



# Memorandum

**TO:** HONORABLE MAYOR  
AND CITY COUNCIL

**FROM:** Michelle McGurk

**SUBJECT:** INNOVATIVE LED STREETLIGHT  
REPLACEMENT RFP

**DATE:** January 11, 2017

Approved

Date

1/11/17

## RECOMMENDATION

It is recommended that the City Council:

- 1) Accept the report and analysis regarding the Innovative LED Streetlight Replacement Request for Proposals;
- 2) With respect to the proposals received for installation of streetlights and smart controller units, direct the City Manager either to:
  - a) Negotiate a contract with the top-scoring proposer Siemens for conversion of approximately 39,285 streetlights to LED luminaires with smart controllers, including a pilot installation of at least 1,000 controller units from proposal partner anyCOMM, other necessary testing and appropriate guarantees, and return to Council for final contract execution;

OR

- b) Reject all bids and issue new separate procurements for the following items:
  - i) Conversion of approximately 39,285 streetlights to LED luminaires;
  - ii) Installation and commissioning of approximately 64,400 smart controller units, including an evaluation of emerging smart city technologies and capabilities;
  - iii) Management and marketing of City infrastructure for telecommunications purposes; and
- 3) With respect to the in-lieu proposal received from Allvision/Outfront Media and the outdoor kiosks and banners proposed by Black & Veatch, direct the City Manager to continue the work currently in-process regarding electronic billboards, the General Plan, and the City Sign Code. If the Council chooses to amend the General Plan, Code and Council Policy regarding electronic billboards in the future, the City Manager is directed to come forward with recommendations on issuing an RFP for such signage and interactive media on City property.

## **OUTCOME**

Council consideration and selection of a proposer will enable staff to move forward on converting approximately 39,285 streetlights citywide to energy-efficient, brighter and whiter, smart, light-emitting diode (LED) streetlights.

## **EXECUTIVE SUMMARY**

This type of procurement is unprecedented in the City of San José. Council directed staff to test the marketplace and see if it was possible to find a partner or partners who would convert approximately 39,285 streetlights from sodium vapor to efficient LED technology at little or no cost to the City.

San José issued the Innovative LED Streetlight Replacement Request for Proposals (RFP) in August of 2015. In Phase 1, the City received 11 proposals. All proposers were invited to submit full proposals in Phase 2. The City received six full proposals in Phase 2. Two proposers failed to meet the Minimum Qualifications laid out in the RFP. The review team invited the remaining four to the interview phase.

One proposer, Allvision/Outfront Media, proposes an “in-lieu” (or cash) project wherein the company would install up to eight electronic billboards on City property and the City could use the resulting revenue to pay for converting the streetlights. Staff is not recommending the Allvision/Outfront Media proposal as it conflicts with current City policies and the Municipal Code. At Council direction, staff is in the process of developing recommendations to update the policies and Code, so this proposal is premature. Staff believes that it would be best to complete the policy work; then, if Council wishes to explore electronic billboard advertising as a potential revenue opportunity, staff could issue a separate and specific RFP for such a project.

All three remaining proposers—Black & Veatch, Philips, and Siemens—propose to install streetlights and smart controller units. Despite widely varying approaches from each of the three proposals, the final scores from the review team are fairly close, with only 2.1 points separating the highest and lowest scores. The main policy considerations before Council are the following:

- Will the selected proposer accomplish the goal of installing streetlights and smart control units?
- What are the risks to the General Fund? Will energy savings, PG&E rebates, and revenues from the proposed real estate deal pay for the streetlights? Or will the City have to put money into the project? Are revenues guaranteed or speculative?
- What other benefits does the City get from the project? Does it advance any other City goals (e.g., the Smart City Vision)? How does it benefit or impact our City, including residents and businesses?
- Are proposed technology elements dated, current, or leading edge? How have they been deployed at similar scale and complexity elsewhere?

If this were simply a traditional procurement for installation of approximately 39,285 LED luminaires and controllers, staff could say with confidence that the three installation finalists have sufficient experience with large public works projects and streetlight installations. However, this proposal is also a financing scheme and a 24-year real estate deal. Each proposer's approach to using City assets is quite different, and as a result, comparability is not straightforward. For example, revenue projections vary widely, and in all cases, much of the revenue is projected, not guaranteed, which is a concern given the long-term (24-years) nature of this project. Further, it is important to note that none of the proposers are self-financing the project. The proposals either include a financing partner who would lend the money to finance the project or require the City to obtain financing.

The proposal from Siemens offers cutting edge technology; however, the controller units have not been deployed on a large scale. For this reason, staff believes the best course would be to undergo a rigorous and detailed field test of at least 1,000 units as the first phase of a larger deployment.

Another alternative is for Council to return to a traditional procurement process. In so doing, Council could reject all proposals and direct staff to seek financing for streetlight conversion and issue separate procurements for key components, including:

- Installation of LED streetlights;
- Procurement of smart controller units, exploring the marketplace for new Smart City technology; and
- Electronic advertising.

Under such a scenario, telecommunications companies may continue to enter into lease arrangements with the City directly using the City's existing Master Lease Agreement for Telecommunications. Alternately, the City could issue an RFQ or RFP for neutral-host telecommunications management, which would market the City's assets for telecommunications deployments. The advantage of this scenario is that there may be more proposers within each type of procurement, as opposed to the bundled procurement approach in this RFP.

## **BACKGROUND**

There are approximately 64,400 active streetlights citywide in San José. Since the City Council adopted San José's Green Vision in 2007, the City has been on the cutting edge of streetlight innovation, partnering with industry to pilot new designs for LED streetlights and smart controller units. To date, nearly 25,000 lights have been changed to LEDs (approximately 39 percent of the inventory), and approximately 39,285 lights remain to be converted.

Purchase and installation of the lights and controller units is estimated to cost approximately \$36.7 million. Given the other pressing infrastructure needs the City has, Council directed staff to turn this funding challenge into an opportunity for creative solutions.

In the early years, as the lighting technology was still in its infancy, the City initially paid for LED streetlights using grants, including stimulus funding from the American Recovery and Reinvestment Act and federal Energy Efficient Community Block Grant funding. In 2014 and 2015, the City bundled the installation of 18,127 LED streetlights into a larger package of energy efficiency projects being financed through a contract with OpTerra Energy Services, an energy services company (ESCO<sup>1</sup>).

During this timeframe, private sector companies approached City staff, as well as the Mayor and Council, proposing ideas for converting the remaining streetlights either through ESCO/financing models or for free in exchange for placing small-cell telecommunications equipment or other Internet of Things/Smart City equipment on the streetlight poles or in the public right-of-way.

On February 24, 2015, Council directed staff to issue a call for proposals looking for ways to use the City's assets as a means to converting the City's remaining lights with little or no impact to the General Fund.

This had never been done before in the City. Staff put together a team to develop a Request for Proposals. On August 3, 2015, the City issued the "Innovative LED Streetlight Replacement RFP." Respondents were invited to submit proposals to use valuable City assets in exchange for converting the remaining approximately 39,285 streetlights to LED with smart controls.

Potential assets RFP respondents could propose to use included:

- Real estate that could be leased or developed;
- Sites that could be used by the telecommunications industry for small-cell technology;
- Facilities that could be reused or repurposed;
- Buildings or properties—such as an animal shelter, playground, or community room—that could be named in honor or recognition of a person or entity;
- Some existing conduit that could be used for fiber or the potential to build new; and
- Other additional opportunities for partnership.

The City did not limit responses to any particular type of partnership (i.e., telecommunications, naming rights, etc.). However, the RFP also stated that the City was not simply seeking a financing mechanism to convert the remaining streetlights, nor was the RFP a procurement for the City to directly purchase streetlights.

