Utilizing Lean Thinking to Save Time and Money

Presenter: Anita Patel
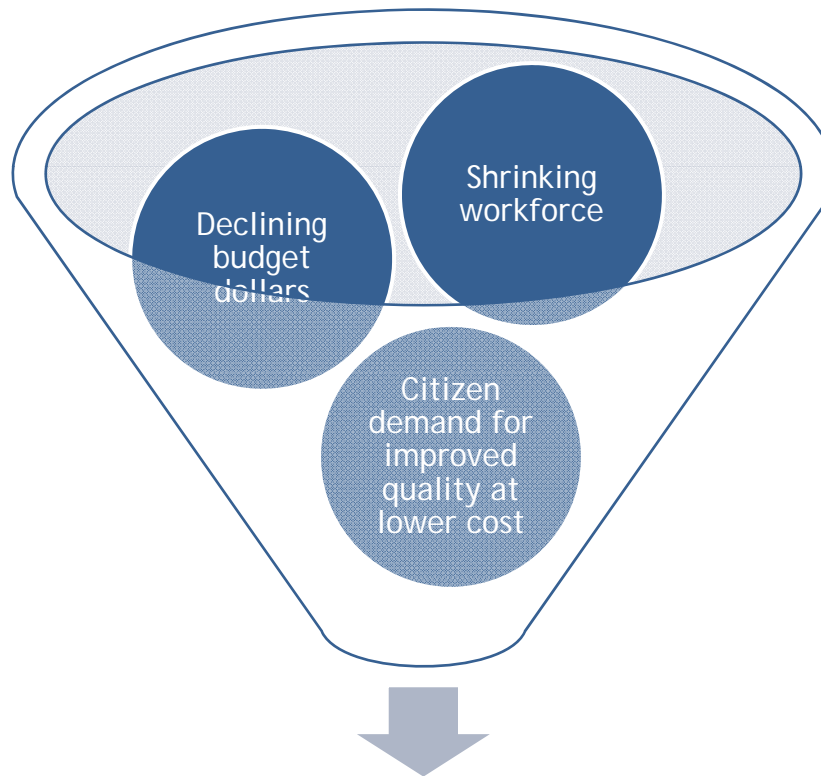
Business & Finance Administrator

Lake County Planning, Building & Development Department

Agenda

▶ Overview of Lean and Process Improvements

▶ Common Measures that can be used to Quantify Improvements

▶ Description of Common Types of Waste

▶ How Lake County Planning, Building & Development Department Utilized Lean to Improve Processes

▶ Examples of Process Improvements

▶ Lessons Learned

Why Should You Care About Lean?

Declining budget dollars

Shrinking workforce
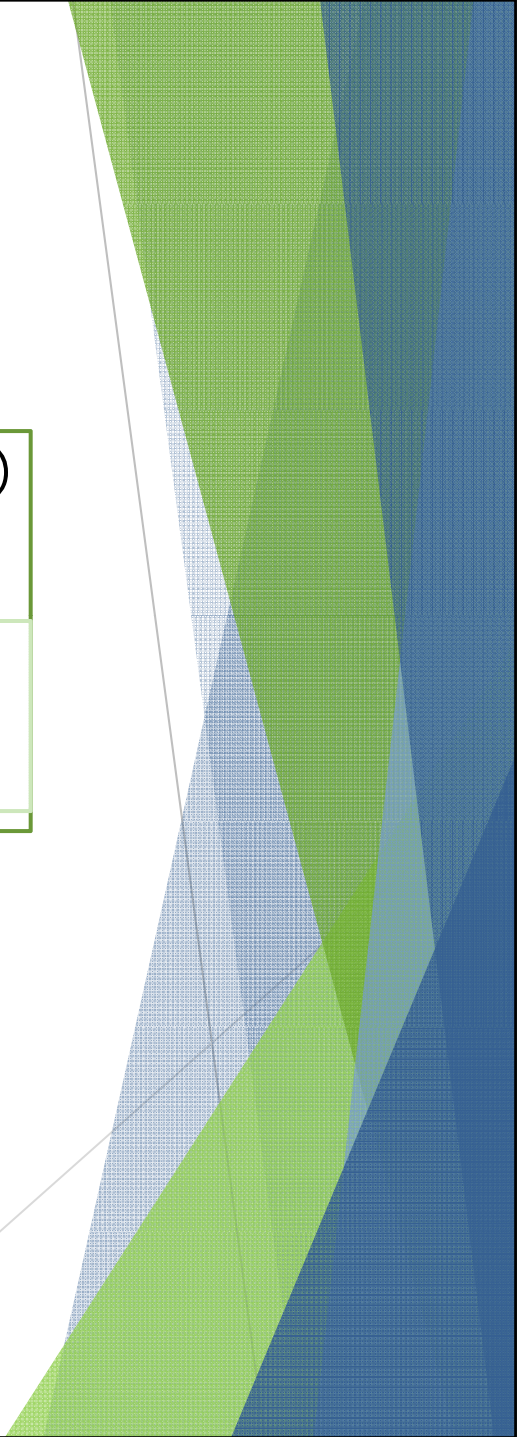
Citizen demand for improved quality at lower cost

