

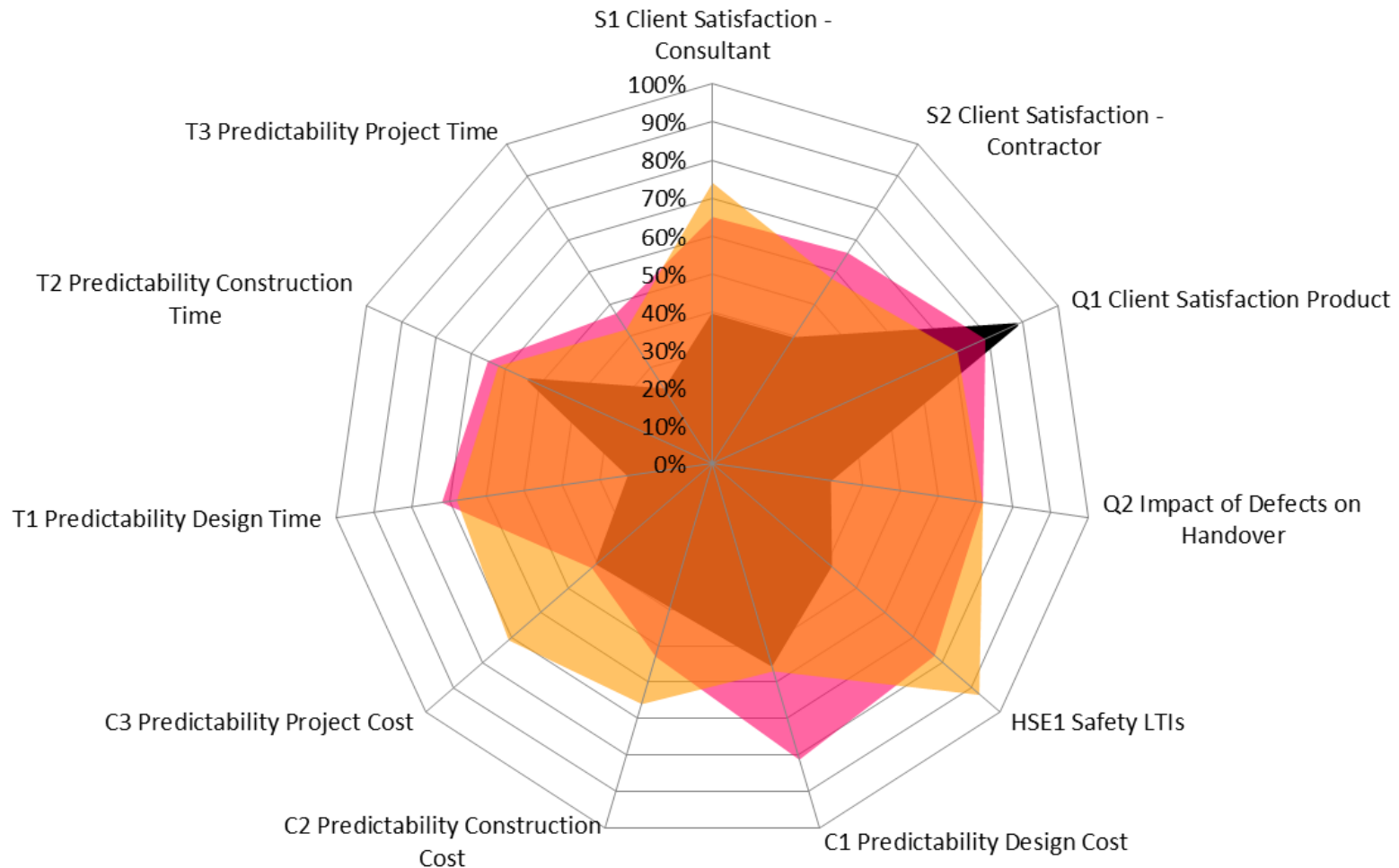
**CONSTRUCTING  
EXCELLENCE**  
IN NEW ZEALAND



