THE CITY OF KANSAS CITY, MISSOURI

REQUEST FOR PROPOSALS

"COMPREHENSIVE SMART CITY PARTNERSHIP WITH KANSAS CITY, MISSOURI"

RFP NO. EV2556

PROPOSALS DUE: 07/31/18 BY 2 P.M. (CT)

PROCUREMENT SERVICES DIVISION
CEDRIC ROWAN, Manager, C.P.M.
City Hall, 1st Floor, Room 102 W
414 E. 12th Street, Kansas City, Missouri 64106
Office: (816) 513-0814
Fax: (816) 513-1156
E-mail: cedric.rowan@kcmo.org

REQUEST FOR PROPOSALS NO. EV2556

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SECTION 1

REQUEST FOR PROPOSALS NO. EV2556

1. INSTRUCTIONS AND CONDITIONS

1.1 PURPOSE

The City of Kansas City, Missouri ("City") invites you to submit a proposal for the Smart City Program Management of its desired Smart City Expansion plans. The City seeks to partner with a firm to provide a fully integrated suite of sensors, networks, and data and analytics platforms that will result in the City becoming the first true Smart City in the world. The City will entertain financing proposals in conjunction with responses but will ultimately choose the financing mechanism which provides the best use of public funds.

1.2 DUE DATE FOR PROPOSALS

Proposers shall submit Proposals to the **City Contact Person** listed in Section 1.3 by 2:00 p.m. (CST) on July 31, 2018.

1.3 CITY CONTACT PERSON

Proposers shall submit their Proposal to the following City Contact person:

Cedric Rowan
Procurement Services Division
City Hall, 1st Floor, Room 102 W
414 E. 12th Street, Kansas City, Missouri 64106
Office: (816) 513-0814
Fax: (816) 513-1156
E-mail: cedric.rowan@kcmo.org

Please see Section 1.8 for information on how to submit questions about this RFP.

1.4 DEFINITION OF "REQUEST FOR PROPOSALS" AND "PROPOSAL"

(a) This Request for Proposals ("RFP" or "solicitation") is an invitation by the City for Proposers to submit an offer, which may be subject to subsequent discussions and negotiations by the City and the Proposer. It is not a request for a competitive bid.

(b) "Proposal" means any document, submittal, interview, presentation, discussion, negotiation, and everything and anything provided in response to this RFP regardless whether the submission is an oral, written or digital submission.

(c) By submitting a proposal to the City, Proposer agrees that the Proposer does not obtain any right in or expectation to a contract with the City or a vested interest or a property right in a contract with the City regardless of the amount of time, effort and expense expended by Proposer in attempting to obtain a written executed contract with the City that complies with Section 432.070, RSMo, the City Charter and City ordinances.

1.5 ESTIMATED SCHEDULE

06/06/18	RFP Issued
06/28/18 at 10 a.m.	**Mandatory Pre-proposal Conference** Location: Procurement Services Division – City Hall City of Kansas City, Missouri 1st Floor West Conference Room 414 East 12th Street Kansas City, MO 64106
06/30/18 at 11:59pm CT	Deadline for questions. Must be sent via process outlined in Section 1.8.
07/15/18 at 11:59pm CT	Answers to all submitted questions to be posted on City's website.
07/31/18 at 2:00pm CT	Due Date for Proposals
07/31/18 to 9/30/18	Expected period of evaluation. Interviews, if held, will take place during this timeframe.
10/15/18	Notification of Selection

For persons with disabilities needing reasonable accommodations, please contact Meg Conger at 816-513-6589. If you need to use the Relay Service, please dial 711.

The listed dates in the "Estimated Schedule" are tentative. The City reserves the right to change or extend any and all dates including the due date for proposals for any reason at any time including after the due date for proposals.

1.6 RFP DOCUMENTS

This RFP is comprised of all pages contained herein, which includes Exhibits 1 through 4, and Appendices, A through M. Addenda to this RFP shall be issued if deemed necessary by the City, and if produced, shall be available on the City's website. Being aware of, and compliance with, any and all addenda are the responsibility of the proposed bidder.

1.7 EXAMINATION OF ALL RFP DOCUMENTS AND REQUIREMENTS

(a) Each Proposer shall carefully examine all RFP documents and thoroughly familiarize themselves with all RFP requirements prior to submitting a proposal to ensure that Proposer's Proposal meets the intent of this RFP.

(b) Before submitting a Proposal to the City, each Proposer shall be responsible for making all investigations and examinations that are necessary to ascertain any and all conditions and requirements that affect the requirements of this RFP. Failure to make such investigations and examinations shall not relieve the Proposer from Proposer's obligation to comply, in every detail, with all provisions and requirements of the RFP.

(c) By submitting a Proposal to the City, Proposer certifies that Proposer has provided the City with written notice of all ambiguities, conflicts, mistakes, errors or discrepancies that Proposer has discovered in the RFP, the Proposed Contract, Scope of Services and any other document. By executing a Contract with the City, Proposer certifies that Proposer communicated to City all ambiguities, conflicts, errors or discrepancies that it has discovered in the RFP, the Proposed Contract, Scope of Services and any other document and that written resolution thereof by the City as embodied in the final Contract is acceptable to Proposer.

1.8 QUESTIONS AND CLARIFICATIONS ABOUT THIS RFP

(a) General and Technical Questions

Proposers shall submit any general or technical questions about the Scope of Services, any issues about any aspect of this RFP, or any other questions arising from the RFP to the City Contact person listed in Section 1.3.The City intends to acknowledge receipt of questions; however, the burden to ensure the question was received remains with the sender.

(b) Questions and Clarifications Deadlines

(1) Proposers may submit written questions, request clarifications or provide notice to the City Contact person listed in Section 1.3 of any ambiguities, conflicts, mistakes, errors or discrepancies that Proposer has discovered in the RFP and any other solicitation document at any time until the questions deadline specified in Section 1.5.

(2) The City will answer all inquiries by any Proposer in writing and publish the answers. If any inquiry results in a change in the RFP, the City will issue an

Addendum and the Addendum will be posted on the City's website. It is the responsibility of Proposers to check the City's website for addenda. http://www.kcmo.org.

(3) Proposers will be allowed to ask questions during the Pre-Proposal Conference. However, please note that oral answers to questions during the Pre-Proposal Conference are not authoritative. All official answers shall be in writing and posted on the City's website. The Pre-Proposal Conference will be held on the date specified in Section 1.5.

(c) Questions - Post Deadline

If a Proposer discovers any ambiguities, conflicts, mistakes, errors or discrepancies **after the deadline for questions and clarifications or after the proposal due date**, Proposer shall immediately submit the ambiguity, conflict, mistake, error or discrepancy to the City Contact person listed in Section 1.3. The City, in its sole discretion, shall determine the appropriate response to any issue raised by any Proposer.

1.9 SUBMISSION OF PROPOSALS

All proposal documents in both in paper and digital format must be submitted in the exact order as listed in the City RFP Checklist shown in Paragraph (f) below

(a) Where. Proposers shall submit their Proposals to the appropriate **City Contact Person** listed in Section 1.3. Proposers shall address their Proposal to the City Contact Person.

(b) Packaging. The proposal envelope or box shall state on the outside of the sealed container the following information: the RFP No. and Title, Due Date and Time, and Name of the Proposer's Business/Firm. Within the box or envelope, all pricing, investment and financing Plan shall be contained in a separate sealed envelope from the rest of the materials submitted, as described in 1.9 (c) below.

(c) No. of Copies. Proposers shall submit one (1) original Technical Proposal and one (1) Cost Proposal each in separate sealed envelopes, marked Technical and Cost proposals respectively. Proposer will include within each sealed envelope one (1) print copy and one (1) digital copy on a CD or one a flash drive. Digital copies must be in Microsoft Word/Excel format.

(d) Format. **In order to assure uniformity of the Proposals and to facilitate the evaluation process, all Proposals shall be organized and their parts labeled, as shown in Section 1.10. PLEASE NOTE: There is a Maximum number of pages for the response to the Interrogatories in Section 4.**

For the print copies, each Proposal shall be presented in 12-point font, such as Times New Roman or Arial, on 8-1/2" x 11" sheets, double sided.

(e) Additional Materials. The Proposal may also contain any narrative, charts, tables, diagrams or other materials in addition to those called for herein; to the extent such

additions are useful for clarity or completeness of the Proposal. Attachments should clearly indicate on each page the paragraph in the Proposal to which they pertain.

(f) RFP Checklist. The following submittals must be completed and submitted with each Proposal. An incomplete proposal may be deemed non-responsive by the City.

1. Proposal Content, as detailed in Section 1.10 (Proposal Section 1 through Section 4)
2. Authorized Signature Form (Section 3, Form 3.1)
3. Attachment 1. Pricing/Cost Proposal (in a separate, sealed envelope)
4. Attachment 2. Affidavit – Employee Eligibility Verification
5. Attachment 3. References (Three forms from references to be completed)
6. Attachment 4. HRD Form 13 – Affidavit of Intended Utilization
7. Attachment 5. Interrogatories (Response to each question not to exceed one page))
8. Attachment 6. Affirmative Action Affidavit (Required for all respondents and all partners/subcontrctors explicitly named if required as outlined in the City's Affirmative Action policy)
9. Attachment 7. Copy of the Proposer's current certificate of Affirmative Action compliance
10. Attachment 8. Certificate of Good Standing from the Missouri Secretary of State
11. Attachment 9. Copy of Kansas City business license
12. Attachment 10. Employee Eligibility Verification Affidavit

1.10 CONTENT OF PROPOSAL

1.10.1 Proposal Part 1 – Business/Firm Profile and Legal Structure

NOTE: All Proposers must use the following Section numbering system when replying to the Request for Proposal requirements.

1.10.1.1 Legal Name, address, phone, fax, e-mail, Federal ID#, and website address.

1.10.1.2 Brief history of business/firm including date the business/firm was established under the current name.

1.10.1.3 Please comment on likely partners or partner capacities likely to be sub-contracted by the submitting entity and the function of those partners as part of a consortium submission.

1.10.1.4 List all services provided by the consortium/business/firm.

1.10.1.5 Number of total employees including number of total employees in Kansas City, Missouri and number of employees in Greater Kansas City Area.

1.10.1.6 Type of ownership, or legal structure of business/firm.

1.10.1.7 Has the business/firm ever failed to complete work for which a contract was issued? If yes, explain the circumstances.

1.10.1.8 Are there any civil or criminal actions pending against the business/firm or any key personnel related in any way to contracting? If yes, explain in detail. Are there any current unresolved disputes/allegations?

1.10.1.9 Provide a brief history of the business/firm's contractual litigation, arbitration, and mediation cases for the last five (5) years that are material and relevant to this contract.

1.10.1.10 Has the business/firm ever been disqualified from working for the City or any other public entity? If yes, explain the circumstances.

1.10.1.11 Proof of financial capacity to perform this contract such as Dun and Bradstreet, audited financial statements, bonding capacity. (if N/A – delete)

1.10.2 Proposal Part 2 – Experience

1.10.2.1 Include a list of the three (3) most relevant or comparable contracts completed by your business/firm during the past five (5) years. For each listed contract, provide a narrative that includes:

a. the assigned project personnel
b. scope of services provided
c. dollar amount of the contract
d. contractual performance standards versus your actual performance
e. the contracting entity's contact person, e-mail address, cell phone number, and telephone number
f. summary of how your business/firm delivered services
g. pricing and contractual compensation terms

1.10.2.2 Provide three (3) client references for similar projects completed by your business/firm during the past five (5) years. (See Attachment No. 3 – References)

1.10.2.3 Provide a copy of your most recent relevant ongoing public contract.

1.10.2.4 For all prime respondents, provide a list of all public contracts entered into for the last three (3) years. Include the dollar amounts, summary of scope of services, contract terms, Public Owner's contact person, e-mail address, cell phone number and telephone number.

Minimum Capabilities and/ or Experience: Depending on their core business focus, proposers should have the minimum level of capabilities/experience or be prepared to explain in detail why not having the noted minimum experience is not critical to their offer.

a) If the firm is primarily a financial entity they, or their key partners, must have been the primary partner in at least one major (over 500K population) or two minor (under 500K population) municipal projects
b) If the firm is primarily in technology, they must have experience working with at least threemajor municipalities in technology projects of similar or greater scope within the last five years.

1.10.3 Proposal Part 3 – Personnel

1.10.3.1 Please provide your staff capacity for meeting the City's requirements.

1.10.3.2 Identify the Key Employees who are likely to be assigned to this contract if your proposal is selected. [NOTE: Key Employee(s) must be committed to the contract duration, and may not be removed or substituted without the City's prior written consent.]

1.10.3.3 For each of the Key Employee(s), provide a resume and/or summary with at least the following background information:

a. Description of relevant experience.
b. Years of employment with the business/firm.
c. City and State of residence.
d. State time commitment on other accounts.
e. Applicable professional registrations, education, certifications, and credentials.

1.10.3.4 Please comment on the ability of your consortium/business/firm to sustain the loss of Key Employee(s).

1.10.3.5 Provide a staffing plan for the contract including the locations of the positions.

1.10.3.6 Provide an organizational chart for the assigned staff.

1.10.3.7 Provide a plan to address vacations, sicknesses and absences.

1.10.4 Proposal Part 4 - Project Approach

1.10.4.1 Discuss your understanding of the project scope and objectives.

1.10.4.2 Discuss your approach to the project with specific references to the services requested in the RFP.

1.10.4.3 Highlight your unique services and management tools and indicate the benefits of them to the City. What makes your business/firm better than the competition?

1.10.4.4 Describe your Quality Assurance Plan.

1.10.4.5 State approximate date your business/firm is available to begin work on the Project.

1.10.4.6 Discuss your transition plan to begin providing services.

1.10.4.7 Propose additional performance measures including why the performance measure is important, how the City will measure and verify performance and how these measures align with the City's goals as laid out in the City's business plan.

1.10.5 Proposal Part 5 - Sustainability

Include a concise summary of your company's policies, strategies, and actions that demonstrate your philosophy and commitment to sustainability. The City has adopted an overall policy supporting a greater use of "green solutions" or enhanced sustainability measures that consider environmental quality, social equity and economic vitality. In order to minimize waste, enhance efficiencies, and achieve multiple benefits and project synergies, all City projects must identify opportunities for sustainability improvements and implement those improvements when financially reasonable and operationally practical.

1.10.5.1 Describe how your Proposal will address the established City policies referenced in this RFP specific to the project or service on which you are proposing.

1.10.5.2 Incorporate sustainability and efficiency into the planning, design, construction, operation and maintenance of the project. Highlight each component of the project that you feel deserves consideration in this context, and demonstrate how sustainability and efficiency are integrated into the project.

1.10.5.3 If it is not possible to comprehensively integrate significant sustainability measures, then highlight elements you feel deserve consideration in this context.

The following City sustainability ordinances should be incorporated into Proposer submissions:

- http://cityclerk.kcmo.org/LiveWeb/Documents/Document.aspx?q=KffoYzwBZj14lqmmqyJtoGriUPk1jPYlCt1EpBdeAcyiR4xkd46bNIQKqkTtkVDVWskFnXQZfoXgIuUcCDhbKw%3D%3D).
- http://kcmo.gov/wp-content/uploads/sites/11/2013/08/EMC-Climate-Protection-Report.pdf

1.10.6 Proposal Part VI – Pricing

1.10.6.1 Define in dollar value the estimated total commitment of the consortium/business/firm for financing and the method that the submitting entity intends to use to manage these funds.

1.10.6.2 Describe the business plan for the consortium/business/firm intends to use to generate profit off its investment.

1.10.6.3 Define expectations for city funding of procurement, maintenance or operations management of Smart City infrastructure that the consortium/business/firm anticipates the city will absorb.

1.10.6.4 Total Cost: Proposed Cost for everything requested in this RFP. Please break down the pricing as required in Attachment No. 1 - Pricing/Cost Proposal.

1.10.7 Proposal Part VII: Interrogatories Response.

1.10.7.1 Comprehensive responses to questions related to this RFP.

1.10.8 Other Required Documents

Other required documents as listed in Section 1.9(f), above.

1.11. EVALUATION CRITERIA

(a) The City will carefully evaluate the responsiveness and thoroughness of each Proposal.

(b) Any evaluation criteria or weighting of criteria is used by the City only as a tool to assist the City in selecting the best proposal for the City. Evaluation scores or ranks do not create any right in or expectation to a contract with the City regardless of any score or ranking given to any Proposer by the City. In other words, even if the City gives a Proposer the highest rank and highest score, the Proposer still has no expectation of a contract with the City and the City may choose to contract with any other Proposer regardless of the score or rank of the other Proposer.

(c) The City may change criteria and criteria weights at any time including after the due date for proposals.

(d) Each proposer will be ranked in each category set forth in 1.11(e) and compared to other proposers. Each category is weighted as defined in 1.11(e). Criteria categories are further defined in Sections 1.11(f) through 1.11(i).

(e) Evaluation Criteria:

Criteria	Weighting	Detailed below in Paragraph No:
Comprehensiveness of Response and Approach	30%	1.11(f)
Demonstrated Experience with Similar Projects	20%	1.11(g)
Qualifications of the Project Team.	20%	1.11(h)
Investment and Financing Plan	30%	1.11(i)
Total	100%	

(f) Comprehensiveness of Response and Approach: Each proposal shall be evaluated based on the comprehensiveness of response and the approach proposed to fulfill the Scope of Services and other requirements of this RFP. Responses to the interrogatories will be considered here as well as assessments on proposer's ability to meet applicable laws and policies, demonstrated understanding of the project and needs and goals of the City; demonstration that programs, services, and products offered will meet or exceed the needs of the City; and clarity on how the Smart City expansion will be delivered. Proposals shall be evaluated for project execution approach, including project schedule, milestones and method to meet milestones, and project management. The City would like Proposers to consider working with its local Proposers when possible.

(g) Demonstrated Experience with Similar Projects: The proposal must demonstrate each Proposers' experience and established competence related to this RFP. The score will be based on each Proposer's experience on similar projects and past performance for other cities or other appropriate agencies as demonstrated and described in the Customer References. The selection team reserves the right to contact References in assessing competency to deliver this project.

