



Street Light Management, the 100% ArcGIS online Method

**CDM
Smith**



Bryson Koziell
GISP, Principle
Eric Pescatore
CFM, GISP, ENV SP

July 23, 2015

**CDM
Smith**

Our Story Begins – The City of New Bedford, MA

- Approximately 95,000 people
- About 25 square miles
- 11,000 street and traffic lights
- 7 Million Annual Electric Bill
- 4.2 Million Dollar LED Retrofit Project



Retrofit for Energy Savings

- Less expensive to replace
- 10 Year lifespan
- \$550,000 in annual electric savings



The Problem

- Inventory 10,000 street and traffic lights in 3 weeks
- Identify potential retrofit issues
- Photograph potential retrofit issues
- Provide interfaces to track progress, show fixture type counts, and help resolve issues
- Link City Ledger to Inventory
- Provide reporting functionality



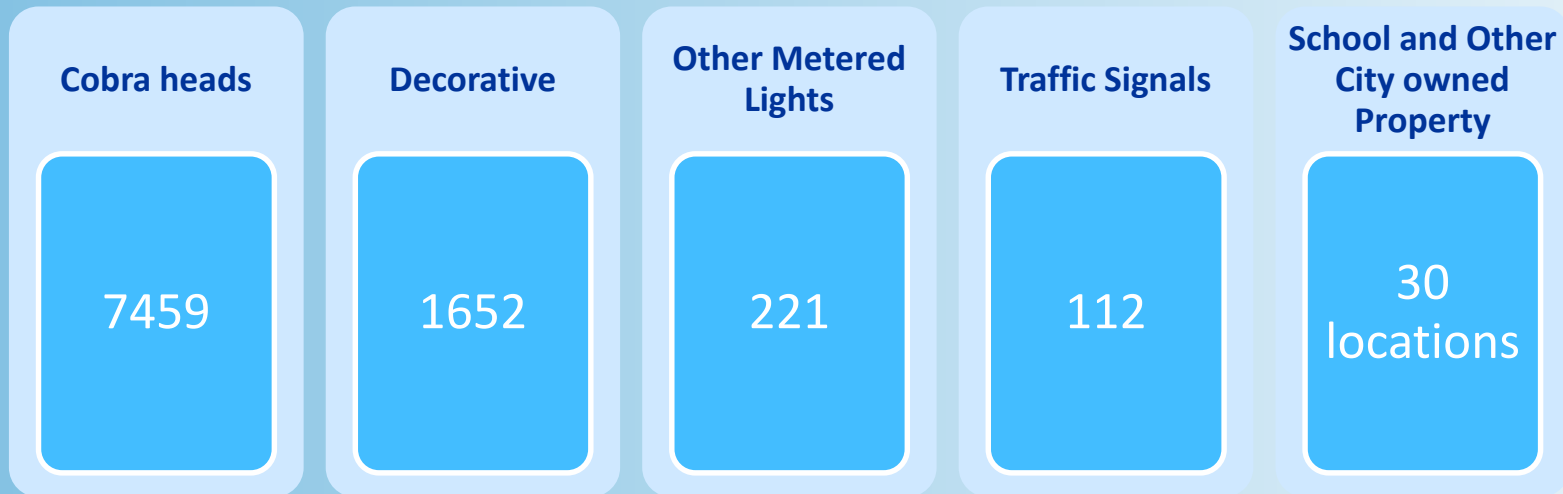
The Solution

ArcGIS Online



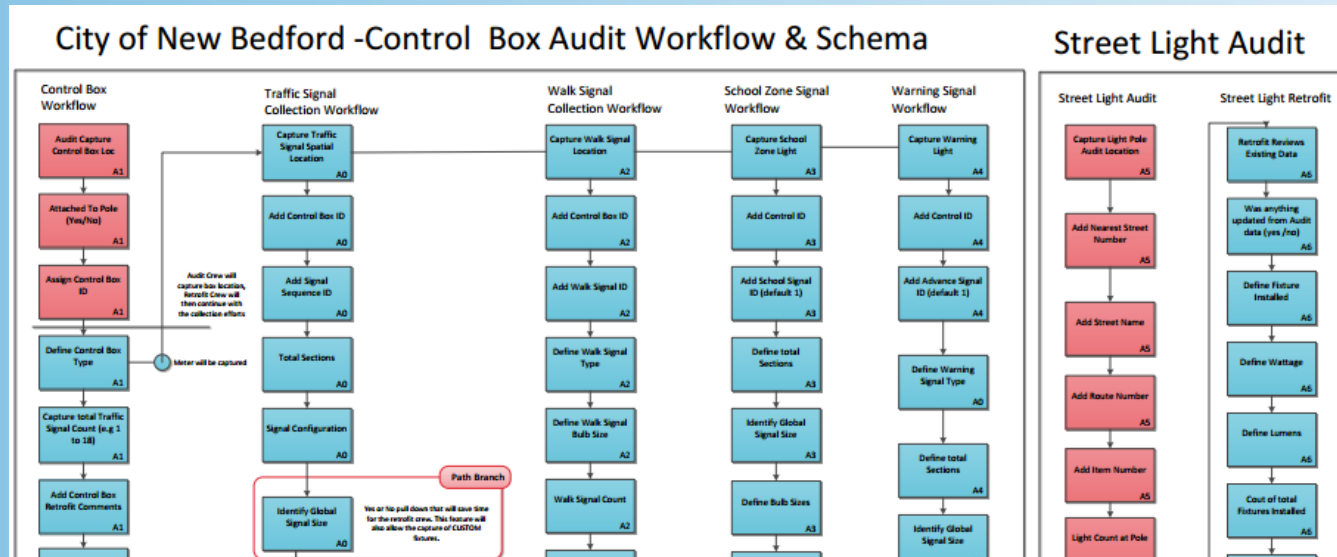
The Scope

- The City has made some assumptions based upon fixture counts and locations to Audit



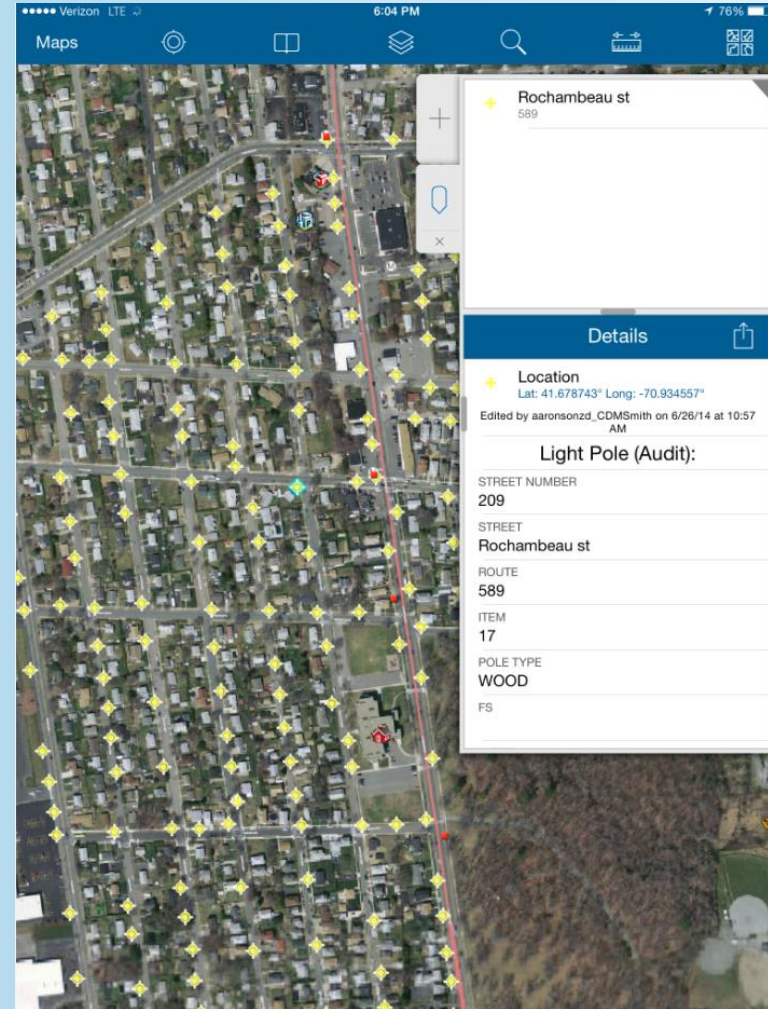
The Design

- Database design to support;
 - Collector
 - Issue tracking
 - Reporting and Dashboards



