

*Dear Urbanists, Technologists, Entrepreneurs and Visionaries,*

Over the last five years, we have met with and worked with many of you to explore and pilot “smart city” and “internet of things” technologies in Boston. Over that time, this field has matured as we progress from cool concepts to meaningful in-the-ground projects.

Now, we want to take the next step.

This winter, we are updating our strategy for deploying smart, connected technology in the public right of way. We are identifying (1) which improved services can be delivered with (2) what smart technology that is deployed on (3) which City assets, (4) funded by what business models.

Building this strategy starts by having a conversation with you.

We invite you to respond to this Request for Information. It will help us develop our strategy and future investment plans. To be very clear, your participation -- or lack there of -- in this does not help or hurt your chances of partnering with us in the future.

We value your input, however; and we welcome your response. If you have any questions, please feel free to contact Jackie Lender, 617 635 0053 or [jacqueline.lender@boston.gov](mailto:jacqueline.lender@boston.gov).

Sincerely,

*The City of Boston*



## OUR GOALS

There is no shortage of possibilities in the smart and connected world. Here, however, are some of the areas we are most focused on right now:

1. *Increase Digital Access & Equity*  
We want to help more people more easily connect with the digital world by doing things such as providing ubiquitous, high quality public wi-fi.
2. *Improve the Flow of People Through Our City*  
We want to reduce the reliance on single-occupancy vehicles, increase the safety of walking and biking and enhance the connections to the wealth of opportunities in this region.
3. *Create Accessible, Practical and Delightful Public Spaces and 3rd Spaces*  
We want to build spaces that work for people, that provide good way-finding, and that are vibrant places for people to come together.
4. *Deliver Exceptional City Services*  
We want to deliver the basics better than anyone, from picking up trash to plowing snow to keeping our streets well lit.
5. *Expand Constituent Engagement*  
We want to engage our residents and visitors on our streets, providing timely information when needed, connecting people with services in new ways, and getting good feedback on how our City can be even better.
6. *Spark Business Growth*  
We want to put in place infrastructure that helps new and existing businesses expand services and reach new customers.
7. *Build A Platform for Learning*  
We want to establish a network that helps rapidly design, deployment and improve sensors that deliver civic value.

Across all seven of these goals is the overarching interest in delivering *public value*. We want to hear from you how we can do just that. Consider them, but don't be limited by our goals.

## **OUR ASSETS:**

We have tens of [thousands of assets](#) in the public right of way that could potentially become connected and smart.

Some of those assets are both easier to access and a higher focus for us in our exploration. Those are described in Appendix C and include things like street lights and fire alarm boxes.

Some are harder to access, fewer in number or are less of a focus for us. Those are described in Appendix D and include things like parking meters and benches.

## **OUR STREETS:**

As we think about adding devices to our streets and sidewalks, please know that we consider our streets and sidewalks a precious asset. Our residents tend to like them clean, uncluttered, and in good repair, and our team works incredibly hard to make them that way.

With our streets and sidewalks covering, however, roughly 9 of Boston's 48 square miles, there is some space to use, especially for those projects that add to the beauty and utility of the public right of way, without reducing individual privacy or increasing commercialization.

## **OUR PERSPECTIVE:**

A quick note about us: we pride ourselves in pushing the envelope to improve constituents' lives; and, we partner and invest accordingly. We have a globally replicated civic innovation group; we have teams creating cutting edge digital tools and data analyses; we are a leader in shaping autonomous vehicle policies for cities.

And, we are also skeptics about much of the current "smart city" rhetoric. You can read more on this in our [Smart City Playbook](#).

Now, while we may be skeptical about some of the rhetoric, we are - like you - very bullish about the potential. We want to be clear about this because we want you to understand your audience. We are not looking for pitches that oversell products; we are looking for partners who have good ideas on how to solve hard problems. Please respond in this spirit.

## **OUR RESOURCES:**

As a city, our budget is constrained. Moreover, it's challenging to fund new initiatives when the return is not clear and the civic value is undefined. We're open to public/private partnerships, and interesting, new ways to fund infrastructure. We also recognize that alternative revenue streams have tradeoffs (eg. outdoor advertising impacts the public realm). Let us know the strategies you are proposing as well as any tradeoffs you see and how you would mitigate those tradeoffs.

**YOUR MOVE:**

As we said at the start, this next step starts with you! We want to create a thriving, 21st century city for all, and we can only get there with partners. These sorts of collaborations will enable us to explore how to best turn data, design and tech into *public value*. So, we want to hear your ideas on how to do this.

Given all the various resources and assets we have at street-level in Boston, let us know how you would re-design, augment or replace to create the next generation streetscape. Tell us if you are looking to test or ready to scale.

Please no more than 10 typed pages; we will allow up to 5 additional pages for illustrations, diagrams and photographs. If you have multiple ideas, we will accept multiple submissions.

Appendix A outlines the questions we have, and Appendix B outlines the timeline and process. Appendix E contains important information you should know.

## **APPENDIX A: YOUR RESPONSE**

Any response to this RFI should be no longer than 10 pages. A response may include, but is not limited to, the following items listed below:

### *Project Overview*

Please describe the idea and the value it creates. Provide designs that help us understand how it would work in the public right of way. Note examples of where this idea has already been implemented - if it has been - and what the results have been. Furthermore, please detail the scale and scope of your project; let us know if the project is in beta, or has already been rolled out for deployment.