(h) Qualification of Project Team: The Proposer must demonstrate organizational capability and the necessary team experience and qualifications to complete the project over a sustained timeframe. The City will consider the capabilities of the project manager, project team members, subconsultants and Proposers, and the overall structure and skillset of the project team. The character, integrity, reputation, judgment, experience and efficiency of the Proposer and team shall be considered. Consistent with this, the team's and individuals' experience on similar projects and past performance for other cities will be evaluated. The selection team reserves the right to contact References in assessing competency to deliver this project.

(i) Investment and Financing Plan: The City will entertain proposals which include provision of capital required to procure Smart City infrastructure including hardware and equipment; design the networks and infrastructure requirements; procure software and data platforms; maintain the system over the life of the agreement and manage life cycle replacement of equipment or software over the life of the agreement. Any cost to the City that the Proposer proposes should be made explicit, whether in terms of direct payment or use of city personnel or otherwise. This will be evaluated based on the proposed price balanced against the perceived quality of the Smart City system and platform proposed and how well the proposed solution meets the requirements and goals of this RFP.

Any pricing proposals must be detailed as required in Section 1.10 of this RFP. Financing plans, including how the Proposer intends to recuperate costs, must be detailed. The Proposer shall also be assessed on their demonstration of the financial benefit to the City upon implementation of this RFP, expressed as City-gained operating efficiencies, data produced by the Smart City system/platform, revenue sharing opportunities, and any other sources or mechanisms related to the Proposer's work. The financial condition of the Proposer and the sufficiency of the financial resources and ability of the Proposer to fulfill the requirements of this RFP shall also be considered. The City reserves the right to evaluate financing proposals and elect to obtain its own financing. Please indicate the extent to which your pricing proposal is tied to the ability to finance the Smart City infrastructure.

1.12 INTERVIEWS

(a) The City, in its sole discretion, may interview none, one, some or all of the Proposers who submit proposals.

(b) The City, in its sole discretion, may interview, none, one, some of all of the customer references supplied by the Proposer for the RFP.

1.13 DISCUSSIONS AND NEGOTIATIONS

The City, in its sole discretion, may do any or all of the following:

(a) evaluate Proposals and award a contract with or without discussions or negotiations with any or all of the Proposers;
(b) discuss and negotiate anything and everything with any Proposer or Proposers at any time;
(c) request additional information from any or all Proposers;
(d) request a Proposer or Proposers to submit a new Proposal;
(e) request one or more best and final offers from any or all Proposers;
(f) accept any Proposal in whole or in part;

(g) require a Proposer to make modifications to their initial Proposals;
(h) make a partial award to any or all Proposers;
(i) make a multiple award to any or all of Proposers;
(j) terminate this RFP, and reissue an amended RFP.

1.14 PROPOSAL MUST REMAIN A FIRM IRREVOCABLE OFFER TO THE CITY FOR 180 DAYS

(a) By submitting a proposal to the City, Proposer agrees that Proposer's Proposal shall constitute a firm irrevocable offer to the City that Proposer shall not withdraw or modify without the City's approval for one hundred eighty (180) days after the proposal due date. Proposer agrees that even if the City negotiates or makes a counter offer to Proposer on Proposer's original Proposal or any subsequent Proposal submitted by Proposer to the City, Proposer hereby grants to the City, in the City's sole discretion, the unconditional right for the City to accept Proposer's original Proposal and the City's negotiation or counter offer shall not be deemed to be a counter offer.

(b) After one hundred eighty (180) days, the City can accept any proposal or subsequent proposals from any Proposer with the consent of the Proposer at any time and regardless of the length of time that has passed from the proposal due date.

1.15 SELECTION

The City will select the proposal that in the City's sole judgment the City determines to be the best Proposal. Section 432.070, RSMo requires the City to have a written executed contract signed by both parties prior to anyone performing services or providing any goods, supplies, materials or equipment to the City. The written executed contract must also comply with the City Charter and City Ordinances. This means that a proposer does not have a contract with the City until a written contract is *executed.* A contract is *executed* when all of the following have occurred: (1) the City Council authorizes the execution of a contract with the Proposer (if City Council approval is requested by City staff or is required by City Ordinance); (2) persons with actual authority to bind both the City and the Proposer execute the contract; (3) the contract is approved by the Law Department; (4) the City issues a purchase order to the Contractor with the Director of Finance's certification of availability of funds for the contract; and (5) any other required step. A Proposer does not have a contract with the City until all the steps are completed. If the City does not complete all required steps, there is no contract between the City and the Proposer and the City has absolutely no contractual or financial obligation to any Proposer regardless of the amount of time, effort and money spent by the Proposer responding to the RFP and attempting to negotiate and obtain a contract with the City.

The selection process will be a single review and award process by a Selection Committee consisting of representatives from the City Office of Innovation, City Manager's Office, Mayor's Office, Public Works Department, General Services Department (IT Division), Water Department and Office of Performance Management.

1.16 REJECTION OF PROPOSALS

The City reserves the unconditional right to reject any or all proposals received in response to this RFP at any time prior to the City executing a contract that meets the requirements of Section 432.070, RSMo, the City Charter and all applicable City Ordinances.

1.17 WAIVER OF ORDINANCES, REGULATIONS AND RFP REQUIREMENTS

(a) The City, at any time, may waive any requirements imposed in this RFP or by any City regulation.

(b) The City, may waive any requirement imposed by the City's Code of Ordinances when failure to grant the waiver will result in an increased cost to the City and the requirement waived would be waived for all Proposers for this RFP and it is in the best interest of the City to grant the waiver.

1.18 LATE PROPOSALS

The City, in its sole discretion, may consider proposals received by the City after the proposal due date if: (1) the proposal is sent via the U.S. Postal Service, common carrier or contract carrier, by a delivery method that guarantees the proposal will be delivered to the City prior to the proposal due date; or (2) if the proposal is submitted by mail, common carrier or contract carrier it is determined by the City that the late receipt was due to the U.S. Postal Service, common carrier or contract carrier; or (3) the proposal is timely delivered to the City, but the proposal is at a different City location than that specified in this RFP; or (4) the City extends the due date after the deadline for a force majeure event that could potentially affect any or all Proposers meeting the deadline; or (5) the City has not opened any of the proposals; or (6) it is in the best interest of the City to accept the proposal.

1.19 CHANGES IN THE RFP

(a) After this RFP is issued, the City, in its sole discretion, may change everything or anything contained in this RFP at any time including after the Proposal due date. If the change is prior to the proposal due date, the City reserves the right, when considered necessary or appropriate, to modify this RFP.

(b) If the City shall amend the RFP after the proposal due date, the City may, in its sole discretion, solicit new proposals in an amended RFP from anyone or everyone regardless whether a person submitted a proposal in response to the original RFP.

1.20 CHANGES IN EXECUTED CONTRACT AND ADDITIONAL WORK

(a) After the City executes a contract in accordance with the requirements of Section 432.070, RSMo, the City Charter and City Ordinances, the City may, in its sole discretion, amend the contract to change anything or everything associated with the contract as long as such change is in the interest of the City and as long as the Contractor agrees to the change.

(b) The City, in its sole discretion, may award additional contracts for related work or subsequent Project phases to the selected Contractor.

(c) The City, in its sole discretion, may extend the term of the contract with the selected Contractor notwithstanding the expiration of the initial term or any subsequent term or all options to renew, until the City has a new contract in place with either Proposer or another provider or until the City terminates the Contract.

1.21 PROPOSER SOLELY RESPONSIBLE FOR ALL COSTS

Regardless of the amount of time, effort, cost and expense incurred by a Proposer in Proposer's attempt to win this City contract, Proposer agrees that Proposer shall be solely responsible and liable for any and all costs incurred by Proposer. The City shall have no liability or responsibility for any of Proposer's costs or expenses.

1.22 OWNERSHIP OF PROPOSALS

By submitting its Proposal, Proposer hereby agrees that Proposer's Proposal and any supplementary material submitted by the Proposer shall become property of the City.

1.23 DISCLOSURE OF PROPRIETARY INFORMATION

(a) A Proposer may attempt to restrict the disclosure of scientific and technological innovations in which the Proposer has a proprietary interest, or other information that is protected from public disclosure by law, which is contained in the Proposal by:

1. marking each page of each such document prominently in at least 16-point font with the words "Proprietary Information";
2. printing each page of each such document on a different color paper than the paper on which the remainder of the Proposal is printed; and
3. segregating each page of each such document in a sealed envelope, which shall prominently display, on the outside, the words "Proprietary Information" in at least 16-point font, along with the name and address of the Proposer.

(b) After either a contract is executed pursuant to the RFP, or all submittals are rejected, if access to documents marked "Proprietary Information", as provided above, is requested under the Missouri Sunshine Law, the City will notify the Proposer of the request, and it shall be the burden of the Proposer to establish that such documents are exempt from disclosure under the law.

(c) If the Proposer elects to challenge a formal request for such information made to the City and if the Proposer is unsuccessful in keeping such information closed, the Proposer shall pay for any and all costs, attorney fees and fines that are a result of Proposer's attempt to keep the information closed.

(d) Notwithstanding the foregoing, in response to a formal request for information, the City reserves the right to release any documents if the City determines that such information is a public record pursuant to the Missouri Sunshine Law. The City shall have no liability to any Proposer or anyone else for releasing any Proprietary Information of a Proposer even if the City is negligent in releasing or disclosing any Proprietary Information of any Proposer.

1.24 CLOSED RECORDS

All Proposals including interviews, presentations and documents and meetings relating thereto may remain closed records or meetings under the Missouri Sunshine Law until a contract is executed or until all Proposals are rejected by the City. If the City amends this RFP, Proposals

submitted in response to the original RFP may remain closed records until a contract is executed or all proposals submitted in response to the amended RFP are rejected. Proposals shall remain closed records even if the City mistakenly informs all Proposers that it is rejecting any and all Proposals prior to amending the RFP as long as the City intends to amend the RFP and resolicit Proposals.

1.25 AFFIRMATIVE ACTION

It is the policy of the City that any person or entity entering into a contract with the City, will employ applicants and treat employees equally without regard to their race, color, sex, religion, national origin or ancestry, disability, sexual orientation, gender identity or age. The City's Affirmative Action ordinance requires that any person or entity who employs fifty (50) or more persons and is awarded a contract from the City totaling more than $300,000.00 must:

(a) Execute and submit an affidavit, in a form prescribed by the City, warranting that the Contractor has an affirmative action program in place and will maintain the affirmative action program in place for the duration of the contract.

(b) Submit, in print or electronic format, a copy of the Contractor's current certificate of compliance to the City's Human Relations Department (HRD) prior to receiving the first payment under the contract, unless a copy has already been submitted to HRD at any point within the previous two (2) calendar years. If, and only if, Contractor does not possess a current certification of compliance, Contractor shall submit, in print or electronic format, a copy of its affirmative action program to HRD prior to receiving the first payment under the contract, unless a copy has already been submitted to HRD at any point within the previous two (2) calendar years.

(c) Require any Subcontractor awarded a subcontract exceeding $300,000.00 to affirm that Subcontractor has an affirmative action program in place and will maintain the affirmative action program in place for the duration of the subcontract.

(d) Obtain from any Subcontractor awarded a subcontract exceeding $300,000.00 a copy of the Subcontractor's current certificate of compliance and tender a copy of the same, in print or electronic format, to HRD within thirty (30) days from the date the subcontract is executed. If, and only if, Subcontractor does not possess a current certificate of compliance, Contractor shall obtain a copy of the Subcontractor's affirmative action program and tender a copy of the same, in print or electronic format, to HRD within thirty (30) days from the date the subcontract is executed.

If you have any questions regarding the City's Affirmative Action requirements, please contact HRD at (816) 513-1836 or visit the City's website. www.kcmo.org

1.26 TAX CLEARANCE FOR CITY AND LOCAL GOVERNMENTS

The local governments of City of Kansas City, Jackson County, Missouri; Johnson County, Kansas; and the Unified Government of Wyandotte County/Kansas City, Kansas (collectively the "Local Governments"), have agreed to help enforce each other's Tax Laws to ensure that taxpayer funded contracts are performed by Contractors in compliance with the Tax Laws of the Local Governments. Contractor agrees that Contractor shall be in compliance with the Tax Laws of the Local Governments throughout the term of this contract and any contract renewals and that proof

of Contractor's compliance with the Tax Laws of the Local Governments shall be a condition precedent to City making City's first payment under the contract or any contract renewal.

The selected Contractor may obtain the City tax clearance letter from the City's Commissioner of Revenue at (816) 513-1135 or (816) 513-1089 and authorize the City to obtain the Clearance letters from the Local Governments of City of Kansas City, Jackson County, Missouri; Johnson County, Kansas; and the Unified Government of Wyandotte County/Kansas City, Kansas (collectively the "Local Governments"), dated not more than ninety (90) days from the date of submission.

1.27 INDEMNIFICATION

The City's standard contract requires that the Contractor shall indemnify, defend and hold harmless the City and any of its agencies, officials, officers, or employees from and against all claims, damages, liability, losses, costs, and expenses, including reasonable attorneys' fees, arising out of or resulting from any acts or omissions in connection with the contract, caused in whole or in part by Contractor, its employees, agents, or Subcontractors, or caused by others for whom Contractor is liable, including negligent acts or omissions of the City, its agencies, officials, officers, or employees. The contract requires Contractor to obtain specified limits of insurance to insure the indemnity obligation. **Contractor has the opportunity to recover the cost of the required insurance in the Contract Price by including the cost of that insurance in the Proposal.**

1.28 BUY AMERICAN AND MISSOURI PREFERENCE POLICIES

(a) Buy American Preference

It is the policy of the City that any manufactured goods or commodities used or supplied in the performance of any City contract or any subcontract thereto shall be manufactured or produced in the United States whenever possible. When proposals offer quality, price, conformity with specifications, term of delivery and other conditions imposed in the specifications that are equal, the City shall select the proposal that uses manufactured goods or commodities that are manufactured or produced in the United States.

(b) Buy Missouri Preference

It is the policy of the City to give preference to all commodities manufactured, produced, or grown within the State of Missouri and to all firms, corporations, or individuals doing business as Missouri firms, corporations, or individuals, when the quality is equal or better and delivered price is the same or less. It is the Proposer's responsibility to claim these preferences.

1.29 MISSOURI SECRETARY OF STATE BUSINESS ENTITY REGISTRATION

Prior to execution of a contract with the City, the apparent successful Proposer must submit a current copy of Proposer's Certificate of Good Standing from the Missouri Secretary of State's website. http://www.sos.mo.gov

1.30 CITY OF KANSAS CITY MISSOURI BUSINESS LICENSE

Prior to execution of a contract with the City, the apparent successful Proposer must submit a current copy of Proposer's valid business license. Proposers may obtain this business license from the City's Revenue Division/Business License section at (816) 513-1135 or visit the City's website. http://www.kcmo.org

1.31 PROHIBITED ACTIVITIES BY FORMER CITY EMPLOYEES AND OFFICIALS

(a) *Prohibition.* No elected official, or employee of the city serving in an executive or administrative capacity, shall perform any service for any monetary or in-kind compensation during one year after termination of his or her office or employment by which performance he or she attempts to directly *influence* a decision of the city or any department or agency thereof.

(b) *Exception.* This section shall not be construed to prevent any person from:

(1) Performing such service and receiving compensation therefor in an adversary proceeding having a record or right of appeal or in the preparation or filing of any public document;
(2) Submitting any bid and participating in any contract from a successful bid with the city for any goods or services which will be awarded to the lowest and best bidder; or
(3) If an employee of the city in an executive or administrative capacity, discussing issues or projects, informing about issues or projects, providing an opinion, or making a recommendation on issues, projects or policy, related to duties as a full-time employee of an agency contracting with the city to provide services that furthers the work of the city, and is specifically approved by the city council.

1.32 EMPLOYEE ELIGIBILITY VERIFICATION

If this contract exceeds five thousand dollars ($5,000.00), Supplier shall execute and submit an affidavit, in a form prescribed by the CITY, affirming that Supplier does not knowingly employ any person in connection with the contracted services who does not have the legal right or authorization under federal law to work in the United States as defined in 8 U.S.C. §1324a(h)(3). Supplier shall attach to the affidavit documentation sufficient to establish Supplier's enrollment and participation in an electronic verification of work program operated by the United States Department of Homeland Security to verify information of newly hired employees, under the Immigration and Reform and Control Act of 1986. Supplier may obtain additional information about E-Verify and enroll at https://e-verify.uscis.gov/enroll/StartPage.aspx?JS=YES. For those Proposers enrolled in E-Verify, the first and last pages of the E-Verify Memorandum of Understanding that Supplier will obtain upon successfully enrolling in the program shall constitute sufficient documentation for purposes of complying with this section. Supplier shall submit the affidavit and attachments to the CITY prior to execution of the contract, or at any point during the term of the contract if requested by the CITY. The affidavit is found under Section IV – Attachments and Exhibits.

1.33 MBE/WBE GOALS

(a) The City desires that City certified Minority Business Enterprises (MBEs) and City certified Women Business Enterprises (WBEs) have a maximum opportunity to participate in the performance of City contracts. The MBE/WBE participation goals for the program are **13%** MBE participation and **8%** WBE participation.

(b) The City intends to review program MBE and WBE participation goals concurrently with project reviews periodically throughout the lifetime of the contract period awarded to the selected program manager. Projects will include individual goals that maximize opportunities for MWE/WBE.

(c) The City's HRD Forms and Instructions are incorporated into this Request for Proposals and the Contract Documents.

(d) **Please complete HRD Form 13 - Affidavit of Intended Utilization and return it with your Proposal.** The City of Kansas City, Missouri has a list of City Certified MBEs/WBEs at http://kcmo.org/CKCMO/Depts/CityManagersOffice/HumanRelationsDivision/DisadvantagedMinorityandWomenBusinessEnterpriseSection/index.htm (click on the "DMWBE Directory Search"). Please contact the City's Human Relations Department at 816-513-1836 for assistance on any aspect of the MBE/WBE program.

1.34 WAIVER OF MBE/WBE REQUIREMENTS

The City Council, in its sole discretion, may waive any and all MBE/WBE requirements imposed by this solicitation and any Proposal Documents or the MBE/WBE Ordinance, and award the contract to the best Proposer if the City Council determines a waiver is in the best interests of the City.