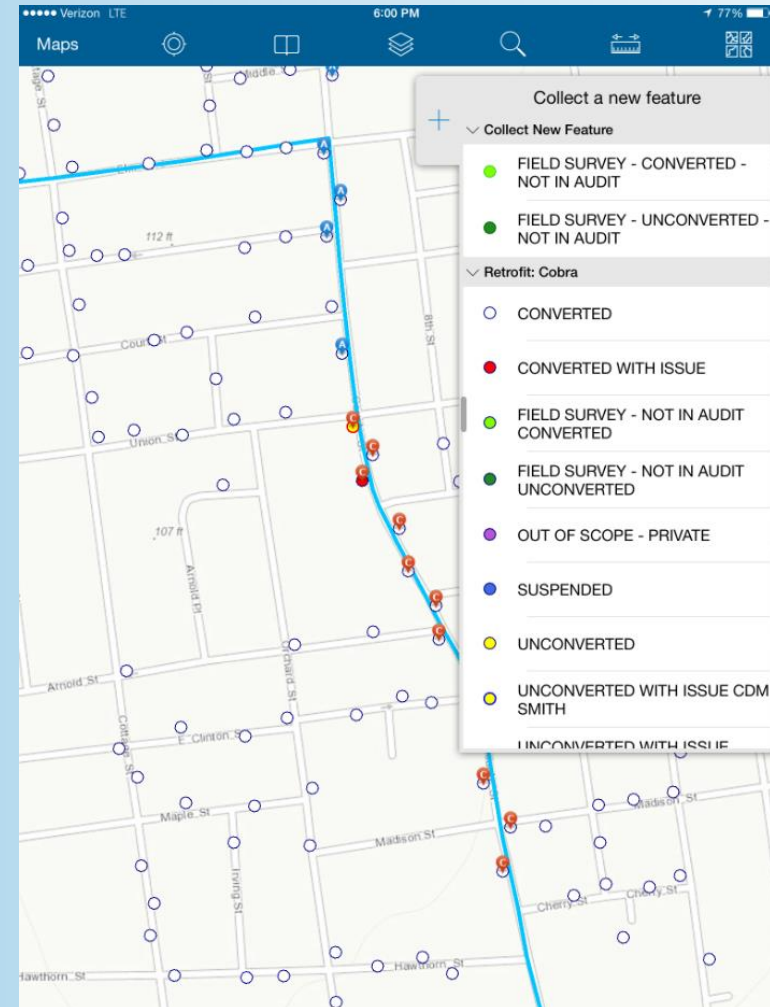
The Audit

- Load data and configure web map(s)
- Test and deploy Collector
- Configure Operational Dashboard to track audit metrics
- Deploy Issue tracking web apps
- Reporting to facilitate fixture ordering



The Retrofit

- Utilize audit data to facilitate fixture installs
 - Cobra head
 - Decorative
 - Traffic signals
- Dashboard to track progress
- Web maps to support issue tracking
- Energy provider reporting



The Reporting

- Real-time metrics available via export from AGO
- Excel reporting
- Retrofit Program managers able to review daily install
- Daily updates on external public site showing progress
- Energy provider reports to receive rebates

City of New Bedford - Street Light Inventory				
New Bedford GIS Statistics				
Total Records in Inventory	9500			
Total Matchable Records	9354	146 records are considered Pole assets		
Total Fixtures Audited by CDM Smith	11500			
Audited Models	Style	Total	Inventory Models	Pole Match Fixtures Inventory
COBRA	NO STYLE	7590	COBRA	2
COULD NOT DETERMINE	NO STYLE	110	FLOOD LIGHT	
DECORATIVE	ACORN	1150	POST TOP	
	GLOBE	31	One Match	
	WASHINGTONIAN	10	Grand Total	2
FLOOD LIGHT	NO STYLE	171		
OTHER	ADMIRAL HAT	84		
	COLONIAL	2		
	OTHER - SEE PICTURE	2		
	WALLPACK	82		
POST TOP	COLONIAL	33		
	OTHER - SEE PICTURE	7		
	TOWN AND COUNTRY	25		
SHOEBOX	NO STYLE	252		
TEARDROP	OTHER - SEE PICTURE	68		
	Grand Total	3241		
<div> Inventory Report Inventory Modified Audit Locations Requested Unmatched Inventory </div>				

