee.

An Evaluation Committee will review all proposals in accordance with this RFP. US Ignite and its project partners will review all proposals submitted and will ensure that all proposals are reviewed in a fair, competitive, transparent, and in-depth manner. All evaluation factors outlined in this RFP are equally important and can have an impact on the overall recommendation for an award.

Evaluation Criteria - Full Proposal

Technical and Cost Proposal Evaluation

The evaluation criteria is scored on a scale of 1-5 (1 – Poor., 2 – Fair, 3 – Good, 4 - Very Good, 5 – Excellent). The evaluation criteria (all equally weighted) include:

1. Knowledge of project requirements as described in the Technical Proposal, Prior AV Experience, References, and ability to meet the requirements outlined in Appendix A – Scope of Services;
2. Work Plan, Schedule, and Overall Support as described in the Technical Proposal;
3. Qualifications, range of experience of the organization(s), proposed key staff as described in the Organizational Overview, Management Summary, the Teaming and Organization Structure, and the Resumes sections of the Technical Proposal; and,
4. Project costs and overall value as described in the Cost Proposal.

Bonus evaluation points will be provided to proposals that involve a prime organization or subcontractor organization that qualifies as a Small Business (SB), Small Disadvantaged Business (SDB), 8(a) Certified SDB, Historically Underutilized Business Zone Small Business (HUBZone SB), Service-Disabled-Veteran-Owned Small Business (SDVOSB), or Woman-Owned Small Business (WOSB) concerns. Proposals that involve the above aforementioned small business category concerns, where at least 50% of the proposed contract budget goes to a small business concern will receive three bonus evaluation points added to the total evaluation score computed in #1-#4 above. Proposals that involve the above aforementioned small business category concerns, where at least 25% of the proposed contract budget goes to a small business concern will receive one bonus evaluation point added to the total evaluation score computed in #1-#4 above. It is very important to remember that commitments to small businesses made at the time of proposal submittal or contract negotiation become part of the resulting contract and must be maintained throughout the term of the contract.

Demo Evaluation

Based upon the results of technical and cost evaluation, US Ignite will invite one or more top, select Proposers to provide a demonstration of the AV solution presented in the Proposer’s submission (the “Demo”). The Demo shall take place in a location of the Proposer’s choosing as best demonstrates the desired capabilities. The Proposer shall also allow US Ignite to inspect the Proposer’s facilities as part of the Demo presentation.

No Demo shall be scheduled until Proposer has provided US Ignite with evidence of insurance in amounts and types deemed sufficient by US Ignite and called US Ignite as an additional named insured. All Proposer costs associated with the Demo shall be the sole responsibility of Proposer. US Ignite will cover the expenses related to US Ignite team travel to the Demo site.

By accepting a US Ignite invitation to provide a Demo, the Proposer expressly agrees to indemnify, defend and hold US Ignite harmless from any and all damages, claims or losses of every kind (collectively “Loss”) except to the extent such Loss is caused by the gross negligence or willful misconduct of US Ignite.

After the Demo each evaluation criteria is scored on a scale of 1-5 (1 – Poor., 2 – Fair, 3 – Good, 4 - Very Good, 5 – Excellent). The evaluation criteria (all equally weighted) include:

1. Ability for the AV(s) and the Proposer to meet the requirements outlined in Appendix A – Scope of Services and perform in a live demo situation.
2. The Proposer's approach to addressing the Appendix A – Scope of Services and detailing how the Proposer will meet the project requirements. The Proposer should prepare a PowerPoint presentation for US Ignite to present at the Demo.
3. Project costs and overall value as described in the Cost Proposal.

US Ignite will award the RFP to the Proposer or Proposers that are most qualified based upon the results of Technical and Cost evaluation and performance in the Demo.

VII. TIMELINE FOR EVALUATION AND SELECTION

US Ignite and its partner stakeholders will review all proposals submitted and will ensure that all proposals are reviewed in a fair, competitive, transparent, and in-depth manner. If a Proposer is invited to make a presentation to US Ignite, the costs for such a presentation will be the responsibility of the proposer. After review of the submissions, US Ignite may request to meet with organizations prior to selecting a Proposer. US Ignite plans to select the Proposer within one month after the submission deadline and reserves the right not to select any organization if conditions change between the time of the RFP release and completion of the review process.

