

# **Lean: From Theory to Practice**

## ***One City's (and Library's Lean Story... Abridged)***



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Frisco Public Library

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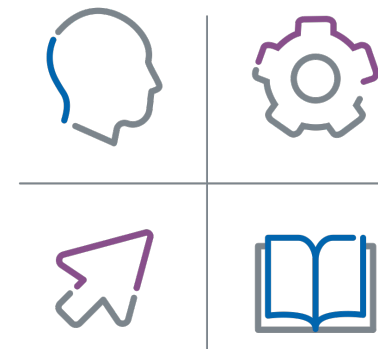
# About Elizabeth Chase

- Started with City of Frisco 2003
- Roles have included:
  - Adult Services Reference Librarian
  - Cataloger
  - Senior Librarian
- Member of the Frisco Lean Team Steering Committee
  - Teaches Lean class for the City



# Lean: From Theory to Practice

One City's (and Library's) Lean Story... Abridged



**FRISCO**  
PUBLIC  
LIBRARY

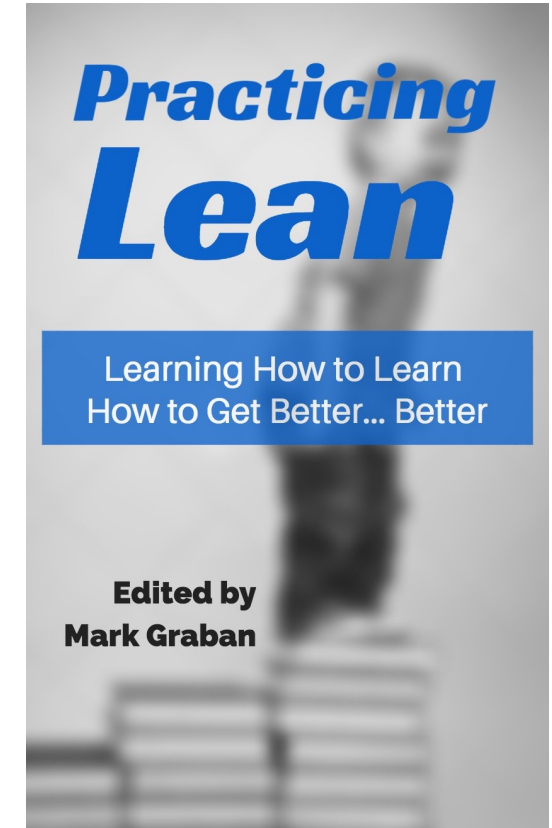
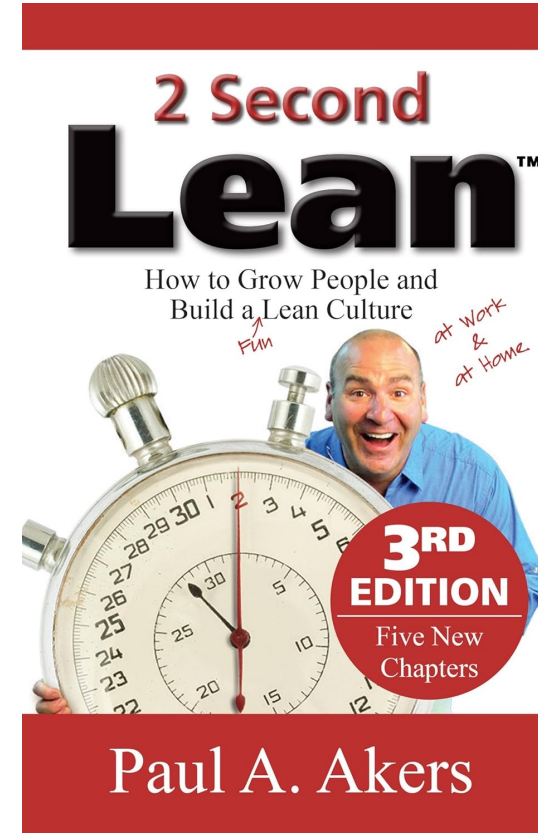
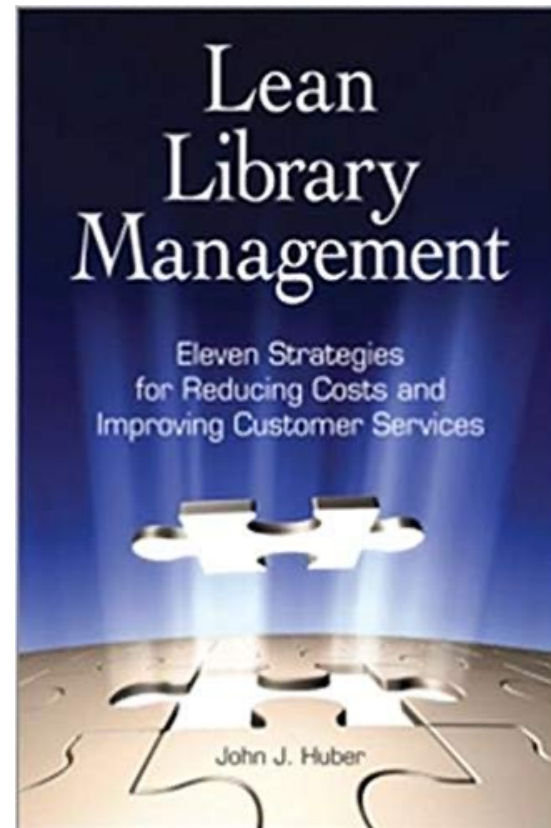
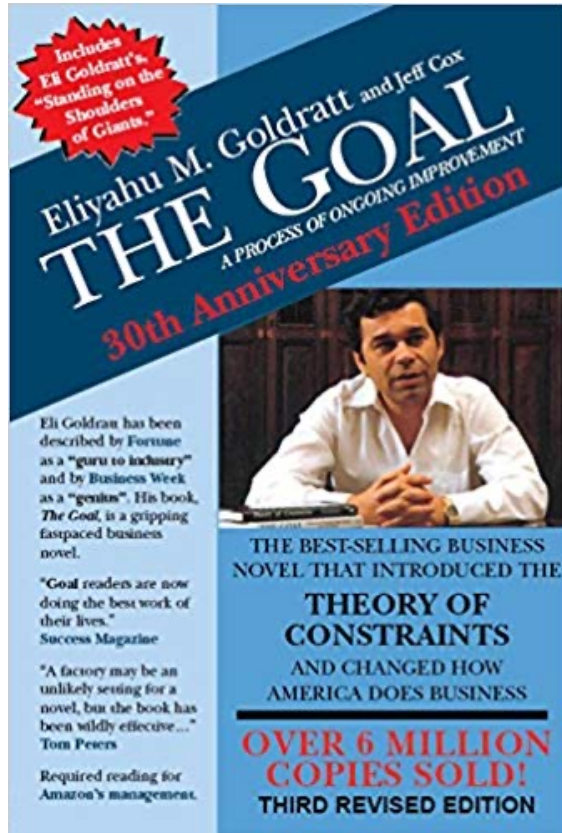




