



**CHICAGO**  
**INFRASTRUCTURE**  
**TRUST**

# Federal Reserve Bank of Chicago

11.03.2014



# Situation

Reliable and effective infrastructure is a requirement for long-term economic growth. Infrastructure development is one of the great global challenges of our time.

United States ranks 25<sup>th</sup> in the world for infrastructure quality - down from 5<sup>th</sup> in 2002<sup>1</sup>

Global infrastructure leaders spend 9.0% of GDP on infrastructure, US spends 2.5%<sup>2</sup>

Illinois' infrastructure was given an overall grade of C- by the American Society of Civil Engineers<sup>3</sup>

State and Federal infrastructure funding has become inconsistent and unpredictable

Capital needs far outweigh available capital



“By neglecting to invest in our infrastructure for nearly four decades, we have allowed Chicago’s foundations to decay and our strengths to decline. We know that as long as our City rests on a 20th century foundation, we won’t be able to compete in a 21st century economy. If we don’t take action, Chicago will face another lost decade.”

--- Mayor Rahm Emanuel, March 1, 2012

# CIT Overview

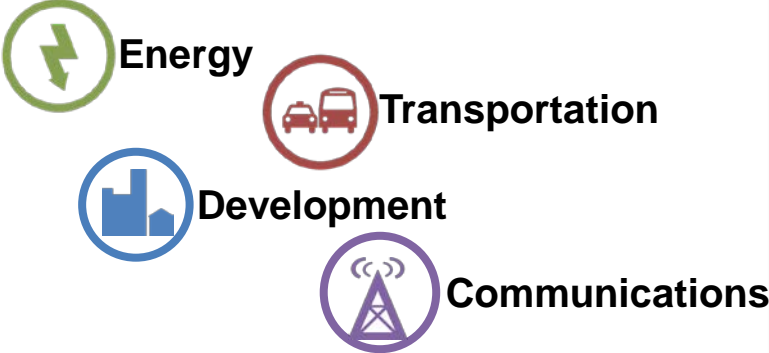


## Mission

To assist the people of the City of Chicago, the City government, its sister agencies and private industry in providing alternative, innovative financing and project delivery options for transformative infrastructure projects.

## Programs

The Trust's work has focused on projects in four areas:



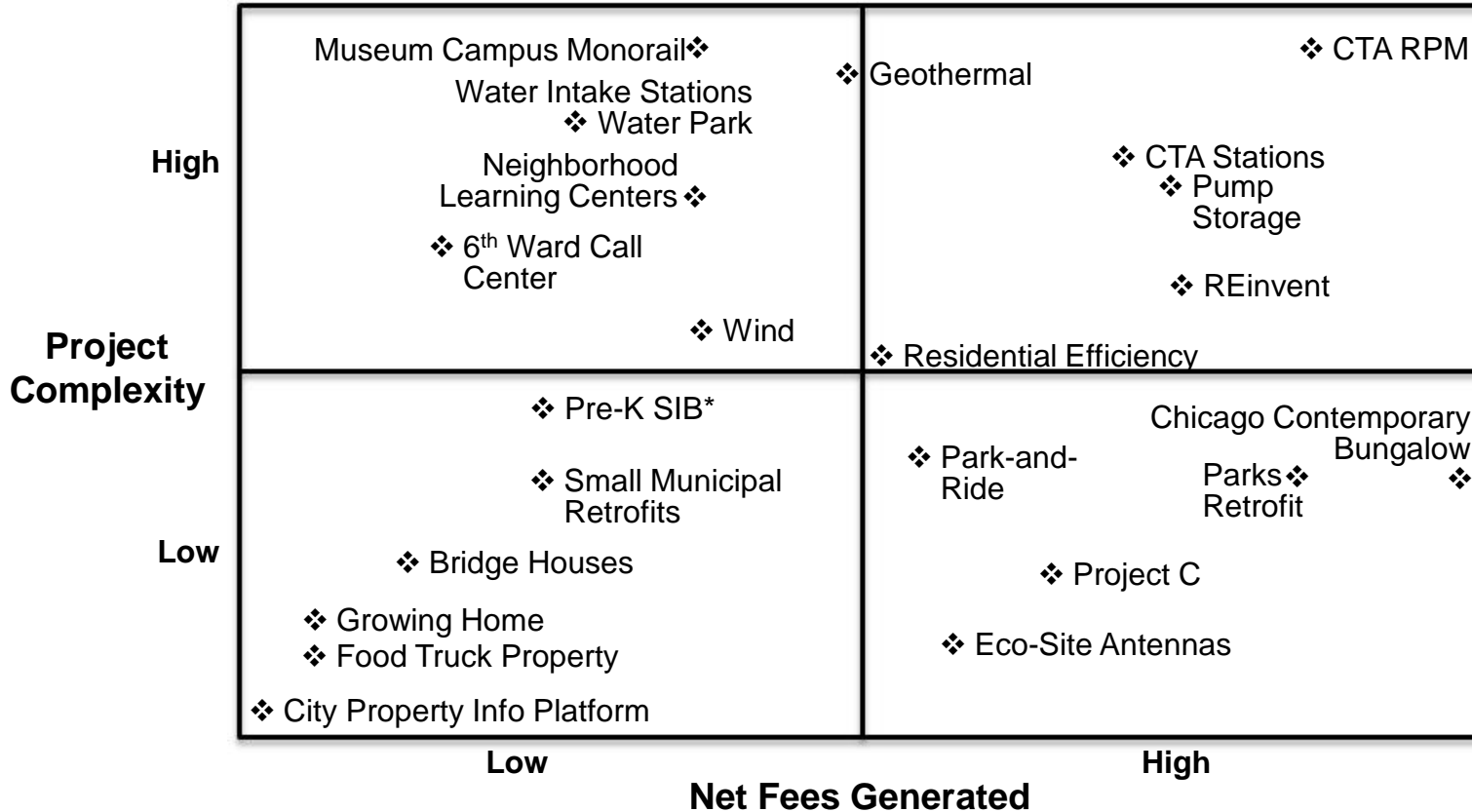
## Functions

- Provide procurement and executional expertise and process
- Attract private capital to infrastructure projects
- Facilitate infrastructure programs that span across multiple units of government

## Projects

- Retrofitting 60 City Buildings
- Light Grid
- PACE
- Solar
- CTA 4G
- CNG
- Contracting Manual attracting unsolicited proposals