# Performance Improvement via Lean Construction

Construction Clients Group

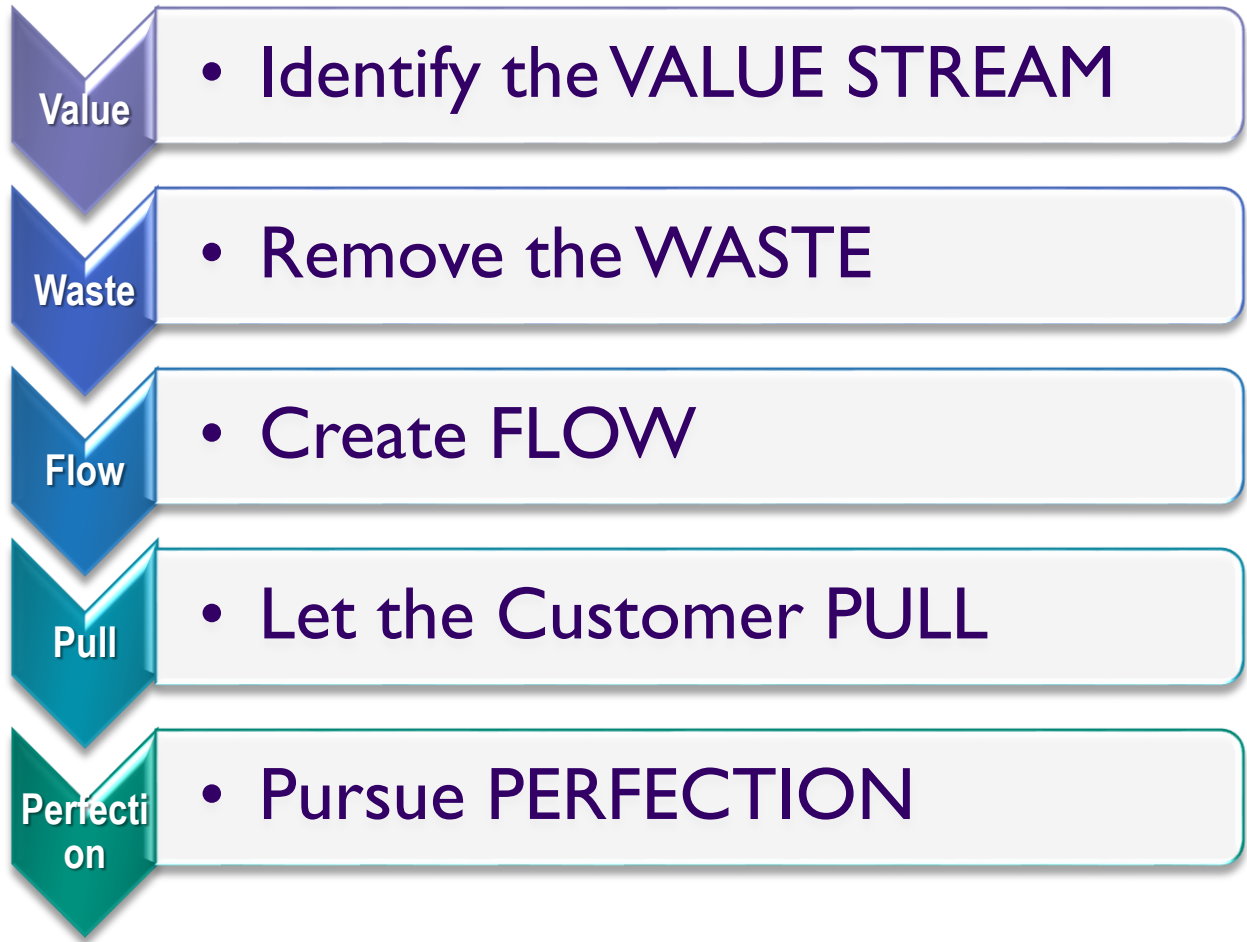
# National Industry Performance 2006, 2011, 2013



■ 2006 ■ 2011 ■ 2013

# Lean Principles

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# The real value of client outcomes (1-5-200)

