Newbury Franklin Industrials New Facility Layout

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Client Background

Newbury Franklin Industrials (NFI)
100 Sonwil Distribution Center, Buffalo, NY
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USA Sealing is a subsidiary company of Newbury Franklin Industrial, located in Buffalo, NY. At present, they have a 60,000 ft^2 facility that struggles to keep up with their increasing demand. NFI intends to build a major addition and subsequently rework the entire 140,000 ft^2 space. Additionally, this facility will come to service new firms that NFI brings under its management.

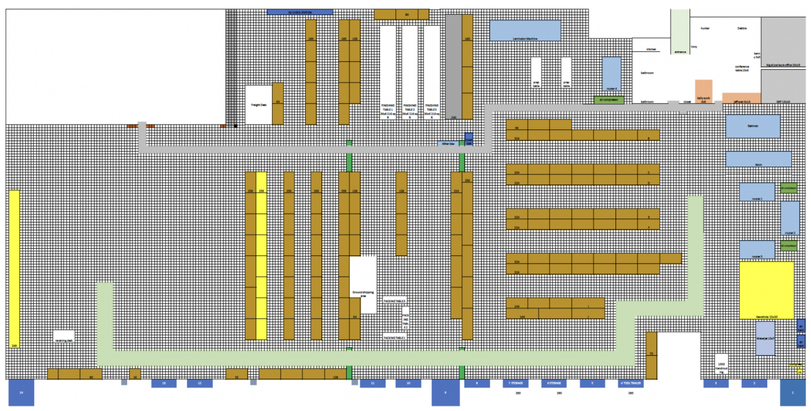
Problem Statement

NFI currently does not have enough space to properly satisfy the demand, and with this problem have requested us to recommend a design for their new space that will optimize their production by reducing bottlenecks and properly allocating space for each operation.

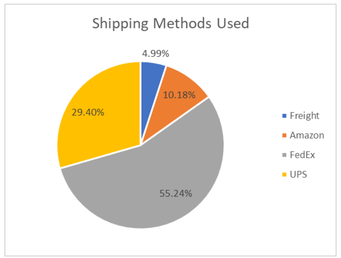
Under the current arrangement, the operation is split between two facilities. One location handles conversion processes and large item storage/distribution, while the other manages the small parts and widgets. At present, receiving is distributed between the locations and results in transportation costs between the two.

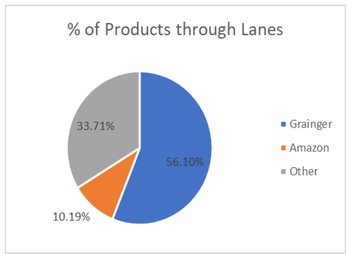
System Model

Production is currently taking place in their original 60,000 ft^2 warehouse. Observations from the teams' site visit included lack of clear walkways, overflow of storage, and freight and receiving areas being overpopulated with previously received materials.

