

Government of the District of Columbia
Department of Transportation



d. Office of Contracting and Procurement

**DISTRICT ARCHITECT AND ENGINEER (“A/E”) SCHEDULE
TASK ORDER (“TO”) SOLICITATION**

Date: 01/11/2022

Category of Services: Category J – Transportation
Research and Technology Transfer

Title: Request for Qualifications (“RFQ”) for
Roadmap for Agency-wide approach to Automated
Image Processing

Solicitation No.: OCPTO210069

1. BACKGROUND

DDOT frequently uses camera imagery (e.g., panoramic street-level photography, time-lapse cameras, closed-circuit television (CCTV) cameras) to better understand traveler behavior and existing configuration and condition of the roadway and associated infrastructure. This imagery can provide insight into:

- Existing patterns or conditions for future planning or design
- Real-time conditions for operational decision making
- Impacts of a change in condition (i.e., before-and-after analyses)

To date, much of the processing of this imagery has been done manually, which often proves costly and inefficient, thereby limiting the degree to which DDOT is able to use camera imagery.

Recent advances in artificial intelligence and machine learning have the potential to speed up and improve processes for analyzing camera imagery. DDOT staff have engaged with vendors to explore some of these possibilities on a limited scale, but have recognized the need for a consistent, agency-wide approach to ensure quality of analysis, maximize utility across divisions, and minimize any duplication of effort.

DDOT is seeking a consultant to develop a roadmap for a DDOT-wide approach to automated image processing that will ultimately enhance DDOT’s ability to assess traveler behavior and roadway conditions for planning, design, and operations. The primary tasks for the consultant are to assess use cases and needs, perform market research, identify existing

gaps in supportive technologies and processes, and provide comprehensive recommendations for standing up an automated image processing program.

2. TASK ORDER COMPETITION

The District is soliciting qualifications from three (3) firms awarded an A/E schedule containing Category J – Transportation Research and Technology Transfer including the provisions of the A/E contract. One Firm-Fixed-Priced TO award is anticipated.

The three firms are:

- CDM Smith Inc.
- Daniel Consultants, Inc.
- Precision Systems, Inc.

3. APPLICABLE DOCUMENTS

- DDOT Vision Zero Initiative: <https://ddot.dc.gov/page/vision-zero-initiative> and <http://www.dcvisionzero.com/>
- Dey, Soumya et al. “Hunt for Perfect Detection of Parking Occupancy: Evaluation of On-Street Technology and Its Ability to Address Urban Challenges” *Transportation Research Record: Journal of the Transportation Research Board*, No. 2645, 2017, pp. 12–23. Link from: https://www.parkdc.com/pages/resources#research_papers

4. KEY PERSONNEL REQUIREMENTS

- Project manager with at least ten years of experience in needs assessment and roadmap development for transportation agencies
- Image processing specialist with at least five years of experience in research and practical application of automated image processing for use in planning, design, and operations within transportation agencies
- Policy and process analyst with at least eight years of experience in implementation of policies and processes to support technology implementation at transportation agencies

5. SCOPE OF WORK

Task 1. Project Management

The consultant shall prepare a project management plan (PMP) at the start of the project. The PMP shall be delivered to DDOT for review prior to the kick-off meeting and shall be revised to reflect DDOT comments. Information included in the PMP shall be as follows:

- Project description and objectives
- Project team organization chart and contact information
- Project communication procedures
- Project budget and performance control
- Scope of work

- Deliverables
- Project schedule (to be developed based on mutual agreement with DDOT)
- Quality Assurance and Quality Check procedures
- Change management
- Risk management procedures

The consultant shall schedule a kick-off meeting with DDOT upon receiving notice to proceed (NTP). The meeting shall enable DDOT to alert the project team to new developments and shall enable the project team to ask questions about DDOT preferences. The meeting shall also be a time for DDOT to request changes to the draft project management plan.

The consultant shall prepare a progress report to accompany monthly invoices. The progress reports shall alert DDOT to events that threaten to adversely affect cost or schedule. In addition, the progress reports shall remind DDOT of any actions required of DDOT in order to keep the project on target.

