

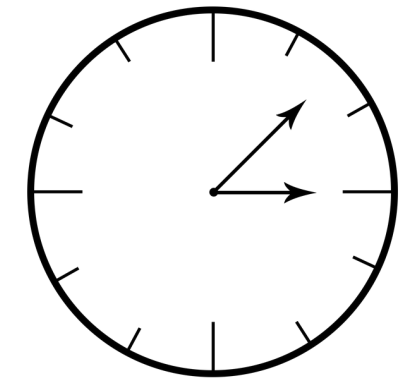


Eastside Baby Corner: Streamlining the Process for Inventory Reception, Storage, and Distribution

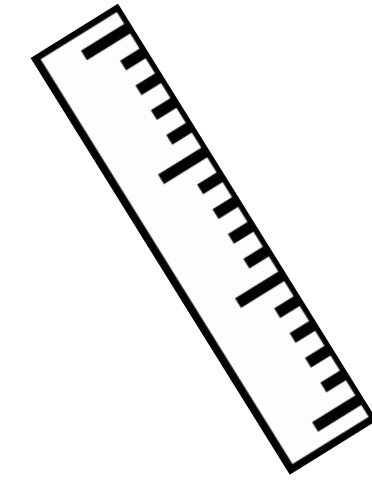


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Index of Performance



5.7 hours per week saved



253 ft² & 964 ft³ of cleared or repurposed space



\$3840 per year in opportunity costs



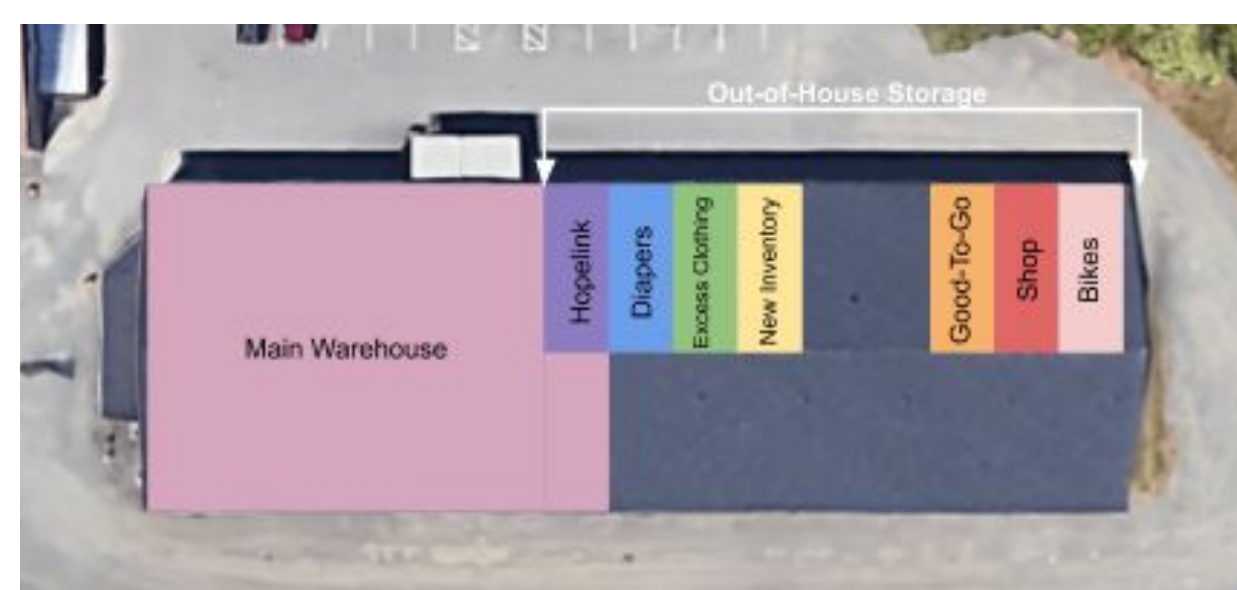
24 trips to external storage per week eliminated



