COMMONWEALTH OF VIRGINIA

VIRGINIA DEPARTMENT OF TRANSPORTATION (VDOT)

ADMINISTRATIVE SERVICES DIVISION

1201 E BROAD STREET

RICHMOND, VIRGINIA 23219

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REQUEST FOR PROPOSALS (RFP) 157102 for

Project Name: ***Smart Parking Insight: Multi-Modal Commuter Linkage***

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Due Date/Time:	September 9, 2022, 4:00 PM Eastern
Single Point of Contact ("SPOC"):	Jenise Howard
Ph. No:	(804) 786-2906
E-mail Address:	jenise.howard@vdot.virginia.gov

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1. INTRODUCTION

A. Request for Proposal Objective

The purpose of this Request for Proposal ("**RFP**"), issued by the Virginia Department of Transportation ("**VDOT**"), is to select, through a competitive procurement process, a qualified Offeror for the purchase of quality real-time data on parking availability at selected commuter lots in Northern Virginia (NoVA) and Metropolitan Fredericksburg. Information on parking lots of interest to VDOT over the near term is presented in the first tab of Appendix B, *Parking Lot Inventory*. The contract resulting from this procurement will enable the purchase of real-time occupancy or real-time occupancy-status data at most or all of the parking lots listed in the first tab of Appendix B. However, it will also allow for the future purchase of data at additional commuter lots not identified in Appendix B. These future purchases may be initiated either by VDOT or by eligible public bodies in NoVA and Metropolitan Fredericksburg (see Subsection J, *Cooperative Purchasing*, below).

This procurement is one of five distinct, but coordinated ***Commuter Parking Information System (CPIS)*** efforts to improve information services for commuters parking in NoVA and Metropolitan Fredericksburg (see Section 1.F for additional details). The procurement is called ***Smart Parking Insight: Multi-Modal Linkage for Commuters (SP Insight)*** and will establish a Data-as-a-Service (DaaS) arrangement between VDOT and the selected Offeror. The Offeror will furnish real-time parking space availability data for specified commuter parking lots. VDOT will retain non-exclusive rights to the data in perpetuity, including the right to persist, archive, transform, analyze, re-use, and re-distribute the data. Unit pricing paid to the DaaS Offeror will vary according to the accuracy of the data furnished by that Offeror. VDOT's strong preference is to minimize the physical infrastructure used to collect the parking space availability data; if infrastructure is needed at all, the Offeror shall provide a turnkey solution to install, maintain, and operate that infrastructure.

VDOT understands that the optimal technical solution is not likely to be the same for all lot configurations and conditions. Consequently, VDOT's preference is for an Offeror team that possesses the capability to provide multiple technical solutions for different data-collection techniques (DCT) and match those solutions to the specific characteristics of each lot.

As important as receiving the required data to meet VDOT's needs will be, partnering with a firm that shares VDOT's vision for building on top of technical gains achieved in the initial term of the contract through cooperative efforts aimed at continuous improvement of data quality is paramount. VDOT does not require exclusive access to the data and is open to data providers interested in commercializing the data elsewhere.

While this procurement emphasizes innovative approaches, it is not a technology pilot. The goal is to have accurate parking data at scale throughout the region. VDOT desires to build a long-term program and is seeking data providers willing to partner across the region and for years to come. VDOT is looking for best-value solutions. Different approaches may have different cost profiles and offer different levels of data accuracy and reliability.

B. Project Term and Options

The *initial term* of the contract is estimated at *36 months*, as follows:

- 18 months for development and deployment of the SP Insight initiative, and
- 18 months for operational support and data provision of the SP Insight initiative.

This initial term will be followed by *seven (7) one-year (1) optional renewal periods* for extending SP Insight operational support and data provision. Prior to the commencement of each option period, VDOT will provide the Offeror with a minimum of 90 days' advanced notice on whether it intends to exercise the subsequent optional renewal.

C. VDOT Overview

VDOT serves the citizens of the Commonwealth and traveling public daily through its mission to plan, deliver, operate and maintain a transportation system that is safe, moves people and goods, enhances the economy, and improves quality of life. The Commonwealth Transportation Board (CTB) guides the

Department's work much like a board of directors and provides funding for roadways, airports, seaports, and rail and public transportation. The Virginia Secretary of Transportation functions as the Chair.

Virginia has the third largest state-maintained highway system in the country. VDOT maintains over 58,000 miles of roads, bridges, and tunnels, and employs over 7,700 people through a diverse workforce. VDOT has nine highway districts, divided into thirty-one residencies; the residencies are responsible for one to four counties each. VDOT also has five Transportation Operations Centers (TOCs) across the Commonwealth. These centers monitor traffic and travel conditions, dispatch personnel to respond to incidents and events, coordinate traffic signals, manage the collection and usage of traffic data, and provide information to travelers to make informed choices about when and how they travel. VDOT also has assigned staff at its District Offices and Residencies, including Northern Virginia and Fredericksburg, to assist with traffic signal and incident management.

D. Overview of RM3P

The *Regional Multi-Modal Mobility Program* (RM3P) – a partnership between the Office of the Secretary of Transportation, the Virginia Department of Transportation (VDOT), the Northern Virginia Transportation Authority (NVTA), and the Virginia Department of Rail and Public Transportation (DRPT) – is an innovative technology initiative funded under the Commonwealth of Virginia's Innovation and Technology Transportation Fund (ITTF). This initiative aims to improve safety, reliability, and mobility for travelers in the Northern Virginia and Metropolitan Fredericksburg. The intent of this technology initiative is to leverage the collaborative use of real-time data by Virginia's public and private sectors to optimize the functioning of the transportation network, as well as to provide to customers the tools to make more informed travel choices. Stakeholders across the region are expected to participate in this important advancement, known to many as the *RM3P Initiative*.

To achieve the goals of improving travel safety, reliability, and mobility, five sets of technological projects – referred to as program elements – will be implemented under other regional initiatives. These include the:

- Data-Exchange Platform (DEP),
- Artificial Intelligence-Based Decision Support System for Enhancing Transportation Incident Management (AI-DSS),
- Commuter Parking Information System (CPIS),
- Multi-Modal Analytical Planner (MMAP), and
- Regional Multi-Modal Mobility Enhancement via Dynamic Incentivization (DI).

As shown in Figure 1, the RM3P Region is comprised of two tiers: a *Northern Tier*, that encompasses Northern Virginia, and *a Southern Tier*, that includes Metropolitan Fredericksburg (i.e., Stafford County, Spotsylvania County, and the City of Fredericksburg). The Northern Tier is the "core area" of RM3P, where all five RM3P program elements will be implemented. Expansion to the Southern Tier was made possible by award of a federal Advanced Transportation and Congestion Management Technologies Deployment (ATCMTD) grant to VDOT. Specifically, the ATCMTD grant will enable the AI-DSS, CPIS components, and parking prediction functionality to be deployed in the Southern Tier of the region. Additionally, limited DEP capabilities necessary to support the AI-DSS and CPIS extensions will apply to the Southern Tier.

NOTE: The southern boundary for the CPIS project differs slightly from the southern boundary of the RM3P initiative as a whole. Whereas the RM3P lower boundary traverses Spotsylvania County, the CPIS southern boundary runs along the Spotsylvania County line. In other words, all of Spotsylvania County falls inside the CPIS southern border.

E. CPIS Highlights

This RFP pertains to the real-time parking availability data-collection necessary to support the CPIS program element. Park-and-Ride (P&R) lots furnish commuters with places to park when they transfer to transit, carpools/vanpools, and other transit modes. Moving more people in fewer vehicles via transit and pools (or shared rides) reduces congestion. In addition, commuters are most likely to make use of off-highway parking when they have assurance that unoccupied spaces are reliably available, coupled with easy access to convenient transit, ridesharing, Express Lanes, etc., and reliable travel times.

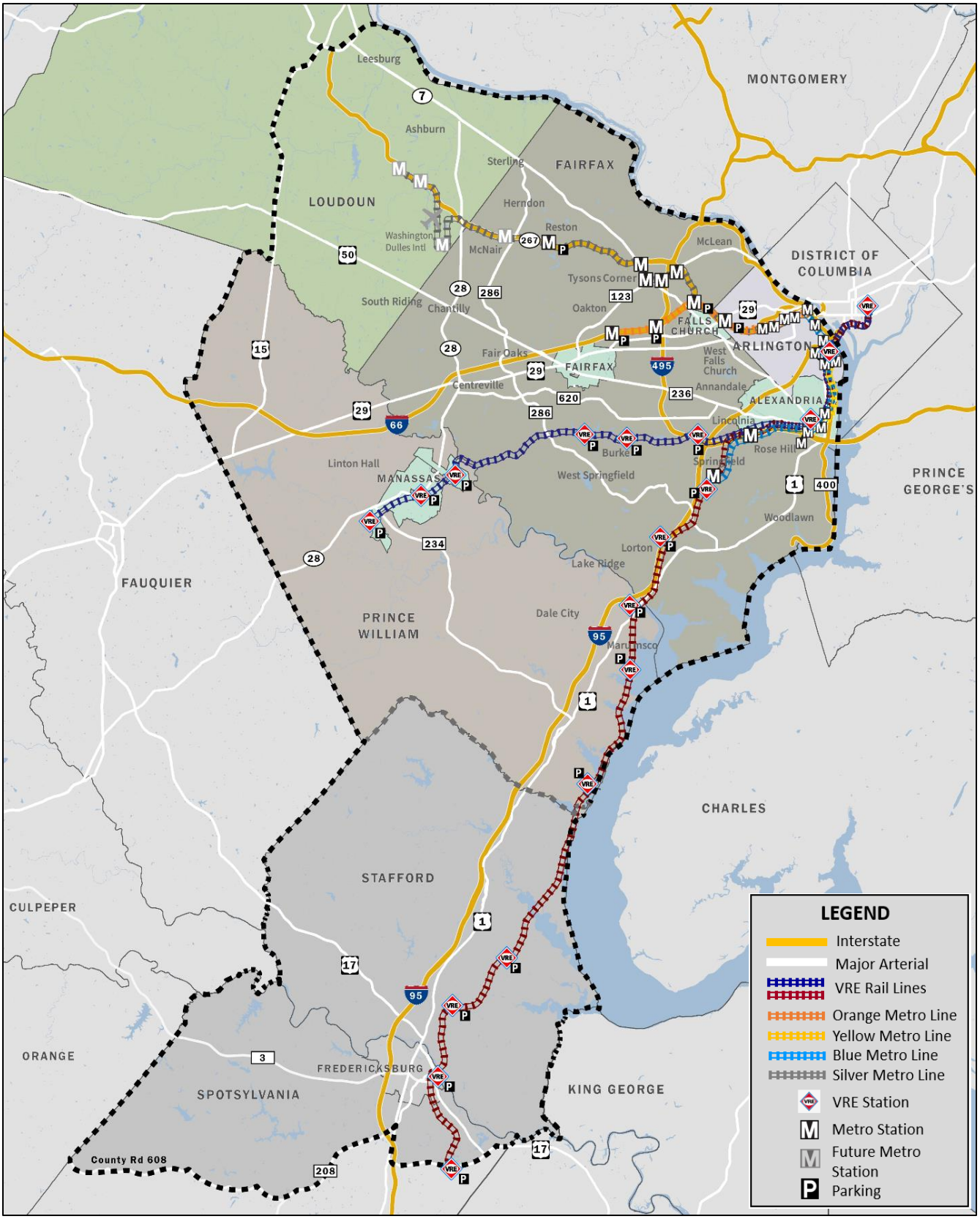

Figure 1: RM3P Region

The key objectives of the CPIS program element are to:

- Collect real-time and historic parking data from public and third-party sources.
- Predict parking availability based on historic usage patterns and available real-time information.
- Determine typical lot availability by day and time-of-day based on historical data, when real-time or predicted data is not available.
- Develop an application programming interface (API) to disseminate data to third-party parking and navigation applications which deliver information to travelers.
- Integrate parking information with the other RM3P program elements, including the Data-Exchange Platform, AI-Based Decision Support System (DSS), and Dynamic Incentivization.