SECTION 2

REQUEST FOR PROPOSALS NO. EV2556

2. SCOPE OF SERVICES

2.1 OVERVIEW OF SCOPE OF SERVICES

Kansas City, Missouri seeks a lead partner to serve as a Program Manager for a Smart City Expansion. The Program Manager will design and build a full integrated suite of sensors, networks and data and analytics platforms. The Program Manager may provide the capital required to procure Smart City infrastructure, design the network, systems and infrastructure, procure the systems and infrastructure necessary for the City's initiatives, maintain the system over the life of the agreement, and manage life cycle replacement of equipment or software over the life of the agreement. The City reserves the right to obtain its own financing after evaluation of the financing portion of the responses.

More specifically, the purpose of this Request for Proposal (RFP) is to select a qualified Program Manager with the proven experience, financial resources and professional expertise to design and build a suite of capabilities including public Wi-Fi, advanced metering infrastructure (water) and associated networks, gunshot detection sensors, traffic sensors (both foot and vehicular), bandwidth usage sensors, sewage system sensors and an integrated data analytics platform that demonstrates departmental-level measures of performance as well as city-level measures of effectiveness. It is anticipated that multiple partners will be engaged underneath the leadership of the program manager, including community partners and stakeholders

All submissions will support the current City Business Plan (http://kcmo.gov/finance/citywide-business-plan/), the Smart City Operations Blueprint, and the Digital Equity Strategic Plan (See Appendix A, B and C). All submissions will integrate existing Smart City infrastructure to include equipment currently deployed in the Main Street Corridor, current data management system (Kinetic, a Cisco product), Measure of Effectiveness Data Analysis platform (Xaqt) and other Measure of Performance data analysis platform currently maintained in the Office of Performance management.

Upon selection, the Office of Innovation (as the Program Oversight Office), assisted by the Public Works Department and other departments as designated by the City Manager, will enter into negotiations with the winning organization and establish a final team composition and work plan.

2.2 Objectives

Kansas City seeks to extend its current Smart district successes, and add net new capabilities, to become the smartest City in North America within five to ten years and remain among the thought leaders for Smart City efforts around the world. The City's high-level Smart City objectives are improving mobility, accessibility, safety, and the quality of life of residents.

Key objectives of this project are as follows:

1. Improve digital equity and inclusion and expand technical literacy of City residents in alignment with the City's Digital Equity Strategic Plan, and via improved connectivity infrastructure.
2. Maintain privacy for residents. The City is committed to ensuring transparency and clarity of practices in how data is being both protected and utilized by the Program Manager and vendors. A proposed project approach or revenue model may not be approved for implementation if it does not adequately accord with the City's data privacy practices.
3. Increase citizen engagement and access to City government.
4. Foster civic innovation and support local entrepreneurship.
5. Drive economic development.
6. Improve City operational and policy decision-making through data and analytics, and a data analytics platform.
7. Upgrade and expand the City's connectivity infrastructure that will support the improvement and expansion of the initiatives described in this RFP, such as the Connected Corridor, Smart Intersections, Lighting upgrade, and Gunshot detection that will improve mobility, public safety and environmental sustainability.
8. Access new and innovative financial opportunities for the City and the Program Manager and its partners.

2.3 Background Information

Kansas City, Missouri is the sixth largest city in the Midwest region of the United States, with a metro area population of 2.2 million, and the 11th largest by land area. It is traditionally known for its jazz, barbeque and its city fountains but over the past several years, through a concerted effort, it has become known for its urban revitalization and renewal based on Smart City technologies.

Kansas City is a major regional economic engine, with a Gross Metropolitan Product of more than $42 billion USD, making up 21% of Missouri's gross state product. The City has a diversified economy including transportation, telecommunications, manufacturing, health care, legal services, trade, financial services, and governmental services. The region provides access to over one million jobs in over seven hundred occupations. Kansas City's largest employer is the US Federal government offices, of which there are 146 offices as the city is one of ten regional office cities. The City is also unique as a major freight hub for rail, trucking, air, and inland water traffic served by four intermodal logistics parks. Since 2000, the city has seen $6 billion in investment including the Power & Light District, a nine-block entertainment district and the Sprint Center, a 19,000-seat center for sports and concerts.

Kansas City is a shining example of the use of smart infrastructure to support an economic development strategy. The City became well-known as the first city in the world to deploy Google Fiber in 2012, offering lower cost and high-speed fiber connectivity to homes and business as well as cable TV, and investing in broadband for low income areas. It was offered to the entire Kansas City metro area including 20 surrounding suburbs. Google Fiber has laid over 8,000 miles of fiber-to-the-home throughout the region, enabling highspeed internet service of up to 1,000 megabits per second.

Google Fiber prompted development in smart infrastructure which could take advantage of the high-speed connections, and provide a downtown area in which businesses would want to locate. This strategy centered on creating a connected, Smart City corridor using the Downtown Street car to fuel economic growth via a Transportation Development District (KC Streetcar TDD). Kansas City has more than one billion dollars in economic development underway within the boundaries of the KC Streetcar TDD. As of April 2018, this included more than $2.3 billion in development projects completed, in progress or publicly announced since voters approved the streetcar in December 2012.

The Connected Corridor

Along the two-mile corridor of the Kansas City Streetcar, a $15 million in public-private partnership funds has supported deployment of 328 Wi-Fi access points, 178 smart streetlights that can detect traffic patterns and open parking spaces, and 25 video kiosks, as well as pavement sensors, video cameras, and other devices. These devices are intended to help spur revitalization but also support city infrastructure improvements, cost savings, and safety enhancements and generally accelerate greater citizen services.

The completed coordinated suite of connective Wi-Fi technology and analytical platforms along the 54-block streetcar corridor on Main St. has demonstrated the utility of a comprehensive Smart City system that fuses dynamic data gathered in the smart district with existing City and 3rd party data sets. Sprint currently owns and operates the 328 WiFi access points and is contractually required to maintain the network for approximately 3.5 more years. The Public Works department maintains the 178 streetlight sensors, which are a Verizon product formerly known as Sensity. The fused data provides City leaders with a more holistic and horizontally integrated perspective of City operations and enables them to rapidly respond to shifting requirements in a manner that improves operational efficiency and provides better services to Kansas Citians.

Specific achievements of the Smart City initiatives to date include the successful deployment of advanced technologies and development of several data-focused use cases that are improving the delivery of City services. Specific achievements of the Smart City initiatives to date include the successful deployment of advanced technologies and development of several data-focused use cases. The smart infrastructure array deployed in Kansas City is more connected than any similar project in the United States and was completed in just over one year. The project achieved initial operating capability on May 6, 2016, the same day the streetcar opened. The full system was not deployed until December 2016 and many data projects show promise across multiple departments.

Data Analytics

Data analysis for the City's Smart City initiatives takes a holistic approach toward understanding not only the current “pulse” of the City but also the opportunities to proactively provide services or sequence operations in a manner that preserves City operational budgets and best synchronizes planning efforts. Through use of an advanced tool provided by Xaqt, and running on AWS, the City now takes advantage of key elements of the over 4,000 sets of data the City collects including crime data, economic indicators, tax collections, employment rates, maintenance records and weather predictions/recordings. These data are combined with the data

collected by sensors deployed on Main Street and projected to be deployed throughout the City; the data provide a dynamic, accurate picture of the immediate needs of a city. This combination enables City leaders to understand both trends and immediate conditions, thereby decreasing decision times for actions ranging from allocation of public safety resources to traffic management to economic development incentive determinations.

Open Data

The City's public facing web page makes data derived from the Main Street sensors available to citizens and visitors in order to maintain transparency and foster continued public involvement in Smart City initiative development. In addition to depicting street congestion, the web site illustrates real-time tracking for the streetcar and identifies open on-street parking so people can better plan their journeys downtown regardless of their intent to work or recreate. In addition, the City uses a civic engagement tool that has proven effective in gathering feedback from the community.

The Kansas City Office of Performance Management undertakes data analytics to support operational efficiency and accountability toward long-term city goals as referenced in the business plan and monitored via KCStat (the City's public-facing performance management program) at http://kcmo.gov/kcstat/).

KCMO's Smart City Open Access portal has been accessed by partners more than 50 times since going live.

Smart City Kiosks

An agreement with the kiosk provider, Smart City Media, enables the City to generate income from ad sales on the kiosks. Fifty percent of all profits from ad sales are designated to the City to first repay the funds expended to purchase the kiosks themselves and then to fund maintenance of Smart City infrastructure. It was originally anticipated that the City would earn over $200,000 per year in ad revenue, which would repay initial debts within six years. During the first six months, kiosk ad sales fell well below initial estimates; from May to December 2016, only $33,500 was raised. Completion of the network of kiosks in December and successful marketing efforts by Smart City Media increased use in January, and the City earned almost $50,000 in January 2017. The city has realized $136,300 during the first fifteen (15) months of the agreement and projects retirement of the initial $1,000,000 city investment in kiosks by May 2020. The City is expanding Smart Kiosk infrastructure beyond the initial deployment. In March 2017, the Kansas City Aviation Department completed a contract that deploys information kiosks in the airport terminals similar to those deployed in the Main Street corridor. Twelve screens will be located throughout the entirety of the terminals, and the content of the screens will be customized to include airport information and linkages to local transportation and lodging. Advertising on the machines can also include elements displayed elsewhere in the City, which increases the value for vendors and increase the funds that support continued maintenance and expansion of Smart City infrastructure. Future growth opportunities at the airport include using consistent Wi-Fi connectivity across the airport property, increasing utility of the kiosks or airport applications

based on user feedback and sharing transportation information / options for customers across multiple nodes including taxis, transportation service providers, bus lines and the KC Streetcar.

Since November 2017, the City and Smart City Media began discussions with Avis to include content maintained by Smart City Media and associated with specific geographical locations into Avis' fleet of 5,000 Connected Vehicles, which are currently fielded in the community and undergoing a series of customer-facing tests.

Building on Existing Success

Kansas City is one of a few cities in the world that has deployed a comprehensive Smart City initiative; consequently, there are very few common measures of performance to indicate success. The City would like to develop more rigorous measures for success for both the current and prospective Smart City projects. The City does know that it is impacting the 25,000 plus people that live in the Main Street corridor where the infrastructure has been deployed, the over 150,000 individual users who commute into downtown weekly for work or leisure activities, and the 333,000 convention visitors every year.

Kansas City's public Wi-Fi engaged over 2.3 Million unique residents and visitors on the Free KC Public WiFi network during the first twenty-four months of the Smart City initiative through over 8 Million network engagements. The Sprint WiFi experienced slightly more traffic; the total number of users for the network is therefore about 5 Million users (slightly twice the size of the metro area). And Smart Kiosk usage across the network of 26 machines during the first two years of the program included over 350,000 interactions. Capabilities for the machine increased throughout the year, including the deployment of a "selfie" function for the 2017 Big XII Tournament. 572 selfies were taken during the Big XII weekend alone, and over 4,500 selfies have been taken since March 4, 2017. The kiosks were also used for "get out the vote" campaigns in November 2016 and April 2017.

2.4 Vision

The first phase of the City's Smart City initiatives covers approximately 1% of the land mass of Kansas City and directly impact individuals who reside or work in the heart of downtown - approximately 15% of the City's citizens. While this is sufficient to validate the Smart City concept, it is not sufficient to have a transformative effect on the City. Expansion of the initiatives beyond the heart of downtown is required if Kansas City is going to transform from a cool City with a smart district into a Smart City. Maintaining the Smart City infrastructure is a growing concern.

At the core of any Smart City, and its systems that enable connectivity, information exchange, analytics, and new citizen services, must be a strong, secure, efficient, and affordable information and communications technology platform. The notion of "smart" is predicated on the ability of data and information to easily be transmitted from a number of sources (e.g., sensors, personal devices, vehicles, infrastructure) then combined at a location (anywhere from the back-end centralized location to an actual device) with advanced analytics to glean insights from those data and information sources. Kansas City has already developed some of the foundation for this

system and its vision is to expand this system, with the support of a long-term partner, beyond its downtown corridor.

2.4.1 Overview of Initiatives

The City is interested in pursuing a number of initiatives that will continue its Smart City Expansion and improve its operations and services. The City would like a Smart City Program Manager to establish, integrate and manage the development, operations and maintenance of the following initiatives:

- The City's two-phased Connected Corridor Expansion
- Expanded Smart Parking capabilities
- Smart Intersections
- Smart and Connected Outdoor Lighting
- Data-driven Public Safety
- Smart Water Advanced Metering Infrastructure (AMI)
- Public Health
- An Integrated Data Analytics Platform

This is not an exhaustive list and the City encourages proposers to share their expertise, as the City prepares to move into the future. The City further encourages multiple proposers to work together on responses to this RFP if a collaborative approach would best meet the City's goals. The business relationships for collaboration need not be joint ventures; however, if it is not a joint venture there must be clearly defined areas of responsibilities and liabilities between each party and the City.

The technology employed over the contract life must keep pace with technological developments and standards over the duration of the contract with continuous investment and maintenance.

2.4.2 Expectations of Outcomes

In coordination with Kansas City City staff, and the broader City community, the Program Manager shall develop a long term (10-year to 30-year) Smart City Strategic Plan and Roadmap to guide the City's priorities and initiatives in line with the City's goals and aspirations. This plan will set in writing the City's articulated mission and strategic priorities, including a timeline for specific initiatives and the KPIs and milestones by which to track progress City approval of the Plan is required before installation and/or implementation of any Smart City hardware or elements. The Strategic Plan shall include the schedule and process for the development and integration of systems, including key analyses and tradeoffs, such as cost/benefit, performance needs, technology assessments, implementation risks, and an assessment of operations and maintenance requirements.

The City is looking for a systems engineering approach in the design of a complex system. The first step of the process is to provide a well-documented concept of operations (CONOPS). This provides a point of departure from which the requirements of the system can be discussed in a meaningful and consistent manner with the stakeholders, and ensures that the project will follow the needed steps of development, design, and deployment. A process to identify all of the user requirements follows completion of the CONOPS. This step involves discussions with all agencies, organizations, and individuals that have an input into the functionality of the system.

The third step involves the identification of the system requirements necessary to support the large majority of the user needs.

Expectations of desired capabilities, and by extension outcomes, are detailed in the Appendices by specific initiative. At a higher level, the City wants to: improve how it manages street traffic, foot traffic, and data traffic; ensure a safe and sustainable environment for the City's residents and businesses, and; provide the necessary infrastructure to attract and retain companies while improving digital inclusion. The City's residents, visitors, and businesses are undergoing a massive shift toward greater demand for connectivity, sustainability, and safety. Technological advances in fiber, wireless, sensors, big data analytics, and connected devices have created avenues for the City to meet those demands.

Currently, the City has many initiatives underway but they are less coordinated or integrated than desired. The City would like to ensure the results of this RFP, and future initiatives, provide a platform with an open architecture that ensures that data is accessible and usable. At present, not all available data is being used to its maximum benefit, and some sensor or device-driven data is not in operationally usable formats. Furthermore, the City realizes the need to build out connectivity infrastructure to meet community needs but also provide needed data to improve city operations.

Scaling of its Smart City efforts to achieve the City's objectives is financially constrained, and as such the City looks to a partner to offer investment and innovation. It is important to note that measure of success of initiatives should not only be tied to measures of the initiatives themselves, but should also be tied to measures in the city's business plan for goals and objectives.

The City is focusing the RFP on several defined projects (with room for expansion beyond). This will help to ensure that Smart City investment is aligned with the City's Business Plan. Defined projects are important for strategic investment and accountability. They also provide a framework for evaluation and accountability for the contract. Accordingly, for each of the following initiatives, responders should delineate the project scope and define measures of success that align with the city's strategic goals.

2.4.3 Summary of Initiative Details

The City is pursuing a number of initiatives designed to create a Smart City and improve City services, reduce the digital divide, and improve environmental sustainability, by developing and enhancing new and existing infrastructure and devices. The City understands that the scope of this RFP is broad. Proposers are encouraged to respond to all of the noted needs within their scope of capabilities.

a) **Connected Corridor Expansion:** There are two phases to expansion of the Connected Corridor. Both phases are focused on building out the public WiFi and other network connectivity, street kiosks, and traffic sensor technologies. Build-out from Phase 1 should be replicable in Phase 2. The City's vision for its connected corridor expansion, including the geographic area of expansion of these functionalities is included in Appendix C. For traffic/transportation-related functions, refer also to sections on Smart Parking and Smart Intersections, below.

- All proposals shall include a maintenance plan through life cycle replacement of the initial equipment deployment. . Furthermore, the maintenance plan shall integrate the City's existing Smart City infrastructure as part of the plan.

- All proposals shall integrate Phases 1 and 2 as part of their solution, but may phase construction along multiple timelines. Expansion beyond Phases 1 and 2 shall be planned collaboratively between the Office of Innovation and the selected program manager.

- For reference, we have included a map of the City's existing and planned connected corridor extensions (Appendix E), and a map of the City boundaries for the downtown, extended downtown, and Westport, smart parking.

b) **Integrated data analytics platform:** A Smart City platform interconnects the physical and digital world across one or more domains, connecting new and legacy applications, and edge data collection devices (sensors, video cameras) that exist on city assets providing a holistic view of the city's infrastructure for improved management and control. The platform draws from a central data lake, but has a federated system of access, analysis and use. As of April 2018, the platform used by the City is Engage by Xaqt; the City's contract with Xaqt runs through April 2019. The City also works with the Cisco Kinetic platform. It is acceptable for competing firms to include use of the Xaqt and/or Cisco platform as part of their solution. The new platform does not have to use the Cisco and Xact platform; the data simply must be integrated into a data platform and then federated back to the departments for their use.