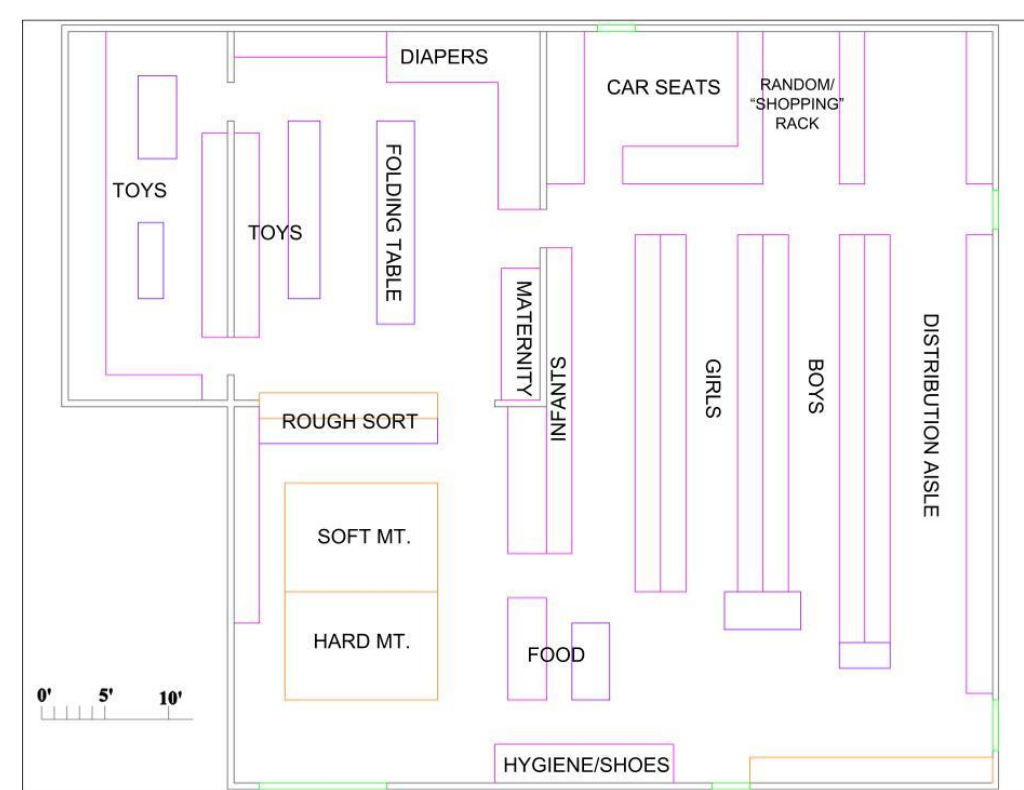
5 ergonomic improvements

Background

- Eastside Baby Corner (EBC) is a nonprofit organization that distributes essential items such as clothes, toys and school supplies to low-income families with children.
- Most of their items are donated, while high-demand items such as car seats and diapers are purchased by EBC.



Bird's eye view of the Issaquah hub



Main warehouse floor plan

Motivation for Project

EBC's primary inventory warehouse has various inefficiencies in their storage and handling of items. Our team was expected to identify these inefficiencies and come up with innovative solutions to resolve them.

Goal Statement

Increase EBC's productivity through improvements in their material handling system.

Acknowledgements

Thanks to our advisor, Patty Buchanan, for providing guidance throughout our project. Thanks to the EBC team: Wanda, Angie, and Madeline, our project sponsor, for encouraging us to pursue all our ideas. Lastly, thanks to the ISE department for supporting and funding all of the changes we implemented.



Process Improvement Implementations

Diaper Process Consolidation

Size	Number of Order Groups per Size			
	1	2	3	4
1	9	5	2	0
2	5	7	4	1
3	6	10	8	0
4	etc...			

Size	Number of Orders			
	1	2	3	4
1 / 2	38-42	76-84	114-126	152-168
3 / 4 / 5	28-32	56-64	84-96	112-128
6	23-27	46-54	69-81	92-108

Automated Bin Assignment

Row Labels	Sum of Ordered Item.Item_Volume_c	Organization Output	Bin Assignment
CHSW North King EHS	63200	CHSW North King EHS	28-30
NYFS Healthy Start	61700	NYFS Healthy Start	25-27
FOY New Ground Avondale	21300	FOY New Ground Avondale	24
Babies of Homelessness Site	15000	Babies of Homelessness Site	23
Northshore SD ELC Hollywood	10000	Northshore SD ELC Hollywood	22
Kinderling Bothell Early Intervention	8600	Kinderling Bothell Early Intervention	21
FOY Redmond Youth Center	6500	FOY Redmond Youth Center	31
FOY Francis Village	3800	FOY Francis Village	32
Attain Housing SITE	2500	Attain Housing SITE	33
Vision House Shoreline	400	Vision House Shoreline	34

