



PROCESS IMPROVEMENT PILOT

Lean Six Sigma in Pittsburgh

MARCH 2016

AGENDA

March 15, 2016
2pm

Introduction : Chief Lam

Department of Public Works : Lee Haller

I&P OTRS : Alex Nunley

I&P Hardware Acquisition : Debra Christian & Scott
McGrath

Parks and Recreation: Megan Flohr

Remarks : Mayor Peduto



Bringing Efficiency to Local Government with Six Sigma Process Improvement



- Building on best practices from high performing municipal governments such as Louisville, KY and Denver, CO.
- Designed a pilot and engagement that benefits from private sector experience with public sector applications.
- Twenty employees on four teams successfully completed initial projects improving operations in three departments.
- Follow-up training and program expansion scheduled for 2016!

Litter Can Collection Improvements

Department of Public Works

Team Members

- Lee Haller – Deputy Director
- Marcelle Newman – Assistant Director, Administration
- Matthew Jacob – Administrative Assistant
- Aiwei (Ivy) Xu – I&P Analyst



Performance Management Project Overview

Scope: 5th Division street litter can operations

Goal Statement: Decrease average litter collection labor hours/can/month by 33%, and result in 44 man hours to be redeployed.

Desired Outcomes:

- Free up resources that can be used for other high-priority tasks
- Provide more consistent service to residents

Implementation Plan Progress

Completed Tasks

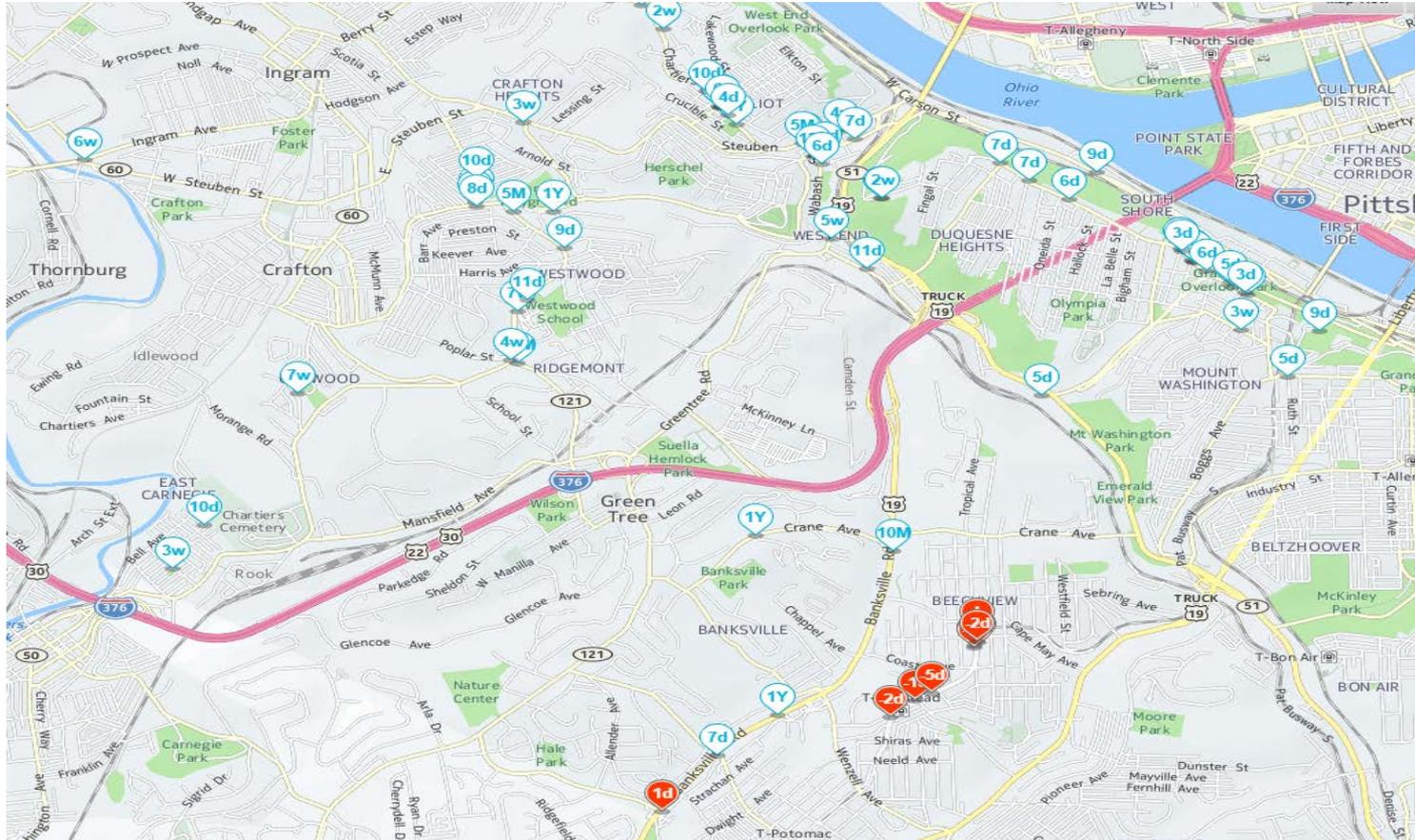
- Installed sensors on 90 street cans in the 5th Division
- Trained 5th Division Supervisor and Foremen

