

**CITY OF RICHMOND
DEPARTMENT OF PROCUREMENT SERVICES
RICHMOND, VIRGINIA
(804) 646-5716
May 19, 2021**



Request for Information No. 210014898
for
SMART CITY INFRASTRUCTURE
Due Date: July 16, 2021
Time: 3:30P.M.

DELIVERY OF RESPONSES

By Mail:

City of Richmond
Procurement Department, 11th floor
Attn: Lesley R. Brown
900 East Broad Street
Richmond, VA 23221

Hand-delivery:

Documents will be accepted only at the 9th Street entrance to City Hall during the hours of 9:00am to 3:00pm Monday through Friday.

Electronic:

Email to Lesley.brown@richmondgov.com and enter "RFI No. 210014898" in the subject line.

Request for Information Prepared by:

Name: Lesley R. Brown
Title: Contracting Officer
Telephone (804) 646-5722 Fax (804) 646-5989
Email: Lesley.brown@richmondgov.com
Department of Procurement Services
<https://www.rva.gov/procurement-services/request-information-listing>

1.0 **Introduction.**

1.1 **Purpose.** The City of Richmond, Virginia (“the City”), is issuing this Request for Information (RFI) to obtain information on products, services, and solutions that promote resiliency of the City’s vertical assets and infrastructure to support next generation Smart Cities initiatives.

1.2 **Objective.** The objective of issuing this RFI is to:

- a) Determine the level of market interest in providing smart city infrastructure;
- b) Obtain information on potential new smart city technologies or approaches;
- c) Obtain high-level cost estimates for planning and budget purposes; and

This RFI seeks to gather information from firms about the options for implementing a smart city infrastructure to assist the City in advancing its innovative vision for the City. The City anticipates that the benefits of a smart city infrastructure may include, but not be limited to, a decrease in energy usage achieved through saving utility costs and reducing carbon emissions, the creation of other cost-saving opportunities or opportunities to generate revenue, or both; the enhancement of the City as a community and regional destination; and direct and alternative connectivity options for the City’s networking needs, both present and in the future. Firms are encouraged to recommend creative options that will advance this vision for the City.

1.3 **Background.** The City of Richmond is the capital city of the Commonwealth of Virginia and is 62.5 square miles. It is the center of the Richmond Metropolitan Statistical Area (MSA) and the Greater Richmond Region. Richmond was incorporated in 1742 and has been an independent city since 1871. As of 2019, the city’s estimated population was 230,436.

Richmond’s Department of Public Utilities (DPU) streetlight division operates and maintains approximately 37,000 city-owned streetlights, five electric distribution subsystems, more than 350 miles of overhead and underground wiring, and thousands of various pole types. Richmond’s Department of Information Technology (DIT) is responsible for the City network, which provides connectivity between over 210 sites as well as mobile endpoints such as emergency vehicles, mobile command centers, and similar deployments.

The overarching vision for the City of Richmond is a sustainable, beautiful, welcoming, inclusive, diverse, innovative, and equitable city of thriving neighborhoods; ensuring a high quality of life for all. The City of Richmond continues to grow and look toward the future through strategic planning that incorporates measures from Richmond300 and RVAgreen2050.

- 2.0 **RFI Responses.** Interested parties are invited to submit responses to the requests for information set forth in this Section 2.0 (“RFI Responses”) in accordance with the requirements of Section 3.0 (“Response Contents”). Information that would be helpful may include the following:
- 2.1 Describe in narrative form how the City’s infrastructure can be used to produce a revenue stream for the benefit of the City while adhering to regulatory limitations.
- 2.2 Provide an overview of the technology or services available including key features and benefits and how the technology or services could provide a competitive advantage to the City;
- 2.3 Describe potential service locations where this technology or service could be implemented and examples of successful projects in other cities;
- 2.4 Describe how the technology or service, or both, advances the vision described by the City;
- 2.5 Describe how the technology or service, or both, could complement or enhance, or both, the operations of Richmond’s DPU, DIT, and Public Works (DPW) departments;
- 2.6 Provide a general timeline for implementation of described smart city infrastructure initiatives, including, if applicable, a general timeline for the design, construction, and use;
- 2.7 Describe the source(s) of the revenue stream(s) that smart city infrastructure could generate for the City;
- 2.8 Provide the best estimate of the cost and revenue generated for the City by smart city infrastructure products or services, or both;
- 2.9 Provide Respondent’s thoughts or observations on actions that might be taken by the City that could improve the City’s ability to produce a revenue stream from the technology or service, or both;
- 2.10 Describe whether there are any appropriate Richmond Equity Agenda implementation opportunities associated with smart city infrastructure technologies or services;
- 2.11 Other information specific to the nature of this RFI and deemed important by the Respondent.
- 2.12 **Technology Plan.**
- A. How might smart street and parking lot lighting be provided?
- B. How might the City utilize connected and autonomous vehicles within Downtown Richmond and immediate environments, including last mile transportation, accessibility, and micromobility solutions?