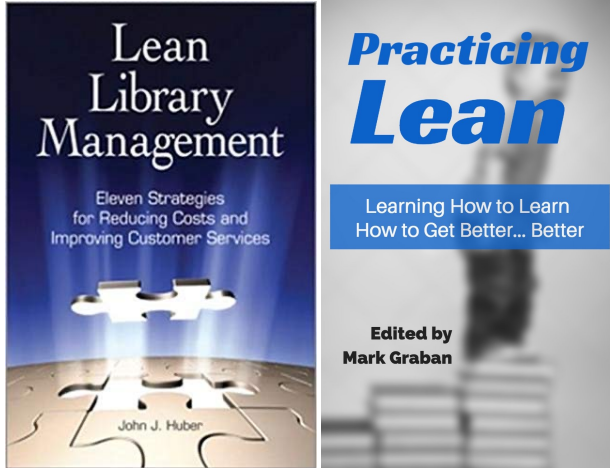
2013



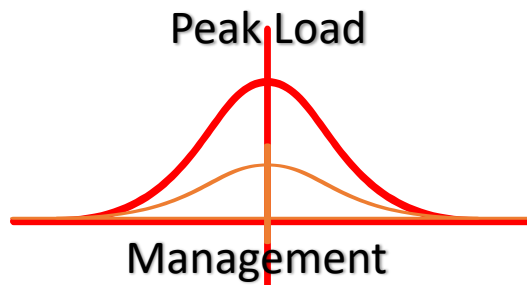
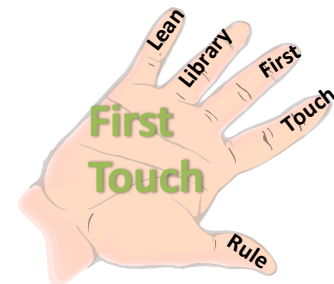
# Bookish Beginning



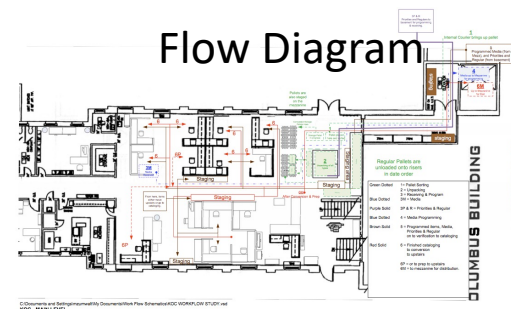
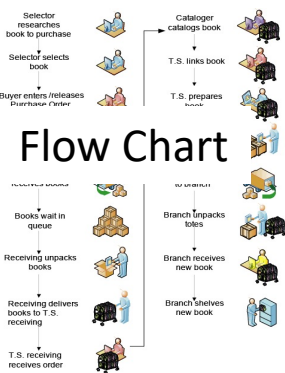
# Lean Library Learning



Tools



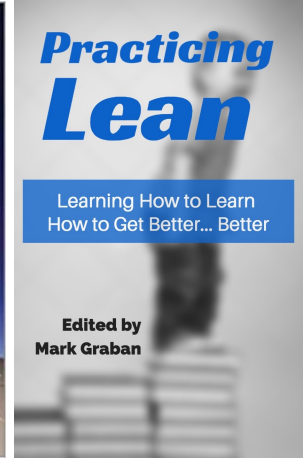
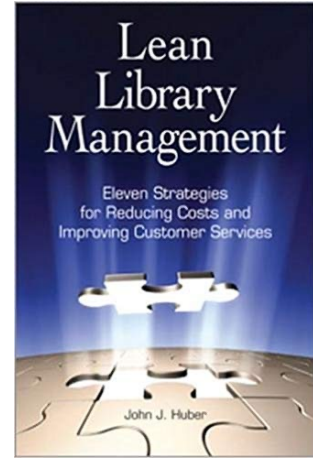
ABC  
80/20





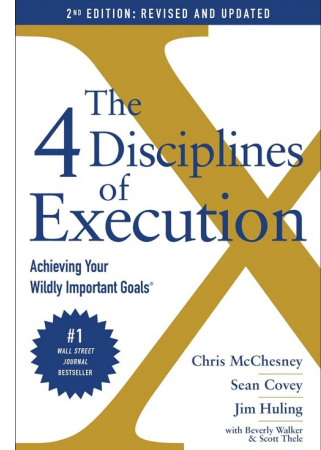


## Reduce Batch Size



# Keep Score (aka Track Data)

	Date	Day	Check-ins + In-house	Checkouts	Shelving Hours	Items/hr	<24hr carts	Total carts	% <24hr	Avg reshelve	Shelf Reading (goal 87/mo)	New Holds	Holds % Found
<b>MAR</b>	<b>Total/Average</b>		<b>114,576</b>	<b>103,498</b>	<b>898.65</b>	<b>171</b>	<b>2,738</b>	<b>2,917</b>	<b>94%</b>	<b>11:06</b>	<b>84.50</b>	<b>8,500</b>	<b>87%</b>
<b>APRIL</b>	Apr-01	Mon	7,747	5,983	36.00	151	104	105	99%	11:52	2.25	467	82%
	Apr-02	Tue	4,165	3,186	48.25	156	145	145	100%	15:44	0.00	493	82%
	Apr-03	Wed	3,259	2,500	39.75	164	130	130	100%	10:38	11.50	246	87%
	Apr-04	Thu	3,133	2,022	33.00	154	102	102	100%	6:36	9.50	345	94%
	Apr-05	Fri	2,906	2,168	20.50	184	76	76	100%	7:48	0.00	298	87%
	Apr-06	Sat	5,503	5,434	25.25	168	81	81	100%	9:03	2.00	236	92%
	Apr-07	Sun	6,072	5,166	25.25	166	77	78	99%	18:55	0.00	257	78%
	Apr-08	Mon	2,623	2,185	34.00	151	46	96	48%	16:00	0.00	214	84%
	Apr-09	Tue	3,322	2,779	29.75	156	56	87	64%	20:51	0.00	256	85%
	Apr-10	Wed	3,071	2,436	39.00	147	63	119	53%	19:48	6.00	235	90%
	Apr-11	Thu	3,646	2,709	29.75	202	118	118	100%	11:00		395	90%
	Apr-12	Fri	2,670	2,030	21.75	152	63	63	100%	11:33	0.00	209	95%
	Apr-13	Sat	4,636	4,556	24.50	170	74	79	94%	11:50	2.00	283	88%
	Apr-14	Sun	4,524	4,564	24.50	188	88	88	100%	15:36	0.00	278	86%
	Apr-15	Mon	3,581	2,891	37.00	169	123	123	100%	15:26	0.00	339	93%
	Apr-16	Tue	3,119	2,460	32.73	167	104	106	98%	14:54		0	88%
	Apr-17	Wed							0%			0	0%
	Apr-18	Thu							0%			0	0%
	Apr-19	Fri							0%			0	0%
	Apr-20	Sat							0%			0	0%
	Apr-21	Sun							0%			0	0%
	Apr-22	Mon							0%			0	0%
	Apr-23	Tue							0%			0	0%
	Apr-24	Wed							0%			0	0%
	Apr-25	Thu							0%			0	0%
	Apr-26	Fri							0%			0	0%
	Apr-27	Sat							0%			0	0%
	Apr-28	Sun							0%			0	0%
	Apr-29	Mon							0%			0	0%
	Apr-30	Tue							0%			0	0%
<b>APR</b>	<b>Total/Average</b>		<b>63,977</b>	<b>53,069</b>	<b>500.98</b>	<b>165</b>	<b>1,450</b>	<b>1,596</b>	<b>91%</b>	<b>13:35</b>	<b>33.25</b>	<b>4,551</b>	<b>88%</b>







# Lean Libraries

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Improvement videos from libraries on a journey of continuous improvement. We have been... >

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## Lean Cabinet

Because I wanted a place to hang my sweater

0:16

Lean Libraries - Lean Cabinet

77 views · 5 years ago

## 3rd Floor Workroom

35 Lean Improvements

0:51

Lean Libraries - Copier Workroom

33 views · 5 years ago



## Light Switch Bright Idea

A "Fix What Bugs You" improvement

0:21

Lean Libraries - Light Switch Labels

76 views · 5 years ago

## Power Problems - Solved



1:24

Lean Libraries - Board Room Improvements

47 views · 5 years ago

## Toner Location After



Color-coded labels make it easy to know what we have, what we need, and where it belongs.

