



# Reducing Operating Costs through Pallet Management

Today's DC and logistics managers are faced with unprecedented pressure to drive costs out of the supply chain, from production to transportation. Pallets touch every link in the supply chain, offering managers a unique way to identify cost-saving opportunities. The right pallet program has the potential to reduce costs in nearly every aspect of operations.

## History of a warehouse workhorse

Since the early 20th century, the pallet has evolved continuously to meet material handling needs. Early pallet development closely follows that of the lift truck, and the combination of the two had a dramatic impact on material handling practices. The practice of palletization emerged in the 1920s-30s, but was not widely adopted until World War II, when the use of palletized loads helped armed forces distribute goods more efficiently. Palletized loads meant fewer men were needed for warehouse labor, so more could be in active duty. It also increased warehouse capacity and throughput, reducing the need for additional warehouse space.

In 1976, the Grocery Pallet Council and Canadian Pallet Council introduced the first pallet standard (now called the Grocery Manufacturers Association or "GMA" specification). The standard footprint (48"x40") was developed to help the supply chain operate more smoothly and efficiently while reducing the costs associated with multiple pallet specifications (Source: Pallet Enterprise, December 2006). The GMA pallet specification is the most commonly used pallet spec today in the US, but there are a myriad of options in both specifications and program design. The selection of pallet spec and program design is referred to as pallet management.

## The age of pallet management

Just as the pallet has evolved to fit supply chain needs, so too has the practice of pallet management. Not long ago, “managing pallets” involved simply the purchase and storage of a required inventory of a certain type of pallet. As the warehouse became more automated and the supply chain more sophisticated, it became critical to manage not just the supply of pallets, but the type of pallet, inventory level, and pallet-related services. Today, those tasked with managing the pallet program face decisions that affect nearly all operating costs.

## Identifying costs that pallets impact

The choices you make for your pallet program impact costs in nearly every aspect of your operations. Through a comprehensive evaluation of your needs, you can optimize your pallet program for maximum cost-savings.

We begin by identifying areas of the supply chain affected by pallets:

- Pallet procurement/sourcing
- Transportation
- Warehouse storage
- Production
- Distribution
- Waste disposal and environmental issues

Next, we identify processes and initiatives outside the warehouse affected by pallets and pallet programs:

- Program administration and management
- Corporate compliance and security
- Customer service
- Outsourcing

Now, let’s take a closer look at how pallets affect each area’s costs.

## Procurement or sourcing costs

Your pallet price is only one sourcing cost affected by your pallet program. Few companies employ a full-time pallet manager, so time spent sourcing and managing vendors is usually time away from the operation. Even companies with central procurement must often deal with multiple local vendors to ensure adequate supply. In both cases, sourcing costs rise when vendors do not meet expectations. To reduce these costs and leverage nationwide pallet spend, consider a national vendor.

Also, look for pallet companies with reliable supply sources and contingency supply. Do they own their pallet supply or are they simply a broker with no guarantees? Can they meet your needs year-round?

*Pallets affect many areas of your operation.*

*Minimize the number of pallet vendors you use and select a vendor that owns their pallet supply.*

## Transportation

Your pallet program may impact transportation costs through third-party charges, logistics efficiencies, and trailer space utilization. Pallet suppliers pass along third-party expenses via explicit delivery fees or built-in pricing. In addition, these suppliers are constrained by the third-party's availability, limiting their ability to react to your demands. Using a pallet supplier with their own fleet eliminates variables that result in delays and additional costs.

*Select a vendor that owns their own fleet. Choose pallets with the smallest dimensions and lightest weight possible.*

Pallet suppliers with large fleets can tightly control transportation and provide you with logistics efficiencies (and cost savings) wherever possible. The larger your supplier's fleet, the greater their capacity to provide drop trailers at your facility, just-in-time delivery, flexible scheduling, and ability to accommodate multiple shifts. A larger fleet also enables suppliers to accommodate last-minute changes without delays.

Pallet size and weight are major factors in transportation and handling costs. If your outbound shipments weigh out before they cube out, a lighter pallet could make a difference. A recycled stringer pallet (and some plastic pallets) can weigh up to 40% less than a block pallet. This could be the difference between shipping 25 or 26 pallets of product. Large companies that switch from block to lighter stringer pallets can easily save hundreds of thousands of dollars each year.

## Warehouse storage

Reliable, just-in-time (JIT) pallet supply allows you to lower your on-hand pallet inventory, reducing capital tied up in pallets and wasted warehouse space. As the chart below illustrates, you may think you're reducing costs with a supplier that offers "cheap" pallets, but your actual cost is significantly higher if you're forced to store them:

*Select a vendor with just-in-time or VMI capabilities and one willing to drop trailers of ready to go pallets. Also, select a pallet spec that maximizes storage and/or racking space.*

Cost of warehouse space/sqft	\$7.00	\$8.50	\$10.00
Pallet length	48"	48"	48"
Pallet width	40"	40"	40"
Number of pallets in stack	10	10	10
Sqft needed per pallet load	220	220	220
Annual cost per load	\$1,540	\$1,870	\$2,200
<b>Additional cost per pallet</b>	<b>\$2.80</b>	<b>\$3.40</b>	<b>\$4.00</b>

Equally as important as JIT or vendor managed inventory (VMI) is a pallet that maximizes your warehouse space and racking system. This also helps minimize the space allocated to pallet storage. Odd-sized pallets and bulky block pallets may not be the best use of space. For example, the standard industry block pallet has a height of 5.56"; the standard A or B-grade stringer pallet is just 4.75" high. That 17% reduction can save thousands of dollars annually.