Integrate parking information with the other RM3P program elements, including the Data-Exchange Platform, AI-Based Decision Support System, and Dynamic Incentivization. The idea is to maximize the use of existing commuter parking capacity by collecting, aggregating, and making parking information available for the region initially from existing sources, and then integrating new sources as they become available. This data, combined with traffic information, transit schedules, etc., can, in turn, "power" public- and private-sector complete trip information offerings and navigation applications used by travelers.

This project will include commuter parking lots throughout Northern Virginia, the City of Fredericksburg, Stafford County, and Spotsylvania County.

The definitions of key terms used in this document are as follows:

- **Commuter Parking Lots:** Refers to parking facilities inside the Region, owned and/or managed by public agencies, that are used by commuters to park their vehicles and transfer to transit or other shared mode of transportation.
- **Static Parking Data:** Information about a parking lot such as location, lot name, number of spaces, transit and other available transportation services, etc.
- **AI Parking Prediction**: Use of artificial-intelligence technology to predict parking lot occupancy at a specified time in the future.
- **Typical Availability Profile**: This is a pattern showing the typical availability status for a lot. It is derived from historical data, but (unlike predicted availability) it does not depend on real-time information.
- **Real-Time Occupancy Data:** Real-time data on the number of parking spaces currently available within a given lot.
- **Real-Time Occupancy-Status Data:** Real-time data on the general parking occupancy-status (e.g., Full, Limited, Available) of a given lot.
- **Data-Collection Technique (DCT)**: Throughout this document, this term is used to refer to a proposed technology, process, and practice for collecting real-time parking occupancy data. Offerors may propose multiple data-collection techniques.
- **Infrastructure-Free DCT**: No field detection infrastructure deployment is necessary. The real-time parking information is collected using techniques such as crowdsourcing, mobile probes, historical parking trend analysis, etc. Space counts are not expected for infrastructure-free based real-time parking information; rather, lot occupancy status (e.g., full, limited, available) is anticipated. This is a category under data-collection techniques.
- **Infrastructure-Light DCT**: Minimal infrastructure deployment is required for real-time parking data-collection. For example, counts using detectors deployed at entry and exit points of the lot and/or entry and exit points of subsection of the lots that do not fill up completely. Real-time counts of number of spaces available and lot occupancy status data (e.g., full, limited, available) are expected. This is a category under data-collection techniques.
- **Infrastructure-Heavy DCT**: Significant infrastructure is required, including detection equipment installed in or under the pavement for every parking space within the lot. **Infrastructure-heavy solutions are not acceptable for this procurement.** Any DCT which uses equipment installed for every space is not within the scope of this procurement.

VDOT's preference is for an Offeror Team capable of providing multiple DCTs, and who will ideally include at least one infrastructure-light DCT and at least one infrastructure-free DCT. If multiple DCTs are proposed, it is critical that the proposal clearly distinguish between the DCTs. Proposals should discuss specifics of each DCT option, highlighting the differing capabilities of each; it should not include vague descriptions about a range of possible options. Each proposed DCT should have a unique and distinctive name; all discussion about advantages, disadvantages, suitable lot characteristics, cost, etc., should clearly indicate the DCT to which it applies. Proposals which muddy the distinctions between various DCTs may be rejected. Both the Proposed Rollout Plan (Tab 4) and the Pricing Proposal (Tab 11) should declare which of the proposed DCTs are recommended for each lot in the priority list.

For those DCTs that rely on infrastructure, the Offeror should provide the necessary infrastructure as a turnkey solution including planning, survey, design, permitting, installation, maintenance, operations, etc. For parking lots not owned by VDOT, an agreement may be necessary between VDOT and the lot owners to support the Offeror's permit requests for installing the counting infrastructure. Offerors should consider collecting data for VDOT-owned lots initially to allow time for securing the necessary agreements. Further details on constraints and conditions on infrastructure-dependent DCTs appear in Section 4. Infrastructure-free DCTs (no detection devices deployed in the field), may still wish to install signage at the parking lots. This is acceptable, provided that the signage meets VDOT standards for safety, performance, aesthetics, etc. Any field work shall conform to VDOT standards and practices described in the infrastructure section in the Statement-of-Work (Section 4), even if the DCT as a whole is classified as infrastructure-free.

The CPIS initiative will be achieved through five distinct tasks, and this procurement is for only one (Task 2) of those tasks. The complete set of CPIS-related tasks is as follows:

- *Task 1: Integrate Existing Parking Data* – There are currently multiple sources of real-time parking availability data in the region. These sources include the Virginia Railway Express (VRE), Washington Metropolitan Area Transit Authority (WMATA), and VDOT. This task is included in the DEP scope, separate from this procurement, for integrating those data sources and developing an API to share the information. Parking lot inventory data maintained by VDOT, including historical data, is also included in the scope for the Data-Exchange Platform (DEP).
- *Task 2: Integrate Parking Data for Lots Not Currently Collecting Data* – The **SP Insight** (**this RFP**) will include procurement of real-time parking availability data for commuter lots that do not currently collect parking information.
- *Task 3: RM3P Parking Data Validation and Dissemination* – Task 3 includes periodic validation of parking data accuracy and reliability that will impact Task 2 Vendor payments. This task, contracted separately from this procurement, will establish the process and methodology for validating parking data in a consistent manner and a payment policy based on whether the parking data meets minimum requirements to incentivize the selected Vendor's generation of high-quality data.
- *Task 4: Implement AI-Based Parking Prediction* – An AI-based approach to providing near-real-time predictive parking information will be implemented for NOVA and Metropolitan Fredericksburg. This system will build on data collected from parking systems integrated into the DEP. The intent is to assist commuters in planning and selecting parking destinations ahead of their travel. The expanded functionality, contracted separately from this procurement, will be acquired as part of the AI-Based DSS project and marketed through Task 5.
- *Task 5: Data-Dissemination Outreach* -- This task, contracted separately from this procurement, will establish a framework for sharing, distributing, and exchanging parking information in the region in a consistent manner. The objectives are to:
    - Establish guidance and requirements for lot owners and third-party entities to contribute parking data to the RM3P DEP and access parking API data from the DEP.
    - Work with navigation app and search engine providers on using consistent naming conventions for parking lots.

- Conduct ongoing outreach to potential parking API data consumers such as navigation providers, search engines, trip planning providers, parking data consolidators, etc.

Moreover, this task will include development of a Smart Parking Portfolio, i.e., a marketing strategy and package on use cases and benefits for third-party providers and agencies to incorporate CPIS parking data (static, real-time, and predicted) into their customer offerings. As part of the marketing initiative, experience-sharing forums will be convened on facilitating effective communications among the parking data users for the purpose of promoting the use of CPIS parking data to benefit the traveling public.

Figure 2 shows the relationships among the five tasks.

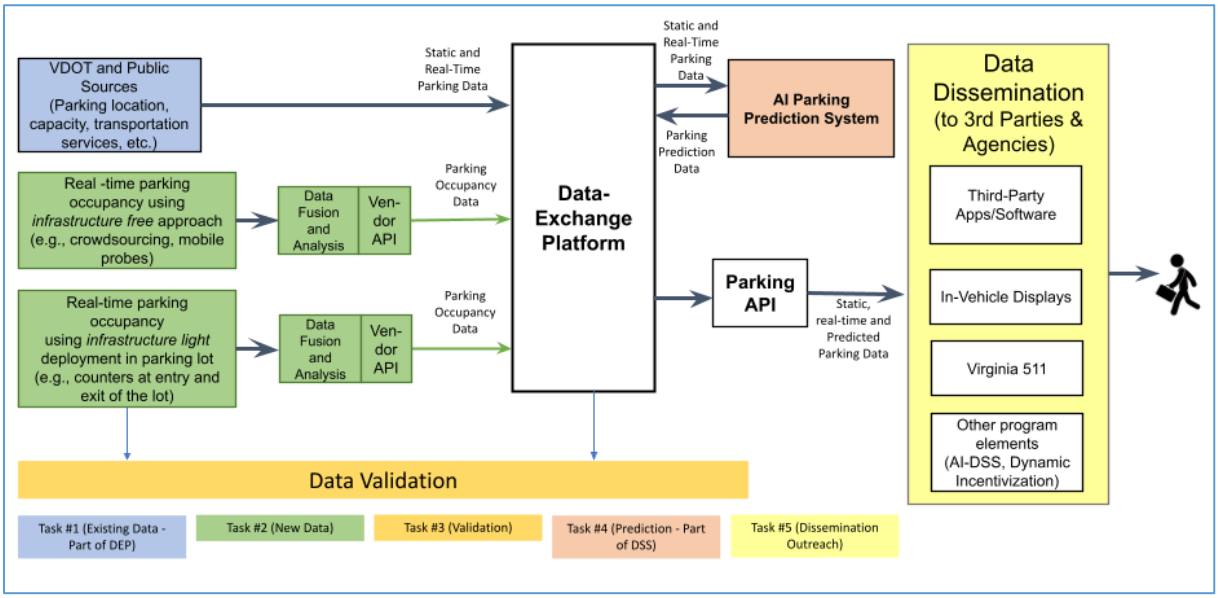

Figure 2: CPIS Task Relationships

VDOT values P&R facilities for the various benefits they yield. These benefits include: providing a free facility for commuters to access transit/carpools/vanpools, the reduction in single-occupant vehicles and therefore congestion-reduction and air-quality improvements, facilitation of faster/more efficient commute modes and connections, like commuter buses that use HOV/express lane networks, etc. Supplying a convenient place for commuters to access multi-modal transportation contributes to the establishment of a more sustainable and efficient transportation system with increased mode choice. VDOT recently completed an assessment of park-and-ride (P&R) facilities in NoVA. It focused on near-term/future-term needs and analyzed facilities with different types of transit connectivity. Stakeholders surveyed during the assessment provided input on the most important needs for P&R facilities, and the two most frequently selected answers were “better multi-modal amenities (e.g., sidewalks, bike access)” and “real-time information and/or promotion.”

F. Innovation to Government

The Commonwealth encourages all Offerors to bring innovative ideas and/or solutions to government – ideas that result in cost and operational efficiencies or improvements while enhancing the services that governments provide to citizens.

G. SWaM Participation in Project

It is the policy of the Commonwealth to contribute to the establishment, preservation, and strengthening of small businesses and micro businesses, including those small or micro businesses owned by women, minorities, or service-disabled veterans; and to encourage their participation in Commonwealth procurement activities. The Commonwealth encourages all Suppliers to provide for the participation of these small businesses through partnerships, joint ventures, subcontracts, and other contractual opportunities.

Offerors responding to this RFP should submit a Small Business Subcontracting Plan (see Appendix L). It is the goal of the Commonwealth that over 42% of its purchases be made from small businesses. The Subcontracting Plan should be included in the proposal submission.

A Supplier which is a small business, a small woman-owned business, a small minority-owned business, or a small service-disabled veteran-owned business, as defined in § 2.2-4310 or § 2.2-1604 of the Code of Virginia, or a certified micro business as defined in Executive Order Number 20 (2014), is a SWaM business. If Supplier is a SWaM business, the Supplier should include a copy of all Virginia SWaM certifications with its proposal. No Supplier shall be considered a small business, a woman-owned business, a minority-owned business, a service-disabled veteran business or a micro business unless certified by the Department of Small Business and Supplier Diversity (DSBSD). For information, go to http://www.sbsd.virginia.gov/.

Please provide a *Small Business (SWaM) Subcontracting Plan* as set forth in Appendix L. In the submitted Small Business (SWaM) Subcontracting Plan, please state the percentage of the contract, during the Initial Contract Period and any Subsequent Renewal Periods, that will be spent with SWaM subcontractors. Please also include a list of all subcontractors you plan to utilize who are not Virginia-certified SWaM businesses in Appendix C, *Supplier Experience and References spreadsheet.* If the Supplier does not plan to use small business subcontractors in executing a contract resulting from this RFP, so state on the Small Business (SWaM) Subcontracting Plan – Appendix L.