Issue Tracking and Resolution

HOME ▾ New Bedford Retrofit Issue Tracking

Details Add ▾ Edit Basemap Analysis Save ▾ Share Print Directions Mea

About Content Legend

Legend

General Comments

- CDM SMITH
- NEW BEDFORD
- SIEMENS

Cobra - Ball in Court of

- CDM SMITH
- NEW BEDFORD
- SIEMENS

Cobra-Retrofit Issue Tracking (Yes/No/Resolved)

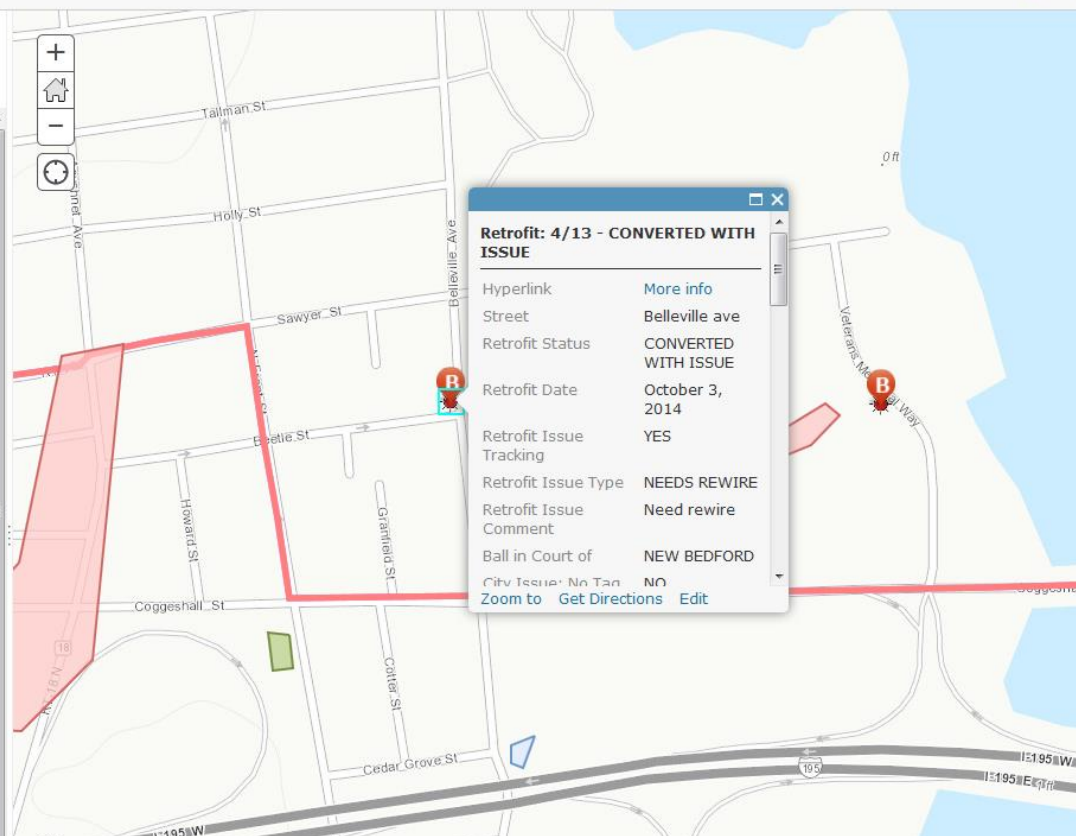
- RESOLVED
- YES - ISSUE

Deco - Ball in Court of

- CDM SMITH
- NEW BEDFORD
- SIEMENS

Deco-Retrofit Issue Tracking (Yes/No/Resolved)