No contractual obligation on behalf of US Ignite whatsoever shall arise from the RFP process. Additionally, this RFP does not commit US Ignite to pay any cost incurred in the preparation or submission of any response to the RFP.

US Ignite may reject any or all proposals in whole or in part, waive a technicality, make awards in a manner deemed in the best interest of US Ignite and unless otherwise specified by the organization, accept any item in the proposal. US Ignite reserves the right to award one or more contracts, if necessary.

Target Date	Description
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January 27, 2020	RFP made available to select organizations and publicly posted on US Ignite’s website
February 12, 2020	Proposal Inquiry Period Ends
February 21, 2020	Preliminary Proposal Responses are due to meghan.histand@us-ignite.org by 8:00 pm Eastern Standard Time
March 10, 2020	Encourage/Discourage Feedback Deadline
March 27, 2020	Final Proposal Responses are due to meghan.histand@us-ignite.org by 8:00 pm Eastern Standard Time
April 24, 2020	MSA and Task Order(s) finalized

VIII. PROJECT BACKGROUND

Since the DARPA Grand Challenge powerfully demonstrated that autonomous vehicles (AV) were a reality in 2005, there has been a growing range of companies developing technologies in this area, from Internet-based companies like Uber and Google to car companies like GM and newcomers such as Tesla and Navya. Today, only 9% of households do not own a vehicle, while 58% have two or more vehicles (according to a recent EIA report). The promise of AVs is to dramatically lower vehicle ownership through ridesharing while increasing transportation safety. To further usher in AVs, the Department of Transportation (DoT) released an AV policy – this policy encourages continued technological advancement while observing safety. To accelerate these technologies, states like Michigan have also funded large testing facilities, including at the famous Willow Run manufacturing plant. Additional R&D funding for AVs like Michigan’s is needed to drive AV adoption and reduce the environmental impact of the transportation sector.

As the private sector continues to race ahead in advanced transportation and technology solutions, the Department of Defense is in a unique and urgent position to leverage these new developments to achieve greater efficiencies, enable better outcomes for service members, and renew US leadership in advanced technology development. Out of it’s \$1 billion in annual transportation costs, DOD spends \$435 million each year for non-tactical passenger vehicles and light trucks alone, with a use rate of just 7 percent, while a young enlisted military personnel spends at least a third of his/her income on vehicle ownership (with a 4 percent use rate).

Using a combination of AVs, smart transportation sensors, and data analytics can help the specific issues at Fort Carson while creating a new opportunity to scale these technologies to a wider set of installations.

Fort Carson also faces a number of safety, budgetary and transportation challenges that can be addressed by R&D support for smart transportation sensors and AVs.

In transportation today, operational teams, researchers, and policymakers can have a huge impact on the environmental, health, and traffic challenges of a base, city or region by suggesting new vehicle pollution regulations or public transportation investment. Cities are more likely to adapt these in-depth policies and regulatory changes because they are based on global best practices and modeled on decades of data. In contrast, Smart Transportation services, or New Mobility, are rapidly emerging to upend decades of transportation investment and infrastructure – leaving cities and researchers without a common way to measure and evaluate the impact of smart transportation applications and services.

Today, there are new mobility pilot programs with AV shuttles and IoT sensors rolling out across the country, but they are focused on an individual area of research and result in a broad range of disparate data. What is needed for cities and researchers, is to bring together that mosaic of data and make it useful for data sharing, analytics, cybersecurity, and visualization for residents, government employees, industry, and academic researchers.

Our goal is to enhance the usage of AV shuttles and IoT sensors for smart transportation, improving cities' planning and real-time decision-making while reducing the overall environmental impact of the transportation sector. Communities are looking to quickly identify current gaps in their smart city data, applications, cybersecurity, and modeling tools to design a cohesive smart transportation strategy with their industry, university, and nonprofit partners. US Ignite and RECUV are uniquely positioned to encourage collaboration among a broad range of stakeholders in order to provide local smart transportation efforts the runway they need to succeed and drive new opportunities for adoption.

The components will include a best-in-class data repository for cities to share government economic, social, demographic, mapping and GIS data along with industry data, and real-time smart city sensor data sets. This effort will also integrate sensor networks and sources, including tools shared by cities to ensure user privacy and security. US Ignite and RECUV will also identify best-of-breed smart city modeling and simulation tools that let a community predict the likelihood of future events as well as integrate data visualization tools for smart transportation data.