### *Stage of Development*

Let us know what stage of development your idea is. Is this a new idea that has been tried before? Is this a product in the lab that you want to pilot on a block? Has this been piloted and you want to take it to scale? Has it been taken to scale elsewhere and you want to bring it to Boston?

### *Deployment Plan*

Please let us know what assets or infrastructure this technology would need. Tell us if you think there are areas of the city this would work particularly well in and why.

### *Technical Specifications*

Provide technical specifications for the project, including power and communication technology. Describe how data ownership, security, and privacy is addressed.

### *Business Model*

If one exists, describe any business model for funding this idea including any commercial services offered, other revenue generating mechanisms, or partner vendors. If there is no business plan, please help us understand the level of resources your idea would take to pilot or scale. In either case, please provide a general timetable for design and construction.

### *Evaluation*

Please provide an evaluation of your ideas strengths and weaknesses. Describe how you could work with researchers and universities to critically analyze the data you produce and the civic value of the project.

### *Legal Framework*

If applicable, please address how the proposal fits into the current legal and regulatory parameters, and what changes might better facilitate the project. If your project involves electronic signage, describe how your proposal will comply with electronic signage requirements that can be found in the Google Folder [here](#).

**UPDATED APPENDIX B: TIMELINE & PROCESS**

Listed below is the RFI timeline as of 1/30/17; these dates are subject to change.

*Timeline for Submission*

- 12/07/16            The RFI will be made available
- 12/31/16            Questions on the RFI must be submitted to  
jacqueline.lender@boston.gov
- 1/15/16             The City will post a consolidated Q&A, if needed, at  
[boston.gov/procurement](http://boston.gov/procurement)
- ~~1/29/17~~
- 1/30/2017**  
**@12 noon**            Submissions due to jacqueline.lender@boston.gov

*Timeline for Follow Up*

- 02/13/17            The City may request for you to come in for an interview
- ~~02/18/17~~
- 2/27/17**            The City will publicly post next steps

## APPENDIX C: PRIORITY ASSETS

Do not contact any departments directly; email Jackie Lender at [jacqueline.lender@boston.gov](mailto:jacqueline.lender@boston.gov)

### 1. Streetlights

Boston's street lights can be broken into three main parts: the LED light bulb, the pole and, if applicable, the telecommunications equipment. The City of Boston has retrofitted approximately 49,000 of the 64,000 street lights with LED bulbs. In addition to lighting the way, street light poles can be used to affix technology such as DAS and small cells, public wi-fi access points, cameras, sensors, and more. Between [telecom companies and neutral hosts](#) there are more than 4 major players in this ecosystem: we expect this number to grow. More information can be found [here](#).

### 2. Shadow Conduit

The City of Boston has created a publicly available map which displays city-owned fiber assets. This map displays the location of 'shadow conduit' and City-owned fiber that might be utilized by public and private entities wishing to create fiber links. Boston wants to make its broadband infrastructure assets publicly known and accessible to further our vision for a competitive broadband marketplace in which fast, affordable, and reliable broadband service is available to all. The fiber asset map is available to the public on the the City's [BostonMaps website](#).

### 3. Trash Barrels

Residential trash pickup is managed by PWD's Waste Reduction Division, but executed by contract vehicles and personnel. Public trash barrels are maintained by PWD's Highway Division, Litter Baskets Section, and are serviced by City vehicles and personnel. At this point in time, the City purchases barrels from Big Belly and Victor Stanley. Vector Media manages advertisements on the Big Belly barrels: more information can be found [here](#) (this link will take you to a Google Folder, wherein the actual documents are stored; if the link does not work, email [jacqueline.lender@boston.gov](mailto:jacqueline.lender@boston.gov)).

### 4. Fireboxes

More information about Boston's fireboxes can be found [here](#). Any amendments to fire hydrants will need to go through Boston Fire Department and BWSC. The fireboxes operate on a telegraph based system and are located intermittently on poles throughout the city.

## **APPENDIX D: SECONDARY ASSETS**

Do not contact any departments directly; email Jackie Lender at [jacqueline.lender@boston.gov](mailto:jacqueline.lender@boston.gov)

### *1. Parking Meters*

The Boston Transportation Department is responsible for the upkeep and placement of parking meters. The City is trending towards replacing individual parking meters with multi-space meters that cover a larger parking area.

### *2. Traffic Signal Boxes and Accompanying Structures*

There are two main components to the traffic signal structures: (1) the physical poles and overhead structures and (2) the traffic signal control boxes. Changing the equipment inside of the traffic signal box necessitates approval by the Commonwealth of Massachusetts. For more information about the physical attributes of the posts, [click here](#). For other technical specifications, [click here](#).

### *3. Manholes and handholes*

Manholes, and their smaller counterpart, handholes, are comprised of (1) the above ground cover and (2) the underground structure that houses cables and pipes. Moreover, to work with, or affix a structure to a manhole or handhole, the utility owner may need to grant permission. The City of Boston may also need to permit an amended grant on location.

### *4. Sewer Drains and Grates*

Any attachments or changes to sewer drains and grates will need to go through Boston Water and Sewer Commission. An ArcGIS map of sewer drains and grates does exist, but can only be accessed in person at the Boston Water and Sewer Commission headquarters. For a public map, [click here](#).