## High quality buildings can...



Speed up recovery  
in hospital by

**27%\***



Improve learning  
in schools

**10%\***



Increase productivity  
in the workplace

**20%\***



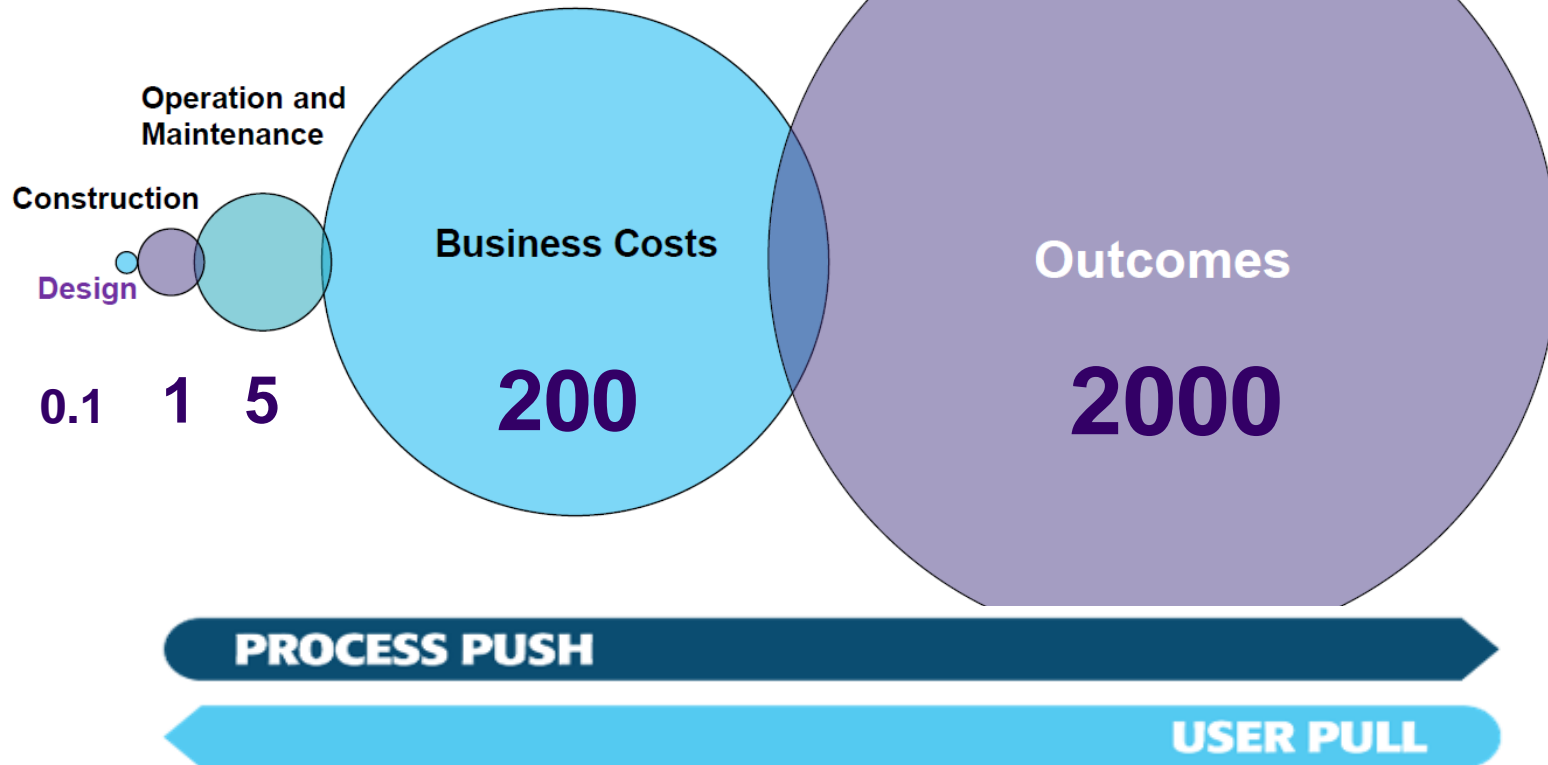
Help reduce  
crime rates

**67%\***

*\* 'The value of good design: How building and spaces create economic and social value'  
Commission for Architecture and the Built Environment (CABE)*

# The real value of client outcomes (1-5-200)

The value of client outcomes far outweighs the project costs



# St Francis of Assisi Academy, Liverpool - sustainability delivering value

## Green values help academy top new league table

“A school which offers its pupils a green-focused education has won plaudits for having the best teaching standards in the country....”

*The*

*Independent*, 11 Jan 2007

**CONSTRUCTING EXCELLENCE**  
In New Zealand

**demonstration project**

### The Academy of St Francis of Assisi

Client	St Francis of Assisi Academy Trust
Location	Liverpool, Merseyside
Completion	2005
Area	15,000 sqm
Contractor	W. J. Carr Construction Ltd
