

# EPICENTRAL

A Newsletter from Epicenter Development Group  
highlighting ideas that improve organizations.

Welcome to Epicenter Development Group's newsletter, EPICentral. The purpose of this newsletter is to highlight fundamental ideas that have helped organizations develop and maintain great manufacturing and service operations. We hope that you find our EPICentral newsletter helpful, and we would welcome your comments on its content.

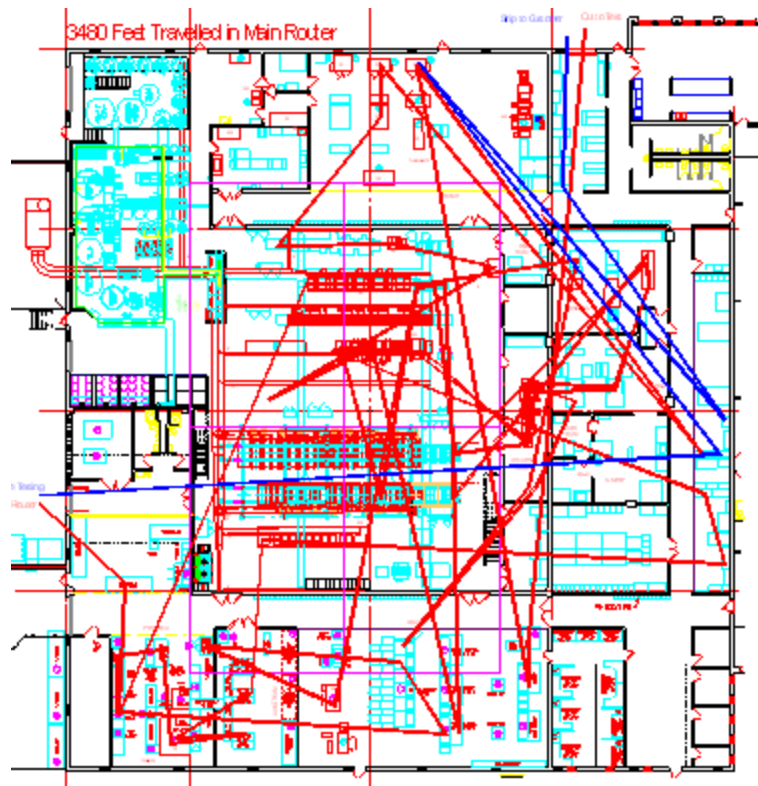
## A Birds-Eye View of Your Operations with Spaghetti Flow Diagramming

It has been estimated that over 65% of traditional operating costs are a result of material handling activities. Regardless of the actual cost for your operations, you can probably imagine the significant time spent receiving, handling, storing, picking, transporting, and shipping materials within your operations. So how do you start the process of identifying opportunities to improve flow and reduce handling costs? One simple, yet powerful, tool for addressing flow issues is the Spaghetti Flow Diagram. It's easy to make, easy to understand and a great way to share flow information with a team of people.

### Spaghetti Flow Diagram Construction

Spaghetti Flow Diagrams are made using the following process:

1. Create a basic drawing of your operations. At a minimum, the drawing should show the main building features (walls and doorways) and the footprint of major pieces of equipment. I also find it helpful to show aisle lines and



to label the function of each main area.

2. Pick one major product to use for the flow diagram. The product should be representative of a higher-volume, "typical" product that is handled within your facility.
3. With the aid of a person who is very familiar with the product being studied, identify and draw the ACTUAL physical path of the product into, through and out of the facility. This usually starts with the receipt of major raw components in the receiving area and ends with the finished product leaving through one of the dock doors. I find it helpful to actually "walk the process" in the facility, as though I was the material being handled, and sketch the path as I go.
4. To complete the diagram, measure and note the distance traveled by the product. Don't be surprised if your materials are traveling a mile - I've seen it before!
5. An example Spaghetti Flow Diagram is shown above. The product studied has over twenty-five processing steps, left the building half way through the process and took several weeks to complete the journey. Because of the process complexity, I used a straight-line path between departments (didn't follow aisle ways in this example).

### Using the Drawing

Once you have completed the Spaghetti Flow Diagram, it's time to gather a cross-functional group of people and get some feedback on your material flow. For this step, I find it helpful to make a large copy of the drawing and put it on the wall for group viewing. Some good questions to ask the group might include:

What do you think about the material flow? Does it seem "good," "bad" or "reasonable?" Why?

If we were to rearrange the facility to reduce the distance traveled, where would be the biggest opportunity to reduce the travel distance?

Where might there be opportunities to combine departments or activities to eliminate some of the transportation?

Could we eliminate some of the travel distance through the purchase of inexpensive, duplicate equipment (extra stretch-wrappers for example)?

How do you think the material flow affects our lead time to fulfill orders? Where are the biggest delays along the flow?

The goal of this exercise is to allow people to discover for themselves where there might be opportunities for improvement. In my experience, once people can "see" the opportunities, they can really begin to work as a team to find solutions and make significant operational improvements.

### Next Steps

If you would like more information on this topic or other similar types of tools, please contact Bill Proctor with your request at [wproctor@epicentergroup.com](mailto:wproctor@epicentergroup.com) or 216-702-0952. You can also find previous issues of EPICentral at [here](#).

Mr. Proctor also speaks on a variety of problem-solving and system design topics that can help companies significantly increase the success and profitability of their businesses. If you are interested in having Bill speak at one of your upcoming meetings/events or would like more

information on any of the speaking topics, please visit [contact us](#) or you can email [sales@epicentergroup.com](mailto:sales@epicentergroup.com).

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William Proctor, Epicenter's founder and president, has provided services around the country to more than 100 companies consisting of a variety of organizations; and Epicenter continues to grow as a resource for firms of all sizes.

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