Proposers had two options for their responses:

- **Installation Proposal:** Install the new lights and controller units themselves. In keeping with Council's direction to allow for multiple successful bidders to take portions of the

---

<sup>1</sup> Under the ESCO model, the ESCO manages the design, engineering, financing, and installation of a package of energy upgrades for the client. In theory, the capital costs of the upgrades are paid for by the energy savings realized after the project is completed. In practice, however, that didn't work out in San José.

City's retrofit initiative, the RFP allowed proposers to bid on installation in one or more of four zones, each containing between 7,000 and 10,000 streetlights; or

- **In-Lieu Proposal:** Make an in-lieu cash payment (minimum of \$2 million) for the City to do the installation.

More than 40 people attended a pre-proposal conference on August 26, 2015. Due to industry requests, the City amended the RFP to a phased approach. A full timeline of the RFP process, staff review and due diligence, interviews, and Requests for Best and Final Offers is provided in Attachment A.

In Phase 1, the City received 11 conceptual proposals. All proposers were invited to submit full proposals in Phase 2. Six proposers submitted full proposals. Two were deemed to be non-responsive for failure to meet minimum qualifications, and four proceeded to the full review and scoring process.

PHASE 2 PROPOSERS		
Proposer	Proposal Type	Next Steps
Allvision/Outfront Media	In-Lieu	Finalist
Black & Veatch	Installation	Finalist
Philips	Installation	Finalist
Siemens	Installation	Finalist
STSC Enterprise Solutions	Installation	Failed to meet Minimum Qualifications <sup>2</sup>
Village Green Global	Installation	Failed to meet Minimum Qualifications <sup>3</sup>

## ANALYSIS

This RFP covers uncharted territory. In researching and developing the RFP, staff was unable to find another city that had developed a call for proposals that was so fluid and with so many different possible outcomes.

As an example of the project's complexity and unfamiliarity to industry, in Phase 1 alone, staff received 91 questions from prospective proposers, and in response to industry requests, extended the response period and created a phased response process. During Phase 2, which was limited to

<sup>2</sup> STSC Enterprise Solutions Inc. failed to meet the following Minimum Qualifications required in the RFP: The proposer's installation partner is not licensed by the California Contractor's State Licensing Board; the proposer did not provide references for the installation partner; and the proposer did not provide information about the project engineer, therefore the requirement that the proposer or installation partner must "possess any required professional engineering licenses to design and engineer the project, including signature of plans" could not be verified.

<sup>3</sup> Village Green Global failed to meet the following Minimum Qualifications required in the RFP: The proposer did not provide any references for Village Green Global, only for projects completed by the proposer's installation partner; project team information and resumes were not provided as required by the RFP, therefore staff could not verify that the proposer or installation partner meets the requirement to "possess any required professional engineering licenses to design and engineer the project, including signature of plans."

the 11 invited proposers from Phase 1, proposers submitted another 56 questions seeking more detail on the streetlight system and the RFP.

Given the unique and open-ended nature of the RFP, the proposals received are complex and required careful review for a number of components: financial viability, technical viability, risk to the General Fund, and other factors. Staff’s analysis of the installation proposals is presented separately from that of the one in-lieu proposal.

***INSTALLATION PROPOSALS***

Following is an overview of the three proposals to install LED streetlights and smart controllers, as well as a “Base Case” outlining what would be required if the City were to convert the streetlights using a traditional process (i.e., obtaining financing, designing the systems in-house, and bidding and contracting for installation).

<b>SCORING: INSTALLATION PROPOSALS</b>				
<b>ITEM</b>	<b>POINTS AVAILABLE</b>	<b>Black &amp; Veatch</b>	<b>Philips</b>	<b>Siemens</b>
<b>Highest Verified Value</b>	35	27.3	22.8	23.5
<b>Practicality of Implementation</b>	30	20.7	24.3	26.1
<b>Experience</b>	10	8.1	9.4	7.9
<b>Community Benefits &amp; Impacts</b>	10	6.7	4.0	5.9
<b>Environmental Stewardship</b>	5	4.3	5.0	4.2
<b>Local Business Enterprise Small Business Enterprise</b>	5 (LBE)	0	0	0
	5 (SBE, only eligible if LBE)			
<b>Total Points (100 possible)</b>		<b>67.1</b>	<b>65.5</b>	<b>67.6</b>

***Base Case – Traditional Funding and Installation***

To provide a baseline for review of the proposals, staff developed the “Base Case” model. Under this model, staff identified what it would cost the City to pay for procuring and installing the streetlights, as well as the lifecycle costs for the new light fixtures and controller units. The total

initial costs for the project are estimated to be \$36.7 million. Staff also calculated various savings from the new streetlights and applied them over the lifetime of the project.

The components that went into the Base Case included the following:

Baseline Costs: Purchasing, permitting, and installing 39,285 luminaires and controller units, as well as disposing of the old light fixtures. These costs were based on the City's costs for the previous installation under the ESCO.

One note: Many cities are installing LED luminaires, but not the smart controller units. Beyond the functionality offered by a photocell, which turns lights on and off, a smart controller unit allows the lights to be dimmed, a feature developed in partnership with the University of California's Lick Observatory, which is located on the summit of Mt. Hamilton, east of San José. In addition to monitoring the streetlight's energy usage, smart controllers also alert the City when there is an outage due to system malfunctions or exceptional events such as copper-wire theft or other failure causes.

Project Lifespan: 24 years

Staff initially projected, based on the ESCO project, that the LED streetlights will last for 10-to 15-years, and that any contracts lasting longer than that timeframe would require a major replacement program at approximately year 12. However, based on manufacturer's specifications and ratings for the lights proposed by the installation finalists, staff has updated the Base Case model to have a lifespan of 24 years. It is important to note that most luminaires are only warranted for 10 years, so there is risk to this approach.

Financing Costs: As the City does not have capital funds available for this project, staff evaluated the cost of financing the streetlight conversion using readily available municipal financing mechanisms, such as commercial paper. Because all of the finalists included some private use of the City's streetlights (e.g., placing telecommunications equipment on/in the light poles), the City cannot use tax-exempt financing. The projected interest rate for taxable financing would be 3 percent. For the purpose of the Base Case, if the City were to finance \$36.7 million (plus a standard 10 percent contingency) at an interest rate of 3 percent over 12 years, the annual payments plus interest would total approximately \$3.7 million per year.

Energy Savings: LED streetlights are more energy efficient than traditional streetlights. In many cities, energy savings alone quickly pay for the upfront costs of converting the lights. However, other cities have high-pressure sodium or mercury vapor lights, which use more energy than the yellow-colored low-pressure sodium lights San José first installed after the energy crisis of the 1970s.

To estimate the annual energy savings from LED replacements, staff computed before and after energy costs/savings for each type and quantity of streetlight using PG&E tariff tables and manufacturers specifications for the LED lighting most recently installed in San José.

Total energy savings for the Base Case is approximately 10.7 million kilowatt hours/year, or approximately \$1.66 million annually.

In addition, San José dims selected streetlights for five hours each night. This provides another 20 percent in energy savings, saving an additional approximately 2.1 million kilowatt hours/year, or approximately \$330,000 per year (in the first year).

PG&E Rebates: PG&E has a rebate program for cities installing LED streetlights. The one-time rebates vary depending on the wattage of the light fixture from \$40 per luminaire to \$200 per luminaire<sup>4</sup>. Based on the type and quantity of lights to be installed, staff projected PG&E rebates of approximately \$1.9 million.

Operations & Maintenance Cost Savings: LED fixtures last longer than traditional streetlights, so the City will no longer have to replace burned out bulbs. Staff calculated equipment and labor savings at \$247,000 annually.

Revenues: The Base Case does not include any revenues from other sources, such as telecommunications equipment on or in light poles. However, the Base Case doesn't preclude the City from entering into standard real estate contracts with entities wishing to co-locate telecommunications equipment in or on light poles. The City Council has approved standard lease rates for small-cell telecommunications equipment, which are used when a telecommunications company wishes to place facilities on City property (for Council-approved lease rates, see Attachment B: Master Agreement for (Small-Scale) Telecommunications Facilities on City-owned Property Usage Fee Schedule).