US Ignite and RECUV will work with its partners to develop a data and evaluation framework for sharing the output from these existing and future smart transportation projects (see below). This will result in the creation of a much-needed research framework for cities, industry, and universities:

1. Work with Fort Carson to define broader vision around smart transportation and new mobility. Design and iterate on a research framework with stakeholders, including measurable input, output, and outcome data for evaluation.
2. Leverage data from existing sensors networks, current EV, AV, ride-sharing, and other pilots today to develop a baseline set of metrics and evaluate impact.
3. Create large real-time data repository, modeling tools, cybersecurity, and dashboard for base and city leaders around new mobility.
4. Develop and share best practices for bases and cities, states, and others.
5. Monitor targeted research and policy recommendations to decision-makers and researchers.

APPENDIX A - SCOPE OF SERVICES

Introduction – Overview

US Ignite and Fort Carson have identified a number of uses cases where a Service AV may meet the needs on the Installation. US Ignite is seeking proposals from technology partners to deploy, operate and maintain vehicles in an Autonomous Service Vehicle Pilot (“the Pilot”) as part of the Autonomous Vehicle Research Testbed. Participation and success in the Pilot will provide an opportunity for scaling to other military bases.

The goal of the initiative will explore advancements in mobility and automation to optimize operational efficiencies and improve the lives of Soldiers and their Families. Fort Carson’s controlled installation environment also connects to the larger Colorado Springs region, making it an ideal research testbed for at-scale development of next-generation transportation technology. The Service AV should be fulfilled by the appropriate technology solution to meet the specific use case objectives.

The project will include the following stages – deliverables associated with each are detailed below:

Stage 1: Prior to AV Delivery

Stage 2: Prior to AV Testing

Stage 3: Prior to Operational Demonstration

Stage 4: During AV Operations

All Stages: Throughout the period of performance

The amount of support and costs that need to be covered to demo on base will be a consideration in the evaluation. Firms that can offer discounted or free rates for operation as part of the technology demonstration on Fort Carson will be prioritized.

Operating and System Requirements Per Use Case

Note: Use Cases are not limited to those Use Cases described below.

Airfield Maintenance - Automated Inspection and Sweeping Vehicle

Fort Carson is home to the Butts Army Airfield (BAAF) where the primary mission is to provide fully integrated fixed base helicopter operations and support for all Army aviation assets assigned to, or training on the installation. BAAF is a restricted area that is fenced, gated and patrolled 24 hours a day. Access is limited and controlled by Base Operations and all vehicles require flight line passes and qualified drivers. The maximum speed allowed it 25 mph.

BAAF Operations actively monitors and maintains the airfield to address Foreign Object Debris (FOD). The program currently relies on visual inspection by airfield staff that periodically patrol the grounds by vehicle. A large road sweeper is deployed once a week or when there is an immediate need identified. This labor intensive FOD activity is an area where a Service AV could reduce the labor required and improve the overall results of the program. The secure and controlled nature of the facility also lends itself nicely to the testing of an AV to address this need.

The project team and Fort Carson is open to additional suggestions for a Service AV that could show a path to a return on investment for the airfield. A few examples that were discussed include:

- Automated inspection vehicle for ramps and taxiways
- Airfield, taxiway and runway sweeper
- AV delivery tractor for transporting tools, fuels or maintenance equipment

Equipment Delivery

Fort Carson relies on the efficient delivery of equipment and supplies throughout the base utilizing vehicles ranging from minivans to heavy-duty box trucks. The goal of this RFP is to explore vendor offerings in this delivery segment and align those capabilities with an application on the installation. The following table captures general vehicle classifications in terms of vehicle size and capacity. Responders should use as much detail as possible to describe the delivery capabilities of the AV vehicle being proposed.

Vehicle Type / Size	Route Description	Vehicle Weight Limit	Application
Golf cart, Gator, ATV	Cart path, pedway or off road	Grocery bags to hay bails up to 1400 lbs. Vehicle weight ~3,000lbs	Personal goods transport, grounds maintenance equip.
Minivan / Van / Light Truck	Vehicle roadways	Less than 8,500 lbs.	Package, food service delivery
Med-Duty Box Truck	Vehicle roadways	Less than 26,000 lbs.	Cargo delivery

Point to Point, Ride Hailing Service AV

A point-to-point, ride hailing Service AV would complement the traditional shuttles currently on the base, as well as the autonomous shuttles that will be operating in a designated loop as part of this program. The expected capacity of the ride hailing Service AV is 2-6 passengers, not including the operator. The destinations and routes would be restricted to a few key points to limit the operational environment. If a Proposer’s solution has greater technical capability the operational environment can be expanded.