Deliverables:

- Kick-off meeting with DDOT
- Draft project management plan
- Final project management plan
- Monthly progress reports

Task 2. Use Case Assessment

The consultant shall assess use cases and needs for automated image processing. Potential use cases include, but are not be limited to:

- Parking occupancy detection
- Vehicle, freight, cyclist, pedestrian counts and turning movements
- Collision and near miss detection
- Pavement and sidewalk condition
- Lane and signal configuration
- Sign and pole inventory

The consultant shall investigate and document:

- All existing inventory
 - Hardware
 - Supportive physical infrastructure (e.g., cabling, equipment, and housing for power and telecommunications)
 - Software (e.g., for telecommunications and data processing)
 - Services
- All past, current, and planned applications and use cases
 - Purpose (e.g., intended outcome and value to agency)
 - Supportive policies and processes (e.g., for installation, data processing, data storage, maintenance)
 - Roles and responsibilities
 - Limitations, challenges, and lessons learned

- Other agency needs that existing or future image processing technologies may be able to address, with an emphasis on near-term, practical applications

The consultant shall gather this information via individual stakeholder interviews and on-site inspection, if necessary. Up to six stakeholder interviews are anticipated with staff from a variety of DDOT divisions. The consultant shall share the findings from this investigation with all stakeholders during a stakeholder workshop. The workshop shall include both a formal presentation of findings and a dedicated discussion period, facilitated by the consultant, to ensure findings accurately reflect stakeholder experiences and needs.

Investigation and documentation shall encompass both manual and automated image processing. Imagery sources include, but may not be limited to:

- Panoramic street-level photography
- Time-lapse cameras
- CCTV cameras

Deliverables:

- Stakeholder interviews (up to six)
- Stakeholder workshop

Task 3. Market Research

Based on the findings from the use case assessment, the consultant shall perform market research on existing automated image processing technologies that DDOT could leverage in the near-term. The consultant shall obtain input and approval from DDOT on the scope of the market research prior to proceeding with market research; this scoping effort will inform activities in all following tasks.

Market research shall consider the following:

- Description of the technology
- Type of hardware, software, and/or services provided
- Intended use case
- Technology maturity
- Validation and verification performed to date
- Applicability to DDOT needs
- Supportive physical infrastructure requirements
- Supportive policies and processes requirements
- Approximate cost to implement
- Approximate time to implement
- Examples of similar applications in comparable jurisdictions

Deliverables:

- Summary memorandum of market research findings

Task 4. Gap Analysis

The consultant shall review the findings from the use case assessment and market research to assess gaps in hardware, supportive physical infrastructure, software, services, and supportive policies and processes required to implement applications of automated image processing technologies. The gap analysis shall reflect both deficiencies in existing applications at DDOT and requirements for potential future applications. The analysis should especially consider gaps that impact quality of analysis, utility across divisions, and consolidation of effort.

Deliverables:

- Summary memorandum of gap analysis findings

Task 5. Roadmap

Based on findings in previous tasks, the consultant shall develop a roadmap that provides comprehensive recommendations for standing up a consolidated, agency-wide program that can effectively and efficiently support automated image processing needs. The roadmap shall present an overall vision for the program, including:

- Applications and use cases
- Owned assets (i.e., hardware, supportive physical infrastructure, software)
- Contracted services
- Supportive policies and processes
- Roles and responsibilities

The roadmap shall then identify near-term, practical actions that DDOT can take toward implementation of the vision. Each recommended action shall include:

- Description of the action
- Relevant use case(s)
- Relevant technology(ies)
- Relevant gap(s) addressed
- Quantified benefit
- Estimated cost and level of effort
- Roles and responsibilities for implementation
- Risks
- Any preceding actions required

The roadmap shall also summarize findings from the use case assessment, market research, and gap analysis (based on the presentation prepared for Task 2 and the memoranda prepared for Tasks 3 and 4).

The consultant shall schedule a meeting to review the content of the roadmap with DDOT prior to finalizing the document.

