Warehome

B-Town Consulting

Problem Overview

"We don't have enough **space**, and that drives our **costs** up. We have growing fast and this building isn't getting any bigger"

Alyssa Lee,
Vice President of Supply Chain Management, Oh Snap!

Receiving is an arduous and manual process and picking product from the shelves requires the most hours of labor.

Aisle congestion problem cause disorganization and inefficiency in the current warehouse management.
Due to the **weak warehouse management,** Oh Snap! pays the labor cost more the 30-40% above average.

Product offering is mainly driven by its internal buyers from west coast area , which higher the **transportation fees** much more than their other cost.

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Improving Warehouse Efficiency

Organize units by product class and SKU

This will allow employees better access to each SKU, eliminating congestion to save time, energy, and space

P

Product Portfolio Adjustment

Decrease the supply and offer discounts for class D products

This will allow Oh Snap! to free up space and save holding costs with possible

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Opening Distribution Center

Operating a strategic warehouse by the West Coast

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Oh Snap! Warehouse

Company: Oh Snap!

Location: Lyndhurst, New Jersey

Size: 250,000 sqft

# of Employees: 55 per 8 hrs

Operational Complication

4 Main Issues that drives up Cost and Oh Snap! needs to transform

Receiving

Hard,
Manual

Storaging

Sorted by Size,

Stored anywhere it can fit on the shelves

Putaway

SKU stored in several different bins

Picking

Requires the most hours

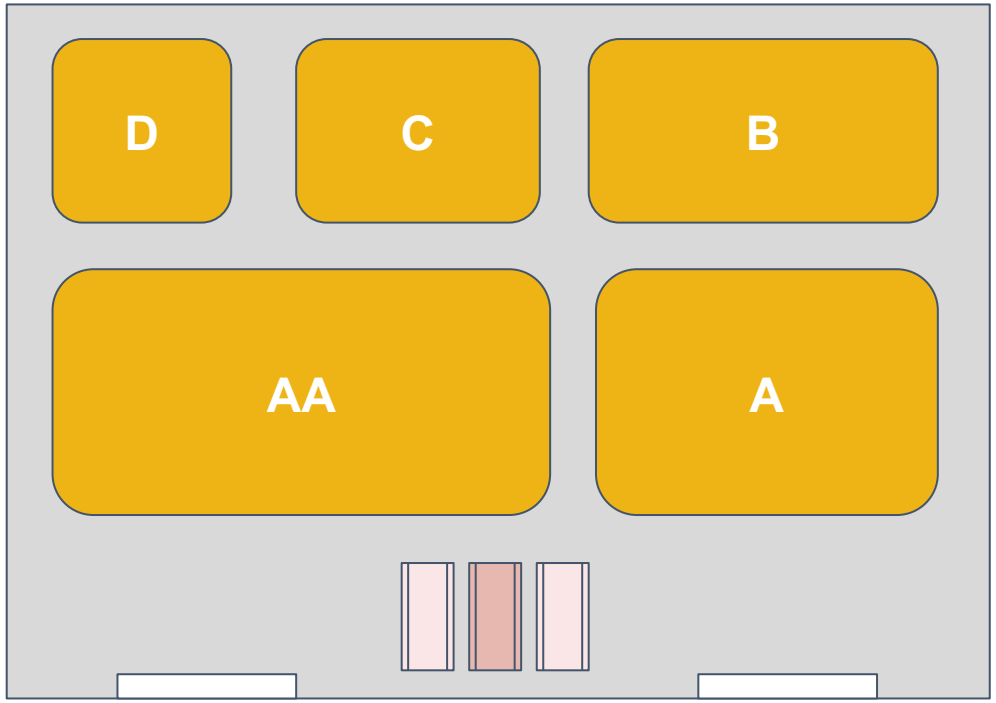
Labor

30-40% higher Labor Costs

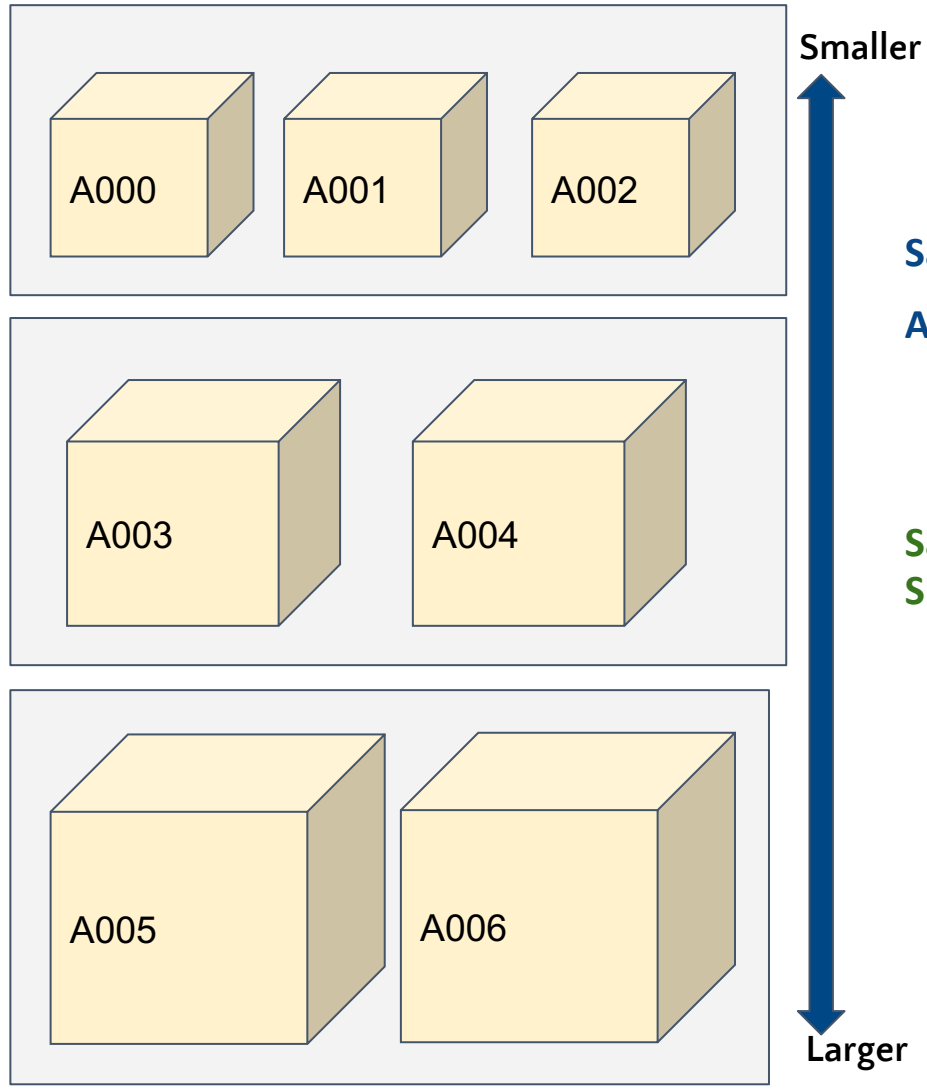
Around $14 per labor-hour

Warehouse Management

Remodeling the Warehouse Space Organization and Inventory Management



Area Organized by SKU



Same SKU in a Bin, Ascending Order

Save Time, Energy and Space

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Product Portfolio Adjustment

Class D products is not worth storing

$37 Average,

50% of SKUs,
29,590 cubic ft,

9% space

3.3% Units sold, **0.9%** revenue

~1 Sold last year **(**123k/125k)

872 Sold for AA **(**2M/2.5k)

SKU Velocity Profile	AA	A	B	C	D
Percentile of SKUs	0-1%	1-5%	5-20%	20-50%	50-100%
# of SKUs in profile	2,503	10,012	37,546	75,092	125,153
Percent of Units Sold	58.29%	20.29%	13.27%	4.85%	3.30%

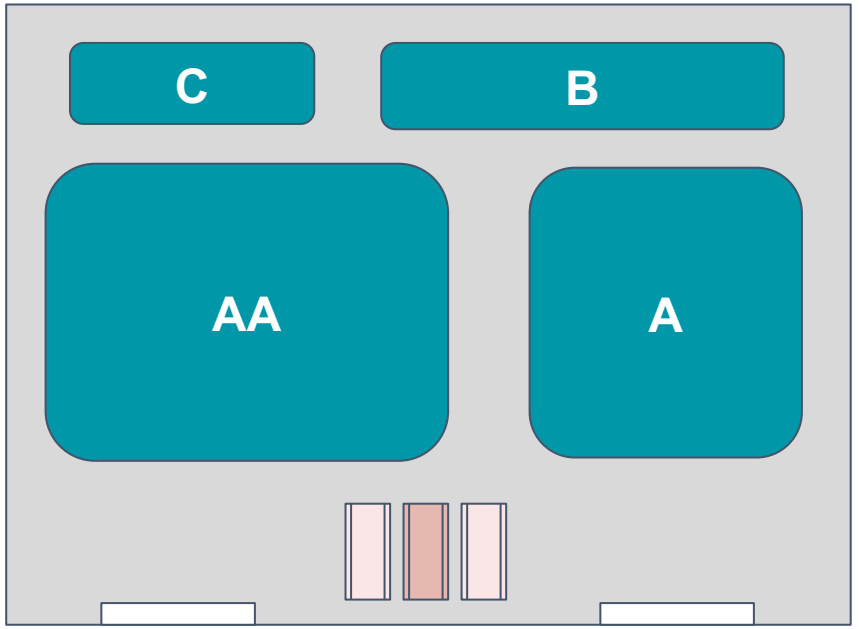
Class	AA	D
Demand Total ft^3	717536	50896
Sum of Units Sold	2183358	123968
ft^3 per Unit	0.33	0.41
Units on Hand	419071	72074
ft^3 on Hand	137723	29590
Total on hand(ft^3)	315126	315126
% ft^3 on Hand	43.70%	9.40%

