

Lean Tools  
Day 3: Module 2

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### Lean Project Roadmap

Preparation	Level Setting	Current State: Make the Invisible Visible	Improvement Design	Implement and Action	Control and Sustain
Scoping and SIPOC	Team Formation	Current Process Map	Brainstorming and Evaluation	Implementation Plans - Action Registries	Reporting - Celebration
Project Charter	Consensus on Project Charter at SIPOC	<b>Lean Tools</b>	Lean Principles in Process Design	Poka-Yoke	Project Management
Identify Team	Review Baseline Data	Identification of VA, NVA, NVAN	Clean Sheet Redesign	Visual Management - Dashboard	Change Management
Data Collection Plan (Baseline Data)	Data Analysis	Analysis of Current State	Future State	Project Savings	Monitoring and Follow-up

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### What is Lean?

Lean is defined as a systematic approach to identifying and **eliminating waste** through:

- Continuous improvement
- Sequencing the service or product at the pull of the customer

**Lean focuses on speed without sacrificing quality for the customer**

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**Seven Key Principles of Lean**

1. Define value in the eyes of the customer
2. Identify the process for a service or product
3. Create continuous flow without interruptions
4. Reduce defects in services or products
5. Let customer pull what they want
6. Pursue perfection (Six Sigma)
7. Eliminate or reduce variation

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**Variation is Evil**

- Variation=lack of standardization
- Common causes of variation:
  - Missing information
  - Unsure of the answer
  - Lack of training
  - Non-standard lists, signs, manuals

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**Batching**

- **“BATCHING is the enemy of speed.”**  
-Miller

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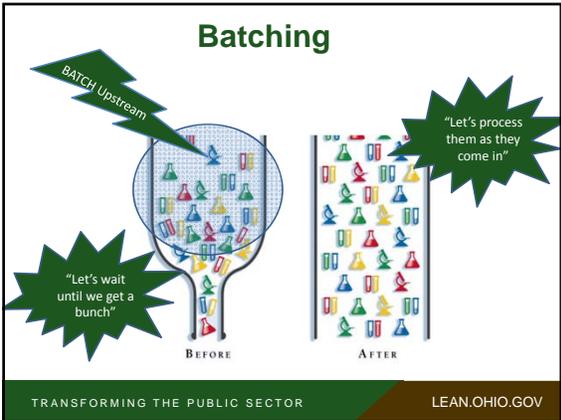
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**Push vs. Pull**

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### Push vs. Pull

<b>Push</b> Produce records and sell them to the public	<b>Pull</b> Choose a song and download to an iPod
	

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### Pull

- The customer is in charge - what they want, when they want it
- Reduces overproduction, inventory and over processing
- Flexibility = "ready when they are"
- Reduces waste and backlog
- Drastically increases customer satisfaction



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### Pull

- Coke vending machine delivers Coke when I want
- Grocery store shelves dispense products when I pull one off the shelf
- On-line vehicle registration
- I want to do business with the state



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**Visual Management**

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**Think Basketball:  
Do You Know the Score!**

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**Visual Management**

- See results
- Allows for early detection/correction
- Keeps focus
- Gives direction
- Rewards success
- Tracking/monitoring

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### Visual Controls

The workplace is set-up with simple signals, such as signs, labels, color-coded markings, etc. to help know:

- What is going on
- Understanding of the process
- What is being done correctly
- What is out of place

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### Visual Controls

- Supply feedback:
  - Helps keep things running safely, smoothly, and efficiently
  - Allows the people operating the process to stay on target
- Examples:
  - Schedule or status boards
  - Color-coded files / transactions
  - Appropriate signage to direct people to areas

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### Filling in the Task Lists

- Color (or fill in electronically) the status of YOUR task
  - Complete the status update BEFORE the weekly update meeting

○ Proposed Start	<span style="background-color: #00FF00; padding: 2px;">On Schedule</span>
● Actual Start	<span style="background-color: #FFFF00; padding: 2px;">Slipping</span>
△ Proposed Finish	<span style="background-color: #FF0000; padding: 2px;">Late</span>
▲ Actual Finish	
◇ Review	

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# Visual Management Examples

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## ODOT



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## Visual Management in Office Areas



**Customer Service Center**

Uses monitors for tracking:

1. Employee 'status' – available, not available
2. Current customers in queue
3. Longest current 'hold' time

Also – Visible 'Escalation' for customers on 'hold' beyond targeted time

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### ODOT: Monitor Projects



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### Accounting Visual Management



**Color Coded - Alert Files**

**ORANGE**  
ATR > 60 days old  
Credits > 60 days old

**RED**  
Invoice Issues (3 way match)  
Expense and Inventory Folders

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### Marketing & Sales Implementation



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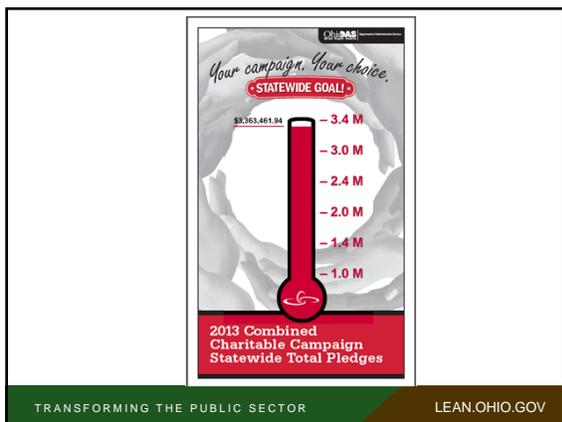
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### First Time Quality