0:36

Lean Libraries - Toner Storage

38 views · 5 years ago

## The Box: A Horror Story

By: Diane Wheeler

0:59

Lean Libraries - Celebrations Box

46 views · 5 years ago

## The Process



- The "scan/shred" sticky note was for former staff documents. These were all organized by employee and scanned into a digital file. After scanning, the physical copies were shredded and recycled.
- The "shred" pile was immediately shredded and recycled as they no longer served any purpose.

0:59

Lean Libraries - Filing Cabinet Bottom Drawer 3S

52 views · 5 years ago

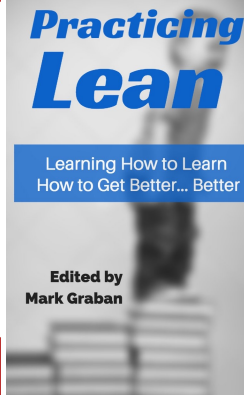
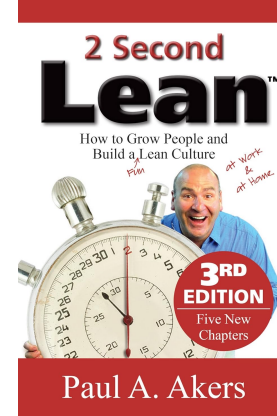
## BROWSER SCREEN CAPTURE

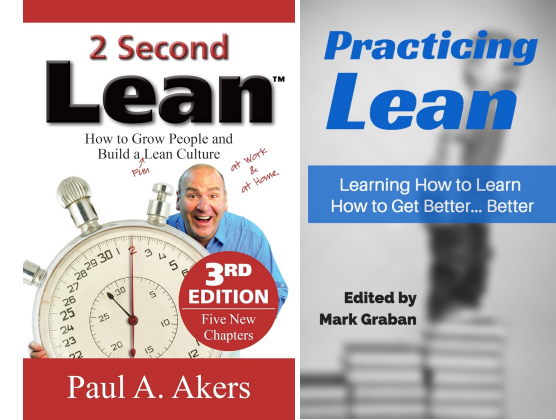
GRAPHIC DESIGN

1:24

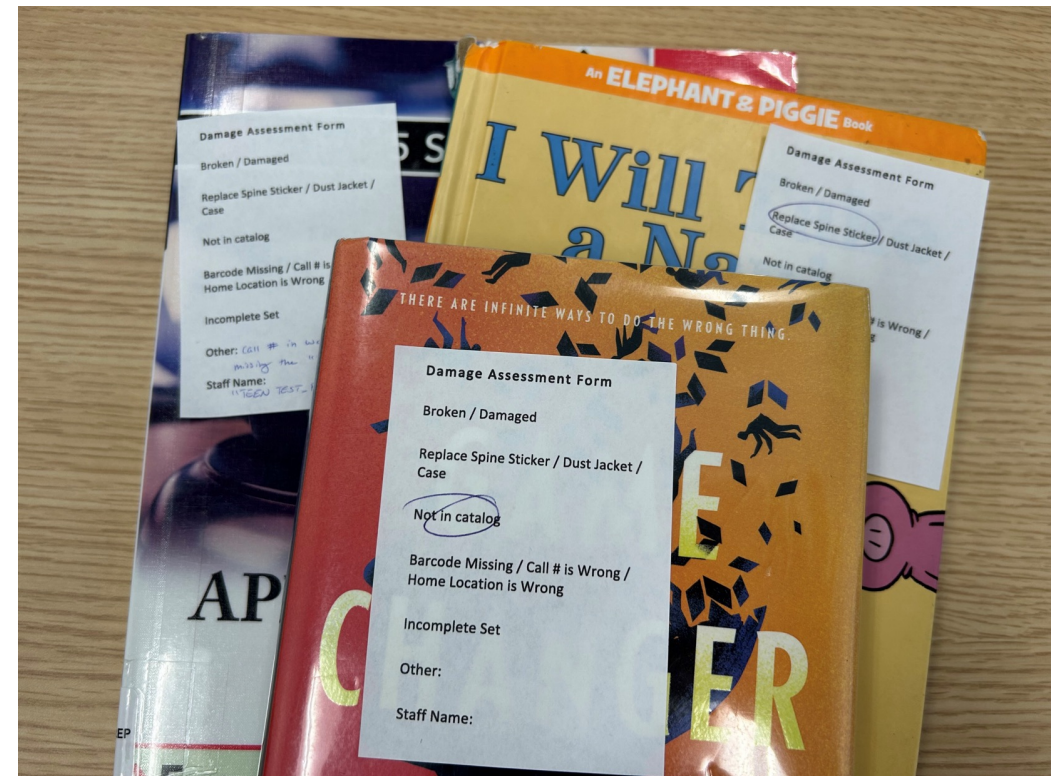
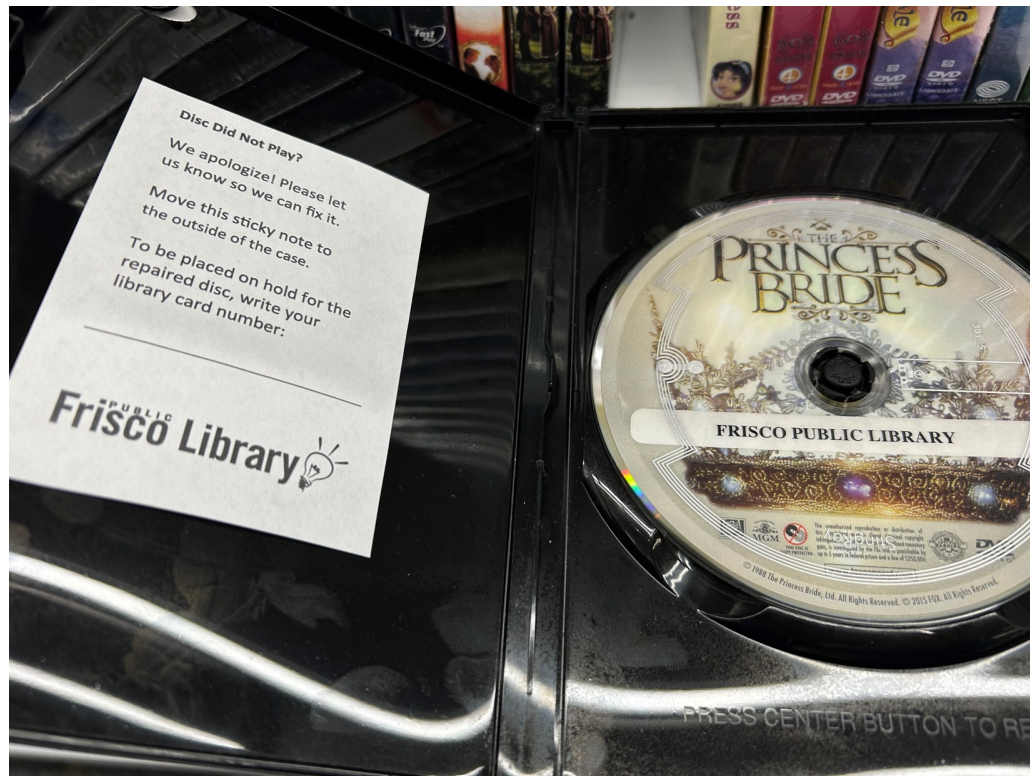
Lean Libraries - Browser Screen Capture