## Chicago Infrastructure Trust Project Matrix

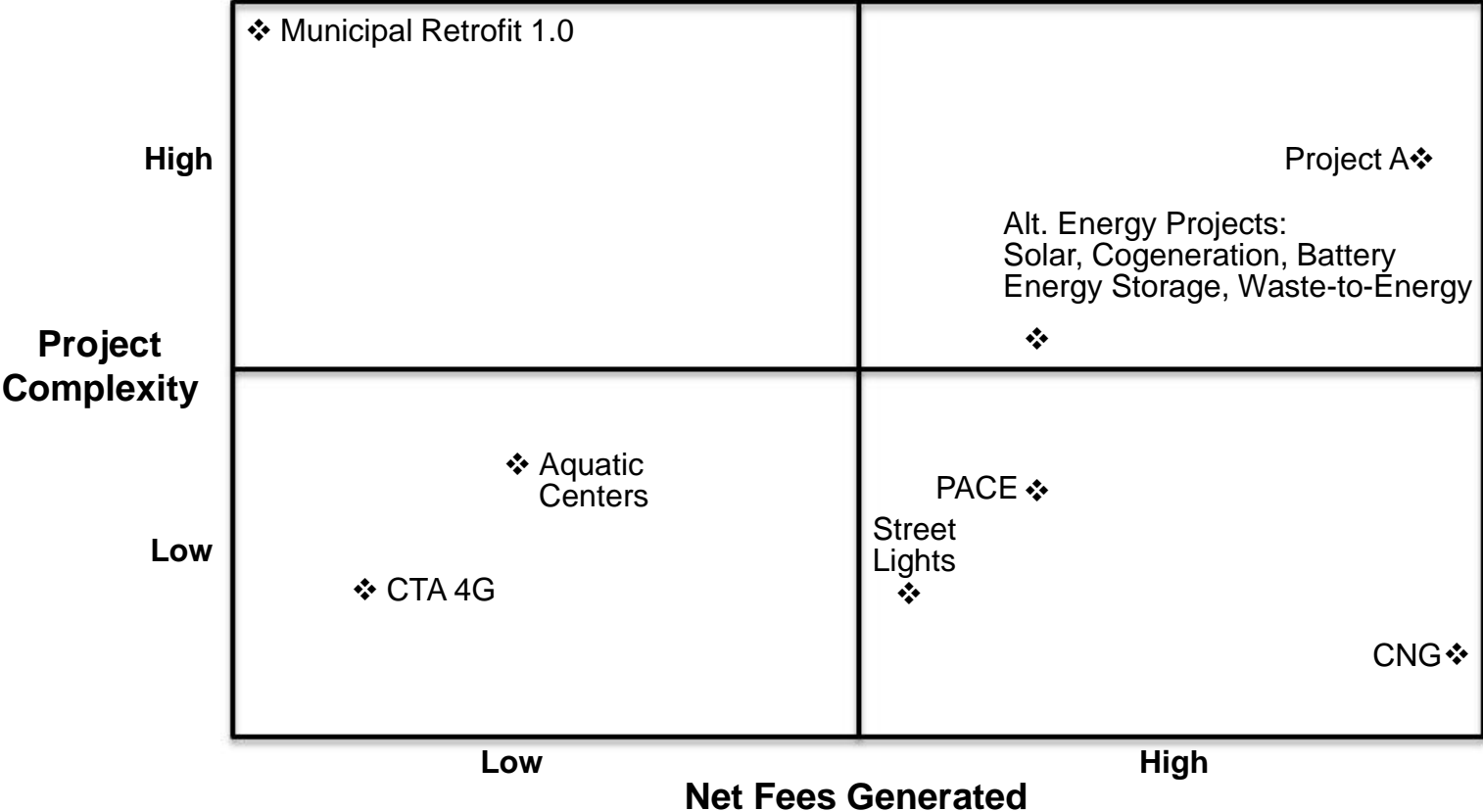


\*Completed by IFF, City and investors on 7 October 2014

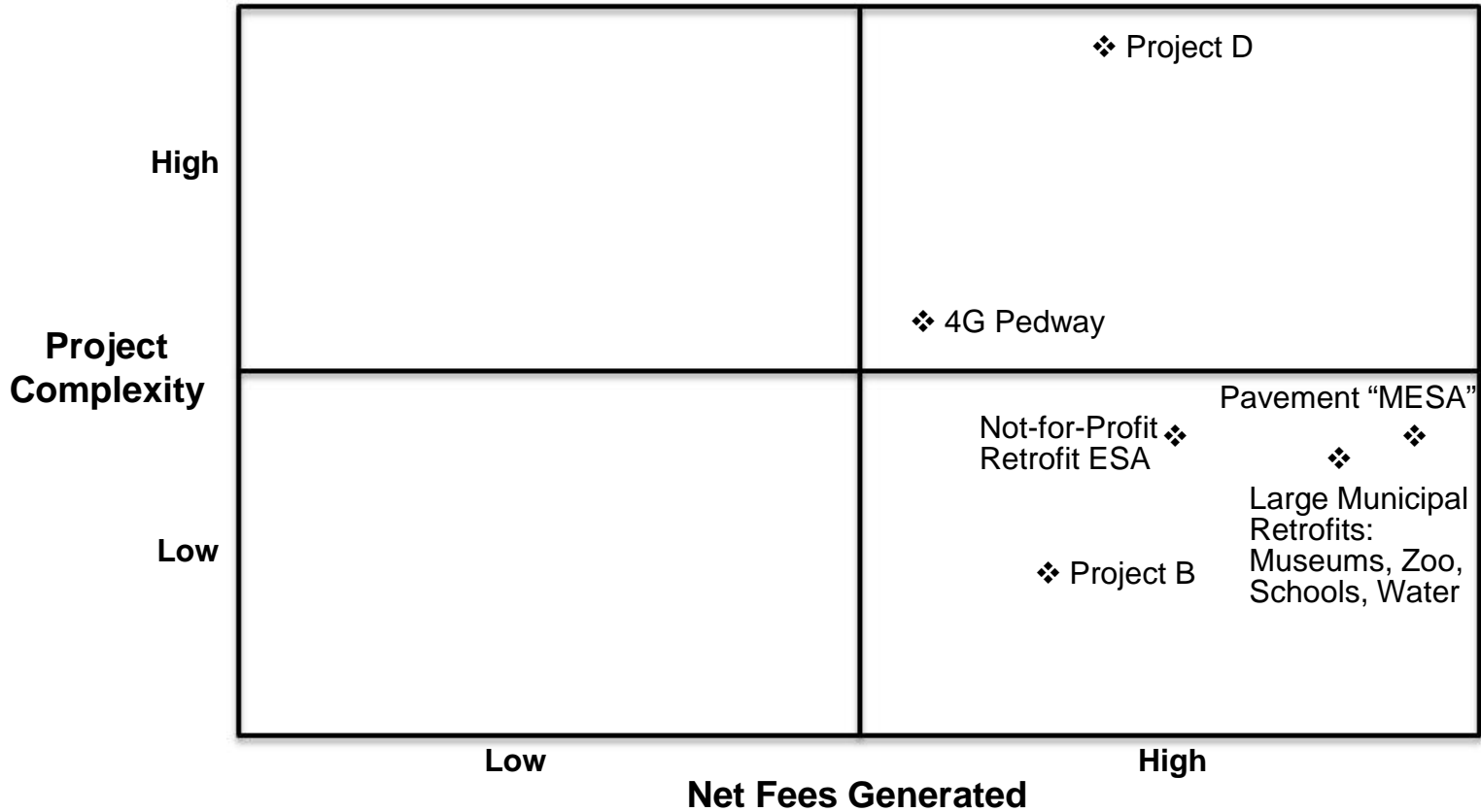
# Approved or Proposed Initiatives



## Chicago Infrastructure Trust Project Matrix



## Chicago Infrastructure Trust Project Matrix



## First Transaction

### Initiative Description

- Design and fund a comprehensive municipal energy efficiency program. Raise private capital to save >10% energy in public facilities, reduce long-term City energy costs, create jobs, and make Chicago the greenest city in the world