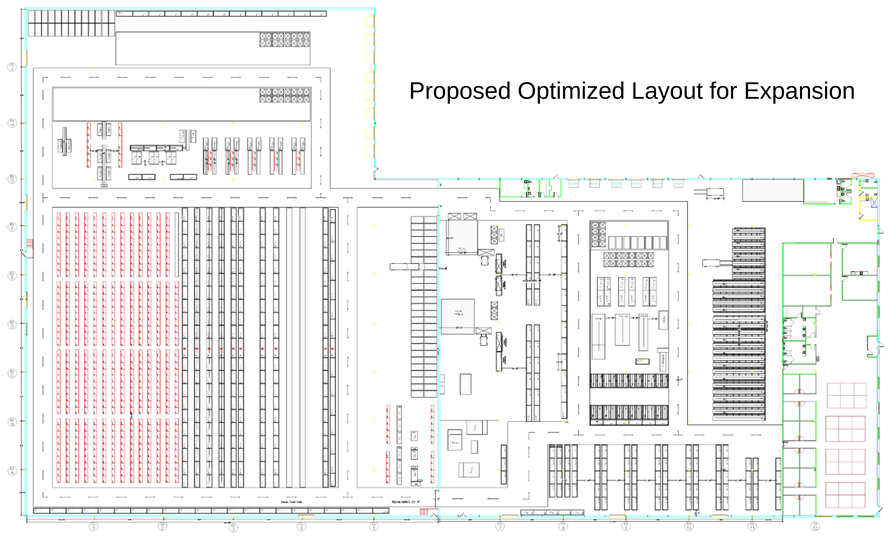


Results





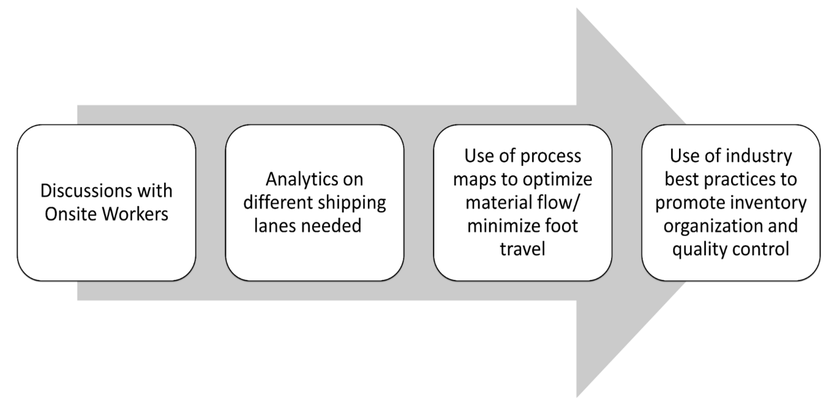
Shipping Lane Usage by Company and Carrier



Proposed Optimized Layout for Expansion

		Group 16 Design			Original Design		
Start	End	Distance - ft	Transport	Time - Minutes	Distance - ft	Transport	Time - Minutes
Receiving	Parent Storage	196	Forklift	0.278	405	Forklift	0.575
	Freight	447	Forklift	0.635	439	Forklift	0.624
	Widget Storage	455	Forklift	0.646	350	Walking	1.667
	R & F Fast Mover	109	Forklift	0.155	456	Forklift	0.648
	R & F	134	Forklift	0.190	566	Forklift	0.804
	H & T	471	Forklift	0.669	429	Forklift	0.609
	Overflow	401	Forklift	0.570	451	Forklift	0.641
	Clear Plastics	391	Forklift	0.555	66	Forklift	0.094
Plastics Parent S.	Machining	60	Forklift	0.085	60	Forklift	0.085
	Freight	418	Forklift	0.594	245	Forklift	0.348
Machining	Finished Goods	229	Forklift	0.325	448	Forklift	0.636
R & F Fast Mover	Processing	110	Forklift	0.156	110	Forklift	0.156
R & F Parent S.	Processing	154	Forklift	0.219	120	Forklift	0.170
Processing	Finished Goods	26	Walking	0.124	69	Walking	0.329
Widgets	Packaging	113	Walking	0.538	195	Walking	0.929
Finished Goods	Packaging	175	Walking	0.833	192	Walking	0.914
H & T	H & T Cutting	160	Walking	0.762	160	Walking	0.762
Packaging	Shipping	62	Walking	0.295	163	Walking	0.776
Walking Speed-ft/m	Forklift Speed-ft/m	*Time Basis 8mph Forklift speed per OSHA Safety Guidelines					
210	704						

Methodology



Discussion

- Faster Transportation
- Being Properly Organized
- Better Material Flow Paths
- Proper Space Allocation
- Make More Money from Increased Production

References

Fairfax, Richard E. "United States Department of Labor Standard Interpretations / Evaluation of What Is Considered a Safe Speed to Operate Powered Industrial Trucks (Forklifts)." *Evaluation of What Is Considered a Safe Speed to Operate Powered Industrial Trucks (Forklifts) | Occupational Safety and Health Administration*, US Department of Labor, 4 Nov. 2004, https://www.osha.gov/laws-regs/standardinterpretations/2004-11-04.

Staff, Conger. "Forklift Speed: Everything You Need to Know." *Conger Industries Inc.*, Conger Industries Inc., 5 Jan. 2023, https://www.conger.com/forklift-speed/#:~:text=a%20Forklift%20Go%3F-,A%20common%20forklift%20max%20speed%20is%2010%20miles%20per%20hour,between%205%20and%2015%20mph.