Offerors shall specify in the *Small Business Subcontracting Plan* the percentage of work to be performed by SWaM team members. For the SWaM goal, Offerors will be evaluated on the proportion of work that will be performed by Virginia-certified SWaM businesses. The higher the percentage of work performed by SWaM team members, the more this procurement will contribute to the Commonwealth's overall purchasing goal. Although SWaM is not a mandatory requirement of this procurement, the goal specified will be a differentiator in proposal evaluations.

H. Disadvantaged Business Enterprise Policy

It is the policy of the Virginia Department of Transportation that Disadvantaged Business Enterprises (DBE) as defined in 49 CFR Part 26 shall have every opportunity to participate in the performance of federally funded contracts. A list of certified DBE firms is maintained on the Department of Small Business and Supplier Diversity's (DSBSD) web site (www.sbsd.virginia.gov) under the Small Business and Supplier SWaM and DBE Directory. Contractors are encouraged to take all necessary and reasonable steps to ensure that DBE firms have opportunities to compete for and perform services on this contract, including participation in any subsequent supplemental contracts. If the contractor intends to subcontract a portion of the services on the project, the contractor is encouraged to seek out and consider DBE firms as potential subcontractors. The contractor is encouraged to contact DBE firms to solicit their interest, capability and qualifications. Any agreement between a contractor and a DBE firm whereby the DBE firm promises not to provide services to other contractors is prohibited.

The DBE goal for this procurement is 12%. The DBE goal shall be met.

I. DBE and SWaM Compliance

VDOT is required to capture DBE and SWaM payment information on all contracts. The successful prime contractor will be required to complete Appendix R, Form C-63 for federally funded projects on a quarterly basis.

Any DBE or Small, Women-owned, and Minority-owned (SWaM) firm should become certified with DSBSD prior to submitting a response to this solicitation. If a DBE or SWaM firm is the prime contractor, the firm will receive full credit for planned involvement of their own forces, as well as the work that they commit to be performed by DBE or SWaM subcontractors. DBE or SWaM prime contractors are encouraged to make the same outreach efforts as other contractors. DBE or SWaM credit will be awarded only for work actually being performed by them. When a DBE or SWaM prime contractor subcontracts work to another firm, the work counts toward the DBE or SWaM goals only if the other firm is itself a DBE or SWaM. A DBE or SWaM prime contractor shall perform or exercise responsibility for at least 30% of the total cost of its contract with its own workforce.

DBE or SWaM certification entitles contractors to participate in VDOT's DBE and SWaM programs. However, this certification does not guarantee that the firm will obtain VDOT work, nor does it attest to the firm's abilities to perform any particular work.

J. Cooperative Purchasing

Eligible public bodies across the RM3P Region will have the opportunity to purchase parking availability data from the selected Parking Vendor for public commuter lots not already funded under the *SP Insight* contract between VDOT and the Vendor. "Eligible public bodies" are those defined by § 2.2-4301 and referenced by § 2.2-4304 and § 2.2-2012 of the *Code of Virginia*, who own or operate commuter parking lots within the geographic boundaries of the CPIS Region (Northern Virginia, the City of Fredericksburg, Stafford County, and Spotsylvania County). These entities shall be designated as "Authorized Users" of the Cooperative Purchasing clause, and the selected Vendor shall extend the same service and price terms granted to VDOT to all other Authorized Users of the master contract. These Authorized Users will be able to enter into arrangements with the Parking Vendor during the initial term and/or optional renewal periods under the *SP Insight* master contract between the Vendor and VDOT.

The Cooperative Agreement provision will allow additional commuter parking lots to be added to the *SP Insight* initiative beyond those lots identified at contract startup. For instance, a transit agency might enter into arrangements with the Vendor to collect and furnish data for a commuter lot adjacent to a Metro Station that is not covered under the master contract. The Authorized User will work directly with the Parking Vendor to define scope, schedule, and budget for the gathering of parking occupancy data at the additional lot(s). However, the procedures used to collect the data, calculate data costs, timetables, payment terms, etc. will be identical to the provisions of the master contract. Therefore, the User will not need to renegotiate contract terms or pricing as additional parking lots are added under the *SP Insight* initiative.

When an Authorized User is interested in securing data for a specific commuter parking lot that the agency owns or operates, and the lot is not already covered under the *SP Insight* contract, the User and Parking Vendor will draw up a work order issued under and subject to the terms of the VDOT master contract. The work order shall, at a minimum, specify: (1) the lot(s) to be covered under the work order, including parking space capacity counts, etc.; (2) the data-collection techniques (DCTs) to be employed; (3) the timetables for implementation and operation; (4) pricing, sufficiently detailed to demonstrate consistency with the master contract; (5) payment terms; and (6) other pertinent information. All terms and conditions of the master contract not specifically called out in the work order shall apply to activities under the work order. This includes sharing the real-time parking availability data generated under the work order with VDOT and the DEP. Pricing in the work order shall be predicated on the pricing details specified in the Vendor's Cost Proposal (see Appendix V, *Pricing*). The terms of the VDOT master contract shall take precedence over the work order.

VDOT shall review and, when found to be satisfactory, provide its approval of all work orders prior to execution by the Authorized User and Parking Vendor.

NOTE: Authorized Users will be responsible for validating the occupancy data or occupancy-status data furnished by the Parking Vendor. The validation technique used shall be consistent with the CPIS validation process employed by VDOT.

K. Responding to this RFP

Interested Offerors shall demonstrate they have the necessary technical prowess, products, and approach to meet VDOT's requirements to implement and deploy *SP Insight*, as specified in Section 4, Statement of Work.

Offerors responding to this RFP shall certify they meet all of the *Must-Have* factors specified in this solicitation (see Section 3, Subsection B). Only those submissions that meet 100-percent of the Must-Have factors will be further evaluated.

VDOT expects to make a single contract award as the result of this solicitation. VDOT may, at its sole discretion, make one award, multiple awards, or none at all.

Alliances among Offerors are acceptable to meet the requirements of this procurement. However, VDOT requires a single point-of-contact for interfacing with the Offeror team for purposes of contract discussions and negotiations.

VDOT reserves the right to adjust the requirements or scope of this solicitation. In the event that any modifications become necessary, amendments to this solicitation will be posted on the Commonwealth's procurement portal, eVA, at: http://www.eva.virginia.gov.

NOTE: For the purposes of this RFP, "Supplier" (or "Vendor," "Contractor," "Bidder," or "Offeror") means any entity that submits a proposal in response to this RFP.

L. Non-Discrimination of Contractors

A bidder, offeror, or contractor shall not be discriminated against in the solicitation or award of this contract because of race, religion, color, sex, sexual orientation, gender identity, national origin, age, disability, faith-based organizational status, any other basis prohibited by state law relating to discrimination in employment or because the bidder or offeror employs ex-offenders unless the state agency, department or institution has made a written determination that employing ex-offenders on the specific contract is not in its best interest. If the award of this contract is made to a faith-based organization and an individual, who applies for or receives goods, services, or disbursements provided pursuant to this contract objects to the religious character of the faith-based organization from which the individual receives or would receive the goods, services, or disbursements, the public body shall offer the individual, within a reasonable period of time after the date of his objection, access to equivalent goods, services, or disbursements from an alternative provider.

a. Title IV Non-Discrimination General Assurance: The Virginia Department of Transportation, in accordance with the provisions of Title VI of the Civil Rights Act of 1964 (78 Stat. 252, 42 U.S.C. §§ 2000d to 2000d-4) and the Regulations, hereby notifies all bidders/offerors that it will affirmatively insure that for any contract entered into pursuant to this advertisement, disadvantaged business enterprises will be afforded full opportunity to submit bids/proposals in response to this solicitation and will not be discriminated against on the grounds of race, color, or national origin in consideration for an award.

M. Additional Non-Discrimination Assurances: USDOT 1050.2A/Appendix A

During the performance of this contract, the consultant, for itself, its assignees and successors in interest (hereinafter referred to as the "contractor") shall comply with **USDOT Order No. 1050.2A/Appendix A** as follows:

(1) **Compliance with Regulations:** The contractor shall comply with the Regulation relative to nondiscrimination in federally-assisted programs of the Department of Transportation (hereinafter, "DOT") Title 49, Code of Federal Regulations, Part 21, as they may be amended from time to time, (hereinafter referred to as the Regulations), which are herein incorporated by reference and made a part of this contract.

(2) **Nondiscrimination:** The contractor, with regard to the work performed by it during the contract, shall not discriminate on the grounds of race, color, or national origin in the selection and retention of subcontractors, including procurements of materials and leases of equipment. The contractor shall not participate either directly or indirectly in the discrimination prohibited by section 21.5 of the Regulations, including employment practices when the contract covers a program set forth in Appendix B of the Regulations.

(3) **Solicitations for Subcontractors, Including Procurements of Materials and Equipment:** In all solicitations either by competitive bidding or negotiation made by the contractor for work to be performed under a subcontract, including procurements of materials or leases of equipment, each potential subcontractor or supplier shall be notified by the contractor of the contractor's obligations under this contract and the Regulations relative to nondiscrimination on the grounds of race, color, or national origin.

(4) **Information and Reports:** The contractor shall provide all information and reports required by the Regulations or directives issued pursuant thereto, and shall permit access to its books, records, accounts, other sources of information, and its facilities as may be determined by the Virginia Department of Transportation to be pertinent to ascertain compliance with such Regulations, orders and instructions. Where any information required of a contractor is in the exclusive possession of another who fails or refuses to furnish this information, the contractor shall so certify to the Virginia

Department of Transportation as appropriate, and shall set forth what efforts it has made to obtain the information.

(5) **Sanctions for Noncompliance:** In the event of the contractor's noncompliance with the nondiscrimination provisions of this contract, the Virginia Department of Transportation shall impose such contract sanctions as it may determine to be appropriate, including, but not limited to: (a.) withholding of payments to the contractor under the contract until the contractor complies, and/or (b.) cancellation, termination or suspension of the contract, in whole or in part.

(6) **Incorporation of Provisions:** The contractor shall include the provisions of paragraphs (1) through (6) in every subcontract, including procurements of materials and leases of equipment, unless exempt by the Regulations, or directives issued pursuant thereto.

The contractor shall take such action with respect to any subcontract. or procurement as the Virginia Department of Transportation may direct as a means of enforcing such provisions including sanctions for non-compliance: Provided, however, that, in the event a contractor becomes involved in, or is threatened with, litigation with a subcontractor or supplier as a result of such direction, the contractor may request the Virginia Department of Transportation to enter into such litigation to protect the interests of the Virginia Department of Transportation, and, in addition, the contractor may request the United States to enter into such litigation to protect the interests of the United States.