### Catalyst

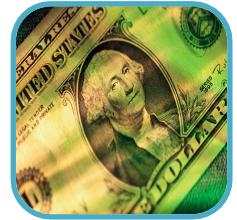
- City is looking to make critical infrastructure upgrades to aging building systems, but does not want to threaten credit rating by using bonding capacity for projects with strong energy efficiency ROI
- City is committed to reducing greenhouse gas emissions as well as related pollutant emissions from stationary (i.e., building) usage

### CIT's Value

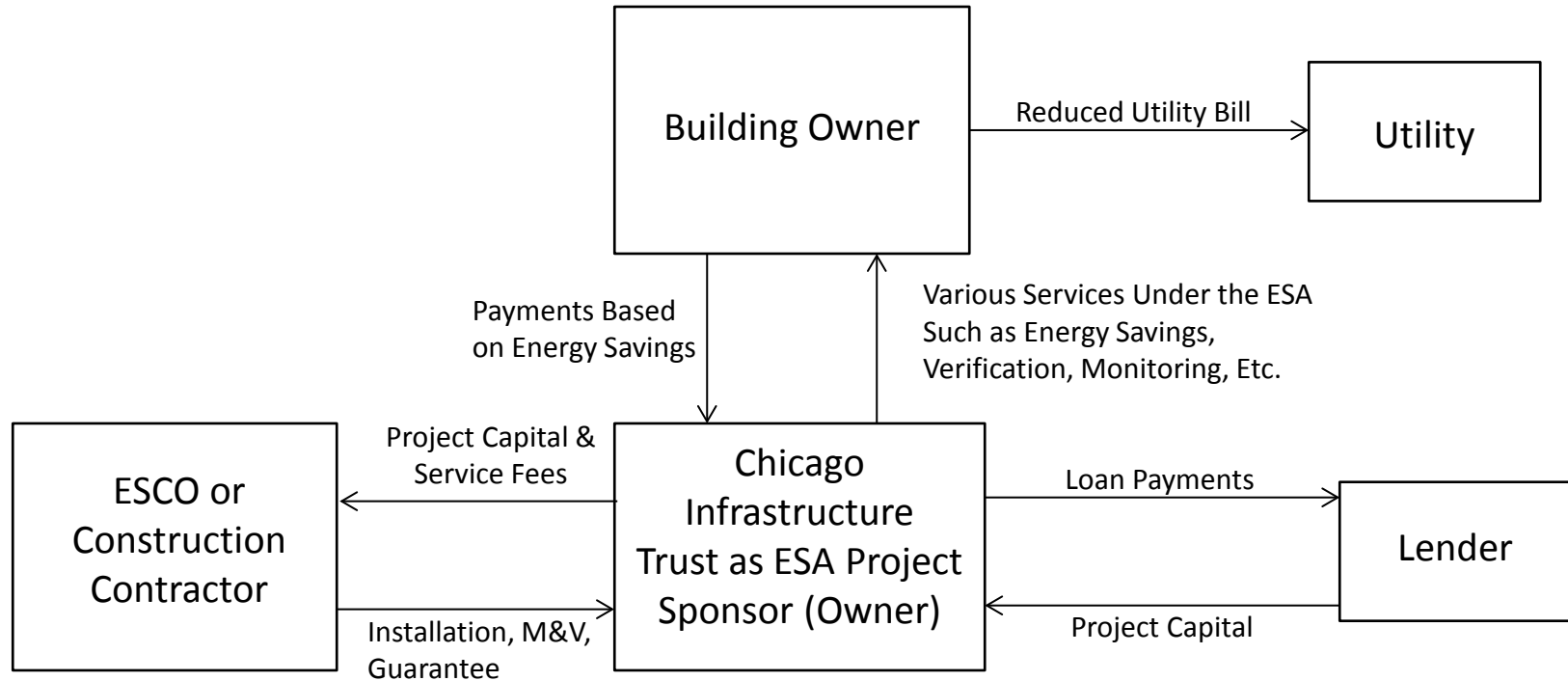
- Researching and developing optimal financing options
- Extending City's borrowing capacity through off-credit, off-balance sheet transactions that do not monopolize bonding capacity
- Using a single, emerging financial instrument to reduce barriers and finance municipal, not-for-profit/cultural institution and home energy efficiency projects
- Aggregating retrofit projects across the City to increase scale, improve economics, quicken pace, and heighten impact

