**STATE OF MAINE**

**Department of Transportation**



**RFP# 202401014**

**Highway Data Collection Vehicle System**

|  |  |
| --- | --- |
| **RFP Coordinator** | *All communication regarding the RFP must be made through the RFP Coordinator identified below*.**Name:** Jennifer Chisum **Title:** Systems Team Lead, IT Planning at DOT**Contact Information:** jennifer.chisum@maine.gov  |
| **Submitted Questions Due** | *All questions must be received by the RFP Coordinator identified above by:***Date:** March 29, 2024, no later than 11:59 p.m., local time |
| **Proposal Submission** | *Proposals must be received by the Division of Procurement Services by:***Submission Deadline:** April 24, 2024, no later than 11:59 p.m., local time.*Proposals must be submitted electronically to the following address:***Electronic (e-mail) Submission Address:** Proposals@maine.gov |

TABLE OF CONTENTS

|  |  |
| --- | --- |
|  | **Page** |
|  |  |
| **PUBLIC NOTICE** | **3** |
|  |  |
| **RFP DEFINITIONS/ACRONYMS** | **4** |
|  |  |
| **PART I INTRODUCTION** | **6** |
| 1. PURPOSE AND BACKGROUND
 |  |
| 1. GENERAL PROVISIONS
 |  |
| 1. CONTRACT TERMS
 |  |
| 1. NUMBER OF AWARDS
 |  |
|  |  |
| **PART II SCOPE OF SERVICES TO BE PROVIDED** | **10** |
|  |  |
| **PART III KEY RFP EVENTS** | **13** |
| 1. QUESTIONS
 |  |
| 1. AMENDMENTS
 |  |
| 1. SUBMITTING THE PROPOSAL
 |  |
|  |  |
| **PART IV PROPOSAL SUBMISSION REQUIREMENTS** | **15** |
|  |  |
| **PART V PROPOSAL EVALUATION AND SELECTION** | **17** |
| 1. EVALUATION PROCESS – GENERAL INFORMATION
 |  |
| 1. SCORING WEIGHTS AND PROCESS
 |  |
| 1. SELECTION AND AWARD
 |  |
| 1. APPEAL OF CONTRACT AWARDS
 |  |
|  |  |
| **PART VI CONTRACT ADMINISTRATION AND CONDITIONS** | **19** |
| 1. CONTRACT DOCUMENT
 |  |
| 1. STANDARD STATE CONTRACT PROVISIONS
 |  |
|  |  |
| **PART VII RFP APPENDICES AND RELATED DOCUMENTS** | **20** |
|  **APPENDIX A** – PROPOSAL COVER PAGE |  |
|  **APPENDIX B** – DEBARMENT, PERFORMANCE, and  NON-COLLUSION CERTIFICATION |  |
|  **APPENDIX C** – QUALIFICATIONS and EXPERIENCE FORM |  |
|  **APPENDIX D** – COST PROPOSAL FORM |  |
|  **APPENDIX E** – SUBMITTED QUESTIONS FORM  |  |
|  **APPENDIX F** – PROPOSED SERVICES FORM **APPENDIX G** – PROPOSED SERVICES REQUIREMENTS  WORKSHEET**APPENDIX H** – PROPOSED SERVICES IT POLICY FORM**APPENDIX I** –CONTRACT RIDER D FEDERAL FUNDING**APPENDIX J** – CRITICAL DATA, STANDARDS, and PRACTICES**APPENDIX K** –OUTPUTS REQUIRED FOR THE DTIMS SYSTEM**APPENDIX L** –CRITICAL CURVE DATA OUTPUTS **APPENDIX M** –DATA QUALITY CONTROL EXPECTATIONS |  |

**PUBLIC NOTICE**

**\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\***

**State of Maine**

**Department of Transportation**

**RFP# 202401014**

 **Highway Data Collection Vehicle System**

The State of Maine is seeking proposals for Highway Data Collection Vehicle System - hardware, software, implementation services, and related professional services.

A copy of the RFP, as well as the Question & Answer Summary and all amendments related to the RFP, can be obtained at: <https://www.maine.gov/dafs/bbm/procurementservices/vendors/rfps>

Proposals must be submitted to the State of Maine Division of Procurement Services, via e-mail, at: Proposals@maine.gov. Proposal submissions must be received no later than 11:59 p.m., local time, on April 24, 2024. Proposals will be opened the following business day. Proposals not submitted to the Division of Procurement Services’ aforementioned e-mail address by the aforementioned deadline will not be considered for contract award.

**\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\***

**RFP TERMS/ACRONYMS with DEFINITIONS**

The following terms and acronyms, as referenced in the RFP, shall have the meanings indicated below:

|  |  |
| --- | --- |
| **Term/Acronym** | **Definition** |
| **AASHTO** | American Association of State Highway and Transportation Official |
| **ACORD** | Association for Cooperative Operations Research and Development |
| **ALIM** | Bentley AssetWise Asset Lifecycle Information Management  |
| **ARAN** | The Fugro HDCVS currently in use by the Department. |
| **ASTM** | American Society for Testing and Materials |
| **Collection Route** | The routes that the vehicle drives for data collection. These are defined in its LRS with unique RouteIDs |
| **Department** | Department of Transportation |
| **dTIMS** | A SaaS developed, maintained, and hosted by Deighton for Bridge and Highway asset management that utilizes data outputs of the current HDCV. Its primary function is to perform analysis to model long-term maintenance strategies in pavement and bridges to assist the Department on optimizing its investment decisions and it develops its annual workplan |
| **FTE** | Full Time Equivalent, a labor measurement.  |
| **FWHA** | Federal Highway Administration |
| **GBPS** | Gigabits per second.  |
| **HPMS** | Highway Performance Monitoring System  |
| **HDCVS** | Highway Data Collection Vehicle System  |
| **IRI** | International Roughness Index |
| **IT** | Information Technology |
| **LIDAR** | Light Detection and Ranging, a remote sensing technology |
| **LRS** | Linear Referencing System. MaineDOT uses Bentley AssetWise Asset Lifecycle Information Management (ALIM) |
| **MUTCD** | Manual on Uniform Traffic Control Devices |
| **PM** | Preventative Maintenance  |
| **RFP** | Request for Proposal |
| **Road Network** | The Department’s representation of its road system within its LRS. All point and linear assets can be properly placed upon the road network with provision of a RouteID, and X, Y coordinates.  |
| **RouteID** | For the purposes of this document, the RouteID is the unique identifier of the Collection Route in the Department’s LRS. |
| **ROW** | Right of Way |
| **RPO** | Recovery Point Objective- The amount of data the system can afford to lose following an outage without causing significant harm to the operations.  |
| **RTO** | Recovery Time Objective- The amount of time within which the system must be restored following an outage to prevent a significant loss of data.  |
| **SaaS** | Software as a Service -A software distribution model in which a third-party vendor hosts an application and makes the application available to customer via the Internet. |
| **State** | State of Maine |
| **UI** | User Interface- An application space that allows human users to interact with systems to make the user’s experience simple and intuitive. |
| **Vendor** | Vendor selected to provide the system |
| **WVV** | Web Visualization Viewer - a portion of the system to be acquired which allows a user to virtually “drive” a piece of highway, stopping the viewer at any point to view the images in more detail and retrieve associated data at that specific location. |

**State of Maine - Department of Transportation**

**RFP# 202401014**

**Highway Data Collection Vehicle System**

**PART I** **INTRODUCTION**

1. **Purpose and Background**

The Department of Transportation (Department) is seeking a Highway Data Collection Vehicle System as defined in this Request for Proposal (RFP) document. This document provides instructions for submitting proposals, the procedure and criteria by which the awarded Bidder will be selected, and the contractual terms which will govern the relationship between the State of Maine (State) and the awarded Bidder.

The Department is seeking proposals for a Highway Data Collection Vehicle System (HDCVS), consisting of hardware, SaaS, implementation services and related professional services. This HDCVS purchase is funded by the Federal Highway Administration (FHWA), all applicable State and Federal procurement requirements apply. We expect the system and its outputs to comply with all applicable AASHTO and ASTM standards. The HDCV is being purchased to replace the current Highway Data Collection Vehicle System, which has exceeded its life expectancy.

The HDCVS consists of equipment to be placed in one dedicated State-supplied vehicle which will be driven down the roadway to collect detailed data and images along the roadway, associated during collection with points on the Department’s Highway Network which we expect to load and maintain from our Bentley ALIM Location Management System. The data and images must be conveyed to the SaaS for storage and processing to develop pavement and highway data. The State intends to provide a 1 GBPS fiber optic for that purpose at the collection vehicle’s garage. The Department downloads processed data to spreadsheets for further processing and upload to the dTIMS system. The processed data is utilized primarily for federal reporting, to make data-based investment decisions, and determine the quality of a road. The awarded Bidder will provide a Web Visualization Viewer (WVV) SaaS which allows a user to virtually “drive” a piece of highway, stop the viewer at any point to view the images in more detail and retrieve associated data at that specific location. In addition, system will be integrated with the Department’s internal Map Viewer application which provides access to the same images and data in combination with other Departmental data. These viewers are used for highway condition analysis, and other drive-based analysis such as evaluating potential detour and superload routing, developing landscaping or environmental plans, or checking roadside asset locations or conditions.

The Department has been collecting and analyzing data with an HDCVS since 1989. It currently collects 5,000-6,000 miles annually, covering the full road network of Highway Priority 1-2 annually and Highway Priority 3-4 biannually. Each year, the collection process begins in late April as soon as weather permits and ends in December. Most collection cycles take one day, and the vehicle returns to its Augusta Leighton Road garage nightly. A long collection cycle would be 3 days. In the course of a day the number of miles collected can range widely depending on distance from the garage, road and weather conditions, and technical issues on the vehicle, but averages 100-300 miles/day currently.

Although the Department sees many future opportunities for use of LIDAR to provide improved safety, curve, and inventory data it will not be purchasing LIDAR as part of this procurement effort.

The primary data usage currently:

* The Highway Management Unit uses the Pavement Conditions Data for FHWA reporting, to determine life-cycle cost analysis of assets, and to develop the annual 3-year MaineDOT Workplan, all of which occur after further data analysis in the Department’s dTIMS system.
* The Results and Information Office uses pavement condition, ride quality, and curve data for the Highway Performance Monitoring System (HPMS) submittal and to calculate Customer Service Level grades used for reporting to the Maine Legislature.
* The Safety Group uses curve data (horizonal alignment and vertical alignment) for safety assessment.
* Maintenance and Operations utilizes ROW images and curve data to assess required curve sign compliance from FHWA based on the Manual on Uniform Traffic Control Devices (MUTCD)
* The GIS Group uses the ROW images to determine the inventory of the road such as the total number of lanes, the width of the shoulders, and presence of a curve.
* The Department integrates the spatially referenced ROW images into its custom web Map Viewer, which displays them in conjunction with other Departmental data for a specific road location for use in for detour and oversized vehicle route-planning, and inventory assessments. This includes a ‘virtual drive the road’ mode.
* Historical images are retrieved in the WVV for drainage claims, Intersection redesigns, and researching major changes in Customer Service Level scores.

Key issues to be addressed include:

1. Increased speed and accuracy of data collection
	1. Minimize risk of data loss or late-detected collection failures, resulting in need to repeat the collection.
	2. The Department is interested in hiring the awarded Bidder to do a portion of the data collection as well.
2. Move to SaaS from on-prem installation of software for reduced overhead in managing on-prem hardware and software, improved system stability and scalability.
3. Increased speed of data processing as the Department finds it increasingly difficult to complete the annual data processing in time to meet federal deadlines for reporting out data. The Department needs the data fully processed by end of January for the Calendar year reporting. The Department currently uses approximately 1 FTE for 8-9 months.
	1. Increased automation of data processing activities including quality control.
	2. Improved automation, such as improved detection of sealed cracks.
	3. Transfer of quality control responsibilities from the Department to the awarded Bidder. The Department will perform quality assurance.
4. Increased ease of data integration for key inputs and outputs for repetitive data import or export, with the exception of dTIMS integration. The Department prefers automation based on well-documented Rest APIs.
5. **General Provisions**
	1. From the time the RFP is issued until award notification is made, all contact with the State regarding the RFP must be made through the RFP Coordinator. No other person/ State employee is empowered to make binding statements regarding the RFP. Violation of this provision may lead to disqualification from the bidding process, at the State’s discretion.
	2. Issuance of the RFP does not commit the Department to issue an award or to pay expenses incurred by a Bidder in the preparation of a response to the RFP. This includes attendance at personal interviews or other meetings and software or system demonstrations, where applicable.
	3. All proposals must adhere to the instructions and format requirements outlined in the RFP and all written supplements and amendments (such as the Summary of Questions and Answers), issued by the Department. Proposals are to follow the format and respond to all questions and instructions specified below in the “Proposal Submission Requirements” section of the RFP.
	4. Bidders will take careful note that in evaluating a proposal submitted in response to the RFP, the Department will consider materials provided in the proposal, information obtained through interviews/presentations (if any), and internal Departmental information of previous contract history with the Bidder (if any). The Department also reserves the right to consider other reliable references and publicly available information in evaluating a Bidder’s experience and capabilities.
	5. The proposal must be signed by a person authorized to legally bind the Bidder and must contain a statement that the proposal and the pricing contained therein will remain valid and binding for a period of 180 days from the date and time of the bid opening.
	6. The RFP and the awarded Bidder’s proposal, including all appendices or attachments, will be the basis for the final contract, as determined by the Department.
	7. Following announcement of an award decision, all submissions in response to this RFP will be public records, available for public inspection pursuant to the State of Maine Freedom of Access Act (FOAA) ([1 M.R.S. § 401](http://www.mainelegislature.org/legis/statutes/1/title1sec401.html) et seq.).
	8. The Department, at its sole discretion, reserves the right to recognize and waive minor informalities and irregularities found in proposals received in response to the RFP.
	9. All applicable laws, whether or not herein contained, are included by this reference. It is the Bidder’s responsibility to determine the applicability and requirements of any such laws and to abide by them.
6. **Contract Term**

The Department is seeking a cost-efficient proposal to provide services, as defined in the RFP, for the anticipated contract period defined in the table below. Please note, the dates below are estimated and may be adjusted, as necessary, in order to comply with all procedural requirements associated with the RFP and the contracting process. The actual contract start date will be established by a completed and approved contract.