N. Additional Non-Discrimination Assurances: USDOT 1050.2A/Appendix E

During the performance of this contract, the contractor, for itself, its assignees, and successors in interest (hereinafter referred to as the "contractor") agrees to comply with the nondiscrimination statutes and authorities specified in USDOT Order No. 1050.2A/Appendix E, including but not limited to:

Pertinent Non-Discrimination Authorities:

- Title VI of the Civil Rights Act of 1964 (42 U.S.C. § 2000d *et seq.,* 78 stat. 252), (prohibits discrimination on the basis of race, color, national origin); and 49 CFR Part 21.
- The Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, (42 U.S.C. § 4601), (prohibits unfair treatment of persons displaced or whose property has been acquired because of Federal or Federal-aid programs and projects);
- Federal-Aid Highway Act of 1973, (23 U.S.C. § 324 *et seq.),* (prohibits discrimination on the basis of sex);
- Section 504 of the Rehabilitation Act of 1973, (29 U.S.C. § 794 *et seq.),* as amended, (prohibits discrimination on the basis of disability); and 49 CFR Part 27;
- The Age Discrimination Act of 1975, as amended, (42 U.S.C. § 6101 *et seq.),* (prohibits discrimination on the basis of age);
- Airport and Airway Improvement Act of 1982, (49 USC § 471, Section 47123), as amended, (prohibits discrimination based on race, creed, color, national origin, or sex);
- The Civil Rights Restoration Act of 1987, (PL 100-209), (Broadened the scope, coverage and applicability of Title VI of the Civil Rights Act of 1964, The Age Discrimination Act of 1975 and Section 504 of the Rehabilitation Act of 1973, by expanding the definition of the terms "programs or activities" to include all of the programs or activities of the Federal-aid recipients, sub-recipients and contractors, whether such programs or activities are Federally funded or not);
- Titles II and III of the Americans with Disabilities Act, which prohibit discrimination on the basis of disability in the operation of public entities, public and private transportation systems, places of public accommodation, and certain testing entities (42 U.S.C. §§ 12131-12189) as implemented by Department of Transportation regulations at 49 C.F.R. parts 37 and 38;
- The Federal Aviation Administration's Non-discrimination statute (49 U.S.C. § 47123) (prohibits discrimination on the basis of race, color, national origin, and sex);
- Executive Order 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations, which ensures discrimination against minority

populations by discouraging programs, policies, and activities with disproportionately high and adverse human health or environmental effects on minority and low-income populations;

- Executive Order 13166, Improving Access to Services for Persons with Limited English Proficiency, And resulting agency guidance, national origin discrimination includes discrimination because of Limited English Proficiency (LEP). To ensure compliance with Title VI, you should take reasonable steps to ensure that LEP persons have meaningful access to your programs (70 Fed. Reg. at 74087 to 74100);
- Title IX of the Education Amendments of 1972, as amended, which prohibits you from discriminating because of sex in education programs or activities (20 U.S.C. 1681 et seq).

2. PROPOSAL ADMINISTRATION

A. Overview

This RFP was developed to provide all potential Offerors with the information required to prepare and submit full technical and cost proposals. This section, together with the information in Section 3, "RFP Response Instructions," outlines the administrative procedures and guidelines Offerors should use and comply with when preparing a submission.

This RFP consists of the following documents and attachments:

- The current document entitled, *Smart Parking Insight: Multi-Modal Commuter Linkage (SP Insight).* This includes:
  - Section 1, Introduction
  - Section 2, Proposal Administration
  - Section 3, RFP Response Instructions
  - Section 4, Statement of Work
- Appendix A – *Commuter Parking Information System: Concept of Operations* (For informational purposes only)
- Appendix B – *Parking Lot Inventory* (For informational purposes only). The first tab shows the prioritized commuter lots that are the focus of this RFP. The second tab shows all the commuter lots that are in the Northern and Southern Tiers of the CPIS scope.
- Appendix C – *Supplier Experience and References* (Complete and submit with proposal)
- Appendix D – *Smart Parking Insight Requirements* (Complete and submit with proposal)
- Appendix E – *Service Level Agreements* (Complete and submit with proposal)
- Appendix F – *Must-Have Factors, Product Specifications, and VDOT Standard Agreement Questionnaire* (Complete and submit with proposal)
- Appendix G – *VDOT Agreement: Standard Solutions Contract* (Exceptions taken, if any, to the terms and conditions in Appendix G should be detailed in Appendix I. You may also optionally submit a redlined version of Appendix G to further convey your proposed changes.)
- Appendix H – *Cloud Services Terms and Conditions* (Exceptions taken, if any, to the terms and conditions in Appendix H should be detailed in Appendix I. You may also optionally submit a redlined version of Appendix H to further convey your proposed changes.)
- Appendix I – *Offeror Exceptions to VDOT Standard Agreement and Cloud Term and Conditions* (Complete and submit with proposal)
- Appendix J – *Enterprise Cloud Oversight Service (ECOS) Overview* (For informational purposes only)
- Appendix J.1 – *ECOS Assessment Questionnaire* (Complete with proposal and submit when requested by VDOT)
- Appendix K – *State Corporation Commission (SCC) Form* (Complete and submit with proposal)
- Appendix L – *Small Business Subcontracting Plan* (Complete and submit with proposal)
- Appendix M – *FHWA 1273, Required Contract Provisions* (For informational purposes only)
- Appendix N – *107.15, Special Provision for Use of Disadvantaged Business Enterprises* (For informational purposes only)
- Appendix O – *Form C-111, Minimum DBE Requirements* (Complete and submit with proposal)
- Appendix P – *Form C-112, Certification of Binding Agreements with DBEs* (Complete and submit with proposal)
- Appendix Q – *Form C-49, DBE Good Faith Efforts Documentation* (Complete and submit with proposal)
- Appendix R – *Form C-63, Vendor Payment Compliance Report* (Complete and submit with proposal)
- Appendix S – *Firm Data Sheet* (Complete and submit with proposal)
- Appendix T – *Title VI Evaluation Form* (Complete and submit with proposal)
- Appendix U – *Proprietary/Confidential Information Summary Form* (Complete and submit with proposal, if you are submitting a redacted proposal)
- Appendix V – *Pricing* (Complete and submit with proposal)

The annotations alongside each Appendix item, above, indicate whether the Appendix content (1) is provided for informational purposes only, or (2) needs to be completed and submitted with the Offeror's proposal. See Section 3 and the individual Appendices for additional details.

Note: The second tab of the Parking Lot Inventory (Appendix B), will be updated periodically. The awarded Vendor will be furnished updates as they become available.

This RFP is governed by the Virginia Public Procurement Act ("**VPPA**"), Code § 2.2-4300 *et seq.*, and other applicable laws.

B. Anti-Discrimination - § 2.2-4310 and § 2.2-4311, and § 2.2-4343.1(E)

By submitting its proposal, a Offeror certifies to the Commonwealth that it will conform to the provisions of the Federal Civil Rights Act of 1964, as amended as well as the Virginia Fair Employment Contracting Act of 1975, as amended; and, where applicable, the Virginians With Disabilities Act, the Americans With Disabilities Act and § 2.2-4311 of the VPPA.

C. Ethics in Public Contracting - § 2.2-4367 *et seq.*

By submitting its proposal, an Offeror certifies that its proposal is made without collusion or fraud; that the Offeror has not offered or received any kickbacks or inducements from any other bidder, Offeror, manufacturer, or subcontractor in connection with its proposal; and that the Offeror has not conferred on any public employee having official responsibility for this procurement transaction any payment, loan, subscription, advance, deposit of money, services, or anything of more than nominal value, present or promised, unless consideration of substantially equal or greater value was exchanged. In addition, an Offeror will disclose any actual or perceived conflicts of interest in its proposal and will notify VDOT if it becomes aware of a potential conflict of interest in the future.

D. Announcement of Award - § 2.2-4300 *et seq.*

If a contract is awarded or announced as a result of this RFP, the purchasing agency will post notice of the award decision on the DGS/DPS eVA web site (http://www.eva.virginia.gov) for a minimum of 10 days. No award decision will be provided verbally. Any final contract, including pricing, awarded as a result of this RFP will be made available for public inspection.

E. Authorized to Transact Business in the Commonwealth - § 2.2-4311.2

All Offerors organized as a stock or nonstock corporation, limited liability company, business trust, or limited partnership, or registered as a limited liability partnership should be authorized to transact business as a domestic or foreign business entity if so required by Title 13.1 or Title 50 of the Code, or as otherwise required by law. In its proposal, Offeror shall include either (i) Offeror's identification number issued to it by the State Corporation Commission; or (ii) a statement explaining why Offeror is not required to be registered. No award can be made to any Offeror without this information unless this requirement is waived. Appendix K of this solicitation includes a space for Offeror to provide the information required in (i) or (ii) of this subsection. If a Offeror anticipates the use of additional resources through a partnership or subcontracting relationship with other entities, the requirements of this Section 2.F will also apply to any entities that are engaged as partners or subcontractors of Offeror providing services directly to the Commonwealth upon award of a contract.

F. Prohibited Products and Services - § 2.2-5514

No Offeror may include as part of its proposal, whether directly or indirectly through subcontractors, any hardware, software, or services that have been prohibited for use on federal systems by the U.S. Department of Homeland Security.

G. Prohibited Contributions and Gifts - § 2.2-4376.1

No Offeror that submits a proposal in response to this solicitation, and no individual who is an officer or director of the Offeror shall knowingly provide a contribution, gift, or other item with a value greater than $50 or make an express or implied promise to make such a contribution or gift to the Governor, his political action committee, or the Secretary of Administration during the period between the submission of the proposal and the award of any resulting contract award with an expected value of $5 million or more dollars.

H. Liability

The issuance of this RFP and the receipt of information in response to this RFP will not cause VDOT to incur any liability or obligation, financial or otherwise, to any Offeror. VDOT assumes no obligation to reimburse or in any way compensate a Offeror for expenses incurred in connection with its proposal.

I. Nondisclosure

All proposal information submitted by a Offeror will be treated as confidential prior to contract award and will not be disclosed except as required by law or by court order.

J. Proprietary Information

VDOT reserves the right to use information submitted in response to this document in any manner it may deem appropriate in evaluating the fitness of the solution(s) proposed. Ownership of all data, materials, and documentation originated and prepared for VDOT pursuant to the RFP shall rest exclusively with VDOT and shall be subject to public inspection in accordance with the § 2.2-4342 of the VPPA and the Virginia Freedom of Information Act.

Trade secrets or proprietary information submitted by a Offeror in connection with a procurement transaction or prequalification application submitted pursuant to subsection B of § 2.2-4317 of the Code shall not be subject to the Virginia Freedom of Information Act (Code § 2.2-3700 *et seq.*) if a Offeror:

i). invokes the protections of this section in writing prior to or upon submission of the data or other materials,
ii). identifies specifically the data or other materials to be protected, and
iii). states the reasons why protection is necessary.

Please note that you may not designate as trade secrets or proprietary information (a) an entire bid or proposal; (b) any portion of a bid or proposal that does not contain trade secrets or proprietary information; or (c) line item prices or total bid or proposal prices.

FAILURE TO COMPLY WILL RESULT IN THE DATA OR OTHER MATERIALS BEING RELEASED TO OFFERORS OR THE PUBLIC AS PROVIDED FOR IN THE VIRGINIA FREEDOM OF INFORMATION ACT.

When submitting a redacted proposal, the redacted version should have all proprietary information deleted that has been marked as "Proprietary." Section numbers which are redacted should be identified as follows: Example: Section 4.0, Paragraph B: "Redacted". The redacted version of the proposal should be carefully edited, altered, and refined by the Offeror in order to protect and maintain complete confidentiality of protected information. VDOT will not accept responsibility for any public disclosure of proprietary information that is a result of improper redaction by the Offeror. If a redacted version of the proposal is prepared, the Offeror shall also submit the *Proprietary/Confidential Information Summary Form* (Appendix U). On the form, identify all items and pages in the proposal that contain proprietary information and the reason you deem the information proprietary. The classification of an entire proposal as proprietary or trade secret is not acceptable and will not be honored by VDOT or the Commonwealth. (See Section 3, Subsection E for additional instructions.)

K. Proposal Protocol

In order to be considered for selection, Offerors should submit complete responses to this RFP as described herein. Offerors shall submit their proposals on The Commonwealth's electronic procurement site eVA at www.eva.virginia.gov. In order to submit electronic proposals, Offerors will need to be registered in eVA.

The proposal should be signed by an authorized representative of the Offeror. Electronic signatures are acceptable.

Proposals should be prepared and organized as indicated in Section 3, *RFP Response Instructions*, providing a concise description of capabilities to satisfy the requirements of the RFP. Emphasis should be placed on completeness and clarity of content.

The following are instructions for submitting an electronic proposal:

a. Go to http://www.eva.virginia.gov/
b. Click on "I Sell to Virginia"
c. Click on "eVA Vendor Training"
d. Click on "Respond to IFBs-RFPs and more"

The entire proposal response including any/all required attachments and any/all addenda should be submitted electronically in eVA no later than the closing date and time stated in this RFP.

