

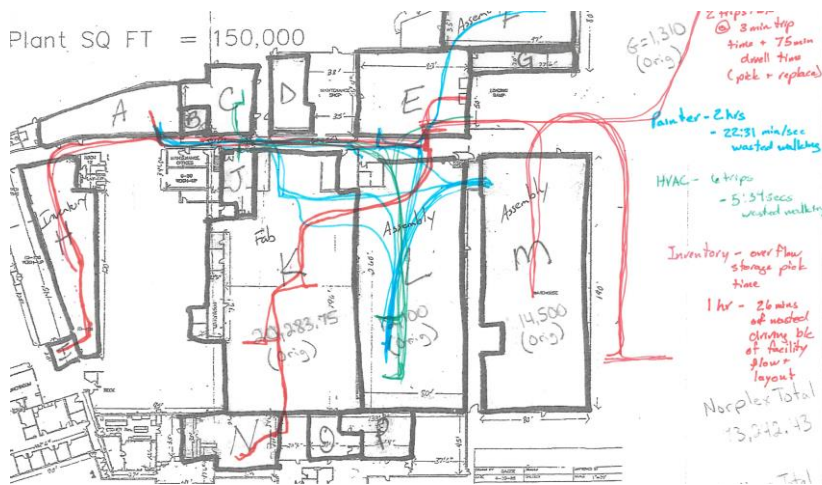
What are your Operations Costing You?

Operational Assessment

Capturing Current State Production Impact

When faced with the decision of staying in a current production space or building / moving to a new space, businesses need to understand what their current operations are costing them as well as what benefits they could receive from a new space. Our Team takes a deep dive into the current state operations to capture the data and metrics needed to make a financial model to clearly understand the best path forward.

Spaghetti Diagram of Current Operations



Strategic Approach

- Study of Current State Operations
- Collect Data and Metrics
- Diagrams to Support Data and Methodologies
- Engage and Interview Stakeholders
- Future State
- Future Proof Site

Our Method

- Evaluate ALL Operations and Processes Flow
- Capture Waste in Operation
- Assess Building Design and Limitations
- Engage client and Test recommended changes.
- Create Financial Modeling

Operational Waste Impact

Trip Name	Trip Time (minutes)	Dwell time(min)	Total Time (minutes)	Carrus GROUP (Real trip + estimated Dwell)		Current Building		Estimated Cost Savings In New Facility	
				Cost @ \$27/hr	Estimated Trips Per Day	Total Cost per Day	Annual Waste Cost		% Effort Required in New Plant
Moving Metal into area on dollys	480	0	480	\$216.00	0.2	\$43.20	\$10,584.00	10.00%	\$9,525.60
Plan to Base Inventory Shuttle	2	23	25	\$11.25	5	\$56.25	\$15,761.25	20.00%	\$11,025.00
Blower Shuttle with Forklift	15	25	40	\$18.00	4	\$72.00	\$17,840.00	10.00%	\$15,376.00
Walk to Elect Area for supplies	2	0	2	\$0.90	25	\$22.50	\$5,512.50	20.00%	\$4,410.00
Scrap Dumpsters	10	2	12	\$5.40	1	\$5.40	\$1,323.00	30.00%	\$326.10
Laser Filling / 12' sheet cart - 2 guys	3	2	5	\$2.25	7	\$15.75	\$3,858.75	5.00%	\$3,665.81
Moving Between units	22	0	22	\$9.90	10	\$99.00	\$24,255.00	5.00%	\$23,042.25
Cardboard Dump	7	0	7	\$3.15	1	\$3.15	\$771.75	20.00%	\$487.40
Wire Dump	5	0	5	\$2.25	1	\$2.25	\$551.25	20.00%	\$441.00
Layout Efficiency	5	5	10	\$4.50	8	\$36.00	\$8,820.00	0.00%	\$8,820.00
Inventory Cage Picking	5	5	10	\$4.50	3	\$13.50	\$3,307.50	10.00%	\$2,376.75
Super Size Unit Loading	1500	0	1500	\$675.00	0.045283019	\$30.57	\$7,488.68	10.00%	\$6,739.81
Medium	360	0	360	\$162.00	0.196153046	\$31.76	\$7,785.35	10.00%	\$7,006.81
Small Unit Loading	60	0	60	\$27.00	5.388461538	\$161.69	\$39,613.67	10.00%	\$35,652.31
Setting Components	675	0	675	\$303.75	1	\$303.75	\$74,418.75	20.00%	\$59,535.00
Shuffling Units In and out of bays	750	0	750	\$337.50	1	\$337.50	\$82,687.50	20.00%	\$66,150.00
Crane Rental							\$0.00		\$79,000.00
Moving units for production/packing/testing	750	0	750	\$337.50	1	\$337.50	\$82,687.50	20.00%	\$66,150.00
Trips out to Micro Blue	2	75	77	\$34.65	0.1	\$3.47	\$848.93	0.00%	\$498.93
Sheet ordering	15	15	30	\$13.50	1	\$13.50	\$3,307.50	30.00%	\$2,315.25
Product Put away	15	15	30	\$13.50	30	\$405.00	\$99,225.00	30.00%	\$69,457.50
				\$0.00		\$0.00	\$0.00	30.00%	\$0.00
Picking items for Assembly from BOM	31	0	31	\$13.95	10	\$139.50	\$34,177.50	0.00%	\$34,177.50
Picking items for Assembly from BOM	6	0.5	6.5	\$2.93	10	\$29.25	\$7,166.25	30%	\$5,016.30
Totals							\$883,603.87		\$810,521.19
Inefficiency Total Cost / Year									\$883,603.87
Total Savings @ \$27/hr								32%	\$610,521.19
Total Labor Waste Hours									39,019.39
Divided by 1960 = Hours / Year									15,315.7111
Average Hours Per day Lost									122.53
Average Hours/Person/Day =									1.225