1. The AV can be delivered as early as June 2020 to allow for set-up, testing, and training to commence in June 1, 2020. The initial operational window will be for a 6-month period.
2. The AV should transport riders within the Fort Carson base – the specific operational environment will be matched to the responders AV capability. Ideally the vehicle would be capable of traveling at speeds that do not create additional congestion on the vehicle roadways. Post speed limits are as follows for standard vehicles: 10 MPH when passing troops, 20 MPH in housing areas, and 30 MPH in all other areas unless otherwise posted.
3. The AV should board and transport passengers safely at requested locations.
4. The Proposer must implement measures to protect all road and sidewalk users, including all pedestrians (including but not limited to, service members in camouflage, children, disabled persons, etc.), bicyclists, motorcyclists, and other vulnerable road users. Likewise, the Proposer

must implement measures to minimize possible damage caused by the AV to the road, road signs, sidewalks, and roadside infrastructure to the maximum possible extent.

5. The AV shall be Level 4 Autonomy or higher.
6. US Ignite cannot provide any of its staff to operate, maintain or supervise the AV service. The Proposer should provide these resources and describe these resources in Technical Proposal.
7. AV must follow all State of Colorado Motor Vehicle Laws. For more information on Colorado motor vehicle laws refer to the Colorado Revised Statutes (C.R.S.) Vehicles and Traffic, Title 42 Common Code book.
8. AV should be appropriately designed and constructed to operate safely and efficiently within the unique environment of Fort Carson. This will include measures to interact safely with pedestrian crosswalks and troops in formation that may be using the shared roadway.
9. AV shall make both visual and audible announcements informing riders in transit.
10. AV shall have the ability to be climate controlled (air conditioning and heat).
11. If AV is electric, it must have the ability to be charged with a 208/240 outlet. The Proposer shall be responsible for keeping the vehicles charged or fueled.
12. The Proposer shall agree to share data recorded on the AV with appropriate entities as agreed on and take reasonable measures to protect data. Proposers shall also agree to share operational and board data with those same entities.
13. The AV shall be able to operate, or make an informed decision to temporarily cease operations, during inclement weather – this includes rain and snow. The Proposer shall monitor local weather patterns and be aware of any approaching severe weather events or other conditions that may impact vehicle operations.
14. The Proposer will be responsible for AV Operators who shall be considered employees, contractors, or agents of the Proper and also maintain:
 - a. A valid driver's license in the state of Colorado.
 - b. No more than two traffic violations or preventable accidents in the last three years.
 - c. Pass a criminal background check.
15. The Operator will be responsible for:
 - a. Assisting passengers, including providing mobility assistance
 - b. Receiving and record passenger feedback (via survey or verbal feedback)
 - c. Operating a ramp, door, and/or charging/fueling station, if not automated
 - d. Performing road testing of a vehicle
 - e. Cleaning the interior and exterior of the AV