42 views · 5 years ago

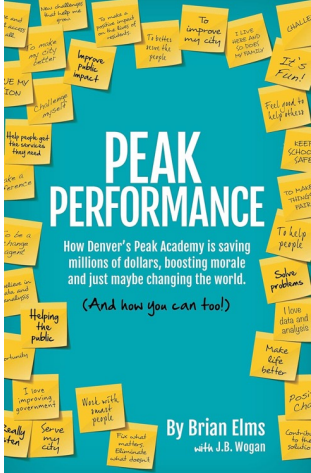




## Sticky Note Communication





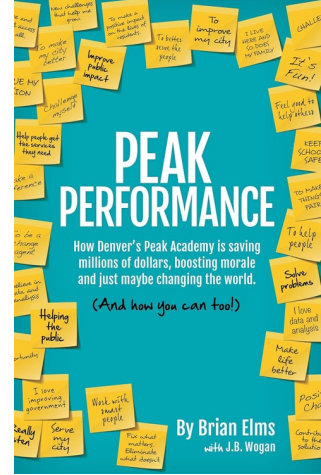


**THE FIRST RULE OF LEAN CLUB IS: YOU MUST TALK ABOUT LEAN CLUB**

2017

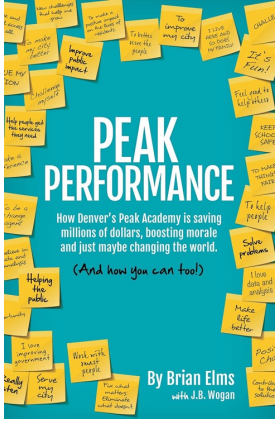
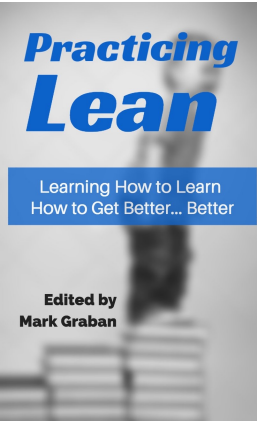
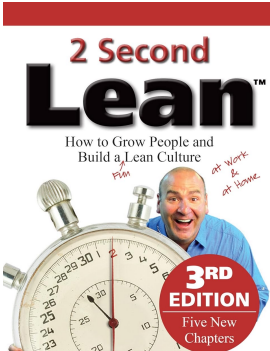
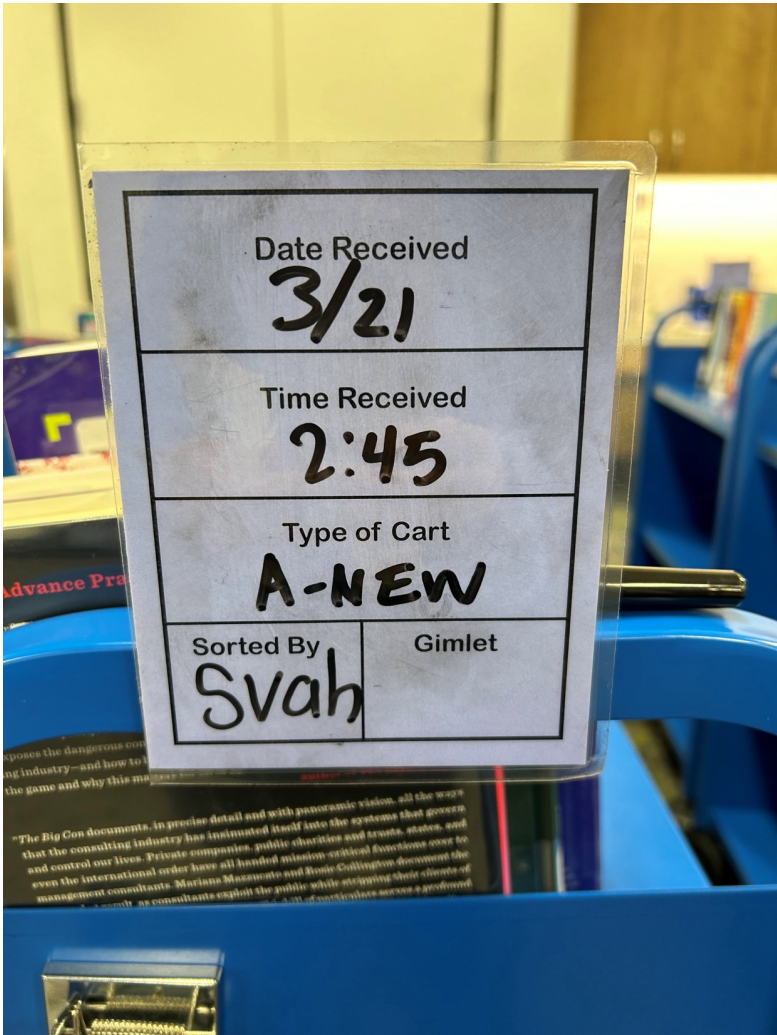
## Bronze Certification Class Outline

- What?
  - Two Pillars
    - Continuous Improvement
    - Respect for People
  - Definition
- Why?
  - Ease
  - Core Values
- How?
  - 8 Wastes
  - Process Thinking
- Tools
  - PDCA
  - 5S
  - Process Maps
  - Standard Work Document
  - A3 Forms





# FIFO Cards & Dry Erase Markers



# Statistics: October 2017 – February 2020

- 788 attended Bronze class
- 684 completed Bronze project
- 87% completion rate
- 1 Silver project completed





# Frisco Vaccine Hub Timeline

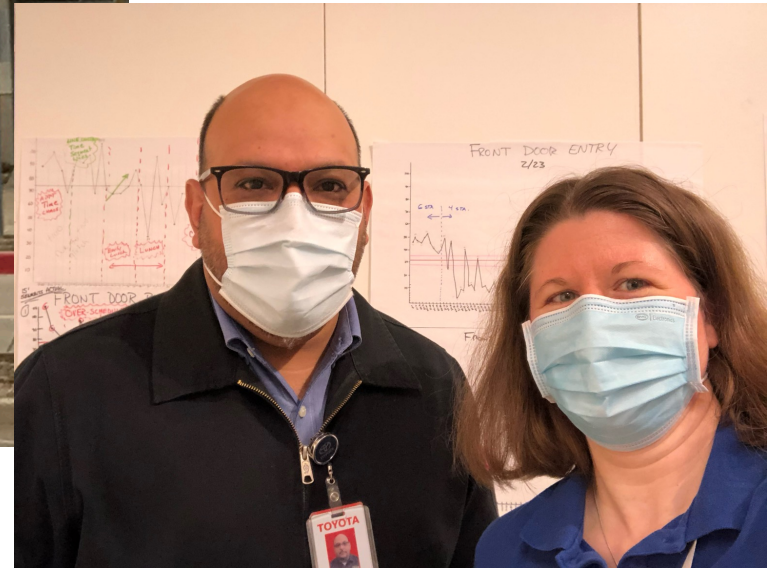
January 4, 2021 – The Idea from Above

February 2, 2021 – Toyota (TSSC) joins the Frisco Team

February 3, 2021 – Open for Business

April 15, 2021 - Last day of Operation



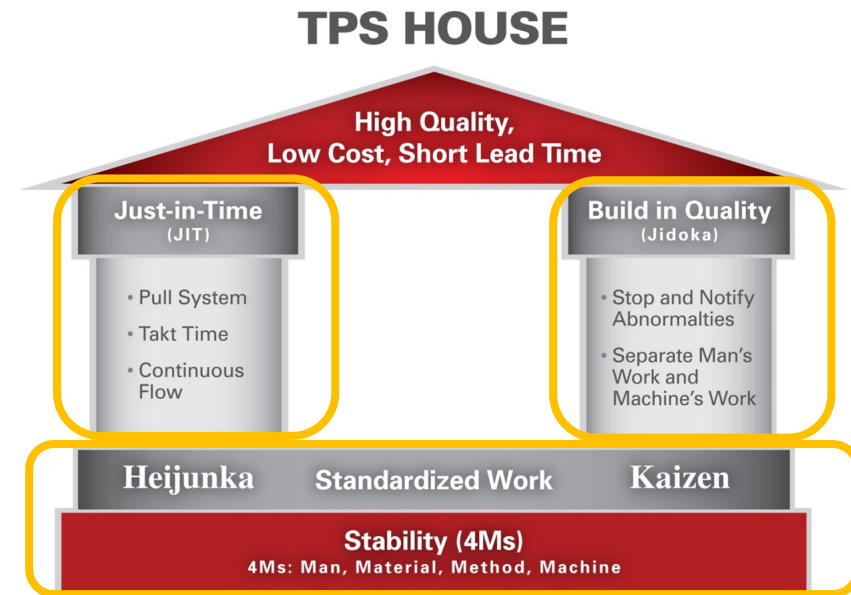




# Lessons Learned during a Global Pandemic

- Just in Time Thinking
  - Standard lot sizes
  - Clear production signals
  - FIFO
  - Production equals demand
- Eliminate Non-Value Added Work
  - Standard in process stock
  - 5S
  - Work instruction

