

# Spaghetti Diagrams in Warehousing & Distribution Flow

## *A Visual Tool to Reduce Waste and Improve Efficiency*

### **What is a Spaghetti Diagram?**

A Spaghetti Diagram is a lean tool used to visualize the flow of people, products, or information through a process or facility. Named for its resemblance to tangled spaghetti noodles, the diagram highlights inefficient movement and unnecessary travel paths in a workspace.

### **Purpose in Warehousing & Distribution**

In warehouse and distribution environments, Spaghetti Diagrams are used to:

- Map the current flow of materials, workers, or forklifts.
- Reveal inefficiencies caused by layout design or process steps.
- Identify opportunities to shorten travel distances and streamline operations.
- Support continuous improvement and lean initiatives.

### **Common Uses:**

- Tracking how far pickers travel during order fulfillment
- Analyzing forklift paths for staging and loading
- Studying the path of a product from receiving to shipping
- Visualizing operator movements at packing or kitting stations

### **How to Create One:**

1. **Choose a process or area** – e.g., order picking or shipping.
2. **Observe and record** actual movement (don't rely on SOPs).
3. **Draw lines** over a facility layout to represent the paths taken.
4. **Analyze for waste** – look for loops, backtracking, excessive travel.
5. **Redesign** – propose layout or process improvements to reduce movement.

**Benefits:**

- ✓ Improves layout design for better flow
- ✓ Reduces motion waste and walking time
- ✓ Enhances safety by minimizing cross-traffic
- ✓ Leads to faster throughput and lower labor costs

**Key Tip:**

Combine Spaghetti Diagrams with time studies to fully understand the cost of inefficient movement and justify changes.