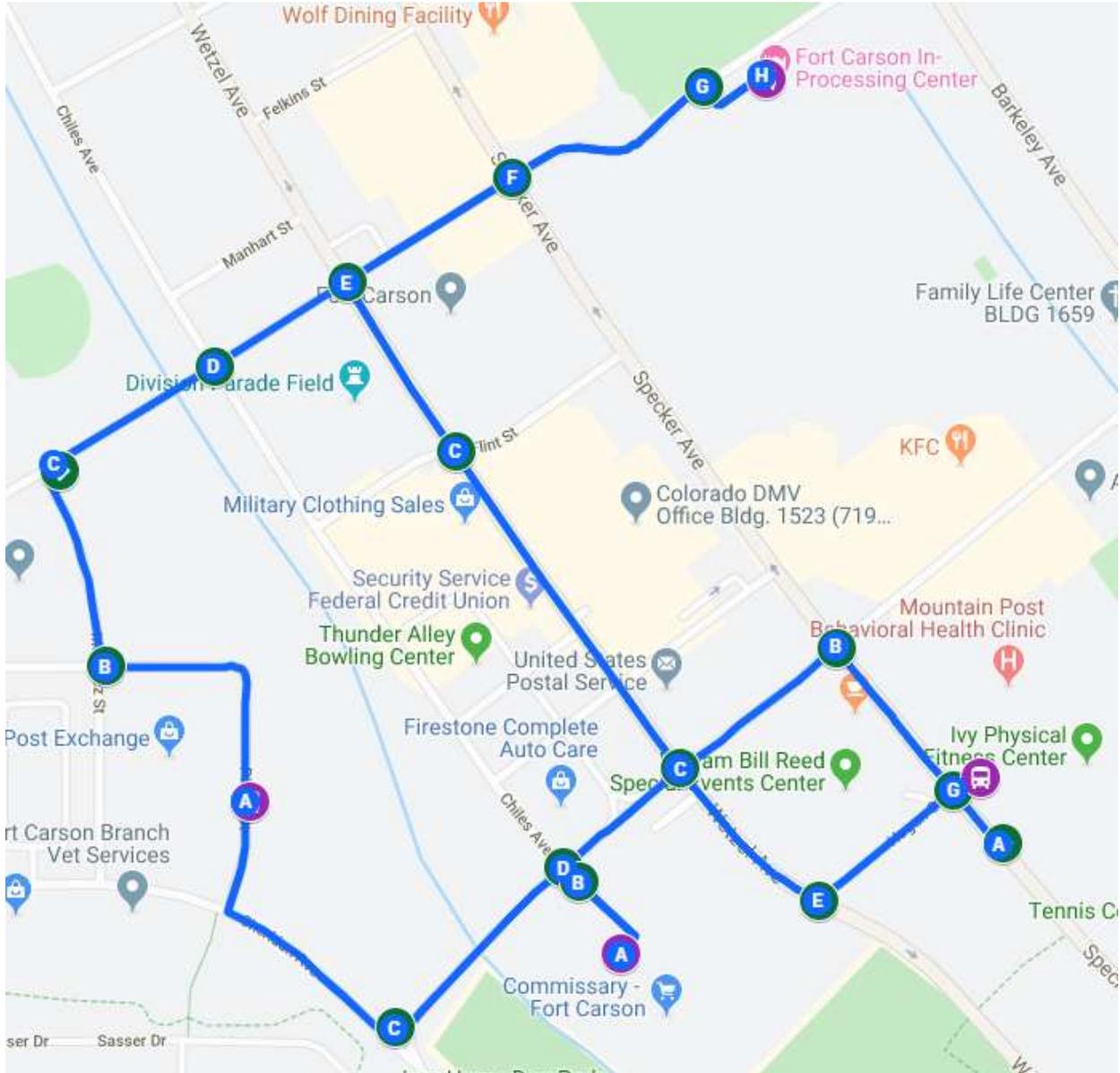
- f. Intervening in the operation of the AV, as needed
16. The Proposer shall be responsible for developing Standard Operating Procedures for the vehicles and operations staff.
 17. The Proposer shall install and maintain the latest vehicle software update at all times at no additional cost to US Ignite.
 18. AV system shall be impenetrable to attempted access by outside parties for the purpose of modifying system operations or otherwise accessing data governing the system.
 19. Proposer shall either provide or work towards self-certification of their vehicle consistent with Federal Motor Vehicle Safety Standards (FMVSS) and/or create and submit a Voluntary Safety Self-Assessment per NHTSA's Automated Driving Systems (ADSs – SAE International Automation Levels 3-5) Voluntary Safety Self-Assessment (VSSA) Disclosure Index.
 20. Proposer shall have the ability to coordinate AV's operation with existing traffic signal infrastructure through future Vehicle to Infrastructure (V2I) technologies.
 21. The Proposer shall work in earnest with US Ignite to identify and/or support research opportunities.
 22. The AV shall be equipped with cameras capable of viewing and recording the entirety of the passenger compartment.
 23. The Proposer shall make available all sensor data collected by the AV, including, but not limited to, internal and external visual, radar, LIDAR, and /or alternative sensor modalities, as well as all other telemetry that characterize the performance of the AV, its passengers, and surrounding vehicles / environment such as speed and state of charge / fuel level. Each sensor measurement shall include a measurement time with a common reference. While the particular storage format is at the Proposer's discretion, the Proposer will provide tools required to view/edit the data and sufficient documentation to enable offline analysis.
 24. It is preferred that the vehicle sensor suite shall include a high-accuracy GPS system utilizing RTK or similar position fix technology to obtain 10cm accuracy. It is also preferred if the reported GPS position of the vehicle shall be included in the sensor data stream at a rate no slower than 10 Hz.
 25. The Proposer shall make available all provisions necessary to obtain live sensor data onboard the AV for use in online analysis, as well as providing for physical, electrical, and logical connections to an onboard analysis compute platform.
 26. The Proposer shall make available reliability information regarding the onboard automated driving performance including reporting of all incidents where the onboard operator intervenes the operation of the vehicle for any reason as well as all emergency braking and unprogrammed stops. Such reports shall include sufficient context such as relevant sensor readings and autonomy internal state so as to permit corrective actions to be developed or identify shortcomings.