The Integrated data analytics platform consists of two elements: improved aggregation and integration of multiple data sources into one Smart City platform that can be used for analytics, and; the creation of four separate user-focused tools that draw from the data platform. These tools consist of: a Public Facing Tool; a City Performance Tool; a City Policy Toolbox, and; an Infrastructure Condition Tool. The Infrastructure Condition Tool should allow the city to better assess the condition of infrastructure to including roads, bridges, storm sewers, waste water sewers, vertical light support poles and fiber networks. The City's vision for these tools is captured in Appendix B.

c) Smart Parking Initiative: Parking Services is seeking a web-based parking data analytics software platform that provides a standard set of occupancy reports, demand-based pricing reports, turnover reports and duration of stay reports. The platform should be an easy-to-use and intuitive data dashboard featuring a map and a suite of zoom-able heat maps, charts, graphs and tables of occupancy, demand, and duration and turnover data with export features. The City's vision for what its Smart Parking solutions should entail is captured in Appendix D.

d) Smart Intersections: The system shall include a "smart intersections" capability. The goals of this capability include improved traffic flow and reduced congestion (and resulting improvements in air quality); communication with connected and autonomous vehicles; safer streets for motor vehicles, bicyclists and pedestrians; improved city services; better allocation of city resources; and data and analytics for city and transit managers and planners. The City's vision for what its Smart Intersections solutions should entail is captured in Appendix E.

e) Smart and Connected Outdoor Lighting: Outdoor street lighting shall be converted to LED and be IP-connected to the platform. The system shall provide remote monitoring and programming, adaptable dimming and brightening, intelligent energy metering and billing, and reporting. The system shall be interoperable between devices and systems both to collect and transmit data to the community, utilities, the private sector, and multiple government departments. The City's vision for Smart and Connected Outdoor lighting is contained in Appendix F.

f) **Data-driven Public Safety:** In keeping with the City's stated goals, the City would like to employ Smart City technology and analytical software tools to decrease incidences of violent crime with the priority to murder and gun-related violence. Kansas City's violent crime is concentrated in small areas in the city that correlate with negative indicators. Kansas City, in partnership with KCPD and many non-profit agencies, seeks to use sensors, data and communications technologies to mitigate crimes that do occur and identify and engage with at-risk populations prior to the initiation of a crime. Real time and reporting data shall be provided to the Kansas City Police Department.

g) Smart Water (AMI): As part of this Smart City initiative, KC Water is interested in the integration of core systems with the possibility of replacing and/or upgrading existing systems. KC Water has implemented an Advanced Metering Infrastructure (AMI) system, consisting of 209 Data Collector Units (DCU's) and approximately 190,000 endpoints consisting of Meter Transmitter Units (MTU) and Water Leak detection units (ZoneScan – ZS), a Computerized Maintenance Management System (CMMS) supporting 180 mobile users connected via cellular, a fleet management system, and a storm water/flood management system (consisting of a linked network of sensors and gauges). KC Water would like to replace the cellular backhaul with a lower cost solution, and migrate to cloud systems. Maintaining persistent connections for mobile workers to GIS, CMMS, and LIMS dashboards is paramount, however KC Water would like to update and simplify systems as well as reduce cellular backhaul costs.

Proposers shall detail their approach, offering and any associated costs to the city, identifying separately: connectivity, MTU replacement, and other aspects of the proposed Smart Water solution.

h) **Connected Health:** In pursuit of improved public health in the City, the Smart City platform should include data and analytics capabilities, including predictive analyses, as well as geo-fencing for public health alerts, including but not limited to: asthma-related incidents and school attendance; amount and dosage of asthma-related and potentially other smart inhalers used; and the identification of the location and intensity of public health issues in the City. Additionally, the system shall integrate with existing initiatives of the City to include indoor air quality sensors measuring indoor particulate matter. The City would like Proposers to consider working with its local public healthcare Proposers.

The Community Health Improvement Plan which can be found at: https://kchealthdata.thehcn.net/content/sites/kchealthdata/Tobacco_2012_Report.pdf.

2.5 Key Requirements

2.5.1 Financing

The City recognizes that a variety of private sector entities have engaged in Smart City projects and network development/expansion in other cities, and are interested in providing financing, management and planning, and operations and maintenance services to the City. The City seeks responses from potential partners that are interested in participating in the development of next-generation Smart City deployment, funding, technical solutions by providing planning, management and maintenance services or a combination there-of. The City may consider a variety of technical approaches and funding models, and proposers are encouraged to present innovative ways to share operational responsibilities and financial risks and benefits which provide value to the City in terms of emerging Smart City applications. A desired outcome is to enable models that generate sufficient revenue to materially or completely reduce the financial risk and funding by the City for the City's "Smart" projects, on an overall basis.

The City is seeking partner(s) with a diverse range of skills and high level(s) of expertise in the financing, development, management and maintenance of a Smart City implementation plus the development of networks to areas of disinvestment. The partner(s) will work with the City to develop an overall work plan for how the City will continue to position itself as a prime location for residency and business through the development of comprehensive Smart City technology and systems that will produce significant public value.

The City will entertain proposals from:

- Organizations that are primarily financial based and wish to become a strategic public-private business partner with City, and who bring the best of breed subcontractors for technical planning, systems integration, equipment provision, construction, management, systems operations, data capture/analysis and system/equipment upgrading and maintenance.
- Organizations that have the capability of being both financial and technical partners in meeting the City's value propositions for infrastructure development, technology deployment, financing, operations, and maintenance. The successful proposer(s) must be able to demonstrate their ability to serve as a financial partner, possess proven technical expertise, provide an implementation strategy, clearly define primary project team and qualifications, identify maintenance strategies, and delineate value propositions for the Smart City and economic development initiatives.

The City seeks input from potential partners regarding the terms and conditions under which they would partner with the City. The City encourages proposers to share their interests, both broadly and in terms of specific routes, which may be used to shape the direction and form of the network portion of the assignment. In short, the City is seeking to work with a potential partner(s) that are focused on achieving the City's overall Smart City and economic development outcomes, via next

generation business models. The City reserves the right to obtain its own financing after evaluation of the financing portion of the responses.

2.5.2 Financial Proposal

The proposer's Financial Proposal must include:

a) The estimated investment or funding that the proposer or the proposer and its partner(s) will provide in the City detailed by functionality (e.g., smart lighting or smart parking) and in total. It is the preference of the City to incur no capital costs for this Smart City expansion. However, financial proposals may offer the city more than one financial option. For example, one approach may call for zero costs to the city, while another may call for city-financed solutions whereas another may call for all financing to be provided by the Program Manager.

b) The proposer must identify any costs payable by the City to the Proposer or other entity (e.g., payment) or otherwise (e.g., expected hours of City personnel for support or costs of new city-provided assets) to support this program, both initially as well as for any new sub-element (e.g., smart street lighting or smart parking). Any ongoing or recurring costs to the city such as maintenance or operating costs must be detailed.

c) All proposed costs to the city as described in Paragraph 2.5.2(b), above, shall detail when such payment is required if any (e.g., $x in month 36 for new cameras for smart parking in Area X).

d) Detail any payments, such as the specific percentage of profit or revenue, that the City should expect to receive, including amounts, dates, and sources.

e) The terms and conditions related to the provision of the investment or funding such as desired concessions for use, access or master lease of the City's assets, revenue shares, expected private financing rate of return, term, conditions, covenants, etc.

f) Any other financial terms and conditions.

g) The term desired for the relationship either by Smart City sub-project or in the aggregate.

h) Three years of Financial records for the proposing Proposer and for each company that proposer is putting forward as part of their proposal.. Note that a company may not have all its Proposers and partners selected or confirmed at the time of proposal submittal, and consequently financial records would not be possible to submit for such firms. However, it is the preference of the City to know a Proposer's partners, so identifying Proposers and partners may strengthen a submission compared to others where Proposers and partners are not identified.

2.5.3 Working Relationship Framework

The City is issuing this Request for Proposal (RFP) to invite partner entities to have a working relationship with the City in as many of the following areas as is feasible:

a) Working with the City and its partners to ensure that adequate financing and/or outcome based funding is available for the City and partners to achieve its Smart City and economic development objectives via the development of public private partnership(s) with the proposer. This can include providing favorable term loans and/or variable risk equity investment, for all or part of the investment needed to achieve specific project goals acting as a direct investor or through other third parties who would finance specific projects. The City reserves the right to obtain its own financing after evaluation of the financing portion of the responses.

b) Participating in joint builds or swaps.

c) Facilitating make ready work in provision of WiFi, other types of connectivity, and potentially state-of-the-art small cell networks.

d) Investing in appropriate technology and data-sharing platforms for Smart City capabilities that are compliant with open systems standards and optimal for implementation in the City.

e) Providing value to the City in exchange for a right to use and or physically occupy City owned or partner owned assets and other infrastructure within the public right of way. Kansas City will provide an expedited development process and nondiscriminatory, nonexclusive access to City-owned infrastructure, and/ or defer costs of lease revenue as part of its portion of the partnership agreement.

f) Providing project planning support and installation and maintenance support for wireless, Distributed Antenna System, fiber, cable or any other technologies implemented within the City's Business Plan and the Smart City Operations Blueprint (included in Appendix A) and economic development initiatives.

g) Working with the City to discover new opportunities and value in underutilized and existing City assets to support the Smart City strategy and initiatives.

h) Working with the City to evaluate and prioritize individual projects based on established metrics, e.g. potential for revenue generation for reinvestment and sustainability, cost savings or cost avoidance as well as other ways they could be of value to the City.

i) Assisting the City in executing any Smart City project it chooses to implement as applicable.

j) Developing City staff to possess the expertise to manage the implemented assets internally.

k) Including the community at large in an engagement process as part of strategic planning and in the implementation of specific initiatives.

2.5.4 Asset Ownership and Operations/Maintenance

As Proposers develop their business models, the City realizes the importance for Proposers to clearly understand what City assets are available for potential monetization as well as requirements for development, installation, operations, and maintenance. In some cases, the City remains open to either owning an asset themselves or allowing it to be owned by the Program Manager or its designee and is thus able to entertain the flexibility and range of options provided by the Proposer.

Table 1. Asset Ownership and Operations Options

Asset	**Ownership/lease**	**Operations & Maintenance**
Public wi-fi infrastructure	City is open to City or Program Manager/supplier owning these assets. (City will entertain either scenario.)	Program Manager
New or upgraded smart, connected parking meters (not yet purchased/upgraded)	City is open to City or Program Manager/supplier owning these assets. (City will entertain either scenario.)	May be operated by the Program Manager or City. (City will entertain either scenario.)
Smart parking sensors (if any), cameras (if any), and other related equipment (if any)	City is open to City or Program Manager/supplier owning these assets. (City will entertain either scenario.)	Program Manager
Traffic controllers, traffic signals, and other traffic equipment for smart intersections.	City shall own these assets	City. Any required training to be provided by Program Manager.
Cameras used for traffic and smart intersections	City is open to City or Program Manager/supplier owning these assets. (City will entertain either scenario.)	May be operated by the Program Manager or City. (City will entertain either scenario.)
Cameras used for public safety	City is open to City or Program Manager/supplier owning these assets. (City will entertain either scenario.)	May be operated by the Program Manager or City. (City will entertain either scenario.)
Outdoor lighting system	LED lighting and lighting system shall be owned by the City	May be operated by the Program Manager or City. (City will entertain either scenario.)
Light poles on which smart lighting and other assets may be deployed.	The City shall retain ownership of all light poles. However, for the duration of the contract, the City may considerleasing to the Program Manager. PM shall identify in his/her proposal the number of poles required as part of its Proposal.	May be operated by the Program Manager or City. (City will entertain either scenario.)
Acoustic sensors	City is open to City or Program Manager/supplier owning these assets. (City will entertain either scenario.)	May be operated by the Program Manager or City. (City will entertain either scenario.)

Air quality sensors	City is open to City or Program Manager/supplier owning these assets. (City will entertain either scenario.)	May be operated by the Program Manager or City. (City will entertain either scenario.)
Water and sewer infrastructure	All water, storm water, and waste water infrastructure shall remain owned by the City.	All water, storm water, and waste water infrastructure operations and maintenance shall remain with the City.
Water and sewer connectivity system	City is open to City or Program Manager/supplier owning these assets. (City will entertain either scenario.)	May be operated by the Program Manager or City. (City will entertain either scenario.)
Other equipment installed by Program Manager	City is open to City or Program Manager/supplier owning these assets. (City will entertain either scenario.)	May be operated by the Program Manager or City. (City will entertain either scenario.)

Maintenance includes regular maintenance to keep a device or system operational and shall include force majeure events like lightning, storms, flooding, etc. including replacement due to such events.

2.5.5 Tangible Work Products

The City requires completion and delivery of the tangible work products listed below:

a) A financial roadmap that identifies how proposed technology and infrastructure improvements can be financed/paid for with specifics as to the proposer's role as either 1) arranger and/or direct investor/financial resource; or 2) partner with another financial resource provider. The City reserves the right to obtain its own financing after evaluation of the financing portion of the responses.

b) The City seeks a visioning document as well as a high-level roadmap to attain the Smart City Strategy. The Smart City strategy should be founding in the City's core commitments and objectives to enhanced public safety, mobility, opportunity-creation, resiliency, sustainability, livability and digital equity and the goals of the City's Citywide Business Plan (available at http://kcmo.gov/finance/citywide-business-plan/).

c) An integrated Data Analytics Platform that provides the technology and data-sharing platforms for IoT and other Smart capabilities that are compliant with open systems standards and optimal for implementation in the City.

d) The conceptual design, installation, operation, and maintenance of the specific initiatives identified in Section 2.4.3 of this RFP, as well as details on how the solutions advance Smart City objectives and the goal of establishing Kansas City as the foremost Smart City in North America.

e) A plan for development of wireless infrastructure, or other connectivity infrastructure to advance Kansas City's Smart City objectives.

f) Metrics, key performance indicators and milestones for overall strategy as well as for individual project work plans for implementation. Proposer should be able to identify opportunities for quick wins and solutions that produce rapid returns on investment for the earlier stages of implementation. Individual project work plans should be framed by parameters and specifications

that will ensure the compatibility of one project to another to accommodate an agile development process for Smart City capabilities.

g) A security framework to ensure safe development of Smart City solutions and the continued assessment of risk moving forward. This includes the creation of transparent policies around privacy and protection of sensitive information and protected data.

2.5.6 Milestones and Timeline

Selected partner(s) should propose and explain their structure and proposed execution of the work. Proposers must submit a timeline of activities, detailing all the activities the Program Manager needs to conduct to deliver the requested products and services. The workplan must detail key dates and milestones, including any expectations of the City. In addition, the workplan should indicate what set of work City staff is responsible for, if any. For the purposes of the workplan, the date October 1, 2018 should be used as the 'start' date (noting, however, that the actual start date is may be different). For some capabilities, such as smart lighting, specific completion dates or months to completion are required by the City, as detailed in the use case summaries in the Appendices. When dates are not specified, it is the preference of the City to have functional capabilities sooner than later. The timeline shall include specific dates for each functional element of the program (e.g., connected corridor expansion, smart lighting, smart parking, etc.).

2.5.7 Hours and Location of Work

The successful proposer(s) is expected to successfully complete the work in a timely fashion. The successful proposer will be expected to attend meetings with various City entities and stakeholder groups on an as-needed basis and regularly be available to meet/connect with the designated City Project Manager(s) via phone, e-mail, or in person.

The successful proposer(s) is expected to retain a program manager and have that individual work in City Hall on a day-to-day basis with the Chief Innovation Officer or individual appointed to fill that role by the City Manager.

2.5.8 Monitoring

By submission of a proposal in response to this RFP, the proposer agrees that it will comply with all contract monitoring and evaluation activities undertaken by the City, and with all security policies and requirements of the City.

2.5.9 Reporting

Given the importance for transparency and proper governance, the successful proposer shall report to the City on a regular basis and in the format agreed to in the final executed documents, regarding the status of the project and its progress in providing the contracted services and/or products. At a minimum, the successful proposer shall submit a monthly financial statement that exhibits the goals/tasks accomplished, and the associated costs and revenue (if available projectable).

2.5.10 Public Participation

Before implementation of the Smart City expansion project, for each functional element of the project (e.g., data analytics platform, smart lighting, smart parking, etc.,) the selected Program Manager shall

integrate citizen engagement that allows for public disclosure of the functionality, data collection, and public benefits, and allows an opportunity for public input. A process for integrating resident feedback should be included as a standard component of the development and implementation of Smart City projects under this contract. The public input and citizen engagement shall be a genuine effort to communicate plans with the public and obtain public response. Any public outreach shallbe coordinated with the City.

Citizen input and public participation may be required before award of a contract resulting from this RFP. In such a case, the selected Proposer(s) shall participate in this process for genuine participation and at no cost to the City.

The City currently has a Citizen Satisfaction Survey. If desired by the City, the Program Manager shall leverage this tool if it is available for citizen engagement across the life of the Program Manager contract; other tools and methods may be used as well to fully execute citizen engagement.

RFP Proposers should detail their planned approach to public participation.

2.5.11 Alignment with IoT Guidelines

Proposers should align their proposals with the IoT Guidelines described in Appendix J. These were developed by NYC and have been adopted by 35 additional cities, including Kansas City. The guidelines provide a framework to help government and its partners responsibly deploy connected devices and IoT technologies in a coordinated and consistent manner. The guidelines are structured around the following five areas: privacy and transparency; data management; infrastructure; security, and; operations and sustainability.

2.5.12 Other Network Requirements

Network performance should be described in proposals, bearing in mind the City's desired functionality and performance capabilities as described below:

- Proposer will be required to define minimum connectivity speeds as actual speeds delivered and percentage of time this is provided, not an advertised speed.

- Proposer will be required to develop plain language documentation that shows what users provide, or what user data is collected, in exchange for the free-WiFi and other network connectivity (privacy and transparency). This documentation should be easy to read and understand by the average reader.

- For normal data and network operations across the City, Uptime, Latency, Bandwidth, and repair times must be roughly equal across neighborhoods.

- Proposer shall deploy WiFi and other network connectivity in a way that advances digital equity in the City; the lowest income areas of the city are not to be served last.

- Data on WIFI and other network connectivity usage by geographic area shall be delivered to the City daily and monthly as daily and monthly reports. The report should include several metrics:
    a. # of connected devices in distinct geographies
    b. # of users
    c. Average time
    e. Total data in/out

f. Median data in/out per device
g. Standard deviation of data in and out per device
h. Some quantification of signal quality (Me.g., bps, dBm, or RSSI)
i. Uptime % (over whole network and by individual site/router
j. Other metrics as appropriate

- A website must be created that is publicly accessible and shows where public WiFi, and/or other network connectivity, is currently available along with live feed of connectivity status so residents can understand when and where an outage is occurring. This is currently available through the City's Xaqt contract.

- In keeping with the City's current privacy policy, KCPD and other government organizations must obtain a warrant to get user level data from the WiFi network in the same way that they currently operate with other ISPs. If the Federal Government, State Government, or other "higher level" of government requests user data from the WiFi and/or other connectivity provider the City Attorney is to be made aware of it and the data is not to be shared unless compelled by law.