Architect	W. J. Carr Construction Ltd
Project Manager	W. J. Carr Construction Ltd

The Academy of St Francis of Assisi is a 11-18 year old academy in the Merseyside area of Liverpool. One of the Government's new 'Right to Buy' academies, it was co-sponsored by the Roman Catholic Church and Church of England, with the DfES.

The building was designed to create a building with a specific focus on the environment. The design team used a range of green building techniques to create a building which is not only green but also sustainable. The building is a prime example of a green building which is not only green but also sustainable. The building is a prime example of a green building which is not only green but also sustainable.

**Key People and Roles**

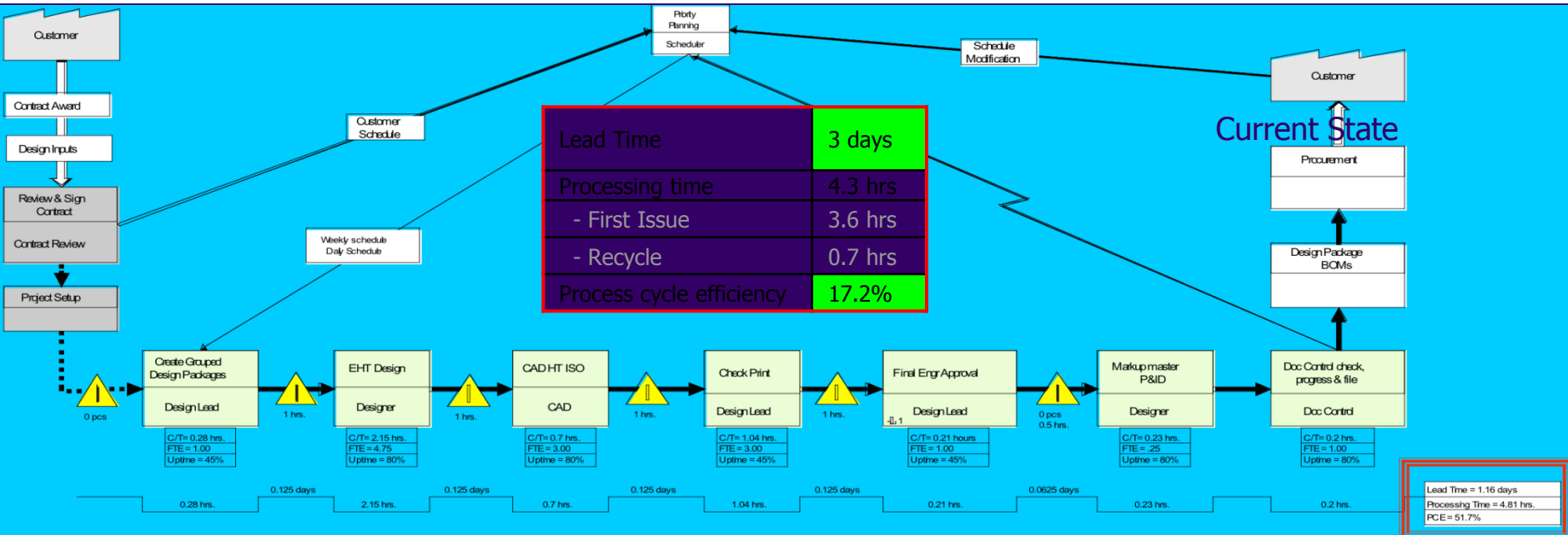
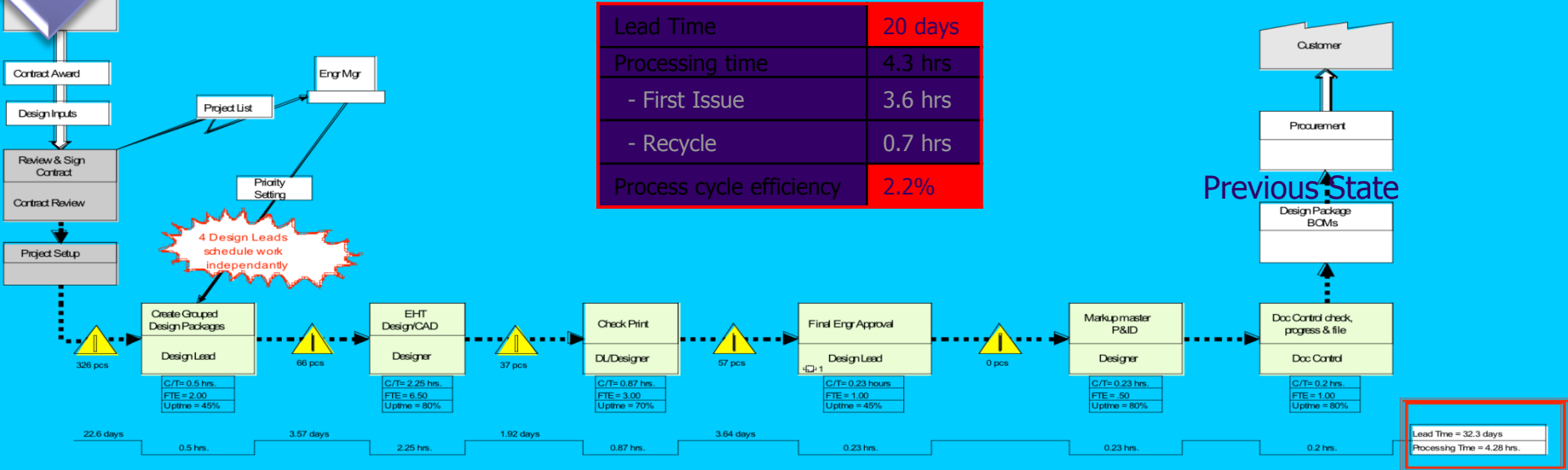
W. J. Carr Construction Ltd was the main contractor for the building. The building was designed by W. J. Carr Construction Ltd. The building was designed by W. J. Carr Construction Ltd. The building was designed by W. J. Carr Construction Ltd.