It is the responsibility of the Offeror to ensure its proposal and all required attachments are properly completed, readable and uploaded to eVA by the date and time deadline stated on the electronic solicitation posting. Offerors should allow sufficient time to account for any technical difficulties they may encounter during online submission or uploading of documents. In the event of technical difficulties, Offerors should contact:

eVA Customer Care at (866) 289-7367 or email mail to: eVACustomerCare@dgs.virginia.gov.

Late proposals will not be accepted and will be automatically rejected from further consideration.

Note to Offerors: This solicitation includes the requirement for the Offeror to submit a Small Business Subcontracting Plan (SBSP) **with** the electronic proposal response in eVA. Offerors selecting "Vendor Will Complete All Work" box should be certified as a small/micro business by the Commonwealth of Virginia, Department of Small Business and Supplier Diversity (DSBSD) by the due date of this solicitation to participate in the SWaM Program.

If the Offeror is not a DSBSD-certified small business, the "Vendor Plans To Use Subcontractors" box should be selected and the Offeror shall identify the portions of the contract that will be subcontracted to DSBSD-certified small business for the initial contract period and any subsequent renewal periods.

L. Pre-Proposal Teleconference

An optional pre-proposal teleconference will be hosted by the Contract Officer (SPOC listed in Subsection N below) on the date and time specified in Table 1. The pre-proposal conference is open to all Suppliers who register in advance. The virtual conference will begin promptly at the time indicated.

To participate in the pre-proposal conference, register with Jenise.Howard@vdot.virginia.gov by sending an email stating your firm's name and your participating representative(s), including title, company affiliation, and email address. (The registration deadline is three business days prior to the pre-proposal conference.) Registered Offerors will receive a teleconference access link and number for the call – this information shall not be forwarded to others. All questions generated prior to and during the meeting will be responded to in the form of a written addendum to the solicitation posted to eVA.

The purpose of this teleconference will be to allow participants the opportunity to ask questions and obtain clarification relative to this solicitation. While attendance at this teleconference is not a prerequisite to submitting a proposal, Offerors intending to submit proposals are encouraged to attend.

Please have a copy of the solicitation with you. Any changes resulting from this teleconference will be issued in a written addendum to the solicitation.

M. Single Point-of-Contact

It is the responsibility of Offeror to inquire about and request clarification of any requirement in this RFP that is not understood. No verbal inquiries will be accepted outside of the pre-proposal teleconference. VDOT will not be bound by verbal responses to questions. Submit all inquiries concerning this RFP in writing by email, subject: "Questions on RFP #157102 to:

SPOC: Jenise Howard
Email: Jenise.Howard@vdot.virginia.gov

The deadline for submission of questions is specified in Table 1**.** No questions will be answered after that date. Questions submitted within three business days prior to the teleconference may be answered verbally during the pre-proposal teleconference in addition to the written response.

Offerors are to limit all contact, whether verbal or written, pertaining to this RFP to the designated SPOC for the duration of this proposal process. It is not permissible for any Offeror, or any entity working on behalf of an Offeror, to solicit information from any individual or government source other than from the official SPOC listed above. Any unauthorized solicitations for information from anyone other than the SPOC may be grounds for disqualification of Offeror's proposal.

N. Procurement Website

The Commonwealth's procurement portal, http://www.eva.virginia.gov, provides information about Commonwealth solicitations and awards. Offerors are encouraged to check this site on a regular basis and, in particular, prior to submission of responses to identify any amendments to the RFP that may have been issued.

O. Timetables

Table 1 summarizes key milestone dates associated with responding to this RFP.

Table 1: Milestone Dates for RFP #157102

Milestone	Target Date
RFP posted to eVA	June 29, 2022
Pre-proposal conference	July 15, 2022, 11:00 AM ET
Deadline for submitting written questions	July 29, 2022, 4:00 PM ET
Proposals due	September 9, 2022, 4:00 PM ET

P. eVA Registration Required

By the date of proposal submission, the selected Offeror(s) should be registered and able to accept orders through eVA. To register with eVA, select the "Sell to Virginia" button on the eVA website, http://www.eva.virginia.gov, for registration instructions and assistance.

Q. Excluded Parties List

An Offeror will not be awarded a contract if it, or any of its affiliates or subcontractors, is an excluded entity on the federal government's System for Award Management ("**SAM**") at https://www.vita.virginia.gov/supply-chain/scm-policies-forms/#sam, or the Commonwealth's Debarment List as provided by Code § 2.2-4321 at the time of award.

R. Federal Information Security and Privacy Laws and Regulations

In accordance with §2.2-2009 of the Code of Virginia and COV Information Security Policy SEC 519-00, https://www.vita.virginia.gov/policy--governance/itrm-policies-standards/, Supplier shall comply with all applicable federal, state and local laws and regulations, including those regarding information security and privacy.

3. RFP EVALUATION FACTORS AND RESPONSE INSTRUCTIONS

Interested Offerors shall demonstrate that they have the necessary qualifications, prior relevant experience, and capabilities to meet VDOT's requirements to implement and operate Smart Parking Insight, as specified in Section 4, Statement of Work, Appendix E, *Service Level Agreements*, and Appendix D, *Smart Parking Insight Requirements*.

Offerors responding to this RFP are to adhere to the specific format set forth in Table 3, below. VDOT will reject any proposal not in the specified format, or that does not address all the requirements of this RFP. Proposals should be thorough and concise. Avoid broad, unenforceable, or unmeasurable responses. Include all requested information in each section as indicated below.

A. Evaluation Factors

The evaluation factors applicable to in this RFP are as follows:

i. Must Have Factors
Offerors responding to this RFP must certify they meet all of the Must-Have factors in Table 2:

Table 2: Must-Have Factors

No.	***Must-Have (M) Factors***
1.	(M) Proposal must be received by the due date and time. Late submissions will not be reviewed.

Offerors must confirm that they meet the Must-Have factors by completing and submitting the spreadsheet in Appendix F. VDOT will review each proposal to confirm that these Must-Have factors are met. All Must-Have factors will be evaluated on a met-or-not-met basis. Any proposal that does not meet all of the Must-Have factors will be set aside and receive no further consideration.

Only those submissions that meet 100 percent of the Must-Have factors will be further evaluated.

ii. The extent to which the Supplier's proposal satisfies the requirements identified in Section 4 of this RFP, the Appendix D Smart Parking Insight Requirements Spreadsheet, and Appendix G VDOT Agreement: Standard Solutions Contract.

iii. Supplier's viability and past performance (see Appendix C), including Supplier's diligence and thoroughness in following and completing the requirements of this solicitation.

iv. Supplier's status as a DSBSD-certified small business or micro business, including small businesses or micro businesses that are owned by minorities or women, and Supplier's proposed Supplier Procurement and Subcontracting Plan (Appendix L).

v. Supplier's employment of persons with disabilities to perform the specifications of the contract (See Section 1.F of this RFP).

vi. Pricing (Appendix V), which may include submitted price, negotiated price, discounted price, total cost of ownership, etc.

B. Proposal Evaluation Process

VDOT will review each proposal received by the due date and time to determine whether it meets the "Must-Have" factors of this RFP. All Must-Have factors will be evaluated on a met-or-not-met basis. Any proposal that does not meet all of the "Must-Have" factors will be set aside and will receive no further consideration.

The proposals that meet all the Must-Have criteria will be distributed to the evaluation team who will assess and score each Offeror's response to this RFP based on a review of the submitted materials.

This is a "best-value" procurement and proposals will be evaluated for their qualitative, technical, and sustainable features in addition to price. Proposals will be reviewed in terms of their ability to meet or exceed the agency's requirements as stated in this RFP.

VDOT may elect to continue the evaluation of the most qualified proposal(s) and may request that an Offeror clarify or explain certain aspects of their proposals. VDOT reserves the right to request presentations or demonstrations from Offerors for the purpose of proposal clarification.

A numerical scoring system will be used to evaluate proposals. The point values assigned to each of the evaluation criteria are included in the file posted on eVA entitled *"Smart Parking Insight RFP #157102 Evaluation Category Weighting."*

At any time in the evaluation process, VDOT may conduct any or all of the following assessments:

- Review industry research
- Request Offeror to elaborate on or clarify specific portions of its proposal
- Invite Offeror to make a presentation
- Invite Offeror to demonstrate its products and/or participate in a pilot test
- Conduct discussions with key personnel
- Contact Offeror's references
- Assess Offeror's capability to comply with the Commonwealth's security and data privacy policies, standards, guidelines, and related contract terms as specified in the RFP
- Review pricing

VDOT may limit all of the above to the most qualified proposals. No Offeror is guaranteed an opportunity to explain, supplement, or amend its initial proposal. Each Offeror is encouraged to ensure that its initial proposal contains and represents its best offering. **You should submit your best proposal and not assume there will be an opportunity to negotiate, amend, or clarify any aspect of your initial submitted proposal.**

Each Offeror should be prepared to conduct product demonstrations, pilot tests, presentations, or site visits at the time, date and location of VDOT's choice, should VDOT so request.

VDOT will select for negotiation those proposals deemed to be fully qualified and best suited based on the factors stated in the RFP. Negotiations will then be conducted with those Offerors. After negotiations, VDOT may select the proposal(s) that, in its opinion, is the best proposal(s) representing best value and may award a contract to those Offeror(s). For purposes of this RFP, VDOT will determine best value based on the value relative to the cost of the Service/Solution, giving consideration to the project's budget objectives. As this is a cloud-based procurement (i.e., off-premise hosting), following VDOT's selection of the best proposal(s) representing best value to the Commonwealth, Offeror's failure to successfully answer, negotiate, and/or comply with security requirements necessary in order to approve Offeror's cloud application, may result in removal from further consideration. Refer to RFP Appendix J.

If any Offeror fails to provide the necessary information for negotiations in a timely manner, or fails to negotiate in good faith, VDOT may terminate negotiations with that Offeror at any time.

VDOT reserves the right, at its sole discretion, to reject any proposal or cancel and re-issue the RFP. In addition, VDOT reserves the right to accept or reject in whole or in part any proposal submitted, and to waive minor technicalities when in the best interest of the Commonwealth.

VDOT SHALL NOT BE CONTRACTUALLY BOUND TO ANY OFFEROR PRIOR TO THE EXECUTION OF A DEFINITIVE WRITTEN CONTRACT.

C. RFP Response Page Limits

Responses to this RFP are **limited to 65-80 pages in length** for all content in Tabs 1-6 as described in Table 3, below. This limit is exclusive of the content in Tabs 7-11, including resumes, requirements, forms, and pricing.

Note: The page limit for Tabs 1-6 is 65 pages. This limit will increase by up to 5 pages for each alternative DCT proposed by the Offeror in excess of one DCT. The maximum page limit for Tabs 1-6 is 80 pages.

D. File Naming and Document Limits

In order to facilitate VDOT's review of the submitted proposals, you should label the files using the following naming convention: [RFP #].[Submission Date in format YYYYMMDD].[Name of Lead

Offeror].Tab[#].[Section Title]. For example: RFP#157102.20220303.OfferorName.Tab3.Executive Summary

Each tab should be saved as a separate electronic file and contain the information specified for that tab in Table 3. If you are not redacting any parts of your submission, you do not need to submit Tab 10.

In the event that the size of any single file exceeds 60MB, an additional file should be created so that all files are within the size limits. If, for example, the "Response Content" (Tab X) of your submission is greater than 60MB, break the content into two files, labeling them TabXA and TabXB, respectively.

Submit your technical proposal response as an MS Word document, and other files in the formats specified. Font size should be 11-pt. or larger; top, bottom, and side margins should be one-inch or larger. Line-spacing should be single or larger. Page size shall be limited to 8½ x 11-inches (page size exceptions are permitted for tables and figures). The page number limits, noted in Subsection C, shall be strictly adhered to. The requirements compliance matrix, price proposal, etc. should be submitted as MS Excel documents, using the furnished templates. Most of the required forms may be completed and submitted in portable document format (PDF).