### *5. Kiosks, Shelters, Benches*

The Property Management Department maintains a small number of benches throughout the City of Boston. Benches located in bus shelters in the city are owned and maintained by JCDecaux under an advertising agreement.

### *4. Fire Hydrants*

Any attachments or changes to fire hydrants will need to go through the Boston Fire Department and BWSC. Specifications on fire hydrants in Boston can be found [here](#).

Boston Water and Sewer Commission oversees all of the hydrants on public property. City hydrants, in general, have black and yellow tops; city hydrants downtown are high pressure and are denoted with black and red tops. The existing color scheme cannot be changed.



## 6. *City Buildings and Properties*

There are many City properties in Boston that fall under the purview of Property Management. These locations include, but are not limited to, properties and buildings owned by Boston Public Schools, Boston Public Libraries, the Boston Fire Department, the Boston Police Department, Boston Public Works' Lots/Garages, the Parks department, field houses, maintenance yards, Boston Centers for Youth and Family (BCYF) and the Department of Neighborhood Development properties.

## 7. *BPDA and EDIC Owned Properties*

Combined, [these](#) 18 city owned properties have a total square footage of 3.1 M sq ft. To further explore the potential of working with a BRA owned property, read more [here](#).

Please note that the BPDA also has access to 27 Fleet Hub Vehicles that can be reserved for use by BPDA staff under the attached Memorandum of Agreement ("[MOA](#)") with the COB Central Fleet Division. This MOA also provides for the maintenance and repair of the BPDA Fleet Vehicles, as well as provisioning for gas/diesel, car washing, towing and the like.

## 8. *Boston Public Health Commission*

BPHC has properties throughout the city: some are owned by BPHC (ex. Long Island), while others are leases (1010 Mass Ave). Furthermore some BPHC properties have spaces in them to provide services, such as School Based Health Centers. A list of BPHC properties can be found [here](#).

BPHC has 73 non-emergency vehicles including passenger vans, pickup trucks, dump trucks, trailers, and passenger cars. They also have 126 emergency vehicles for EMS including ambulances, SUVs, trailers, and Gators; additionally they have a bicycle unit for EMS.

## 10. *Boston Water and Sewer Commission*

BWSC is in charge of its own manholes, catch basins, water valve covers within the roadways, etc. They also oversee 1500 miles of sewers and drains. Furthermore, they operate a wireless collector system throughout the city for collecting meter data. BWSC uses AVL on all of their vehicles.

## 11. *Non Emergency Fleet Vehicles*

The City of Boston has ~1,027 vehicles in its non-emergency vehicle fleet. The types of vehicles range from sedans, pickup trucks, vans, dump trucks, tow trucks, SUVs, tow behind trailers, wood chippers, street sweepers, etc. Moreover, the City of Boston performs the majority of vehicle maintenance in-house. The City also has its own fuel tanks to service diesel, gas, etc.

Below is a breakdown of non-emergency vehicles by department:

Assessing: 2  
Boston Center for Youth and Families: 43  
Boston Public Schools Administrative Vehicles: 114  
Boston Transportation Department: 160  
Department of Neighborhood Development: 2  
Elderly Commission: 31  
Elections Department: 9  
Inspectional Services Department: 38  
Law Department: 1  
Mayor's Office: 12  
Office of Neighborhood Services: 1  
Office of the Treasury: 1  
Parks Department: 171  
Property Management: 41  
Public Facilities Department: 6  
Public Works Department: 395

12. *Boston Public Schools' Busses*

The fleet of 752 buses is owned by the School Department/City of Boston and operated under contract with Transdev, North America Inc. The Department currently schedules 652 vehicles to operate on a daily basis. An additional 100 are used for spare busses, athletic trips and extracurricular activities. The school bus fleet will travel approximately 8.5 million miles in FY16 and perform over 600,000 school trips providing over 16.6 million pupil trips. Each bus already has cameras to monitor the inside of the vehicles and GPS to navigate.

13. *Emergency Fleet Vehicles*

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**Boston Police Department:**

The Boston Police Department has a fleet of approximately 1,100 vehicles comprised of cars, boats, trailers, motorcycles, etc. All repairs are done in-house, including warranty repairs.

**Boston Fire Department:**

The Boston Fire Department has a fleet of approximately 145 vehicles comprised of trucks, engines, ladders, towers, and fire prevention and investigation cars.

\*\*If your idea does not fit into the scope of the assets we mentioned, please fill out this [Google Form](#) to let us know what we missed.

## **APPENDIX E**

This RFI is for information and planning purposes only and shall not be construed as a solicitation or as an obligation on the part of the City to issue any competitive procurement or award a contract.

The City will not award a contract on the basis of responses to this RFI nor otherwise pay for the preparation of any information submitted, for any vendor presentation, or the City's use of such information.

All responses to this RFI will be public record under the Massachusetts' Public Records Law, Mass. Gen. L. ch. 66 s. 10, regardless of confidentiality notices to the contrary.