- RESOLVED
- YES - ISSUE



Retrofit: 4/13 - CONVERTED WITH ISSUE

Hyperlink	More info
Street	Belleville ave
Retrofit Status	CONVERTED WITH ISSUE
Retrofit Date	October 3, 2014
Retrofit Issue Tracking	YES
Retrofit Issue Type	NEEDS REWIRE
Retrofit Issue Comment	Need rewire
Ball in Court of	NEW BEDFORD
City Issue: No Tag	NO
Zoom to	Get Directions Edit

Public Outreach

CITY OF NEW BEDFORD

DESTINATION NEW BEDFORD

ECONOMIC DEVELOPMENT COUNCIL

PORT OF NEW BEDFORD

RESIDENTS

BUSINESSES

VISITORS

CITY OFFICES


GOVERNMENT


LOCAL LINKS

CONTACT

MAPS

DIRECTIONS

new bedford | MAYOR OF THE CITY OF NEW BEDFORD

search 

DEPT. HOME

BIOGRAPHY

BOARDS AND COMMISSIONS

NEWS / MAYOR OF THE CITY OF NEW BEDFORD / NEW BEDFORD MODERNIZING STREETLIGHTS

MAYOR OF THE CITY OF NEW BEDFORD

LOCATED AT:
133 William Street
New Bedford, MA 02740

PHONE NUMBERS
Tel: 508-979-1410
Fax: 508-991-6189

DEPARTMENT HEAD:
Jonathan F. Mitchell, Mayor

DEPT. ANNOUNCEMENTS

NEW BEDFORD REGENERATION COMMITTEE

New Bedford Regeneration Committee Final Report
[Click for more.](#)

NEW BEDFORD MODERNIZING STREETLIGHTS

LED Retrofit Community Webmap Updated Daily

Legend

New Bedford Wards

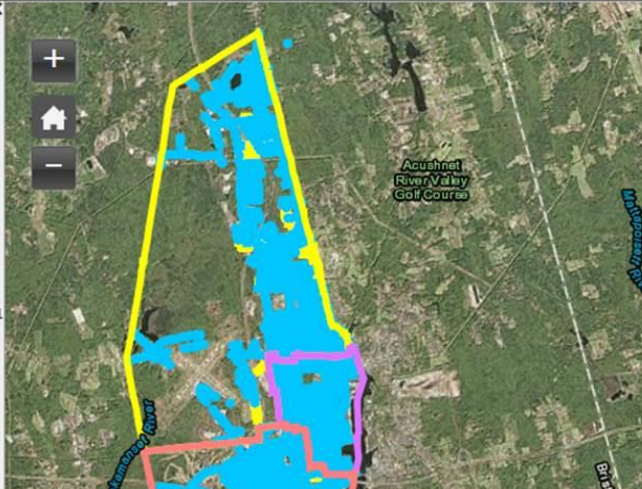
- Ward 1
- Ward 2
- Ward 3
- Ward 4
- Ward 5
- Ward 6

NEW_BEDFORD_TILE_UPDATED_1030201

New Bedford - Lightpole Status (10/30/2014)