Contract Renewal: Following the initial term of the contract, the Department may opt to renew the contract for two (2) renewal periods, as shown in the table below, and subject to continued availability of funding and satisfactory performance.

The term of the anticipated contract, resulting from the RFP, is defined as follows:

|  |  |  |
| --- | --- | --- |
| **Period** | **Start Date** | **End Date** |
| Initial Period of Performance (2 years) | 9/1/2024 | 8/31/2026 |
| Renewal Period #1 (4 years) | 9/1/2026 | 8/31/2030 |
| Renewal Period #2 (3 years) | 9/1/2030 | 8/31/2033 |

1. **Number of Awards**

The Department anticipates making one (1) award as a result of the RFP process.

**PART II SCOPE OF SERVICES TO BE PROVIDED**

**Requirements are organized into the following sections in this RFP:**

**Part II Scope of Services to be Provided** (A. 1 through 10 below)

**APPENDIX F** –PROPOSED SERVICES AND PROJECT SCHEDULE FORM

**APPENDIX G** – PROPOSED SERVICES REQUIREMENTS WORKSHEET

**APPENDIX H** – PROPOSED SERVICES IT POLICY FORM

**A. Services and Materials Summary**

1. **One (1) Highway Data Collection Vehicle System** to be mounted in a State-provided vehicle, inclusive of, but not limited to, the following subsystems:
	1. Global Positioning System (GPS)
		1. Excluding the subscription to a satellite GPS service which will be provided by the Department
	2. Roadway Digital Imaging System
	3. Longitudinal Profile and Roughness Measurement System
	4. Transverse Profile and Rutting Measurement System
	5. Automated 3D Crack Detection and Classification System
	6. Pavement Texture Measurement System
	7. Roadway Geometry Measurement System
	8. Data integration with the Department’s LRS
	9. Fully integrated Onboard Computer System, being all the necessary hardware and software required in the vehicle for each of the listed systems;
	10. All specialized hardware and software required for calibration or preventative maintenance

The Highway Data Collection Vehicle System must include all hardware required to meet the requirements described in the RFP, including here in Part II of the RFP, **Appendix F**, **Appendix G**, and **Appendix H**.

The Department is open to varied ways of addressing the business and data requirements.

1. **Software as a Service** (SaaS) for data processing and storage
	1. This must include both a production and test environment.
	2. Data and images within the system may be deleted or archived with prior written authorization from the Department’s program manager only.
2. **Web Visualization Viewer (WVV) SaaS, and optionally historic data loading, as described in Appendix F (Proposed Services Form), section 9.**
3. **Quality Control**
	1. Including annual certification of data quality (compliance with the Department’s Data Quality Management Plan).
4. **Systems Integration** with the following applications:
	1. ALIM
	2. the Department’s LRS
	3. dTIMS
	4. the Department’s Map Viewer WVV
	5. Geoprocessing
5. **Installation and Implementation Services**

These services include hardware installation, configuration, initial training, Vendor-side systems integration tasks, support of Departmental deployment testing, remediation of testing issues, and related services as appropriate to ensure the Department’s effective use and administration of the service.

* 1. The Department supplied vehicle will be a 2023 Ford F150 Crew Cab equipped with an LED Arrow board and auxiliary radio.
		1. Any modifications to the vehicle will be performed by the awarded Bidder. Any installation of a monitor stand and/or keyboard or other in-cab peripherals may be completed by removal of the forward portion of the center console, if needed, and must ensure proper ergonomic operation and no restriction of the legroom in the operator/passenger seats. The Department accepts that airbags may have to be disabled.
		2. Any repair costs due to damage of original vehicle equipment or components created by equipment installation will be the responsibility of the awarded Bidder.
		3. Installation activities may occur at the awarded Bidder’s preferred facility, or on-site as preferred by the awarded Bidder. The awarded Bidder is responsible for the transportation of the vehicle to and from the installation site(s) from Augusta, Maine.
		4. The awarded Bidder is responsible for fully insuring the vehicle and its systems while it is in the Bidder’s custody.
		5. Products supplied must comply with FHWA Buy America requirements at [Buy America - Construction Program Guide - Contract Administration - Construction - Federal Highway Administration (dot.gov)](https://www.fhwa.dot.gov/construction/cqit/buyam.cfm)
		6. Although the awarded Bidder is expected to be able to provide replacement parts upon request, the Department reserves the right to acquire replacement parts from sources other than the awarded Bidder.
	2. The awarded Bidder must provide project management of the implementation, including maintenance of a detailed implementation plan with schedule and milestones, and biweekly status reporting to the Department Contract Administrator and Program Administrator, until the acceptance of completion of the implementation by the Department Contract Administrator. Biweekly reports will include actions performed in period, actions planned for next period, risks, and issues.
	3. Interface Development Roles and Responsibilities
		1. The awarded Bidder will collaborate with the Department during implementation to refine the interface design(s) to ensure all business and technical requirements are met. The awarded Bidder will perform all work within the proposed system(s) and on their infrastructure. The Department will perform all State infrastructure work, and all work within the other systems it owns/operates.
1. **Customer Support**
	1. Annual on-site maintenance services
	2. Repair services including provision of parts, repairs (on-site and off-site as appropriate), and on-site service calls as needed.
	3. Software support and maintenance
	4. Training and documentation
2. **Optionally, data collection services**
3. **Warranty**
	1. A minimum of one year warranty is required for all components of the system.
4. **Data Export at Termination of Contract**
	1. Upon termination of the contract, or in preparation for contract termination, at no additional charge, regardless of reason for termination, all Departmental data must be provided to the Department in usable format such as Excel spreadsheets or database export for import into a new SaaS and/or for long-term Departmental storage.
	2. Images must be provided in original size with original metadata intact.
	3. Requested data and images must be provided by the awarded Bidder within 15 business days of Departmental request. The Department’s data and images will not be deleted from the awarded Bidder’s system until confirmation in writing by the Department Contract Administrator that the requested data has been received and is usable.

**PART III KEY RFP EVENTS**

1. **Questions**
	1. **General Instructions:** It is the responsibility of all Bidders and other interested parties to examine the entire RFP and to seek clarification, in writing, if they do not understand any information or instructions.
		1. Bidders and other interested parties should use **Appendix E** (Submitted Questions Form) for submission of questions. The form is to be submitted as a WORD document.
		2. The Submitted Questions Form must be submitted, by e-mail, and received by the RFP Coordinator, identified on the cover page of the RFP, as soon as possible but no later than the date and time specified on the RFP cover page.
		3. Submitted Questions must include the RFP Number and Title in the subject line of the e-mail. The Department assumes no liability for assuring accurate/complete/on time e-mail transmission and receipt.
	2. **Question & Answer Summary:** Responses to all questions will be compiled in writing and posted on the following website no later than seven (7) calendar days prior to the proposal due date: [Division of Procurement Services RFP Page](https://www.maine.gov/dafs/bbm/procurementservices/vendors/rfps). It is the responsibility of all interested parties to go to this website to obtain a copy of the Question & Answer Summary. Only those answers issued in writing on this website will be considered binding.
2. **Amendments**

All amendments released in regard to the RFP will also be posted on the following website: [Division of Procurement Services RFP Page](https://www.maine.gov/dafs/bbm/procurementservices/vendors/rfps). It is the responsibility of all interested parties to go to this website to obtain amendments. Only those amendments posted on this website are considered binding.

1. **Submitting the Proposal**
	1. **Proposals Due:** Proposals must be received no later than 11:59 p.m. local time, on the date listed on the cover page of the RFP. E-mails containing original proposal submissions, or any additional or revised proposal files, received after the 11:59 p.m. deadline will be rejected without exception.
	2. **Delivery Instructions:** E-mail proposal submissions are to be submitted to the State of Maine Division of Procurement Services at Proposals@maine.gov.
		1. Only proposal submissions received by e-mail will be considered. The Department assumes no liability for assuring accurate/complete e-mail transmission and receipt.
			1. Proposal submission e-mails that are successfully received by the proposals@maine.gov inbox will receive an automatic reply stating as such.
		2. E-mails containing links to file sharing sites or online file repositories will not be accepted as submissions. Only e-mail proposal submissions that have the actual requested files attached will be accepted.
		3. Encrypted e-mails received which require opening attachments and logging into a proprietary system will not be accepted as submissions. Please check with your organization’s Information Technology team to ensure that your security settings will not encrypt your proposal submission.
		4. File size limits are 25MB per e-mail. Bidders may submit files separately across multiple e-mails, as necessary, due to file size concerns. All e-mails and files must be received by the due date and time listed above.
		5. Bidders are to insert the following into the subject line of their e-mail proposal submission: **“RFP# 202401014 Proposal Submission – [Bidder’s Name]”**
		6. Bidder’s proposal submissions are to be broken down into multiple files, with each file named as it is titled in bold below, and include:
* **File 1 [Bidder’s Name] – Preliminary Information:**

*PDF format preferred*

**Appendix A** (Proposal Cover Page)

**Appendix B** (Debarment, Performance and Non-Collusion Certification)

* **File 2 [Bidder’s Name] – Organization Qualifications and Experience:**

*PDF format preferred*

**Appendix C** (Organization Qualifications and Experience Form)

**Dun & Bradstreet Business Information Report Snapshot**

**Certificate of Insurance**

* **File 3 [Bidder’s Name] – Proposed Services:**

*PDF format preferred*

**Appendix F**, Proposed Services Form.

**Appendix G**, Proposed Services Requirements Worksheet

**SaaS Service Level Agreement** (if you have one)

**Hardware Service Agreement**

**Sample Segmented Report with IRI, Rutting and Cracking values**

**Uptime and Unplanned Outage Report** covering the previous calendar year.

* **File 4 [Bidder’s Name] – Proposed Services: IT Policy Form**

*PDF format preferred*

**Appendix H**, Proposed Services IT Policy Form

* **File 5 [Bidder’s Name] – Cost Proposal:**

*PDF format preferred*

**Appendix D** (Cost Proposal Form)

**PART IV PROPOSAL SUBMISSION REQUIREMENTS**

This section contains instructions for Bidders to use in preparing their proposals. The Department seeks detailed yet succinct responses that demonstrate the Bidder’s qualifications, experience, and ability to perform the requirements specified throughout the RFP.

The Bidder’s proposal must follow the outline used below, including the numbering, section, and sub-section headings. Failure to use the outline specified in PART IV, or failure to respond to all questions and instructions throughout the RFP, may result in the proposal being disqualified as non-responsive or receiving a reduced score. The Department, and its evaluation team, has sole discretion to determine whether a variance from the RFP specifications will result either in disqualification or reduction in scoring of a proposal. Rephrasing of the content provided in the RFP will, at best, be considered minimally responsive.

Bidders are not to provide additional attachments beyond those specified in the RFP for the purpose of extending their response. Additional materials not requested will not be considered part of the proposal and will not be evaluated. Include any forms provided in the submission package or reproduce those forms as closely as possible. All information must be presented in the same order and format as described in the RFP.

**Proposal Format and Contents**

**Section I Preliminary Information** (File #1)

* 1. **Proposal Cover Page**

Bidders must complete **Appendix A** (Proposal Cover Page). It is critical that the cover page show the specific information requested, including Bidder address(es) and other details listed. The Proposal Cover Page must be dated and signed by a person authorized to enter into contracts on behalf of the Bidder.

* 1. **Debarment, Performance and Non-Collusion Certification**

Bidders must complete **Appendix B** (Debarment, Performance and Non-Collusion Certification Form). The Debarment, Performance and Non-Collusion Certification Form must be dated and signed by a person authorized to enter into contracts on behalf of the Bidder.

**Section II Organization Qualifications and Experience** (File #2)

* 1. **Overview of the Organization**

Bidders must complete **Appendix C** (Qualifications and Experience Form) describing their qualifications and skills to provide the requested services in the RFP.

* 1. **Financial Viability**

Bidders must provide a current copy of their Dun & Bradstreet Business Information Report Snapshot.

* 1. **Certificate of Insurance**

Bidders must provide a certificate of insurance on a standard ACORD form (or the equivalent) evidencing the Bidder’s general liability, professional liability and any other relevant liability insurance policies that might be associated with the proposed services.

**Section III Proposed Services** (File #3)

1. Complete and submit **Appendix F, Proposed Services Form**.
2. Complete and submit **Appendix G, Proposed Services Requirements Worksheet**
3. Submit your **SaaS Service Level Agreement** (if you have one)
4. Submit your **Hardware Service Agreement.**
5. Submit a **Sample Segmented Report with IRI, Rutting and Cracking values.**
6. Submit an **Uptime and Unplanned Outage Report** covering the previous calendar year.

**Section III Proposed Services (cont.)** (File #4)

1. Complete and submit **Appendix H, Proposed Services IT Policy Form**

**Section IV Cost Proposal** (File #5)

* 1. **General Instructions**
		1. Bidders must submit a cost proposal that covers the contract period including extensions, starting 7/1/2024 and ending on 6/30/2033.
		2. The cost proposal must include the costs necessary for the Bidder to fully comply with the contract terms, conditions, and RFP requirements.
		3. No costs related to the preparation of the proposal for the RFP, or to the negotiation of the contract with the Department, may be included in the proposal. Only costs to be incurred after the contract effective date that are specifically related to the implementation or operation of contracted services may be included.
	2. **Cost Proposal Form Instructions**

Bidders must fill out **Appendix D** (Cost Proposal Form), following the instructions detailed here and in the form. Failure to provide the requested information, and to follow the required cost proposal format provided, may result in the exclusion of the proposal from consideration, at the discretion of the Department.