DO MORE WITH LESS

What is Lean?

▶ Set of tools to improve operations by engaging employees in continuous improvement

▶ Method to assist with identifying and reducing waste and defects within processes

▶ Emphasis on efficiency, reducing cost and time, taking action
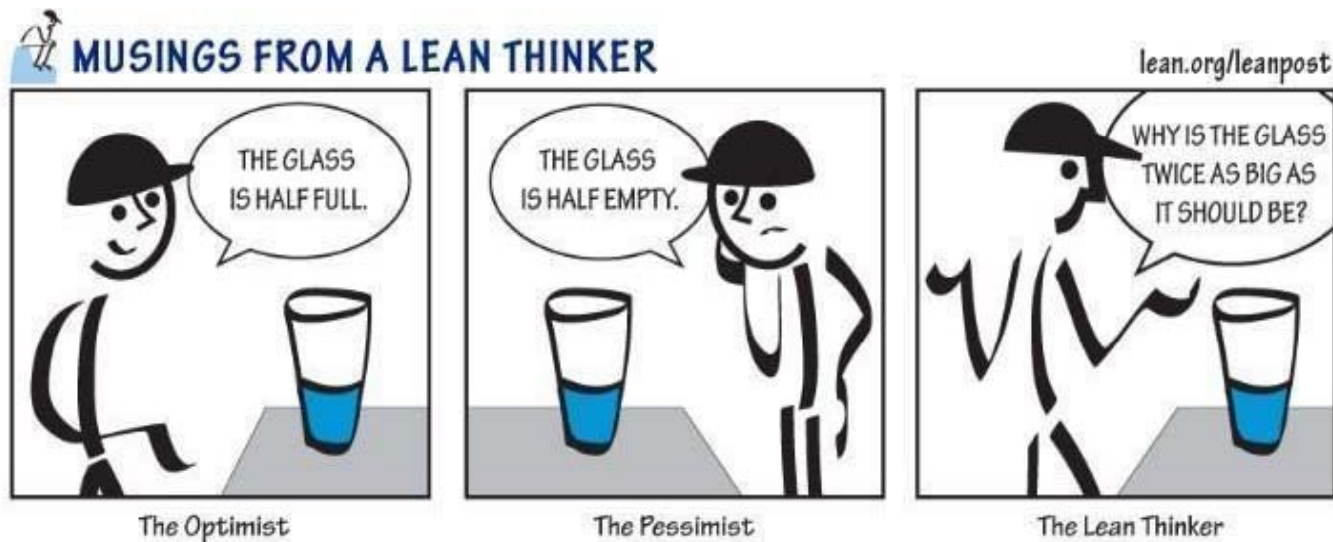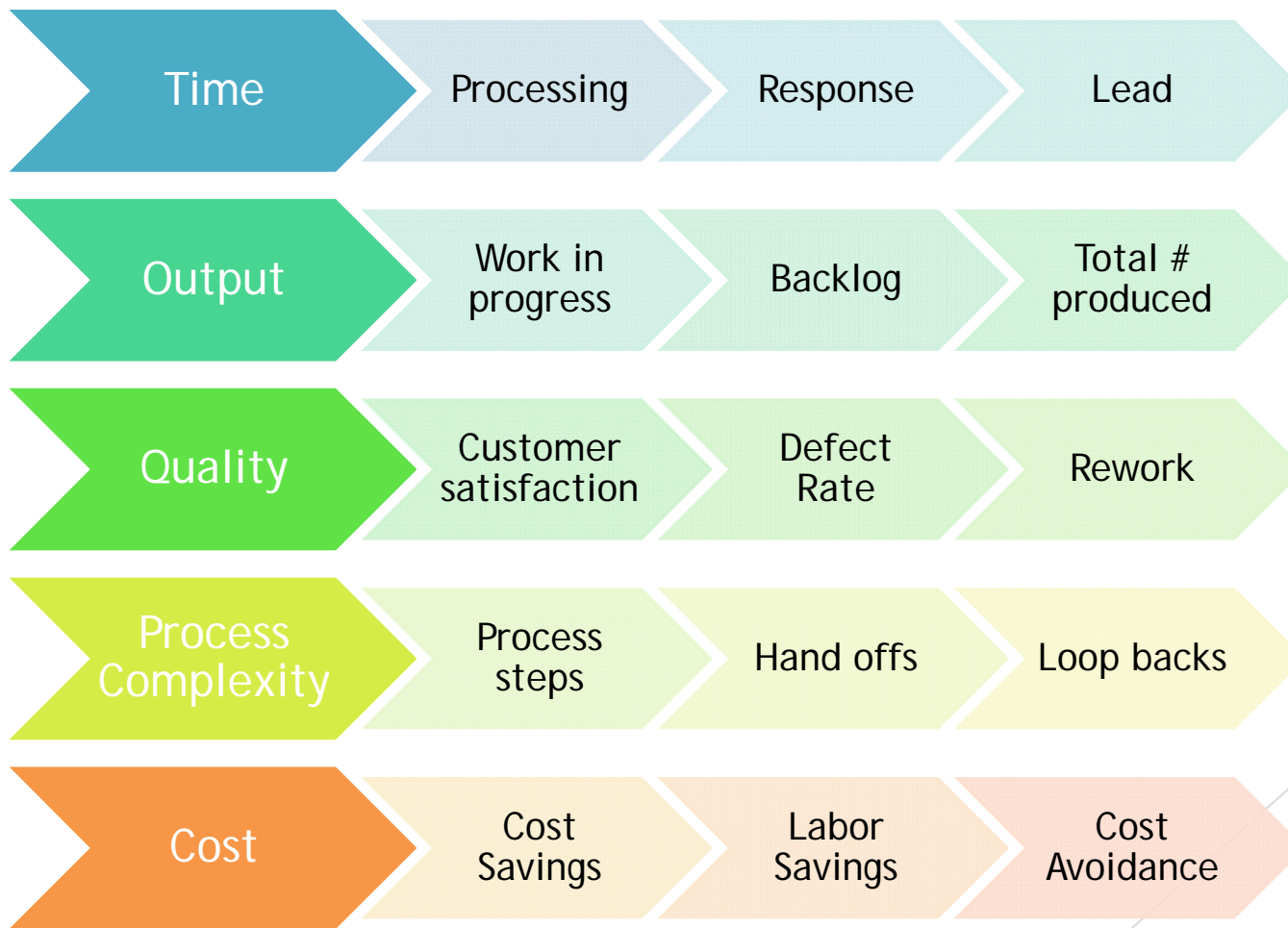
Why Focus on Examining Processes?