**CONSOLIDATED Q&A**  
**CITY OF BOSTON SMART CITY RFI EV00003885**  
**PUBLISHED JANUARY 13, 2017**

#	QUESTION	ANSWER
1	Will all responses be posted publicly?	All responses to the RFI will be made publicly available. We do realize that some applicants may not want to submit all details, and will take this into account when evaluating responses. We ask all applicants be as thorough as possible with their written responses.
2	What local and federal regulations has the City of Boston identified as needing to be compliant with in the context of a smart cities project?	The scope of the proposed project will dictate which local and federal regulations are triggered. That being said, we provided a Google Folder hyperlink (page 5) that has a compilation of contracts and regulations about which vendors should be aware.
3	Why did Boston write this RFI?	Our goals and motivations for writing the RFI are stated on page 2 of the RFI. In this section, we highlighted our main priorities.
4	Have there been departments that have been receiving these kinds of proposals?	Yes, a multitude of departments received Smart City Technology inquiries. This RFI will help streamline the process of submitting potential projects.
5	What is the criteria used to rate the RFI responses?	<p>We are looking for responses that specifically address one of more of "Our Goals" on page 2 of the RFI while simultaneously addressing "Our Resources" on page 3 of the RFI.</p> <p>To be very clear, this RFI is for information and planning purposes only. The RFI process does not include awarding a contract or making any purchases. If we choose to make investments in the future, we'll go through a separate procurement process. However, this RFI doesn't commit us to any future procurements. Your participation -- or lack thereof -- in the RFI does not help or hurt your chances of partnering with us in the future.</p>
6	Will the City release any formal solicitations to procure any technologies the City identifies through this RFI?	<p>This depends on the proposals that we receive. We are interested in gathering ideas at this point in the RFI process, but are open to creating a partnership with a vendor.</p> <p>To be very clear, this RFI is for information and planning purposes only. The RFI process does not include awarding a contract or making any purchases. If we choose to make investments in the future, we'll go through a separate procurement process. However, this RFI doesn't commit us to any future procurements. Your participation -- or lack thereof -- in the RFI does not help or hurt your chances of partnering with us in the future.</p>
7	What will the City's process look like over the next few months?	Please see page 6 of the RFI.
8	Has the City determined timing and scope of a future RFP?	<p>The City has not determined the timing and scope of any future RFPs. The goal of the RFI is to help us develop future investment plans, so the timing and scope of any future RFPs will be determined after we evaluate responses from the RFI.</p> <p>To be very clear, this RFI is for information and planning purposes only. The RFI process does not include awarding a contract or making any purchases. If we choose to make investments in the future, we'll go through a separate procurement process. However, this RFI doesn't commit us to any future procurements. Your participation -- or lack thereof -- in the RFI does not help or hurt your chances of partnering with us in the future.</p>



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#	QUESTION	ANSWER
9	Will there be an expedited permitting process through PIC, DoIT and BTM if the RFI results in an RFP?	<p>This RFI is about getting ideas, not implementing projects.</p> <p>However, if expedited permitting would be a requirement for your proposed project to be successful in Boston, please include that information in your RFI response.</p> <p>To be very clear, this RFI is for information and planning purposes only. The RFI process does not include awarding a contract or making any purchases. If we choose to make investments in the future, we'll go through a separate procurement process. However, this RFI doesn't commit us to any future procurements. Your participation -- or lack there of -- in the RFI does not help or hurt your chances of partnering with us in the future.</p>
10	Subsequent to receiving the RFI responses, does the City of Boston have a timeline with next steps and for issuing an RFP?	<p>No. This will depend on the project that is selected</p> <p>To be very clear, this RFI is for information and planning purposes only. The RFI process does not include awarding a contract or making any purchases. If we choose to make investments in the future, we'll go through a separate procurement process. However, this RFI doesn't commit us to any future procurements. Your participation -- or lack there of -- in the RFI does not help or hurt your chances of partnering with us in the future.</p>
11	Do you think there is room for an external consultant/operational manager? Or will the city manage all Smart City initiatives internally?	<p>The RFI is about getting ideas, not implementing projects.</p> <p>If you think an external consultant would be required for the success of your proposed Smart City initiatives, please include that information in your RFI response.</p>
12	Is there budgeted funding available for any of the possible selected ideas proposed?	<p>We are interested in general market research and would find it helpful to know how much a project would cost. As this is an RFI, we do not have a budget in mind, but are rather more invested in the ideas/projects proposed.</p> <p>To be very clear, this RFI is for information and planning purposes only. The RFI process does not include awarding a contract or making any purchases. If we choose to make investments in the future, we'll go through a separate procurement process. However, this RFI doesn't commit us to any future procurements. Your participation -- or lack there of -- in the RFI does not help or hurt your chances of partnering with us in the future.</p>
13	Is there an expected length of contract?	<p>There will be no contract associated with the RFI/inquiry stage. Any information you'd like to share with us about past public-private partnerships and the lengths of those contracts would be helpful. However, this is not required.</p> <p>To be very clear, this RFI is for information and planning purposes only. The RFI process does not include awarding a contract or making any purchases. If we choose to make investments in the future, we'll go through a separate procurement process. However, this RFI doesn't commit us to any future procurements. Your participation -- or lack there of -- in the RFI does not help or hurt your chances of partnering with us in the future.</p>