**PART V PROPOSAL EVALUATION AND SELECTION**

Evaluation of the submitted proposals will be accomplished as follows:

1. **Evaluation Process - General Information**
	1. An evaluation team, composed of qualified reviewers, will judge the merits of the proposals received in accordance with the criteria defined in the RFP.
	2. Officials responsible for making decisions on the award selection will ensure that the selection process accords equal opportunity and appropriate consideration to all who are capable of meeting the specifications. The goals of the evaluation process are to ensure fairness and objectivity in review of the proposals and to ensure that the contract is awarded to the Bidder whose proposal provides the best value to the State of Maine.
	3. The Department reserves the right to communicate and/or schedule interviews/presentations with Bidders, if needed, to obtain clarification of information contained in the proposals received. The Department may revise the scores assigned in the initial evaluation to reflect those communications and/or interviews/presentations. Changes to proposals, including updating or adding information, will not be permitted during any interview/presentation process and, therefore, Bidders must submit proposals that present their rates and other requested information as clearly and completely as possible.
2. **Scoring Weights and Process**
	1. **Scoring Weights:** The score will be based on a 100-point scale and will measure the degree to which each proposal meets the following criteria.

**Section I Preliminary Information (No Points)**

 Includes all elements addressed above in Part IV, Section I.

**Section II. Organization Qualifications and Experience (20 points)**

Includes all elements addressed above in Part IV, Section II.

**Section III. Proposed Services (55 points)**

Includes all elements addressed above in Part IV, Section III.

**Section IV. Cost Proposal (25 points)**

Includes all elements addressed above in Part IV, Section IV.

* 1. **Scoring Process:** For proposals that demonstrate meeting the eligibility requirements in Section I, the evaluation team will use a consensus approach to evaluate and score Sections II & III above. Members of the evaluation team will not score those sections individually but, instead, will arrive at a consensus as to assignment of points for each of those sections. Sections IV, the Cost Proposal, will be scored as described below.
	2. **Scoring the Cost Proposal:** The total cost proposed for conducting all the functions specified in the RFP will be assigned a score according to a mathematical formula. The lowest bid will be awarded 25 points. Proposals with higher bids values will be awarded proportionately fewer points calculated in comparison with the lowest bid.

The scoring formula is:

(Lowest submitted cost proposal / Cost of proposal being scored) x 25 = pro-rated score

No Best and Final Offers: The State of Maine will not seek or accept a best and final offer (BAFO) from any Bidder in this procurement process.  All Bidders are expected to provide their best value pricing with the submission of their proposal.

* 1. **Negotiations:** The Department reserves the right to negotiate with the awarded Bidder to finalize a contract. Such negotiations may not significantly vary the content, nature or requirements of the proposal or the Department’s Request for Proposal to an extent that may affect the price of goods or services requested. The Department reserves the right to terminate contract negotiations with an awarded Bidder who submits a proposed contract significantly different from the proposal they submitted in response to the advertised RFP. In the event that an acceptable contract cannot be negotiated with the highest ranked Bidder, the Department may withdraw its award and negotiate with the next-highest ranked Bidder, and so on, until an acceptable contract has been finalized. Alternatively, the Department may cancel the RFP, at its sole discretion.
1. **Selection and Award**
	1. The final decision regarding the award of the contract will be made by representatives of the Department subject to approval by the State Procurement Review Committee.
	2. Notification of conditional award selection or non-selection will be made in writing by the Department.
	3. Issuance of the RFP in no way constitutes a commitment by the State of Maine to award a contract, to pay costs incurred in the preparation of a response to the RFP, or to pay costs incurred in procuring or contracting for services, supplies, physical space, personnel or any other costs incurred by the Bidder.
	4. The Department reserves the right to reject any and all proposals or to make multiple awards.
2. **Appeal of Contract Awards**

Any person aggrieved by the award decision that results from the RFP may appeal the decision to the Director of the Bureau of General Services in the manner prescribed in [5 M.R.S.A. § 1825-E](http://www.mainelegislature.org/legis/statutes/5/title5sec1825-E.html) and [18-554 Code of Maine Rules Chapter 120](https://www.maine.gov/dafs/bbm/procurementservices/policies-procedures/chapter-120).  The appeal must be in writing and filed with the Director of the Bureau of General Services, 9 State House Station, Augusta, Maine, 04333-0009 within 15 calendar days of receipt of notification of conditional contract award.

**PART VI CONTRACT ADMINISTRATION AND CONDITIONS**

1. **Contract Document**
	1. The awarded Bidder will be required to execute a State of Maine BP54-IT Rider B with appropriate riders as determined by the issuing department.

The complete set of standard State of Maine Service Contract documents, along with other forms and contract documents commonly used by the State, may be found on the Division of Procurement Services’ website at the following link: [Division of Procurement Services Forms Page](https://www.maine.gov/dafs/bbm/procurementservices/forms).

* 1. Due to the use of Federal funds, the contract language included in **Appendix I** (Contract Rider D Federal Funding) will be included in the contract as Rider D.
	2. Allocation of funds is final upon successful negotiation and execution of the contract, subject to the review and approval of the State Procurement Review Committee. Contracts are not considered fully executed and valid until approved by the State Procurement Review Committee and funds are encumbered. No contract will be approved based on an RFP which has an effective date less than fourteen (14) calendar days after award notification to Bidders. (Referenced in the regulations of the Department of Administrative and Financial Services, [Chapter 110, § 3(B)(i)](https://www.maine.gov/dafs/bbm/procurementservices/policies-procedures/chapter-110).)

This provision means that a contract cannot be effective until at least 14 calendar days after award notification.

* 1. The State recognizes that the actual contract effective date depends upon completion of the RFP process, date of formal award notification, length of contract negotiation, and preparation and approval by the State Procurement Review Committee. Any appeals to the Department’s award decision(s) may further postpone the actual contract effective date, depending upon the outcome. The contract effective date listed in the RFP may need to be adjusted, if necessary, to comply with mandated requirements.
	2. In providing services and performing under the contract, the awarded Bidder must act as an independent contractor and not as an agent of the State of Maine.
1. **Standard State Contract Provisions**
	1. Contract Administration

Following the award, a Contract Administrator from the Department will be appointed to assist with the development and administration of the contract and to act as administrator during the entire contract period. Department staff will be available after the award to consult with the awarded Bidder in the finalization of the contract.

* 1. Payments and Other Provisions

The State anticipates paying the Contractor on the basis of net 30 payment terms, upon the receipt of an accurate and acceptable invoice. An invoice will be considered accurate and acceptable if it contains a reference to the State of Maine contract number, contains correct pricing information relative to the contract, and provides any required supporting documents, as applicable, and any other specific and agreed-upon requirements listed within the contract that results from the RFP.

**PART VII LIST OF RFP APPENDICES AND RELATED DOCUMENTS**

**Appendix A** – Proposal Cover Page

**Appendix B** – Debarment, Performance, and Non-Collusion Certification

**Appendix C** – Qualifications and Experience Form

**Appendix D** – Cost Proposal Form

**Appendix E** – Submitted Question Form

**Appendix F** – Proposed Services Form

**Appendix G** –Proposed Services Requirements Worksheet

**Appendix H** – Proposed Services IT Policy Form

**Appendix I** – Contract Rider D Federal Funding

**Appendix J** – Critical Data, Standards, And Practices

**Appendix K** –Outputs Required for the dTIMS System

**Appendix L** –Critical Curve Data Outputs

 **Appendix M** –Data Quality Control Expectations

**APPENDIX A**

**State of Maine**

**Department of Transportation**

**PROPOSAL COVER PAGE**

**RFP# 202401014**

**Highway Data Collection Vehicle System**

|  |  |
| --- | --- |
| **Bidder’s Organization Name:** |  |
| **Chief Executive - Name/Title:** |  |
| **Tel:** |  | **E-mail:** |  |
| **Headquarters Street Address:** |  |
| **Headquarters City/State/Zip:** |  |
| ***(Provide information requested below if different from above)*** |
| **Lead Point of Contact for Proposal - Name/Title:** |  |
| **Tel:** |  | **E-mail:** |  |
| **Headquarters Street Address:** |  |
| **Headquarters City/State/Zip:** |  |

* This proposal and the pricing structure contained herein will remain firm for a period of 180 days from the date and time of the bid opening.
* No personnel currently employed by the Department or any other State agency participated, either directly or indirectly, in any activities relating to the preparation of the Bidder’s proposal.
* No attempt has been made, or will be made, by the Bidder to induce any other person or firm to submit or not to submit a proposal.
* The above-named organization is the legal entity entering into the resulting contract with the Department if they are awarded the contract.
* The undersigned is authorized to enter contractual obligations on behalf of the above-named organization.

*To the best of my knowledge, all information provided in the enclosed proposal, both programmatic and financial, is complete and accurate at the time of submission.*

|  |  |
| --- | --- |
| **Name (Print):** | **Title:** |
| **Authorized Signature:** | **Date:** |

**APPENDIX B**

**State of Maine**

**Department of Transportation**

**DEBARMENT, PERFORMANCE, and NON-COLLUSION CERTIFICATION**

**RFP# 202401014**

**Highway Data Collection Vehicle System**

|  |  |
| --- | --- |
| **Bidder’s Organization Name:** |  |

*By signing this document, I certify to the best of my knowledge and belief that the aforementioned organization, its principals and any subcontractors named in this proposal:*

1. *Are not presently debarred, suspended, proposed for debarment, and declared ineligible or voluntarily excluded from bidding or working on contracts issued by any governmental agency.*
2. *Have not within three years of submitting the proposal for this contract been convicted of or had a civil judgment rendered against them for:*
	1. *Fraud or a criminal offense in connection with obtaining, attempting to obtain, or performing a federal, state, or local government transaction or contract.*
	2. *Violating Federal or State antitrust statutes or committing embezzlement, theft, forgery, bribery, falsification or destruction of records, making false statements, or receiving stolen property.*
3. *Are not presently indicted for or otherwise criminally or civilly charged by a governmental entity (Federal, State or Local) with commission of any of the offenses enumerated in paragraph (b) of this certification.*
4. *Have not within a three (3) year period preceding this proposal had one or more federal, state, or local government transactions terminated for cause or default*.
5. *Have not entered into a prior understanding, agreement, or connection with any corporation, firm, or person submitting a response for the same materials, supplies, equipment, or services and this proposal is in all respects fair and without collusion or fraud. The above-mentioned entities understand and agree that collusive bidding is a violation of state and federal law and can result in fines, prison sentences, and civil damage awards.*

|  |  |
| --- | --- |
| **Name (Print):** | **Title:** |
| **Authorized Signature:** | **Date:** |

**APPENDIX C**

**State of Maine**

**Department of Transportation**

## QUALIFICATIONS and EXPERIENCE FORM

**RFP# 202401014**

**Highway Data Collection Vehicle System**

|  |  |
| --- | --- |
| **Bidder’s Organization Name:** |  |

|  |
| --- |
| **Bidder Overview** |
| **1.** Present a brief statement of qualifications. Describe the history of the Bidder’s organization, especially regarding skills pertinent to the specific work required by the RFP and any special or unique characteristics of the organization which would make it especially qualified to perform the required work activities. You may expand this form and use additional pages to provide this information. |
|  |
| **1.1** Describe your experience providing and implementing the proposed system. |
|  |
|  |
|  |
|  |
|  |

|  |
| --- |
| **Litigation** |
| **2.** List all current litigation in which the Bidder is named and a list of all closed cases that have closed within the past five (5) years in which the Bidder paid the claimant either as part of a settlement or by decree.  For each, list the entity bringing suit, the complaint, the accusation, amount, and outcome.  If no litigation will be included, write “none”. |
|  |

|  |
| --- |
| **Subcontractors** |
| **3.** If use of subcontractors is proposed for the provision of any services other than IT Hosting provision directly to the Department, for each subcontractor, please provide the following information:  |
| * 1. Subcontractor name
 |  |
| * 1. Subcontractor role
 |  |
| * 1. How long has this subcontractor been in business?
 |  |
| **3.4** How long has this subcontractor provided the proposed services? |  |
| **3.5** How long has this subcontractor acted as a subcontractor to the Bidder? |  |
| **3.6** Approximately how many installations by the Bidder using this subcontractor are currently in operation? |  |
| **3.7** Provide a brief description of the organization’s qualifications and skills in providing the proposed services. |
|  |

|  |
| --- |
| **References**  |
|  **4.** Provide references from three current clients with needs similar to those of the Department as described in this RFP which demonstrate their experience and expertise in performing these services as well as highlighting the Bidder’s stated qualifications and skills. For each of the references provided, a contact person from the client organization involved should be listed, along with that person’s telephone number and email address. Please note that contract history with the State of Maine, whether positive or negative, may be considered in rating proposals even if not provided by the Bidder.References 4.4 and higher may be duplicates of previous references. The Department will determine which, if any, references are contacted. Information from other persons than that listed as “company contact person” may be solicited.  |

|  |
| --- |
| **4.1 Reference #1** |
| **Client Name:** |  |
| **Client Contact Person:** |  |
| **Telephone:** |  |
| **E-Mail:** |  |
| **Brief description of similarity to Department’s needs** |
|  |

|  |
| --- |
| **4.2 Reference #2** |
| **Client Name:** |  |
| **Client Contact Person:** |  |
| **Telephone:** |  |
| **E-Mail:** |  |
| **Brief description of similarity to Department’s needs** |
|  |

|  |
| --- |
| **4.3 Reference #3** |
| **Client Name:** |  |
| **Client Contact Person:** |  |
| **Telephone:** |  |
| **E-Mail:** |  |
| **Brief description of similarity to Department’s needs** |
|  |

|  |
| --- |
| **4.4 Crack and Seal Detection Reference**Provide a reference from a client currently performing crack and seal detection with the solution proposed for the Department. If no such reference is available, leave it blank. You may provide a duplicate of an above reference. |
| **Client Name:** |  |
| **Client Contact Person:** |  |
| **Telephone:** |  |
| **E-Mail:** |  |
| **Brief description of similarity**  |
|  |

|  |
| --- |
| **4.5 Quality Control Reference**Provide a reference from a client for whom you provide quality control services with the solution proposed for the Department, such as those described in **Appendix M**. If available, this reference should be for a client for whom you provide lane and lane width detection. If no such quality control reference is available, leave it blank. You may provide a duplicate of an above reference. |
| **Client Name:** |  |
| **Client Contact Person:** |  |
| **Telephone:** |  |
| **E-Mail:** |  |
| **Brief description of similarity**  |
|   |

|  |
| --- |
| **4.6 Customer Support Reference**Provide a reference from a client who has received customer support in response to a challenging issue of a critical or important requirement, preferably within the last three years. You may provide a duplicate of an above reference. |
|  |
|  |
|  |
|  |
| **Brief description of issue and support provided** |
|   |