- C. How may parking guidance systems and smart parking technologies be incorporated into the City's existing infrastructure?
- D. Could smart city technology or services include strategies to reduce carbon emissions through the installation of electric-vehicle charging infrastructure on light poles?
- E. What public safety provisions may be enhanced through smart city infrastructure technologies or services?
- F. How may the use of cameras in public places including streets, open outdoor areas, special event areas, and parking garages affect privacy issues?
- G. How may environmental issues such as weather conditions, pollution levels, energy efficiency, water use, stormwater be collected using smart city infrastructure technologies?
- H. Could best practices facilitate the implementation of strategies associated with overall City resiliency to climate change impacts?
- I. Describe how sensors for dumpsters and trash cans may be installed, monitored, maintained, and utilized.
- J. What type of broadband infrastructure would the Respondent recommend be implemented?
- K. What type of conduits and duct banks should be built to support smart city infrastructure technologies? Who would provide ISP service to the smart city infrastructure and how is information shared with users and utilities?
- L. How could the implementation of smart city technologies facilitate 5G deployment?
- M. What features could be incorporated into smart city design to support community resilience and help citizens to adapt to operating failures, service issues, and external events such as weather events or natural disasters?
- N. How could multiple technologies be integrated into a smart city infrastructure; what shared platforms and open standards would need to be incorporated given these technologies?
- O. Could an improved infrastructure utilizing smart city technologies ensure compatibility with future electronic network functionalities, including automatic outage reporting and remote dimming?
- P. Could smart city infrastructure be used for the delivery of internet access services to the public?

2.13 **Financial Plan.**

- A. List examples of funding models that have been successful in other cities to develop smart city infrastructure?
- B. What investment does Respondent believe would be required of the City to develop a smart city infrastructure?
- C. Who would pay for the power to operate smart city technologies?

2.14 **Operating Plan.**

- A. Is smart city infrastructure generally operated by the City or by vendors and contractors?
- B. How is maintenance of smart city infrastructure generally handled and funded?
- C. What type of joint public/private governance could be anticipated?
- D. What sort of Service Level Agreements could be provided for City integrated systems as a part of smart city infrastructure?

2.15 **Information and Innovation Plan.**

- A. When data is generated by various smart city technologies who collects and owns the data?
- B. What data collected through smart city technology could be made available to the public and how would information requests be handled?
- C. What provisions could be put in place to handle cybersecurity and privacy concerns related to data and data usage?
- D. How could critical infrastructure and IoT devices be protected from cyber-attacks?
- E. What types of data analytics are measured and collected through smart city infrastructure and how could the outputs of the analytics be used to better manage City operations or provide additional services?
- F. Regarding data generated through the smart city infrastructure, what business models are available that do not incentivize data resale by commercial data aggregators?
- G. How could ongoing innovation be encouraged by the smart streetlight infrastructure regarding both usage of and the upgrade to innovative technologies that evolve during the life of the infrastructure, as well as features that attract future innovation to the City.
- H. What data storage / processing / data center / cloud capabilities could be incorporated into the infrastructure or demanded from City services?

- 3.0 **Response Format.** The response should be organized as set forth in this section.
- 3.1 The Respondent shall submit (i) one (1) complete, bound paper copy of its submittal and (ii) electronic copies in a portable document format readable by the Adobe Reader program and in a Microsoft Word format that can be searched and edited.
- 3.2 The response submitted by Respondent should include the following: (i) a cover letter, (ii) a table of contents, and (iii) your detailed responses to any or all of the requests for information set forth in Section 2.0.
- 4.0 **Inquiries.** Please direct all questions regarding this Request for Information to Lesley Brown, Procurement Services at (804) 646-5722 or email lesley.brown@richmondgov.com.
- 5.0 **Disclaimer.**
- 5.1 Please be advised that this is a request for information only. This RFI is issued solely for information and planning purposes – it neither constitutes request for proposals nor is a promise to issue an RFP in the future. No warranties or representations of any kind are made by the City, including a representation or warranty as to the suitability of the City’s infrastructure for any particular purpose.
- 5.2 Parties responding are advised that the City will not pay for any information or administrative costs incurred in response to this RFI; all costs associated with responding to this RFI will be solely at the interested party’s expense. Submission of a response to this RFI is not considered a response to any future solicitations for potential opportunities related to smart city infrastructure or for any other design, construction, finance, maintenance or operations opportunities offered by the City. The City reserves the right to cancel this RFI at any time with or without notice to respondents and without liability.
- 5.3 Ownership of all data, materials and documentation originated and prepared for the City pursuant to this RFI shall belong exclusively to the City and be subject to public inspection in accordance with the Virginia Freedom of Information Act.
- 5.4 **Proprietary Information.** . Firms are on notice that the Virginia Freedom of Information Act applies to the City and may require the public inspection of or the disclosure or release of records created or received in relation to this RFI. Firms should indicate on the Cover Sheet any portions of their response that the firm deems proprietary and return the signed Cover Sheet with their submission. Please list the page number(s) and reason(s) the firm considers the data or materials to be proprietary.
- 6.0 **Addendum and Amendments to the RFI.** In the event any substantive issues require clarification or change during the process, an addendum to this RFI will be issued and posted on the City’s webpage. No mailing of updates, question responses, addendums or amendments will be performed by the City for this RFI.