Updating Bundle Items

# bags	# of orders									
	1	2	3	4	5	6	7	8	9	10
5	5	5	5	5	5	5	5	5	5	5
4	5	5	5	5	5	5	5	5	5	5
3	5	5	5	5	5	5	5	5	5	5
2	5	5	5	5	5	5	5	5	5	4
1	5	5	5	5	4	3	3	2	2	2

Process Improvement Impact & Results

Diaper Process Consolidation

- Eliminates a diaper shift
- Decreases process by 2 hrs

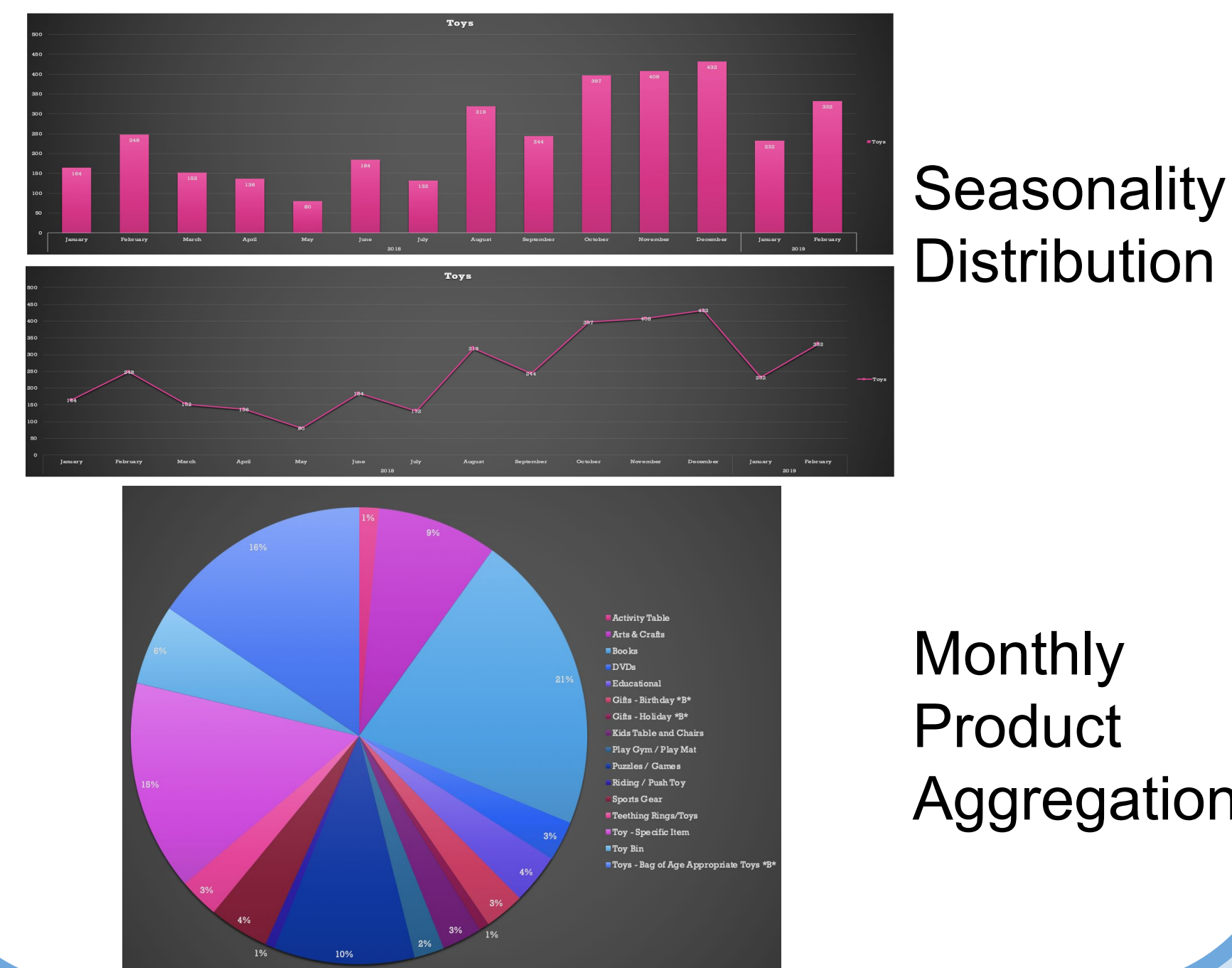
Automated Bin Assignment:

- Saves 15-20 minutes per week
- ~50,000 in² of aisle space per week utilized

Updating Bundle Items:

- Eliminates guessing
- ↑ inventory throughput

Inventory Output



Excess Movement

5S Tool Wall

Barcode System

Andon Signals

- Problem: Cannot see fullness level of bins
- Solution: A notecard to indicate level

Excess Improvement Impact & Results

5S Tool Wall

- 16 ft² of wall space repurposed, 9 ft³ and 14 ft² of space saved

Barcode:

- Eliminates 2 out of 10 steps in bin filling process
- Allows inventory data to be accessed remotely
- Number of trips to external storage ↓ 100%

Andon Signals:

- Number of trips to external storage ↓ 75%
- Mistake proofing

Space Utilization

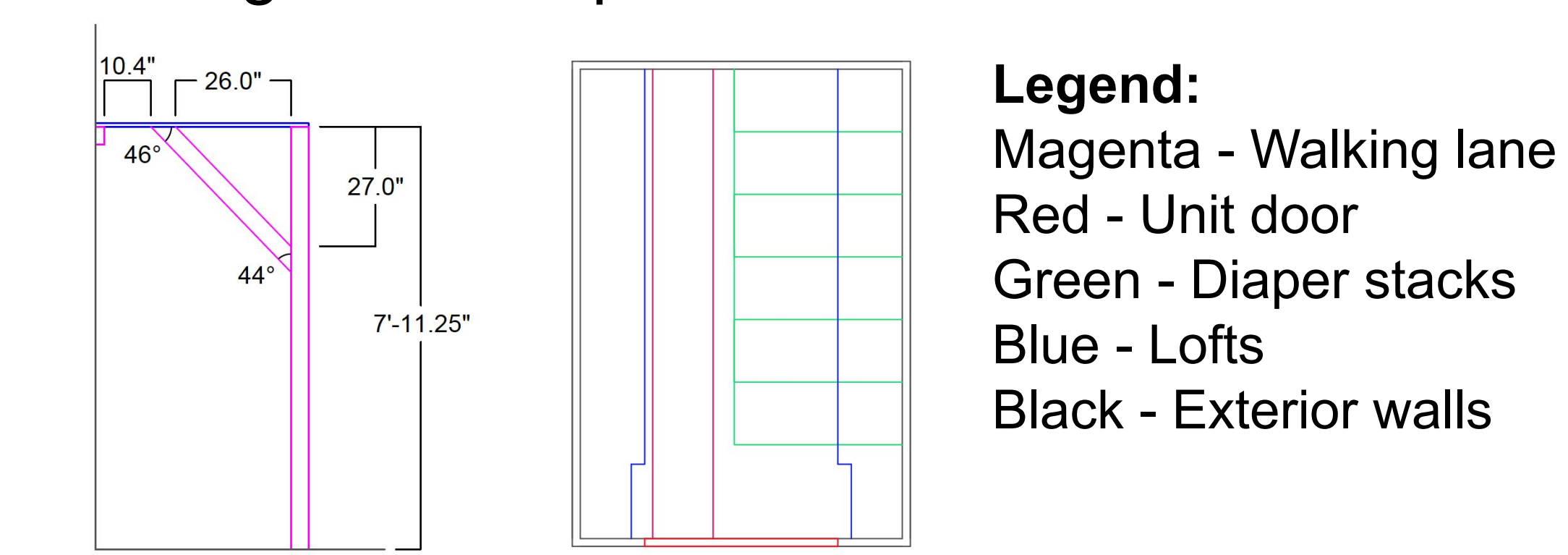
Flyer

Unit 143 Reorganization

Toy Organization

- 3 Raised tables with shelving were implemented
- Out-of-season and new toys were boxed and relocated to external storage units
- 30 14-gallon bins now organize school supply storage

Utilizing Vertical Space



Space Utilization Impact & Results

Flyer:

- Saves \$40-60 per week based on projected decrease in waste

Unit 143 Organization

- Reduces searching time by 3 hrs

Toy Organization:

- 78.33 ft³ of organized shelf storage space by purchasing new bins
- 60 ft² cleared for volunteer walking lane in the infant aisle
- 63 ft² of table top surface and 174.56 ft³ of under table bin storage

Loft:

- 696.25 ft³ of accessible vertical storage space added