The final operational domain of the AVs will be determined through discussions that align the technical capability of the AV with the transportation needs of the installation. The AV will operate on standard roadways within the bounds of Fort Carson. Two service area options have been proposed that include

highly traveled corridors and key destinations.

Proposed Service Area Option #1: Main Cantonment Area

- Total Estimated Trip: 10 min (2.5 miles)
- The locations for service include Fort Carson Main Exchange, Barracks, Ivy Physical Fitness Center and the Commissary.



Proposed Service Area Option #2: Butts Airfield Area

- Total Estimated Trip: 5 min (1.1 miles)
- Stops serviced with be limited to Dining Hall, Barracks, 4th CAB and Airfield



Project Deliverables

The selected Proposer must provide a turn-key Service AV solution, including responsibility for providing, deploying, operating, and maintaining the AV during the performance period. If a contract is awarded, the selected Proposer should also meet the following deliverables:

Stage 1: Prior to AV Delivery

1. Final Project Plan
2. Safety Management Plan
3. Data Interface Plan

Stage 2: Prior to AV Set-up, Training, and Testing

4. Test Plan
5. Service Plan
6. Operator Training Plan

Stage 3: Prior to Serving Passengers

7. Test Report
8. Marketing and Education Plan
9. Communications and Engagement Plan

Stage 4: During AV Operations

10. Reports as to the operation of the AV on a regular basis, to be determined after the award.
11. Data to support transit information provision and vehicle performance reporting
12. Passenger survey responses (survey will be provided by US Ignite)

All Stages

13. Monthly Progress Reports and Yearly report
14. Monthly invoices to US Ignite

All deliverables will be reviewed and approved by US Ignite and its partners prior to the commencement of each project stage.

APPENDIX B - Cost Proposal

Each Proposer must submit a Cost Proposal using the form provided below. This Cost Proposal will become part of the MSA and Task Orders if an Agreement is awarded pursuant to this procurement.

Amount of support and costs that need to be covered to demo on base will be a consideration in the evaluation. Firms that can offer discounted or free rates for operation as part of the technology demonstration on Fort Carson will be prioritized.

The Cost Proposal must support the Scope of Services contained in the RFP and fully encompass all activities in the Proposer's proposal. US Ignite intends to issue a fixed-price contract, to a suitable Proposer(s) who demonstrates the capacity to deliver the quality scope of services and is the most responsive to the requirements of the RFP.

If an item # is not applicable to your Pilot, then you may note N/A in the cell.

Item #	Description	Fixed-Price Amounts for initial 6-month period	Fixed-Price Amounts 6-month option period
A	<i>Plans prior to Vehicle Delivery and Testing:</i> Cost to create the Project Plan, Safety Management Plan, Data Interface Plan, Testing Plan, Service Plan, and Operator Training Plan	\$	\$
B	<i>Testing:</i> Costs of operations during both the three-month testing phase, including, insurance/liability, and security	\$	\$
C	<i>Plans prior to Full Operations:</i> Cost to create Test Report, Marketing and Education Plan, and Communications and Engagement Plan	\$	\$
D	<i>Operations:</i> Costs of operations during the operations phase, including, insurance/liability, and security.	\$	\$
E	<i>Maintenance and Service:</i> Costs for maintaining, servicing, and charging/fueling the vehicles.	\$	\$
F	<i>Vehicle Operators:</i> Costs for hiring, training, and managing onboard operators to monitor the vehicle, intervene when necessary, and interact with passengers, including all training materials	\$	\$

G	<i>Other Reports:</i> Cost to create AV Operation Reports, Reports on data to support transit information provision and vehicle performance reporting, and Passenger survey responses (survey will be provided by US Ignite), Monthly Status Reports, Monthly Invoices to US Ignite	\$	\$
H	<i>Other Items (Optional):</i> Please detail any other items that you would like included in your Cost Proposal 1. Other Item #1: 2. Other Item #2: 3. Other Item #3:	\$ \$ \$	\$ \$ \$
<i>Total Cost (Sum of Items A-H)</i>		\$	\$