Smart City Elements: The Base Case also does not include any Internet of Things/Smart City elements beyond the wireless controller units. However, the Base Case does not preclude future Smart City projects that use the light poles.

Staff provided all of the Base Case assumptions to the three installation finalists through the Best and Final Offer (BAFO) process and provided each finalist with spreadsheets comparing their proposal to the Base Case. These finalists were asked if there were any concerns or disagreements with the City's assumptions and to address those when submitting their BAFO.

Staff then revisited several key assumptions (e.g., the project lifespan) and issued a second request for BAFO to the three finalists. The installation finalists' proposals outlined below encompass information provided in their response to the RFP and the two Best and Final Offers.

---

<sup>4</sup> [https://www.pge.com/en\\_US/business/save-energy-money/business-solutions-and-rebates/lighting/led-street-lighting/led-streetlight-rebates.page](https://www.pge.com/en_US/business/save-energy-money/business-solutions-and-rebates/lighting/led-street-lighting/led-streetlight-rebates.page).



*Siemens Installation Proposal*

<b>Lead Proposer</b>	Siemens Industry Inc., Building Technologies
<b>Partners</b>	anyCOMM
<b>Installation by</b>	Siemens Industry Inc., Building Technologies
<b>Timeframe</b>	24 years
<b>Initial Cost</b>	\$34,462,805; controller units are at no cost

Siemens, headquartered in Berlin and Munich, is a global electrical engineering and electronics corporation with 348,000 employees worldwide. The Siemens Industry Inc., Building Technologies division would oversee the engineering, design, and installation of approximately 39,285 LED streetlights. Siemens has partnered on this proposal with anyCOMM, an Internet of Things startup that recently relocated to San José.

AnyCOMM has invented a controller unit (the “node”) that includes the smart streetlight controls and a variety of Smart City features, including the capacity to accommodate up to four video cameras with digital recording devices, four color tunable LED indicator lights, audio sensor (for gunshot, car crash, and graffiti detection), and can also expand to include two-way public address for emergencies. Through partnerships with third-party providers, the company states that Wi-Fi hotspots, LTE small cells, and wireless backhaul could be provided via the node.

In June 2015, prior to release of the RFP, the City of San José entered into a demonstration partnership with anyCOMM, in which the company was going to place 166 nodes on San José streetlights and test sensor features. To date, anyCOMM has installed five nodes on streetlights on Almaden Boulevard between Santa Clara and St. John streets downtown and is running preliminary demonstration tests. The company has installed approximately 300 nodes in pilot locations across North America, including in the cities of Concord, California and Stratford in Ontario, Canada, as well as at an auto mall in Elk Grove, California. The technology was also recently used at hotspots in downtown Cleveland during the Republican National Convention.

Under this proposal, Siemens would convert the remaining 39,285 streetlights at a cost of \$34.4 million, which the City would finance via a tax-exempt municipal lease-purchase agreement and energy savings. The proposal includes letters of intent from potential financiers.

The anyCOMM nodes—valued by anyCOMM at approximately \$26MM— would be provided to the City at no cost, and anyCOMM proposes to upgrade the nodes as needed at no cost. The company also proposes to provide nodes for free to retrofit the 23,000 streetlights that the City has already converted to LED. AnyCOMM proposes to pay \$12/node in annual rent to the City with a 12 percent annual escalator for the first 18 years and 3 percent for years 19 to 24.

The nodes contain femtocells with capacity for up to four wireless carriers; however, the company does not have existing contracts or relationships with wireless carriers. Should this function be fully deployed, the \$12/node rental rate is significantly lower than the Council-

adopted telecommunications rates. It does, however, expand potential cellular capacity citywide by placing it on every streetlight. This potential, however, will only be realized if the carriers choose to use this capacity.

The company also proposes revenue sharing with the City of 15 percent of net profits from other revenues derived from the anyCOMM devices (e.g. Internet of Things backhaul, broadband gateway fees, new applications, etc.). However, the company has yet to monetize any of these revenue streams or develop partner relationships.

In Siemens' Best and Final Offer documents, the company proposes separate contracts between Siemens and the City and between anyCOMM and the City. This approach adds additional risk to the City. For this reason and because of the relatively untested nature of the anyCOMM nodes, staff is recommending an extensive pilot process to test the technology and development of contract terms with Siemens that include appropriate guarantees of anyCOMM's performance.

***Black & Veatch Installation Proposal***

<b>Lead Proposer</b>	Black & Veatch
<b>Partners</b>	5 Bars (telecommunications) Smart City Media (kiosks) Bostonia Group (financing)
<b>Installation by</b>	Black & Veatch
<b>Timeframe</b>	24 years
<b>Initial Costs</b>	\$34,764,185 (plus \$9,466,632 over life of contract for project management)

Black & Veatch, founded in 1915, is a global engineering, consulting and construction company headquartered in Overland Park, Kansas, with regional offices in Dublin, California. The company has approximately 10,000 employees in 100 countries, and specializes in the areas of energy, water, telecommunications, federal projects, and management consulting.

Black & Veatch proposes to install approximately 39,285 LED streetlights citywide. Construction would be done by Black & Veatch Construction with additional subcontractors. In addition to converting the streetlights, Black & Veatch has partnered with 5 Bars and Smart City Media to include telecommunications and digital media components, and as a result, potential ancillary revenues.

The 5 Bars component of the project proposes to install small-cell telecommunications equipment on up to 2,500 streetlights. The company would, in turn, re-sell or lease capacity to broadband providers. The company is a neutral-host provider, which means that various wireless carriers could lease space from 5 Bars. The company proposes to pay the City \$1,950 per cell annually, with an inflation adjuster. This rate is approximately 65 percent of the rate charged to carriers under the City's Master Lease Agreement for Telecommunications.

Another partner, Smart City Media proposes to install 150 information kiosks around the City, primarily in the Downtown area, as well as 400 interactive digital banners on streetlight poles. Smart City Media would sell advertising on the kiosks as well as display public service messages about City activities and programs. The company is deploying similar kiosks in Kansas City, Missouri's Smart City transportation corridor<sup>5</sup> along its new streetcar line.

City staff would be able to use the banners and kiosks to provide information to residents and visitors. The kiosks have Wi-Fi capabilities, and users can use them to call 9-1-1 or 3-1-1. Smart City Media also proposes to install up to 1,000 mobile sensors and beacons on streetlights. These devices would have the capacity to monitor air quality, weather conditions, and other conditions. Smart City Media proposes to install the mobile sensors, beacons, and Smart City kiosks and banners at no cost to the City and to pay the City 33 percent of gross revenues from advertising.

It is important to note that implementation of the advertising component of this proposal may require changes to the General Plan, Municipal Code and Council Policy.

The Black & Veatch proposal would create a Special Purpose Entity through which the project would be financed. The financing model relies on both energy savings and revenues to fund the project. If energy savings do not materialize at the levels projected, those costs are the responsibility of the Special Purpose Entity. There is an annual fee for Black & Veatch to manage the Special Purpose Entity, which is projected to total \$9.4 million over the 24-year life of the contract.

Based on the company's Best and Final Offers, the proposal projects the highest amount of revenue to the City from the installation of telecommunications devices and the Smart City sensors, beacons, and kiosks. However, the proposal includes no revenue guarantees, which have been a standard component of public agency advertising contracts<sup>6</sup>, and the partner companies are relative newcomers in their fields. In addition, because there are no other digital kiosk/streetlight banner proposals to compare to this proposal, staff is unsure of the actual marketplace and rental rates for this commodity. One option is to attempt to mitigate this risk by pursuing guarantees through the contract negotiation process. By contrast, if the City were to issue a procurement for digital signage/advertising through traditional procurement channels, staff could better determine the feasibility of the marketplace.