*Evaluate your pallet spec for compatibility with all equipment, monitor pallet failures and make spec changes as needed, and beware of unnecessary technologies or features.*

## Production

The wrong pallet specification (size, construction, or grade) for your operation can result in pallet failures, causing product damage, worker injuries, and production line downtime. To minimize these costs, pallets must work with your fork-lifts, automated production machines, conveyers, racking and other equipment.

Poor quality pallets also cause failures. But beware: over-built pallets can cost you more than pallet failures ever would. RFID tags and other high-tech bells and whistles can be a great asset to your operation, but only if you need them. If not, they add cost without any value. Don't agree to purchase pallets with high-end extras unless they're required by your customers or offer quantifiable value to your operation.

Only by evaluating different pallet specifications in your operation will you be able to determine the right mix of quality and cost-efficiency. Then, put quality measurements in place to ensure your pallet partner(s) are delivering the same pallet to you every time (and/or consistently to all locations).

## Distribution

Your pallet provider should work with your distribution network, not force you to meet their requirements. Pooled pallet programs limit the locations to which you may ship and hold you responsible for keeping track of those pallets' movements and inventory counts. If you ship to an unauthorized recipient or lose track of the pallets, you can be charged fees up to the replacement cost of the pallet (\$20-\$60 per pallet). If you must lease pallets, keep accurate records and track pallets closely to avoid those costs.

*Minimize use of leased pallets where they're not required. If you must lease pallets, reduce dwell time as much as possible and track pallets carefully.*

If you use several different pallet specifications (or both purchased and leased pallets) to accommodate various customers' needs, you add procurement steps and storage needs. The cost associated with managing a dual-handling, multi-SKU process may outweigh any "savings". This is avoidable in most cases, as a pooled pallet is usually not required and can easily be replaced by a standard recycled A (or #1) grade pallet.

The weight and dwell times of your pallets also affect distribution costs. Heavier, bulkier, block pallets take up more room in trailers than stringer pallets, so fewer loads fit onto outbound trailers. In some cases, this could mean the elimination of an entire layer of product. And, for supply chains with higher distribution dwell times (frozen foods, low volume items, etc.), dwell time charges further increase the cost of leasing a pallet.

## Waste disposal and environmental issues

Waste (of any kind) increases both financial and environmental costs. Financial costs include pallet disposal fees and the elimination of possible revenue, as reusable and multi-use pallets have value after use and should be sold. The exceptions to this rule are pooled/leased pallets, which do have value after use but only for the pooling/leasing company. You may incur a charge to return these pallets or pay lost pallet fees if you fail to do so. At the other extreme, one-way pallets cannot be reused and require disposal. The lowest-cost option is to use reusable stringer pallets and sell them back to your supplier.

*Use multi-use wood pallets to avoid disposal fees and reduce your environmental impact.*

The environmental costs of your pallet program must be evaluated in three areas of impact: raw material, distribution network, and end-of-life use. A reusable wood pallet requires just one-eighth of the raw material as a comparable plastic pallet. Despite rumors to the contrary, trees are rarely cut down to make wood pallets; they are cut down for more valuable items such as building materials and furniture. Most new pallets are built from the leftover lumber that would likely be discarded otherwise. Recycled pallets are used over and over and usually are repaired with recycled lumber. They do not end up in landfills (Source: National Solid Waste Management Association).

A pallet program's distribution network also affects its environmental cost. Reusable pallets are retrieved at the end of the supply chain and redeployed locally, while pooled pallets must be transported back to one of the pooler's few depots (potentially hundreds of miles away), and shipped back out to manufacturers. This repositioning, though necessary for a pooled pallet program, results in greater fuel consumption and greenhouse gas emissions.

Pallets that are reused at the end of the supply chain reduce waste. It is a common misunderstanding that only pooled pallets are reusable, when 48x40 wood stringer pallets are as well. These pallets are repaired and reused, minimizing landfill diversion, raw material use, and greenhouse gas emissions (Source: Peter Hamner and Marshall White, Virginia Tech).