- Never passing a defect on to the next process or person
  - Fix immediately
  - Find root causes
- Building a system with appropriate information
- Building poke-yoke (mistake-proofing) devices for common problems
- Establishing clear decision rules

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### Standard Work Exercise:

1. Use the blank side of the paper
2. Draw a picture of a pig with:
  - Nose - Nostrils
  - Mouth - Eye
  - Four legs - Body
  - Tail - Two ears
3. Must complete the drawing in 40 seconds per customer demand
4. Display your drawing after completing the picture for final inspection

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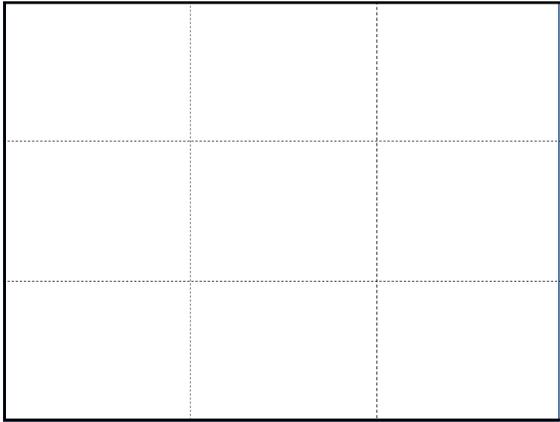
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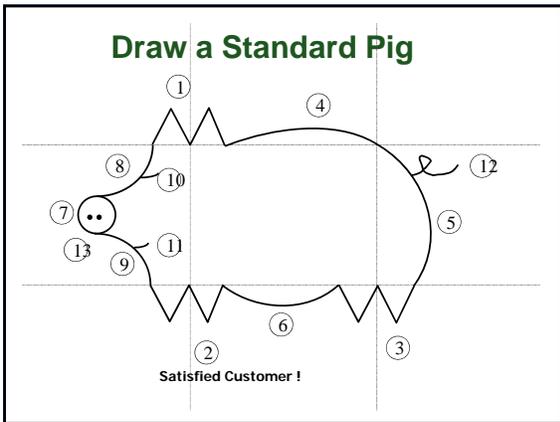
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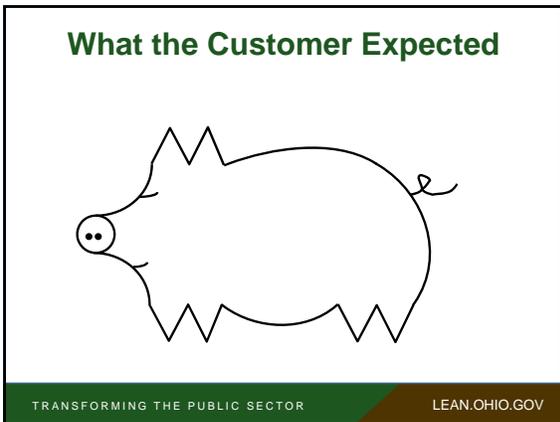
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**Processes Should be Standardized**

- Customer must always get the same answer no matter who they ask
- Customer must get the same answers no matter what time of the day, or day of the week they ask
- Customer must always get on-time, complete, and accurate information

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**A Standard Process Is...**

- The best combination of people and resources balanced to customer requirements
- **Efficient:** using the minimum amount of people, space, materials, and equipment while meeting customer requirements

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**Standard Processes**

**Why Implement Standard Processes?**

- To make it possible to identify and eliminate variations in work
- To deliver consistent service to citizens

**How Do You Use Standard Processes?**

- Document each standard process
- Display the documentation
- Ensure that all staff are trained

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### Things to Consider

- Where should decisions be made?
- What knowledge or skills are truly required to perform the steps?
- Can the steps be simplified so they are less dependent on knowledge and skills?

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### Standard Work – Make it Work

- Each operation is analyzed at a 1,000 foot level
- Employees are given the tools they need to work efficiently and quickly
- Process should be documented in writing and with photos
- Standard Work provides the baseline for continuous improvement and stability through reduced variation

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### Standard Work – Make a Big Mac



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### Standard Work: Process

- The sequence or order to produce the service
- The expected time to complete the steps based on the lowest repeatable time observed
- Criteria and expectations on quality provided

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### Work Structure Principles

- Design process around value-adding activities
- Work performed where it makes the most sense
- Provide single point of contact for customers and suppliers
- If the inputs coming into the process naturally cluster, create a separate process for each cluster

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### Work Structure Principles (2)

- Ensure a continuous flow of the "main sequence"
- Reduce waiting, moving, and rework time
- Reduce or eliminate batching
- Reduce checks and reviews
- Push decision-making down to the lowest reasonable level
- Build quality in to reduce inspection and rework

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**Questions on Lean Tools?**

- Batching
- Push vs. Pull
- Visual Management
- First Time Quality
- Standard Work
- Work Structure Principles

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