Operational Study Results

- 60% Current State Operational Utilization
- \$810K in Non-Value-Added Waste
- Waste Impact on Opportunity Cost of \$4.6 Million USD

Financial Modeling from Data

Once the data is collected, we show its impact on current production and capacity through financial modeling. Financial and production information, provided by the client, aligns our data with outputs. This provides a clear picture of current state operational capacity and the impact a new building will have on production and efficiency.

		Carrus GROUP			
Total Sales	\$ 32,000,000.00	Total Units	258	Average Rev per Unit	\$ 124,031.01
80% Sales	\$ 25,600,000.00		118		\$ 216,949.15
Difference	\$ 6,400,000.00		140		\$ 45,714.29
				Gross Rev per Day	\$ 130,612.24
				Hours / Day	8
				Gross Rev / Hour	\$ 16,326.53

	Largest Units	In Inches	In Feet	Average	Median
Length	828		69	215"	193
Width	262		21.83333333	97"	89
Height	180		15	98"	94
# of Days in Production				19.94	15

Changeable Fields in Yellow	Lease Increase	Working Days / Year
Value from Time Study Sheet	\$ 1,239,291.00	245

Breakdown			
Direct Labor Personnel	100	Opportunity Cost Savings	Labor Cost Savings
Hours Per Day / Person	\$ 130,612.24	Gross Rev / Day	
Total Working Hours / Day	800	Labor Hours / Day	
\$ Per Hour (I)	\$ 27.00	Revenue / Employee / Hour	122.53 Wasted Hours / Day
Total Daily Cost	\$ 21,600.00	122.5277689 Wasted Hours / Day	\$ 27.00 Cost / Hour
Wasted Hours Per Employee	1.2253	20,004.53 Wasted Opp Cost / Day	\$ 3,308.25 Wasted Labor Cost / Day
Wasted Hours Per Day	122.53	4,901,110.76 Additional Revenue Capacity	\$ 810,521.19 Wasted Labor / Year

Margin Rate	35%
Total = New Building Gross Margin Contribution	35% Margin Increase
\$ 2,525,909.96	\$ 1,715,388.76
\$ 2,354,371.08	\$ 1,543,849.89
\$ 2,182,832.20	\$ 1,372,311.01
\$ 2,011,293.33	\$ 1,200,772.14
\$ 1,839,754.45	\$ 1,029,233.26
\$ 1,668,215.57	\$ 857,694.38
\$ 1,496,676.70	\$ 686,155.51
\$ 1,325,137.82	\$ 514,616.63
\$ 1,153,598.94	\$ 343,077.75
\$ 982,060.07	\$ 171,538.88
\$ 810,521.19	\$ -

Operational Study Results

- New Building Size of 120,000 sq feet.
- 25% Increase from current building supports 2x operational output.
- 12% increase to EBITDA from operational efficiency

Future State Operations

By understanding the current plant utilization as well as the operational waste, we can better determine the appropriate size for a new building that will support the organizational growth. We can use a "Dead Reckoning" process to accurately determine department size and operational flow.

	Current Sq Ft	Wasted Space	% Wasted	Currently Utilized Space	Proposed Space	% Increase	Originally Planned	Percent Increase vs Original
Assembly	32600	12016	36.86%	20584	40000	94.33%	35167	12.08%
Electric / Refrig	1635	408.75	25.00%	1226.25	2672	117.90%	2672	0.00%
Blower	1409	378	26.83%	1031	1336	29.58%	1336	0.00%
Storage	14909	4785.1	32.10%	10123.9	16000	58.04%	12486	21.96%
Weld	3780	528	13.97%	3252	5359	64.79%	5359	0.00%
Foam	2640	540	20.45%	2100	3000	42.86%	2651	11.63%
Fab / Saw / Raw	8840	280	3.17%	8560	12000	40.19%	9051	24.58%
Insulation	1400	378	27.00%	1022	1816	77.69%	1816	0.00%
Paint	870	0	0.00%	870	2090	140.23%	2090	0.00%
Doors	16000	6891	43.07%	9109	12000	31.74%	6755	43.71%
(K Adjustment)	3623							
Maint Cage				1044	100.00%		1044	0.00%
Roll Form				1547	100.00%		1547	0.00%
New Product Dev				1221	100.00%		1221	0.00%
Sub Total	87706			57878.15	100085			
Office	4614			5000	16600		16600	0.00%
Total	92320			62878.15	116685			

Current Utilized Space	57878.15
Current Revenue	\$36,000,000
Proposed Manufacturing Space Sq Ft	100085
Percent of Utilized Space Increase	72.92%
Total Percent of Space Increase	26%

***Outdoor Storage Space not included

New Revenue Capacity: \$62,252,508