



Chicago Smart Lighting Project

Pre-Submittal Conference & Networking Event

Tuesday May 3, 2016



Chicago Smart Lighting Project

Welcoming Remarks

Kurt Summers

Treasurer of the City of Chicago

Board Chairman of the Chicago Infrastructure Trust



Chicago Smart Lighting Project

Introductions

Introductions

- Chicago Infrastructure Trust
- City of Chicago
 - Chicago Dept. of Transportation (CDOT)
 - Dept. of Innovation and Technology (DoIT)
- Chicago Park District



Pre-Submission Conference / Networking Event

Noteworthy

- Nothing said today supersedes what is written in RFQ/P document.
- Any changes resulting from today's conference will be officially incorporated into the procurement documents as a written addendum or clarification and posted on the CIT website
- Hold all questions to the end of the presentation
- Write all questions on provided index cards



Pre-Submission Conference / Networking Event

Noteworthy Continued

- A list of today's conference attendees, and their contact information will be posted on CIT's website
- Guests must validate parking ticket at security desk before exiting garage



Chicago Smart Lighting Project Overview



Chicago Smart Lighting Project

Value
Proposition

- Upgrade more than 270,000 of Chicago's street, alley, and park lights to more reliable and higher-quality lighting
- Improve nighttime visibility on streets, sidewalks, alleys, and bike paths; giving neighborhoods throughout Chicago a greater sense of safety and higher quality-of-life
- >50% reduction in electricity consumption
- Utilize future cost savings to leverage a large-scale LED conversion



Chicago Smart Lighting

Main Project Objectives

Higher Quality Lighting

- Superior light technology – better visibility, control of light direction, rendering of color, resulting in more pleasant , safer streets

More Reliable Lighting

- LED lights typically last three times longer than current HPS lights, reducing the number of outages
- Targeted repairs or replacement of poles and wiring

More Responsive City Services

- Lighting management system’s “real time” information improves efficiency of City crews to respond proactively when outages occur and restore service quickly



Smart Light Project Description

- Large Scale LED Fixture Conversion
 - ~85% of Chicago's lights (City & Parks)
 - Maximizes energy cost reductions
 - Defers higher cost ornamental fixture conversions
- Targeted Infrastructure Stabilization Repairs (e.g. pole and wiring repairs as needed)
 - Extends useful life of existing infrastructure
 - Reduces liability and increases reliability
 - Budget Driven Scope
- Lighting Management System – city-wide
 - Real time lighting information & control
 - Future "Smart City" technology platform



Chicago Smart Lighting

Additional Project
Objectives

Mayor Emanuel's Technology Plan
a city where technology fuels,
opportunity, inclusion, engagement, and
innovation for all

Platform for Innovation

- Leverage lighting grid as a platform for connected, or smart city, technologies
- Spur economic development, improve safety, service delivery, communications, and responsiveness
- Utility meter reading



Chicago Outdoor Lighting Context



Chicago's Existing Outdoor Lighting

Inventory Summary

- 338,000 total light fixtures (City and Parks)
- 92% High Pressure Sodium (yellow/orange light)
 - Requires 50-75% more electricity than LED
- >75% Cobra head fixture type
 - Most cost effective to convert to LED
- Current inventory provides accurate information on location, fixture type, & wattage
- >60% City infrastructure "legacy"
 - Poles & wiring more than 15 years old; most 50+ years old



Chicago's Existing Outdoor Lighting

Inventory

City Light Fixtures By Location	Quantity	%
Street fixtures	218,776	68.8%
Alley fixtures	72,402	22.8%
Underpass fixtures	26,722	8.4%
Total fixtures	317,900	100%

City Light Poles	Quantity	%
Street poles	177,179	71%
Alley poles (ComEd owned)	72,402	29%
Total Poles	249,581	100%

Street Light Circuits	Qty.
Total Number of Circuits	22,753
Total Number of Controllers	12,478



Chicago's Existing Outdoor Lighting

Inventory

City Light Fixtures by Light Type	Quantity	%
HPS (Yellow/Orange Light)	290,000	92%
CMH (White Light)	23,800	7%
LED	4,100	1%
Totals	317,900	100%

City Lights By Fixture Type	Quantity	%
Cobra	243,746	77%
Viaduct	26,683	8%
Coach	32,978	10%
Ornamental	12,047	4%
Flood	2,446	1%
Totals	317,900	100%



Chicago's Existing Outdoor Lighting

Utility Costs
Excluding Chicago
Park District

2015 Street Lighting Utility Spend

- 369,442,022 kilowatt hours (kWh)
- Approximately **\$.05 per kWh**

Total Electric Utility Cost
\$18,429,000



Park's Existing Outdoor Lighting

Inventory Summary

- 19,813 park and pathway light fixtures owned and operated by Chicago Park District
 - 38% High Pressure Sodium
 - 55% Metal Halide
- Project does not include field or stadium lighting
- All lighting infrastructure “modern”
- Park District interested not only in more efficient lighting, but also lighting management system for all its lighting assets