Nearly every tangible output (service or product) is created as the result of processes or series of processes (a system).

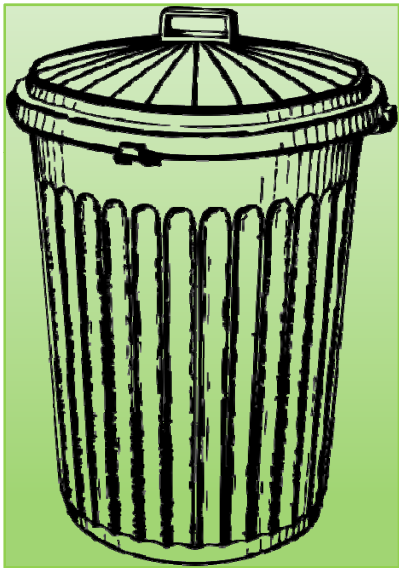Most opportunities to improve outputs while reducing time and cost lie within the process itself.

"A bad process will beat a good person every time."

-W. Edwards Deming

Key Metrics for Process Improvements

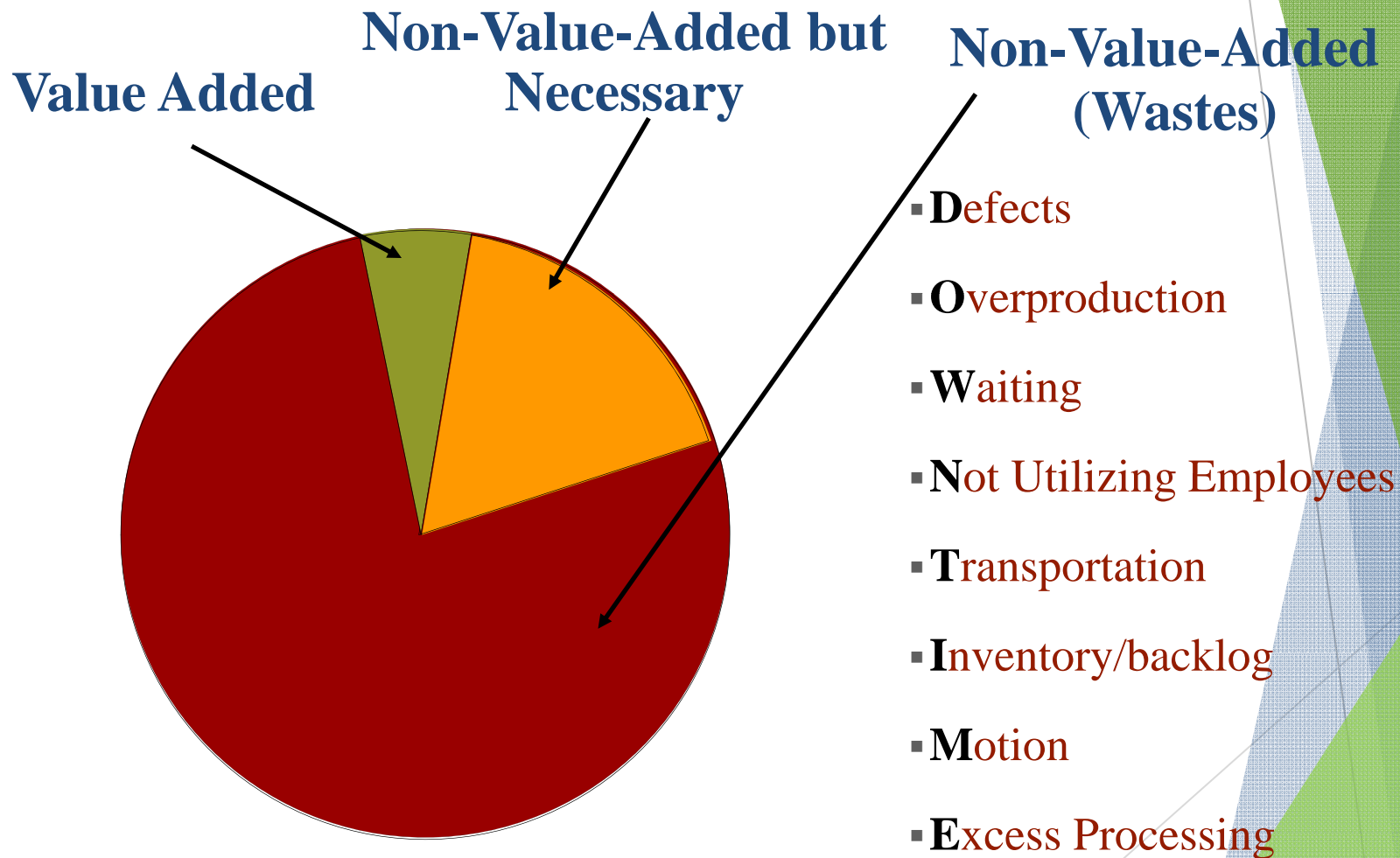| Time	Processing	Response	Lead
Output	Work in progress	Backlog	Total # produced
Quality	Customer satisfaction	Defect Rate	Rework
Process Complexity	Process steps	Hand offs	Loop backs
Cost	Cost Savings	Labor Savings	Cost Avoidance

Identifying Waste in Processes

Waste = any action, task, process or product that adds time and cost, without adding value

Identifying the 8 Wastes

Value Added

Non-Value-Added but Necessary

Non-Value-Added (Wastes)

▪**D**efects

▪**O**verproduction

▪**W**aiting

▪**N**ot Utilizing Employees

▪**T**ransportation

▪**I**nventory/backlog

▪**M**otion

▪**E**xcess Processing

Typically 75-98% of lead time is non-value-added.