- CONVERTED
- CONVERTED DECORATIVE
- UNCONVERED COBRA
- UNCONVERED DECORATIVE

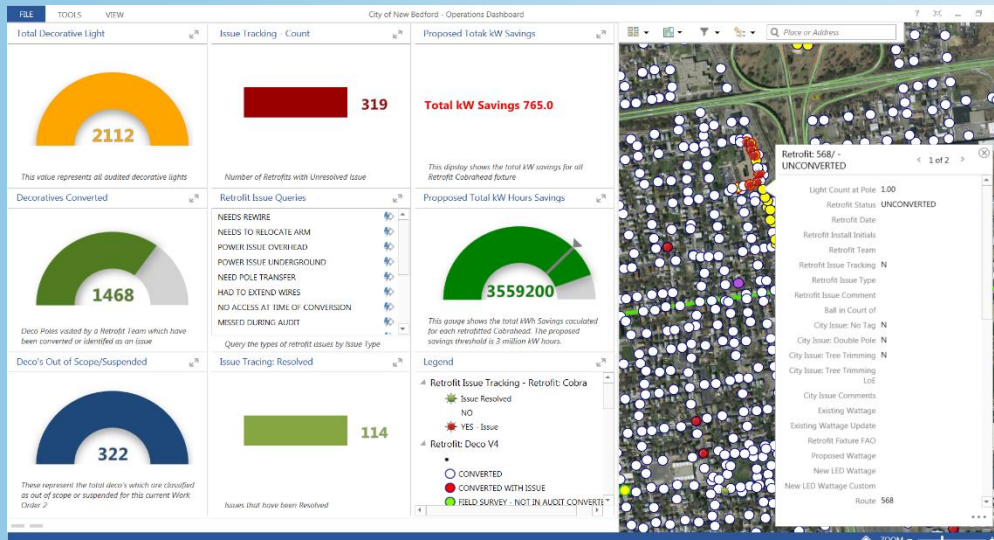
Find address or place



CDM
Smith

The Numbers

- 11,500 audit points collected in 3 weeks
- 6 field crews performing ground-level surveys
- Energy provider rebates of \$1.2 million
- \$450,000 per year energy savings
- \$100,000 per year maintenance savings



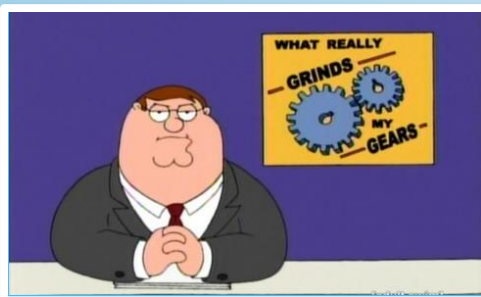
Lessons Learned

Schema Changes

Data Syncing and
Disconnected
Editing

Feature Layer
Performance

Republishing
Features/Maps



AGO Web
Updates and
Bugs


Relationship
Table Support

Security
Concerns

Batch Editing

The Final Product

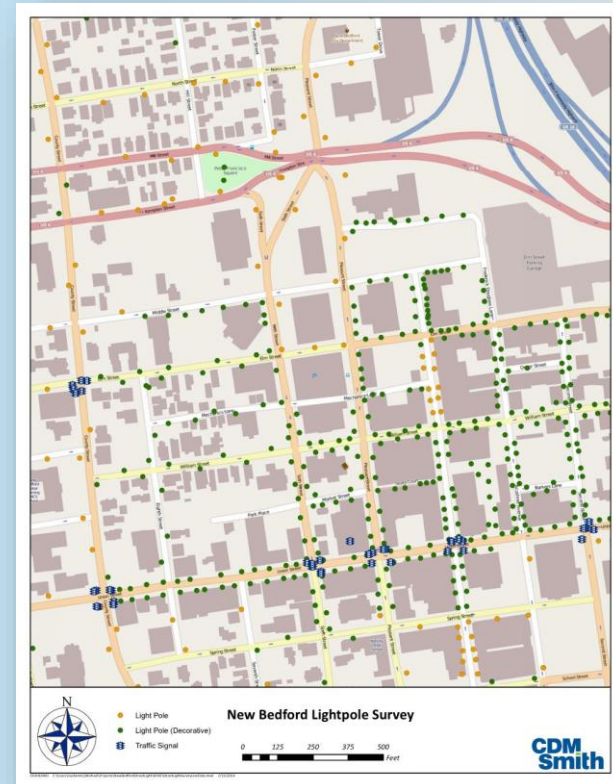
1. Matched City Ledger
2. GIS Database of lighting inventory
3. City ArcGIS Online Environment
4. Incorporation into asset management



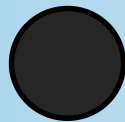
Company:
Facility Address:

Lighting Fixture Inventory Sheet

		Existing Fixtures (Retrofit only)					
	Location	Qty	Lamp/Ballast Description	Device Code	Type	Existing Lamp/Ballast Wattage	Measure Code
EX	Lobby - East Entrance	4	4' 3 lamp T12 Magnetic	3F40SEH4	Recessed Troffer	110 watts	10
1							
2							
3							



Questions?



Contact Us:

Eric Pescatore, CFM, GISP, ENV SP

GIS Specialist

pescatoreec@cdmsmith.com

Bryson Koziell GISP

Project Manager

koziellbj@cdmsmith.com



Arc**GIS** Online
Specialty