**APPENDIX D**

**State of Maine**

**Department of Transportation**

**COST PROPOSAL FORM**

**RFP# 202401014**

**Highway Data Collection Vehicle System**

|  |  |
| --- | --- |
| **Bidder’s Organization Name:** |  |
| **Proposed Cost** (Transfer from Part 1, table 4, line 4D below, highlighted in orange): | **$**  |

**Bidders must complete the tables below to provide their proposed cost for providing the services as described in this RFP.**

Bidders must ensure that the detail lines add correctly to the final sum of each table. The Department reserves the right to score, award, and negotiate on the amounts proposed, or amounts assumed should the Bidders' proposal contain mathematical errors. Non-price responses such as “TBD” or “not available” will be interpreted as being offered at No Cost ($0) for the purposes of scoring the cost proposal and any resulting contract negotiations. A discount may be indicated, if desired, by stating it in a line item with a negative amount.

Cost of modifications for all items marked “**“**will meet req. with mod” in **Appendix G** (Proposed Services Requirements Worksheet) **must** be included in the Cost Proposal, although an explicit line item is not required.

Costs for Optional Bid Items outside Part IV OPTIONAL BID ITEMS must not be included on this form.

Provide Year 3-9\* costs as requested in the tables. Although Year 3-9 costs will not be included in the Proposed Cost computation, these figures will be used as the basis for future negotiations should the renewal options be exercised.

Restrictions or limitations of services at the price bid must be stated in **Appendix F** (Proposed Services Form), 16. Caveats and Limitations, not in this form. If they are provided in this form in error, they will be scored as part of the Appendix F 16. Caveats and Limitations.

**I. FIXED COSTS**

|  |
| --- |
| **1. FIXED HARDWARE COSTS**Itemize all **FIXED HARDWARE** costs, such as initial hardware and spare parts to be provided. Please itemize. The Department does not intend to purchase data storage media for the vehicle’s on-board data backups from the vendor unless it is required to do so due to use of proprietary products – so include those costs only if proprietary data storage media is required. Add lines as needed.  |
| **Description** | **Year 1 cost $** | **Year 2 cost $** | **Year 3\* cost $** | **Year 4\* cost $** | **Year 5\* cost $** | **Year 6\* cost $** | **Year 7\* cost $** | **Year 8\* cost $** | **Year 9\* cost $** |
|  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |
| **1A. Total Fixed Hardware Costs for Cost Proposal by Year for year 1 and 2** (sum column above in this table) |  |  |  |  |  |  |  |  |  |
| **1B. Total Fixed Hardware Costs for First Contract Period** (sum of row 1A) |  |  |  |  |  |  |  |  |

|  |
| --- |
| **2. FIXED ANNUAL COSTS**Itemize all **fixed annual** costs, such as SaaS fees, and the Annual Preventative Maintenance Visit (excluding parts costs). Travel must be included in the costs as it will not be reimbursed separately. Add lines as needed.  |
| **Description** | **Year 1 cost $** | **Year 2 cost $** | **Year 3\* cost $** | **Year 4\* cost $** | **Year 5\* cost $** | **Year 6\* cost $** | **Year 7\* cost $** | **Year 8\* cost $** | **Year 9\* cost $** |
|  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |
| **2A. Total Fixed Annual Costs by Year for Years 1 and 2 (**sum of columns above in this table) |  |  |  |
| **2B. Total Fixed Annual Costs for First Period of Contract (**sum of row 2A entries above) |  |   |

|  |
| --- |
| **3.** **ALL OTHER FIXED COSTS IN FIRST PERIOD OF CONTRACT**List **all other fixed costs** necessary for the Bidder to fully comply with the contract terms and conditions and RFP requirements for the first (2-year) period of the contract, such one-time implementation fees. Do not include potential post-implementation ad-hoc services or goods as these are covered in Part II Ad Hoc Costs, below. Travel must be included in the costs as it will not be reimbursed separately. Add lines as needed.  |
| **Description** | **Cost** |
|  |  |
|  |  |
|  |  |
|  |  |
| **3A. Total All Other Fixed Costs in First Period of Contract** (sum of column in this table) |  |

|  |
| --- |
| **4. TOTAL FIXED COSTS for First Period of Contract**This must be sum of the totals **computed in the indicated table cells** above (highlighted in yellow).  |
| **4A Total Hardware Costs for First Contract Period, transfer 1B from above** |  |
| **4B. Total Fixed Annual Costs for First Period of Contract, transfer from 2B above** |  |
| **4C. Total All Other Fixed Costs in First Period of Contract, transfer from 3A above** |  |
| **4D. TOTAL FIXED COSTS for First Period of Contract (**sum of columns above in this table). This cost will be used as the Proposed Cost for RFP cost scoring. Please transfer it to the header of Appendix D Cost proposal.  |  |

**II. AD HOC COSTS**

Although Ad Hoc Costs will not be included in the Proposed Cost computation, this information and these figures will be used as the basis for contract negotiations.

|  |
| --- |
| **5. Replacement Parts** Describe how the rates for replacement parts will be set for the Department. |
|  |

|  |
| --- |
| **6. All Other Ad Hoc Services or Materials Price List** Provide price list for all other services to be provided ad hoc, such as on-site repairs, additional training, configuration, or coding services. Do NOT include travel costs in this section. Do not include parts/materials in this section as they should be fully described in Section 5. Add lines as needed.  |
| **Item Description** | **Pricing Unit** | **Year 1** | **Year 2** | **Year 3\*** | **Year 4\*** | **Year 5\*** | **Year 6\*** | **Year 7\*** | **Year 8\*** | **Year 9\*** |
| **(e.g per hr, per visit)** | **$/Unit** | **$/Unit** | **$/Unit** | **$/Unit** | **$/Unit** | **$/Unit** | **$/Unit** | **$/Unit** | **$/Unit** |
|   |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |

**III. OPTIONAL BID ITEMS**

Should the Bidder be awarded the contract, the Department may include the following additional services in contracting, at its option, based on the costs proposed below. If the Bidder is not offering the service described, leave blank.

|  |
| --- |
| 1. **Optional Data Collection Services** described in **Appendix F** (Proposed Services Form) 16. Optional Data Collection: Collection of 2000 miles on Priority 1 and/or 2 Highways.

Must be proposed as a flat fee. |
| **Year 1 Cost $** | **Year 2 Cost $** |
|  |  |

|  |
| --- |
| 1. **Optional ARAN-collected Images in the WVV** described in **Appendix F** (Proposed Services Form) 10.6 Inclusion of the last 2 years of ROW images collected prior to use of the proposed system, in the WVV, through loading these images into the proposed system.

If proposing time and materials or other rate-based cost rather than flat fee, state so, and provide an estimated total cost.  |
| **Item Description**If fixed fee, state “fixed fee”.Otherwise, state the rate and estimated units including unit descriptions (e.g. $10 per parking slot per day \*2 slots \* 2 days) | **Cost or Estimated Cost**If fixed fee, state the fixed fee.Otherwise, multiply the rate and estimated units in Item Description (e.g. $40) |
|  |  |

 **APPENDIX E**

**State of Maine**

**Department of Transportation**

**SUBMITTED QUESTIONS FORM**

**RFP# 202401014**

**Highway Data Collection Vehicle System**

|  |  |
| --- | --- |
| **Organization Name:** |  |

|  |  |
| --- | --- |
| **RFP Section & Page Number** | **Question** |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |

*\* If a question is not related to any section of the RFP, state “N/A” under “RFP Section & Page Number”.*

*\*\* Add additional rows, if necessary.*

**APPENDIX F**

**State of Maine**

**Department of Transportation**

**PROPOSED SERVICES FORM**

**RFP# 202401014**

**Highway Data Collection Vehicle System**

|  |  |
| --- | --- |
| **Bidder’s Organization Name:** |  |

**Instructions:** Use as much space as necessary for a concise and meaningful response. Avoid duplication of information. Attachments or images should be inserted into the worksheet where reasonable. Information provided as separate documents must be titled clearly and reference to the question number (e.g., *F1.2 Physical Architecture Diagram*), and be included in File 3 of the e-mail proposal submission (see Part III for proposal submission instructions).

Do not describe functionality or implementation activities that are NOT offered as part of this proposal. Do not include cost information in this section. All costs and price lists must be in the **Appendix D** (Cost Proposal) ONLY.

Software, hardware, and services proposed must cover all usage described in Part II of the RFP, **Appendix F**, **Appendix G**, and **Appendix H**. All users of all components are State employees.

Unless otherwise noted, in the following questions, “data” refers to all types of data and files collected, including images.

|  |
| --- |
| 1. **Brief System Overview**
 |
| **1.1** Provide a brief overview of the system proposed. |
|  |
| **1.2** Provide a physical architecture diagram of the system |
|  |
| **1.3** Provide a logical architecture diagram of the system. |
|  |

|  |
| --- |
| 1. **Collection Vehicle System Proposed**

This section is about the portion of the system installed on or used in the vehicle.  |
| **2.1** Please describe the proposed vehicle data collection system – the portion of the system installed on or used in the vehicle. Describe each subsystem, including the on-board computer system.  |
|  |
| **2.2** Please describe all software licenses and license restrictions in the proposed collection solution. |
|  |
| **2.3** Provide diagram(s) indicating where each hardware component will be installed on the vehicle, both external and internal components. |
|  |
| **2.4** Provide a detailed list of all hardware proposed, broken down by subsystem. The hardware proposed must be capable of collecting data sufficient for meeting all requirements in Part II of the RFP, **Appendix F**, **Appendix G**, and **Appendix H**. *Do not cite prices outside Appendix D (Cost Proposal).*Please include the types and size of data storage media proposed for the vehicle/backups, although the Department does not intend to purchase data storage media from the awarded Bidder unless it is required to do so due to use of proprietary products. Include all specialized tools required for calibration or preventative maintenance.  |
|  |
| **2.5** The proposed calibration and validation process must be in accordance with the most current versions of AASHTO R 85 Quantifying Cracks in Asphalt Pavement Surfaces from Collected Pavement Images Utilizing Automated Methods section 10, AASHTO R 43 Quantifying Roughness of Pavements, Appendix X2 as well as AASHTO R 87 Determining Pavement Deformation Parameters and Cross Slopes from Collected Transverse Profiles Section 9.Please provide all system calibration and validation recommendations by activity and frequency.  |
|  |
| **2.6** Please describe how the FHWA requirement for measurement validation should be met, and the recommended frequency for performing this activity. |
|  |
| **2.7** The system must be able to associate all collected data with latitude, longitude, and elevation. The GPS subsystem must meet the following requirements: 1. The system shall be capable of receiving and applying satellite-based or beacon-based real-time differential corrections.
2. The receivers shall be capable receiving the following signals simultaneously:
	* GPS - L1ClA, LI C, L2C, L2E, L5
	* GLONASS-LICIA, LIP, L2CIA, L2P, L3
	* Galileo -El, E5a, ESB
	* BeiDou- Bl, B2
	* SBAS-Ll CIA (EGNOS/MSAS), LI CIA and L5 (WAAS)
3. Capable of tracking both carrier and code signals of the above
4. Low noise GNSS carrier phase measurements, precision to < 1 mm
5. High precision multiple correlator for GNSS pseudo-range measurement
6. Positioning rates of 1 Hz, 2 Hz, 3 Hz, 5 Hz, 10 Hz and 20 Hz
7. Low elevation tracking
8. Input and output formats to include CMR+, CMRx, RTCM 2.1, RTCM 2.3, RTCM 3.0, RTCM 3.1
9. RTK functionality, including network (VRS) and differential.
10. Time to initialize< 8 sec when running RTK.
11. Shock tolerance in compliance with MIL STD 810F-516.5-1
12. Vibration tolerance in compliance with MIL STD 810F
13. Temperature tolerance, both operational and in storage, in compliance with MIL STD 810F -502.40.
14. Capable of using RTK corrections and/or GNSS-inertial integration technologies to achieve real-time positions to <0.5m
15. Waterproof; functioning in up to 100% humidity.
16. Capable of using post-processing software in conjunction with GNSS-inertial integration technologies to achieve survey-quality positions (< 0.05m)