### Impact

- Achieves Mayor's 2015 Sustainability Goal #4 – Improve overall energy efficiency in municipal buildings by 10%
- Leads by example in use of off-credit, off-balance sheet financing mechanisms well-suited for use in other sectors across the City



# Energy Services Agreement Structure





# ESA Transaction Summary

Attribute	Description
<b>Benefits</b>	<ul style="list-style-type: none"><li>• 60 buildings</li><li>• 18% reduction in energy use annually in these buildings</li><li>• 5M square feet</li><li>• Libraries, police, health care, unique facilities across 36 wards</li><li>• Creates 108 jobs</li></ul>
<b>Savings</b>	<ul style="list-style-type: none"><li>• ~ \$1.4M annually</li></ul>
<b>ESA (Energy Savings Agreement) structure</b>	<ul style="list-style-type: none"><li>• Zero upfront and zero net cost</li><li>• Zero savings risk (save nothing, pay nothing)</li><li>• Off-credit</li><li>• City / Trust keep upside</li></ul>
<b>Transaction features</b>	<ul style="list-style-type: none"><li>• \$12.9M project cost</li><li>• 4.95% interest rate</li><li>• 15 year contract</li></ul>
<b>MBE/WBE Participation</b>	Consistent with City of Chicago Standards
<b>Status</b>	Closed, pending construction

# Pool Efficiency Retrofit

## Program description

- Perform comprehensive energy efficiency upgrades for up to 141 aquatic centers managed by Chicago Public Schools and the Chicago Park District

## Catalyst

- Aquatic centers consume a substantial amount of energy, both in the form of natural gas and electricity, 24 hours a day, 7 days a week, 365 days per year in order to maintain the appropriate operating conditions
- Managing an indoor pool area is very complex and requires ongoing monitoring and adjustment between the internal and external temperatures, humidity levels, structure types, ventilation, pool water chemistry and equipment
- Obtaining the most effective equipment requires a high up-front capital cost

## CIT's Value

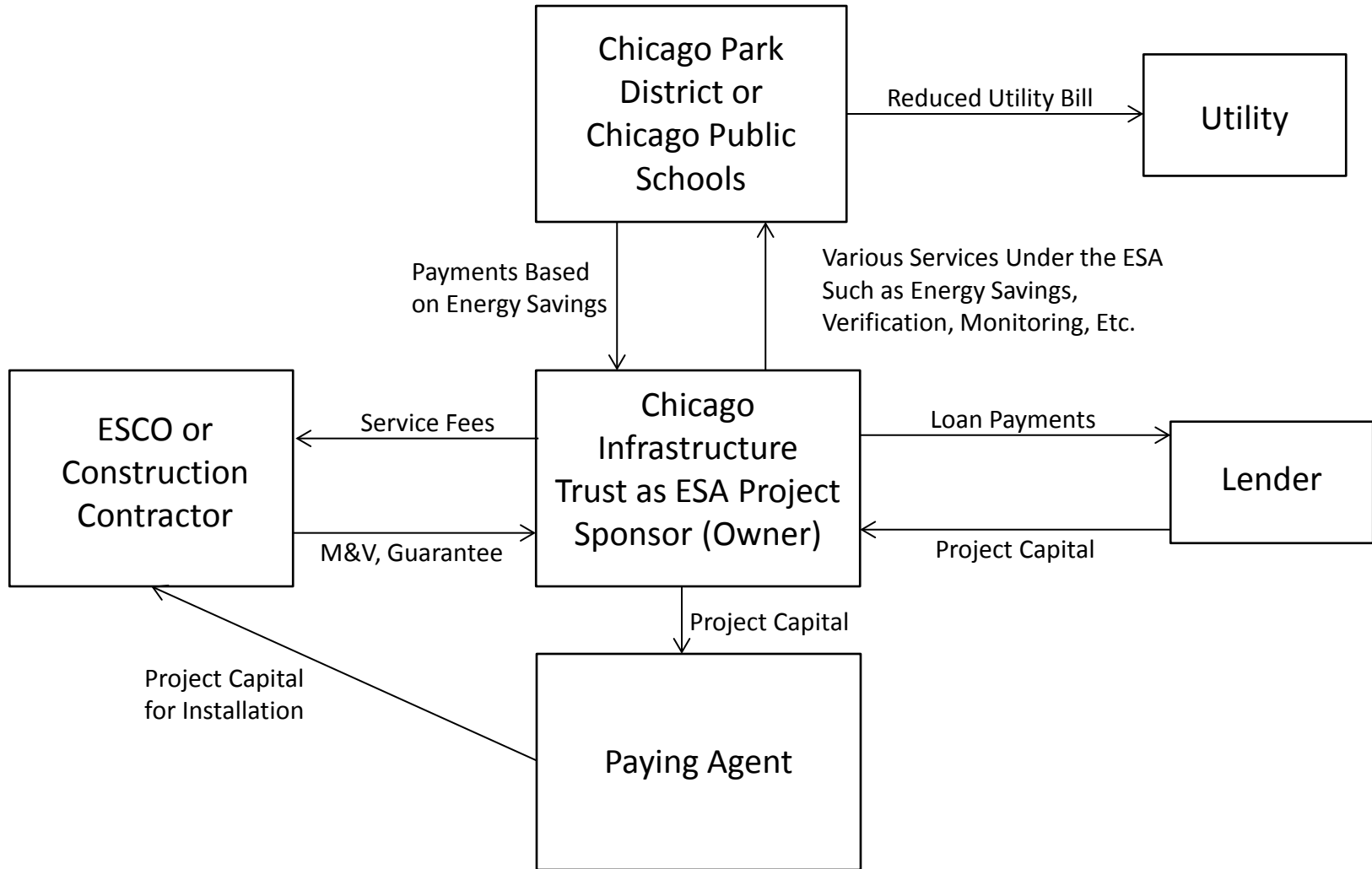
- CIT attracted an unsolicited proposal that includes an innovative idea as well as private sector capital and implementation
- CIT completed an Open Bidding Process (OBP) with private firms and negotiated best value, including off-credit financing
- CIT can work across City Departments and Sister Agencies to aggregate pools