*Calculations available on appendix

Product Portfolio Adjustment

Reduce the supply of class D products and provide discounts

1. **Free Up 9% Space**
   $800K Holding Cost
2. **Keep High Product Variety**
3. **$Increase Revenue$**



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Accommodating Capacity Issues

Lyndhurst Warehouse

Capacity
410,000 ft^3

Effective
350,000 ft^3

Utilized
315,000 ft^3

CAGR 8%

2019
320,000 ft^3

2020
345,000 ft^3

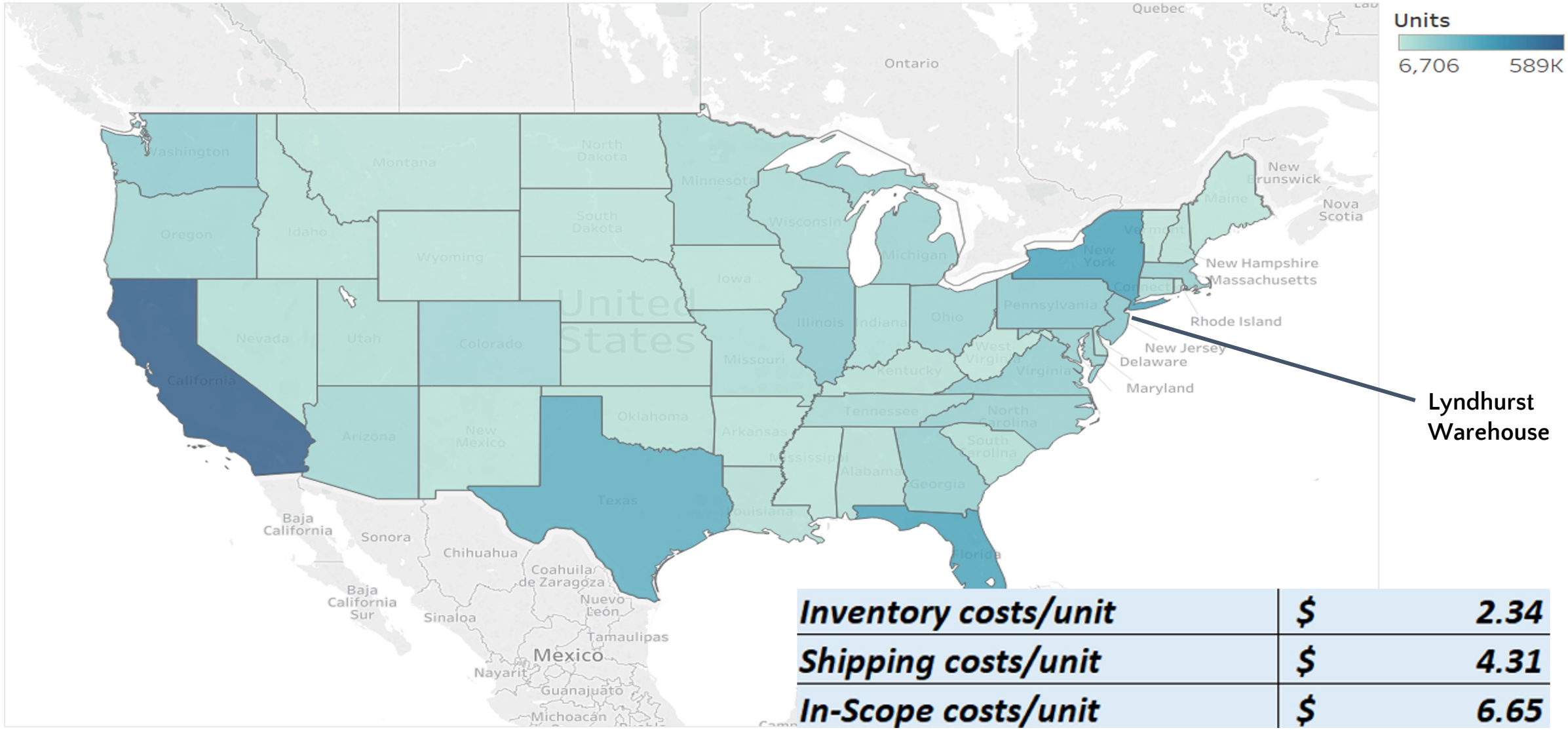
2021
375,000 ft^3

New Warehouse Needed by 2021

Location?