- Create Simple Flow
  - Visual management
  - FIFO



## Stuck to the Basics

# Lessons Learned during a Global Pandemic



Dedicated, Invested Workforce

# Lessons Learned during a Global Pandemic

## City of Frisco

- Outstanding Customer Service
- Operational Excellence



## Toyota Production System

- Respect for People
- Customer first
- High quality
- Short lead time



Different Language, Shared Values



# Lessons Learned during a Global Pandemic



Mission Before Egos



[https://starlocalmedia.com/friscoenterprise/construction-kicks-off-on-a-very-frisco-library/article\\_9a043824-a225-11eb-8b09-df33a162458d.html](https://starlocalmedia.com/friscoenterprise/construction-kicks-off-on-a-very-frisco-library/article_9a043824-a225-11eb-8b09-df33a162458d.html)





2023



# Building Lean into Library Design – Flexibility

## Everything on Wheels





# Building Lean into Library Design – Flexibility

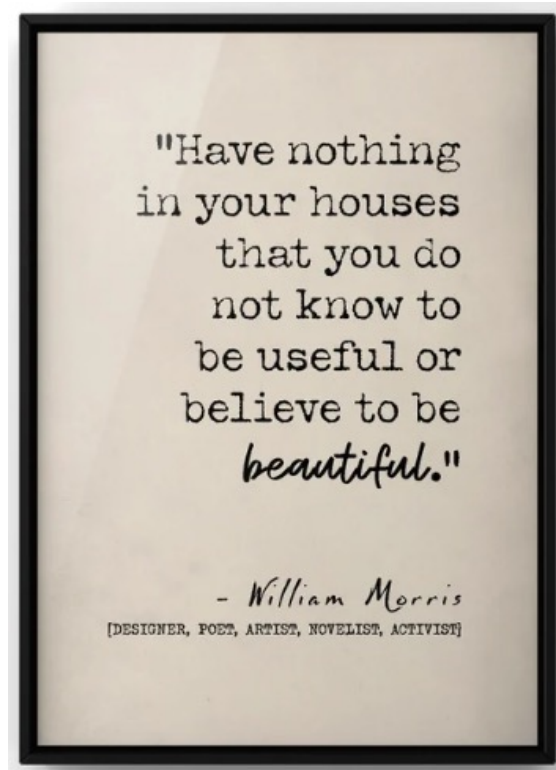
## Power Everywhere





# Building Lean into Library Design – Flexibility

## Power Everywhere





# Building Lean into Library Design – Process Thinking

## Collections Layout for Reshelving



# Building Lean into Library Design – Process Thinking

## Collection Organization for Guests





# Building Lean into Library Design – Process Thinking

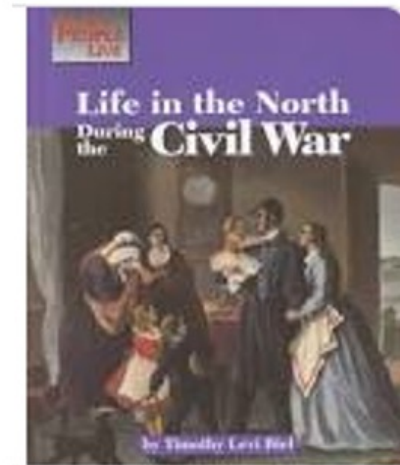
## Collection Organization for Staff

### Sorting & Shelving Rules

1. Alphabetical
2. Nothing comes before something
  1. Call numbers with a blank subdivision line come before books with a subdivision
3. Numerals come before letters
  1. 100 comes before ABSOLUTE

Life in the North During the Civil War by Timothy Biel

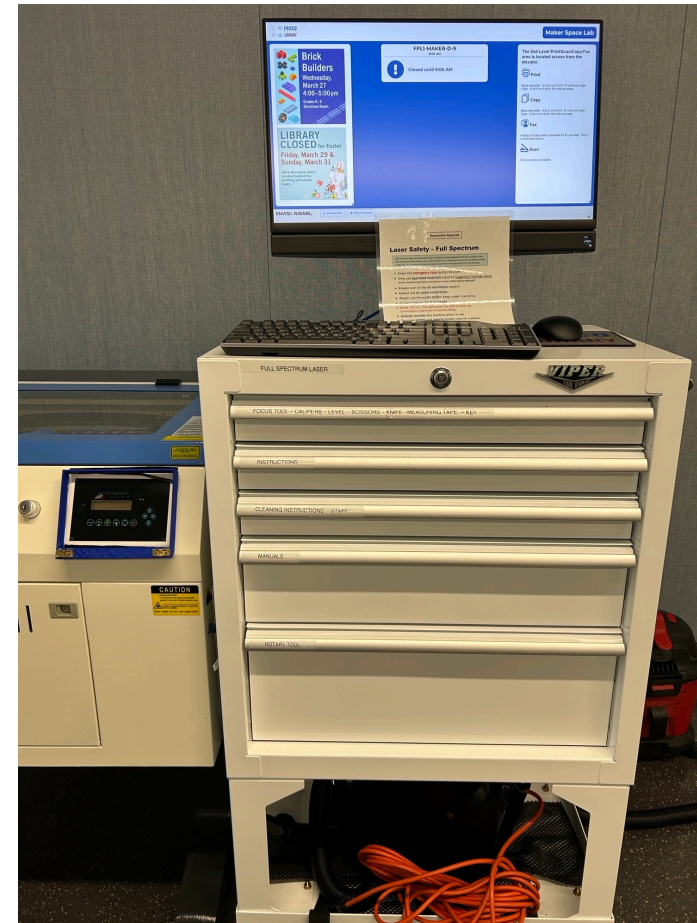
J  
HISTORY  
USA  
CIVIL\_WAR  
LIFE



# Building Lean into Library Design – Process Thinking

## MakerSpace Equipment Maintenance SWI

3	Clean brass nozzles	Remove buildup of plastic from brass nozzles with label remover tool.  May need to vacuum buildplate after cleaning nozzles.	Build up around the nozzles can damage temperature sensors if left on.  Build up at tip of nozzle can give calibration and leveling errors.
---	---------------------	--	---



# Building Lean into Library Design – Process Thinking

## Software for Managing Access to Reserved Rooms

BOOKING TYPE

Patron

CHOOSE DATE

February 2024

Su	Mo	Tu	We	Th	Fr	Sa
28	29	30	31	1	2	3
4	5	6	7	8	9	10
11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28	29	1	2
3	4	5	6	7	8	9