In Progress Tasks

- Establishing Standard Location Criteria
- Developing Standard Litter Can Specifications



Sensors Provide Actionable Data for Management



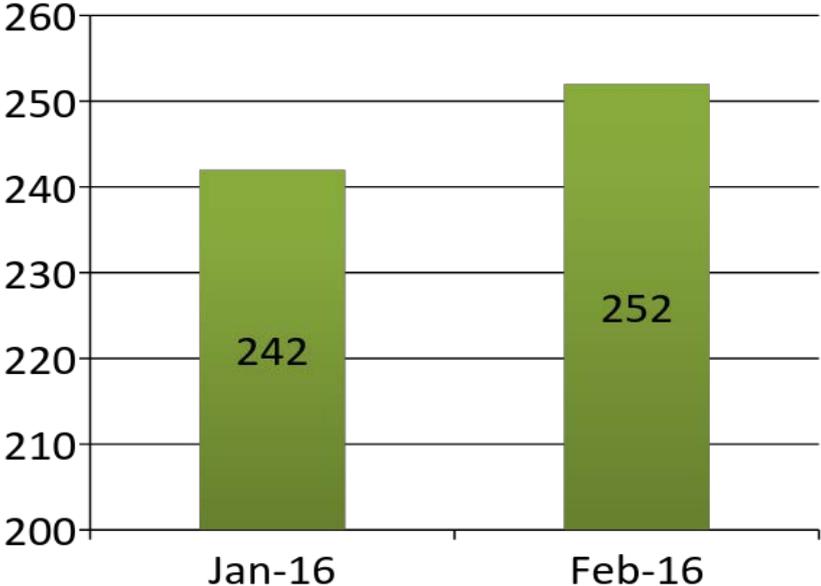
Sensors Provide Daily Guidance for Staff

TYPE		CONTAINER	DATE WHEN FULL		
All		All	< 3/9/2016		8/89
<input type="text" value="Match text..."/>					
SITE	TYPE	FILL LEVEL		DATE WHEN FULL	
Broadway @ Beechview (2058) 5th district	1	<div style="width: 100%; height: 15px; background-color: #4db6ac;"></div>	100 % (~0.16 yd ³)	Tue 3/8 today	
Broadway @ Belasco (2273) 5th district	1	<div style="width: 100%; height: 15px; background-color: #4db6ac;"></div>	100 % (~0.16 yd ³)	Thu 3/3 5 days ago	-5d
Broadway @ Boustead (2285) 5th district	1	<div style="width: 97%; height: 15px; background-color: #4db6ac;"></div>	97 % (~0.15 yd ³)	Sun 3/6 day before yesterday	-2d
Broadway @ Hampshire (2059) 5th district	1	<div style="width: 98%; height: 15px; background-color: #4db6ac;"></div>	98 % (~0.16 yd ³)	Sun 3/6 day before yesterday	-2d
Broadway @ Las Palmas (2055) 5th district	1	<div style="width: 93%; height: 15px; background-color: #4db6ac;"></div>	93 % (~0.15 yd ³)	Sun 3/6 day before yesterday	-2d
Broadway @ Las Palmas (2056) 5th district	1	<div style="width: 100%; height: 15px; background-color: #4db6ac;"></div>	100 % (~0.16 yd ³)	Tue 3/8 today	