“The excellent GCSE results and the fact that our students finished top of the national league tables for progress can rightly be attributed to the impact the building had on their studies”



# The Value Stream Maps

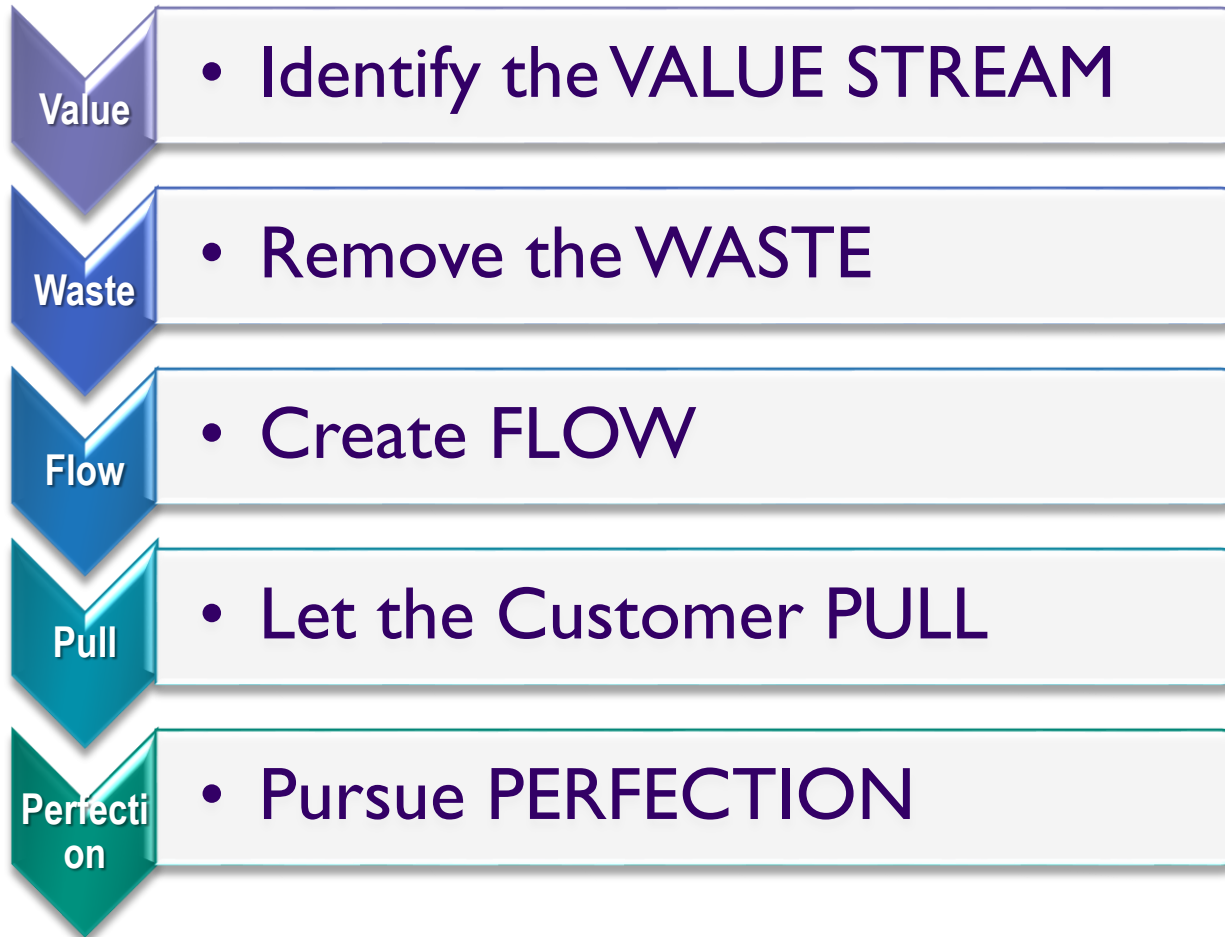
Value





# Lean Principles

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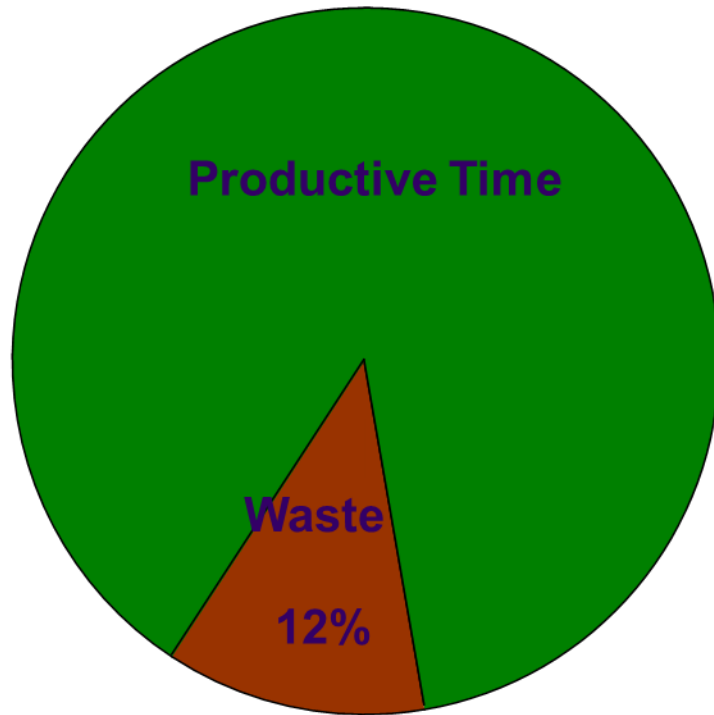