Deliverables:

- Draft roadmap
- Final roadmap

6. DELIVERABLES

Task	Deliverable	Quantity	Due Date after NTP
1	Draft project management plan	1	2 weeks
1	Kick-off meeting	1	2 weeks
1	Final project management plan	1	4 weeks
1	Progress report	12	Monthly with invoice
2	Stakeholder interviews	6	8 weeks
2	Stakeholder workshop	1	12 weeks
3	Summary memorandum of market research findings	1	20 weeks
4	Summary memorandum of gap analysis findings	1	28 weeks
5	Draft roadmap	1	44 weeks
5	Final roadmap	1	50 weeks

7. PERIOD OF PERFORMANCE

12 months from award of task order

8. SUBCONTRACTING REQUIREMENTS

1. Unless the Director of the Department of Small and Local Business Development (DSLBD) has approved a waiver in writing, for all contracts in excess of \$250,000, at least 35% of the dollar volume of the contract shall be subcontracted to qualified small business enterprises (SBEs).
2. If there are insufficient SBEs to completely fulfill the requirement of paragraph (a)(1), then the subcontracting may be satisfied by subcontracting 35% of the dollar volume to any qualified certified business enterprises (CBEs); provided, however, that all reasonable efforts shall be made to ensure that SBEs are significant participants in the overall subcontracting work.
3. A prime contractor that is certified by DSLBD as a small, local or disadvantaged business enterprise shall not be required to comply with the provisions of sections (a)(1) and (a)(2) of this clause.

4. Except as provided in (a)(5) and (a)(7), a prime contractor that is a CBE and has been granted a bid preference pursuant to D.C. Official Code § 2-218.43, or is selected through a set-aside program, shall perform at least 35% of the contracting effort with its own organization and resources and, if it subcontracts, 35% of the subcontracting effort shall be with CBEs. A CBE prime contractor that performs less than 35% of the contracting effort shall be subject to enforcement actions under D.C. Official Code § 2-218.63.
5. A prime contractor that is a certified joint venture and has been granted a bid preference pursuant to D.C. Official Code § 2-218.43, or is selected through a set-aside program, shall perform at least 50% of the contracting effort with its own organization and resources and, if it subcontracts, 35% of the subcontracting effort shall be with CBEs. A certified joint venture prime contractor that performs less than 50% of the contracting effort shall be subject to enforcement actions under D.C. Official Code § 2-218.63.
6. Each CBE utilized to meet these subcontracting requirements shall perform at least 35% of its contracting effort with its own organization and resources.

A prime contractor that is a CBE and has been granted a bid preference pursuant to D.C. Official Code § 2-218.43, or is selected through a set-aside program, shall perform at least 50% of the on-site work with its own organization and resources if the contract is \$1 million or less

9. SPECIAL PROVISIONS RELATED TO THE COVID-19 EMERGENCY

The Contractor is required to comply with Mayor’s Order 2021-099, COVID-19 Vaccination Certification Requirement for District Government Employees, Contractors, Interns, and Grantees, dated August 10, 2021, and all substantially similar vaccine requirements including any modifications to this Order, unless and until they are rescinded or superseded. At the request of the District government, Contractors may be asked to provide certification of compliance with this requirement and/or documents and records in support of this certification.

(b)The Contractor is required to comply with City Administrator’s Order 2021-4, Resumption of Requirement for All Persons to Wear a Mask Inside District Government Buildings and While on Duty as a District Government Employee or Contractor, dated July 30, 2021, and all substantially similar mask requirements including any modifications to this Order, unless and until they are rescinded or superseded.

10. INSTRUCTIONS TO OFFERORS

10.1 Qualification Due Date

- Qualifications are due on or before 2:00 PM on February 08, 2022.

10.1.1 Submissions are subject to the following limitations:

10.1.1.1 SF 330, Section D, shall include key staff and the role as proposed for the project. Please provide general availability for the project during the contract period.

10.1.1.2 SF 330, Section F, shall not exceed 7 projects that are similar in scope and scale. Each project shall present the actual work details that were performed by key staff in the proposed team organization.