Please state whether the proposed GPS meets these requirements.  |
|  |
| **2.8** Provide the following information about the GPS accuracy. |
| latitude accuracy: ±                          degreeslongitude accuracy: ±                         degreeselevation accuracy: ±     |
| **2.9** The Department must be able to continue data collection without disruption of collection process, and without serious degradation of location even when GPS is unavailable. The Department currently experiences GPS unavailability for a variety of reasons, and may collect several miles or hours with GPS unavailable. DMI data must be captured continuously to ensure that when the vehicle loses GPS signal, the distance traveled by the wheel can be determined. The system must be able to restart using GPS without manual intervention when it is detected. Please describe how the proposed system addresses these requirements. Include a description of how a GPS outage is detected and handled, what measurements are still collected, what changes are made to the collection process, what manual interventions are required of the Data Collection Technician, and what the location accuracy during that period is.  |
|  |
| **2.10** During collection, the Data Collection Technician prefers to see realtime location on the route, vehicle speed, calibration points such as intersection nodes if applicable, camera images, and IRI numbers to monitor quality of the collection. What information is available to the technician on the Onboard System driver display? |
|  |
| **2.11** What is the maximum speed the vehicle can be operated during data collection with full data integrity? |
|  |
| **2.12** It is inevitable that components will fail at times, which can lead to data collection failures requiring expensive re-collection. The Department requires the HPDCS to use operator alerts/notifications, preferably visual and audible, for situations potentially impacting successful data collection, such as a component failure. Please describe the operator alerts and redundancies included in the vehicle system, by subsystem, to reduce the risk of data collection failures. Omit from the response GPS information covered in section 2.9, and data storage and upload protections covered in section 4.4 of this Appendix.  |
|  |

|  |
| --- |
| **3. Data Processing SaaS Proposed** |
| **3.1** Provide the name(s) of software proposed, including system and module names.  |
|  |
| **3.2** State license details including license limitations such as user seats. This system must be fully licensed for use by up to 10 Departmental employees, including at least 2 systems administrators. |
|  |
| **3.3** Licenses for any third-party software that the Department must hold for the operation of the system as proposed must be included in the proposal. Please list them, including the module names and license details. Do not include Microsoft Office as the Department holds these licenses. *Cost information must appear in* *Appendix D (Cost Proposal) ONLY.* |
|  |
| **3.4** The software must be offered as a SaaS. No State server installations are permitted. Minor client software installation is permitted. Name any software components requiring client installation such as browser add-ons, their function, and how they are kept up-to-date on the client machines.  |
|  |

|  |
| --- |
| **4. Collected Data Management and Transfer**Dependency on real-time data communication from the vehicle to the SaaS Vendor is impossible given the States’ current infrastructure therefore, the Department must continue to rely on on-vehicle storage of data during collection. The Department requires fully redundant on-vehicle data storage of all collected data and images from as soon after data collection as feasible. The vehicle must be able to store at least 3 days of the fully redundant collected data. The Department envisions keeping one copy of raw data collected on-site until completion of the data processing for the collection year, preferably on the original media. The redundant copy can be released as soon as upload to the SaaS is deemed successful.  The Department prefers for the data transfer to the SaaS to happen as soon after collection as is feasible. The Department envisions transferring the collected data from the vehicle to the SaaS by use of a cable upon the return of the vehicle to the Leighton Avenue, Augusta garage over a 1 GB fiber optic vendor network at that garage. Preferably, the Data Collection Technician will not carry media indoors and return it later. Preferably they will set off the data upload with little to no direct monitoring or interaction, and return in the morning (approximately 12 hours later) to the completed process with any failures flagged and/or logged and viewable from the vehicle as well as office. The Department prefers that this data transfer feedback be supplemented with separate upload logging and status information from the SaaS itself. The Department should be able to see data upload history in the SaaS UI upon upload, and should be able to determine whether it has been flagged as verified accurate and complete (no gaps).  |
| **4.1** Please describe the data collection and management processes of the proposed collection system from collection through data upload and validation of success in the SaaS, including protections against data loss and corruption such as redundancy, notifications, and realtime monitoring tools available to the Data Collection Technicians. You are not bound by what the Department envisions currently, as long as it is feasible and addresses the risks of data loss and data corruption.  |
|  |
| **4.2** Please provide the recommended data storage capacity for the proposed vehicle, and describe how you estimated it.  |
|  |
| **4.3** Please provide a rough estimate of amount of data captured in 8 hours continuous collection on a smooth highway, broken out by type of data collected. |
|  |
| **4.4** As systems may go down, or data get corrupted, we must be able to collect a route in parts at differing points in time. This may result in duplicate data collected for a portion of the route. Please describe how the system handles these situations. |
|  |
| **4.5** Please describe the quality control features applied to raw data within the proposed system, and quality correction features available to the Data Collection Technicians in the vehicle or upon data upload to the SaaS. |
|  |
| **4.6** Data is collected for three specific purposes. There is the Collection Program; there is collection of various Ride Spec datasets for work acceptance purposes; and there is Highway Priority 4 Minor Collector data collection performed ad hoc without ROW image collection. Each set of data is used separately to produce processed data outputs and data downloads to dTIMS. How does the system enable the end users to know the data collection purpose and ensure that they filter out the appropriate data during data processing and data download?  |
|  |

|  |
| --- |
| **5. Location Reference Integrations**  |
| **5.1** The Department must to be able to understand the data in terms of the Department’s LRS, preferring that the system provide X,Y locations in the geographic coordinate system WGS84 (World Geodetic System 84), RouteID, and Milepoint reference from the LRS. What types of location references to a Linear Referencing System does the proposed system use?  |
|  |
| **5.2** The Department has 1643 Collection Routes defined in its LRS with unique RouteIDs. The longest is 35.21 miles, shortest is 0.04 miles, average is 5.46 miles. The Department does not intend to redefine these routes as part of this system’s implementation. The current system’s Collection Routes are defined in terms of segments and nodes with measures, identified as landmarks, which are used for rubber banding and displaying the current location of collection in the collection vehicle UI. The Department does not require that the proposed system use segments and nodes, or rubber banding. The Department can also provide route geometries with measures at vertices for each Collection Route. How will Collection Routes, with their metadata, be input into the proposed system? Are segments/landmarks with measures or routes with measures required? What is the preferred format for your system? Include physical interface approach (how it’s loaded) as well as logical approach/process within the system.  |
|  |
| **5.3** The Department must be able to update the Collection Route locations and roadway metadata, at least annually. In addition, the Department must be able to redefine Collection Routes when desired. How can the Collection Routes and their roadway metadata be updated within the proposed system? Can changes be provided only by reloading all data vs deltas-only vs manual modification within the system? Are there timing restrictions for some or all of the data? Is the format of a change load different from the format of an initial annual load? How does it impact prior years’ data?  |
|  |
| **5.4** How does the proposed system handle intersections?  |
|  |
| **5.5** The Department prefers that the software utilize an ESRI-based basemap format, so that it can load existing base maps rather than building custom base maps for loading data to the collection vehicle filesystem. What is required for the proposed system? |
|  |

|  |
| --- |
| **6. PAVEMENT CONDITIONS DATA**  |
| **6.1** Pavement Condition Data and other critical outputs produced by this system are utilized by the Department’s dTIMS system to compute the Pavement Conditions Ratings (PCRs), to determine life-cycle cost of Highway and Bridge assets, and for other departmental and federal reporting purposes. Please describe any challenges or issues in providing the data listed in **Appendix K** (Outputs Required for the dTIMS System).  |
|  |
| **6.2** Data collection shall conform to 23 CFR Part 490 Subpart C <https://www.law.cornell.edu/cfr/text/23/490.309>. Data Collection must meet or exceed the most current version of the Data Standards and Practices identified in **Appendix J** (Critical Data, Standards, And Practices); and be capable of being operated in accordance with those Standard Practices. If there is a conflict between Standards, the AASHTO Standard will take precedence. Describe any difficulties the proposed system may have in meeting this requirement and how they will be remediated. |
|  |
| **6.3** The Department requires that the data collected and created through data processing within the proposed system be quality controlled as laid out in the **Appendix M** (Data Quality Control Expectations). The awarded Bidder will be expected to certify compliance with the contractual Data Quality Control Expectations’ practices and data quality standards to the Department annually as a component of the Department’s FWHA Data Quality Management Plan. Please describe any challenges or issues in meeting these requirements. |
|  |
| **6.4** The Department needs the system to support changes to the raw data post-collection and reprocess/recalculate to address issues or changes in Federal reporting requirements. For example, able to modify the location and widths of wheel paths |
|  |
| **6.5** Should the Department detect issues in need of correction, please describe how data issues can be discarded (at least logically), accepted, and/or corrected as needed by the Department. Address collected data and processed data.  |
|  |
| **6.6** If data is discarded, is a report of the discarded data available (for re-collection the same or following year)? |
|  |
| **6.7** Please describe the data processing for producing IRI data including sensors used, portion of pavement collected at high confidence level, initial processing, quality control / corrections, and post-processing with the proposed solution. Describe automated and manual steps, speed, accuracy, and any special opportunities or challenges for improvements in data production speed or quality. |
|  |
| **6.8** Please describe the data processing for producing three-dimensional crack images including sensors used, portion of pavement collected at high confidence level, initial processing, quality control / corrections, and post-processing with the proposed solution. Describe automated and manual steps, speed, accuracy, and any special opportunities or challenges for improvements in data production speed or quality. |
|  |
| **6.9** Bridge flags, indicating where collection was occurring on bridge deck rather than the roadway pavement, are critical for accuracy of the pavement data included in the HPMS submittal with a 20’ +/- accuracy. Ideally, bridge start and end locations could be provided to the proposed system referenced to the LRS data provided by the Department. Please describe how bridge flags will be produced in the proposed system, including any vehicle data capture work, data processing including quality control / corrections and post-processing. Describe automated and manual steps, speed, accuracy, and any special opportunities or challenges for improvements in data production speed or quality.  |
|  |
| **6.10** Construction flags, indicating where collection is occurring on a construction site rather than the roadway pavement, are critical for accuracy of the pavement data included in the HPMS submittal with a 20’ +/- accuracy. Please describe how construction flags will be produced in the proposed system, including any vehicle data capture work, data processing including quality control / corrections and post-processing. Describe automated and manual steps, speed, accuracy, and any special opportunities or challenges for improvements in data production speed or quality.  |
|  |
| **6.11** One way that bridge and construction flags are used is that all collected crack data must be eliminated from bridge decks and construction areas for our Federal Reporting, as if it was not collected. Please describe whether/how this can be handled in the proposed system. Please include whether these flags can be changed after initial data collection, and what additional post-processing steps might be required to ensure accuracy of crack data. |
|  |
| **6.12** What capabilities does the proposed system have to aggregate pavement condition data into contiguous sections of similar characteristics?  |
|  |

|  |
| --- |
| **7. CRITICAL CURVE AND SAFETY DATA** The system must produce certain curve and safety inventory data for the HPMS Submittal, MUTCD curve sign compliance, and for the Safety Office’s Highway Safety Screening process. The critical curve data must be produced without use of LIDAR, and rely on automated data processing.  |
| **7.1** The system must be able to identify curves -- horizontal and vertical alignment changes. The Department needs the system to collect and automatically process horizontal and vertical alignment to produce the critical data fields listed in **Appendix** L (Critical Curve Data Outputs). The system must be able to automatically generate this data. The system must be able to produce records of curve data in a usable format with the fields in **Appendix L** (Critical Curve Data Outputs).Describe how the proposed system meet these requirements. If the proposed system does not meet all of the requirements, please state which requirements are not met by the system. |
|  |
| **7.2** For those requirements met, please include sensors used, what portion of the roadway is collected, inputs, data processing and quality control/corrections including the level of automation and manual data processing steps required, speed, accuracy, and error tolerances from alignment. |
|   |
| **7.3** Is the system able to identify compound curves, reverse curves, broken back curves, and spiral curves; or as they are identified in the MUTCD (e.g., 800 ft tangent between alignment changes)? Please describe the proposed system’s approach and capabilities. |
|  |
| **7.4** Ideally, the system can capture alignment of spirals through automated process with minimal manual processing. Please discuss the proposed system’s capabilities in capturing alignment of spirals through automated processing including any manual processing steps required. |
|  |
| **7.5** Various systems may have different approaches to developing curve data from raw data. What parameters can be input to develop the curve data from the raw data?  |
|  |
| **7.6** The Department needs a system that can collect and automatically process cross-slope and superelevation data on at least the driving lane. What capabilities does the proposed system have to provide travel way cross-slope outputs, how many lanes, and at what accuracy level? Please include sensors used, inputs, outputs, data processing including any manual data processing steps required, accuracy and precision of data, and error tolerances from alignment.  |
|  |
| **7.7** Ideally the system will be able to aggregate curve data into continuous sections of similar characteristics. What capabilities does the proposed system have for this?  |
|  |
| **7.9** Ideally the system will generate vertical elevation of the start point or start elevation, and the end point or end elevation in the lane, with minimal manual processing. What capabilities does the system provide in this area? What capabilities does the system have to provide the start and end elevations of horizontal and vertical curves? What is required to get these heights provided in the context of Mean Sea Level or an Orthometric (geoid) height measurement, and at what level of automation?  |
|  |

|  |
| --- |
| **8. Reporting and Analytical Functionality** |
| **8.1** Describe any dashboard type features or reports that allow the Department to review timeliness and completeness of the annual data collection or data processing of that data. |
|  |
| **8.2** The system must report or export data at 0.01-, 0.10-, and 0.50-mile precision. What is provided by the proposed system? How does it handle the roll up of reported data from a higher level of precision? |
|  |
| **8.3** The Department must have the ability to export data for its own data processing, either through the UI or provided by customer service. Please describe the proposed system’s reporting and query features and limitations.  |
|  |
| **8.4** Ideally, the Department would be able to access and export spatial data in addition to tabular data. Can spatial data be accessed and exported? If yes, are there limits on spatial data available? Please describe what GIS formats are available. |
|  |

|  |
| --- |
| **9. Web Visualization Viewer**The awarded Bidder will provide a user-friendly Web Visualization Viewer (WVV) SaaS for use by any Department employee. Employees must be able to select the starting point and direction, and virtually “drive” the road to see the following data for the location, at a minimum. * Images: At a minimum, the most current ROW images for the location collected from each camera (which may have been collected several years earlier depending on the Collection Route).
	+ Ideally, historical ROW images (non-current), are also available in the WVV.
	+ Ideally, any additional camera views collected by the proposed system as well.
* HPDCS Data: At a minimum, IRI, left rut, right rut.
* Departmental Data: Ideally a set of useful reference data fields such as Region, County, Town, Highway Priority, and Federal Functional Class.
* Location at any point as the employee “drives”