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#	QUESTION	ANSWER
14	Can we submit pre approvals for a project?	<p>The RFI is about getting ideas, not implementing projects.</p> <p>To be very clear, this RFI is for information and planning purposes only and shall not be construed as a solicitation or as an obligation on the part of the City to issue any competitive procurement or award a contract. Your participation -- or lack there of -- in the RFI does not help or hurt your chances of partnering with us in the future.</p>
15	Will the city accept a single response from several vendors operating together as a consortium to address the smart city initiatives described such as wireless, parking, etc?	Yes
16	The RFI emphasizes the use a vast array of City assets that are predominantly physical property. Can you describe for us the City of Boston's current team that addresses Smart City as its primary job function? Have you established a multi-disciplinary team? Is it at a Steering Committee level, or a dedicated team of technology and other employees for Smart City initiatives?	Our team is inter-departmental across Streets, MONUM and DOIT. We approach Smart City Technologies with a collaborative angle that places heavy reliance on partnerships with higher-ed, the local innovation community and the public.
17	Can you link to websites?	For this stage of the RFI, we ask respondents submit 10 written pages. If we invite you to come in for an interview, then we'd be happy to watch a YouTube video or peruse additional links.
18	Does it make a difference as to when the City of Boston receives an RFI?	No. We will not give special attention to RFIs that are submitted earlier than others.
19	Is there an accessible system in place for as built facility construction?	Let us know what you are proposing! We're accepting ideas.
20	When assessments are completed is the observation data used to update the as built documentation?	We have no additional information to provide beyond what is in the RFI.
21	How is the City prioritizing assets?	Please see page 7 of the RFI where we catalogue our priority assets.
22	Within the preferred assets, do you have any further guidance on what asset is seen as most actionable?	Appendixes A and B delineate priority and secondary assets respectively. Beyond this guidance, we leave it up to you, and are interested to see what ideas and projects potential partners submit.
23	What is the difference between priority assets and secondary assets? Does the classification indicate that automating some assets have priority over others?	Priority assets denote pieces of infrastructure on which we are placing a heavier emphasis.
24	Can you describe the current technology assets that could be considered the "current state" or jumping off point for this program? For instance, Boston has a mature ArcInfo based GIS program, what other significant technologies are available to be leveraged?	We are interested in ways that our existing systems could be complemented and/or harmonized. The ARC GIS platform is a great jumping off point. We do not have a robust list of platforms at this time. We prefer ideas that are applicable across platforms.
25	Does the City have a right to install equipment inside the Big Belly trash barrels?	Yes. The city purchased all of the Bigbellies. However, space for installation is limited.
26	Is there a typical installation diagram of a Big Belly barrel and is power ever installed?	The power is supplied by a solar charged battery. There is no hard lined electrical conduit. See Google Folder for a diagram of a BigBelly; we cannot provide an installation diagram.



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27	Do you plan to use the Bigbelly platform currently installed as potential sighting platform/locations? Currently BB has over 600 Stations installed throughout the City of Boston that have a wireless network in place and others throughout Universities & Private sector which may be able to partner with City (I.e. Northeastern, BU)	Our focus now is on ideas that can deliver value, not on the specifics of implementation.
28	How will Boston Planning and Development Agency use the smart city data to determine zoning?	This is to be determined based on the projects that we implement
29	What are the major problems BTM faces?	Please reference the GoBoston Document that BTM released. <a href="http://goboston2030.org/en/">http://goboston2030.org/en/</a>
30	What have been the major bike initiatives in the COB?	Please reference the GoBoston Document that BTM released. <a href="http://goboston2030.org/en/">http://goboston2030.org/en/</a>
31	Page 9, item 10: Boston Water and Sewer Commission operates a wireless collector system throughout the city for collecting meter data. Where can we find specifics (type of wireless network)?	We have no additional material at this time beyond what is included in the RFI
32	<i>Please provide a list of web sites and mobile applications that the city has now and is planning to be used in expanding "Constituent Engagement".</i>	BOS311; Boston's Safest Driver; ParkBoston; Where's My School Bus?; PayTix; etc.
33	Are there existing advertising contracts that would preclude a model based on generating revenue that way? Is the posted version of the JCDecaux contract the most up to date one?	All contracts are up to date and have been posted in the Google Drive. We have also included the contract about which you inquired regarding JCDecaux.
34	Are there regulations respondents should be aware of that govern what can be deployed on the streets or in public spaces, e.g. related to privacy, commercial WiFi, zoning, historical districts, advertising signage, etc.?	Please reference the Google Folder hyperlink we provided on page 5 of the RFI. While this compendium is not complete, it is a valuable starting point for reference materials.
35	Is Boston interested in cyber security initiatives?	We want to make sure that any Smart City Technologies project we initiate is secure.
36	What are the top 5 data analytics use cases does the city envision for the Smart Cities initiative? Examples we are thinking about are security, business analytics, operational analytics.	Please reference page 2 of the RFI "Our Goals"
37	Does the City currently have a Data and Meta Data set of governance/ Standards by which all data will be shared/used? This is in addition to current open data tools?	Security and privacy will be a critical part of any Smart City initiative that we undertake, as they are paramount to establishing public trust in our work. We expect all partners to work closely with us to develop approaches to these topics. We also expect questions of data ownership and usage rights to be a part of any agreement we establish with a partner. If your proposal involves a monetization structure around data collection, let us know how this will work. Additionally, please reference (1) our Open Data Policy and (2) the City's agreement with Verizon for a Smart Communities/Vision Zero pilot, available at <a href="http://boston.gov/smart-streets">boston.gov/smart-streets</a> .
38	With the increase in data that would be collected from a Smart City infrastructure, are there plans to change the way citizens engage with the City or is the plan to deliver additional services in a similar fashion?	Our focus now is on ideas that can deliver value, not on the specifics of implementation.  As stated in the RFI, our goals include both delivering exceptional services and expanding constituent engagement.