10.1.1.3 SF 330, Section H, shall not exceed 50 pages.

10.1.3 Offerors shall submit qualifications on the Standard Form 330 to include all parts and sections via email and Jeralyn.johnson@dc.gov. Inclusion of other materials by reference will not be considered.

10.2 Organization and Content

10.2.1 Section H of the SF 330 shall provide information regarding the following topics. The information should demonstrate an understanding of the requirement or expound upon the experience and qualifications presented in the context of the requested information. The answers provided will be evaluated as a part of the qualifications in accordance with the evaluation criteria in Section 10 of this TO RFQ.

10.2.2 Describe your understanding of the project's research complexities, and your experience and qualifications in overcoming the type of complexities identified.

10.2.3 Identify three important issues that represent significant potential risks to successful performance and describe your experience and qualifications in overcoming the type of issues and risks identified.

10.2.4 Provide qualifications and experience regarding implementing best practices and strategies for the stated scope of work, including:

10.2.4.1 Automated image processing;

10.2.4.2 Communication between stakeholders;

10.2.4.3 Experience utilizing QA/QC processes and their ability to ensure contract compliance; and

10.2.4.4 Identification, management and mitigation of project risks.

10.2.6 Provide relevant information regarding Factor 4 - Past Performance. Offerors should note that Factor 4 relates to the administration of the experience with regards to cost control, quality of work, and compliance with performance schedules.

11. EVALUATION OF QUALIFICATIONS

Your submission is an opportunity to present your firm's qualifications to perform the work. It is important that your qualifications highlight your firm's capabilities as it relates to the SOW and the evaluation criteria. The evaluation factors and their relative importance for this requirement are as follows:

1. Professional qualifications necessary for satisfactory performance of required services; (30 Points)
2. Specialized experience and technical competence in the type of work required; (40 Points)
3. Capacity to accomplish the work in the required time; (20 Points) and
4. Past performance on contracts with Government agencies and private industry in terms of cost control, quality of work, and compliance with performance schedules. (10 Points)

In addition to each offeror's response to Factor 4- Past Performance, the District may utilize additional Past Performance sources to include:

- District eVAL
- Publicly available information

Offerors are advised to pay close attention to the evaluation criteria, and ensure they address all aspects in their qualifications. The District will evaluate qualifications in accordance with this solicitation, and only consider information received in accordance with this solicitation.

Total Possible Points: 100

12. SCORING METHODOLOGY

The Evaluation Board will review the submittals with reference to the evaluation factors specified in Section 10 in accordance with the rating scale provided in this Section and will assign a quantitative rating for each of the evaluation factors.

<u>Numeric Rating</u>	<u>Adjective</u>	<u>Description</u>
0	Unacceptable	Fails to meet minimum requirements; e.g., no demonstrated capacity Proposer did not address the factor.
1	Poor	Marginally meets the minimum requirements; major deficiencies are present.
2	Minimally Acceptable	Marginally meets minimum requirements; minor deficiencies are present.
3	Acceptable	Meets requirements; no deficiencies.
4	Good	Meets requirements and exceeds some requirements; no deficiencies.
5	Excellent	Exceeds most, if not all requirements; no deficiencies.

The rating scale is a weighting mechanism that will be applied to the point value for each evaluation factor to determine the Offeror's score for each factor. The Offeror's total score will be determined by adding the Offeror's score in each evaluation factor. For example, if an evaluation factor has a point value range of zero (0) to fifty (50) points, using the Rating Scale above, if the District evaluates the Proposer's response as "Good," then the score for that evaluation factor is 4/5 of 50, or 40 points.

13. CONTRACTING OFFICER'S REPRESENTATIVE (CA)

Name: James Graham

Title: GIS Manager

Agency: District Department of Transportation

Address: 250 M Street, SE Washington, DC 20003

Telephone: 202-553-8374

14. RECEIPT OF QUESTIONS

All questions must be submitted via email to the Contracting Officer, Ms. Jeralyn Johnson, at jeralyn.johnson@dc.gov. DDOT will not consider any questions received less than seven (7) calendar days before the date set for submission of Standard Form 330.

Sincerely,

Jeralyn Johnson

Contracting Officer - DDOT