The WVV SaaS should be able to utilize any publicly accessible ArcGIS basemap services including custom base maps hosted on ArcGIS Server and ArcGIS Online. Ideally the ESRI vector tile format would be a basemap option, but if not, an ESRI image tile format is required at a minimum.  |
| **9.1** Please provide the name of the proposed WVV SaaS. Include license details such as license limitations (user seats, etc.). |
|  |
| **9.2** Licenses for any third-party software that the Department must hold for the operation of the system as proposed must be included in the proposal. Please list them, including the module names and license details. Do not include Microsoft Office as the Department holds these licenses. *Cost information must appear in* *Appendix D (Cost Proposal) ONLY.* |
|  |
| **9.3** The WVV SaaS must be offered as a SaaS. No State server installations are permitted. Minor client software installation is permitted. Name any software components requiring client installation such as browser add-ons, their function, and how they are kept up-to-date on the client machines.  |
|  |
| **9.4** Describe the WVV functionality, including basemap, images, and HPDCS data. Please mention whether and how many years’ worth of historical images are available to the WVV. |
|  |
| **9.5** The WVV should be accessible to all Department employees, ideally, additional SOM accounts can be granted access as well. Please describe access control and password management in the WVV. |
|  |
| **9.6** Currently the Department can view data with 0.01, 0.10, and 0.50 mile precision. The images are shown every 0.004 as images are taken, with the option to skip images. What is provided by the proposed WVV? How does it perform the rollups of data to lower levels of precision? |
|  |
| **9.7** Please describe whether/how Departmental data such as Route Name or Highway Priority or Customer Service Level can be provided to the WVV SaaS, and any APIs available for the WVV. Is it limited to specific predefined data elements, or a specific number of fields?  |
|  |
| **9.8**  As a *separate optional* bid item, the Department is interested in having the WVV include the last 2 years’ ROW images collected by our current ARAN system loaded into the proposed system, with data as required, for display in the WVV. If this can be provided, please describe. *Cost information must appear in* *Appendix D (Cost Proposal) ONLY.*For the following years, we have the following images available:

|  |  |  |
| --- | --- | --- |
| **Collection Year** | **Number of ROW images** | **Total Storage used**  |
| **2023 (Collection underway, based on 2023 collection plan)** |  **1,770,000 estimate** | **400 GB estimate** |
| **2022** | **1,259,870** | **462 GB** |

 |
|  |

|  |
| --- |
| **10. Downstream Systems Integrations** |
| * 1. **Geoprocessing**

The Department must have the ability to download the data to an ESRI-based spatial format, ideally this would be a web-based feature service or File Geodatabase, but ESRI shapefile is also acceptable.  The data should include, at a minimum, all required measurement columns for each dataset and standard spatial columns with a RouteID, Milepoint, X and Y to give the best options for geoprocessing at MaineDOT. Ideally, any processed data would be available in a well-documented Rest API with spatial query capabilities. Please describe how the proposed system addresses these requirements. |
|  |
| * 1. **dTIMS**

The data listed in **Appendix K** (Outputs Required for the dTims System) is downloaded for dTIMS after annual data processing in the HPDCS system is complete. The dTIMS dataset must be downloaded by mid-late January latest to meet annual HPMS submission deadline. It is exported as a large .csv file. Minor post-processing occurs in MS ACCESS before it is uploaded into a dTIMS table established for this data. This process takes little time and is reliable, so the Department does not wish to change it, although we are open to other file types.Please describe how the data download will be accomplished in the proposed system. Can the dataset to be downloaded be defined once and run on demand, or must it be defined separately on each run? If it can be pre-defined, how does the Department make changes to it if necessary?  |
|  |
| * 1. **Map Viewer WVV**

The Department currently operates a custom on-premises Departmental WVV within the MaineDOT Web Map Viewer because it is capable of displaying any requested MaineDOT data field for the location, while a vendor-provided WVV is generally limited to that system’s stored data. The Department prefers to continue this service.In order to continue use of this Map Viewer WVV, the awarded Bidder must provide access to a Maine LRS referenced (RouteID, X, Y, and Milepoint) spatial data product of ROW image locations that contain URL references to full resolution and thumbnail versions of the most current ROW images for each location to allow for real time integration. The data can be made available in a well-documented Rest API or other web service with spatial query capabilities, or downloadable through access to the image URLs from the awarded Bidder’s environment. The Department will not entertain on-premises image storage for this purpose. Please describe whether and how the proposed system can be integrated with the Map Viewer WVV. |
|  |

|  |
| --- |
| **11. Implementation Services**  |
| **11.1** Provide a detailed implementation plan and schedule including major milestones.Use the Start Date as stated in PART I, D of this RFP, or later if you must start on a later date. Describe each milestone including major tasks, deliverables, Bidder and State roles, timeframe, key assumptions, and risks. Address THIS project rather than providing a generic schedule. Bidders must make their best time estimates; however, Bidders may elaborate on why a milestone timeframe may have been difficult to predict with specific reasons. Responses such as “will be determined during project discovery” may be considered non-responsive.  |
|  |
| **11.2** At what location (town, state) will the system be installed on the Department supplied vehicle?  |
|  |
| **11.3** Please describe the proposed user and administrator training for the initial implementation. |
|  |
| **11.4** The Department strongly prefers a SaaS that can be configured through settings to meet requirements, although some customization of the programmed code to meet requirements is acceptable. Please indicate the customizations required to meet requirements, and a rough estimate of the total effort, in FTE days, required to code and unit test these customizations.  |
|  |

|  |
| --- |
| **12. Customer Support**   |
| **12.1** Provide the customer support hours proposed.  |
|  |
| **12.2** Describe the available customer support modes of contact, such as email, website, phone.  |
|  |
| **12.3** Describe the customer support response standards for timely response.  |
|  |
| **12.4** Describe resources offered by the Bidder for post-implementation training, such as new user or refresher training manuals, videos, etc.  |
|  |
| **12.5** Between March 1 and April 15 each year, the awarded Bidder will provide on-site preventative maintenance (PM) services at a central Maine facility with our Collection Vehicle Operators present. The Department cannot provide a Departmental HPDCS PM expert. Please describe what services you propose to provide in this annual maintenance visit. |
|  |
| **12.6** Please list all other recommended PM work and frequencies, and whether it will require expertise provided by the Bidder. Omit calibration and verification here as they covered in section 2.5 above. |
|  |
| **12.7** Federal Law, AASHTO and other standards are subject to continuous change. The Department’s continued compliance with these standards is critical. What is your approach to ensuring the system remains in compliance with these rules and standards? |
|  |
| **12.8** The Department is concerned that if certain critical automated features do not perform adequately, such as sealed crack detection of < 80%, the Department must supplement it with extensive manual work to meet Federal requirements. Should the Department find that the system does not adequately meet a critical requirement such as sealed crack detection, how would the Bidder address the situation? |
|  |

|  |
| --- |
| 1. **Systems Maturity**
 |
| **13.1** Briefly describe the proposed software application’s history, including major platform modifications, ownership transfers, and when first offered as SaaS. If integrated systems are proposed, describe separately for each system. |
|   |
| **13.2** List the major software releases that have been implemented in the last 5 years with approximate dates, and the primary intent of each. |
|  |
| **13.3** Please describe the process required to migrate all configurations, database items, data and other work from the test environment to production, and describe the Department’s role in that process. |
|  |
| **13.4** Is it possible to update the test environment’s data for more current business data without having to rebuild the configurations, reference data, database modifications, or other development work? If not, please describe the test data refreshment process and describe the Department’s role in that process. |
|  |
| **13.5** The Department prefers a system that is being enhanced by the vendor to remain modern, and will allow us to keep pace with the industry during its years of use of the proposed system.Please describe any planned major new features or modules to be implemented for the proposed system within the next 3 years, such as new data products produced by *automated* processing, retro reflectivity, or macrotexture, including those produced through use of LIDAR or other data collection inputs not included in this proposal. |
|  |
| **13.6** If customizations are performed for customers – whether proposed for this implementation or not - please describe how customizations are addressed during subsequent upgrades, including the roles and responsibilities for work and testing of the Bidder and the Department. |
|  |

|  |
| --- |
| **14. IT Hosting Provision** If multiple IT hosts are used for various portions of the system, please copy this section and respond separately for each IT Hosting Provider. |
| **14.1** IT Hosting Provider Name (and purpose if multiple providers): |  |
| **14.2** Identify any third-party security accreditations/attestations available for the SaaS or hosting infrastructure, such as SSAE 18 SOC 2 Type II, FISMA Level 3 ATO, FedRAMP CSP, ISO/IEC 27001:2005, US-EU Safe Harbor Framework, SkyHigh CloudTrust. The Department will require the awarded Bidder to provide a report before contract authorization. Add more lines if needed. |
| Accreditation/Attestation | Year  | Applies to SaaS application, or hosting Infrastructure, or both |
|  |  |  |
|  |  |  |
| **14.3** Please state the Recovery Point Objective (RPO), Recovery Time Objective (RTO) and percentage unplanned downtime objective for the SaaS services. The Department expects a minimum of 4 hrs, 4 hrs, and 99.9% respectively. |
|  |

|  |
| --- |
| 1. **Optional Data Collection Services**

The Department may be interested in supplementing its data collection with vendor-provided data collection by hiring the awarded Bidder to collect up to 2,000 miles of specified mileage using a vendor-supplied-and-equipped vehicle, such as Highway Priority 1 and 2 Collection Routes. There is an option in **Appendix D** (Cost Proposal) to propose a rate for this *optional* service. The awarded Bidder’s vehicle system must use the same data inputs as the Department’s vehicle system, collect the same data collection outputs, and load them into the State’s data processing SaaS.  The awarded Bidder’s collection vehicle must have data collection capabilities that meet or exceed the data collection solution that is being proposed as part of this proposal. If you are interested in proposing this optional service, please describe your data collection capabilities/limitations and current collection equipment availability; otherwise, please enter N/A. |
|  |

|  |
| --- |
| **16.** **Caveats and Limitations:** Provide any caveats or limitations of proposed services not stated elsewhere in the proposal or SLA here. |
|  |

**APPENDIX G**

**State of Maine**

**Department of Transportation**

**PROPOSED SERVICES REQUIREMENTS WORKSHEET**

**RFP# 202401014**

**Highway Data Collection Vehicle System**

**INSTRUCTIONS**

**Cost information must be included in Appendix D (Cost Proposal) only.**

**Mark ONE box that best describes the fit of the proposed solution to each requirement line.** The colored headers are not requirement lines.

* **“will meet req. as stated”** – the proposed solution will meet the requirement without modification.
* **“will meet req. with mod.”** – the proposed solution will meet the requirement with a reasonable modification of either the requirement or the application system.
* **“will not meet req.”** – the proposed solution will not meet the requirement even with reasonable modification.

**Please use the Comment area as follows:**

* Briefly address any request for information made in that requirement line**.**
* If “will meet req. with mod” is selected, briefly describe the modification proposed.
* If “will not meet req.” is selected, explain briefly.