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39	Who would be some of the other audiences interested in analytics associated with Smart Cities technology beyond the public? We are thinking about City staff and departments.	RFI responses will be reviewed by multiple City departments, including but not limited to those mentioned in Appendices C and D. After reviewing the RFI, if you proposed project falls outside what we're looking for, please submit your project on the Google Form Link, which is on page 10 of the RFI.
40	With respect to increasing "Digital Access and Equity", does the city have specific service levels such as uptime, bandwidth and response times that would be stated and agreed upon?	This will vary based on the project. When submitting your response to the RFI, let us know what you are proposing.
41	Please describe the current Digital Access that is in place and how it is monitored for effectiveness (uptime, usage by the public, bandwidth and response times)	Please reference: <a href="https://www.boston.gov/innovation-and-technology/broadband-and-digital-equity">https://www.boston.gov/innovation-and-technology/broadband-and-digital-equity</a>
42	Would you briefly describe what aspects of your digital assets may be desirable to correlate in terms of usages. For example, public wireless data access utilization by location over time.	This will vary based on the project. When submitting your response to the RFI, let us know what data you are thinking of correlating.
43	Is there an evergreen rating and ranking of facilities based on: 1. Facility Condition 2. Outstanding Capital Repairs 3. Annual Energy Usage	While Boston does not employ Evergreen ratings of its facilities, the city does report annual energy usage and building energy performance through Energy Star Portfolio Manager as part of the Building Energy Reporting and Disclosure Ordinance (BERDO). This ordinance provides annual energy usage and energy intensity for private sector buildings of a certain size, and all municipal buildings. URL: <a href="http://berdo.greenovateboston.org/">http://berdo.greenovateboston.org/</a>
44	With the recent removal of Toll booths in favor of EZ pass transponders, is there an initiative to have sensors in the City collect this data for Public Safety purposes?	We have no present plans to use EZ pass readers. Please let us know what your idea is!
45	Is there an accessible system in place for as built Façade including Fenestration construction?	Let us know what you are proposing! We're accepting ideas.
46	Are there scheduled assessments of Façade & Fenestration systems?	We have no additional information to provide beyond what is in the RFI.
47	How are facility assessments planned and scheduled?	We have no additional information to provide beyond what is in the RFI.
48	Is it possible to access fiber through any of these other assets (i.e. fireboxes)?	Not at this point in time.
49	Do the City's fire boxes have power?	Yes, the fireboxes have power.
50	In regards to Fire Boxes, is the City of Boston looking to replace them or incorporate them into a new structure that may support advertising?	Our plans regarding replacement or re-use of fire boxes will be informed in part by responses to this RFI. Please review the information in the RFI regarding the impact of outdoor advertising on the public realm.
51	What kind of form is the best way to submit?	We are agnostic to Word v. Powerpoint and font, style and spacing. Give us your best ideas.
52	Can we submit a cover letter in addition to the 10 page response?	We ask all responses be no longer than 10 pages (this would include a cover letter).