- Virtual Private Networks (VPNs) and all forms of encryptions are to be allowed on the network and the WiFi provider shall not limit the user's bandwidth, latency, or content availability. Users wishing to maintain their privacy should be able to do so.

- City equipment and staff (while working) are never to be charged for using the WiFi network and must not be denied access unless approved by the City Manager. City equipment and City staff (while working) should never have their connection throttled, slowed, or blocked in any way unless approved by the City Manager.

- Residents should have the ability to opt-out of having their data tracked by filling out a request. The request must be executed within 21 days, with a confirmation sent to the requester.

- Residents should be able to request that their data be deleted from the system.

- A yearly report on the revenue generated from the WiFi program should be shared with the City and made publicly available. Revenue on data shall be available to the City at the smallest geography reasonably possible (e.g., census tract). Users shall have access to a report that explains how data is used and monetized via the City's website.

- A plan must be generated between the WiFi provider and the City's 311 program to determine how reports about outages and malfunctions will occur. Standard timeframes for resolutions should be established.

- The City has the right to hire an auditor to investigate and verify that established rules are being followed.

2.5.13 Net Neutrality

Net neutrality prohibits the prioritization of paid content and the throttling of non-preferred content. In other words, all traffic across the network is treated equally. No content or traffic prioritization or restrictions are allowed, except in emergencies.

Kansas City is committed to taking all available steps to ensure the internet remains open and to keep gatekeepers from throttling, blocking or limiting government content on the internet. Kansas City's public WiFi and other network connectivity is to be completely content and speed neutral – and shall comply with the definition of net-neutrality at all levels. To that end, net neutrality is a selection criteria element for successful responses to this RFP.

Specifically, Kansas City will:

1. Procure applicable internet services only from companies that do not block, throttle, or provide paid prioritization of content on sites that cities run to provide critical services and information to their residents.

2. Ensure an open internet connection with any free or subsidized service offered to City residents.

3. Not block, throttle or engage in paid prioritization when providing internet service directly to the City's residents, such as through free public Wi-Fi or municipal broadband.

4. To the extent permitted, require clear and accessible notices of filtering, blocking and prioritization policies with enforceable penalties for violations to protect consumers from deceptive practices.

As such, any WiFi or connectivity provided is never to block specific applications, websites, or any other form of connection unless the connection is being used for malicious purposes such as DDOS attacks. All forms of connection blocking should be reported to the City Manager or their designee and permanent blockage requires the permission of the City Government.

2.5.14 Data Ownership, Use and Management

All use of data shall be in conformance with the City's Data Privacy Principles, which can be found at http://cityclerk.kcmo.org/liveweb/Documents/Document.aspx?q=kswhJzmAm9oOWtHlAp4dY7g%2FnpnWa4QZ6SZzmkaKhkqbSwbdVaa7qNc4uuaGtyyu

(a) **Data Ownership:** The City owns all data collected via the systems proposed to be built, installed, modified or created under this RFP and awarded under any subsequently contract. Upon system/network initiation, the City will grant to the awardee/contractor/supplier a license to use the data collected from any and all sensors, kiosk's, light poles, vehicles, mobile devices, wi-fi networks, databases, data sources not yet created or conceived of, and other sources of data collected, generated, identified, or transmitted that traverses the network. That license is granted with the intention of the City providing the supplier with a resource from which to create revenue as a payback for any costs associated with this project. The City will bear no liability or responsibility for the supplier's willful or non-willful security breach of such data, regardless of the circumstances of such breach.

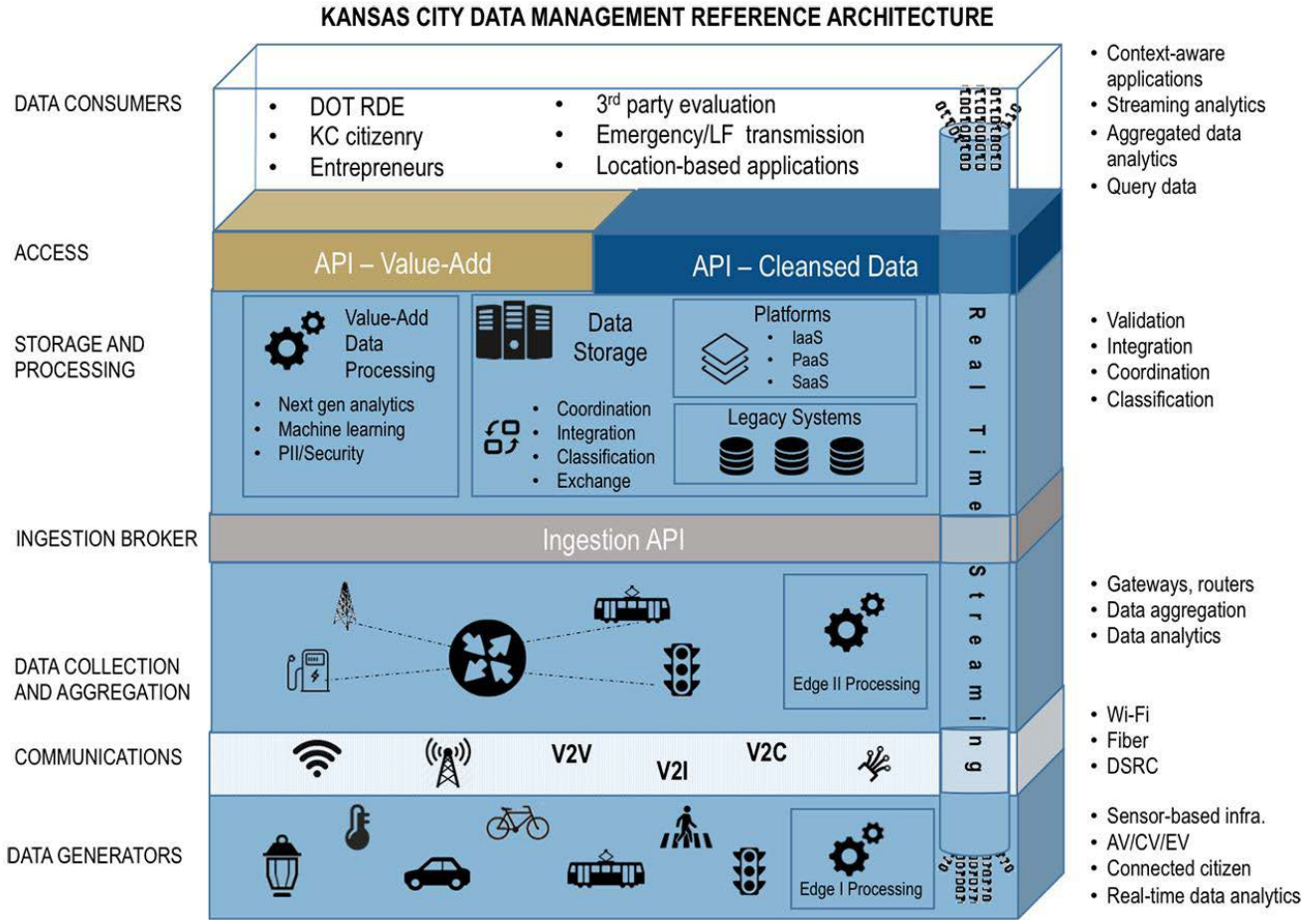
The rights to data granted the awardee/contractor/supplier are limited, and are only granted to the awardee/contractor/supplier at the time of the contract award. Those rights will extend only for the term of the signed contract, unless both parties revisit and agree on an extension or modified basis for licensing

consideration. Further use or dissemination of the data to other users by the awardee/contractor/supplier must be approved by the City prior to that action taking place as must any subsequent changes that occur in the ownership of any lower-tier supplier previously granted such usage rights.

(b) **Data Use:** Proposers should provide a plan outlining their understanding of the use of data collected, generated, identified, or transmitted in connection with the Smart City Expansion. This includes data monetization, sale, and/or sharing. Proposers should also detail how they plan to address and limit bias in their analytics and algorithms. Data collected from sensors, once anonymized and aggregated at the block level, shall become intellectual property of the City of Kansas City, MO. It may be stored in cloud entities identified and managed by the Program Manager.

(c) **Data Management:** Proposers will create a data management plan that will describe how data will be collected, managed, integrated, and disseminated before, during, and after the Smart City Expansion. The Plan will include privacy provisions which will document how the City and the Program Manager will collect, store, strip, suppress, and disseminate information internally and externally. The plan will consider all aspects of Personally Identifiable Information (PII) and Sensitive information.

Kansas City has created a Data Management Reference Architecture (DMRA) as a data management approach and schemata. Proposers should incorporate this data management approach into their proposals. To manage data effectively, it is important to understand the scope of the Smart City system to identify all points where data flows in and out, procedures for how to handle different types of data, and where those data are stored for long-term use. The DMRA schematic, below, consists of systems, infrastructure, and applications and governance policies that are part of efforts underway through key initiatives supported by the City. The DMRA schematic represents an evolution of the work underway and how new efforts will weave into that fabric securely and effectively. The schematic maps out the different layers of data collection, communication, storage, analysis, and provisioning. A foundational data management approach will ensure flexibility to collect and safely transmit data, secure sensitive and potentially private data, conduct analyses at the local site and more centrally, and seamlessly use archived data in future analyses. The effort of building a Smart City requires a broad set of guiding principles that adapt and evolve over time in adherence to federal government standards around data management.



2.5.15 Working with Existing Suppliers

All submissions will integrate Kansas City's existing and future Smart City infrastructure including equipment currently deployed in the Main Street Corridor, the data management system (Cisco Kinetic for Cities), the Data Analysis platform (Xaqt Engage) and other data analysis platforms currently maintained in the Office of Performance management. Existing contractual supplier obligations include:

- **Sprint.** Sprint currently owns and operates the network downtown, including 328 WiFi access points and is contractually required to maintain the network for approximately 3.5 more years.
- **Sensity.** The public works department maintains 178 streetlight sensors, which are a Verizon product formerly known as Sensity.
- **Xaqt.** Xaqt's latest urban analytics platform, Engage, provides online cloud data integration, warehousing and analytics on city performance and services. Data collected from sensors and stored in the Kinetic platform shall be accessible by the data analytics platform currently under contract to the City (with Xaqt) via an API. There is one year remaining on the contract with an additional year available by mutual option.

- **Cisco.** KCMO has implemented Cisco's Kinetic for Cities Platform offering for Smart Cities (formerly Civic Data Platform (CDP)). All data from sensors will be compatible with and stored in Cisco's Kinetic Platform.
- **Neptune.** Neptune is the supplier Advanced Metering Infrastructure (AMI) and Low Power Wide Area Network in the water systems.

2.5.16 Training & Skills Transfer

The net impact of this RFP will change how the City functions, beyond day-to-day information and data management. Organizational change management, skills transfer and training are key drivers to recognizing the full value of technology investments, as well as a critical piece to the civil service, and in turn to citizens, visitors and businesses. Proposers should outline their strategy for workforce training and skills transfer, including details for each functional element of the program (e.g., data analytics platform, smart lighting, smart parking, etc.).

2.5.17 Interrogatories (Maximum of One Page, double-Spaced, single sided per question))

The Proposer should provide a full and complete response to each question listed below, within the space constaints of no more than one page, double-spaced and single sided, per question:

2.5.17.1. Customer Service

2.5.17.1.1 Describe your customer support model. For example, would you accept support requests from any City staff member, or only from designated representatives? Do you provide a primary contact(s) for a given customer account, or do you provide support by geographic region, or by area of functional specialty?

2.5.17.1.2 Describe the product enhancement process and the role that customers, and the public, play in determining and prioritizing new features and enhancements. Describe any changes or updates you have made to your solutions in the past year as a direct result of customer feedback.

2.5.17.1.3 Please describe how your organization would include the broader Kansas City community, including regional partners, residents, community organizations, etc. to solicit feedback, obtain buy-in, and allow public participation in decision-making.

2.5.17.2 Data Migration and Data Use

2.5.17.2.1 For some functionalities, data migration may be required from existing databases to the new system. Describe the data migration services you offer.

2.5.17.2.2 Describe the likely data migration scenario for an organization such as the City. Describe a recommended or typical data migration timeline that you may estimate for this project.

2.5.17.3. Architecture

2.5.17.3.1 Describe any initial configuration or implementation decisions that cannot later be changed, or altered only with great effort or expense.

2.5.17.3.2 The City desires the ability to roll out upgrades, features enhancements, updates and fixes for the solution quickly and easily. Describe how the solution meets this goal.

2.5.17.3.3 What are your recommended bandwidth requirements per user for Internet connectivity and for WAN/LAN delivery of Smart City management system services to users? Explain your recommendations.

2.5.17.3.4 Does your proposed solution offer multiple types of connectivity based on the best fit per use case?

2.5.17.4. System/Software/Firmware Updates

2.5.17.4.1 How do you communicate plans and arrangements for scheduled maintenance? How much downtime is required for maintenance? How far in advance would the City be warned of scheduled maintenance and scheduled system unavailability? What tools are available to continue core functions during down time? How are jobs that are scheduled to run during down times handled?

2.5.17.5. SLA/Availability

2.5.17.5.1 Describe how the solution minimizes business disruption and maximizes system availability especially during normal business hours. What are the biggest risks to the solution, in terms of availability (e.g., power outages, network outages, data corruption, software bugs, reliance on external power), and how are these risks mitigated? Provide any examples you can of large outages that have occurred, how long they have lasted, and how you resolved them.

2.5.17.6. Scalability & Performance

2.5.17.6.1 Describe how the solution manages peaks and spikes in usage or data transmission over varying periods of time, including seconds, minutes and hours.

2.5.17.7. Security, Accessibility, Data Use and Privacy

2.5.17.7.1 Describe your cybersecurity approach.

2.5.17.7.2 Describe in detail how data privacy is maintained, particularly individual citizen data.

2.5.17.7.3 Describe the solution's use of and support for secure protocols to safeguard data in transit and at rest.

2.5.17.7.4 Describe the solution's support for encryption in backups and in replica sets.

2.5.17.7.5 Describe how your solution handles data recovery or the ability to roll back in the event of human or system error. Is the recovery process a self-service mechanism or, must the program manager perform the recovery? Are there any costs associated with this service?

2.5.17.7.6 What protocols have been established for dealing with unauthorized access to or disclosure of confidential data?

2.5.17.7.7 Describe what data validation the solution performs on records as they are created or edited and indicate whether this is different for batch jobs as compared to single records.

2.5.17.7.8 Describe how the solution tracks changes to records. Is there an audit trail for edits? Is it possible to revert to previous versions of a record?

2.5.17.7.9 Describe the extent to which the solution has been designed to comply with laws and regulations governing the storage and use of protected user data

2.5.17.7.10 Other than the provision of reports for the City, please describe in detail how you will sell, share, manipulate, aggregate, package, or otherwise monetize data obtained through the platform, detailing which data shall be used and how and identifying potential third parties that may be involved.

2.5.17.8. Identity Management

2.5.17.8.1 Describe how administrative rights are assigned within the solution. Can administrative rights be assigned to identities stored in external identity stores, such as Active Directory? Can administrative rights be assigned to groups, as well as users?

2.5.17.8.2 Describe how your solution addresses group-based permissions. Also describe any differences in what permissions and privileges can be managed for a group vs. an individual account.

2.5.17.8.3 Describe the level of granularity of access controls for staff functions (principle of least privileges). For example, can certain data elements be made read-only for some staff and read-write for others?

2.5.17.9. Integration and Extensibility

2.5.17.9.1 Describe how the solution exposes data through documented web services and APIs, including supported data operations (read, write, update, delete, and so on).

2.5.17.9.2 Describe the support (including documentation and online forum) provided for APIs and/or web services. Describe any interfaces and APIs that are available to support integrations/interoperability and that enable the customer, or other end users, to extend system functionality.

2.5.17.9.3 For all major reporting, updating, importing and exporting functions, describe the level of staff expertise needed to perform the operation. In particular, identify which functions require the intervention of a database administrator or Systems/IT personnel as opposed to functions that staff can perform on their own. In each case, include the specific technology or platform in which the technical function must be performed.

2.5.17.10. Testing

2.5.17.10.1 How can City staff test changes, updates, etc. before making changes to the production environment?

2.5.17.11. Solution Administration

2.5.17.11.1 Who will administer the solution components? Describe how a City staff member accesses the solution. Describe how user access control is delegated. Who sets permissions?

SECTION 3

3. SPECIAL INSTRUCTIONS AND CONDITIONS

The Proposer shall complete and submit the following forms:

3.1. Authorized Signature Form

3.2. No Proposal Response Form (If no proposal is submitted).

AUTHORIZED SIGNATURE FORM

By submission of the RFP, the undersigned certifies that:

- It has not paid or agreed to pay any fee or commission, or any other thing of value contingent upon the award of this contract, to any City of Kansas City, Missouri employee or official or to any current consultant to the City of Kansas City, Missouri;
- It has not paid or agreed to pay any fee or commission or any other thing of value contingent upon the award of this contract, to any broker or agent or any other person;
- The prices contained in this Proposal have been arrived at independently and without collusion, consultation, communication or agreement intended to restrict competition;
- It has the full authority of the Offeror to execute the Proposal and to execute any resulting contract awarded as the result of, or on the basis of, the Proposal;
- Proposer will not withdraw the Proposal for ninety (90) days.
- By the below signature, I hereby certify that I have both the legal authority from my business/firm and the right to enter into this contractual agreement with the City of Kansas City, Missouri, and have read, understood, and hereby fully accept all the terms, conditions, specifications, and pricing information contained within this document as well as any and all subsequent pages, addenda, and notices.

Authorized Representative:

Signature:

Title:

Business/Firm Name:

Address:

City, State, Zip:

Telephone Number:

Fax Number:

E-mail Address:

NO PROPOSAL RESPONSE FORM

If you choose not to submit a proposal, please complete and return only this form, on or before the due date. Thank you for taking this opportunity to help us update and improve our solicitation process.

Procurement: Cedric Rowan Phone: (816) 513-0814 Return by Fax: (816) 513-1156

Number: EV2556

Description: Comprehensive Smart City Partnership With Kansas City, Missouri

Please check the appropriate response(s). We respectfully submit "No Response" for the following reason(s):

☐ 1. We cannot provide a service to meet the required specifications.

☐ 2. The closing date does not allow adequate time to prepare a response.

☐ 3. We have chosen not to do business with the City.