Warehouse Location

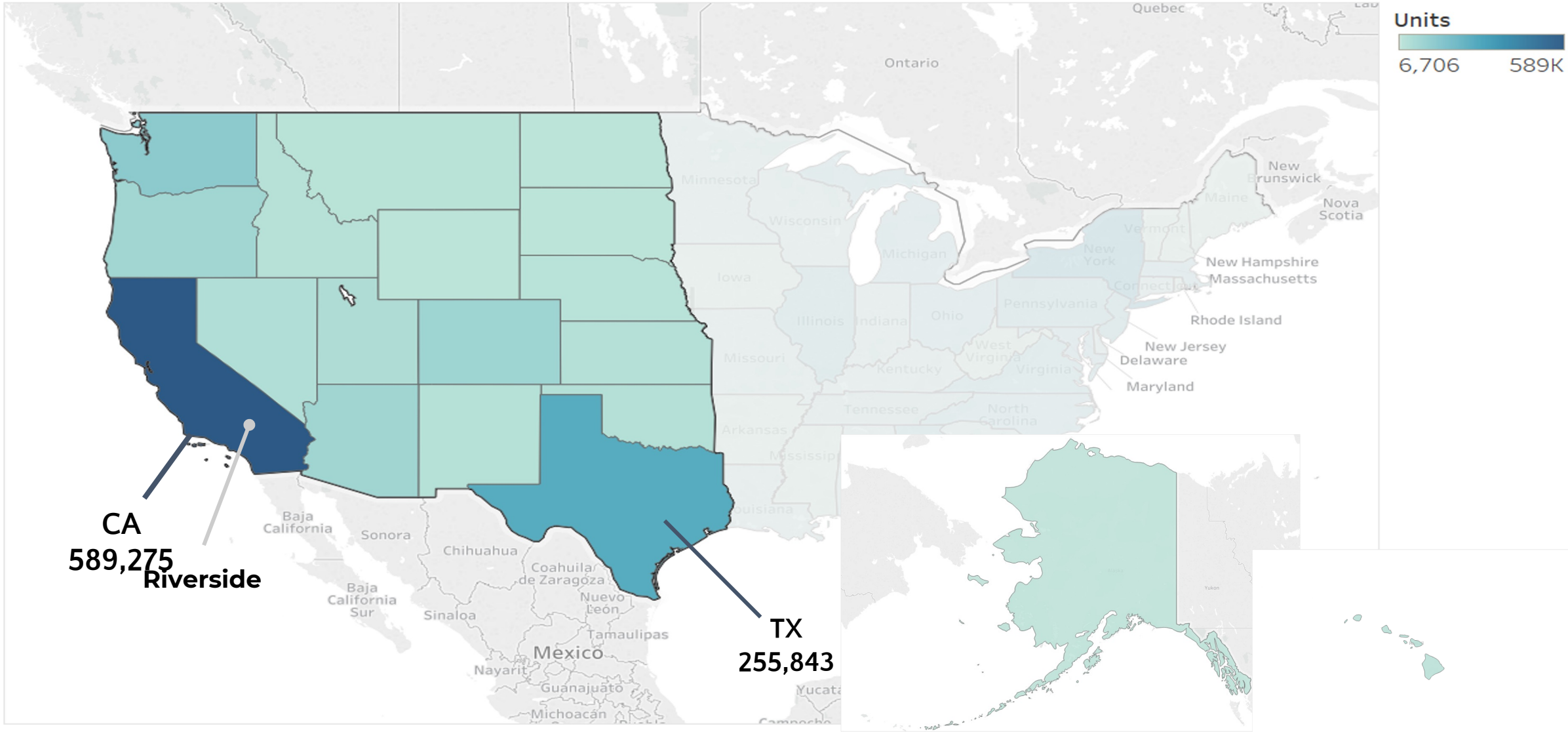
Demand by State (2018)



Inventory costs/unit	***$***	***2.34***
Shipping costs/unit	***$***	***4.31***
In-Scope costs/unit	***$***	***6.65***