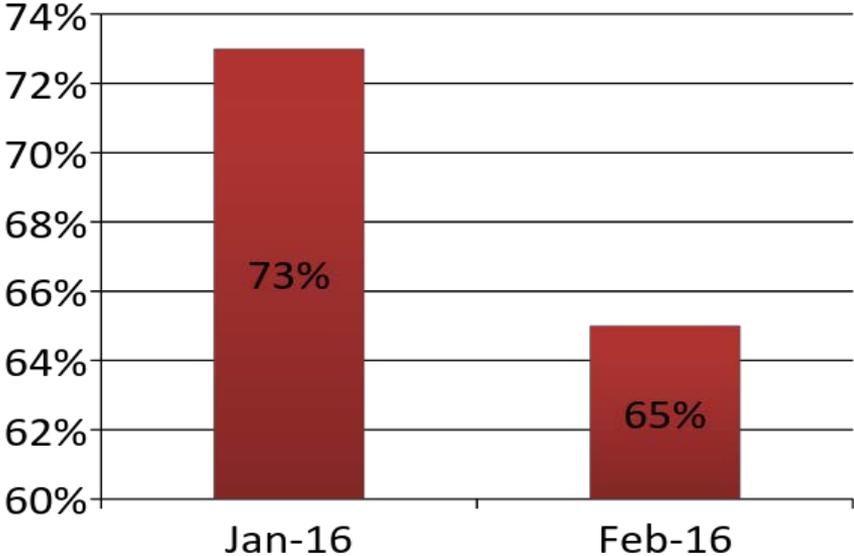
Use filters to view cans that must be emptied before a chosen date.

Success Metrics: Collection Efficiency Rate

Total Collections by Month

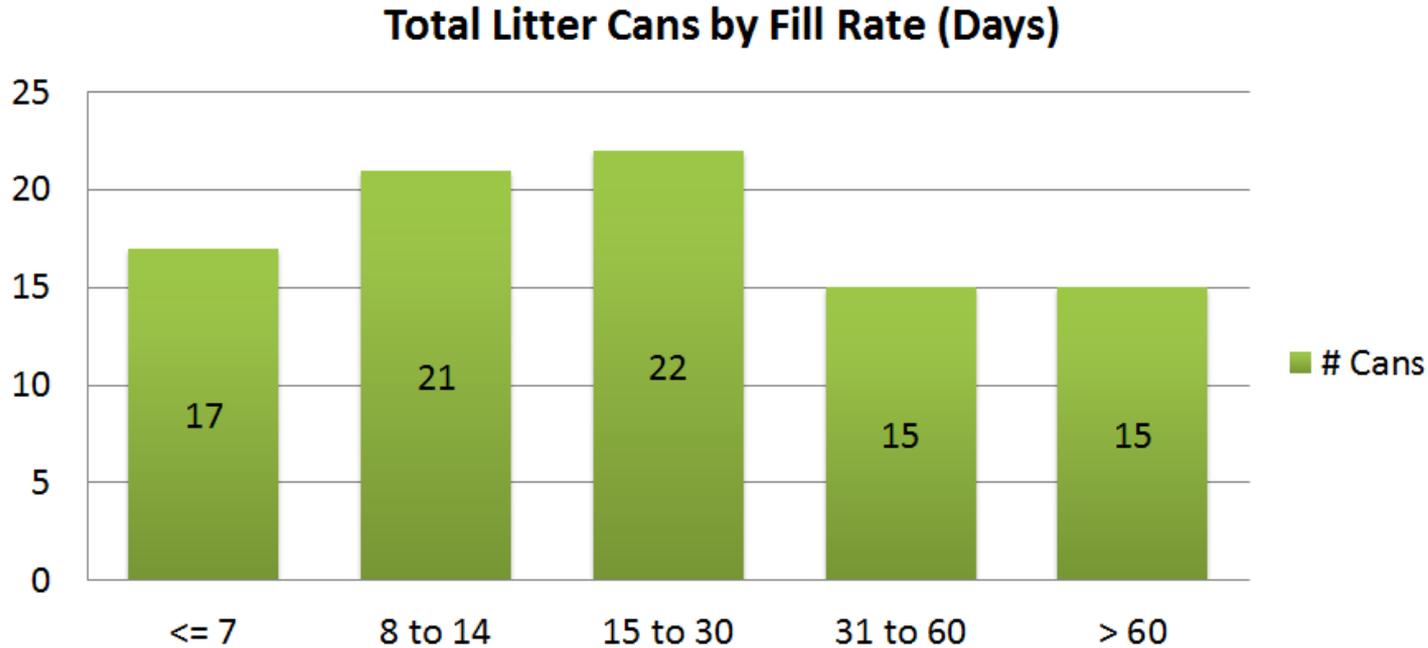


Percent Full at Collection



Efficiency metrics so far are the opposite of what we would expect, indicating that crews need to more closely follow daily plan reports.