☐ 4. Other (comment below or provide your response on your business/firm letterhead).

_____

_____

_____

Business/Firm Name: _____ Supplier No.: _____

Authorized Signature: _____

Print Name: _____

Title: _____

Date: _____ Telephone No.: _____

SECTION 4
ATTACHMENT NO. 1

AFFIDAVIT

EMPLOYEE ELIGIBILITY VERIFICATION AFFIDAVIT

(Required for any contract with the City of Kansas City, Missouri in excess of $5,000.00)

STATE OF _____)
) ss
COUNTY OF _____)

On this _____ day of _____, 20___, before me appeared _____, personally known by me or otherwise proven to be the person whose name is subscribed on this affidavit and who, being duly sworn, stated as follows:

I am of sound mind, capable of making this affidavit, and personally swear or affirm that the statements made herein are truthful to the best of my knowledge. I am the _____ (title) of _____ (business entity) and I am duly authorized, directed or empowered to act with full authority on behalf of the business entity in making this affidavit.

I hereby swear or affirm that the business entity does not knowingly employ any person in connection with the contracted services who does not have the legal right or authorization under federal law to work in the United States as defined in 8 U.S.C. § 1324a(h)(3).

I hereby additionally swear or affirm that the business entity is enrolled in an electronic verification of work program operated by the United States Department of Homeland Security (E-Verify) or an equivalent federal work authorization program operated by the United States Department of Homeland Security to verify information of newly hired employees, under the Immigration Reform and Control Act of 1986, and that the business entity will participate in said program with respect to any person hired by the business entity to perform any work in connection with the contracted services.

I have attached hereto documentation sufficient to establish the business entity's enrollment and participation in the required electronic verification of work program. The documentation will consist of the first and last pages of the E-Verify Memorandum of Understanding that the Contractor obtained upon successfully enrolling in the program.

I am aware and recognize that unless certain contractual requirements are satisfied and affidavits obtained as provided in Section 285.530, RSMo, the business entity may face liability for violations committed by its subcontractors, notwithstanding the fact that the business entity may itself be compliant.

I acknowledge that I am signing this affidavit as the free act and deed of the business entity and that I am not doing so under duress.

_____
Affiant's signature

Subscribed and sworn to before me this _____ day of _____, 20____.

_____
Notary Public

My Commission expires:

SECTION 4
ATTACHMENT NO. 2

REFERENCES

PROPOSER REFERENCES FROM CLIENTS

Proposers are required to provide three (3) client references, including contact information, for similar projects that the Proposer has completed within the past five (5) years. It is preferred that at least one (1) client reference be a government sector client.

The Proposer is required to include the three (3) references in the Proposal submitted to the City.

CITY OF KCMO REFERENCE CHECK

GENERAL INFORMATION

Name of Proposer	
Subcontractor/Third Party	
Product or Service Reviewed	

REFERENCE CHECK INFORMATION

Business/Firm Name	
Business/Firm Address	
Contact Name	
Title	
Telephone Number	
Fax Number	
E-mail Address	

To submit a reference, please respond to the following questions:

1. What services did the Business/Firm provide for you?

2. Were the services performed satisfactorily?

3. Were the invoices detailed and accurate?

   If the invoicing was not accurate, explain how easy or difficult it was to reconcile or have the invoicing updated.

4. Were there any staffing disputes? If so, explain how easy or difficult it was to have staff replaced.

5. Was the account service satisfactory?

6. What was included in the account service?

7. Were you happy with the cost of your services?

8. Are you still using this Business/Firm for these services?

9. Do you plan to continue this relationship?

10. Additional Comments:

Name of Client Contact (Print)	Signature and Date

SECTION 4
ATTACHMENT NO. 3

HRD FORMS AND INSTRUCTIONS

The following HRD Forms and Instructions are included in this Attachment:

FORM	TITLE
HRD 06	RFQ/P Instructions
HRD 13	Affidavit of Intended Utilization
HRD 08	Contractor Utilization Plan/Request for Waiver
00450.01	Letter of Intent to Subcontract
HRD 10	Timetable for MBE/WBE Utilization
HRD 11	Request for Modification or Substitution
01290.14	Contractor Affidavit for Final Payment
01290.15	Subcontractor Affidavit for Final Payment

HRD INSTRUCTIONS
FOR REQUESTS FOR QUALIFICATIONS/PROPOSALS

PART A. MINORITY/WOMEN BUSINESS ENTERPRISE REQUIREMENTS

I. City's MBE/WBE Program.

A. The City has adopted a Minority/Women Business Enterprise ("MBE/WBE") Program (Sections 4-421 through 3-469, Code of Ordinances) (the "Program") to implement the City's policy of supporting the fullest possible participation in City contracts and change orders of firms owned and controlled by minorities and women. Each construction project may have an MBE and/or WBE goal for participation. An MBE or WBE goal is a numerical objective the City has set for the contract. Goals are stated as a percentage of contract dollars. For example, if an MBE goal for a contract is 10% and a Proposer submits a proposal of $100,000, the goal for MBE participation would equal $10,000. The specific MBE/WBE goals on this project are set forth elsewhere in the proposal specifications.

B. By submitting a proposal, the Proposer agrees, as a material term of the contract, to carry out the City's MBE/WBE Program by making good faith efforts to include certified MBE/WBEs in the project work to the extent of the goals listed for the project and to the fullest extent consistent with submitting the best proposal to the City. Proposer agrees that the Program is incorporated into this document and agrees to follow the Program. Although it is not a requirement that a Proposer in fact meet or exceed both the MBE and WBE Goals, it is a requirement for approval of the proposal that a Proposer objectively demonstrate to the City that good faith efforts have been made to meet the Goals.

C. The following HRD Forms are attached and must be used for MBE/WBE submittals:

1. Affidavit of Intended Utilization (HRD Form 13); and
2. Contractor Utilization Plan/Request for Waiver (HRD Form 8A); and
3. Letter of Intent to Subcontract (HRD Form 00450.01); and
4. Timetable for MBE/WBE Utilization (HRD Form 10); and
5. Request for Modification or Substitution (HRD Form 11); and
6. Contractor Affidavit for Final Payment (Form 01290.14); and
7. Subcontractor Affidavit for Final Payment (Form 01290.15).

Warning: The City only gives MBE/WBE credit for a Proposer's use of City certified MBE/WBEs. A certified MBE/WBE firm is a firm that has been certified by the City's Human Relations Department as such. Certified MBEs and WBEs are listed in the M/W/DBE Kansas City Mo. Online Directory, which is available on the City's website at www.kcmo.org. Before a Proposer submits a proposal, Proposer should contact HRD and consult the directory to make sure any firm proposed for use for MBE/WBE participation has been certified.

AFFIDAVIT OF INTENDED UTILIZATION

(This Form must be submitted with your Bid/Proposal)

_____
(Department Project)

_____
(Bidder/Proposer)

STATE OF _____)
) ss
COUNTY OF _____)

I, _____, of lawful age and upon my oath state as follows:

1. This Affidavit is made for the purpose of complying with the provisions of the MBE/WBE submittal requirements in the bid/proposal specifications on the above project and is given on behalf of the Bidder/Proposer listed below.

2. Bidder/Proposer assures that it presently intends to utilize the following MBE/WBE participation in the above project if awarded the Contract:

PROJECT GOALS:	_____% MBE	_____% WBE
BIDDER/PROPOSER PARTICIPATION:	_____% MBE	_____% WBE

3. To the best of Bidder's/Proposer's knowledge, the following are the names of certified MBEs or WBEs with whom Bidder/Proposer, or Bidder's/Proposer's subcontractors, presently intend to contract if awarded the Contract on the above project: ***(All firms must <u>currently</u> be certified by Kansas City, Missouri Dept. Of Human Relations)***

a. Name of M/WBE Firm _____
Address _____
Telephone No. _____
I.R.S. No. _____
Area/Scope of work _____
Subcontract amount _____

b. Name of M/WBE Firm _____
Address _____
Telephone No. _____
I.R.S. No. _____
Area/Scope of work _____
Subcontract amount _____

c. Name of M/WBE Firm _____
Address _____
Telephone No. _____
I.R.S. No. _____
Area/Scope of work _____
Subcontract amount _____

(List additional MBE/WBEs, if any, on additional pages and attach to this form)

CONTRACTOR UTILIZATION PLAN/REQUEST FOR WAIVER

Project Number _____

Project Title _____

_____ _____
(Department Project) Department

_____
(Bidder/Proposer)

STATE OF _____)
) ss
COUNTY OF _____)

I, _____, of lawful age and upon my oath state as follows:

1. This Affidavit is made for the purpose of complying with the provisions of the MBE/WBE submittal requirements on the above project and the MBE/WBE Program and is given on behalf of the Bidder/Proposer listed below. It sets out the Bidder/Proposer's plan to utilize MBE and/or WBE contractors on the project.

2. The project goals are **13 % MBE** and 8 **% WBE.** Bidder/Proposer assures that it will utilize a minimum of the following percentages of MBE/WBE participation in the above project:

BIDDER/PROPOSER PARTICIPATION:_____% MBE _____% WBE

3. The following are the M/WBE subcontractors whose utilization Bidder/Proposer warrants will meet or exceed the above-listed Bidder/Proposer Participation. Bidder/Proposer warrants that it will utilize the M/WBE subcontractors to provide the goods/services described in the applicable Letter(s) of Intent to Subcontract, copies of which shall collectively be deemed incorporated herein). ***(All firms must currently be certified by Kansas City, Missouri)***

   a. Name of M/WBE Firm _____
   Address _____
   Telephone No. _____
   I.R.S. No. _____

b. Name of M/WBE Firm _____
Address _____
Telephone No. _____
I.R.S. No. _____

c. Name of M/WBE Firm _____
Address _____
Telephone No. _____
I.R.S. No. _____

d. Name of M/WBE Firm _____
Address _____
Telephone No. _____
I.R.S. No. _____

e. Name of M/WBE Firm _____
Address _____
Telephone No. _____
I.R.S. No. _____

f. Name of M/WBE Firm _____
Address _____
Telephone No. _____
I.R.S. No. _____

(List additional M/WBEs, if any, on additional page and attach to this form)

4. The following is a breakdown of the percentage of the total contract amount that Bidder/Proposer agrees to pay to each listed M/WBE:

MBE/WBE BREAKDOWN SHEET

MBE FIRMS:

Name of MBE Firm	Supplier/Broker/Contractor	Subcontract Amount*	Weighted Value**	% of Total Contract

LETTER OF INTENT TO SUBCONTRACT

Project Number _____

Project Title _____

_____ ("Prime Contractor") agrees to enter into a contractual agreement with _____ ("M/W/DBE Subcontractor"), who will provide the following goods/services in connection with the above-referenced contract:

(Insert a brief narrative describing the goods/services to be provided. Broad categorizations (e.g., "electrical," "plumbing," etc.) or the listing of the NAICS Codes in which M/W/DBE Subcontractor is certified are insufficient and may result in this Letter of Intent to Subcontract not being accepted.)

_____
_____
_____
_____
_____,

for an estimated amount of $_____ or _____% of the total estimated contract value.

M/W/DBE Subcontractor is, to the best of Prime Contractor's knowledge, currently certified with the City of Kansas City's Human Relations Department to perform in the capacities indicated herein. Prime Contractor agrees to utilize M/W/DBE Subcontractor in the capacities indicated herein, and M/W/DBE Subcontractor agrees to work on the above-referenced contract in the capacities indicated herein, **contingent upon award of the contract to Prime Contractor**.

_____	_____
Signature: Prime Contractor	Signature: M/W/DBE Subcontractor
_____	_____
Print Name	Print Name
_____	_____
Title Date	Title Date

TIMETABLE FOR MBE/WBE UTILIZATION

(This form should be submitted to the City after contract award.)

I, _____, acting in my capacity as _____
(Name) *(Position with Firm)*
of _____, with the submittal of this Timetable, certify that
(Name of Firm)
the following timetable for MBE/WBE utilization in the fulfillment of this contract is correct and true to the best of my knowledge.

ALLOTTED TIME FOR THE COMPLETION OF THIS CONTRACT
(Check one only)

15 days	___	75 days	___	135 days	___
30 days	___	90 days	___	150 days	___
45 days	___	105 days	___	165 days	___
60 days	___	120 days	___	180 days	___

Other _____ (Specify)

Throughout _____ Beginning 1/3 _____
Middle 1/3 _____ Final 1/3 _____
Beginning 1/3 _____% Middle 1/3 _____% Final 1/3 _____%

PLEASE NOTE: Any changes in this timetable require approval of the Human Relations Department in advance of the change.

If you have any questions regarding the completion of this form, please contact the Department of Human Relations at: (816) 513-1818**.**

_____
(Signature)

_____
(Position with Firm)

_____
(Date)

REQUEST FOR MODIFICATION OR SUBSTITUTION

*(This Form **must** be submitted to HRD to request substitutions for an MBE/WBE listed in the Contractor Utilization Plan or for modification of the amount of MBE/WBE participation listed in the Contractor Utilization Plan. This Form shall be an amendment to the Contractor Utilization Plan.)*

BIDDER/PROPOSER/CONTRACTOR: _____
ADDRESS: _____
PROJECT NUMBER OR TITLE: _____
AMENDMENT/CHANGE ORDER NO: (if applicable) _____

Project Goals:	_____% MBE	_____% WBE
Contractor Utilization Plan:	_____% MBE	_____% WBE

1. I am the duly authorized representative of the above Bidder/Contractor/Proposer and am authorized to request this substitution or modification on behalf of the Bidder/Contractor/Proposer.

2. I hereby request that the Director of HRD recommend or approve: (check appropriate space(s))

   a. ____ A substitution of the certified MBE/WBE firm _____,
   (Name of new firm)
   to perform _____,
   (Scope of work to be performed by new firm)

   for the MBE/WBE firm _____ which is currently
   (Name of old firm)
   listed on the Bidder's/Contractor's/Proposer's Contractor Utilization Plan to

   perform the following scope of work: _____.
   (Scope of work of old firm)

   b. ____A modification of the amount of MBE/WBE participation currently listed on the Bidder's/Contractor's/Proposer's Contractor Utilization Plan from

   _____ % MBE_____% WBE *(Fill in % of MBE/WBE Participation currently listed on Contractor Utilization Plan)*

   TO

   _____% MBE _____% WBE *(Fill in New % of MBE/WBE Participation requested for Contractor Utilization Plan)*

   c. Attach 00450.01 Letter of Intent to Subcontract letter for each new MBE/WBE to be added.
   d. Attach a copy of the most recent 00485.01 or on-line M/WBE Monthly Utilization Report

3. Bidder/Contractor/Proposer states that a substitution or modification is necessary because: (check applicable reason(s)

CONTRACTOR AFFIDAVIT FOR FINAL PAYMENT

Project Number _____

Project Title _____

STATE OF _____)
)SS
COUNTY OF _____)

The Undersigned, _____ of lawful
(Name)
age, being first duly sworn, states under oath as follows:

1. I am the _____ of _____who is the general
(Title) (CONTRACTOR)
CONTRACTOR for the OWNER on Project No. _____ and Project Title _____.

2. All payrolls, material bills, use of equipment and other indebtedness connected with the Work for this Project have been paid and all Claims of whatever nature have been satisfied, as required by the Contract.

3 (✓) ____Prevailing wage does not apply; or

(✓) ____All provisions and requirements set forth in Chapter 290, Section 290.210 through and including 290.340, Missouri Revised Statutes, pertaining to the payment of wages to workmen employed on public works projects have been fully satisfied and there has been no exception to the full and complete compliance with these provisions and requirements and the Annual Wage Order contained in the Contract in carrying out the Contract and Work. CONTRACTOR has fully complied with the requirements of the prevailing wage law as required in the Contract and has attached affidavits from all Subcontractors on this Project, regardless of tier, affirming compliance with the prevailing wage law as stipulated in the Contract.

4. I hereby certify that (a) at project completion and pursuant to contractor's final request for payment, contractor achieved (_____%) Minority Business Enterprise (MBE) participation and (_____%) Women Business Enterprise (WBE) participation on this contract, and (b) listed herein are the names of all certified M/WBE subcontractors, regardless of tier, with whom I, or my subcontractors contracted.

1. Name of MBE/WBE Firm _____
Address _____
_____
Telephone Number (_____) _____
IRS Number _____
Area/Scope*of Work _____
Subcontract Final Amount _____

2. Name of MBE/WBE Firm _____
Address _____
_____
Telephone Number (_____) _____
IRS Number _____
Area/Scope*of Work_____
Subcontract Final Amount _____

List additional subcontractors, if any, on a similar form and attach to the bid.

SUBCONTRACTOR AFFIDAVIT FOR FINAL PAYMENT

Project Number _____

Project Title _____

STATE OF MISSOURI)

) ss:

COUNTY OF _____)

After being duly sworn the person whose name and signature appears below hereby states under penalty of perjury that:

1. I am the duly authorized officer of the business indicated below (hereinafter Subcontractor) and I make this affidavit on behalf of Subcontractor in accordance with the requirements set forth in Section 290.290, RSMo. Subcontractor has completed all of the Work required under the terms and conditions of a subcontract as follows:

Subcontract with: _____, Contractor

Work Performed: _____

Total Dollar Amount of Subcontract and all Change Orders: $_____

City Certified ☐MBE ☐ WBE ☐ DBE ☐ NA
List certifications: _____

2. Subcontractor fully complied with the provisions and requirements of the Missouri Prevailing Wage Law set forth in Sections 290.210, RSMo through 290.340, RSMo.

Business Entity Type:
(___) Missouri Corporation
(___) Foreign Corporation
(___) Fictitious Name Corporation
(___) Sole Proprietor
(___) Limited Liability Company
(___) Partnership
(___) Joint Venture
(___) Other (Specify)

Subcontractor's Legal Name and Address

_____

_____

Phone No. _____
Fax: _____
E:mail:_____
Federal ID No._____

I hereby certify that I have the authority to execute this affidavit on behalf of Subcontractor.

By: _____ _____
(Signature) (Print Name)

_____ _____
(Title) (Date)

NOTARY

Subscribed and sworn to before me this _____ day of _____, 20_____.