---

<sup>5</sup> <http://www.smartmedia.city/media/mk/assets/player/KeynoteDHTMLPlayer.html#27>

<sup>6</sup> By comparison, the Santa Clara Valley Transit Authority's advertising contract with Outfront Media Group requires payment of the greater of \$2.45 million or 65 percent of annual net sales annually, while Mineta San José International Airport's contract with Clear Channel Outdoor, Inc. requires payment of the greater of the Minimum Annual Guarantee (\$1.8 million in FY 2017-2018) or: 65 percent of gross revenue from fixed display in-terminal advertising, 65 percent of gross revenue from outdoor advertising; and 50 percent gross revenue from transit/bus shelter; as well as sponsorships/promotions/naming rights/licensing to be separately negotiated.

***Philips Lighting Installation Proposal***

<b>Lead Proposer</b>	Philips
<b>Partners</b>	Ericsson (telecommunications) Rosendin Electric (installation) WMH (engineering)
<b>Installation by</b>	Rosendin Electric
<b>Timeframe</b>	24 years
<b>Initial Costs</b>	\$32,403,225 for lighting installation, plus \$4,257,000 over 10 years for service costs for the CityTouch smart controller units

Philips Lighting is a global leader in lighting products, systems and services, that serves professional and consumer markets, leveraging the Internet of Things to transform homes, buildings and urban spaces. The company has approximately 36,000 employees in more than 70 countries.

On February 24, 2015, prior to release of the RFP, the San José City Council authorized the City Manager to enter into a demonstration partnership Master Agreement with Philips for the installation of up to 50 SmartPoles for a term of up to ten years on a trial basis. A SmartPole is an integrated unit manufactured by Philips that combines the equipment, cabinets and meter equipment needed for small-cell cellular installations with a city's streetlights. The goal of the SmartPole is to both reduce clutter in the right-of-way and to increase the availability of sites for cell-phone carriers.

Under the demonstration pilot, for every SmartPole installed, Philips upgraded 15 streetlights in the surrounding neighborhood to modern LED streetlights<sup>7</sup>.

San José currently has 50 SmartPoles installed in Downtown, North San Jose, and on The Alameda through the pilot. Feedback from the community about the SmartPole pilot has been positive with respect to increased cellular coverage. With respect to the appearance of the SmartPoles, the City has received concerns about their appearance, size, and scale. Currently, one carrier (Verizon) has contracted for SmartPole use in the San José pilot.

This proposal is different from the pilot. For the RFP, Philips proposes to convert approximately 39,285 LED streetlights citywide and install up to 1,000 SmartPoles citywide. The first 200 SmartPoles would be installed for an upfront payment from Philips of \$2 million. For SmartPoles numbers 201 through 1,000, Philips would pay the City \$3,000 in rent per pole per year (with annual increases for inflation) *if telecommunications carriers agree to pay that rate*. That rate is equal to the City's current rate for small cell installations, however the uncertain nature of the "if carriers agree" caveat in the offer is of concern to staff.

---

<sup>7</sup> Note: This was not intended to be an exclusive agreement, and any vendor developing or deploying similar technology was able propose an unsolicited offer to the City for consideration.

This proposal is the simplest of the three and has the potential to be deployed most quickly, however beyond the initial \$2 million, it contains no revenue guarantees. Other than the potential to improve cellular service, it contains no elements that would advance the City's Smart City Vision.

The Philips proposal includes a job training partnership with the Santa Clara County International Brotherhood of Electrical Workers (IBEW), National Electrical Contractors Association (NECA), and Rosendin Electric to link qualified graduates of Work2Future's Trades Orientation Program with pre-apprenticeship positions working on the installation project through the construction phase of the project.

### **Analysis & Recommendation: Installation Proposals**

Staff initially anticipated proposers would bear or finance the costs of installing lights in exchange for the use of valuable City assets (i.e., streetlights or other real estate) for a free or a reduced rate over a set period of time. These were the types of unsolicited proposals the City had received prior to developing the RFP.

A critical goal of the RFP was to reduce costs to the City over time via reduced energy and maintenance costs. The RFP gave additional weight to proposals that brought in new revenues to the City.

In evaluating the installation proposals, the RFP looked at the following critical factors:

- 1) **Highest Verified Value:** What is the cost/value to the City over time? What is the potential for generating revenue and how realistic is the revenue model?
- 2) **Practicality of Implementation:** What is the tradeoff between leading-edge technology and industry standards? Is the proposed solution stable and reliable? How quickly can the proposal be deployed?
- 3) **Community Benefit and Impact:** How do proposals reduce (or increase) physical clutter or affect aesthetics? How do proposals create opportunities to generate revenue (or increase demand on City resources)? Are there any other second-order benefits and impacts to City, including residents and businesses?
- 4) **Experience:** Does the proposer (or their installation partner) have the experience and are they capable of accomplishing the installation? Does the proposed technology work as it should?

### ***Highest Verified Value – 35 percent of Final Score***

Per the RFP, Highest Verified Value was to be determined based on the following:

- Information provided by the proposer, including the Proposal Valuation;
- Ability to generate ongoing revenue;
- Total value to the City over time;
- Cost realism vs. revenue realism, including ability in the marketplace to cogenerate revenue.

In addition, any telecommunications proposals were required to be evaluated using the City’s adopted telecommunications rates as a baseline.

To determine final scores for Highest Verified Value, the review team staff looked at the above factors. The BAFO process fleshed out additional information from the three installation finalists regarding initial costs for each proposal, projections for costs and revenue over the life of the project, and revenue guarantees.

First, it is important to note that none of the proposers is self-financing the project or simply installing LED streetlights in exchange for use of the City’s assets. The proposals either include a financing partner who would lend the money to finance the project or require the City to obtain financing.

Second, revenue projections vary widely, and in all cases, much of the revenue is **projected**, not **guaranteed**.

**Overview of Installation Proposal Costs and Revenues**

<b>Costs/Revenues</b>	<b>Black &amp; Veatch</b>	<b>Philips</b>	<b>Siemens</b>
<b>Initial Costs (Installation)</b>	\$34,764,185	\$32,403,225	\$34,462,805
<b>Program Administration or Other Service Charges</b>	\$9,466,632 over 24 years	\$4,257,000 over 10 years; future TBD	None
<b>Telecommunications lease revenues</b>	\$1,950/unit, up to 2,500 units, 3% annual escalator	\$2 million one-time for units 1-200; \$3,000/unit for units 201-1,000 if carriers are willing to pay rate, 3% annual escalator	\$12/unit, 63,000 units, 12% annual escalator for Years 1-18, 3% Years 19-24
<b>Other ancillary revenues</b>	33% of gross revenues from digital kiosks and light pole banners; no guarantees; projection is \$2.9 million in Year 1	None	15% of net profits from any monetization of the anyCOMM node (i.e. lease of femtocell by carriers; purchase of video or data; etc.). No projections provided in RFP response.

Siemens's proposal uses energy savings and telecommunications lease revenues to pay for the project. Key to this proposal is that proposal partner anyCOMM would provide controller units to the City for free on all of the streetlights citywide, not just the approximately 39,285 not yet converted to LEDs with smart controller units. The company also proposes to upgrade the units at no cost every few years as the technology evolves.

AnyCOMM proposes to pay the City \$12 per year per node with a 12 percent escalator in the first 18 years, then reverting to 3 percent per year. In addition, the company would pay 15 percent of net profits (as opposed to gross revenues) from monetizing any of the capabilities of the node. However, the proposal does not provide evidence that the company has monetized the technology, or that it has customers for its services or partnerships with telecommunications carriers. Information about the company or its financial status is not readily available from public sources. If the company fails to develop the product or bring it to market, the City could be left with an obsolete device on every streetlight. (This was a risk the City took when it first pioneered smart controller units on LED streetlights a decade ago.)

Black & Veatch proposes to pay for the conversion through a combination of energy savings and revenues from telecommunications equipment and digital advertising. The company would create a Special Purpose Entity through which the project would be financed. The financing model relies on both energy savings and revenues to fund the project. If energy savings do not materialize at the levels projected, those costs are the responsibility of the Special Purpose Entity.