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#	QUESTION	ANSWER
53	Multiple submissions – is there a maximum limit on the number of submissions?	No, we do not have a limit for the amount of applications that can be submitted. However, each submission must be for a unique product.
54	Are RFI reponses 10 pages of double or single spacing?	We do not have a preference.
55	What other funding sources is the City seeking, other than public/private partnerships?	We are open to a myriad of funding sources. If you can provide your finance model when submitting your application, that would be beneficial in the overall RFI evaluation. Let us know what you are thinking!
56	The RFI states that the 752 buses owned by the School Department/City of Boston are equipped with GPS. Is the GPS information centrally collected, and is it available in real time?	Zonar runs the GPS/AVL (Automatic Vehicle Locator) system in our buses; it is available in real time. Furthermore, the GPS/AVL is tied to our routing system, so that we can compare the planned/scheduled routes with the actual performance.
57	Are other vehicles in the city fleet (emergency and non-emergency) equipped with GPS? If so, is that GPS information centrally collected, and is it available in real time?	For the majority of our non-emergency fleet vehicles, we have 680 equipped with GPS. Data is centrally collected through our current GPS system - Trimble GeoManager - and it is available in real time. We have no additional information at this time.
58	Are there any types of IoT devices measuring heat or electricity at the moment?	No we do not have IOT devices monitoring public facilities. There are interval meter data for less than 10% of public facilities for electricity use. If you are interested in the existing energy dataset for the city, you can read more about it here: <a href="https://www.cityofboston.gov/eeos/reporting/">https://www.cityofboston.gov/eeos/reporting/</a>
59	There are several different protocols associated with IoT that would be essential for any Smart City implementation, has City of Boston determined which protocol that they would like to standardize?	Our focus now is on ideas that can deliver value, not on the specifics of implementation.
60	We understand that Boston has conducted IoT pilots and PoCs in the past. What were the reasons some of these failed?	<p>You can find a summary of some of our past projects at <a href="http://boston.gov/smart-streets">boston.gov/smart-streets</a>. That page links to our Smart City Playbook, which explains that:</p> <p><i>So far, every “Smart City” pilot project that we’ve undertaken here in Boston has ended with a glossy presentation, and a collective shrug. Nobody’s really known what to do next, or how the technology and data might lead to new or improved services. We want to change that.</i></p>
61	Will the City be willing to enter into a multi-party solution deployment agreement? For example, a broadband network provider, a platform provider; and an application provider working together to deploy and provide a solution, with each party individually responsible for delivering discrete components of the overall solution.	Yes. However, our focus now is on ideas that can deliver value, not on the specifics of implementation.
62	Will single wireless carrier / provider small cell and IoT infrastructure sites continue to be permitted, or will approved sites be required to host infrastructure from two or more wireless carriers and / or IoT solution providers?	Our focus now is on ideas that can deliver value, not on the specifics of implementation. We expect the City will have a variety of models for small cells and other IoT technology including neutral host and single carrier.
63	Does JCD also control the shelters that were previously maintained by Cemusa? Is so, please provide a copy of that agreement and any amendments thereto.	JCD did take control of the Cemusa shelters. We are unable at this time to provide a copy of that agreement.
64	Does the City have a right to install equipment in the advertising structures operated by Wall/JCDecaux?	The City does not own the Decaux units; we cannot add anything into the structures (ie. wifi) with out JCD permission. Please reference the contract provided in the Google Folder.
65	There are new wayfinding signs being installed around the City of Boston? Are those City property and can we consider those assets part of this RFI ?	Not all of the signs are City Property, but many reside in the public right of way, and are reviewed under Article 11 (sign zoning code) and through PIC.



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66	Have there been conversations regarding changing street furniture into digital screens?	Yes, there have been conversations. Please tell us what this would entail if we partner with your company (finance models, public private partnership structure, etc.).
67	What is the appetite for "on street" advertising?	We are happy to read about your "on street" advertising model. Please explain (1) how the revenue model would work, (2) how the public-private partnership would operate and (3) how your "on street" advertising aligns with the document in our Google Folder titled "Article 11 Signs".
68	What are the top citizen (residents and visitors) and business complaints that you are most interested in solving?	Please reference "Our Goals" on page 2 of the RFI.
69	Is BTM already under a procurement process and committed to replacing meters or is that part of the Smart City initiative?	Given that the City has already updated its meters, they are a "secondary" priority. However, do tell us what you are proposing!
70	Have you engaged (or will you) engage the many related public organizations to participate in this program (MBTA, DOT, Massport, Comm. of Mass., MassTech), neighboring cities and towns? or local Universities? We are curious as to how these large institutions might be leveraged to greater positive impact.	We have not engaged with these partners at this point in the RFI project. We are not opposed to collaboration, but would like to see what projects are proposed before we suggest a partnership.
71	Is the City looking at payphones as part of this RFI?	If your proposed project uses payphones, do let us know. It is important to note that there are few remaining payphones in the city, and of those still erect, we do not own the majority.
72	Will the smart city platform be separate? Or, integrated into other technologies and platforms that you use?	The intention is to eventually have the various smart city solutions integrated at some level. The strategy is to learn what works and to build off of that. Any platform that we go with will almost certainly come after we have deployed a few more smart city solutions that demonstrably add value to city living in Boston.
73	Is there an accessible system in place for as built roof system construction?	Let us know what you are proposing! We're accepting ideas.
74	Are there scheduled assessments of Roofing systems?	We have no additional information to provide beyond what is in the RFI.
75	Does the City currently have any sensors that would need to be incorporated into this project?	We have thousands of sensors throughout the city, from parking meter sensors to gas sensors, and there is no requirement - though certainly no push back - for incorporating any existing sensors into a new project.
76	Please list some of the sensors and data that you know to be involved in the "Deliver of Exceptional City Services" E.g., pot hole location identification from smart phones, plow truck scheduling and routing, trash pickup and lighting, etc.)	Previously, Boston has experimented with: Air quality and temp sensors Smartphone-based accelerometer tech for gathering road quality data (this is the StreetBump app) Placemeter (lightweight video analytics) for doing pedestrian counting Streetline's first generation, embedded roadway parking sensors Vehicle detection loops at intersections IBM-based camera analytics for doing crowd security analysis ShotSpotter for doing automated gunshot detection BOS311 as a "citizen-sensor" approach to crowd-sourcing city issues We've begun experimenting with Soofa to use bluetooth sniffers for gathering pedestrian count info Additional information is available at <a href="http://boston.gov/smart-streets">boston.gov/smart-streets</a>