Today

FRISCO PUBLIC LIBRARY

Conference Room 1

9:00 am 10:00 am 11:00 am

Conference Room 2

9:00 am 10:00 am 11:00 am





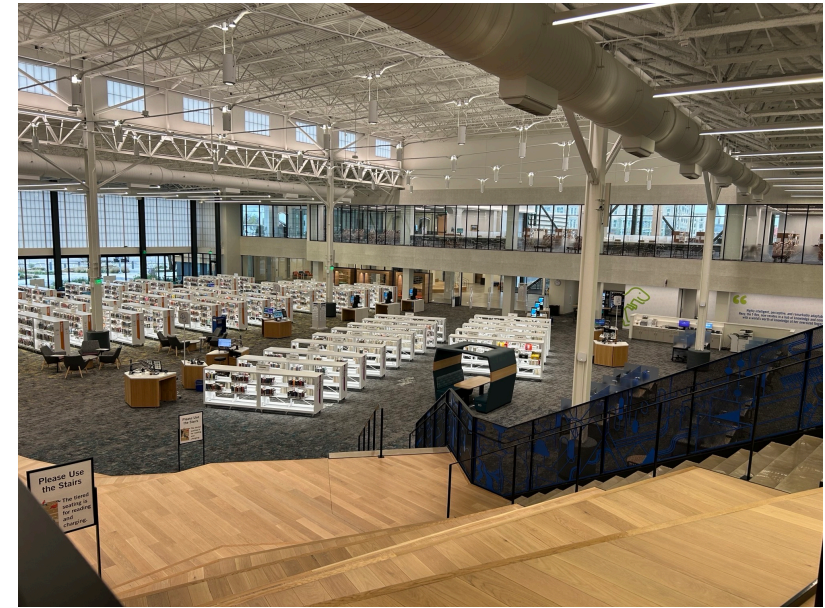
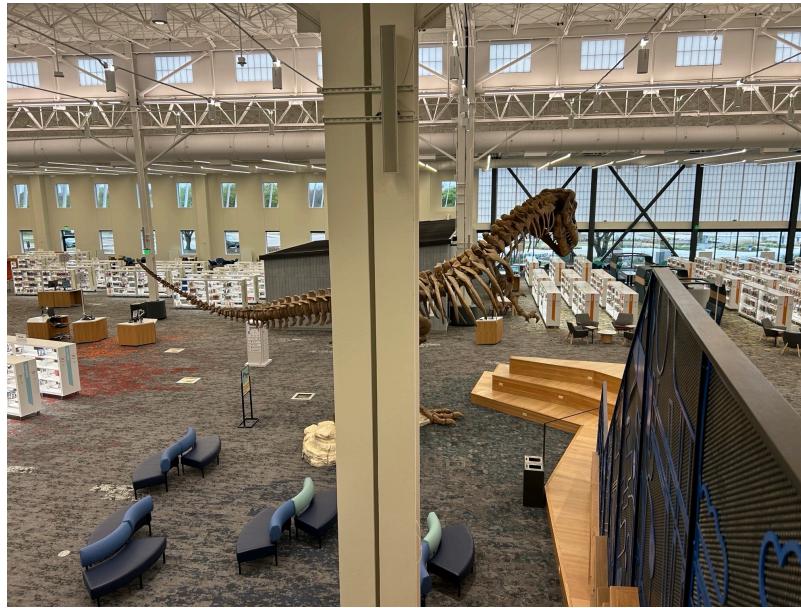
# Building Lean into Library Design – Process Thinking

## Glass-Fronted Rooms for Safety and Clearing the Building



# Building Lean into Library Design – Process Thinking

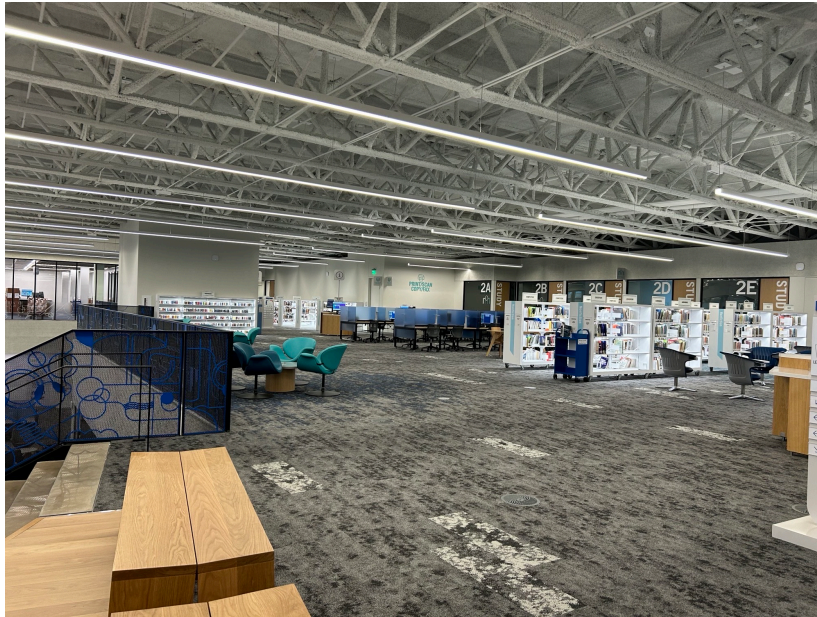
## Sightlines for Safety and Clearing the Building





# Building Lean into Library Design – Process Thinking

## Sightlines for Safety and Clearing the Building

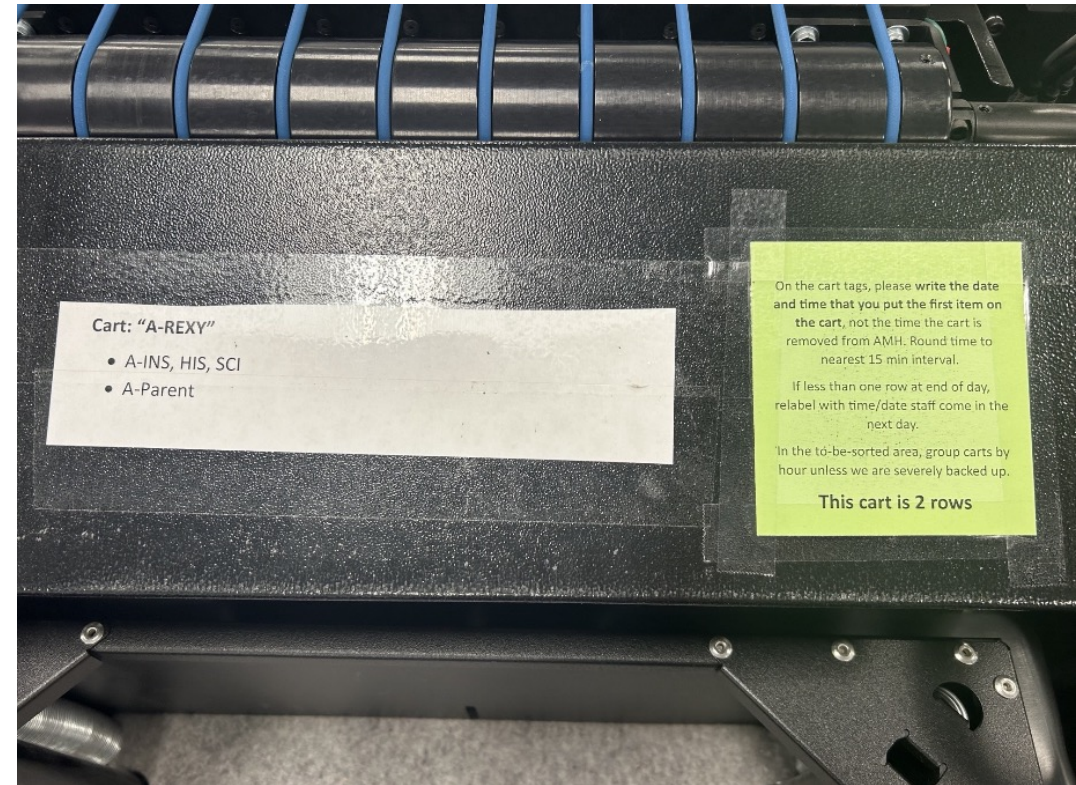




# Building Lean into Library Design – Creating Flow



## AMH (Automated Materials Handling)





# Building Lean into Library Design – Creating Flow

## Creating Flow with Automatic Staff Doors



# Building Lean into Library Design – Creating Flow

## Creating Flow with the Drive Through





# 8 FORMS OF WASTE



## DEFECTS



## WAITING TIME



## EXTRA MOTION



## EXCESS INVENTORY



## TRANSPORTATION



## OVER PRODUCTION



## OVER PROCESSING



## UNUSED TALENT

[creativesafety.com](http://creativesafety.com) | 886 777-1360

# 8 FORMS OF WASTE



## DEFECTS

Reprocessing, inspections or correcting work.