Success Metrics: Litter Can Utilization Rates



Low utilization numbers for a large number of our cans indicates the need for placement standards and active redeployment to litter hot spots.

Success Metrics: Improved Responsiveness

1804 - East Carnegie: Mixed - Residential

GENERATED: 12/1/2015 9:59 AM

Average fill-up rate ~0.07 yd³ / wk
Fill-up time 2 weeks 2 days
Date when full Today



Recent collections

None

Alerts

 1804 - East Carnegie (Mixed - Residential) is full (13 days ago) 

Next Steps

- Work with 5th Division staff to ensure they closely follow daily plans
- Document how reduced litter hours are used for other high-priority tasks
- Extend pilot to the end of April to evaluate larger sample set of data
- Finalize can standards and location criteria

Conclusions

- Implementation of sensors has promise to both reduce hours and improve service
- Change management issues will be an obstacle to overcome in a larger roll-out
- Broader implementation will require dedicated resources to ensure the project goes smoothly

OTRS/ Help Desk

Department of Innovation and Performance



The Team



Da'Ron Johnson

Network Analyst 1

Alex Nunley

Network Analyst 3

Geoffrey Arnold

I&P Analyst

What is the I&P Help Desk?

Front line support for City Employee's Technology needs.

All I&P Help Desk requests are captured as "tickets" in OTRS.

More complex tickets are escalated by Help Desk Agents to I&P Technical teams for resolution.

Project Charter

Problem:

- **Help Desk Tickets take on average ~2 days to resolve**
- **IT Tickets take on average ~17 days to resolve.**

Project Goal:

- **Resolve Help Desk Tickets in 1 day**
- **Resolve IT Tickets in 10 days**

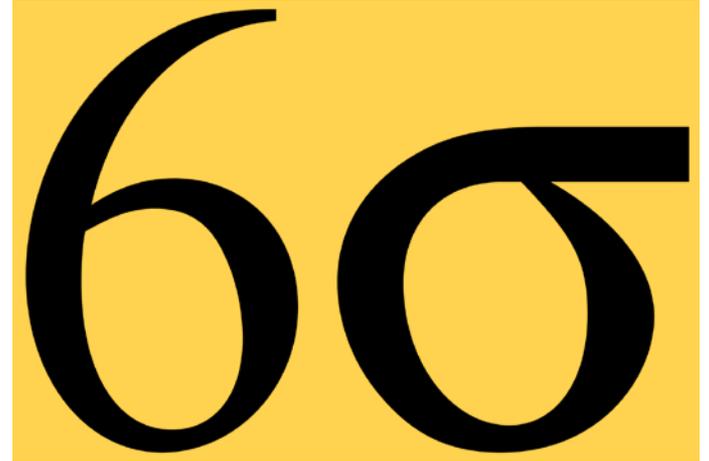
Six Sigma Analysis Takeaways

Lack of Communication between
Teams

Ticket Assignment and Workflow
issues

Lack of standards and practices

No customer feedback mechanism
to determine success



What tools help solve our problems?