My Commission Expires:_____ By_____

_____ _____
Print Name Title

SECTION 4
ATTACHMENT 4

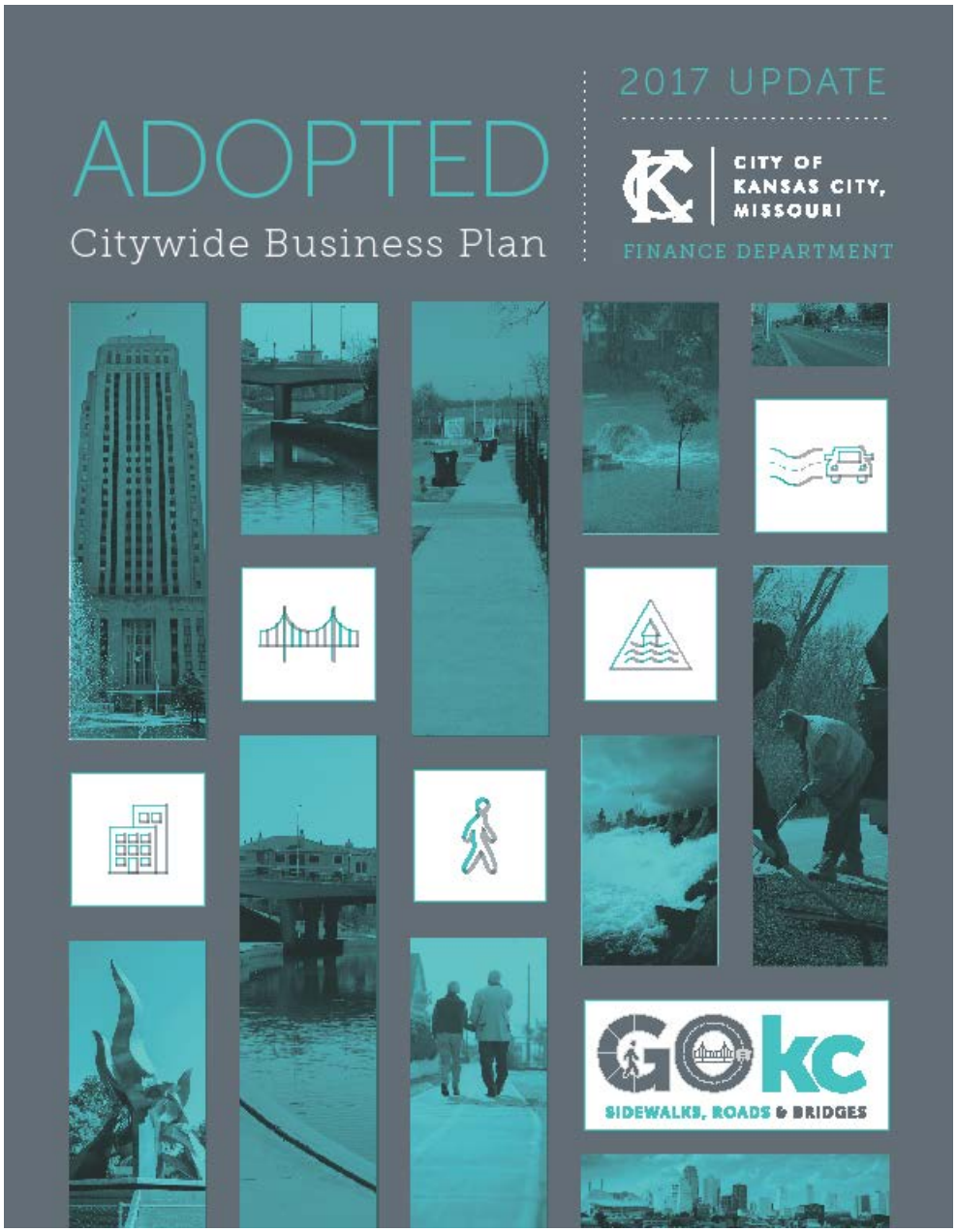
INTERROGATORIES SUBMITTAL

(Not to exceed one page, single sided, double spaced, per question; must follow proposal section numbering system Section 2.3)

Appendix A

City Business Plan,

The City Business Plan can be found at:
https://drive.google.com/file/d/1Ycx0uklIC6FnKaTrMxLeBk3ZA3JZM3bj/view
(Alternatively, double click on image to open attachment)



Appendix B

The Smart City Operations Blueprint can be found at: http://kcmo.gov/wp-content/uploads/2016/05/SIUProgramBook2018LRPages.pdf

Appendix C

The Digital Equity Strategic Plan can be found at: http://kcmo.gov/citymanagersoffice/digital-equity-strategic-plan/
(Alternatively, double click on image to open attachment)

CITY OF
KANSAS CITY,
MISSOURI

Digital Equity Strategic Plan

March 9, 2017

Appendix D

Data Analytics Platform

Data analytics platforms allow Smart Cities to harness data from smart devices, high-speed networks, cloud infrastructure, rapidly developed and intelligent applications, and a variety of analytical solutions to develop new insights as well as new products and services. Insights derived from data that are new, more granular, more timely, and more accurate help cities understand root causes of issues and the complex systems that are involved with challenges such as traffic congestion or neighborhood crime. This insight is key to finding new ways to address and solve these urban challenges.

To that end, the City is interested in expanding its Smart City Data Platform to allow for the rapid development, iteration and deployment of predictive algorithms from various partners and city agencies. This will encourage the rapid development of new insights and applications in the marketplace, such as potential real-time pricing analytics to enable more cost and time-efficient travel choices for the public. The data platform will host a marketplace of algorithms and insights that the City can share with other cities around the world. These advanced analytics can create bridges across transportation, utilities, health, and other Smart City components.

There are three areas the City would like to expand specifically in its data analytics toolbox.

The **Public Facing Tool** will provide citizens and visitors with traffic, foot traffic, crime and other data on a graphic which allows any user to bring City data together onto one screen. Initial deployments include the traffic data currently collected by the Smart City sensors on Main Street. Over the course of the next five years, this tool will expand to include sensors on other City streets, foot traffic patterns on streets, crime data (from City Open Data Site), and other data currently maintained in the City's Open Data site and used in the City Platform for analysis. This tool is, and will be, accessible on a public website without login or registration requirements. City traffic and parking data are currently located at http://smartkcmo.xaqt.com/. City digital inclusion data are currently located at http://kcdigital.xaqt.com/#/KC/digitalInclusion.

The **City Performance Tool** will automatically collect and disseminate key performance indicator data as identified by the City Business Plan to the Office of Performance Management or other City departments that requests it. This will enable the Office of Performance Management (OPM) to more rapidly collate data in support of KC Stat meetings and enable the OPM team to make more rapid analyses of other problems assigned it by the City Manager. Both OPM and individual City departments may define use cases that require an application or algorithm in this toolbox. To date, OPM has defined a requirement for a vacant building prediction tool and Public Works has defined several tools. Among the Public Works tools are improperly parked vehicle assessment / alarms, pothole prediction analytics, parking prediction analytics and traffic flow analysis.

The **City Policy Toolbox** will collate data from across multiple departments and provide the Mayor and other senior leaders with a data tool that will help them assess the efficacy of a policy against a policy objective. This differs from the City Performance Tool because it answers the question, "are we doing the right things?" instead of the question, "are we performing our tasks correctly?" From now until May

2019, the algorithms that define this tool will be defined by Mayor Sly James' 'Four E's: Economic Opportunity, Enforcement, Education and Efficiency. The Enforcement algorithm is currently in production and will be followed by deployment of the Economic Opportunity algorithm.

The **Infrastructure Condition Tool** should allow the city to better assess the condition of infrastructure to including roads, bridges, storm sewers, waste water sewers, vertical light support poles and fiber networks.

As more information becomes available, KCMO will build upon this system to develop detailed plans for ensuring that the ICT systems are all secure; include redundancy and contingency plans; are adaptable and scalable; and include multiple approaches for visualization, reporting, analytics, and data storage and management. Advanced ICT systems include multiple ways to transmit and store data, as well as provide insights and targeted information to the right decision makers at the most convenient location (be that desktops, integrated traffic management centers, personal devices, or vehicles and infrastructure elements).

Appendix E

The Connected Corridor Expansion

Expansion Phase 1

Phase 1 is defined as an expansion of Smart City infrastructure deployed along Main Street along Prospect Avenue concurrently with the construction of the Prospect MAX Bus Rapid Transit line. Elements of the current Smart City infrastructure will link the current footprint from approximately 11th/12th and Oak St. to 11th/12th and Prospect Ave and along Prospect from Independence Ave. south to 75th Street. This phase will expand Public Wi-Fi / sensor technology / information kiosks along transportation networks in order to link citizens and visitors both physically and digitally, especially in the Jazz District at 18th and Vine. Kiosk programming in this corridor will focus on concerns in this neighborhood including public safety, economic opportunities and education resources.

Elements the City wants to be included:

- Approximately 1,000 Wi-Fi Access Points
- Approximately 600 Traffic Sensors
- Approximately 60 Information Kiosks
- Inclusion of data into existing platform

Phase 1 Timeline

Phase 1 will require approximately 30 months with five sub-phases that will expand the coverage network by 18-25 blocks every six months moving west to east and then north to south. Where possible, installation of fiber or other infrastructure will occur concurrently with Kansas City Area Transit Authority construction of bus stops, mobility hubs or other aspects of the Prospect MAX project. The City of Kansas City Department of Public Works and Office of Innovation will coordinate construction of the infrastructure, which will be managed long-term by the Department of Public Works or the Kansas City Area Transit Authority.

Success for Phase 1 will be defined by:

- Maintaining construction timeline and budget

- Measuring corridor development improvements by analyzing citizen income, education level, property value, local business sales receipts, and visitor activity (both gross number of visitors and number of engaged visitors)
- Accuracy of data platforms (given expanded dynamic data availability) and aggregation/ integration of new data into data analytics platform
- Number and utility of data-driven applications used by City Government with department-level measures of impact on operations, such as service delivery improvement metrics
- Citizen satisfaction response level improvements

Expansion - Phase 2

Phase 2 is defined as an expansion of Smart City infrastructure along the Main Street Streetcar line concurrently with the expansion of the KC Streetcar from its current terminal point at Union Station to approximately 51st Street and Main in the vicinity of the University of Missouri in Kansas City campus. The City seeks to expand the existing Public Wi-Fi / sensor technology / information kiosks network in a manner that citizens and visitors have a consistent user experience along the entire line. The City anticipates that growth patterns will be similar in nature, if not in scale, with the development and growth experienced during the starter line phase. This will improve economic opportunity for residents and businesses that support visitor activities along the corridor, especially Union Hill, Westport, The Plaza and the UMKC campus.

Elements included in Phase 2 are:

- Approximately 800 Wi-Fi Access Points
- Approximately 300 Traffic Sensors
- Approximately 30 Information Kiosks
- Inclusion of data into existing platform

Construction of Phase 2 will be dependent on the expansion of the KC Streetcar, which has still not been fully defined or estimated. The City of Kansas City Department of Public Works and Office of Innovation will coordinate construction of the infrastructure with the KC Streetcar Authority.

Success for Phase 2 will be defined by:

- Maintaining construction timeline and budget

- Measuring corridor development improvements by analyzing citizen income, education level, property value, local business sales receipts, and visitor activity (both gross number of visitors and number of engaged visitors)
- Accuracy of data platforms (given expanded dynamic data availability) and aggregation/ integration of new data into data analytics platform
- Number and utility of data-driven applications used by City Government with department-level measures of impact on operations, such as service delivery improvement metrics
- Citizen satisfaction response level improvements

Appendix F

Smart Parking

The Smart Parking system must be integrated into the Smart City platform being developed, such that data and analytics from the system can be used by parking operators and that data is visible to others seeking parking information.

The smart parking system shall have, at a minimum, the following seven functions:

a. Real-time information on parking availability is provided to drivers (whether on-street, surface lot, or parking garage) of City-owned parking spaces through at least a mobile app for drivers that includes wayfinding. Additionally, information may also be provided via digital signs directing drivers accordingly. The mobile app or apps must be operable on the common mobile device platforms during the duration of the contract (currently, Android and iOS).

b. Parking reservation capability for off-street parking.

c. Mobile and/or digital payment for the parking session.

d. Support of parking enforcement activity by having the capability to alert enforcement agents of the location of a vehicle that is in violation. The system should accommodate future developments, for example, if in the future parking enforcement agents are no longer utilized, but, use automatic billing to vehicle registrants instead, the smart parking system shall be able to accommodate and support this change.

e. Provision of tools, analytics, and reports to the City to include information on the real-time status of parking spaces as well as historical and predictive usage statistics and data. The report metrics must consist of at least the following:

- Occupancy: Details of space occupancy over time and average block occupancy during each hour.
- Demand Reports: Map and List view of the highest and lowest utilized blocks with their associated average occupancy.
- Duration of Stay: Represents the average duration for each parking session with an arrival during each hour within the period.
- Duration of Stay: Catalog or contrast durations of stay to the maximum time allowed for that space.
- Turnover: Represents the average number of cars arriving/space/hour for all parking sessions during each hour

f. Dynamic pricing capabilities, the rules for which are established by the City or its designee, based on real-time demand levels and locations. The City or its designee may periodically change said rules.

g. The capability to add non-city owned (privately-owned) parking assets to the parking app. Payment aspects and/or enforcement information would be handled directly with private owners, unless an agreement between the City and a private operator is otherwise established.

h. Additionally, the Supplier will be required to install and maintain any additional needed infrastructure that the City does not currently possess.

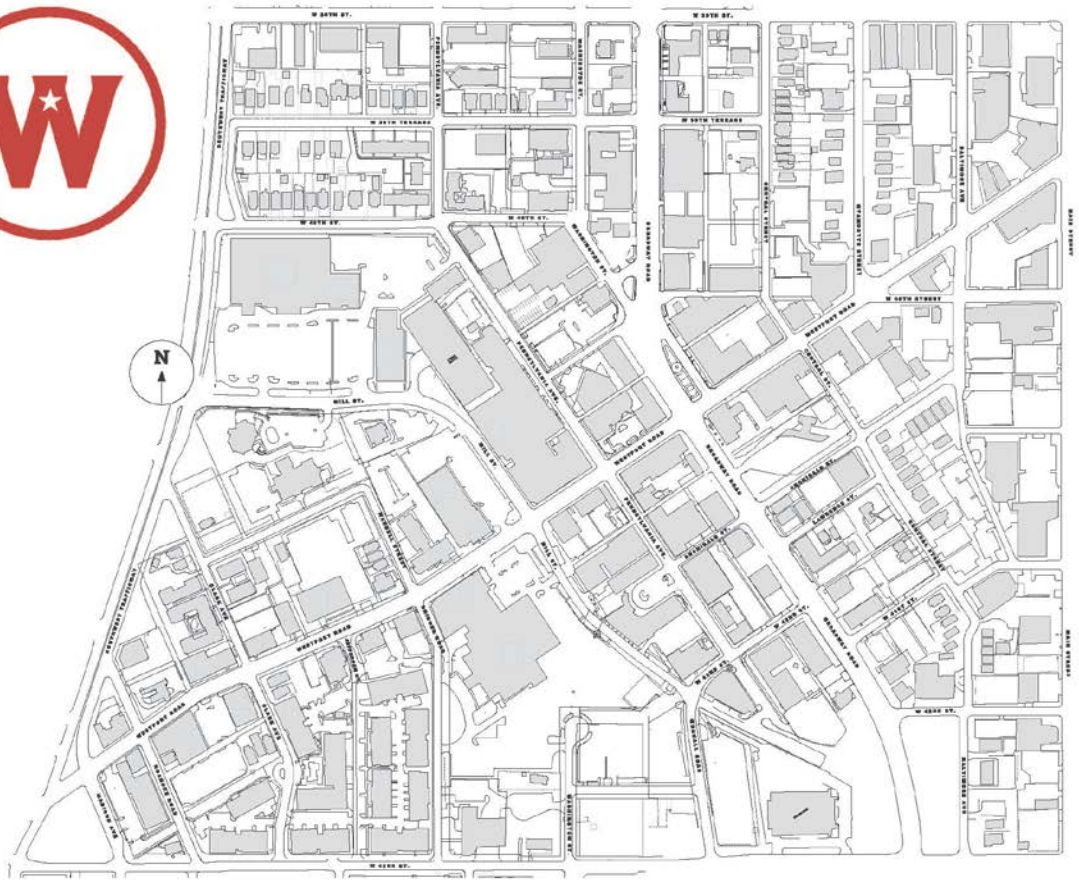
Additional characteristics of the parking system shall include:

- Any equipment and software must be provided by the Supplier except that which the City owns that can be incorporated.
- Supplier must configure all equipment and software provided by the Supplier for the parking information platform and work with other City equipment vendors to integrate parking data into the platform.
- The City shall have access to real-time data 24/7/365.
- Payment by coins must still be permitted.
- Equipment deployment plan must be developed and mutually agreed upon by Supplier and City.
- Any weekly, monthly, or annual reports shall be provided electronically by the supplier at no cost to the City.
- The parking system shall conform to the City's IoT Guidelines (Appendix I) and all cybersecurity and privacy policies.
- Training for staff to use the parking system and its data and reports, must be provided to the City.
- The parking system shall be while labeled for the City and shall use the already existing branding, logo, and name of the City's smart parking system called "ParkSmartKC".

The geographic coverage for the smart parking system shall be:

a) the greater Downtown area as defined by the following polygon described as follows: The northern boundary being the Missouri River to the alignment of I-29 to the alignment of I-29 southbound exit ramp to Independence Avenue to Independence Avenue to Woodland Avenue to E. 31 St. to Missouri-Kansas State Line to the Missouri River.

b) the neighborhood of Westport, as defined by the map below:



In both areas, both sides of streets shall have the smart parking capability. The geographic area of smart parking shall be expandable within the same parking offering beyond these boundaries should the City seek to do so in the future.

Smart Parking in the Plaza neighborhood would be welcome, but is not required.

RFP Proposers must detail the smart parking system and approach offered, areas of coverage, any costs or expectations of the city, and relevant details on the extent of training to be provided to the City. Provide as much detail as possible including dates of system roll-out by asset type (e.g., on-street parking, parking garage, etc.) and geography. Responses must make clear roles of the city vs that of the program manager all aspects of the parking and related functions, to include meter maintenance, revenue collections from meters or payment kiosks, etc.

The City currently has an exclusive contract with ParkMobile to pay for parking transactions. The current contract ends in July 2018. Contracts are annual and the existing contract may be renewed for another year.