## Program administration

*Keep your program simple to minimize administrative costs.*

The more complex the pallet program, the greater the amount of administration it requires – from both you and your supplier. This is time you're away from value-adding activities, reducing your efficiency. Plus, your supplier's administration costs are passed through to you as a fee. Pallet rental programs require higher levels of tracking and supplier administration than buy/sell programs. Compare costs at:

[http://www.ifco-us.com/america/na/en/biz\\_pallet/Choosing\\_IFCO/Pallet\\_Rental\\_Cost\\_Comparison/index.php](http://www.ifco-us.com/america/na/en/biz_pallet/Choosing_IFCO/Pallet_Rental_Cost_Comparison/index.php)



A program with multiple pallet vendors requires additional accounting, varying payment terms, inconsistent pricing, and multiple service contracts. This adds complexity, time, and costs not just to the purchasing department, but to operations and finance as well. Minimizing the number of vendors you use will help, but also ask your suppliers to provide you with inventory and accounting reports. An example of an online account management system can be found at:

[http://www.ifco-us.com/america/na/en/it\\_systems/index.php](http://www.ifco-us.com/america/na/en/it_systems/index.php)

If you are required to track pallets and maintain records for your pallet supplier, be sure that you include those hours and time spent researching lost pallet fees in the cost when evaluating your overall program.

### **Customer service issues**

The wrong specification or a pallet failure can result in rejected loads and other customer service issues including unsalables and damages to your products. Unreliable supply can also cause delivery delays. Demand that your pallet supplier assist in a complete supply chain analysis and can ensure consistent quality. Again, understanding your pallet partners supply source will also help ensure that they have consistent access to the pallets you need.

### **Can outsourced pallet management work for you?**

Depending on your available resources and the ability to leverage existing staff, you may consider a full or partial outsourcing. Many services are available depending your supply chain and overall volume. Warehouse pallet sortation, pallet repair and recycling, return to vendor shipping and tracking, outbound pallet shipment and other on-site functions are all services that are often more efficient for a pallet supplier to provide. A reputable, insured service provider can maximize your pallet revenue and eliminate or reduce other costs while freeing up your employees for other tasks.

### **Corporate compliance and security**

Unsecured pallet storage is a theft risk - especially during tough economic times. With online inventory reports you can identify leaks and fix them quickly. Minimizing your on-hand pallet inventory (through JIT delivery or VMI) will also reduce this risk.

Accurate pallet asset accounting is necessary for compliance with Sarbanes-Oxley; CT-PAT (Corporate Trade Partners Against Terrorism) and other functions critical to your organization. Be sure your pallet suppliers get you the information you need and take steps to ensure their own regulatory compliance. Do they take the proper steps to safeguard themselves? Are their hiring practices and safety programs compliant? Can they produce end of year reporting and other audit requirements?

*Closely monitor pallet issues with your customers and select a quality-focused vendor with consistent access to pallets.*

*Determine the cost and efficiency of internal services management (repair, sortation) - outsource when a vendor can do it cheaper and more efficiently.*

*Implement a secure pallet accounting system, select vendors with appropriate compliance certifications, and limit the inventory of pallets kept on-site.*

## Summary: Pallet Program Optimization Checklist

### Select the right pallet:

- Select pallets with smallest size/lowest weight
- Evaluate pallets for compatibility with all equipment
- Monitor pallet failures internally and with customers
- Avoid unnecessary features or technology
- Use multi-use, reusable pallets to avoid disposal fees
- Select a pallet specification that maximizes space

### Design your optimal program:

- Keep your program simple
- Minimize the number of pallet vendors you use
- Minimize use of leased pallets
- Sell surplus pallets back to your provider
- Track costs and usage through online account management
- Outsource pallet functions when cost-efficient
- Choose a program featuring JIT or VMI

*For more cost reduction strategies and an assessment of your pallet needs, email [info.na@ifcosystems.com](mailto:info.na@ifcosystems.com)*

### Select a provider that:

- Has appropriate compliance certifications
- Owns their pallet supply (not a broker)
- Owns their own transportation fleet
- Offers just-in-time supply or vendor managed inventory
- Has the expertise to help you find the right pallet
- Has the ability to service all of your locations
- Offers a single-source for all services, no third-parties

## Resources

### CT-PAT Compliance

[http://www.cbp.gov/xp/cgov/trade/cargo\\_security/ctpat/](http://www.cbp.gov/xp/cgov/trade/cargo_security/ctpat/)

### Pallet Design Software

<http://www.palletcentral.com/PDS/PalletDesignSystem.htm>

### Pallet Management Services

[http://www.ifco-us.com/america/na/en/biz\\_pallet/index.php](http://www.ifco-us.com/america/na/en/biz_pallet/index.php)

### Sarbanes-Oxley Compliance

<http://www.sec.gov/about/laws/soa2002.pdf>

## About IFCO SYSTEMS

IFCO SYSTEMS provides nationwide pallet management with reusable, durable wood stringer pallets. IFCO offers just-in-time delivery, online account management, and reliable pallet supply and retrieval year-round. With the industry's most rigorous compliance program and a company-owned fleet, IFCO has the capabilities and expertise you need. Call 877.430.IFCO or email [info.na@ifcosystems.com](mailto:info.na@ifcosystems.com) to get started.