Common Types of Waste-Defects/ Over-Production

Defects — **Time spent doing something incorrectly, or re-work**

- Errors with data entry
- Failed inspections
- Excessive plan review changes

Over-production — **Doing more than what is needed or sooner than desired by a customer**

- Reports that no one reads
- Paper copies for files even though electronic records exist
- Unnecessary inspections

Common Types of Waste-Waiting/Not Utilizing Employees

Waiting

Idle time created when material, information, people or equipment is not ready

- Machines that are not available
- Materials or information from suppliers
- Instructions from the office or input from a supervisor

Human Skills

Not engaging employees/under utilizing skills

- Wasteful administrative tasks
- Insufficient training
- Poor communication and management

Common Types of Waste-Transportation/Inventory

Transportation — Movement of *products and information* that does not add value

- Retrieving or storing files
- Saving files in multiple locations
- Routing paper files for approval signatures

Excessive Inventory — Excess cost because too much materials/labor unutilized

- Unused fleet, copiers, or printers
- Seasonal fluctuations resulting in less demand on certain types of labor

Common Types of Waste-Motion/Excessive Processing

Motion — Movement of *people* that does not add value

- Looking for tools, parts, and equipment to perform a job
- Looking for office supplies
- Inspectors driving to job sites

Excessive Processing — Doing *more* work than is necessary to satisfy the customer requirement

- Multiple signatures
- Re-entering data and duplicated data
- Reports that staff spend excessive time formatting

Common Types of Waste-
Are You Ready to Apply It?

Identify a process within your organization that may benefit from a Lean review.

- Is it a long process with many tasks?
- Several hand-offs?
- Re-work required?
- Repetitive work by several different people?
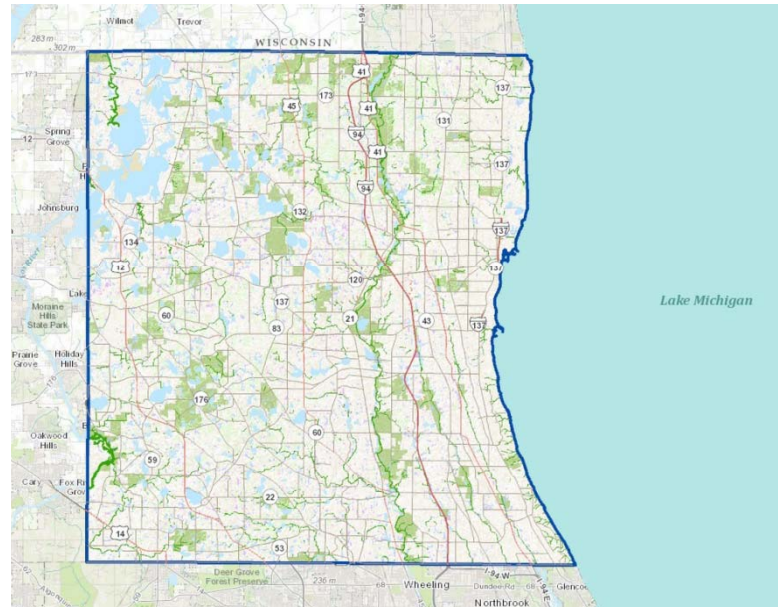- Manual data entry or tracking?

Lake County Planning, Building & Development (PBD)

LEAN in ACTION

About Us

- 703,462 Residents Countywide

- 82,520 Residents in unincorporated areas

- 470 square miles

- 43 employees (7 dedicated to CDBG program)

- PBD Budget $4,069,460

- Department Subsidy $1.6M

Lake County PBD-Background

2015:
Launched
"Fix What
Bugs You"
program

2013: PBD
employees
participate on
process
improvement
teams

2011 – 2012:
PBD works to
drive costs
down, service
levels up

2010: PBD
transitions
to an
Integrated
Service
Delivery
model

2009:
Economic
downturn
forces
PBD to
become
more
efficient

Fix What Bugs You Program

45 Day Challenge

Employees submit ideas for improving processes.