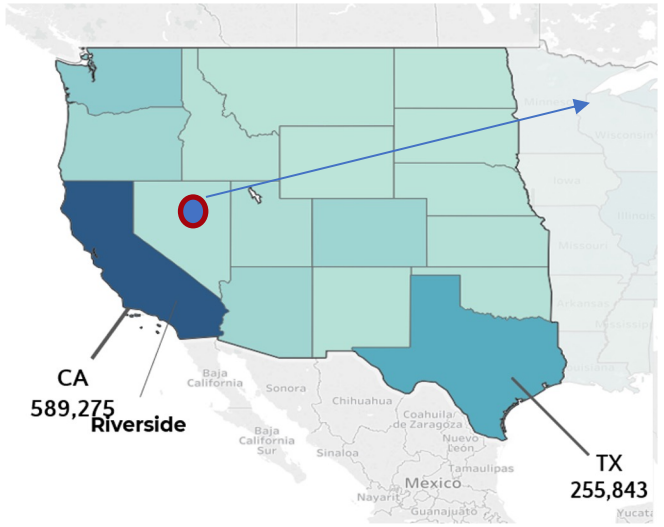
New Warehouse Location

Demand by State (2018)



Warehouse Decision

Open own warehouse or use 3PL



Min Wages: $8.25

Estimated fixed lease/sq. ft: $0.75

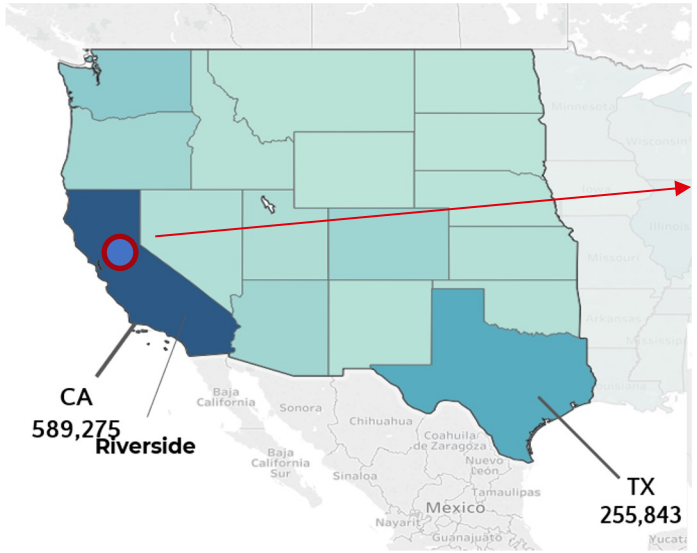
Estimated Warehouse Size: 167,000 sq. ft

2021 Costs Breakdown warehouse in Nevada		
Fixed Lease	$	125,250
Fixed Other	$	1,390,785
Variable Labor	$	4,043,520
Variable Other	$	1,000,000
Total Warehouse Costs	**$**	**6,559,555**
Inbound Freight	$	-
Outbound Freight	$	5,400,382
Total Transportation Costs	**$**	**5,400,382**
Projected Units in 2021 (west)		**1892400**
Inventory costs/unit	***$***	***3.47***
Shipping costs/unit	***$***	***2.85***
In-Scope costs/unit	***$***	***6.32***

*Calculations available on appendix

Warehouse Decision

Open own warehouse or use 3PL



Estimated Warehouse Size:
167,000 sq. ft

2021 Costs Breakdown by 3PL		
Fixed Lease	$	2,004,000
Total Warehouse Costs	**$**	**2,004,000**
Receiving (inbound)	$	0.30
Picking/Packing (outbound)	$	1.30
Shipping Suppliers	$	0.20
Total In-Scope Costs	**$**	**1,362,528**
Projected Units in 2021 (west)		**1892400**
Inventory costs/unit	***$***	***1.06***
Shipping costs/unit	***$***	***1.80***
In-Scope costs/unit	***$***	***2.86***

