AdeptGroup

Reducing Transportation Costs

THROUGH MORE EFFICIENT PALLETIZATION

Drivers Behind Cost of Goods Sold

One of the biggest drivers behind cost of goods sold is transportation, both for inbound materials and for outbound finished goods.

To add some context, a 2018 report issued by Bain & Company pegged distribution and transportation costs for a typical CPG manufacturer at 6-8 percent of revenues, and those expenses can be even steeper when fuel prices and other logistics costs are high.

The same Bain & Company report states that the top CPG manufacturers can keep those costs below 6 percent, but the main difference they cite is the efficiency of transportation networks and strategic locations for distribution centers. While that kind of thinking can be beneficial for companies with massive distribution networks and the capital to invest in major infrastructure, there are opportunities to achieve even deeper savings without those expenses, and with minimal impact for channel partners and customers.

DID YOU KNOW?

Optimizing packaging and pallet configurations can save brands in many industries up to **50 percent** on transportation costs for inbound materials and outbound finished goods by maximizing the product or materials included in each shipment.

An Illustrative Example

To start with a hypothetical, a manufacturer that uses one truck per day to ship outbound product to distributions centers could use from five to seven trucks per week.

That adds up to anywhere between 260 and 365 outbound truck shipments annually. Without even realizing it, that company may be using up to double the number of trucks they should be. By optimizing packaging and pallet configurations to maximize the amount of product included in each shipment, that company could drastically reduce the number of trucks they need to use and save on the costs associated with those truck shipments. The same thought process can be applied to reduce the inbound transportation costs of materials, pallets and other packaging components, adding up to significant savings.

A REAL-WORLD EXAMPLE

These savings opportunities aren't just hypothetical. A real-world example involving changes to primary packaging that enabled more units per pallet and double stacking of pallets demonstrates the opportunities many companies have to save significantly by making their shipments more efficient.