Based on the company's Best and Final Offers, the proposal estimates the highest amount of revenue to the City from the installation of telecommunications devices and the Smart City sensors, beacons, and kiosks. Proposal partners seek to install 2,500 small-cell telecommunications devices on streetlights; 150 interactive (touchscreen) digital kiosks on city sidewalks/property; 400 interactive (touchscreen) digital banners on city streetlights; and 1,000 mobile beacons on other city property or right-of-way.

In return, the proposal projects that the City would receive per-device annual payments from the telecommunications lease as well as 33 percent of gross revenues from digital advertising. Projected revenues are significant, however, the proposal contains no minimum guarantee, and the advertising partner and the technologies are quite new to market. In addition, using the kiosks and banners for getting the word out about City events and for other public purposes offers marketing opportunities for the City, but would require staffing to develop and update the content.

Philips proposes to pay for the conversion through energy savings and revenue from installing up to 1,000 SmartPoles. The Philips proposal would finance the cost of streetlight installation through energy savings and any revenues received for SmartPoles. Under the financing model, the City would continue to pay PG&E for the cost of energy used to fuel the streetlights. The energy savings (or the difference between the City's electricity costs before installation of the

LED lights and the post-installation electricity costs for the lights) would be paid to an unnamed financier. Philips would pay rent to the City for any SmartPoles installed beyond the first 200.

Under this proposal, Philips would make an upfront payment of \$2 million, which would cover lease payments to the City for the first 200 SmartPoles. Lease payments for any SmartPoles beyond the 200 (up to 1,000) would start at the City's current rate of \$3,000 per year per pole if the carriers are willing to pay that rate.

### ***Practicality of Implementation – 30 percent of Final Score***

Per the RFP, Practicality of Implementation was to be determined using the following criteria: Analysis of modernity of technology vs. industry standards; stability and reliability; and speed to deployment. Practicality of Implementation would also weigh whether the project aligned with existing City Council Policies, the San José Municipal Code, or otherwise faced legal or policy hurdles.

At a minimum, each installation proposal was required to include lighting and smart controller units that met the City's specifications. Additionally, proposers could include other elements, such as telecommunications equipment that could enhance cellular service in San José and Smart City functions.

All of the installation finalists met the minimum requirement for lighting specifications and smart controller units. Additional features include the following:

- Siemens: anyCOMM node on each light pole, which combines the functionality of a smart controller unit with various Smart City elements, including gunshot detection, traffic counting, 24/7 digital video recording from four cameras mounted inside the unit, emergency announcements, and evacuation alerts. The node also includes femtocell telecommunications capabilities. This node is new technology.
- Black & Veatch: up to 2,500 telecommunications devices attached to streetlight poles, 150 Smart City interactive digital kiosks, 400 interactive digital streetlight banners, and 1,000 mobile beacons that could improve cellular coverage, help with wayfinding, and share information about City services and programs, as well as events and activities. These kiosks and beacons have Wi-Fi capabilities and can dial 9-1-1 and 3-1-1 in an emergency. The Smart City features are fairly new technology. Implementation of the digital kiosks and streetlight banners may require changes to the General Plan, Municipal Code and Council Policy.
- Philips: up to 1,000 SmartPoles, which are streetlights with small-cell telecommunications equipment inside, and have been piloted in San José and Los Angeles in large-scale pilots.



Staff believes that the Siemens proposal meets a number of the City's adopted Smart City and other goals. For example, the City has been looking for ways to alert residents in an emergency and the nodes include public address and warning light capabilities.

However, staff is concerned that the anyCOMM technology is not market-proven and has only been deployed in 300 test locations worldwide. Because Siemens proposes separate contracts between Siemens and the City and between anyCOMM and the City, the proposal carries additional risk should anyCOMM fail to realize or bring to market its technology.

Staff recommends that, if Council elects to move forward with the Siemens proposal, there be an extensive testing phase in which anyCOMM nodes are installed and tested on at least 1,000 existing LED streetlights to ensure functionality under real-world conditions to verify that the technology delivers on its promise before deploying citywide. Staff would also have to conduct community outreach and develop policies regarding some of the capabilities, such as the digital video recording, to ensure that community needs and concerns are addressed if these capabilities are deployed during the pilot and prior to full deployment. Staff would also develop contract terms with Siemens that include appropriate guarantees of anyCOMM's performance.

### ***Experience – 10 percent of Final Score***

Per the RFP, Experience was to be rated both on the expertise of proposer (and contractor or installation partner) in installing LED streetlights, as well as experience/expertise in deploying any other solutions that might be proposed as part of the proposal.

The three installation finalists (or their installation partners) all have experience in installing LED streetlights. Black & Veatch and Siemens propose to perform the work themselves through their construction subsidiaries, while Philips proposes to contract with Rosendin Electric. One note of caution regarding project complexity: San José's streetlights were installed over decades, and there is not a comprehensive or updated database of the existing streetlights, their electrical components, and field conditions may differ greatly than what is recorded. For this reason, the project must include a comprehensive pre-construction phase and strong quality assurance elements.

Siemens provided the most thorough plan for managing what will be a complex project, including in its plan phases for field work and auditing of the existing conditions, engineering and permitting, as well as installation. The company reports completion of the largest number of LED streetlight installations. Philips proposal was the next most detailed in this area and the company has also completed significant installations. Black and Veatch provided fewer details and had less experience in LED streetlight installation, but is a highly experienced contractor with a significant track record of managing complex projects.

With respect to the deployment of other technology solutions, the Philips solution has been deployed widely in Los Angeles and in a pilot in San José, Black & Veatch's partner Smart City

Media has deployed its solution recently in Kansas City; and Siemens' partner anyCOMM has had limited deployment of its node technology.

This element also includes the results of reference checks.

### ***Community Benefits and Impacts – 10 percent of Final Score***

Per the RFP, Community Benefit and Impact was to include evaluation of additional public benefit derived from proposed project as well as aesthetics. Community Benefits might include potential for reducing clutter in the public right-of-way; opportunities to generate multiple streams of revenue from a single source; and other benefits to the City, its residents and businesses. Community Impacts might include increased clutter in the public right-of-way, visual or aesthetic impacts, construction impacts, use of civic resources, or other impacts to the City, its residents and businesses.

A key benefit that emerged in looking at the three finalists' proposals was the potential to help the City realize goals outlined in the Council-adopted Smart City Vision.

Community benefits of the Siemens proposal include:

- Multiple functions are contained within one node, avoiding visual blight;
- Multiple VLAN networks for use by City departments;
- LEDs on nodes can be used for emergency and wayfinding functions;
- Nodes have potential to detect gunshots, gathering crowds, traffic issues, as well as to issue warnings and evacuation orders in emergencies (separate speakers required);
- Each node contains four cameras and 24/7 digital video recording capabilities, which could be used for a variety of purposes, including criminal investigations, traffic analysis, or neighborhood assessment in an emergency or natural disaster;
- Potential for Wi-Fi hotspots via a third-party provider;
- Potential for improved cellular service via a third-party provider;
- Internet of Things gateway on every streetlight;
- Siemens Community Outreach will develop a Sustainability in STEM Education Program through which youth can participate in opportunities to develop new uses for the anyCOMM nodes.

Community benefits of the Black & Veatch proposal include:

- Improved cellular coverage (5 Bars solution)
- Free public Wi-Fi hotspots (5 Bars and Smart City Media solutions);
- Potential use of the smart streetlights as a platform for future Smart City initiatives, such as the collection of sensor data for environmental, smart transportation, public safety, and way-finding;
- Improved citizen engagement/civic collaboration through the Smart City Media kiosks.