*Calculations available on appendix

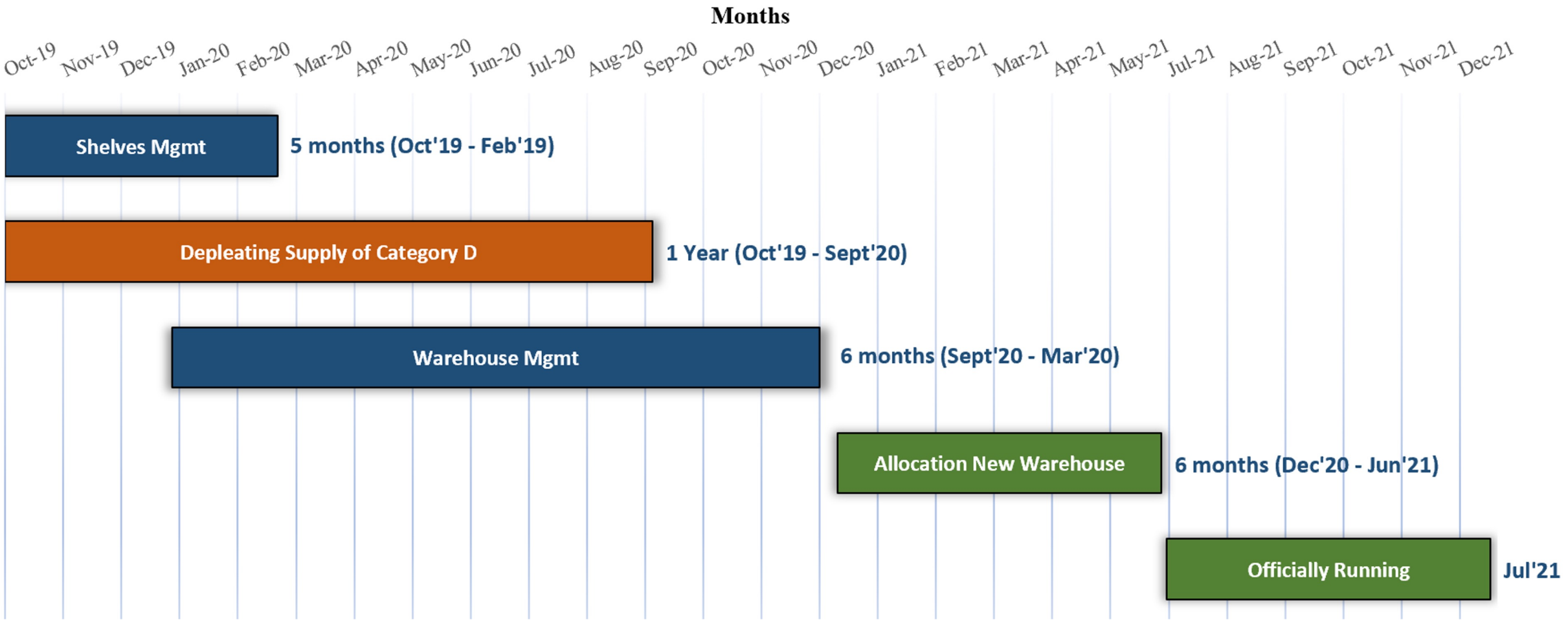
Warehouse Decision

Open own warehouse or use 3PL

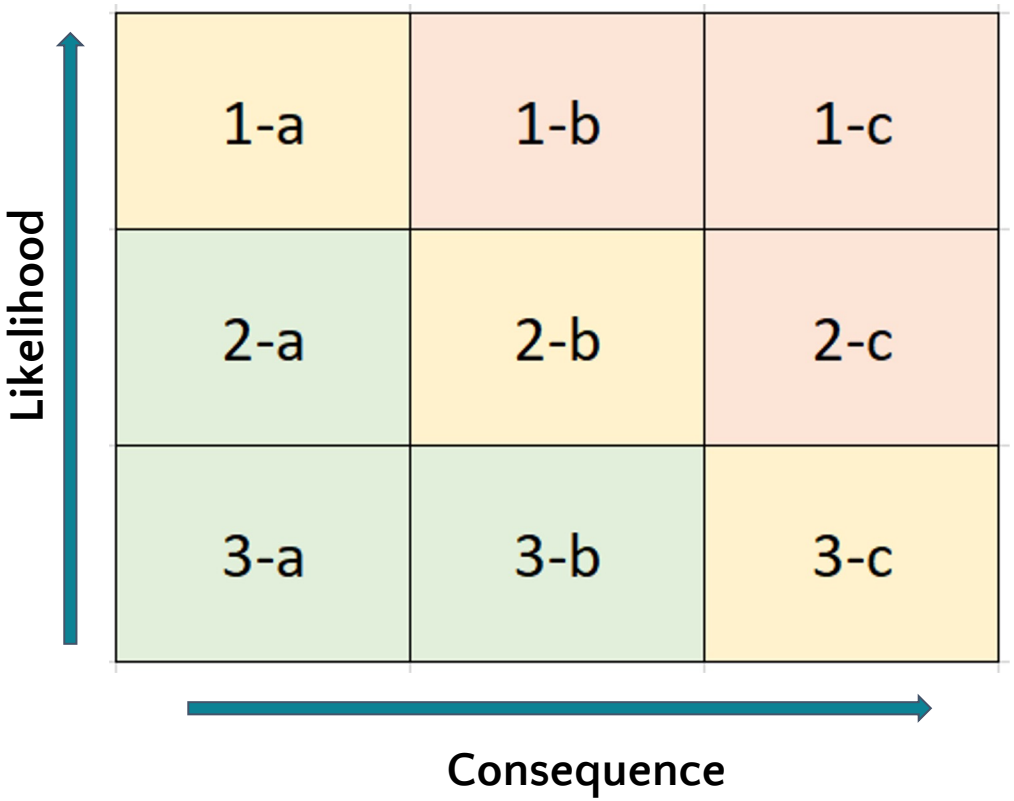
	Own warehouse in NV	3PL in CA
Inventory costs/unit	$3.47	$1.06
Shipping costs/unit	$2.85	$1.8
In-scope costs/unit	$6.32	$2.86
Pros	• Use own system and collect data	• Lower costs per unit • Save time • More convenient location (save time for transportation)
Cons	• Higher costs per unit • Time consuming (location, labor) • Potential costs (business trip, human resource)	• Cannot use own management system • Need to require data from 3PL