## WAITING TIME

Processing delays, downtime, bottlenecks, no parts.



## EXTRA MOTION

Unnecessary or ergonomically incorrect human motions.



## EXCESS INVENTORY

Building or storing excess raw material, WIP, or finished goods.



## TRANSPORTATION

Excessive moving of raw materials or inventory.



## OVER PRODUCTION

Manufacturing product before it is required.



## OVER PROCESSING

Adding extra value when it isn't required to satisfy the customer.



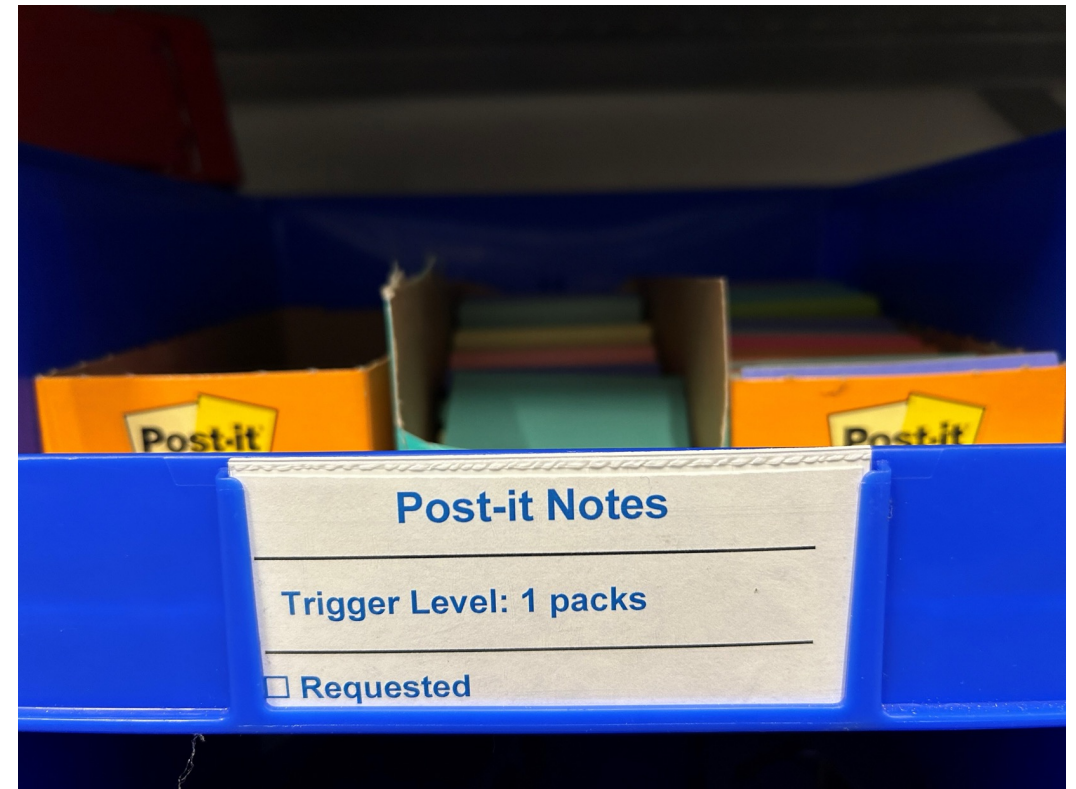
## UNUSED TALENT

Underutilized talents, skill, or knowledge.

[creativesafety.com](http://creativesafety.com) | 886 777-1360

# Building Lean into Library Design – 8 Wastes

**Over Production, Excess Inventory, Defects > Shared Office Supplies Storage**





# Building Lean into Library Design – 8 Wastes

## Over Processing > Digital Marketing



# Building Lean into Library Design – 8 Wastes

**Wasted Motion, Transportation > Walkie-talkies for Communication**



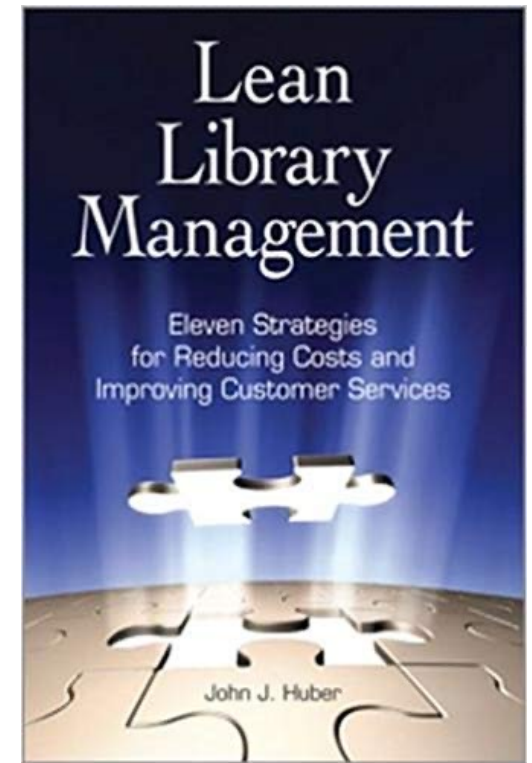
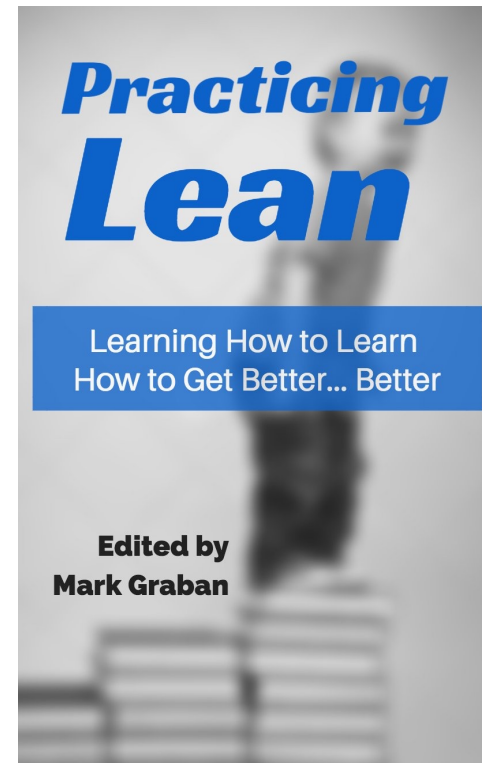
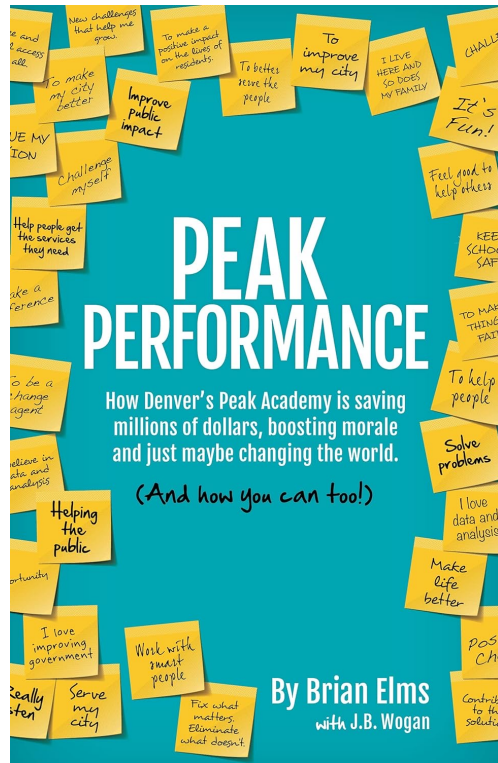
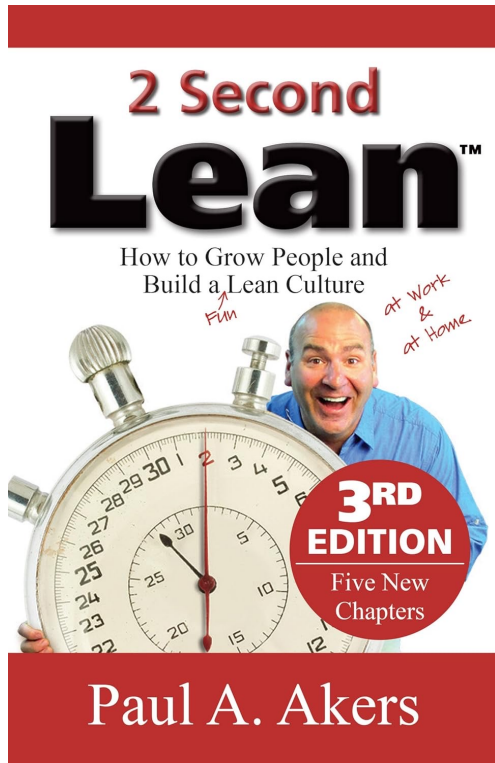