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77	Does the shadow conduit map include both assets available for use as dark fiber vs. fiber strands that are being used for traffic management and are not available? What's the percentage of the shadow conduit shown that a vendor could access?	The shadow conduit map does not show all assets. At this moment in time, we do not have a measurement of shadow conduit that a vendor could access.
78	Regarding Shadow Conduits, do they run through the Eversource manhole network? And is it part of CityNet or can any fiber installed be used for commercial purposes?	City owned shadow conduit assets are distinct from BoNet (referred to in question as CityNet). City owned shadow conduit can be leased from the City and used for commercial purposes.
79	If a streetlight already has equipment mounted on the arm or mast, is there an opportunity for a 2nd vendor to mount equipment presuming there is no interference?	No.
80	What is the model of the LED cobra head used to replace existing streetlights?	Bata/Cree #3 9& 70, Phillips/Hadco #110, 209, 227
81	What traffic management system (TMS) does the city use to control its traffic lights (vendor/model), and are there plans to change or upgrade the TMS in the next 1-2 years? Are individual signals connected to the TMS using an IP-based connection or some other means?	<p>We have a custom traffic management system. Originally, our TMS was built for a mini computer; it was called UTCS. Controlled Technologies INC then ported the software to a server based windows system in 2004. They continue to maintain the data for us.</p> <p>We do not have plans to upgrade in the next 1-2 years. Our wish is to enhance what we have further and to integrate additional features (i.e. adaptive signal control). Our system already has early versions of automatic control called "traffic responsive", but because our intersections are spaced so closely to one another, if we run this pattern selection software, the patterns change too often.</p> <p>There is direct connection of all signals, but it is not IP based. All of the local connections are through twisted pair copper. In some cases, the twisted pair copper is fed through fiber.</p>
82	Our current understanding is that Boston has 845 signals, of which 544 are connected. Is this correct? If yes, are there plans to connect the remaining 300 or so lights and by when?	Boston has 859 signals, 563 of which are connected. We would eventually like to connect everything to the central system, but there are no plans to do so at the current time.
83	Does the city share jurisdiction on traffic signal operation with MassDOT? If so, where and how many lights?	We have signals that are owned by MassDOT, but hooked up to our central computer. MassDOT repairs the hardware, and we provide the central control and coordination with our computer. Additionally, we interface with DCR. There is no additional information to provide at this time.
84	What are your top three or more approaches to reduce the reliance on single-occupancy vehicles?	Please reference the GoBoston Document that BTd released. <a href="http://goboston2030.org/en/">http://goboston2030.org/en/</a>
85	Can you submit YouTube Videos?	For this stage of the RFI, we ask respondents submit 10 written pages. If we invite you to come in for an interview, then we'd be happy to watch a YouTube video or peruse additional links.
86	Will the city permit the display of video and / or banner ads in conjunction with free public Wi-Fi service?	The City is open to exploring video and/or banner advertisements in conjunction with free public Wi-Fi service. Let us know what you are thinking!
87	What do you expect the visitor experience to be while navigating the city?	Please reference the Imagine Boston 2030 draft document released by the City of Boston. <a href="http://20222-presscdn.pagely.netdna-cdn.com/wp-content/uploads/2016/11/Ib2030-Vision-Report-WEB-2016-11-17-SPREADS.pdf">http://20222-presscdn.pagely.netdna-cdn.com/wp-content/uploads/2016/11/Ib2030-Vision-Report-WEB-2016-11-17-SPREADS.pdf</a>



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88	Is the Wicked WiFi project still active? If so, what are the terms and type of service provided to the public? Will this program continue to be expanded in 2017 and beyond?	<p>The City continues to expand its public Wicked Free Wi-Fi as budget allows; more information, including the network terms and conditions, is available here: <a href="https://www.boston.gov/departments/innovation-and-technology/wicked-free-wi-fi">https://www.boston.gov/departments/innovation-and-technology/wicked-free-wi-fi</a></p> <p>However, a Smart City partnership could potentially incorporate our goals into it.</p>
89	Under City Buildings and Schools where there is Wicked WiFi now, is the plan to incorporate the networks together or operate them separately?	<p>The Boston Fiber Optic Network (BoNet) supports a range of public uses. Two such uses include connecting public buildings to the Internet and providing free public wi-fi in locations across the City through the Wicked Free Wi-Fi program. We are open to exploring partnerships that would utilize the City's existing network, resources and/or expand upon these resources.</p>
90	Will the City permit the offering of a level paid premium Wi-Fi services as an optional service level over free public Wi-Fi?	<p>The city's network has certain commercial restrictions. We are open to it, but any free tier has to provide a basic level of service AND address potential issues regarding digital equity.</p>
91	Internet connectivity is vital to the development of any Smart City, would additional investment be necessary to support the existing Wicked Free Wifi service?	<p>Yes. Whatever the footprint of Wicked Free Wi-Fi now and in the years to come, the network will require resources for ongoing operation and maintenance.</p>
92	We understand that recently the City of Boston in collaboration with the World Economic Forum conducted a 1-year PoC on self-driving cars. What is the City of Boston's perspective on parking for self-driving cars – will there be automated drivers and professional driving in the city center while others will use remote parking for and then bused into the city? What are your plans to repurpose existing parking garages in the city center?	<p>The City has clearly stated through an executive order that its preference in the adoption of autonomous vehicles will be for those in shared electric fleet models. In addition to lowering the number of vehicles on the road, we believe this will also reduce the need for space allocated to vehicle storage, particularly on-streets. Parking structures being constructed in the future, should ideally be designed and built to accommodate adaptive reuse.</p>
93	Are you looking for a citywide solution? Designing a citywide pilot?	<p>We welcome any ideas that fit the goals outlined on pg 2 of the RFI.</p>