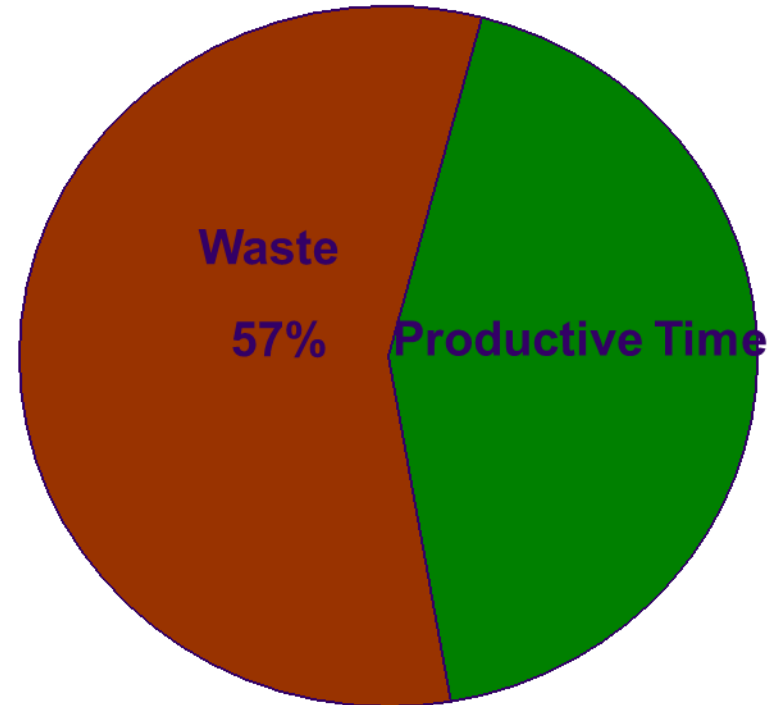
# Wasted Time is Out of Control

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## Manufacturing



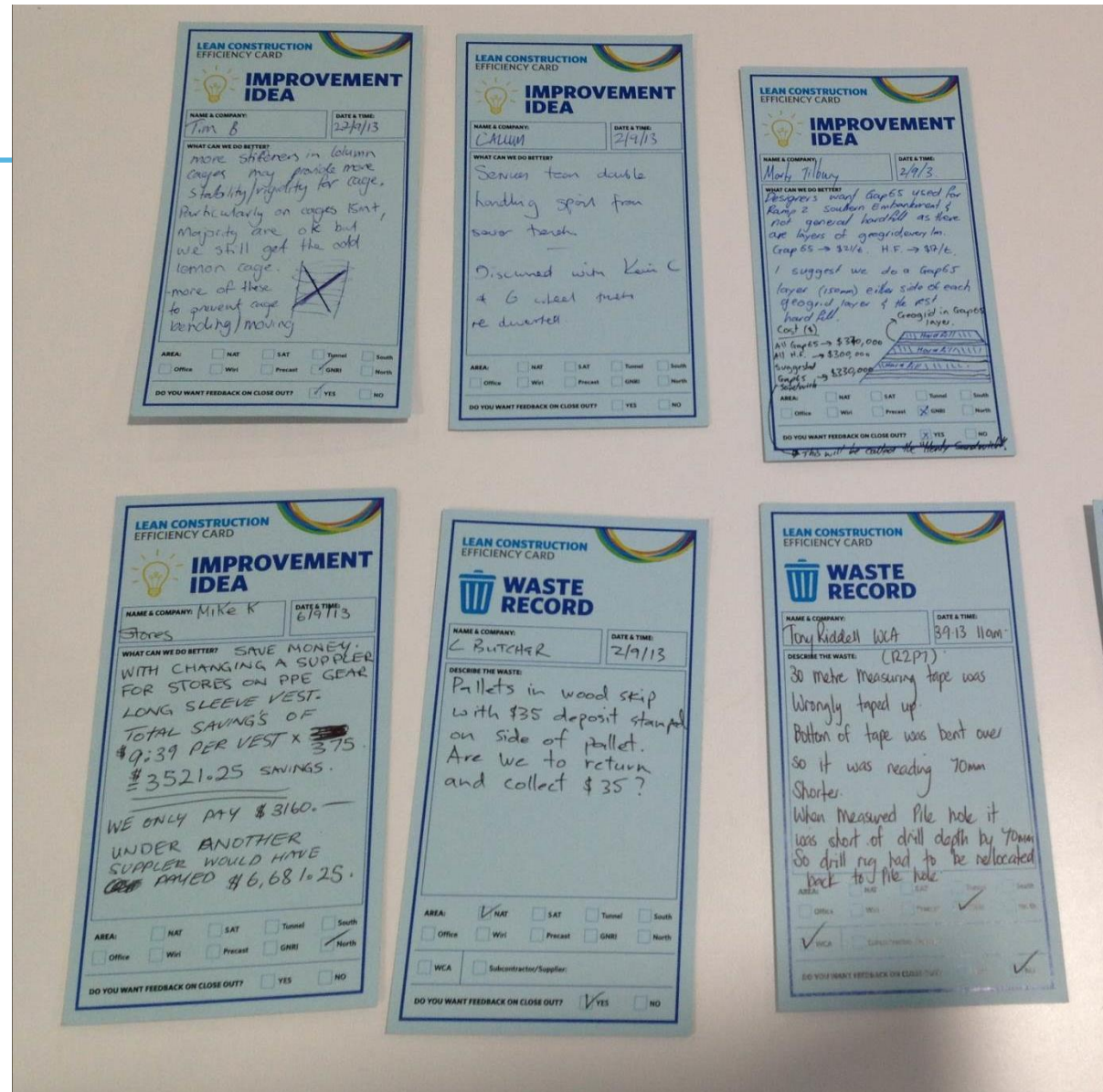
## Construction



Source: Construction Industry Institute  
2004

# 'Blue Cards'

- ▶ Capture 'Wastes' as you go
- ▶ Ideas for Improvement
- ▶ Review at Stand-Downs





# The 7 Types of Waste (Ohno)

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The Waste of...