Project Timeline

5 Projects recommended for 2 years duration



Risk Analysis



2-c: Demand Uncertainty

➔ the demand of class D product may increase in 2019 due to equipment upgrades

2-b: New Warehouse is Costly

➔ Increase in facility cost and labor cost could lead to lower profits

3-a: Third-Party Contract Risk

➔ landlord raise the prices of the warehouse

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Thank You

Appendix

F	G	H
	Demand	Percentage
West side demand	1,401,924	39%
East side demand	2,161,873	61%
Total	3,563,797	1
	West	East
Warehouse size precentage	40%	60%
Warehouse size sq.ft	167,000 sq.ft	250,000 sq.ft

Appendix

2018 Costs Breakdown			
Fixed Lease	$	256,467	
Fixed Other	$	1,390,785	
Variable Labor	$	5,812,791	
Variable Other	$	1,324,555	
Total Warehouse Costs	**$**	**8,784,598**	
Inbound Freight	$	-	
Outbound Freight	$	16,201,147	
Total Transportation Costs	**$**	**16,201,147**	
Total In-Scope Costs	**$**	**24,985,745**	
Total Units in 2018		**3755621**	
Inventory costs/unit	***$***	***2.34***	=D7/D15
Shipping costs/unit	***$***	***4.31***	=D11/D15
In-Scope costs/unit	***$***	***6.65***	=D17+D18

Appendix

2021 Costs Breakdown warehouse in Nevada				
Fixed Lease	$	125,250	=167000*0.75	
Fixed Other	$	1,390,785	same as 2018	
Variable Labor	$	4,043,520	=9*8*3*6*52*25+9*8*3*6*52*35	assume wage/hour = 9
Variable Other	$	1,000,000		
Total Warehouse Costs	**$**	**6,559,555**		
Inbound Freight	$	-		
Outbound Freight	$	5,400,382	=16201147/3	
Total Transportation Costs	**$**	**5,400,382**		
Projected Units in 2021 (west)		**1892400**		
Inventory costs/unit	***$***	***3.47***		
Shipping costs/unit	***$***	***2.85***		
In-Scope costs/unit	***$***	***6.32***		