Community benefits of the Philips proposal include:

- Improved cellular coverage from the SmartPoles;
- Job training program with Santa Clara County International Brotherhood of Electrical Workers (IBEW), National Electrical Contractors Association (NECA), and Rosendin Electric to link qualified graduates of Work2Future's Trades Orientation Program with pre-apprenticeship positions working on the installation project;
- Potential for providing fiber access to the SmartPoles and provision of two strands of fiber for City non-commercial use;
- Avoidance of personal privacy issues by not using data analytics, monetizing data collection from sensors, cameras, or other methods.

Depending on perspective, the Black & Veatch proposal impacts the built environment as it attaches digital banners and telecommunications fixtures to some streetlight poles, as well as placing kiosks to the right of way. However, the City would receive revenues from these features. The Philips SmartPoles reduce clutter on the streetlight pole, however, they take up additional space on the sidewalk. The Siemens proposal has the least visual or clutter impact, however, there may be community-based privacy concerns about the possible implications of various Smart City features of the anyCOMM nodes, such as the cameras, video recorders, and sensors contained within each node.

The Siemens proposal may meet multiple goals of the City's Smart City Vision. It has the potential to save the City money on other projects on the horizon, such as developing a mass warning system for natural or other disasters. However, the device and its use is untested on a large scale. The costs of third-party devices and software integration services needed to realize some of the possible functionality (e.g., video capture) may be extra costs to the City. Additionally, the City would need to conduct community outreach and develop policies for use of certain functionalities before some of these features could be deployed. Finally, the company has not completed its pilot in San Jose while this RFP was in process and the full capabilities of the device are unproven, and for this reason staff would recommend requiring a large-scale testing of the technology prior to embarking on citywide deployment.

### ***Environmental Stewardship – 5 percent of Final Score***

The Environmental Stewardship category is a standard City requirement for all RFPs. Proposers are required to fill out the City's Environmentally Preferred Procurement Program (EP3) Information Sheet attesting that products to be used are independently certified (e.g., Energy Star); that products contain recycled content; that products reduce energy consumption, toxicity, water consumption, and waste. The Black & Veatch and Siemens proposals received slight reductions for recycled content, while the Siemens proposal received a reduction for certifications. The Philips proposal received the maximum points available.

***Local Business Enterprise and Small Business Enterprise – 5 percent of Final Score (each)***

Under the Municipal Code, the City gives additional points in the RFP process for Local and Small Businesses. Local Business Enterprise requires a proposer to have a current San José Business Tax Certificate Number and to have an office in Santa Clara County with at least one employee. Small Business Enterprise is only awarded to proposers who first qualify as a Local Business Enterprise and have fewer than 35 employees total.

None of the three installation finalists is a local or small business enterprise, and no points were awarded in this category.

***Recommended Proposal***

Comparing these three installation proposals is challenging. The proposals are significantly different, and all proposers are capable of completing the basic installation work. At the conclusion of the scoring process, Siemens had a slight edge over Black & Veatch, with Philips a couple of points behind. All of the proposers were in the two-thirds range, with only 2.1 points separating the highest and lowest final proposal scores

With respect to the installation proposals, staff recommends that Council provide direction to:

- 2a) Negotiate a contract with the top-scoring proposer Siemens for conversion of approximately 39,285 streetlights to LED luminaires with smart controllers, including a pilot installation of at least 1,000 controller units from proposal partner anyCOMM, other necessary testing and appropriate guarantees, and return to Council for final contract execution;

OR

- 2b) Reject all bids and issue new separate procurements for the following items:
  - i) Conversion of approximately 39,285 streetlights to LED luminaires;
  - ii) Installation and commissioning of approximately 64,400 smart controller units, including an evaluation of emerging smart city technologies and capabilities;
  - iii) Management and marketing of City infrastructure for telecommunications purposes; and

The technology presented in the Siemens proposal holds promise. However, staff believes the prudent course would be to undergo a rigorous and detailed field test, deploying a minimum of 1,000 nodes on existing, already converted LED streetlights. The installation is fairly straightforward as the anyCOMM device plugs into a socket on top of the light. From a construction standpoint, it would merely require unplugging the existing controller unit and plugging in the anyCOMM node.

The testing phase would include testing software and device capabilities and ensuring the nodes meet City application functionality and operational needs on a large scale and sustainable basis. This would lengthen the time before LED streetlights are deployed citywide; however, it would have the potential to explore and test exciting new technology and mitigate potential risk.

A pilot would also provide for community outreach around the technology and the testing. Residents may have concerns about some of the capabilities of the nodes. The Administration would have to determine how to staff the pilot as it is not currently on any department's workplan.

At the conclusion of a successful pilot, staff would negotiate and bring forward a contract for a full deployment of the streetlight conversion.

Should the pilot not be successful, or negotiations with Siemens not reach fruition, staff could begin negotiations with the second-ranked proposer.

A policy alternative to moving forward with one of the installation proposals is for Council to return to the Base Case (city option) and a traditional procurement process. Council could reject all proposals and direct staff to seek financing for streetlight conversion and issue separate RFPs for key components, including:

- Installation of LED streetlights;
- Procurement of smart controller units, exploring the marketplace for new technology; and,
- Digital advertising.

Telecommunications companies could continue to enter into lease arrangements with the City directly using the Master Lease Agreement for Telecommunications. Alternately, the City could issue an RFQ or RFP for neutral-host telecommunications management, which would market the City's assets for telecommunications deployments.

Based on the above, staff recommends moving forward with negotiation of contract terms and conditions with Siemens, including an extensive testing phase and performance guarantees. At the conclusion of the testing phase, staff would negotiate a contract and return to Council for approval.

Another option, available in the RFP, is to request proposers to work together. If there is a solution presented in one proposal that could work with another, staff has the ability to ask proposers to work together; proposers may choose to accept or not.

***IN-LIEU PROPOSALS***

In addition to the installation proposals discussed above, the City received one in-lieu proposal. In-lieu proposals were designed as an option for proposers who might want to provide cash in exchange for use of City property or assets, but did not want to install streetlights.

<b>SCORING: IN-LIEU PROPOSAL</b>		
<b>ITEM</b>	<b>POINTS AVAILABLE</b>	<b>Allvision/ Outfront Media</b>
<b>Highest Verified Value</b>	35	25
<b>Practicality of Implementation</b>	30	15
<b>Experience</b>	10	10
<b>Community Benefits and Impacts</b>	10	0
<b>Environmental Stewardship</b>	5	0
<b>Local Business Enterprise Small Business Enterprise</b>	5 (LBE)	0
	5 (SBE, only eligible if LBE)	
<b>Total Points (100 possible)</b>		<b>50</b>

***Outfront/Allvision In-Lieu Proposal***

<b>Lead Proposer</b>	Outfront/Allvision LLC
<b>Partners</b>	None
<b>Installation by</b>	N/A
<b>Timeframe</b>	25 years
<b>Initial Costs</b>	In-Lieu proposal

This is a joint partnership proposal from Allvision and Outfront Media, leading companies in the out-of-home advertising space. Founded in 2002, Allvision is the largest manager of outdoor advertising assets in North America, managing more than 3,000 advertising displays on behalf of its clients. Services include consulting, development, and management for municipalities and public agencies to maximize revenue through outdoor advertising initiatives. Outfront Media (NYSE: OUT) designs, sells, and services more than 400,000 digital and static displays across North America. The company is the advertising partner of choice for major municipal transit systems, reaching millions of commuters daily in the largest U.S. cities.

The two companies have submitted a joint in-lieu proposal under which they would build eight Digital Billboards on high-visibility City property in commercial or industrial zoned freeway areas along Interstates 280, 680, and/or 880, as well as along Highways 101, 237, 85, and/or 87. The proposers would remove eight static billboard faces in San José. The proposers would also install free electric vehicle charging stations at City-owned locations (such as at libraries).

In return, the proposer would pay the City 20 percent of gross advertising revenues generated from the billboards over a 25-year period. The proposal projects that the eight billboards will generate \$38 million for the City over the 25-year period, however, the proposal contains no minimum annual guarantee of revenue. The proposal also does not identify which City-owned properties would be used for installation of billboards, therefore staff is unable to analyze the feasibility of these sites.