...Overproduction **building ahead of time**

...Waiting **people, information, materials**

...Unnecessary Transportation **haulage and double handling**

...Inappropriate processing **wrong methods**

...Unnecessary inventory **storage**

...Unnecessary motions **travel distances**

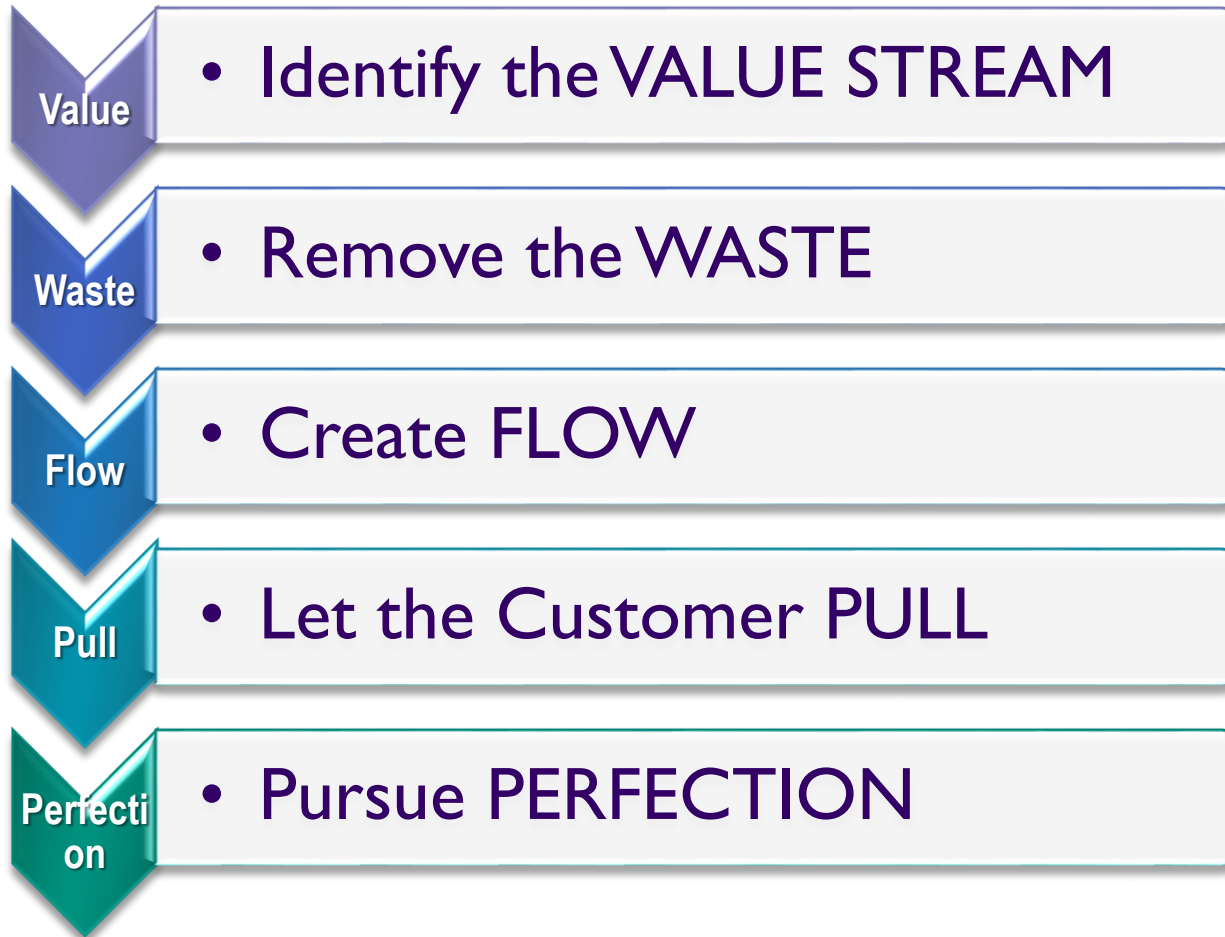
...Defects **rework**

**plus**

...Human potential **not developing people**

