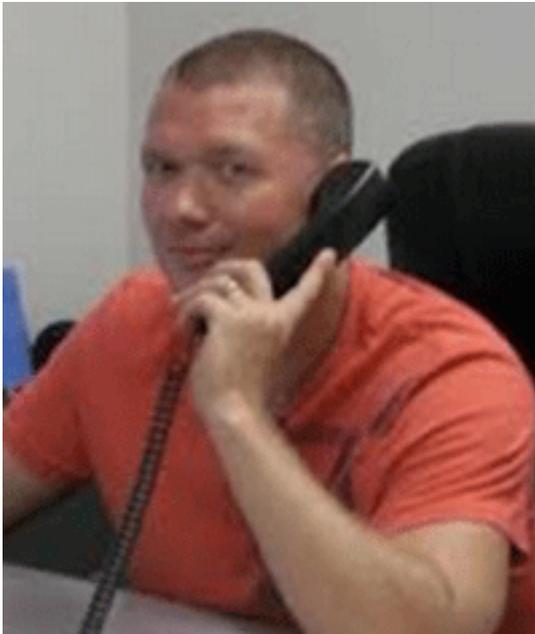


# What Goes Into Good Warehouse Design?

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No matter what your industry, the design of your warehouse has far-reaching ramifications for efficiency and savings. The layout should make sense, and items should be accessible at short notice. Likewise, warehouse staff should understand the most efficient ways to place and find items so that operations are as fluid and seamless as possible.

Below are a few useful considerations for designing a warehouse that makes sense for both you and your customer.

### **Customer Needs**

Customer needs will dictate much of how you design your warehouse — from layout to inventory. Keeping your customers happy should be your top priority, and warehouse design is a key part of that.

From a layout perspective, your warehouse design will influence some of the cost that is passed along to customers. That includes the cost of transportation, tracking and holding inventory, operation costs within the warehouse and labor.

And then there is the need to respond to inventory needs. If your customers have high availability needs, your warehouse should be designed in a way that will leave you well stocked at all times. If your customer expects short lead times, then the products they need should be easily accessed on short notice. The remaining considerations largely relate to issues of responding to customer needs.

### **Location**

Many of the customer issues raised above can be addressed by considering

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location. Obviously, you want to be near your customers to spare both them and you unnecessary transportation expenses. If you have multiple customers located far from each other, you must decide whether to favor a larger customer over another, or split the difference between them.

Customer convenience is one thing, and so are operating costs that can fluctuate depending on your location. The cost of operating a facility can vary greatly from place to place. For example, space in an urban setting could cost more than it might in a rural one — although that could be negated by transportation costs. You might have different expenses to account for in various locations, including insurance costs and zoning. Similarly, labor will vary. It's a balance that changes depending on your own needs and those of your customers.

### **Layout**

Like location, layout inside your warehouse should minimize the time it takes to get from Point A to Point B.

Having the right layout for your warehouse is crucial. It should be easy to navigate, and your employees should know the most efficient routes so that they aren't making multiple trips down the same aisle when they could be consolidating their efforts. The warehouse should be segmented into well-defined areas — including separate areas for shipping, receiving and returns. Each should be well-marked and sometimes sectioned off to prevent costly mix-ups.

A grid-style layout can make storage more intuitive. While long aisles are useful, be sure to have multiple perpendicular aisles for easier navigation. And your system of storing material should minimize the need to move items from one location to another. Map the area and be consistent so that your staff can move quickly.

### **Inbound shipments**

Your primary concern might be efficient shipping out of your warehouse, but don't forget the importance of efficiency in receiving. In many ways, your receiving area is the most crucial area of your facility, because all else depends on your ability to bring in materials, sort and catalog them, and get them to the right place in the warehouse.

Take a look at your receiving needs and determine whether your existing warehouse design or concept includes the right dock capacity. You must also take into account accessibility, operating hours, the need for shipping vehicles, simultaneous unloading and loading needs, wait times, and documentation. It is best to err on the side of a shipping area that is too large over one that limits your ability to move items at an optimal speed.

Another consideration is the material being received. For example, you might be bringing in pharmaceutical materials or hazardous chemicals. Your inbound area should accommodate such needs with either separate receiving areas or a place to quarantine shipments prior to testing or placement in the proper inventory.

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### **Going Green**

It's a trend that is impacting every sector, and your warehouse is no exception. Customers like the idea of an environmentally friendly facility. They enjoy the bragging rights that come with green business, and sustainability can actually save them money.

Location comes into play again here, as convenience and accessibility by public

transportation is a major green perk. Some facilities are reducing artificial light with

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skylights and more windows. Others are using white reflective building material to

reduce heat and the need for air-conditioning. Open airflow is another way to

reduce energy consumption in your warehouse. From a design standpoint, flexibility

can help a warehouse grow into energy efficiency. Facilities should be designed to

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