| **Line #** | **Requirement** | **Will meet req.****as stated** | **Will meet req. with mod.** | **Will not meet req.** | **Comments** |
| --- | --- | --- | --- | --- | --- |
|  | **Software Technical Requirements** |
| 1 | All web components compatible with current version of Edge or Chrome web browser. If a specific internet browser is recommended, please indicate in comments. |  |  |  |  |
| 2 | Web software can run on 64-bit 16 GIG RAM PC running Microsoft Windows10 Enterprise OS with antivirus software, encryption, and Microsoft 365 Office Apps for Enterprise.  |  |  |  |  |
| 3 | SaaS available 6 AM -11 PM Eastern Standard Time daily. |  |  |  |   |
| 4 | Software releases should be applied to the Department’s test environment, with email notification to the Department’s Program Manager and Contract Administrator at least 14 days before the Production upgrade.  |  |  |  |  |
| 5 | The software releases of Production software supplied under this contract will be no more than 1 year older than most current release available unless written permission is provided by the Department Contract Administrator. |  |  |  |  |
| 5.5 | Performance for simple transactions no longer than three (3) seconds for lookups, and five (3) seconds for data modification, presuming Ethernet connectivity of the client device.  |  |  |  |  |
|  | **State User Authentication and Authorization** |
| 6 | Seamless Single Sign-on w/ Active Directory  |  |  |  |  |
| 7 | Systems administrator able to edit, activate, and inactivate users without corruption of data  |  |  |  |  |
|  | **Vehicle subsystems** |
| 8 | Storage usage and remaining capacity for all on-board data stores may be monitored on the vehicle |  |  |  |  |
| 9 | ROW camera images must have at least 135-degree forward coverage.  |  |  |  |  |
| 10 | Images must be collected at least the rate of 1 image every 4 millimiles (which is 21.12 ft or 250 images/mile). |  |  |  |  |
| 11 | ROW image resolution should be at least 1920x1080 96dpi. Much higher resolution is not desirable due to file size storage/transmission challenges.  |  |  |  |  |
| 12 | The system shall measure and record longitudinal profile continuously between operator-triggered start and end points |  |  |  |  |
| 13 | The system shall measure and record the transverse profile of the pavement surface with a minimum transverse field of view of 13 feet; minimum depth resolution: 0.5 mm (0.02 in); and minimum depth accuracy: ±1 mm (0.04 in). |  |  |  |  |
| 14 | The accuracy and reliability of the traverse profile of the pavement surface shall not be adversely affected by paint stripes or other roadway coatings. |  |  |  |  |
| 15 | The system on the HDCV shall acquire continuous images and three-dimensional surface elevations of the pavement surface with a minimum transverse field of view of 13 feet ; minimum depth resolution of 0.5 mm (0.02 in); and minimum depth accuracy: ±0.5 mm (0.04 in) |  |  |  |  |
| 16 | The system shall resolve cracks 2 mm (0.08 in) wide from the acquired intensity images and pavement surface elevations. |  |  |  |  |
| 17 | For the on-board system’s driver display, the Department prefers an LCD monitor with an approximately 19” wide screen viewable by the front seat passenger. |  |  |  |  |
|  | **Other Requirements** |
| 18 | All reporting and displays must distinguish between 0 and NULL. |  |  |  |  |
| 19 | The Department must be able to collect a route in either direction.  |  |  |  |  |
| 20 | For all data collected and all applicable data outputs, the Department must be able to tell which direction along the Collection Route the data was collected. |  |  |  |  |
| 21 | For all data collected, the system must capture the date of data collection. |  |  |  |  |
| 22 | Each ROW image must be associated with its collection location X,Y , RouteID , and Milepoint as well as normal image metadata.  |  |  |  |  |
| 23 | Must be able to access all collected images through the SaaS, including historical.  |  |  |  |  |
| 24 | All cracking must be classified as follows based on crack width:* LOW of <6 mm
* MEDIUM of 6-12 mm
* HIGH of >12 mm
 |  |  |  |  |
| 25 | The system must be able to estimate correct lane widths with 0.1 foot or better accuracy.  |  |  |  |  |
| 26 | Able to automatically generate superelevation data including start, middle, end, average, and maximum superelevation.  |  |  |  |  |
|  | **Documentation**  |
| 27 | All equipment calibration instructions must be provided in a printable electronic format as PDF. |  |  |  |  |
| 28 | Up-to-date API documentation detailing the existing APIs including function, inputs, and outputs must be provided by the Vendor within 10 business days of any request.  |  |  |  |  |
| 29 | Non-emergency software release email notification to the Contract Administrator and Program Manager at least 14 days in advance of the change. For emergency releases, the email notification should be made as soon as possible.  |  |  |  |  |
| 30 | Software release notes detailing changes in the release provided to the Contract Administrator and Program Manager at least 14 days in advance of each software release.  |  |  |  |  |
|  | **Customer Support** |
| 31 | On-site service calls available on request of Program Manager. |  |  |  |  |
| 32 | Emergency on-site service calls can be scheduled within 6 business days of request. |  |  |  |  |
| 33 | On-site training visits available on request of Program Manager |  |  |  |  |
| 34 | Web training sessions available on request of Program Manager |  |  |  |  |

**APPENDIX H**

**State of Maine**

**Department of Transportation**

**PROPOSED SERVICES IT POLICY FORM**

**RFP# 202401014**

**Highway Data Collection Vehicle System**

|  |
| --- |
| **1. State of Maine Information Technology Policy Compliance** MaineIT expects all I.T. products to comply with the entire suite of I.T. policies ([https://www.maine.gov/oit/policies-standards](https://gcc02.safelinks.protection.outlook.com/?url=https%3A%2F%2Fwww.maine.gov%2Foit%2Fpolicies-standards.&data=05%7C01%7CJennifer.Chisum%40maine.gov%7C497b463300c245d03ce308daee650c87%7C413fa8ab207d4b629bcdea1a8f2f864e%7C0%7C0%7C638084415007225951%7CUnknown%7CTWFpbGZsb3d8eyJWIjoiMC4wLjAwMDAiLCJQIjoiV2luMzIiLCJBTiI6Ik1haWwiLCJXVCI6Mn0%3D%7C3000%7C%7C%7C&sdata=YxMwdiEBUT7W7rbipBDZiB%2FnhKh2AA0l1pNZ8u76Sko%3D&reserved=0)). Special attention must be paid to the following policies/procedures for SaaS offering: 1. [General Architecture Principles](https://gcc02.safelinks.protection.outlook.com/?url=https%3A%2F%2Fwww.maine.gov%2Foit%2Fsites%2Fmaine.gov.oit%2Ffiles%2Finline-files%2Fgeneral-architecture-principles_1.pdf&data=05%7C01%7CJennifer.Chisum%40maine.gov%7C497b463300c245d03ce308daee650c87%7C413fa8ab207d4b629bcdea1a8f2f864e%7C0%7C0%7C638084415007225951%7CUnknown%7CTWFpbGZsb3d8eyJWIjoiMC4wLjAwMDAiLCJQIjoiV2luMzIiLCJBTiI6Ik1haWwiLCJXVCI6Mn0%3D%7C3000%7C%7C%7C&sdata=k%2BRYkRRwBFTWKY6YPf8aAYRdihZeZ7m5WKMR4wbP85M%3D&reserved=0)
2. [System and Services Acquisition Policy and Procedures (SA-1)](https://gcc02.safelinks.protection.outlook.com/?url=https%3A%2F%2Fwww.maine.gov%2Foit%2Fsites%2Fmaine.gov.oit%2Ffiles%2Finline-files%2Fsystem-services-acquisition-policy.pdf&data=05%7C01%7CJennifer.Chisum%40maine.gov%7C497b463300c245d03ce308daee650c87%7C413fa8ab207d4b629bcdea1a8f2f864e%7C0%7C0%7C638084415007225951%7CUnknown%7CTWFpbGZsb3d8eyJWIjoiMC4wLjAwMDAiLCJQIjoiV2luMzIiLCJBTiI6Ik1haWwiLCJXVCI6Mn0%3D%7C3000%7C%7C%7C&sdata=zWWsUisAO0zOfGg0tKvzGZjVhEgwhK2UNG7kjLwuJL0%3D&reserved=0)
3. [Application Deployment Certification Policy](https://gcc02.safelinks.protection.outlook.com/?url=https%3A%2F%2Fwww.maine.gov%2Foit%2Fsites%2Fmaine.gov.oit%2Ffiles%2Finline-files%2Fapplication-deployment-certification_0.pdf&data=05%7C01%7CJennifer.Chisum%40maine.gov%7C497b463300c245d03ce308daee650c87%7C413fa8ab207d4b629bcdea1a8f2f864e%7C0%7C0%7C638084415007225951%7CUnknown%7CTWFpbGZsb3d8eyJWIjoiMC4wLjAwMDAiLCJQIjoiV2luMzIiLCJBTiI6Ik1haWwiLCJXVCI6Mn0%3D%7C3000%7C%7C%7C&sdata=0RdcawvcC41ZO4RkiTx1%2BlPBv0gYXS13io2Uuen8LQk%3D&reserved=0)
4. [Digital Accessibility and Usability Policy](https://gcc02.safelinks.protection.outlook.com/?url=https%3A%2F%2Fwww.maine.gov%2Foit%2Fsites%2Fmaine.gov.oit%2Ffiles%2Finline-files%2Fdigital-accessibility-policy.pdf&data=05%7C01%7CJennifer.Chisum%40maine.gov%7C497b463300c245d03ce308daee650c87%7C413fa8ab207d4b629bcdea1a8f2f864e%7C0%7C0%7C638084415007387947%7CUnknown%7CTWFpbGZsb3d8eyJWIjoiMC4wLjAwMDAiLCJQIjoiV2luMzIiLCJBTiI6Ik1haWwiLCJXVCI6Mn0%3D%7C3000%7C%7C%7C&sdata=5kt0j3XVf7YcQpgVO3r%2B02OUln7B0Dk91hU%2FsI7LlsE%3D&reserved=0)
5. [Remote Hosting Policy](https://gcc02.safelinks.protection.outlook.com/?url=https%3A%2F%2Fwww.maine.gov%2Foit%2Fsites%2Fmaine.gov.oit%2Ffiles%2Finline-files%2Fremote-hosting-policy.pdf&data=05%7C01%7CJennifer.Chisum%40maine.gov%7C497b463300c245d03ce308daee650c87%7C413fa8ab207d4b629bcdea1a8f2f864e%7C0%7C0%7C638084415007397777%7CUnknown%7CTWFpbGZsb3d8eyJWIjoiMC4wLjAwMDAiLCJQIjoiV2luMzIiLCJBTiI6Ik1haWwiLCJXVCI6Mn0%3D%7C3000%7C%7C%7C&sdata=44j6%2BM8uj7FAhwRcOu8e%2FAYltYp05tH3ruaJoOP%2FurI%3D&reserved=0)
6. [Data Exchange policy](https://gcc02.safelinks.protection.outlook.com/?url=https%3A%2F%2Fwww.maine.gov%2Foit%2Fsites%2Fmaine.gov.oit%2Ffiles%2Finline-files%2Fdata-exchange-policy.pdf&data=05%7C01%7CJennifer.Chisum%40maine.gov%7C497b463300c245d03ce308daee650c87%7C413fa8ab207d4b629bcdea1a8f2f864e%7C0%7C0%7C638084415007407742%7CUnknown%7CTWFpbGZsb3d8eyJWIjoiMC4wLjAwMDAiLCJQIjoiV2luMzIiLCJBTiI6Ik1haWwiLCJXVCI6Mn0%3D%7C3000%7C%7C%7C&sdata=0cP9z44feFNoLRlQI8QXpaJ21gyI8qAnwViryb9dTvE%3D&reserved=0)
7. [Information Security Policy](https://gcc02.safelinks.protection.outlook.com/?url=https%3A%2F%2Fwww.maine.gov%2Foit%2Fsites%2Fmaine.gov.oit%2Ffiles%2Finline-files%2Finformation-security-policy.pdf&data=05%7C01%7CJennifer.Chisum%40maine.gov%7C497b463300c245d03ce308daee650c87%7C413fa8ab207d4b629bcdea1a8f2f864e%7C0%7C0%7C638084415007417688%7CUnknown%7CTWFpbGZsb3d8eyJWIjoiMC4wLjAwMDAiLCJQIjoiV2luMzIiLCJBTiI6Ik1haWwiLCJXVCI6Mn0%3D%7C3000%7C%7C%7C&sdata=Wa2b2O76QaL5ZKe%2FBVa44LMZb9tZ377YbtpT%2BGzxfCc%3D&reserved=0)
8. [Access Control Policy](https://gcc02.safelinks.protection.outlook.com/?url=https%3A%2F%2Fwww.maine.gov%2Foit%2Fsites%2Fmaine.gov.oit%2Ffiles%2Finline-files%2Faccess-control-policy.pdf&data=05%7C01%7CJennifer.Chisum%40maine.gov%7C497b463300c245d03ce308daee650c87%7C413fa8ab207d4b629bcdea1a8f2f864e%7C0%7C0%7C638084415007427649%7CUnknown%7CTWFpbGZsb3d8eyJWIjoiMC4wLjAwMDAiLCJQIjoiV2luMzIiLCJBTiI6Ik1haWwiLCJXVCI6Mn0%3D%7C3000%7C%7C%7C&sdata=0AxRzBygGHN%2FKrdM9fgLVDwCI0RBE0zwzFUnARaV%2Fzg%3D&reserved=0)
9. [Access Control Procedures for Users](https://gcc02.safelinks.protection.outlook.com/?url=https%3A%2F%2Fwww.maine.gov%2Foit%2Fsites%2Fmaine.gov.oit%2Ffiles%2Finline-files%2Faccess-control-procedures-for-users.pdf&data=05%7C01%7CJennifer.Chisum%40maine.gov%7C497b463300c245d03ce308daee650c87%7C413fa8ab207d4b629bcdea1a8f2f864e%7C0%7C0%7C638084415007437603%7CUnknown%7CTWFpbGZsb3d8eyJWIjoiMC4wLjAwMDAiLCJQIjoiV2luMzIiLCJBTiI6Ik1haWwiLCJXVCI6Mn0%3D%7C3000%7C%7C%7C&sdata=451vQWuWYpNqmdf3aT0Gq2mftHCc7ppIA1Gwem8PRzA%3D&reserved=0)
10. [Risk Assessment policy](https://gcc02.safelinks.protection.outlook.com/?url=https%3A%2F%2Fwww.maine.gov%2Foit%2Fsites%2Fmaine.gov.oit%2Ffiles%2Finline-files%2Frisk-assessment-policy-procedure.pdf&data=05%7C01%7CJennifer.Chisum%40maine.gov%7C497b463300c245d03ce308daee650c87%7C413fa8ab207d4b629bcdea1a8f2f864e%7C0%7C0%7C638084415007437603%7CUnknown%7CTWFpbGZsb3d8eyJWIjoiMC4wLjAwMDAiLCJQIjoiV2luMzIiLCJBTiI6Ik1haWwiLCJXVCI6Mn0%3D%7C3000%7C%7C%7C&sdata=InyBj7%2FYkBntgmMjP09EZhVEgfBd4twkUKHChafW260%3D&reserved=0)
11. [Vulnerability Scanning Procedure](https://gcc02.safelinks.protection.outlook.com/?url=https%3A%2F%2Fwww.maine.gov%2Foit%2Fsites%2Fmaine.gov.oit%2Ffiles%2Finline-files%2Fvulnerablity-scanning-procedure.pdf&data=05%7C01%7CJennifer.Chisum%40maine.gov%7C497b463300c245d03ce308daee650c87%7C413fa8ab207d4b629bcdea1a8f2f864e%7C0%7C0%7C638084415007447556%7CUnknown%7CTWFpbGZsb3d8eyJWIjoiMC4wLjAwMDAiLCJQIjoiV2luMzIiLCJBTiI6Ik1haWwiLCJXVCI6Mn0%3D%7C3000%7C%7C%7C&sdata=I1f3S5Ku79FYhHcSxyaggkO8SjGe89xUMsURXGTmpMo%3D&reserved=0)
12. [Security Assessment and Authorization Policy](https://gcc02.safelinks.protection.outlook.com/?url=https%3A%2F%2Fwww.maine.gov%2Foit%2Fsites%2Fmaine.gov.oit%2Ffiles%2Finline-files%2FSecurityAssessmentAuthorizationPolicy.pdf&data=05%7C01%7CJennifer.Chisum%40maine.gov%7C497b463300c245d03ce308daee650c87%7C413fa8ab207d4b629bcdea1a8f2f864e%7C0%7C0%7C638084415007457513%7CUnknown%7CTWFpbGZsb3d8eyJWIjoiMC4wLjAwMDAiLCJQIjoiV2luMzIiLCJBTiI6Ik1haWwiLCJXVCI6Mn0%3D%7C3000%7C%7C%7C&sdata=Ctc5nJEwtiVkH%2FCxu96XXLAC4ARE0HcmndGwdd4oHa8%3D&reserved=0)
13. [System and Information Integrity Policy](https://gcc02.safelinks.protection.outlook.com/?url=https%3A%2F%2Fwww.maine.gov%2Foit%2Fsites%2Fmaine.gov.oit%2Ffiles%2Finline-files%2Fsystem-information-integrity-policy.pdf&data=05%7C01%7CJennifer.Chisum%40maine.gov%7C497b463300c245d03ce308daee650c87%7C413fa8ab207d4b629bcdea1a8f2f864e%7C0%7C0%7C638084415007467477%7CUnknown%7CTWFpbGZsb3d8eyJWIjoiMC4wLjAwMDAiLCJQIjoiV2luMzIiLCJBTiI6Ik1haWwiLCJXVCI6Mn0%3D%7C3000%7C%7C%7C&sdata=RFzNQFzC7q6jAO3j9%2BdA94tje74njW8mVtNk9S46pL0%3D&reserved=0)
14. [Configuration Management Policy](https://gcc02.safelinks.protection.outlook.com/?url=https%3A%2F%2Fwww.maine.gov%2Foit%2Fsites%2Fmaine.gov.oit%2Ffiles%2Finline-files%2Fconfiguration-management-policy.pdf&data=05%7C01%7CJennifer.Chisum%40maine.gov%7C497b463300c245d03ce308daee650c87%7C413fa8ab207d4b629bcdea1a8f2f864e%7C0%7C0%7C638084415007477434%7CUnknown%7CTWFpbGZsb3d8eyJWIjoiMC4wLjAwMDAiLCJQIjoiV2luMzIiLCJBTiI6Ik1haWwiLCJXVCI6Mn0%3D%7C3000%7C%7C%7C&sdata=L5xPZROz04wBvEKHznyOrkBbBMyhYKBj5JqRZqHGruk%3D&reserved=0)
15. [Business Continuity and Disaster Recovery Policy](https://www.maine.gov/oit/sites/maine.gov.oit/files/inline-files/BusinessContinuityDisasterRecoveryPolicy.pdf)
 |
| **1.1** In addition to the documents listed above, the awarded Bidder is further required to explain and demonstrate how the proposed solution will achieve the NIST 800-53 Rev 5 for the remaining security and privacy control families to a security baseline appropriate to the impact level of the data as determined by the agency.1. Physical and Environmental Protection;
2. Awareness and Training;
3. Planning;
4. Audit and Accountability;
5. Assessment, Authorization, and Monitoring;
6. Personnel Security;
7. PII Processing and Transparency;
8. Contingency Planning;
9. Identification and Authentication;
10. Incident Response;
11. System and Communications Protection;
12. Maintenance;
13. Media Protection; and
14. Supply Chain Risk Management to a security baseline appropriate to the impact level of the data as determined by the agency.
 |
|  |
| **1.2.** Please note any issues complying with the State of Maine Office of Information Technology Remote Hosting Policy and how you propose to address them. <https://www.maine.gov/oit/policies/RemoteHostingPolicy.pdf>.  |
|  |