Small Business/Small Business Concerns	Total Contract Percentage/Total Contract Value	Names of Small Businesses//Small Business Concerns Involved in Proposal
Please provide the percentage and total contract value that will be committed to one or more of the following: Small Business (SB), Small Disadvantaged Business (SDB), 8(a) Certified SDB, Historically Underutilized Business Zone Small Business (HUBZone SB), Service-Disabled-Veteran-Owned Small Business (SDVOSB), or Woman-Owned Small Business (WOSB) concerns	% \$	

APPENDIX C - Insurance Requirements

Before commencing any contract work, the Selected Proposer shall procure insurance to operate a motor vehicle in the State of Colorado under Colorado law covering each vehicle and its operator. This insurance shall be maintained during the life of the contract, unless otherwise specified. It is the responsibility of the selected Proposer to provide evidence of their insurance policies and defined limits prior to contract award. Due to the uncertainties regarding AV insurance, at a minimum, Commercial General Liability, Business Automobile Liability, and Workers' Compensation and Employers' Liability insurance certificates are to be provided and must be available for confirmation before the contract can be awarded. The insurance shall comply with the following requirements:

A. Workers' Compensation and Employer's Liability: The Selected Proposer shall provide and maintain workers' compensation insurance in compliance with Colorado's Workers' Compensation laws, and any other applicable workers' compensation or disability laws.

B. Commercial General Liability Insurance: The Selected Proposer shall provide and maintain commercial general liability insurance in an amount not less than \$1,000,000 per occurrence, \$2,000,000 general aggregate. Coverage shall be on an occurrence form, and include contractual liability. The Selected Proposer shall provide US Ignite advance notice of a policy cancellation on the project. The policy shall require that the insurer endeavor to notify US Ignite of the policy cancellation. US Ignite, all approving parties, and all of their employees shall be additional insured parties.

C. Proposed or Furnished Vehicle Liability and Automobile Liability: The Selected Proposer shall provide and maintain automobile liability insurance covering all owned, leased, borrowed, rented, or non-owned vehicles used by employees or others on behalf of the Selected Proposer for the conduct of the Selected Proposer's business, for an amount not less than \$1,000,000 Combined Single Limit for Bodily Injury and Property Damage. The term "automobile" shall include private passenger autos, trucks, and similar type vehicles. The policy shall be amended to include the following extensions of coverage:

1. Contractual Liability coverage shall be included to cover the assumed liability of the indemnity recited in this paragraph;
2. The Selected Proposer shall provide US Ignite advance notice of a policy cancellation on the project. The policy shall require that the insurer endeavor to notify US Ignite of the policy cancellation; and
3. US Ignite, all approving parties, and all of employees shall be additional insured parties.

D. Business Automobile Liability: Insurance with Occurrence Form shall be maintained by the Selected Proposer for the ownership, maintenance and use of all its owned, non-owned, leased or hired vehicles with limits of not less than \$5,000,000 Combined Single Limit Each Accident Bodily Injury and Property Damage. The Selected Proposer shall purchase and maintain coverage on forms no more restrictive than the latest editions of the Business Auto Policies of the Insurance Services Office. Excess or Umbrella Insurance Coverage may be used to make up the difference between the policy limit of the underlying policy and the total amount of coverage required.

E. Valuable Papers and Records Insurance: Insurance covering valuable papers and records shall be included only if specifically required in the Agreement.

F. Umbrella Liability: Umbrella coverage in excess of the underlying liability policies in an amount not less than \$1,000,000 per occurrence / \$1,000,000 aggregate. The policy shall include the following extensions of coverage:

1. A thirty (30) day notice of cancellation to US Ignite; and
2. The following form of primary general and automobile liability coverage:
 - a. The Department, all approving parties, and all of their officers, agents, and employees shall be additional insured parties;
 - b. Products and completed Operations; and
 - c. Contractual Liability.

G. Notice of Cancellation: Should any of the above-described insurance policies be cancelled, non-renewed, or be reduced in coverage or limits before the expiration date, the Selected Proposer shall provide ODOT advance notice of a policy cancellation on the project as soon as practicable. The issuing company shall endeavor to notify US Ignite of the policy cancellation.