## Impact

- Achieves Mayor's 2015 Sustainability Goal #4 – Improve overall energy efficiency in municipal buildings by 10%
- Reduced operating costs and enhanced reliability of operations
- Leads by example in energy efficiency for other sectors across the city
- Demonstrates value of unsolicited proposal process



# Energy Services Agreement Structure



# ESA Transaction Summary



Attribute	Description
<b>Tax-Exempt ESA structure (Energy Services Agreement)</b>	<ul style="list-style-type: none"><li>• Zero upfront and zero net cost</li><li>• Zero savings risk for Schools and Parks (save nothing, pay nothing)</li><li>• Off-credit for Schools and Parks</li><li>• Tax-exempt financing used</li></ul>
<b>Benefits</b>	<ul style="list-style-type: none"><li>• Evaluating upgrades in all (up to 141) School and Park facilities with pools</li><li>• Pools located across 48 wards</li><li>• Creates jobs</li><li>• Estimated 15-20% reduction in energy use annually in these buildings</li></ul>
<b>Savings</b>	TBD
<b>MBE/WBE Participation</b>	Meets or exceeds all City contracting criteria
<b>Status</b>	Pending Approval

# Key Differences from Retrofit One

- Investment Grade Audit included in transaction
  - Goal is to do 141 pools
  - IGA inclusion creates less risk and cost for Trust, Schools, & Parks
- 1 Contractor, 2 Building Operators / 4 Property Owners
- Trust acts as Project Developer and Project Manager
- More industry standard methodology

## Initiative Description

- Implement a proven collections model for commercial clean energy finance that will rapidly increase adoption within the City's not-for-profit, commercial, and industrial sectors

## Catalyst

- City seeks to increase competitiveness by lowering the cost of conducting business within City-limits
- City is committed to reducing greenhouse gas emissions
- Market for commercial PACE booming elsewhere, helping Chicago become a fast follower in opening market for longer-term EE and RE finance that stays with the property

