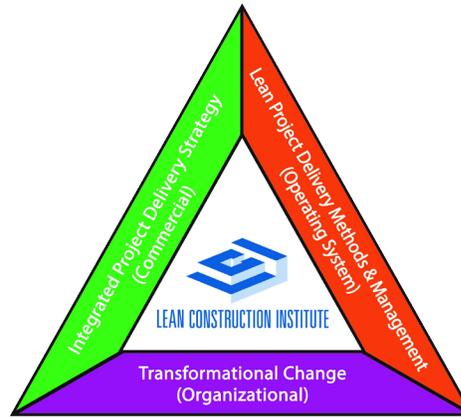


A collaborative presentation from over a dozen experienced Lean IPD practitioners.

Learning to See Waste



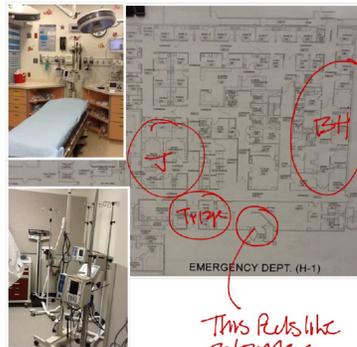
Lean Thinking Focuses on The Eight Wastes

- Defects
- Overproduction
- Waiting
- Not Utilising Employees (knowledge, skills, abilities)
- Transportation
- Inventory
- Motion
- Excess Processing

Inspiring Improvement

If your customer could see all the things that go on in your business, would they be prepared to pay for them? Because they do!

*ED Gamboa
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“THE MOST DANGEROUS KIND OF WASTE IS THE WASTE WE DO NOT RECOGNIZE.”

| Shigeo Shingo |

1.0 Why

2.0 What

Waste Defined

References/ Sources

1.0 Why

Waste can be defined as any task that is not value added.

Value added tasks are tasks that meet the following three criteria:

- The end customer cares about it.
- The task changes the shape or form of a product or service.
- You can do it right the first time.

Studies have shown that approximately 70% of the activities performed in the design and construction industry are non-value add or waste. If we can learn to see waste, we have the ability to dramatically affect this ratio.

Waste is an assessment about anything that interferes with our capacity to take care of what we want to take care of. Fix what bothers you!

2.0 What

Japanese Lesson

Muda: any activity that is waste or does not add value

Mura: Unevenness in operations

Muri: Overburdening of people or equipment



Seven major wastes were originally defined by Taiichi Ohno to describe waste in mass production. These originate from the manufacturing world but can be applied to any process. In the late 90s an eighth form of waste began to be formally recognized.

There are several acronyms to remember what these wastes are. One of the more common ones is TIMWOOD, or TIMWOOD(S). Another Acronym is DOWNTIME. The acronyms are not important, that is just a way to easily remember the categories. What is important is learning to recognize waste in processes. These terms will open your eyes to waste in any process.

Transportation

Unnecessary movement by people, equipment, or material from process to process. This can include administrative work as well as physical activities.

In Design/ Construction this could include moving equipment or materials on a project site. It could also include complicated electronic file transfers of information during design and construction.



Over Processing

More processing than is needed to produce what the customer requires. Perhaps the hardest to detect and eliminate.

We need to constantly ask the questions about value to the end customer to understand this. Are we providing more than what our customer needs? Are we over detailing, over designing, or over thinking our work based on what the end customer wants and what other team members are providing?



Over Production

Making something before it is truly needed. This is particularly serious form of waste because it leads to other forms of waste.

During projects it might seem advantageous to work ahead of the group. If you have the staff and the time, why not push forward? Often times this is a mistake and may cost you more time. Imagine if you had a curtain wall trade contractor detail their portion of work before the exterior design was approved. The risk of rework usually is not worth it in the end.

Defects

Production that is scrap or requires rework.

Errors and Omissions, Construction errors, all fall into this category. We will not eliminate all errors, but we can coordinate to reduce them and communicate to minimize the impacts of any that occur.

Skills (if using TIMWOODS acronym)

Non-utilized Resources (If using DOWNTIME acronym)

Neglecting to seek input from all sources and utilize talent and resources available.



This can be common on traditional projects because the experts at a subject are usually not in the meetings where problems are discussed. Change this by discussing project issues at their source and involve all relevant stakeholders.

Waste is disrespectful to people. All of the wastes described here interfere with the individual's work environment. Waste consumes resources and workers' skills. It is the enemy of good construction.