Additionally, the City is interested is curbside management that may be incorporated in its parking system or through a complimentary system that communicates with the parking system. Curbside management shall include monitoring of future rideshare spaces, car-share spaces, loading zones and EV Charging Stations. Curbside management would be a selected locations citywide to include Downtown and Westport (areas for Smart Parking), as well as areas beyond Downtown and Westport.

Appendix G

Smart Intersections

The smart intersections system shall include the following capabilities:

a. Adapts automatically to real-time congestion and road traffic conditions. A system of smart intersections is capable of identifying and calculating the queue of cars at an intersection and at other intersections in the City and times the signals optimally to eliminate congestion. For example, after a sporting event or a concert, traffic can be cleared faster than typical, fixed-cycle timing would allow.
b. Traffic signal equipment is IP-connected to allow the City to monitor the signal network in real time, perform remote maintenance, and obtain data for operational decision making.
c. Senses pedestrians and bicycles using sensors and integrates these data. The system shall use image processing and algorithms, to calculate trajectories and the potential for contact of pedestrians and bicyclists with vehicles in the street and communicate this information to approaching vehicles in traffic. Accordingly, smart intersections can reduce the number of accidents involving vehicles and pedestrians or bicycles. In addition, "near misses" or safety conflicts between vehicles and bicycles and pedestrians can be identified through analytics, and upon frequency by location and analysis, critical locations can be identified for remedial action. Aggregated reports, by location and time and day of week, of near misses as defined by the City, shall be automatically produced by the system and fully accessible to the City.
d. Communicates with nonemergency connected and autonomous vehicles. The smart intersections shall be capable of vehicle-to-infrastructure (V2I) and infrastructure-to-vehicle (I2V) communications. Such communications shall be super-low latency and appropriate for safety-critical functions. For non-safety-sensitive transmissions and for activities like monitoring the signal network or performing remote maintenance, slower communications platforms may be acceptable.
e. Integrates with emergency vehicles and street-running transit vehicles for optimal emergency and transit operations. The smart intersection in a connected system can know or predict the route of the emergency vehicle and could clear all intersections along the emergency vehicle's path.
f. Allows for future expandability for full communications with connected and autonomous vehicles as the technology develops.
g. Collects vehicle movement data throughout the city. The system shall collect mobility data that can be used for city, resource, and transit planning as well as for policy. These data include vehicle/bicycle/pedestrian volumes by type (e.g. car, bus, van, 18-wheeler truck, etc.), location, and time. Data shall be available to the city in real time 24/7/365, and should be able to be queried for historic and forecast data.
h. Analysis of intersection performance. The smart intersections shall perform data collection and analysis on the operational performance of the intersection in both raw data and as assessed against defined metrics. These include information on failed detections, signal timings, traffic movements, and the standing traffic queues by direction.

Additionally, the smart intersections system shall include:

- Any equipment and software must be provided by the Supplier except that which the City owns that can be incorporated.
- Supplier must configure all equipment and software provided by the Supplier for the smart intersection system and work with other City equipment and software vendors to integrate traffic data into the platform.
- The City shall have access to real-time data 24/7/365.
- Specific tracking of city-owned vehicles in real time and provided in time-specific reports as requested by the City. Reporting details may change from time to time.
- Equipment deployment plan must be developed and mutually agreed upon by Supplier and City.
- The City owns all data in the system.
- Any weekly, monthly, or annual reports shall be provided electronically by the supplier at no cost to the City.
- The parking system shall conform to the City's IoT Guidelines and cybersecurity and privacy policies.
- Training for staff to use the traffic signaling system and its data and reports, must be provided to the City.

The smart intersections shall be installed citywide at all intersections that currently should have or in the future should have signalization. There are approximately 600 signalized intersections; however, approximately 300 intersections may be appropriate for signal removal, as the need for signalization may not be longer required at these locations. Of the remaining approximately 300 intersections for which signalization is currently required, approximately 100-150 currently have fiber connectivity.

RFP Proposers must detail the smart intersections and traffic system and approach offered, including relevant details, and details on extent of training to be provided to the City.

Appendix H

Outdoor Lighting

The city has approximately 95,000 streetlights, of which 178 are smart street lights in the Connected Corridor, referenced above, that use the Verizon sensors and cameras, formerly known as Sensity The City would like to upgrade all of its existing 95,000 street lights to LED and use some portion of them for additional sensors. Ideally, the upgraded lights would also be IP-connected and operate as one seamless light systems, including the 178 lights already connected. The City intends to keep lighting costs to customers in line with their current rates, that is, no rate increases are desired to offset conversion, connectivity, or other costs. The City explicitly does not want to add any additional poles on the rights of way.

The lighting system must be city-wide and completed by December 31, 2020.

Appendix I

Smart Water

As part of this Smart City initiative, KC Water is interested in the integration of core systems with the possibility of replacing and/or upgrading existing systems. KC Water has implemented an Advanced Metering Infrastructure (AMI) system, consisting of 209 Data Collector Units (DCU's) and approximately 190,000 endpoints consisting of Meter Transmitter Units (MTU) and Water Leak detection units (ZoneScan – ZS), a Computerized Maintenance Management System (CMMS) system supporting 180 mobile users connected via cellular, a fleet management system, and a storm water/flood management system (consisting of a linked network of sensors and gauges). KC Water would like to replace the cellular backhaul with a lower cost solution, and migrate to cloud systems. Maintaining persistent connections for mobile workers to Geographic Information System (GIS), CMMS, and Laboratory Information Management System (LIMS) dashboards is paramount, however KC Water would like to update and simplify systems as well as reduce cellular backhaul costs.

Proposers shall detail their approach, offering and any associated costs to the city, identifying separately: connectivity, MTU replacement, and other aspects of the proposed Smart Water solution.

The current systems are listed below:

a) AMI – KC Water has implemented the Aclara System city wide consisting of 209 Data Collector Units (DCU's) and approximately 190,000 endpoints consisting of Meter Transmitter Units (MTU) and Water Leak detection units (ZoneScan – ZS). The endpoints transmit via FCC frequency to the DCUs, and is sent via cellular to the on premise servers. Replacing the backhaul with a low-cost solution would be ideal and or possible an improved cloud based AMI system.
b) Hansen 8 – The current CMMS system used throughout KC Water and is also supporting approximately 180 mobile users connected via cellular. Replacing the backhaul with a low cost solution would be ideal to maintain persistent connections to CMMS and GIS data.
c) ESRI – All mobile users depend on GIS mapping data for real time updates (in process) to field for changes of valves status, main break alerts, etc… Replacing the backhaul with a low cost solution would be ideal to maintain persistent connections to CMMS and GIS data.
d) LIMS – KC Water has recently upgraded to a cloud based LIMS system to support real time data collection and water quality samples. Replacing the backhaul with a low cost solution would be ideal to allow connection back to KC Water dashboards.
e) AVL Auto Vehicle Locate- Fleet management currently uses two systems to both track and record vehicle locations and performance using a cellular backhaul. Updating and simplifying the system to a lower cost backhaul solution would be beneficial.
f) Storm water/flood management- Currently KCWater manages a storm water/flood management system (consisting of a linked network of sensors and gauges), We are interested identifying and replacing the system with a more robust, updated cost-effective solution. The current system also uses cellular backhaul to on premise servers.

Appendix J

Smart City Internet of Things (IoT) Guidelines

The City would like the proposer's to consider adhering to the Smart City IoT guidelines as described below.

The IoT guidelines can be found at: https://iot.cityofnewyork.us/

For reference, the Guidelines are as follows, covering five categories, Privacy and Transparency, Data Management, Infrastructure, Security, and Operations and Sustainability.

PRIVACY + TRANSPARENCY
City IoT deployments must protect and respect the privacy of residents and visitors. The City is committed to being open and transparent about the "who, what, where, when, why and how" of data collection, transmission, processing and use.

1.1: The City should make processes and policies related to IoT and IoT-related data publicly available in an up-to-date, clear and comprehensive manner. IoT principles, guidelines, operational policies and responsibilities should be transparent and made public via a City government website.

1.2: IoT data should only be collected, transmitted, processed and used for specified, explicit and legitimate purposes. The purpose of data collection (e.g., a use case such as monitoring air quality), what data is collected (e.g., particulates in the air) and how data is being collected (e.g., pollution sensor on a light pole) should be transparent and made public via a City government website or other public notice.

1.3: Data and information collected by IoT devices should be classified and treated accordingly, per the City of New York's Data Classification Policy, as Public, Sensitive, Private or Confidential. All personally identifiable information (PII) should be classified at a minimum as private. All data that is classified as being confidential, or personally identifiable, should be protected from unauthorized use and disclosure.

1.4: PII should by default be anonymized before being shared in any way that could make the information publicly searchable or discoverable. Any copies and reproductions must have the same or higher level of classification as the original.

1.5: PII data types should have a clearly associated retention policy and disposal procedure. Sensitive, private or confidential data should be kept for no longer than is operationally necessary or required for the specified, explicit and legitimate purposes.

1.6: Before any sensitive, private, or confidential data is shared outside the originating City agency, the agency should ensure that the need cannot be met by using anonymized or aggregated data and that the appropriate protections are in place to preserve the confidentiality of the data.

1.7: All public data sets are subject to relevant Kansas City policy and as such should be freely accessible via the City's Open Data portal found here: https://data.kcmo.org/

DATA MANAGEMENT

City IoT deployments must protect and respect the privacy of residents and visitors. The City is committed to being open and transparent about the "who, what, where, when, why and how" of data collection, transmission, processing and use.

2.1: IoT systems (e.g. how data is collected, analyzed and used) should be designed with the use case in mind (e.g. predicting demand for trash pick-up based on data on trash volume, weather and events) to maximize the benefits that can be derived data collection (e.g. routing garbage trucks more efficiently). Where useful, relevant business and historical data from the City or its partners should be made available and utilized by applications.

2.2: The desired measurement from any IoT system (e.g. pedestrian counts) should be collected and categorized as efficiently as possible, using as few steps and/or manipulations as necessary.

2.3: IoT data should be collected and stored according to open standards, contain relevant contextual metadata, be exposed through open, standards-based application program interfaces (APIs), and be provided with software development kits (SDKs) where applicable so it can be easily shared or combined with other data sets.

2.4: IoT data should be archived in a federated way and made accessible throughout the City through a central portal (e.g. the City's open data portal) or a catalogue of documented open APIs unless restricted by existing laws or regulations and/or doing so would compromise privacy or public safety. Data from other systems not operated by the City, such as from a private sector partner or from crowdsourcing, that could provide public benefit can also be provided in this form with the source documented accordingly.

2.5: The City recognizes the use of distinct and sometimes conflicting non-proprietary international, national, or industry standards for data and technology interfaces. In cases where standards conflict, the one that most closely aligns to the use case will be selected.

2.6: Each IoT device data set (e.g. temperature) should be validated and verified (e.g. through redundancy in data collection and/or historical data) and the resulting master copy clearly labeled before it is used, aggregated and/or released. Data should be versioned so that any updated data can be distinguished from the original and/or master copy. The retention and disposal policies for the master copy should be explicitly defined.

2.7: IoT data should be both audited and continuously monitored for accuracy and validity. This process should be automated where possible.

2.8: All data sets (e.g. 311 service requests) should be checked for geographic, social or system-driven bias (e.g. geographic differences in civic engagement) and other quality problems. Any biasing factors should be recorded and provided with the data set and corrected where possible.

INFRASTRUCTURE

IoT devices, networks and infrastructure shall be deployed, used, maintained and disposed of in an efficient, responsible and secure manner to maximize public benefit.

3.1: To support citywide coordination of IoT deployments, City agencies should maintain an inventory of IoT devices that they deploy using a standardized format. City agencies should also maintain an inventory of the public or private assets on which devices are installed and the networks used by these IoT devices including details on the network type (e.g. LTE), security protocol (e.g. WPA), location, service level agreements, and contact information for the network and system operator.

3.2: The City should accumulate and publish, via a City government website, public information on IoT systems including but not limited to examples of deployed IoT devices (e.g. air quality sensors) and the different types of public assets (e.g. light poles) on which they are deployed.

3.3: The City should make public, via a City government website, a standardized protocol, including points of contact, for requesting access to, and approving use of, City assets for IoT deployments. Where appropriate, the City will detail restrictions on particular types of public assets and/or siting restrictions (e.g. rules for landmark or historic districts).

3.4: IoT deployments shall, where possible, leverage or repurpose existing conduit and public assets, maximize energy efficiency, and adhere to sustainable device disposal procedures.

3.5: The City should leverage existing wireless and fixed networks where possible and appropriate. Networks for IoT deployments should be selected to best support the specific use case. This should include but is not limited to ensuring appropriate security protocols, bandwidth, pricing models, and service level agreements (SLAs).

3.6: All IoT devices and network equipment installed by the City, on the City's behalf, or on City property should have clear site license agreements and established terms of service governing who is responsible for ongoing operations, maintenance, and the secure disposal of equipment. IoT devices and network equipment should be labeled clearly with the name and contact information for the responsible party.

3.7: Public assets should be instrumented in an orderly manner that minimizes clutter and allows for ease of access for replacement, repair and addition of new equipment or devices. If new conduit is being installed using public assets (e.g. to access rooftop of public buildings) or using public right-of-way (e.g. in City streets), location details must be filed with the responsible agency and use of the conduit should not be restricted to one party.

3.8: IoT systems should be designed to maximize resiliency in the event of a natural disaster (e.g. severe flooding) or other emergencies (e.g. electrical outages). Critical systems should have established emergency response plans to ensure the appropriate continuity of service.

SECURITY

IoT systems should be designed and operated with security in mind to protect of the public, ensure the integrity of services, and be resilient to attacks.

4.1: IoT systems should be designed with an explicit focus on minimizing security risks (e.g. unauthorized operation or hacking, system faults, tampering, and environmental risks), limiting the potential impact from a security breach (e.g. the release of personally identifiable information), and ensuring that any compromises can be quickly detected and managed.

4.2: IoT systems should utilize established security frameworks, where possible, and ensure communication between components is tightly constrained.

4.3: Identity and access management controls should be in place to ensure that the right people have access to systems, networks, and data at the right time. Users with access to IoT systems should be identified and authenticated. Identification should be to the individual and not to the role.

4.4: All data should be protected in transit and at rest, and systems should be secured against unauthorized access or operation. Data storage mechanisms must not be easily removed from devices and systems must not have vulnerable external interfaces (e.g. unsecured USB ports).

4.5: All partners utilizing public assets and/or networks for IoT deployments should adhere to the principles and guidelines set by the City. The City has the right to restrict or revoke access to assets, devices, and public networks to protect the public interest and public safety.

4.6: The City and its partners should engage in both audit-based and continuous monitoring to ensure that systems are working and that devices have not been compromised.

4.7: Responsibilities related to security monitoring and the protection of IoT systems should be clearly defined. In the event of a breach, public and private sector entities will be required to comply with the City's breach disclosure and notification requirements.

OPERATIONS + SUSTAINABILITY

All IoT deployments should be structured to maximize public benefit and ensure financial, operational, and environmental sustainability.

5.1: Demonstrated need, business case, and public benefit (e.g. economic, social, and environmental outcomes) should be required prior to deployment of any new IoT devices or solutions. In addition, proof of concept should be required prior to citywide deployments.

5.2: Prior to deployment, the City and its partners shall identify all stakeholder and user groups (e.g. community residents and city employees) that will be impacted by the IoT solution and establish feedback mechanisms and methods of engagement for these groups. Before and during deployment, the City and its partners should also check for and address biases in the IoT solution (e.g. information asymmetries) that may result in unintended consequences (e.g. inequitable service delivery).

5.3: The City shall prioritize access to its assets and public networks for IoT device deployments that are distributed in an equitable manner and have the greatest public benefit. Public-private partnerships and business models that offset costs or generate revenue in ways aligned with greatest public benefit are encouraged but must be closely evaluated for risk.

5.4: All projects and associated contracts or agreements should outline the "who, what, where, when, why and how" of the implementation, operations, risk management, knowledge transfer, and maintenance of IoT systems. This should include clear definitions related to system and data ownership and responsibilities.

5.5: Solutions shall be designed to be flexible and responsive to evolving needs. Agreements should enable the addition of new functions and update of components over the life of the agreement at a fair and transparent cost.

5.6: Performance metrics should be maintained for solutions. Agreements should specify intended outcomes of a solution and levels of service and provide for penalties, modifications, or terminations of the agreement in the event that the solution does not perform.

5.7: The City and its partners should reuse infrastructures and components where possible, leverage citywide contracts or agreements, and develop solutions collaboratively among agencies to avoid duplicating existing solutions or functions and extract the greatest value from investments.

5.8: All components of a solution should be implemented in a modular manner, prioritizing open standards where possible, to ensure interoperability and prevent dependency on a single vendor.

Appendix K

Data Products Completed or Nearly Completed

Data Analysis for the Kansas City Smart City initiatives takes a holistic approach toward understanding not only the current "pulse" of the City but also the opportunities to proactively provide services or sequence operations in a manner that preserves City operational budgets and best synchronizes planning efforts, and increases citizen engagement. A data analysis contract with XAQT was completed in October 2016 and is projected to provide useful products by June 2018. Data projects that have been deployed or are in final stages of development include:

Project	Description	City Department	Primary Customers	Status
Public Release	Display traffic and parking data on Main Street to public. Goal is to decrease parking time and inform drivers to enable improved decision-making regarding route choice and timing of movement. Future potential use for application development.	Public	Citizens Visitors	Released to public for Main Street Feb 4, 2017; future expansion concurrent with future sensor deployments.
Building Vacancy Predictor	Use data to assess probability that a building is vacant or occupied. Enables Planning Department to develop vacant property inventory.	Planning OPM	Central Planning Division	Validated for use by OPM; CPD will leverage for future planning.
4E Dashboard	Integrate multiple data sources including sensor data and City data to provide Mayor, City Manager and Council with assessment of progress toward City Business Plan.	Mayor City Manager	Mayor City Manager	Mayor's office currently using Enforcement and Education modules; Economic module in development.
Street Maintenance Tool	Predict time and location for street condition deterioration and repair requirements in order to allow Public Works to plan mitigation prior to failure.	Public Works	Street Repair and Planning Directors	Initial presentation to Public Works April 4, 2017. Currently in use on 10 major arterial roads in KCMO.