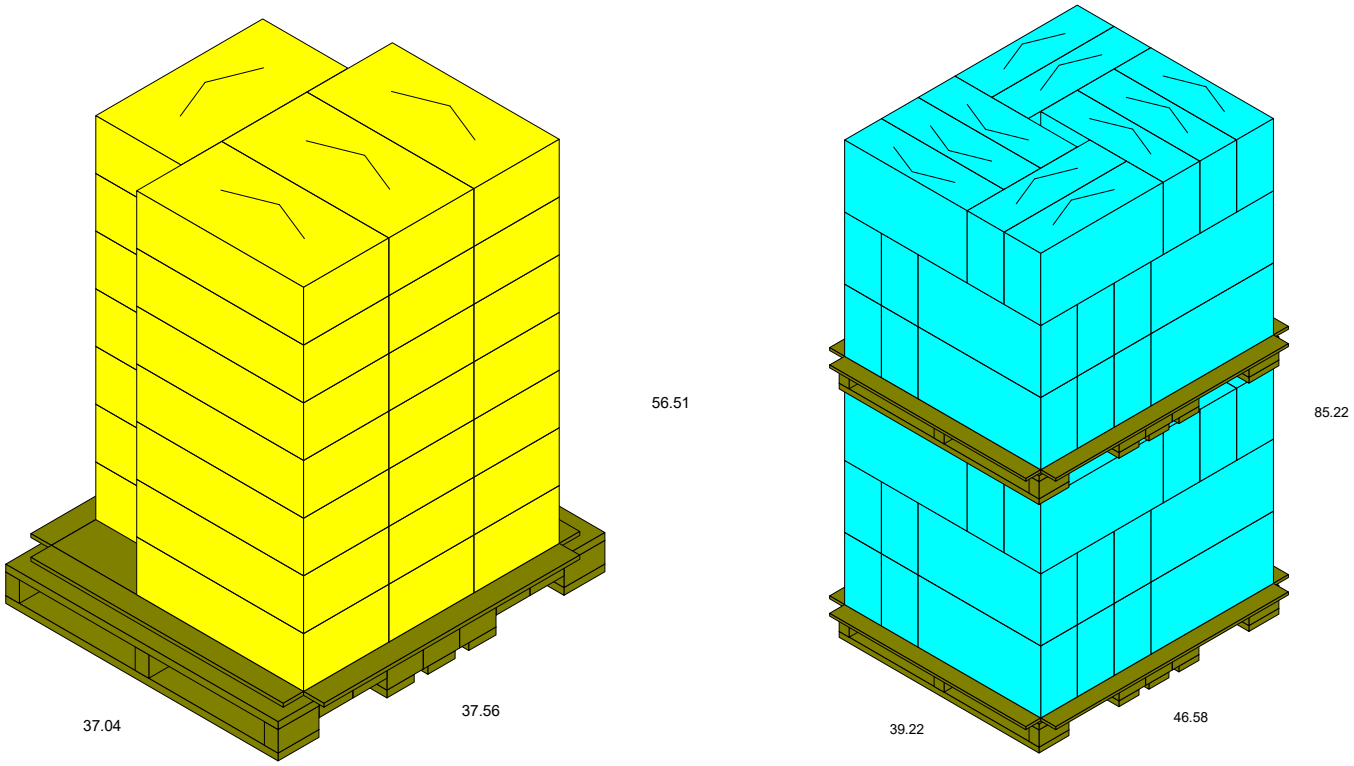
Cost Savings Funnel

OPPORTUNITY	CURRENT COST	NEW COST	SAVINGS	1M UNITS SAVINGS
Transportation Change- single stack to double stack pallet holding 20ctn/shipper (560 shippers/truck to 1200 shippers/truck)	$14 per shipper	$6 per shipper	$8 per shipper	**$330K**
Product holder tray cost change (Thermoform to injection molded)	13¢ per tray	5¢ per tray	8¢ per tray	**$80K**
Folding Carton cost change (smaller with new tray)	20¢ per carton	15¢ per carton	5¢ per carton (.125/ea)	**$50K**
Transportation change (with new carton and new tray)	$6 per shipper	$3 per shipper	$3 per shipper	**$125K**
Shipper cost change (40ct with new carton and new tray)	$1 per shipper	50¢ per shipper	50¢ per shipper .(024/ea)	**$20K**

Additional Benefits

The project included several cost-saving changes to primary and secondary packaging, but the largest of all savings is the cost reduction on shipping produced by getting more product on each pallet and more pallets in each truck load – **$330,000 in savings** for every 1 million units shipped.

Despite the drastic reduction in cost, this change is nearly invisible to the brand's customers. As a bonus, the optimized truck loads get product out of the manufacturing facility in fewer shipments, reducing greenhouse gas emissions from transportation and boosting the brand's sustainability efforts.



Deeper Savings with Slip Sheets

Increased Efficiency and Additional Savings

The previous example highlights the transportation savings enabled by optimized packaging, and a large portion of those savings come from double stacking pallets.

For many products, increased efficiency and additional savings are possible by eliminating pallets entirely. Removing those two pallets creates enough space for an additional layer of product, in this example fitting 70 cases into the space that would be occupied by 60 cases with two pallets. While the arrangement will still require a platform that a forklift can use to lift the product load, slip sheets work in many instances as a suitable replacement that's lighter, thinner, less expensive and more sustainable than a traditional wooden pallet.

Using slip sheets in place of wooden pallets enables savings not only by the freeing space for additional product in each load, but also by eliminating the cost of pallets, which can spike when the cost of wood is high. Most slip sheets are made of lightweight fiberboard, which costs only a few dollars per unit-load on average.

Looking again at the previous example, a typical truck shipment can fit 20 double-stacked pallet loads, requiring 40 pallets. The cost of pallets can vary, but assuming they're around **$12** each, the total cost for 40 pallets would be $480 per truck load. A slip sheet will cost no more than **$5**, meaning the cost for this same truck load would be **$200** – less than half the per-truck cost when using pallets. Using the example for a company that sends out one truckload of finished product per day and assuming **$280** in savings per truck, that change alone would save the company up to **$100,000** per year.

Slip sheets generally have a lip on two sides that extends beyond the standard load pattern, allowing the slip sheet truck to pull the load onto the forklift forks or conveyance for moving, loading or unloading. Additionally, slip sheets can be discarded after a few trips and are fully recyclable, as they are made entirely of paper.

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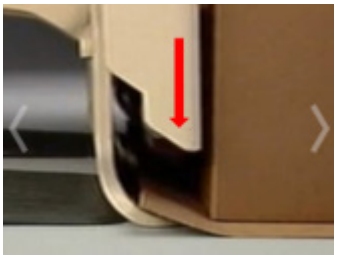
Why You Should Make the Switch

Major Cost Benefits for Minor Investments

The cost benefits of using slip sheets aren't limited to truck shipments. There are also advantages to using them for ocean freight.

A shipping container with product on slip sheets can be unloaded by a single fork truck operator, compared to a team required to unload a floor-loaded container by hand, reducing the labor cost of inbound shipments. The low, nearly nonexistent profile of slip sheets also facilities more product per shipping container, creating additional efficiencies.

Slip sheet and load



Clamping the slip sheeted load

Slip sheet attachment on fork lift truck

CONCLUSION

Optimized palletization can reduce the costs associated with transportation with practically no impact to a brand's customers. Savings appear through reduced fuel costs on both inbound and outbound shipments, lower labor cost in loading and unloading and increased efficiency of transportation utilization. Combining more efficient palletization with a switch from pallets to slip sheets enhances the savings in several of those categories, along with decreased material costs.

If you're looking for new sources of cost savings or if you haven't reviewed your pallet utilization recently, reach out.

The experts at Adept Group have experience helping brands in all industries discover new opportunities for cost savings in packaging and processes, and they can guide you through a review of previously unknown cost saving opportunities in your packaging function.