## CIT's Value

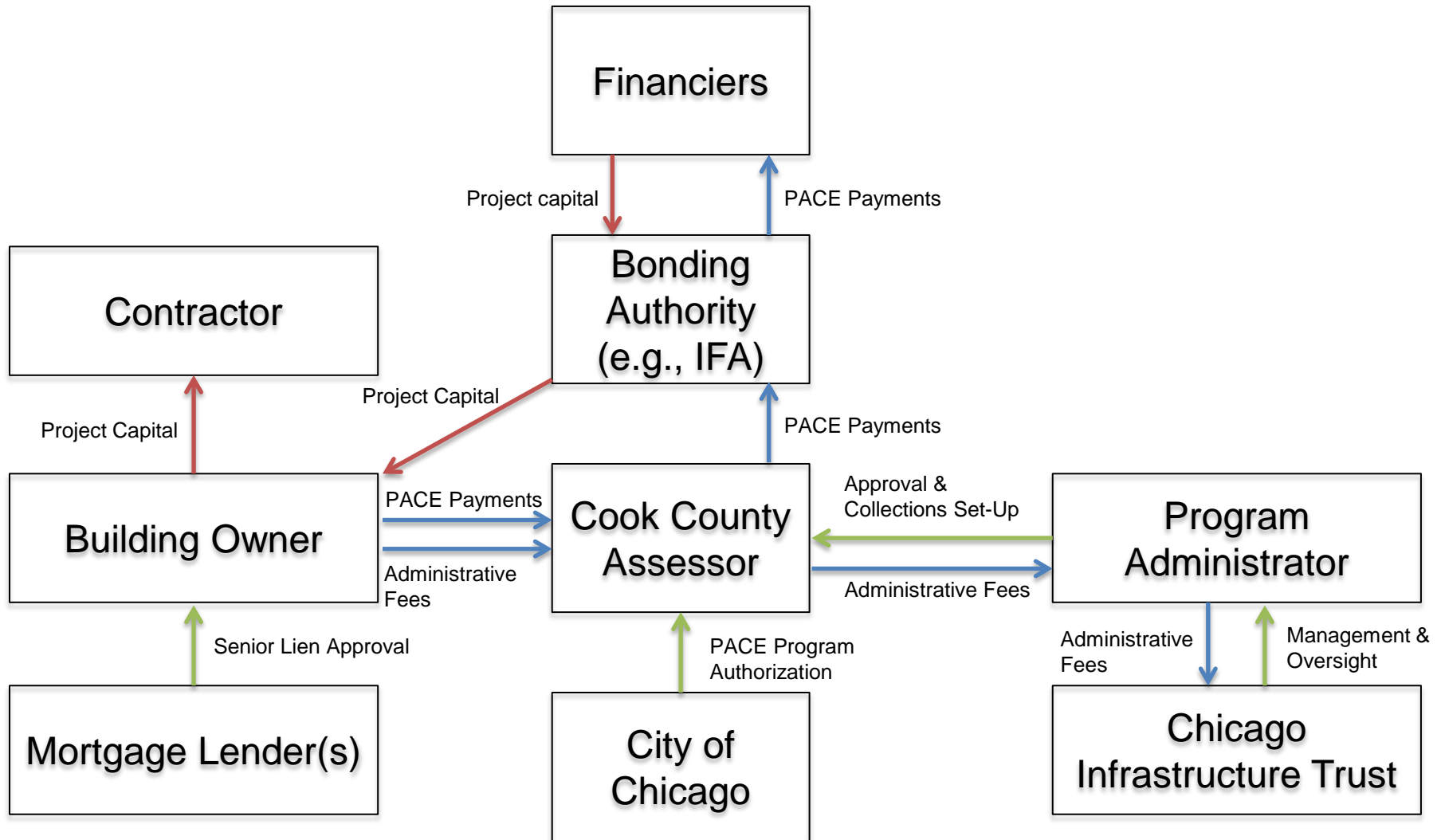
- Managing State, City, and County process to activate PACE collections
- Providing marketing and ongoing vetting of PACE projects
- Using a single, emerging financial instrument to reduce barriers and finance municipal, not-for-profit/cultural institution, commercial, and home energy efficiency projects
- Aggregating retrofit projects across the city to increase scale, improve economics, quicken pace, and heighten impact

## Impact

- Achieve Mayor's 2015 Sustainability Goal #3 – Improve Citywide energy efficiency by 5%
- Enables better private sector financing for private sector energy solutions without affecting City taxes or credit
- Opens market for cost-effective capital investments that have longer paybacks
- Reduces exposure to natural gas and electricity price increases



# PACE Transaction Structure



- Repayment obligation backed only by PACE assessments on individual property owners
  - Cash flow neutral to City and County, does not impact credit or balance sheet
- PACE lien takes a senior position to the mortgage
  - Transfers automatically to the next property owner in case of sale
  - Financiers are better secured in case of delinquency or default
  - Lenders willing to offer lower interest rates for longer terms
  - Mortgage lender must approve PACE lien



### Program description

- Replace Chicago's ~400,000 Outdoor Lights with high efficiency LEDs
- Leverage lighting system as a platform to provide additional public good and City revenue opportunities
- Privately finance the project through energy and operational savings

### Catalyst

- City seeks to reduce structural costs and energy consumption
- Cost and quality of LED lights have improved dramatically in recent years, and lighting companies like Philips and others are providing lighting-as-a-service
- CDOT sponsored a "White Light LED" pilot and requested equipment demonstrations