The optional Proposal Redaction File (identifying proprietary information), if submitted, should be in portable document format (PDF).

The proposal should be submitted electronically through the procurement portal. Go to www.eva.virginia.gov. Navigate to this RFP opportunity using the Virginia Business Opportunity search function. Then select "Respond Online."

E. Offeror's Submission Format

Responses shall be organized as specified in Table 3, below. The proposals are to include all of the information identified under "Content Summary" in the table. Also, the proposal submission should be organized by "Tab" number, as shown, with each tab constituting a separate electronic file.

Table 3: SP Insight Proposal File Organization and Content

Tab No.	Section Title	Content Summary
Tab 1	**Transmittal (Max. 1 page)**	• A signed letter, including identification of the name, title, affiliation, phone, and email of the Offeror's point-of-contact for this effort. Acknowledge and attach any Addendums to the RFP (will not count against page limit). Include a copy of the completed eVA registration confirmation (will not count against page limit).
Tab 2	**Executive Summary (Max. 2 pages)**	• Top-level summary of the most important aspects of the proposal. Should include a concise description of the proposed DCTs.
Tab 3	**Solution and Methodology Summary (35 pages, plus 5 additional pages for each DCT proposed in excess of one; if four or more DCTs are proposed, the maximum length of content in this proposal tab may not exceed 50 pages)**	• Summarize your understanding of the *SP Insight* project. • Detail your team's overarching solution to supporting the *SP Insight* project. • Clearly state whether your proposal offers more than one DCT. For each DCT, specify whether it is an "infrastructure-free" or "infrastructure-light" solution and describe its technology and processes. • Describe the technical attributes of your DCT(s). For infrastructure-light DCTs this should, at a minimum, include: ○ General description of the detection technology.

Tab No.	Section Title	Content Summary
		○ General approach to designing infrastructure installations. ○ General approach to performing installations. For infrastructure-free DCTs this should, at a minimum, include: ○ Data sources used to generate lot status and method for acquiring the data. ○ Descriptions of analyses, transformations, and other processes used to derive lot status from the source data. ○ If the DCT depends on crowdsourced input from a specific app or other source, describe how the solution will motivate travelers to provide the data. For all DCTs include: ○ Anticipated accuracy of the data including evidence, case studies, and examples of similar projects. ○ Description of lot characteristics or features that make a lot a good or bad fit for the solution. • Create and include a table showing your recommended DCT for each lot identified in the RFP priority list. • Describe the approach to quality assurance/ quality control (QA/QC). How will the data be verified? Is this a one-time process or an ongoing process? • Describe the process for detecting and reporting any interruptions in the data flow or degradations of data quality. • Describe the process for detecting and reporting compliance with the service level agreements (SLAs) described in Appendix E. • Clearly state any limitations or restrictions on which parking lots each DCT is applicable to. Limitations may refer to specific lots or categories of lots based on lot features. • Describe any added-value features or services each DCT provides. • Describe proposed limitations, if any, on VDOT's license to use the purchased data. • Describe the approach to data transfers and its conformance with VDOT preferences. • As applicable, summarize any proposed deviations from the scope described in Section 4. Provide a rationale for these deviations.
Tab 4	**Proposed Rollout Plan (Max. 15 pages)**	• Describe the proposed rollout of each DCT to all applicable parking lots. • Include a schedule with projected deployment dates (in terms of months from notice-to-proceed (NTP) for all priority lots identified in Appendix B. • Include a schedule indicating how many additional future lots per month can be provisioned.

Tab No.	Section Title	Content Summary
		• Describe how feedback, data validation, and lessons learned will be used throughout the process to improve data quality. • Recommend a deployment sequence for bringing all applicable parking lots on-line. Explain the factors influencing the sequence (geography, size, lot ownership, etc.).
Tab 5	**Team Composition, Staffing and Experience (Max. 7 pages)**	• Identify all organizations comprising your team. • Delineate the roles and responsibilities of each organizational team member. • Describe the team's experience with each proposed DCT, including details about previous installations. • Specify those firms on the team that are SWaMs and DBEs. • (Submit the necessary forms under Tab 9.)Identify the staff proposed as Project Manager and Technical Lead(s). One Technical Lead should be identified for each DCT proposed. Briefly summarize each staff member's qualifications and experience. (Post resumes under Tab 7). Respond to the questions on experience and prior performance in Appendix C, Supplier Experiences and References.
Tab 6	**Pertinent Experience (Max. 5 pages)**	• Describe your team's experience performing projects comparable to the Smart Parking Insight initiative. To the extent applicable, please be precise about experience in the following areas: (a) data-collection techniques (DCT) for infrastructure-free and/or infrastructure-light solutions; (b) technical attributes of the DCTs; (c) data sources used to generate lot status and methods for acquiring data; (d) the DCT recommended for each lot in the inventory (Appendix C); and (e) capturing/processing real-time data and verifying accuracy of the data. Provide detailed information about projects comparable in scope to this Smart Parking initiative. Include pertinent experience for all members of the project team.
Tab 7	**Resumes**	• Include resumes for Key Personnel. • Limit length of individual resumes to 2 pages each.

Tab 8	**System Requirements (No page limit)**	• Prepare a Requirements Table for each DCT proposed using the requirements in Appendix D:
		  ○ For each requirement, specify that you are compliant or identify all limitations or exceptions.
		  ○ You should thoroughly explain all limitations and exceptions.
		(Please use the Word template in Appendix D to record your responses. You may add additional columns to the table as necessary.)

Tab No.	Section Title	Content Summary
Tab 9	**Forms (No page limit)**	• Furnish the following documents and forms in the sequence indicated: ○ *Supplier Experience and References* (Appendix C) – Fill in the required information in the workbook for the Prime Offeror and subcontractors. Furnish the requested references, including at least three (3) points-of-contact who will be able to attest to relevant parking-related performance. *Must Haves, Product Specs, VDOT Standard Agreement* (Appendix F) – Furnish the required information under all three tabs on the spreadsheet, incl. the Must-Have factors. For each Must-Have factor, certify whether the Offeror Team satisfies that factor. *Firm Data Sheet* (Appendix S) – Complete and submit this form. *SCC Form* (Appendix K) – Complete this form for Prime and all Sub-Contractors. *Small Business Subcontracting Plan* (Appendix L). *Form C-111, Minimum DBE Requirements* (Appendix O) and *Form C-112, Certification of Binding Agreements with DBEs* (Appendix P) – Both forms need to be completed and submitted with the proposal. ○ *ECOS and Assessment Questionnaire* (Appendix J and J.1) – The questionnaire **does not** need to be submitted with the proposal (see "ECOS Compliance," below. ○ *Title VI Evaluation Form* (Appendix T) – Fill in and submit the requested information. ○ *Offeror Exceptions to VDOT Standard Agreement* (Appendix I) – Identify and explain any exceptions taken to the VDOT Standard Agreement. (Behind the Appendix I form, you may also optionally include redlined versions of Appendix G (*VDOT Agreement: Standard Solutions Contract)* and Appendix H (*Cloud Services Terms and Conditions.)* For additional guidance, see Section F, below.
Tab 10	**Proposal Redaction File (Optional)**	• Include this file only if there is proprietary information you propose to delete from public disclosures of your EOI. • The file should be submitted in PDF format. • Create a new file, duplicating the entire content of the proposal (Tabs 1-9). Mark those sections deemed "proprietary." • Complete and include the Appendix U form.
Tab 11	**Pricing (No page limit)**	• Provide detailed pricing information pursuant to the instructions in Appendix V. • Do not include pricing data under any other tabs of the proposal.

By responding to this RFP, the Offeror certifies that all information provided in the submission is true and accurate.

F. Exceptions to VDOT Standard Agreement

Provide your comments regarding any exceptions in Appendix I and in the form of margin notes or redline the document (Appendix G) with your suggested language where required, excluding exceptions or recommended language revisions to any liability provisions. If Offeror is selected to go forward into negotiations and takes exception to any liability language, Offeror shall state any exceptions to any liability provisions contained in the Request for Proposal and the contractual terms in writing at the beginning of such negotiations, submitted via email to the designated (name or acronym of public body) Single Point of Contact (SPOC). Such Offeror provided exceptions or recommended language revisions shall be considered during negotiations.

G. ECOS Compliance

Suppliers who will furnish software-as-a-service (SaaS) applications to VDOT need to be authorized to do so by the Virginia Information Technology Agency (VITA). To gain VITA approval, Offerors shall follow the VITA Enterprise Cloud Oversight Service (ECOS) process; ECOS approvals will need to be in place prior to contract award. For additional information, refer to the VITA website:

https://www.vita.virginia.gov/technology-services/catalog-services/cloud-services/cloud-third-party-use-policy/.

Offerors should not submit the ECOS Questionnaire (Appendix J.1) with their proposals. However, they should be prepared to promptly submit the completed Questionnaire upon VDOT request. Offerors actively under VITA Oversight may not need to resubmit the Questionnaire.

4. STATEMENT OF WORK

The content contained within this Section 4, will become part of the VDOT Agreement: Standard Solutions Contract (Appendix G) as part of Exhibit C Statement of Work.

A. Introduction

The goal for this RFP is to procure real-time occupancy or occupancy-status data for commuter parking lots in NOVA and Metropolitan Fredericksburg (City of Fredericksburg, Stafford County, and Spotsylvania County). Offeror is expected to collect the data and make it available to VDOT Data-Exchange Platform (DEP) in real-time. The contract model will be DaaS. VDOT is only purchasing access to and use of the data; everything necessary to collect, process and transmit the data is the Offeror's responsibility. VDOT expects a turnkey service and a broad license for using and sharing of the data for the purpose of benefiting the transportation network performance and improving commuters' travel experience.

Data quality and timeliness is critical to the success of this program. To ensure quality, VDOT will validate the data using an independent third party, and Offeror's payments may be adjusted up or down based on the data quality demonstrated through the validation process.

The exact number of lots to be provisioned will depend on pricing, technological fit, and changing travel patterns, but VDOT will guarantee that at least twenty-one (21) lots will be provisioned within the initial term of contracts arising from this procurement. There is potential for substantially more lots to be provisioned from the current inventory and/or additions to the inventory. VDOT's goal is to build a long-term program and is seeking data providers willing to partner across the region and for years to come.

B. Stakeholder Roles

Table 4 below shows the key stakeholders and roles they will perform at a minimum.

Table 4: Stakeholder Roles

Stakeholder	Primary Roles
VDOT	• Oversee the contract. • Support the development, rollout, and operations process.
Parking Lot Owners/Operators	• Provide parking lot static info. • Coordinate with VDOT, Vendor, and Data Validation Contractor to provide as-needed access to the parking lots.
Program Management Contractor	• Manage project implementation based on VDOT requirements.
Vendor	• Implement the real-time parking system for the lots based on project requirements. • Integrate the data with the RM3P DEP.
Data Validation Contractor	• Conduct counts at parking lots. • Gather parking data from DEP and vendor (as needed). • Prepare validation reports.

C. Included Parking Lots

VDOT and other stakeholders have identified an inventory of lots in need of real-time occupancy data and expect that as many as possible of those lots will be provisioned as part of contracts resulting from this RFP. These priority lots are listed in the first tab of Appendix B. Other information sources (not developed for this RFP) may also contain information useful to the Offeror. The following online sources are listed here for convenience, but any information contained therein has not been validated for the purposes of this RFP and will have no relevance for any contract scope, terms, or conditions:

- NOVA P&R Story Map URL: https://www.virginiadot.org/novaparkandride

VDOT expects to add approximately 5,000 new commuter parking spaces in the Region by 2023. Some of the new lots may be provisioned to monitor lot occupancy using this procurement. Additionally, the

contract resulting from this RFP will contain a Cooperative Purchasing clause allowing local and regional public bodies to use the master agreement between VDOT and the selected Vendor as a contract vehicle for collecting real-time occupancy or occupancy-status data at additional parking lots (see Section 1.J, "Cooperative Purchasing," for additional details).