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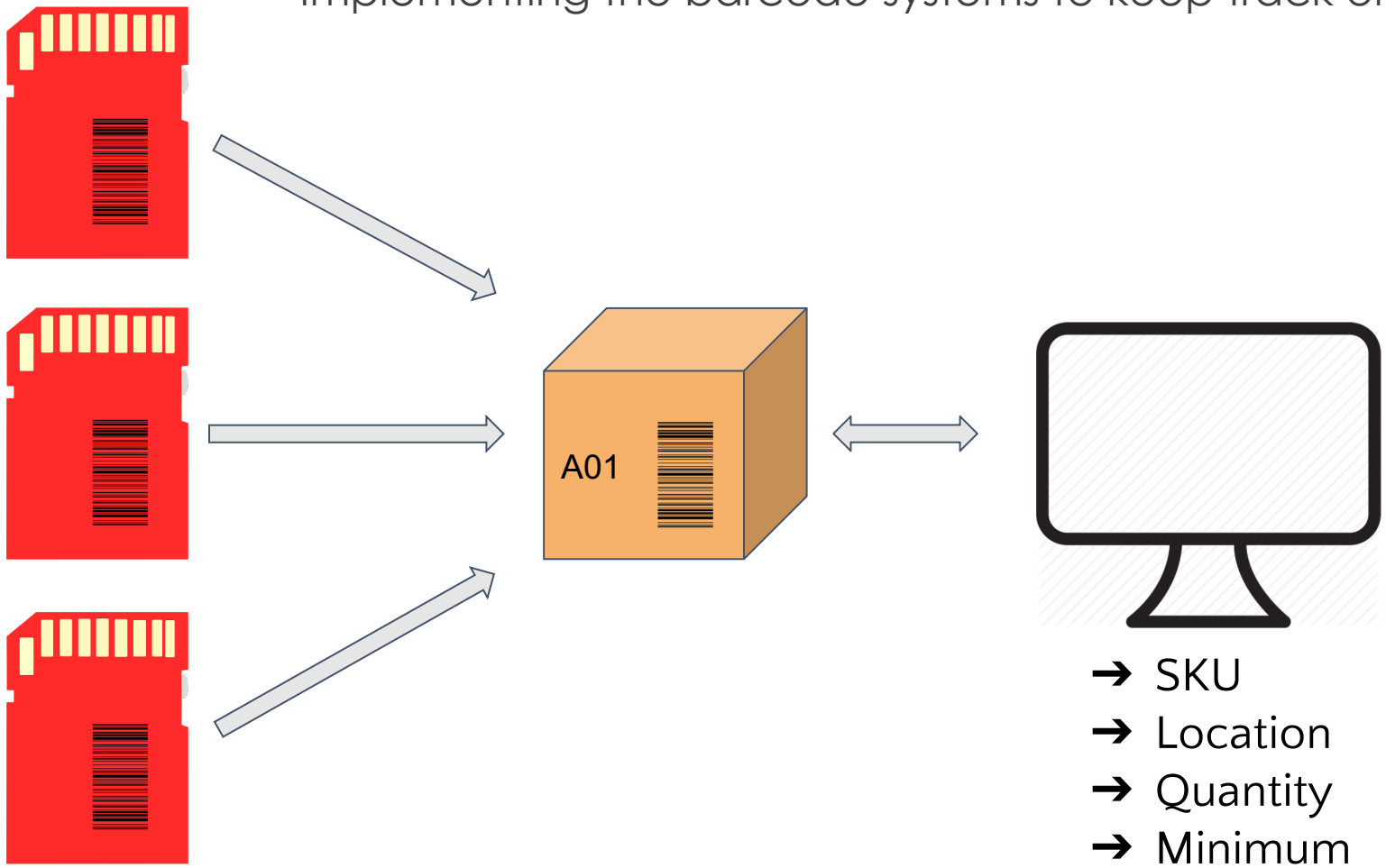
2021 Costs Breakdown by 3PL			
Fixed Lease	$	2,004,000	=167000*1*12
Total Warehouse Costs	**$**	**2,004,000**	
Receiving (inbound)	$	0.30	
Picking/Packing (outbound)	$	1.30	
Shipping Suppliers	$	0.20	
Total In-Scope Costs	**$**	**1,362,528**	=D52*0.4*(SUM(D47:D49))
Projected Units in 2021 (west)		**1892400**	=3755621*1.08*1.08*1.08*0.4
Inventory costs/unit	***$***	***1.06***	=D44/(D52)
Shipping costs/unit	***$***	***1.80***	=SUM(D47:D49)
In-Scope costs/unit	***$***	***2.86***	

Operational Complication

Implementing the barcode systems to keep track on the inventory quantity



- ➔ SKU
- ➔ Location
- ➔ Quantity
- ➔ Minimum Quantity

Item Details

Save Time, Energy and Space

Prevent shortage

Decrease Labor Cost

Calculation

Class	Sum of Units	Sum of CubicFeet	Sum of Revenue
AA	58.14%	54.03%	54.33%
A	20.38%	21.03%	25.00%
B	13.32%	15.36%	15.22%
C	4.87%	5.75%	4.52%
D	3.30%	3.83%	0.92%
Grand Total	**100.00%**	**100.00%**	**100.00%**

Class	Sum of Units	Sum of CubicFeet	Sum of Revenue
AA	2183358	717536.8374	320719047.1
A	765258	279262.4603	147587992.2
B	500257	204007.8588	89819577.16
C	182780	76350.7943	26709128.78
D	123968	50895.65201	5452593.903
Grand Total	**3755621**	**1328053.603**	**590288339.1**

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Demand Total ft^3	717536	50896
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ft^3 per Unit	0.33	0.41
Units on Hand	419071	72074
ft^3 on Hand	137723	29590
Total on hand(ft^3)	315126	315126
% ft^3 on Hand	43.70%	9.40%

Class D will be sold out in <7 months: 72074/ 123968
Total warehouse cost =$8,784,598 * 9% = $800K