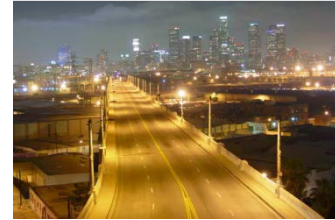
### CIT's Value

- CIT will pursue a Lighting-as-a-Service Agreement, reducing overall City costs
- CIT will evaluate other platform opportunities for their costs and benefits and develop a business case for attractive opportunities
- CIT will work across City Departments, Chicago Park District, and possibly CPS
- All outdoor lighting – street, walkway, and traffic – will be looked at comprehensively
- CIT will negotiate with LED and network control firms to provide all of the upfront capital and manage the installation process

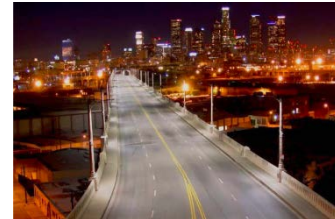
### Impact

- Achieve energy savings between 50% and 80% and reduce CO<sub>2</sub> emissions
- Reduce outdoor lighting's lifecycle costs (i.e., maintenance and energy)
- Improve ambient lighting
- Increase and enhance public good provision through platform technologies
- Create jobs

BEFORE



AFTER



#### STREET LIGHT AS A PLATFORM

- Video
- Sound
- Security
- Meter-reading
- Etc.

# Compressed Natural Gas

## Program description

- Coordinate between public and private stakeholders to facilitate the construction of the largest urban public access CNG fueling infrastructure in the Country
- Lease underutilized City-owned properties to private CNG fueling providers
- Provide fleet procurement, management and fuel analysis for City fleet to maximize cost savings and pollutant emissions reductions

## Catalyst

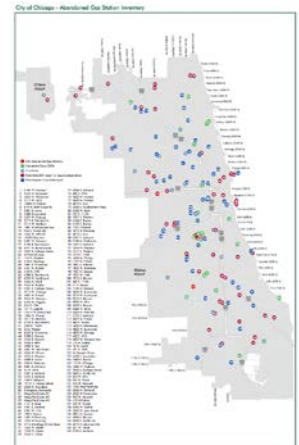
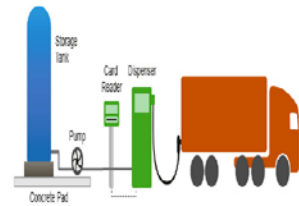
- Chicago has the highest gasoline and diesel prices in the Country
- City intends to increase competitiveness by lowering the cost of conducting business
- City seeking alternative revenue sources to enlarge the tax base
- City desires a reduction in greenhouse gas emissions and vehicle tailpipe emissions
- Identify potential network of parcels for CNG fueling stations

## CIT's Value

- Provide a single, streamlined process to address land acquisition, zoning, permitting, landscaping and signage for CNG station developers
- Repurpose underutilized City property into revenue generating CNG stations
- Collaborate with 2FM to develop new alternative fuel vehicle acquisition and management plan
- Serve as catalyst between fueling providers, auto manufacturers, corporate fleets, environmental groups, retailers, City and Agencies

## Impact

- Lower fuel costs, reduce at pump price volatility and petroleum reliance
- Reduce the cost of vehicle ownership for local fleet companies and City fleet
- Reduce greenhouse gas emissions and tailpipe pollutants
- Enable City to achieve alternative fuel vehicle acquisition targets
- Support policy objectives detailed in the Chicago Climate Action Plan, RTA Regional Green Transit Plan, Chicago Sustainability Action Plan



# Infrastructure Trust Role in CTA 4G DAS Project

## Program description

- Obtain cost-effective financing for the construction of a Next Generation Distributed Antennae System “NG-DAS” in order to provide state-of-the-art 4G wireless service for the CTA Red and Blue line Subway Stations and Tunnels
- Negotiate long-term 4G annual licensing contracts

## Catalyst

- Mayor Emanuel has made full 4G wireless availability in Chicago’s subway system a top transit policy objective
- CTA is currently negotiating with qualified respondents to design/build/install system
- The CTA currently projects to fund the entirety of the project through its annual capital program, but cannot afford it

## CIT’s Value

- The Trust is identifying private financing models that will prove more cost-effective for the CTA versus paying directly out of their capital improvement budget
- The Trust will work with wireless providers in developing new partnerships as part of a 4G licensing contract with the CTA.

## Impact

- Provide a superior transit experience for the 360,000+ daily riders on Chicago’s red and blue lines by offering wireless services capable of supporting high-speed mobile devices
- Address system safety by providing more reliable communication between CTA personnel and emergency responders.
- Reduce capital outlays for CTA and preserve their budget dollars for other projects
- Pursue new hi-tech digital advertising platforms, including, touch screen interactive and near field communication (NFC) advertising to enlarge revenue potential for the CTA