If there are limitations, restrictions, or constraints on which lots the Offeror's DCT(s) may be applied to, then the Offeror should clearly state the nature and conditions of the limitations in the proposal. This includes exclusions or exceptions for specific lots, as well as categories or features of lots.

D. Data Needs

The goal of Smart Parking Insight is to provide parking data to public agencies and third party providers who disseminate information to travelers for near-term and safe en-route trip planning. The data should be actionable, current, and reliable. Thus, the most critical data the Offeror shall provide (regardless of the type of solution) is data on the current status of parking availability for each lot according to the following classifications:

- Full
- Limited
- Available
- Highly Available

The thresholds for the lot statuses will vary from lot to lot and will be agreed upon between VDOT and the Offeror. One example is illustrated in Table 5.

The validation process will be based on accuracy and timeliness of status transitions; it is not based on direct validation of parking occupancy counts. The motivation for this approach is that some innovative data-collection methods may not produce an exact occupancy count. The percentages stated in the list above for status transitions are only general guidelines. The thresholds between status classifications may vary from lot to lot and will be refined in coordination with the Offeror as lots are provisioned. Only general parking spaces should be considered when classifying the lot status. Americans with Disabilities Act (ADA) spaces and other special purpose spaces (e.g. electrical vehicle charging spaces, bicycle parking, etc.) should not be included in calculations when determining status classification.

Table 5: Data Needs

Lot Status Classification	Example Threshold
Full	95% of all spaces are currently taken
Limited	between 95% and 85% of all spaces are currently taken
Available	between 85% and 50% of all spaces are currently taken
Highly Available	Less than 50% of all spaces are currently taken

The occupancy status classifications of "Full," "Limited," and "Available" will be reported to the traveling public and the final determination of the exact threshold for each lot will be based on traveler expectations and the usage characteristics for each lot. The status "Highly Available" will not be reported to the traveling public and is an artificial construction to help with the validation process. Due to impacts from COVID-19, many lots do not currently achieve "Limited" or "Full" statuses. Under these conditions, it will be impossible to validate reported status in a meaningful way since lots are likely to always be "Available." The threshold between "Highly Available" and "Available" will be set for each lot at a level such that transitions between the two statuses will happen regularly. The validation process will confirm whether these transitions are detected accurately and in a timely manner. Adjustments to the thresholds may subsequently be made, as deemed appropriate by VDOT.

VDOT expects that infrastructure-light DCTs will provide counts of currently available spaces, but validation (and payment bonuses or payment reductions) will be based solely on lot occupancy status.

The Offeror is encouraged to propose solutions which provide additional information. The additional information may be considered as differentiating factors among front-running proposals. Some examples of additional data that would provide value are:

- Additional data elements such as space count data and ADA parking space availability
- Information on lot closures
- Typical availability profiles
- Predictive lot status data
- Analytics useful in planning or advanced operations

Accuracy and timeliness are extremely important to establish traveler confidence in the system. Accuracy is most important during the morning rush hour and will be primarily measured in that window. The Offeror shall meet data validation requirements (see below) during the morning rush hour (Mon-Fri, 5AM – 10AM, excluding federal holidays). All data validation exercises will be conducted during morning rush hours. If COVID-19 or other major disruptions continue to impact travel patterns, then it may be necessary to modify the definition of the morning rush hour.

E. Commencement of Monthly Subscription Payments

Monthly subscription payments to Offeror will be activated on a per-lot basis. Payments for a particular lot will only begin once the conditions for commencement have been satisfied. The commencement process will be as follows:

- Offeror notifies VDOT in writing or via an agreed-upon electronic process that the data is flowing for a particular lot.
- Offeror satisfies the Data Availability SLA (see Appendix E) for three consecutive days. Offeror is responsible for providing the information to verify delivery of data.
- VDOT examines the information provided and notifies Offeror in writing or via an agreed-upon electronic process that the given lot is in an active subscription status and subject to monthly payments.
- The official date of payment commencement will be the first of the three consecutive days that the Data Availability SLA is satisfied.

Once a lot is in an active subscription status, the Data Validation process (described in Section F below) will begin. In addition, the terms of the Data Availability SLA will be in effect as soon as the subscription status is active.

F. Data Validation

The Smart Parking Insight data will be validated by independent parties working under a separate procurement (see Section 1). The Offeror is required to cooperate with the validation process.

The most critical information for the traveling public is timely and accurate information about when the lot occupancy status changes during the morning rush hour. The validation process will measure the timeliness and accuracy of status transition reports during the morning rush hour.

The following events are used to calculate data validity:

- Observed Status Change Time – This is the time that the lot status changes on the ground. For example, if a lot has 100 spaces, then the Observed Status Change Time for the Nearly Full to Full transition is the time when the 96th vehicle pulls into the lot.
- Reported Status Change Time –This is the time that the VDOT data processing system receives notice that the status of a lot has changed. For example, assume that the data provider updates status information on five-minute intervals. If the provider detects a status change at 7:52AM and delivers notice of that status change to VDOT at 7:55AM, then the Reported Status Change Time is 7:55AM. Any latency or delay in the provider's reporting processes will count towards validation measurements.

The key measurement for validation is the difference between the Observed Status Change Time and the Reported Status Change Time. The validation process will use the average of differences across all status transitions during the validation process. In a typical morning rush hour, there will be two or three status transitions. If a transition is not reported at all or reports the wrong status, then it will count as a two-hour difference for the purposes of calculating an average.

The validation process will measure the accuracy of Offeror's data by sampling a small number of days spread over a two-week period. The process will calculate the average difference between the

Observed Status Change Time and the Reported Status Change Time across all samples, and this difference will establish a Compliance Category for the parking lot. Each parking lot will be validated independently, and the resulting Compliance Category applies only to that lot. Offeror may have different parking lots in different Compliance Categories.

A parking lot will be validated within 30 days of the commencement of data-collection. The lot will be revalidated periodically and the interval between validations will depend on its Compliance Category.

The payment due to Offeror will depend on a lot's Compliance Category. Payment bonuses or payment reductions may apply, and any payment reductions shall be referred to as the "Data Quality Standard Disincentive" and shall be considered forfeited to VDOT.

Table 6 shows the Compliance Categories and additional detail:

Table 6: Compliance Categories

Average Difference Between Observed and Reported Status Change Times	Compliance Category	Change in Offeror Payments	Eligible for Revalidation
Less than two minutes	Exceptional	+10%	8 months
Between two and five minutes	Compliant	0%	6 months
Between five and ten minutes	Substandard	-10%	3 months
Between ten and twenty minutes	Unsatisfactory	-25%	2 months
Between twenty and thirty minutes	Unacceptable	-50%	1 months
Greater than thirty minutes	Failing	-100%	1 month

- *Average Difference between Observed and Reported Status Change Times:* This is the result of the validation process and is used to determine a lot's Compliance Category.
- *Compliance Category:* Name of the category.
- *Change in Offeror Payments:* This is a percentage applied to the base price provided by Offeror and determines the payment due Offeror. The change in payment takes effect at the next regularly scheduled monthly payment and remains in effect until the next revalidation for that lot. All changes to payments are calculated as a percentage of the base price listed in the contract pricing schedule.
- *Eligible for Revalidation:* VDOT's strategy is to prioritize and assign validation resources on lots with the lowest Compliance Categories, and this column indicates the target intervals for revalidation. Revalidation is, however, at VDOT's discretion and may occur less frequently than indicated in Table 6.

The following guidelines will apply to the process for validating data and determining payments to Offeror:

- Newly provisioned lots will be paid at the base price specified in Offeror's proposal until the initial validation is complete.
- Once a Compliance Category is established for a lot, the lot will be paid at that level until a new category is determined.
- When a Compliance Category changes, the associated change in payment will take effect at the next regularly scheduled monthly payment.

If there are insufficient status change events observed during a validation process, then VDOT reserves the right to complete the validation process by conducting a Data Review. During a Data Review, the Offeror will be required to provide the data collected to VDOT's independent validation contractor and explain what would have had to be observed in the data to identify a status change. If VDOT's

independent validator is satisfied with the Data Review, then the lot will be assigned the Compliant category. If the independent validator is not satisfied, then the lot will be assigned the Substandard category. If a Data Review is triggered, then it indicates that the Highly Available threshold is not correctly set for the lot. Immediately following each Data Review VDOT will work with both Offeror and the independent validator to revise the Highly Available threshold appropriately.

If a lot remains in the Failing category for three months or in the Unacceptable category for six months, then VDOT has the right to remove that lot from Offeror's contract and Offeror will be required to promptly remove all equipment from that lot.

VDOT shall also have the right to terminate Offeror's contract entirely if either of the following conditions occur:

- 30% of the lots provisioned by Offeror are in the Failing category for a cumulative total of nine months (not necessarily at the same time).
- 50% of the lots provisioned by Offeror are in the Failing category for a cumulative total of six months (not necessarily at the same time).

Should VDOT terminate the contract, then:

- Offeror will be required to promptly remove all equipment from all lots and restore the lots to their pre-installation conditions at Offeror's expense.
- VDOT will be entitled to collect additional damages equal to the monthly payments for all Failing lots for each month in the Failing state in the last year plus any additional costs or losses incurred by VDOT due to Offeror's failure to deliver.

This section describes payment reductions associated with data quality. There may also be additional payment reductions based on data availability. Reductions for failures in data availability are described in Appendix E – Service Level Agreements. Reductions for data quality and data availability may both apply to the same lot at the same time.

While VDOT will validate the data and notify the Offeror of results via an agreed-upon electronic process, the Offeror is responsible for data quality. The Offeror should use automatic and manual processes to monitor and validate data and take corrective actions swiftly when issues are identified. The Offeror is responsible for self-detection and correction of performance problems**.** The Offeror's proposal should describe their approach to self-detection of data problems.

VDOT recognizes that different data-collection approaches may yield different levels of accuracy and may have very different cost models. It is possible that a small reduction in accuracy leads to a major cost savings. Offeror may propose a different structure for data accuracy bonuses and reductions, but should be mindful of the fact that if the data is not accurate enough to win the confidence of the traveling public then it is of marginal utility to VDOT.

If Offeror is interested in commercializing the data, VDOT is open to discussions about allowing Offeror to promote the data as having been validated by VDOT. This interest in commercialization should be articulated and described in the proposal. The exact terms and conditions will be defined through negotiations.

G. Data Availability

Data availability means that Offeror always delivers data to VDOT. If the delivery process is based on periodic data pushes at regular intervals, then it means that new data arrives every period. If the delivery process is event based, then it means there is always a valid and active connection from Offeror's system to the DEP. Data availability is independent of data quality.

If the Offeror fails to deliver data to VDOT due to equipment failure, network failure, processing errors, software malfunction, cloud service failure, or any other issue, then payments to Offeror may be reduced. The details of this process are described in Appendix E – Service Level Agreements. Offeror will not be penalized for any delivery failures which are the result of VDOT's network or data-receiving processes or acts of God.

The expectations for data availability are as follows:

- Data is available 99.99% of the time during the morning rush hour (5:00AM – 10:00 AM M-F).
- Data is available 99.5% of the time during other hours.

Offeror is responsible for reporting data availability metrics monthly and supplying VDOT with supporting data if requested.

H. Data-Collection Approach

Offeror's proposal should include a clear and concise description of the data-collection process for each DCT included in the proposal. If the process includes infrastructure then the proposal should include a general, high-level design for the infrastructure that clearly indicates what type of infrastructure will be used and how data is gathered from detection devices. If the process depends on external data sources, such as crowdsourced data, then the proposal should describe how those data will be acquired and calibrated. If the crowdsource solution depends on active participation of lot users, then the proposal should describe how users will be identified, and recruited, how user data will be protected, and how data will be gathered outside rush hours. The Offeror is responsible for any data sources necessary to its solution.