Chicago Park District Existing Outdoor Lighting Inventory

Park's Light Fixtures by Light Type	Quantity	%
HPS (Yellow/Orange Light)	7,550	38%
Metal Halide (White Light)	11,027	56%
LED	1,236	6%
Totals	19,813	100%

Park's Lighting By Fixture Type	Quantity	%
Flood	5,002	25%
Cobra	4,768	24%
Sport	3,639	18%
Acorn	2,746	14%
Globe	1,720	9%
Pendant	904	5%
Shoebox	807	4%
Round	227	1%
Totals	19,813	100%



RFQ / RFP Procurement



Procurement Structure

Two Part Procurement

- Part I – RFQ Request for Qualifications
 - Type I – City Lighting Services
 - Type II – Technology Providers
- Part II – RFP Request for Proposals



Procurement Timeline

- RFQ/P Part I Responses Due – May 20, 2016
- Shortlist Selection – June 30, 2016
- Draft RFP(s) Issued to Short-listed Teams - July 2016
- Part II Final RFP(s) Issued - August 2016
- Part II RFP Proposals Due - October 2016
- Selection - December 2016



Part I – RFQ

SOQ Submission Instructions

Statement of Qualifications (SOQ) Submission

- Responses Due: **2:00 pm Friday May 20, 2016**
- Delivered to:
The Chicago Infrastructure Trust
35 E. Wacker Drive, Suite 1450
Chicago, Illinois 60601
- Submittal Package:
 - 1 original SOQ submittal
 - 1 unbound printed copy of SOQ submittal
 - 10 electronic copies on separate USB memory sticks.
- All documents in sealed envelopes or packages, the outside of each must be labeled:
Chicago Smart Lighting RFQ/P; Part I RFQ
Statement of Qualifications Submittal Enclosed
Due 2:00 p.m. CDT, May 20, 2016
Submitted by: _____
(Name of Respondent)
Package _____ of _____
- Clearly specify Type I and/or Type II



SOQ Response Requirements

- One SOQ Submission Per Team
- Two Separate Volumes
 - Volume I – Statement of Qualifications
 - Volume II – Representations & Certifications
- Volume I – 50 Page Limit – Resumes Not Included
- Written Material Only – No Videos
- 8 ½” X 11” Letter Size Pages
- Printed Double-sided
- Electronic Copies – Searchable PDFs (not scans)



Volume I SOQ

Required Content

- Administrative Check-list (one page)
- Cover Letter (one page)
- Executive Summary (five pages)
- Team Organization (one page)
- Project Understanding and Approach (ten pages)
- Qualifications & Experience (two pages per Type)
- Project Reference Forms (ten pages)
- Key Individuals Qualifications (three pages)
 - Two Page Resumes (not included in pg. count)
 - Staff Organization Chart (one page)



Volume I SOQ

Required
Content
Continued

- Wherewithal to Provide Project Services (one page)
- Technology Services (one pg. for Type I) (four pages for Type II)
- Manage Construction Safety Risks (one page)
- Establish Budgets and Control Costs (two pages)
- Create & Maintain Schedules (one page)
- Meet MBE/WBE Participation Goals (two pages)



Volume II

Required Content

- Conflict of Interests
- Corporate History
- Legal Actions
- Financial Statements
- Insurance



Smart Lighting Project

Additional Information



Chicago Smart Lighting

Project
Communication

Community
Engagement

- Procurement and installation will be complemented by a parallel community outreach and public communication process
- Public preferences will inform decisions during RFP development and lighting specification process
- Short-listed teams will be asked to provide resources to assist in the public outreach plan throughout the project's implementation



Lighting Specification Process

- Define the term “well-lit” for the City of Chicago
- Provide performance specifications for the typical Chicago outdoor contexts
- Chicago lighting technical experts with decades of Chicago experience working together with national LED experts provided by the U.S. Dept. Of Energy
- Informed by public and industry input
- Proof of concept test installations and real life comparisons



Lighting Specification Objectives

- Light where you need it
- Light when you need it
- Shield light and direct it downward
- Select lighting with warmer colors
- Use minimum amount of light necessary
- Select the most energy efficient and reliable fixture(s)
- Maximize color rendering



Lighting Infrastructure Condition Assessment

City Lighting Database

- Accurate information on quantity, type, and wattage of light fixtures
- All assets geo coded with accurate GIS location information along with nearest address
- Good information on circuits and controller layouts
- Need additional information on structural condition of pole and reliability of wiring



Smart Lighting Project RFQ/P

Questions and Clarifications



Smart Lighting Project

Networking Session