Streamline Ticket Assignment & Workflow

Documented Policies & Procedures

Collecting Customer Feedback & Manager Dashboards

Upgrading to OTRS 5

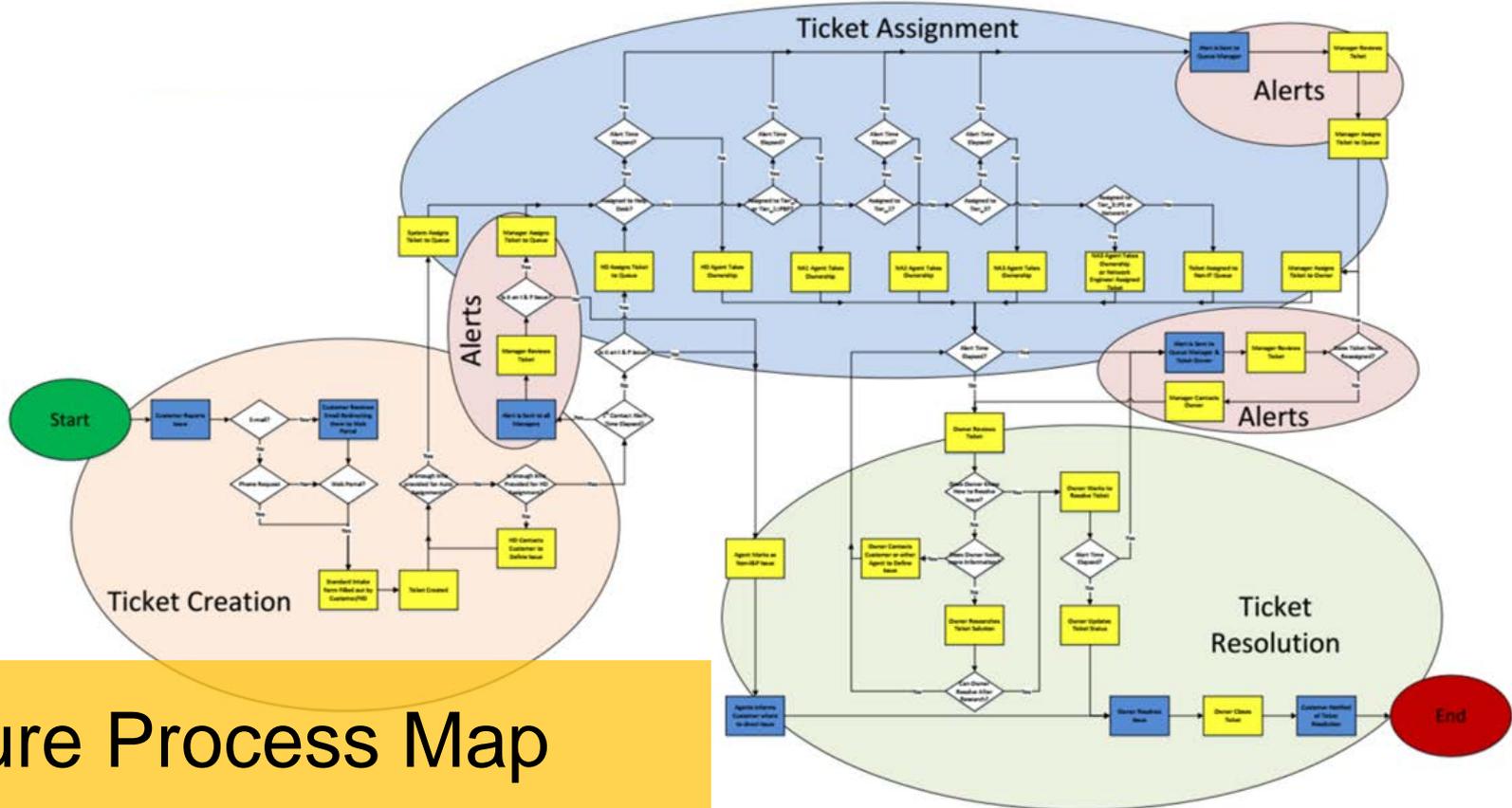
Providing Communication between Teams

Scrum Questions:

1. What did you do last week?
2. What are you going to do this week?
3. What impediments are in your way?



Streamline Ticket Assignment & Workflow



Future Process Map



- **Procedures:** Provides an established, official way of troubleshooting or completing common IT Support tasks.
- **OTRS Policy:** Provides a system of principles to guide decisions and operations within OTRS and the greater IT Support System of I&P.

Collecting Customer Feedback & Dashboard

Average Survey Results by Department

Time Satisfaction Communication Response Rate

I&P KPI's

- Information Technology **WIP**
- Telecommunications **WIP**
- OTRS **new**
- OTRS Tables
- Administration **new**
- I&P HelpDesk **WIP**
- City Channel Pittsburgh
- Resiliency & Sustainabil **WIP**

Page Meta Data
OTRS information is pulled from the OTRS MySQL Database at the 15th minute of every hour.