The proposal should clearly state whether each proposed DCT is an infrastructure-light or an infrastructure-free solution. **If Offeror proposes more than one DCT, then the proposal should include a table clearly identifying which approach is proposed for each lot in the inventory. Both the Proposed Rollout Plan (Tab 4) and Pricing Proposal (Tab 11) should indicate which DCT is recommended for each priority lot identified in the first tab of the Parking Lot Inventory (Appendix B).** The pricing for each lot should be based on the recommended DCT. Changing a lot from the recommended DCT to another DCT will only be allowed if lot characteristics change or if the given information about a lot is shown to be incorrect.

The proposal should clearly describe any limitations on each DCT. If geography, technical constraints, communications infrastructure constraints, etc. limit the applicability of a DCT, then clearly state that in the proposal. VDOT is not necessarily looking for a "one-size-fits-all" DCT, and a DCT which excels under specific conditions may be appealing.

I. Infrastructure Dependent Approaches

VDOT strongly desires to minimize infrastructure necessary for this project. However, VDOT understands that some infrastructure may be needed in some cases. The contract is considered a "turnkey" contract and the Offeror is responsible for all aspects of any necessary infrastructure improvements including planning, survey, design, permitting, installation, operations and maintenance. The Offeror shall be responsible for providing all necessary labor, equipment, materials, supplies and vehicles required for this contract. The Offeror shall also provide all coordinating efforts for utility marking, lot closures, development, and implementation of traffic control plans (TCP) prior to work crews arriving on site, obtaining necessary permits, and coordinating law enforcement support where needed.

Offeror is responsible for providing power and communications for all infrastructure; VDOT will not allow Offeror's devices to be powered using existing VDOT electrical service. Offerors are strongly encouraged to use reliable, renewable energy for infrastructure-light solutions.

Prior to installing any infrastructure, the Offeror shall submit detailed PE-stamped designs and other required documentations by following VDOT's land use permit and other non-VDOT lot owner's permitting and/or other business process for approval. The Offeror shall maintain, repair, and replace components for the life of the contract as necessary to maintain data quality, safety, and reliable operations. The Offeror shall be responsible for warranty, contract maintenance, and lifecycle replacement for all equipment in accordance with the contract.

All infrastructure work should be compliant with relevant VDOT policies and Federal and Virginia laws and rules as well as any laws, rules and terms of agreement applicable to locally owned lots. All designs should be reviewed, approved and stamped by a Professional Engineer licensed and in good standing in the Commonwealth of Virginia. Relevant policies and standards include:

- VDOT Roads and Bridge standards:

http://www.vdot.virginia.gov/business/locdes/Standards_CompleteSections.asp
- VDOT Work Area Protection Manual and work zone safety guidance. http://www.virginiadot.org/business/trafficeng-WZS.asp
- VDOT Specifications for non-intrusive detection (section 805) http://www.virginiadot.org/business/resources/const/VDOT_2020_RB_Specs.pdf
- VDOT Guidelines to AASHTO Standard Specifications for Structural Supports for Highway Signs, Luminaires, and Traffic Signals, 6th Addition (IIM-S&B-90.2/IIM-TE-382.1) https://www.virginiadot.org/business/resources/IIM/TE-382_AASHTO_Standard_Specifications.pdf

J. Data License

The data license VDOT requires is very broad and essentially allows VDOT to keep the data indefinitely and use it for almost any purpose. VDOT does not, however, require full ownership of the data and Offeror may propose to commercialize the data for other purposes and for other clients so that the savings can be reflected in Offeror's pricing proposal.

VDOT and all public agency members of the RM3P coalition shall have nonexclusive, perpetual rights to:

- Store, archive, or persist the data in raw or modified form.
- Distribute the data and derivative works to the general public through traveler information outlets including dynamic message signs, in-vehicle messaging, and mobile apps and websites.
- Use the data for transportation planning and analysis.
- Share the data with staff members, subcontractors, and designated representatives for technical development and transportation planning, operations and analysis.

The Offeror may propose limitations on the VDOT license to protect the commercial value of the data. Any such restrictions, however, may not impede the use of the data for VDOT's mission and will impact the proposal's evaluation score. VDOT is committed to redistributing the parking data including to other commercial entities.

K. Data Formatting and Delivery

VDOT is flexible about the acceptable data formats and delivery mechanisms that are machine readable and can do a reasonable amount of development and/or integration work on the receiving end. Offeror's proposal should describe the intended data format and delivery/notification process. Industry standard data formats are preferred and encouraged, and the delivery mechanism should be a modern, state-of-the-practice process.

The following guidance on best practices for data interfaces was provided by the DEP vendor (Center for Advanced Transportation Technology Lab) and the Offeror should make every effort to conform to it and avoid using undesirable data feeds and data formats. Offeror's degree of conformance with these practices will affect the proposal score.

Data Transfers:

All data should be provided in a web service that minimizes the latency between when data is collected/available and when it can be provided in the feed. This usually means providing data asynchronously in real-time as data changes, as opposed to some set interval (i.e., every X-minutes regardless of whether a change occurs or not). The exact type of web service or data standard is not important; however, the data should be shared in its native format and not be translated or otherwise aggregated.

Examples of acceptable data feeds and/or transmission methods include: SOAP, REST, custom APIs, database replication services, Kafka, or Java Messaging Services. Transmission methods that severely impede the ability to integrate data in real time include: RSS, GeoRSS, SFTP, and FTP. These methods are generally not sufficient.

Examples of acceptable data formats include: XML, JSON, and CSV (or other character delimited formats). Formats that severely impede the ability to integrate data in real time include: documents (PDF, PPT, etc.), images (e.g. JPG, PNG, etc.), binary files, or proprietary formats (e.g. MDB, 4DD, etc.).

Key Points on Data Transfers:

- Transmit data using web services and APIs that minimize latency.
- Avoid outdated transmission methods not intended for automated real-time data exchange (FTP).
- Use common industry standard data transmission formats (e.g., XML and JSON).
- Avoid non machine-readable data formats or proprietary data formats (e.g., images, PDF, etc.).

Documentation:

Data feeds should be well documented. Regardless of the selected transmission method or data format, documentation that defines data format and transmission method should be made available to VDOT. Ideally, feeds should be documented in the form of validation-ready documentation (e.g., XSD for XML format, JSON Schema for JSON format, WSDL for web service definition, etc.) that can be used to automate development and validation of incoming data. While not as effective, Interface Control Documents (ICDs) are also helpful in understanding feed and data definitions.

Key Points on Documentation:

- Data feeds and data formats should be documented using industry standard methods.

Required and Optional Elements:

Required data elements are shown in Table 7.

Table 7: Required Data Elements

Name	Value	Description
ID	Shown in the first tab of Appendix B	Unique identifier for the given lot
Timestamp	Standard format timestamp	Time that data was captured
Availability	Enumeration: “full”, “limited”, “available”, “highly available”	Current availability status

Optional data elements may include:

- Number of occupied spaces
- Number of free spaces
- Percent occupancy
- Occupancy information by level or type of space
- Lot status (e.g., lot is closed for the season, or lot closed for repairs, etc.)

L. Rollout Approach

VDOT prefers an incremental approach to deployment in furtherance of the following VDOT goals:

- It provides service to the traveling public as soon as possible, rather than waiting until the entire system is ready.
- Sometimes innovative solutions to problems prove inadequate once deployed to the field. An incremental approach gives both the Offeror and VDOT an opportunity to verify that the approach is viable or to make necessary adjustments prior to making the full investment.

The Offeror’s proposal should include a plan outline for a phased rollout of their DCT(s). The plan should specify the proposed number of lots for each phase and specific lot characteristics or geographic locations which should be included or excluded in each phase. VDOT recognizes that determining the optimal number of lots for each phase is a balancing act. Having many phases with few lots in each phase can be inefficient, whereas having few phases with many lots in each phase increases risk and could potentially delay delivery of incremental results. The Offeror should propose a rollout plan which is the “best fit” for its approach.

At each phase, Offeror shall demonstrate that all lots included in the phase are delivering data consistent with VDOT requirements using data validation processes described above, prior to advancing to the next phase.

M. Added-Value Features

The Offeror is free to describe additional data or services which their solution provides beyond those described in this scope. Such features may be used to differentiate between front-running proposals. Some examples of additional data and services providing extra value are:

- Additional data elements, such as space count data and ADA parking space availability.
- Information on lot closures.
- Typical availability profiles.
- Predictive lot status data.
- Analytics useful in planning or advanced operations.

N. Additional Parameters

- **Radio/Wireless Interference of Agencies' Systems:** The Vendors' on-site technology shall not interfere with VDOT's and lot owner agencies' systems at or near the lots (e.g., GE LightGrid or similar light control system communications, nearby intersection signal operations, or nearby ITS and CAV operations). Vendors shall include in their proposals the bench testing plan for confirming that the proposed technology will not cause radio frequency interference.
- **Lighting:** The Vendor's on-site technology and activity shall not adversely impact nighttime lighting in the parking lots. If the Vendor absolutely cannot avoid impacting nighttime lighting, the Vendor will be responsible for notifying VDOT and the responsible lot-owner agency, proposing a suitable mitigation strategy, obtaining advanced approval, and restoring existing lighting within the approved timeframe. The Vendor shall ensure that no more than two adjacent lights are inoperational at any one time at night unless approved otherwise by the lot-owner agency, and if necessary shall install temporary lighting to maintain that minimum illumination service level.

GLOSSARY

Acronym	Definition/Full Description
ADA	Americans with Disabilities Act
AI-DSS	Artificial Intelligence-Based Decision Support System
API	Application Programming Interface
ASD	Administrative Services Division
ATCMTD	Advanced Transportation and Congestion Management Technologies Deployment
CFR	Code of Federal Regulations
CPIS	Commuter Parking Information System
CSV	Comma-Separated Values
DaaS	Data-as-a-Service
DBE	Disadvantaged Business Enterprise
DCT	Data Collection Technique
DEP	Data-Exchange Platform
DGS	Department of General Services
DI	Dynamic Incentivization
DPS	Division of Purchases and Supply
DRPT	Department of Rail and Public Transportation
DSBSD	Department of Small Business and Supplier Diversity
ECOS	Enterprise Cloud Oversight Service
EOI	Expression of Interest
FAMPO	Fredericksburg Area Metropolitan Planning Organization
FHWA	Federal Highway Administration
FTP	File Transfer Protocol
HOV	High-Occupancy Vehicle
ICD	Interface Control Document
IFB	Invitation for Bid
IT	Information Technology
ITTF	Innovation and Technology Transportation Funds
JSON	JavaScript Object Notation
LEP	Limited English Proficiency
MDV	Multilateral Development Bank
MMAP	Multi-Modal Analytical Planner
NoVA	Northern Virginia
NTP	Notice-to-Proceed
NVTA	Northern Virginia Transportation Authority
N/A	Not Applicable
PDF	Portable Document Format
PM	Project Manager
P&R	Park-and-Ride
QA/QC	Quality Assurance/Quality Control
REST	Representational State Transfer
RFP	Request for Proposal
RM3P	Regional Multi-Modal Mobility Program
RSS	Really Simple Syndication
SaaS	Software-as-a-Service
SAM	System for Award Management
SCC	State Corporation Commission
SFTP	Secure File Transfer Protocol
SLA	Service Level Agreements
SOAP	Simple Object Access Protocol

Acronym	Definition/Full Description
SP Insight	Smart Parking Insight
SPOC	Single Point of Contact
SWaM	Small, Women-owned, and Minority-owned Business
TCP	Traffic Control Plans
TOC	Transportation Operations Center
USDOT	United States Department of Transportation
VDOT	Virginia Department of Transportation
VITA	Virginia Information Technologies Agency
VPPA	Virginia Public Procurement Act
VRE	Virginia Railway Express
VSP	Virginia State Police
WBS	Work Breakdown Structure
WMATA	Washington Metropolitan Area Transit Authority
XML	Extensible Markup Language
4DD	4th Dimension Data File