**APPENDIX I**

**State of Maine**

**Department of Transportation**

**CONTRACT RIDER D FEDERAL FUNDING**

**RFP# 202401014**

**Highway Data Collection Vehicle System**

The PDF may be obtained by double clicking on the icon below.



**APPENDIX J**

**State of Maine**

**Department of Transportation**

**CRITICAL DATA, STANDARDS, and PRACTICES**

**RFP# 202401014**

**Highway Data Collection Vehicle System**

Data collection shall conform to 23 CFR Part 490 Subpart C <https://www.law.cornell.edu/cfr/text/23/490.309>.

Data Collection shall meet or exceed the most current version of the following Standards, and be capable of being operated in accordance with the following Standard Practices. If there is a conflict between Standards, the AASHTO Standard will take precedence.

* ASTM E950-09: ―Standard Test Method for Measuring the Longitudinal Profile of Travel Surfaces with an Accelerometer Established Inertial Profiling Reference
* ASTM E1926-08: ―Standard Practice for Computing International Roughness Index of Roads from Longitudinal Profile Measurements
* AASHTO R 43-13: ―Quantifying Roughness of Pavements
* AASHTO R 54-14: -- Accepting Pavement Ride Quality When Measured Using Inertial Profiling Systems
* AASHTO R 56-14: – Certification of Inertial Profiling Systems
* AASHTO R 57-14: – Operating Inertial Profiling Systems
* AASHTO R 85-18: –Quantifying Cracks in Asphalt Pavement Surfaces from Collected Pavement Images Utilizing Automated Methods
* AASHTO R 86-18: – Collecting Images of Pavement Surfaces for Distress Detection
* AASHTO R 87-18: – Determining Pavement Deformation Parameters and Cross Slope from Collected Transverse Profiles
* AASHTO R 88-18: – Collecting the Transverse Pavement Profile
* NCHRP 20-24 (37B): ―Comparative Performance Measurement: Pavement Smoothness.
* AASHTO Standard M328-14: Inertial Profiler
* World Bank Technical Paper Number 46: ―Guidelines for Conduction and Calibration

 Road Roughness Measurements

* Texas Transport Institute (TTI) Certification.

**APPENDIX K**

**State of Maine**

**Department of Transportation**

 **OUTPUTS REQUIRED FOR THE DTIMS SYSTEM**

**RFP# 202401014**

**Highway Data Collection Vehicle System**

This appendix lists the system’s outputs which are required for the dTIMS System to compute the Pavement Conditions Ratings (PCRs), determine life-cycle cost analysis of Highway and Bridge assets, and for other departmental and federal reporting purposes. The field names and field types are not dictated by this RFP as long as the described information can be communicated to the dTIMS system. dTIMS requires tabular data feed.

|  |  |  |
| --- | --- | --- |
| **Description** | **Data Category** | **Unit/Type in dTIMS** |
| RouteID | Location | Text |
| From Milepoint, 100th of a mile precision | Location | Points on that route, defined by mileage |
| To Milepoint, 100th of a mile precision | Location | Points on that route, defined by mileage |
| Collection date | Location | Date |
| Left IRI  | Condition Data | Inches/mile |
| Right IRI  | Condition Data | Inches/mile |
| Left RUT  | Condition Data | Inches |
| Right RUT  | Condition Data | Inches |
| Speed of the vehicle  | Condition Data | mph |
| Low severity alligator cracking  | Condition Data | Sq ft |
| Medium severity alligator cracking  | Condition Data | Sq ft |
| High severity alligator cracking  | Condition Data | Sq ft |
| Fatigue left wheel path- low | Condition Data | ft |
| Fatigue left wheel path- medium,  | Condition Data | ft  |
| Fatigue left wheel path -high  | Condition Data | ft |
| Fatigue right wheel path- low  | Condition Data | ft |
| Fatigue right wheel path- low  | Condition Data | ft |
| Fatigue right wheel path- low  | Condition Data | ft |
| Low severity longitudinal cracking  | Condition Data | ft |
| Medium severity longitudinal cracking  | Condition Data | ft |
| High severity longitudinal cracking  | Condition Data | ft |
| Low severity transverse cracking  | Condition Data | ft |
| Medium severity transverse cracking  | Condition Data | ft |
| High severity transverse cracking  | Condition Data | ft |
| Lane Width  | Condition Data | Ft measured from inner edge of painted line on one side of lane, the inner edge of painted line on the opposite side of the lane. |
| Bridge Deck flag  | Condition Data | Currently binary, 1 if the collection is ON a bridge. Other solutions are acceptable. Rather than using flags in this data file, a separate list of bridge deck sections would work as well.  |
| Construction flag  | Condition Data | Currently binary, 1 if the collection is ON a construction flag. Other solutions are acceptable. Rather than using flags in this data file, a separate list of construction sections would work as well.  |

**APPENDIX L**

**State of Maine**

**Department of Transportation**

**Critical Curve Data Outputs**

**RFP# 202401014**

**Highway Data Collection Vehicle System**

This appendix shows the minimum required horizontal and vertical alignment curve data. The field names and field types are not dictated by this RFP as long as the described information is captured.

|  |  |
| --- | --- |
| **Name** | **Description** |
| RouteID | Collection RouteID |
| From Milepoint  | Points on that route, defined by mileage |
| To Milepoint  | Points on that route, defined by mileage |
| Collection date | Date collected |
| Type | Type of the section (line or left/right curve, Crest, Sag, Line Up or Line Down) |
| Length | Distance between Start Point and End Point (ft) |
| Radius | Radius of the arc produced by the curve. |
| Arc angle | Arc angle of the curve produced, *ArcAngle*=360 — *ABS*(*HeadN — Head1*)  |
| Curvature degree | Degree of the curvature, the central angle which subtends a 100-foot arc, 18000/PI\*R |
| Heading at Begin | Direction of the heading at Start point measured from zero degrees North clockwise or Start Heading. (degrees) |
| Heading at End | Direction of the heading at Point N measured from zero degrees North clockwise or End Heading. (degrees) |
| Mean Error | Mean of all distances from the current detected shape to the collected road. (ft) |
| Max Error | The largest distance from the current detected shape to the collected road. (ft) |
| X at Begin | X coordinate at Route start point  |
| Y at Begin | Y coordinate at Route start point  |
| X at End | X coordinate at Route end point  |
| Y at End | Y coordinate at Route end point  |
| X at Center | X coordinate at center of the circle produced by the curve. |
| Y at Center | Y coordinate at center of the circle produced by the curve. |
| Start Superelevation | Calculated cross slope at the start node of the segment.  |
| Middle Superelevation | Calculated cross slope at the middle node of the segment. |
| End Superelevation | Calculated cross slope at the end node of the segment. |
| Average Superelevation | Average of all calculated cross slopes along the referenced segments. |
| Maximum Superelevation | Maximum of all calculated cross slopes along the referenced segments. |
| Angle point | Angle in degrees formed by the previous shape’s end point and the current shape’s start point. (Or difference of headings between the current shape’s start point and the previous shape’s end point).  |
| Begin ROW Image’s Path  | Folder Path to the ROW image file for the beginning of the curve |
| End ROW Image’s Path  | Folder Path to the ROW image file for the end of the curve |
| K | Rate of vertical curvature |
| A | Change in slope |
| G1 | Start slope |
| G2 | End slope |
| HPMS Safety Score | The A through F Safety score required for HPMS  |

**APPENDIX M**

**State of Maine**

**Department of Transportation**

**DATA QUALITY CONTROL EXPECTATIONS**

**RFP# 202401014**

**Highway Data Collection Vehicle System**

### The provided system must be capable of meeting or exceeding the following expectations. The Department will annually ground truth the data collection to this level of accuracy.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Property** | **Applicable AASHTO Standard** | **Required Measurement Resolution** | **Required Accuracy Limits (Compared to field measured values)** | **Required Reproducibility Limits between vehicles** | **Required Repeatability Limits (for five consecutive runs)** |
| IRI | M 328-14 | 1 "/mile | N.A. | Absolute Difference in IRI < 10 inches/mile | Each run within ± 10% of the mean of 5 runs (95% within limits) |
| Rut Depth | R 87-18, R 88-18 | ≤ 0.04 inches | ± 0.12 inches | N.A. | Within ± 0.1 inches from the mean of five runs (95% within limits) |
| Cracking | R 86-18, R 55-10, R 85-18 | 1 mm | ± 3 mm | N.A. | Within ± 3 mm Standard Deviation from the mean of five runs (95% within limits) |
| Cross Slope | R 87-18, R 88-18 | 0.01 percent | ± 0.5 percent | N.A. | Standard Deviation < 0.05% |
| DMI | R 57-14, R 56-14 | 0.0001 ft. | Absolute Difference < 0.15 percent | N.A. | N.A. |

1. **All pavement data will be checked by the awarded Bidder for:**
2. **Completeness** – The following data is reviewed for missing data and the extent of the data which is unavailable relative to the test section length. Missing data is to be reported to the Department Program Manager as soon as detected to determine the cause and for consideration when planning recollection of test sections for the year.
	1. IRI, crack - With the exception of pavement flagged as construction activities or bridge decking in the collection lane for crack, the length of missing pavement data should be no more than 2 percent of the extent of a given test section.
	2. Rutting data, lane width, image presence - the length of missing pavement data should be no more than 0.5 percent of the extent of a given test section.
3. **Validity** – These checks are to determine whether the data collected falls within the expected value ranges for each measure. Specifically:
	1. IRI – values expected between 15 and 900 inch/mile
	2. Crack – all types of cracking on each batch are properly identified
	3. Rutting – 0 to 2 inches
	4. Lane Width – 8-13.5 feet
	5. Vehicle speed – 25 to 75 miles per hour.
4. **Error Resolution**
5. Certain errors can be corrected by simply recalculating or reprocessing data, in these cases it will be the responsibility of the awarded Bidder to make that determination and perform the reprocessing/recalculation until the data is acceptable.
6. Those errors deemed to be caused by equipment malfunction or calibration issues must be reported as such to the Department Program Manager as soon as detected so that they may plan recollection.