# Building Lean into Library Design – 8 Wastes

**Waiting Time > Issuing Library Cards**



And they improved continually ever after...

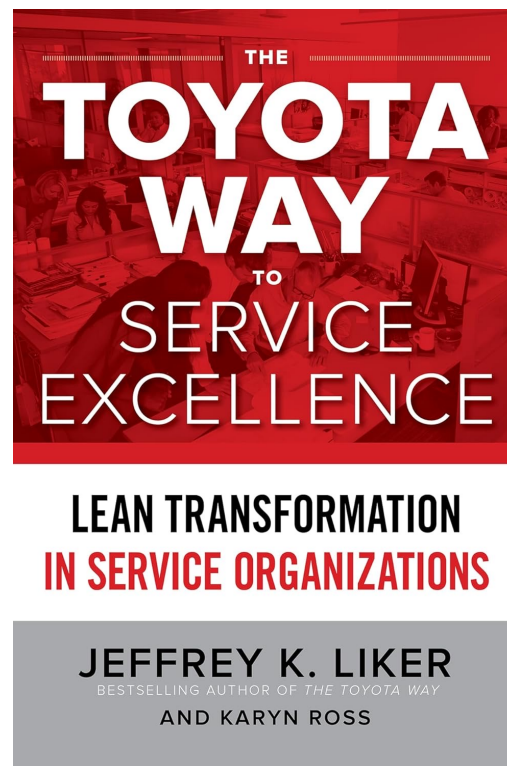
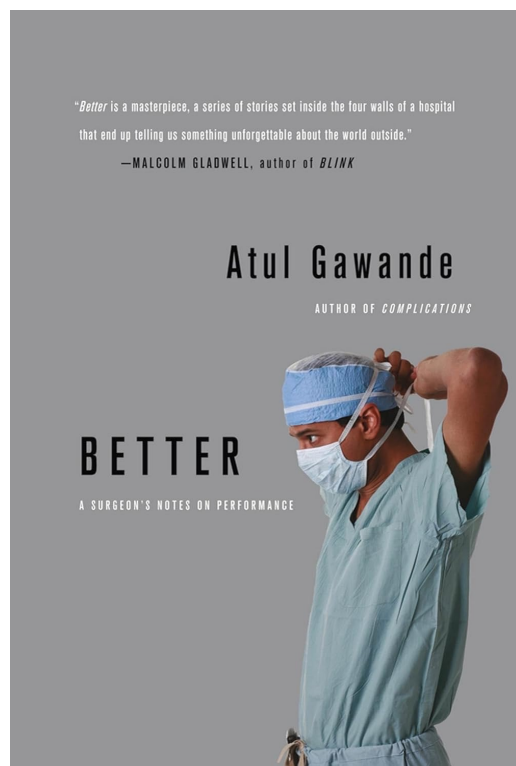




# Questions?



**FRISCO**  
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LIBRARY



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## The Fundamental Principles of Kaizen Project Management

March 8, 2024

The continuous improvement methodology of Kaizen was once closely associated with industrial and automotive manufacturing. That's because...



"The most dangerous kind of waste is the waste we do not recognize."

~Shigeo Shingo

## Examples of the 8 Wastes of Lean Across Industries

February 26, 2024

One of the most critical concepts in Lean organizations is the idea that it is essential to eliminate waste. Why is it so central to the...



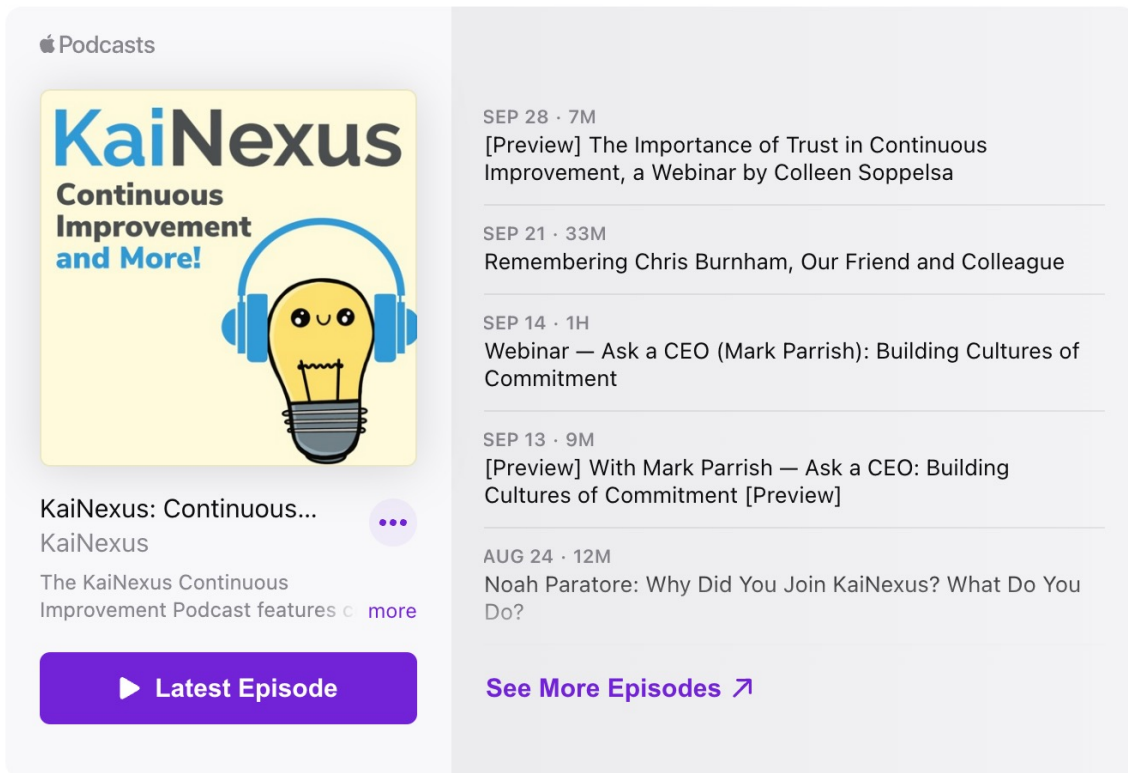
## Elevate Excellence: Unveiling 9 Quality Improvement Techniques

February 22, 2024

I often find myself falling into the common trap of believing that if something is worthwhile, it is necessarily difficult. I think we all...



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# Q&A

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**KaiNexus**



**Host: Mark Graban**

Senior Advisor, KaiNexus  
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**Presenter: Elizabeth Chase**

Material Services Manager  
Frisco Public Library

[EChase@friscotexas.gov](mailto:EChase@friscotexas.gov)