? Outages
Network Outages

Avg: 8.44 days
Goal: 9 days

Open: 455 tickets
Goal: 250 Open Tickets

52
Waiting for Customer

222 Defects
(Over 3rd Quartile Resolution Time)

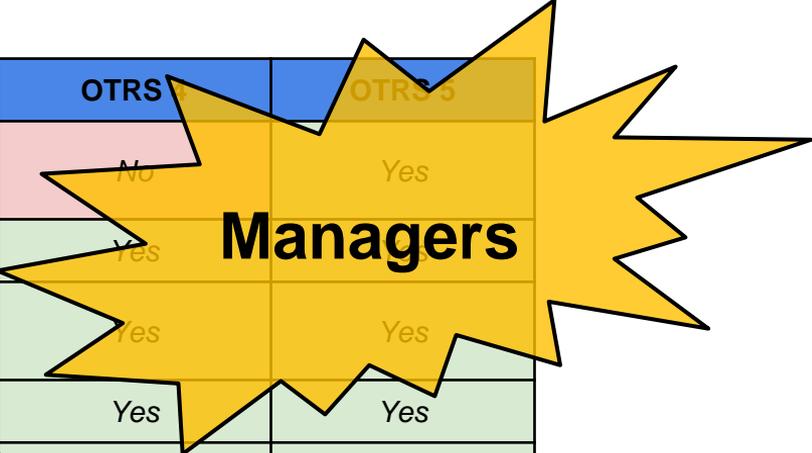
77
Unassigned Tickets (no Owner)

15.91%
Survey Response Rate (345 Total)

- CHR
- Controller's
- Council
- DCP
- DoF
- DPW
- EMA
- EMS
- I&P
- JTPA
- Law
- Mayor's
- Outside
- Parks
- PBF
- PBP
- PCSC
- PLI

Upgrading to OTRS 5

Feature	OTRS 3	OTRS 4	OTRS 5
Responsive Design (Mobile/Desktop)	No	No	Yes
Custom Workflows	No	Yes	Yes
Internal Notes directed at Agents	No	Yes	Yes
Note Templates	No	Yes	Yes
External Emails from Ticket to non-Customer	No	Yes	Yes
Multiple Field Sorting on Email Intake	No	Yes	Yes
Full Text Searchable Fields	No	No	Yes





Thank You

Questions?

Hardware Acquisition Optimization

Department of Innovation & Performance



Project Team

Debra Christian, Chief
Clerk 2

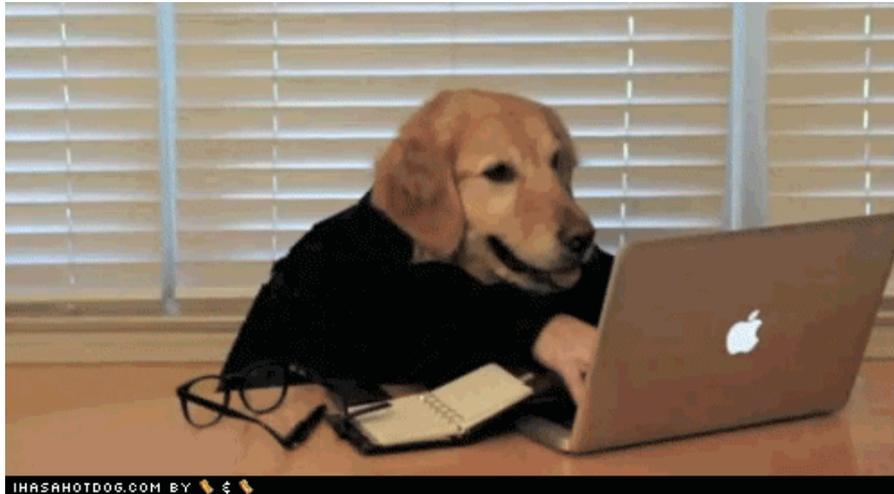
Tara Matthews, I&P
Analyst

Scott McGrath,
Support Clerk



What is Hardware Procurement?

The I&P Administrative and Client Support Teams work to purchase and install the IT hardware that all of the City departments need to do their jobs.



What Kind of Hardware?

Installation Required:



Non-Installation Required:



What's the Problem?