Purpose

Improve job satisfaction by coming up with ways to "fix what bugs you"

Goals

➢ Enhance collaboration

➢ Simplify processes

➢ Build capacity

➢ Improve customer service

➢ Improve quality

➢ Boost employee morale

Submission Form

PBD Fix What Bugs You Program-
Status of Submissions
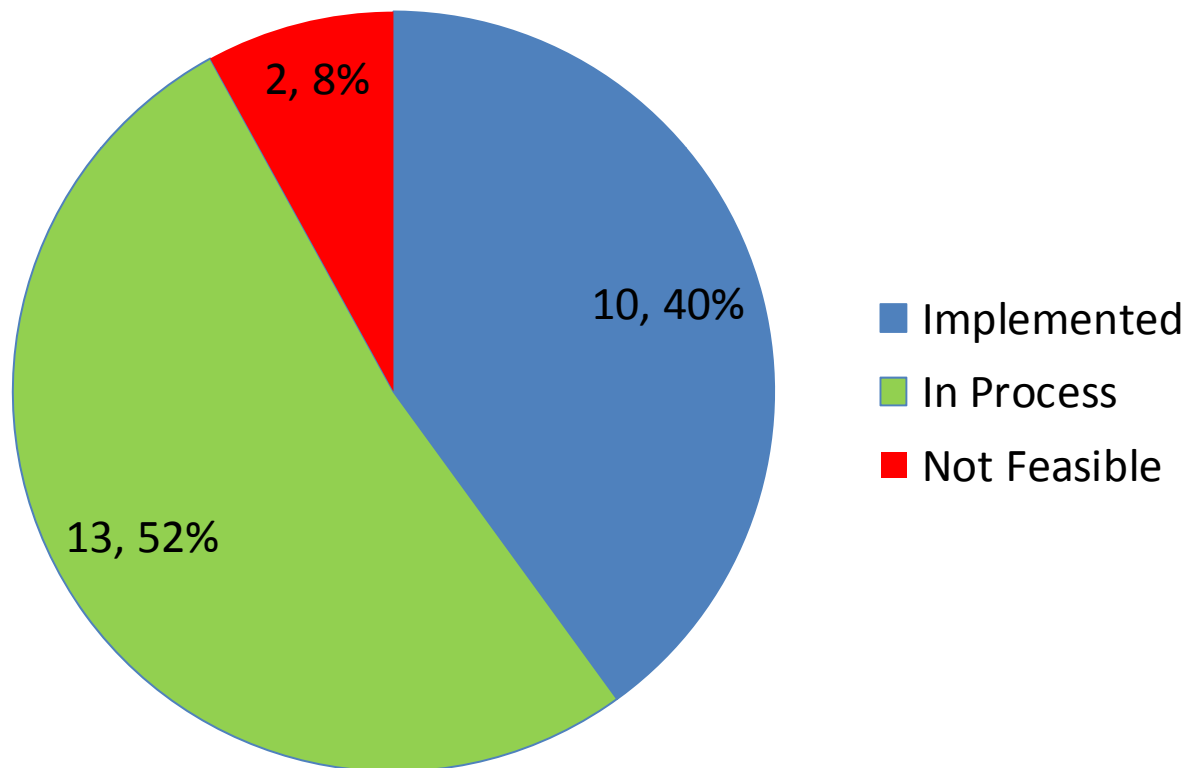
PBD Process Improvement-
Daily Bank Deposit and Entry into ERP System

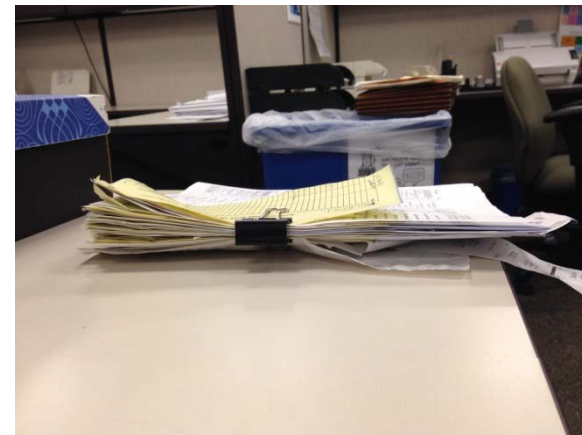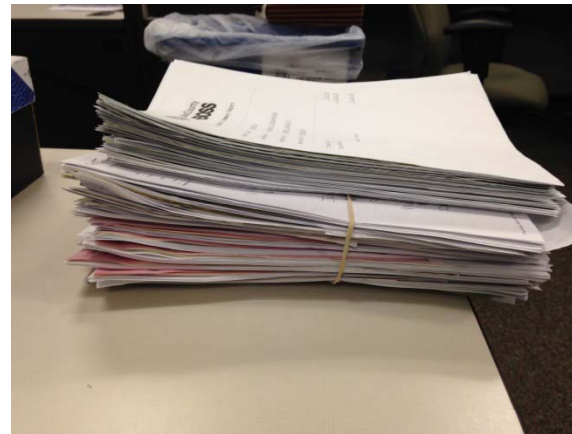| Problem	Solution
Process is duplicative, contains manual tabulations, and is paper intensive	Reviewed process and eliminated non-value added steps such as printing copies of batch receipts
Processing time ranges from 70 minutes – 2 hours daily	Modified daily cash balancing report to eliminate manual tabulations
Waste: Defects, Over-Production, Human Skill, Motion, Excessive Processing	Worked with IT to develop a process to automate cash receipts creation in Oracle