The proposers are aware that Council Policy 6-4, adopted June 28, 1971, which prohibits the use of billboards on City-owned land and required that all existing billboards on City-owned land be removed within five years. Under Title 23 of the Municipal Code (the Sign Code), “freeway signs” are allowed on parcels within 250 feet from a freeway travel lane that are either:

- a shopping center of more than 15 acres in size; or
- a research and development site of ten acres or more in the North San José signage area.

At the December 15, 2015 Council Priority Setting Session, the Council added the issue of “Electronic Billboards” to the Priority List, directing staff to explore options for public and private property that will allow electronic digital off-site advertising signs or billboard installations. This item ranked No. 15 on the Priority Setting list. The proposed FY 16-17 budget includes funding for staff to work on updating ordinances related to electronic billboards and a downtown sign district.

### **Analysis & Recommendation: In-Lieu Proposal**

The in-lieu proposal submitted by Outfront/Allvision requires changes to the General Plan, Council Policy and amendment of Title 23 of the Municipal Code. Making those amendments requires public outreach and CEQA review. Council has placed this policy work on the Council Priority list and staff plans to address it in the year ahead.

For these reasons, the administration recommends the following direction:

- 3) With respect to the in-lieu proposal received from Allvision/Outfront Media and the outdoor kiosks and banners proposed by Black & Veatch, direct the City Manager to continue the work currently in process regarding electronic billboards and the City Sign Code. If the Council chooses to amend the code and Council Policy regarding electronic billboards and digital signage in the future, the City Manager is directed to come forward with recommendations on issuing an RFP for such signage on City property.

## **POLICY ALTERNATIVES**

Following are policy alternatives for the recommendations above.

***Alternative 1:** Reject all bids and issue separate procurements to: convert the remaining 39,285 streetlights to LED luminaires with smart controllers; administer telecommunications assets; and, manage digital street-level advertising.*

**Pros:** None of the proposers came forward with a proposal that has no real costs or opportunity costs to the City. By obtaining financing through traditional mechanisms, the City can look for the best interest rate. The City would then either issue a traditional construction bid for installation of the lights or a new bid for a comprehensive lighting/Smart City project. This process would allow the City to best determine the marketplace for these features as well as have a true low-bid scenario for the conversion of the streetlights.

**Cons:** The project would be delayed as the City developed a new RFP and went out to bid again.

## **EVALUATION AND FOLLOW-UP**

This project addresses San José Green Vision Goal 9: “Plant 100,000 new trees and replace 100 percent of streetlights with smart, zero emission lighting.” This project would complete the second part of the goal by replacing the remaining approximately 39,285 streetlights in San José with LED lighting with smart controller units. Additionally, this project addresses goals spanning the five domains in the Smart City Vision, including Safe City, User-Friendly City, Inclusive City, Demonstration City, and Sustainable City.

Prior to returning for execution of a contract, staff will keep Council updated on progress via Information Memorandum.

## **PUBLIC OUTREACH**

Following the release of the RFP, staff held a pre-proposal conference on August 26, 2015 with potential proposers. A webpage about the project was created at [www.sanjoseca.gov/ledrfp](http://www.sanjoseca.gov/ledrfp). Council was regularly updated via info memo. This memorandum will be posted on the City’s Council Agenda website for the January 24, 2017 Council Meeting.



HONORABLE MAYOR AND CITY COUNCIL

January 11, 2017

**Subject: Innovative LED Streetlight Replacement RFP**

Page 25

### **COORDINATION**

This memorandum was coordinated with the Departments of Finance; Information Technology; Planning, Building and Code Enforcement; Public Works; Transportation; the Office of Civic Innovation; the Office of Economic Development; and the City Attorney's Office.

### **COMMISSION RECOMMENDATION/INPUT**

No commission recommendation or input is associated with this action.

### **CEQA**

Exempt, File No. PP11-002, Street Lighting Design Guidelines, CEQA Guidelines Section 15301 Existing Facilities.

/s/

Michelle McGurk

Assistant to the City Manager

For questions, please contact Michelle McGurk, Assistant to the City Manager, at (408) 535-8254.

Attachments:

A - Timeline: Innovative LED Streetlight Replacement RFP

B - Master Agreement for (Small-Scale) Telecommunications Facilities on City-owned Property

C - Photo Simulations of LED Streetlight Installation Proposals

**Attachment A**  
**Timeline: Innovative LED Streetlight Replacement RFP**

Date	Action
2008-2014	San José pioneered conversion of sodium vapor streetlights to LED light fixtures with “smart” controls.
2014-2015	Approximately 18,000 streetlights converted to LED through energy service company (ESCO) agreement with OpTerra Energy Services.
February 24, 2015	<p>City Council approved a Master Agreement with Philips for the installation of up to 50 SmartPoles in exchange for installing 750 LED streetlights (a ratio of 15 LED luminaires for every one SmartPole). The SmartPole is Philips’ integrated unit that combines the equipment, cabinets, and meter equipment needed for small-cell cellular installations with a city streetlight.</p> <p>The Master Agreement with Philips was not intended to be an exclusive agreement, and any vendor developing or deploying similar technology could propose an unsolicited offer to the City for consideration. In approving the Master Agreement, the City Council also directed staff to move forward on a competitive process soliciting proposals for replacements of the remaining non-LED lights citywide with a goal of installing the lights at little or no cost to the City.</p> <p>The Council adopted a <a href="#">memo</a><sup>8</sup> from Mayor Sam Liccardo, Vice Mayor Rose Herrera, and Councilmember Ash Kalra dated February 20, 2015 that directed staff to draft a Request for Proposals that:</p> <ol style="list-style-type: none"> <li>1) Is flexible and severable in nature, allowing for multiple successful bidders to take portions of the City's retrofit initiative;</li> <li>2) Allows for different approaches to financing LED retrofits, with an openness to meaningful evaluation of competing proposals with differing models;</li> <li>3) Explores the use of the roughly \$9 million in available Qualified Energy Conservation Bonds (QECB) bonds to finance LED retrofits<sup>9</sup>;</li> <li>4) Calls for minimal capital outlay by the city, but permits some allocation through the budget process where appropriate. Where capital dollars are used, the prevailing bidders must leverage greater savings in General Fund dollars through energy and maintenance cost savings and PG&amp;E rebates.</li> </ol> <p>Staff was further directed to solicit and explore other technology.</p>
August 3, 2015	Innovative LED Streetlight Replacement RFP is
August 26, 2015	Pre-proposal conference. More than 40 representatives of various sectors of the industry attend.
September 30, 2015	<p>At the request of the businesses that participated in a pre-proposal conference meeting, the City amended the RFP to create a phased approach that still worked with the City’s procurement process:</p> <ul style="list-style-type: none"> <li>• <b>Phase 1:</b> Respondents submitted a short (maximum of two pages) Conceptual Proposal. Respondents were allowed to turn in multiple Conceptual Proposals. Conceptual Proposals were reviewed for feasibility or infeasibility, and feedback shared with the proposer.</li> </ul>

<sup>8</sup> <http://www.sanjoseca.gov/ArchiveCenter/ViewFile/Item/2546>

<sup>9</sup> Use of QECB bonds for this project will require approval from the California Energy Commission. To approach the Commission about using San José’s allocation for this project, the City must first have a project defined. Should Council give direction to move forward with negotiating an installation contract, staff will explore further adding this source to the financing mix.