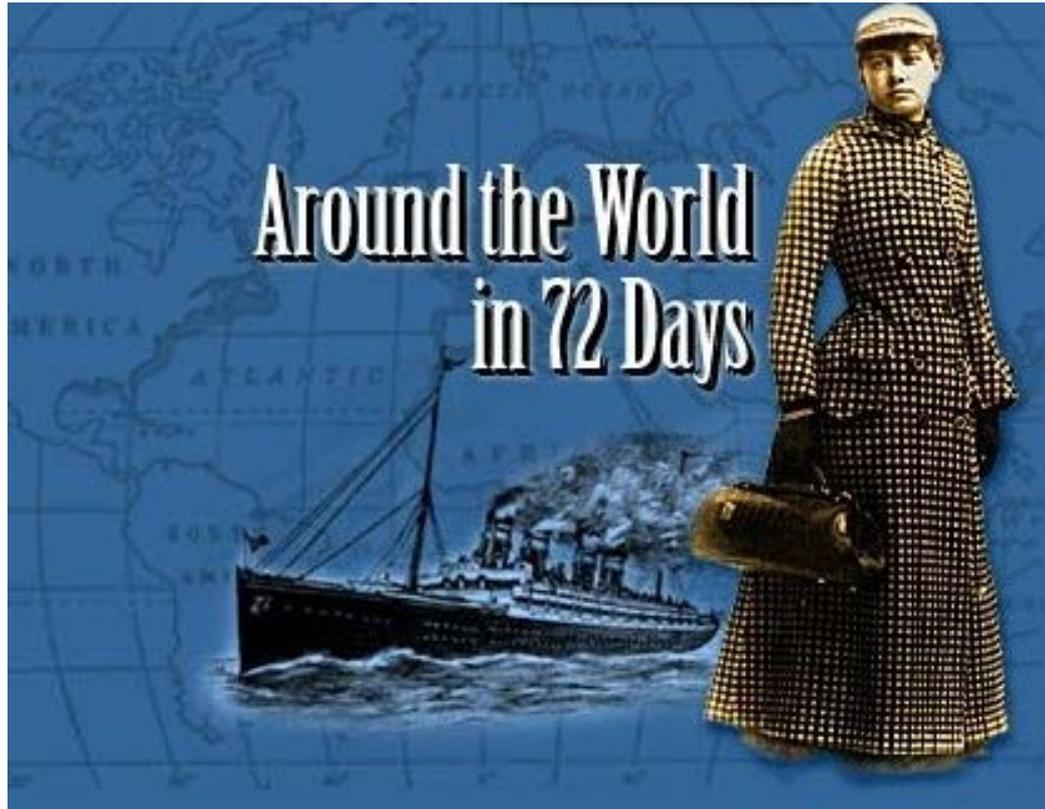
It takes too long to acquire hardware!

Non-Installation Required: An average **10.5 calendar days**

Installation Required: An average of **72.5 calendar days**

What else takes 72 days?

Nellie Bly's Journey Around the World in 1890!



What Does This Look Like?

The ticket life begins with the client's request and ends when hardware is on their desk, working properly.

We investigated the process from end-to-end, which revealed unexpected complexity

The project was then prioritized into three categories:

Short Term

Long Term

How Are We Addressing the Problem in the Short Term?

Shopping Cart 2016-03-14 04:19:08pm

For orders not listed, please [click here](#) to submit a help desk ticket

Show entries

Search:

ID	Inventory Name	Item Type	Image	Category	Quantity	Cost	Add
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1TB External Harddrive w/ usb cable

61	SEAGATE BACKUP PLUS Slim 1 TB USB 3.0	External Hard Drives
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2TB External Harddrive w/ usb cable

60	SEAGATE BACKUP PLUS 2 TB USB 3.0	External Hard Drives
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Corded mouse

53	Logitech M100 Corded Mouse, Blk	Keyboards and Mice
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and mice



Department of Innovation & Performance Hardware Acquisition Procedure

Hardware Acquisition Procedure	Original Date: 2/16/2016
Department of Innovation & Performance	Revised Date: 3/14/16

can

Hardware Goal:

Reduce average ticket life by 30% within twelve months of implementation.

- Installation-required hardware: From an average of **72.5 calendar days** to an average of **50 calendar days**.
- Non-installation-required hardware: From an average **10.5 calendar days** to **7 calendar days**.

Next Steps:

This project exposed the true depth of the problem and provided a framework for future projects to attack the issues.

Collecting data to analyze the process required days of manual collection.



In the *Long Term*, we plan to implement:
Enhanced Data Collection and Performance Metrics

A more efficient Hardware Installation Process

Automated Order Updates



Thank You!

Questions and Comments?