PBD Process Improvement-
Daily Bank Deposit and Entry into ERP System

Results

- Reduced daily processing time from 70 minutes to 15 minutes, or 78%

- Reduced the number of steps by 24, or 53%

- Paper consumption was reduced by 6,700 pages

- Time savings =26 work days

- Labor savings = approximately $12,000

PBD Process Improvement-
Elevator Certificate Issuance

Problem

- Manual and time consuming process
- Certificates could be delayed and expire prior to receipt of a new one
- Waste: Over-processing, Human Skill, Motion, Over-Production

Solution

- Moved to an annual process
- Utilized the permit system software
- Developed reports to create certificates and invoices

Results

- Reduced processing time from 95 hours to 14 hours or 85%
- Reduced the number of printed copies from 752 to 188 or 75%
- Annual time savings= 10 work days
- Annual labor savings = $3,400

PBD Process Improvement-
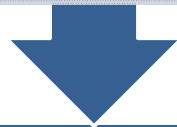# Inspector Gas Pump Options

Problem (Waste: Motion)

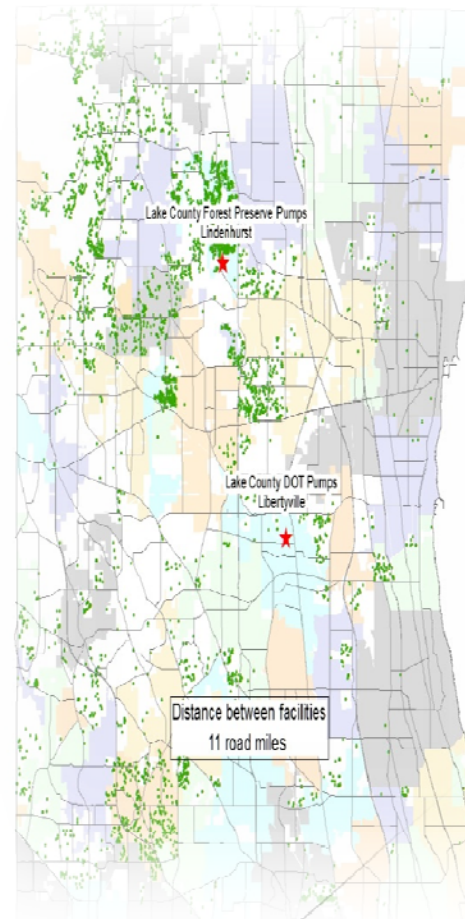Only one option for fueling vehicles = non-value added time in car

Solution

Agreement with partner agency for fueling and satellite parking

Results

Time savings = 225 hours or 28 work days

Lake County Forest Preserve Pumps
Lindenhurst

Lake County DOT Pumps
Libertyville

Distance between facilities
11 road miles

PBD Process Improvement- Inspections for Properties in the Floodplain

Problem

- Duplication of work –sent out site development and building inspector
- Non-value added work for inspector coordination
- Waste: Over-production, excessive processing, motion, human skill

Solution

- Eliminate need for two separate inspections by cross training

Results

- Reduced non-value added inspections by 26 annually
- Annual time savings = 52 hours or 6.5 work days
- Annual labor savings = $2,900

PBD Other Process Improvements-Underway

- ▶ Fee Schedule Simplification
- ▶ Nuisance Violations-warning process change
- ▶ Residential Deck Permits
- ▶ CDBG Eligibility Mapping Tool

Lessons Learned

Create an environment that is excited about continuous improvement

Ensure employees have proper support to develop ideas

Provide incentives for participation

Develop a method for prioritizing ideas (Impact/Effort Matrix)

Ensure proper communication regarding status of ideas

Celebrate each success

Questions