	<ul style="list-style-type: none"> <li>• <b>Phase 2:</b> Applicants whose proposals were deemed feasible were invited to submit a complete RFP application. The schedule allowed sufficient time for teams to develop more complete strategies around viable ideas.</li> </ul>
	Phase 1 closed with 11 proposals submitted from a broad range of industries including advertising, telecommunications, and solar. All of the Phase 1 proposers were invited to submit full proposals.
March 30, 2016	Phase 2 closed with the City receiving six proposals.
May-July 2016	Due to departure of key staff, Assistant City Manager assumes project lead and appoints a cross-departmental review team comprised of staff from the departments of Transportation, Public Works, and Information Technology, as well as the offices of the City Manager and Economic Development. Following the creation of the Office of Civic Innovation, the Director of Civic Innovation joined the review team in July 2016. Team begins to review proposals.
July 18, 2016	Interviews held with the four finalists—three installation proposals and one in-lieu proposal.
August – September 2016	Due to questions about cutting edge controller unit technology, review team members do site visit and do demonstration testing with one proposer’s controller unit partner.
August 24, 2016	<p>To better compare the ways proposers intended to use the public right-of way and the visual impacts of the proposals, staff provided the three installation finalists with two photographs of sites in San José and asked them to provide photographic simulations showing:</p> <ul style="list-style-type: none"> <li>• Any telecommunications equipment or other equipment they proposed to place on or inside the pole;</li> <li>• Any variations from the standard/existing light pole if they planned to alter or use a different light pole; and</li> <li>• Any other equipment proposed to be placed on the sidewalk or park strip.</li> </ul> <p>These photo simulations can be seen in Attachment C.</p>
October 28, 2016	City issued a request for Best and Final Offers (BAFO) from the three installation finalists. Staff provided the finalists with the City’s “Base Case” (cost for the City to do the lighting conversion ourselves). The Base Case included the costs to finance, purchase, and install the lights and controller units, as well as credits for energy savings, equipment savings, and PG&E rebates for installing efficient lights. Finalists were asked to provide initial costs and life-cycle costs for the term of the proposal, including revenue projections and the cost of replacing luminaires and controllers at the end of their useful lives. Where a finalist had proposed a rate for installing telecommunications equipment that was lower than the City’s adopted Master Lease rates, they were asked to calculate the opportunity cost (or revenue that the City could have realized if the space on the light pole had been leased to someone at full price). Proposers were urged to indicate any areas where they disagreed with the City’s assumptions.
November 16, 2016	Finalists submit BAFO.
December 6, 2016	After reviewing the BAFO documents, the review team agreed to several changes to the Base Case model. Staff issued a second request for BAFO.
December 15, 2016	Second Best and Final Offers received.
December 15-22, 2016	Review team scores proposals.
January 11, 2017	Notices issued to proposers.

**Attachment B: Master Agreement for (Small-Scale) Telecommunications  
Facilities on City-owned Property**

**USAGE FEE SCHEDULE**

The Site License Agreement fee schedule below is effective July 1, 2015 through June 30, 2016. Usage Fees shall increase by 3% (three percent) annually on each July 1. The annual payment shall be payable and due in advance on July 1 of each year. The initial payment shall be payable and due on the 1<sup>st</sup> day of the month following mutual execution of the Site License Agreement and prorated for the months remaining through June 30 of that year.

**Zone 1**

***Effective Radiated Power (ERP) Output***

<b><i>Enclosure Size</i></b>	<b>0-20 Watts</b>	<b>21-100 Watts</b>	<b>101-360 Watts</b>
0-30 Cu. Ft.	\$ 2,625	\$ 5,250	\$ 10,875
31-125 Cu. Ft.	\$ 5,063	\$ 6,938	\$ 13,313

**Zone 2**

***Effective Radiated Power (ERP) Output***

<b><i>Enclosure Size</i></b>	<b>0-20 Watts</b>	<b>21-100 Watts</b>	<b>101-360 Watts</b>
0-30 Cu. Ft.	\$ 2,975	\$ 5,950	\$ 12,325
31-125 Cu. Ft.	\$ 5,738	\$ 7,863	\$ 15,088

**Zone 3**

***Effective Radiated Power (ERP) Output***

<b><i>Enclosure Size</i></b>	<b>0-20 Watts</b>	<b>21-100 Watts</b>	<b>101-360 Watts</b>
0-30 Cu. Ft.	\$ 3,500	\$ 7,000	\$ 14,500
31-125 Cu. Ft.	\$ 6,750	\$ 9,250	\$ 17,750

*The above referenced pricing schedule is for antenna facilities containing four (4) or fewer antennas and attaching to existing structures. Antenna facilities requiring a new, non-existing vertical structure will be approved by CITY on a case-by-case basis. Antenna facilities with enclosure size or ERP parameters that do not conform to the above reference pricing will be approved by CITY on a case-by-case basis.*

***The above referenced schedule is subject to change as approved by CITY. Any changes or modifications to the schedule will not affect Site License Agreements in effect prior to the date of any such change.***

# **ATTACHMENT C:**

## **Photo Simulations of LED Streetlight Installation Proposals**

Pages 1-4, Black & Veatch Proposal

Pages 5-8, Philips Proposal

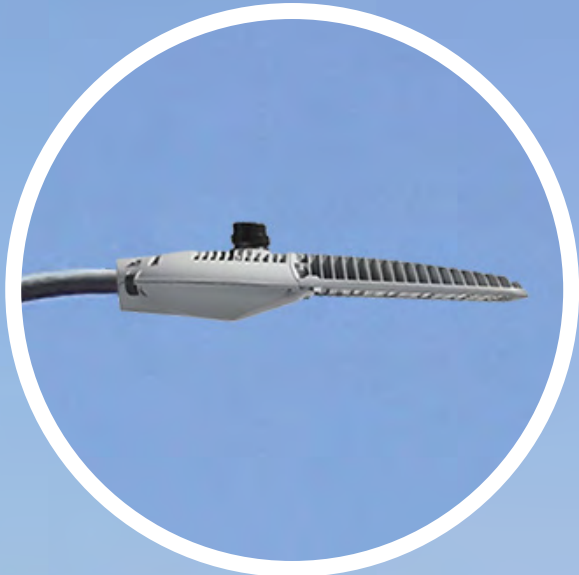
Pages 9-10, Siemens Proposal



New LED Fixture and Lighting Controller with Wireless Technology Equipment



**AIR CHINA**  
中國國際航空公司  
A STAR ALLIANCE MEMBER  
**SAN JOSE  
SHANGHAI**  
+NONSTOP  
**airchina.us**



New LED Fixture and Lighting Controller with pole mounted Smart City Media CityPost Kiosk



**AIR CHINA**  
中國國際航空  
A STAR ALLIANCE MEMBER

**SAN JOSE  
SHANGHAI  
→ NONSTOP**


**airchina.us**

citypost

**SAN PEDRO MARKET**  
sanpedrosquaremarket.com

Discover this month's events at the San Pedro Market

Touch for more

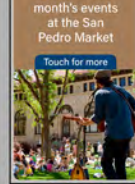


citypost

**SAN PEDRO MARKET**  
sanpedrosquaremarket.com

Discover this month's events at the San Pedro Market

Touch for more



CITY OF  
**SAN JOSE**  
CAPITAL OF SILICON VALLEY

New LED Fixture and Lighting Controller with sidewalk mounted Smart City Media CityPost Kiosk





## SCM MOBILE BEACONS



### **Internal Kiosk Beacon:**

Plugs into a USB port inside kiosk.

Dimensions: 0.76in (l) x 0.61in (w) x 0.28in (h)



### **Outdoor & Indoor Beacon:**

Aproximately the size of a playing card.

Mounted discretely outdoors or indoors.

4AA batteries included and powered for approx. 18 months.

Dimensions: 3.4in (l) x 3.0in (w) x 1.0in (h)

Weight: 6 ounces including batteries

Smart City Media Mobile  
Beacons

Smart Pole



Smart Pole Showing Internal Components



Smart Pole



Smart Pole Showing Internal Components





Before the Implementation of the advanced-technology anyCOMM node



After the implementation of the advanced-technology anyCOMM node



Before the implementation of the advanced-technology anyCOMM node



After the implementation of the advanced-technology anyCOMM node.  
Note: This light fixture/luminaire would be replaced with an LED Luminaire.