Recreation Activity Management and Monitoring

Department of Parks and Recreation

Parks Team Members

Jen Yuvan: Recreation
Manager

Louann Horan: Operations &
Administration Manager

Matt DeLRaso: Administrative
Aide

Megan Flohr: Administrative
Aide

Duane Ashley: Recreation
Leader 1

Alexis Barone-Katze: Senior
I&P Analyst



Problem Statement

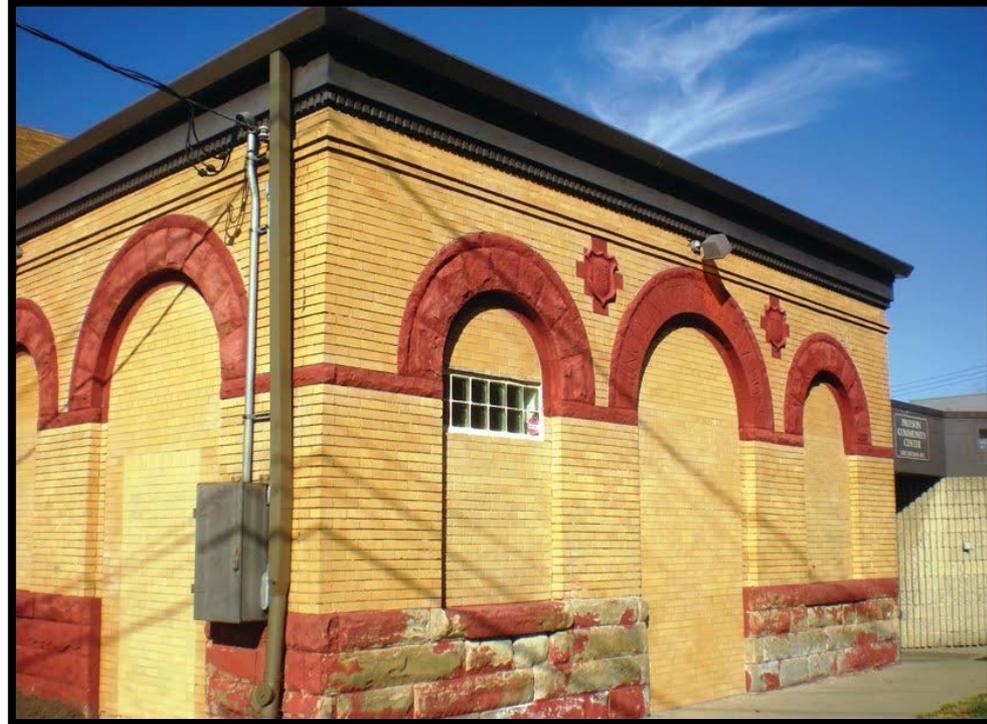
Data recorded in the ReCPro system was not standardized, and caused inaccurate information of recreation center programs and utilization.

ReCPro limited capabilities in its current state

This impacted Citiparks' ability to:

Measure program and participant validity

Develop and market new programs



Paulson Recreation Center

ReCPro Overview

Recreation Software used by
Citiparks in conjunction with the
Department of Public Works:

Citiparks use case:

Activity Registration
Facility Reservation
Memberships

DPW use case:

Online Registration and
Facility Permitting
Credit Card Payment



Our Goal

Any Recreation staff member should be able to see and report on every center's programming via ReCPro

In 2015, 14% of offered Citiparks Recreation Center programs were recorded in ReCPro.

By April 2016, 100% of Citiparks programs will be recorded in ReCPro.



Our Approach

Retrained all Recreation Staff on ReCPro

Importance and Benefit of entering programs into system

Created program templates, guidelines, instructions, and SOP for staff to follow

Ensured staff is correctly entering programs into ReCPro



City of Pittsburgh
Department of Parks & Recreation

Policy: Creating Recreation Programs	Original Date: 2/18/2016
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PURPOSE: To provide the tools needed to successfully plan a recreation program.

POLICY STATEMENT: The following policy addresses how to document and record a Recreation Program for the City of Pittsburgh Department of Parks and Recreation Community Recreation Centers.

PROCEDURE:

- Open the Excel file: [Program Template](#)
- Follow the [Completing the Program Template](#) Instructions, determining the program info, location, registration, and participation.
- Create the [Attendee List](#)
- Include the [Program Utilities](#); Enter the cost and estimated servings to calculate the total pieces and cost per serving based on attendance total
- Add [Other Essentials](#): Room and/or Hall Rentals and other costs.
- Once all document are completed, save as a PDF with the Center Name, Program Name, Season and Year (i.e. Ammon_YouthBasketball_Fall_2016)
- Submit document via email to Recreation Manager
- Once approved by Recreation Manager, enter program into ReCPro.

Long Term Goals

- On Track for 100% program entry
- Unified System for both the Community and City Departments
 - User-Friendly Online Interface
 - Program Demographics
 - Program Popularity
 - Individual and Family Profile(s)
 - Attendance
 - Targeted Marketing
 - Budget Development
 - Center Utilization





Questions?

Thank You!





Thank You