# Lean Principles

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Flow

# Impeccable Coordination



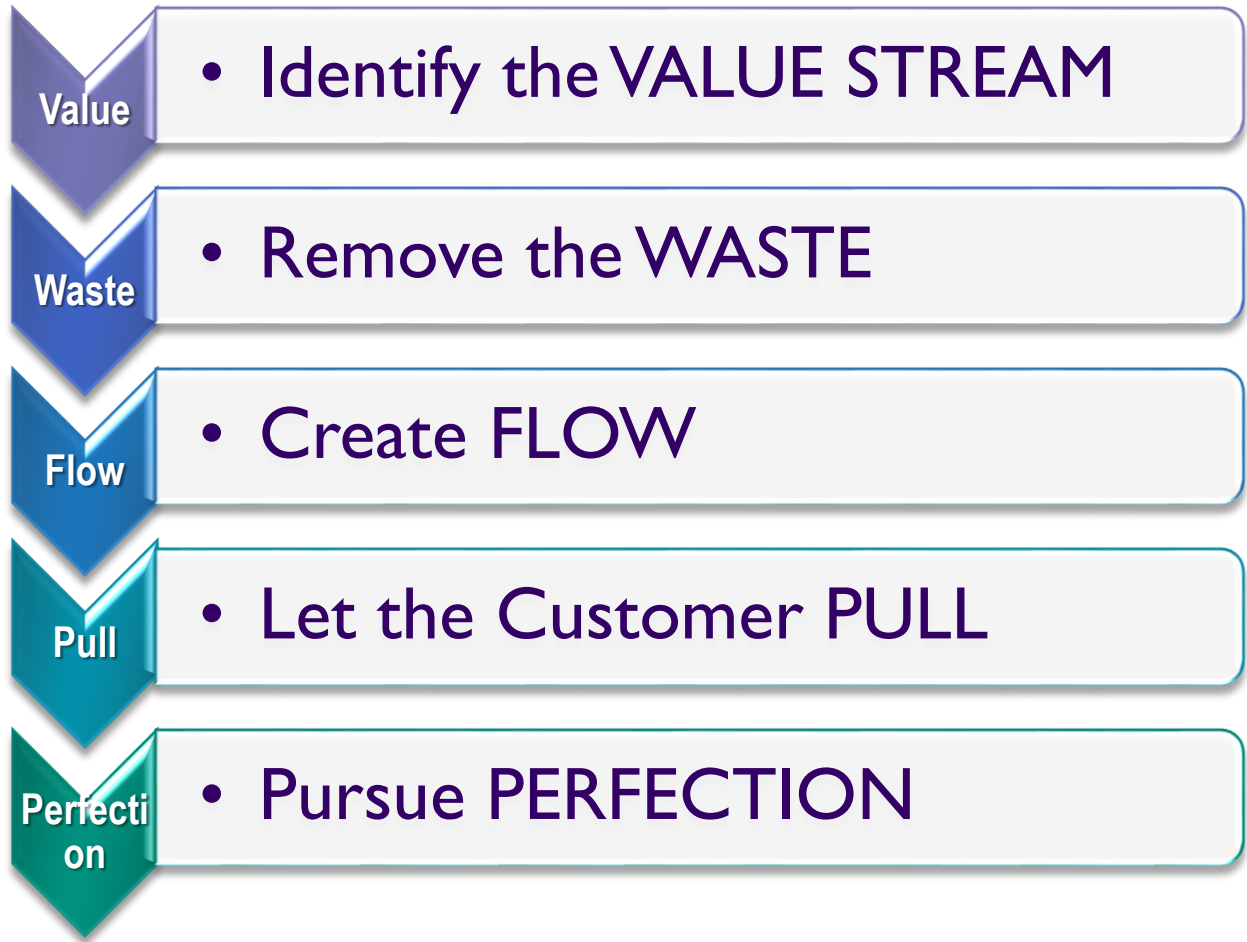


# Organizing Production



# Lean Principles

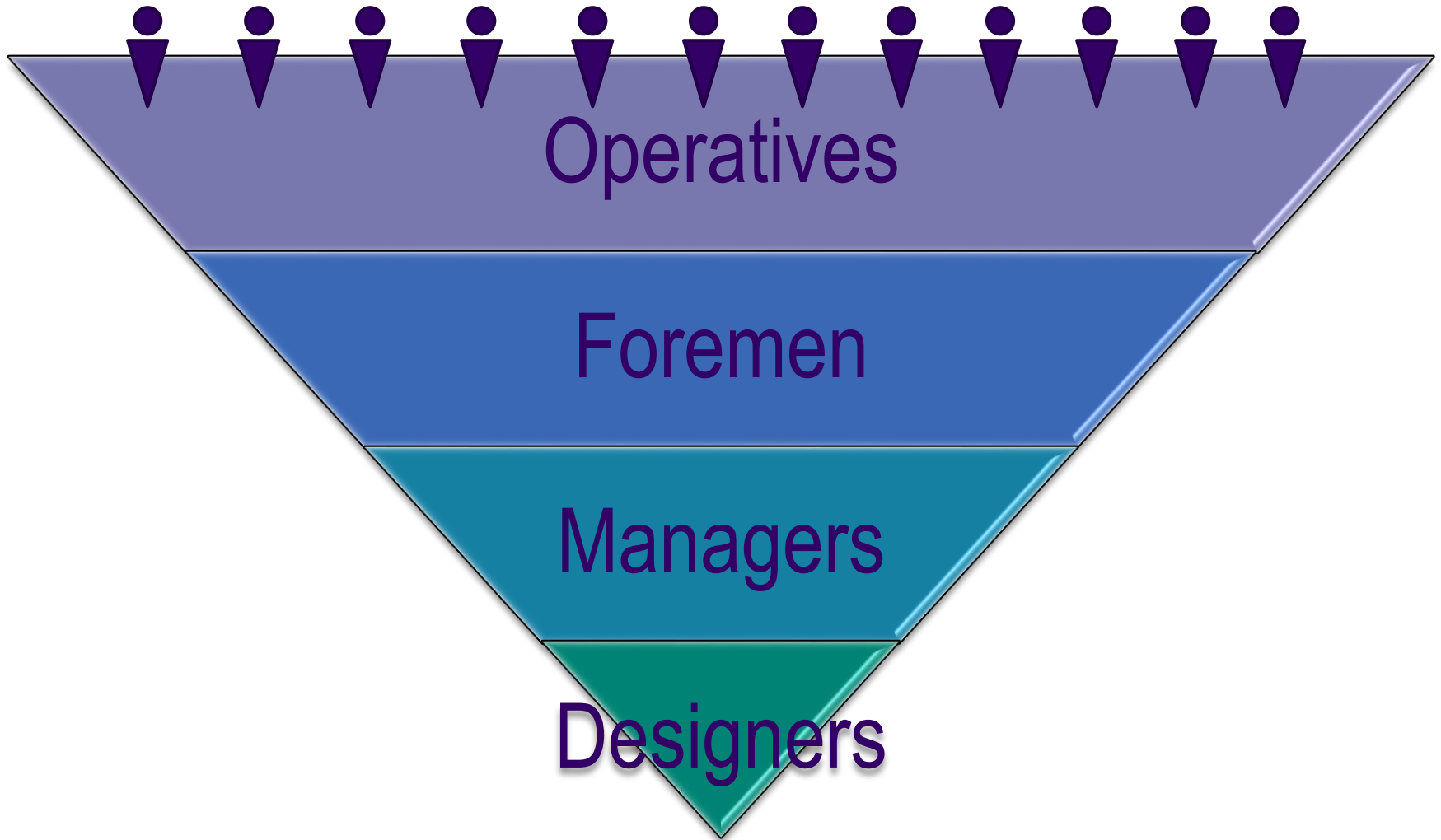
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# Let the Customer PULL



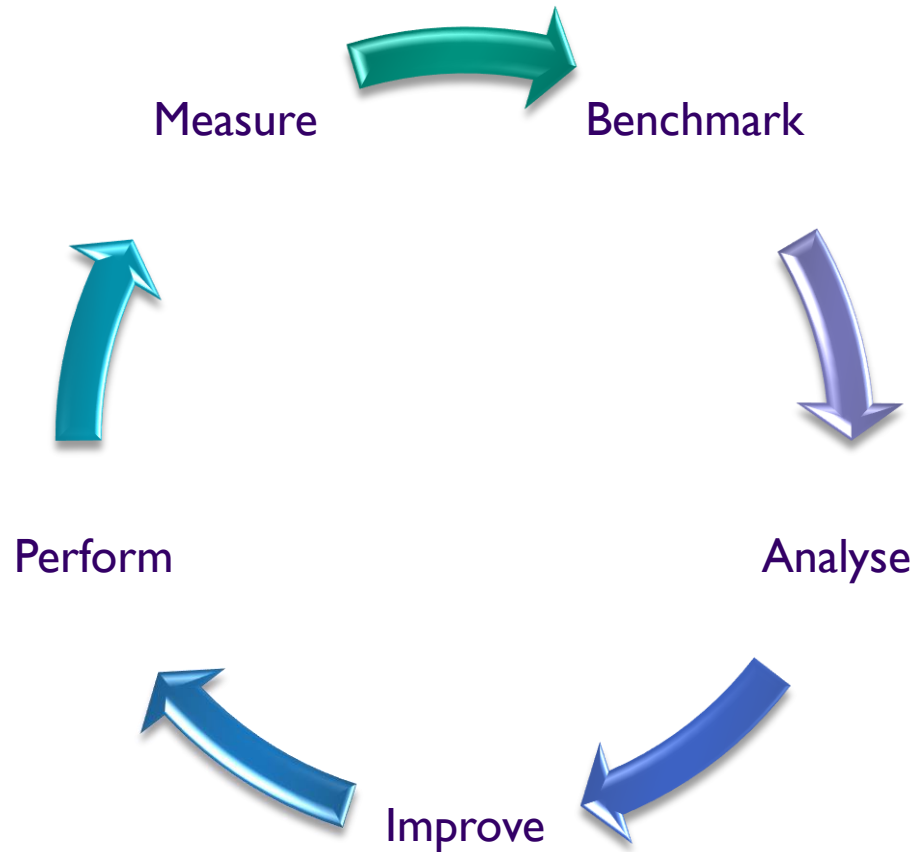
# Lean Principles

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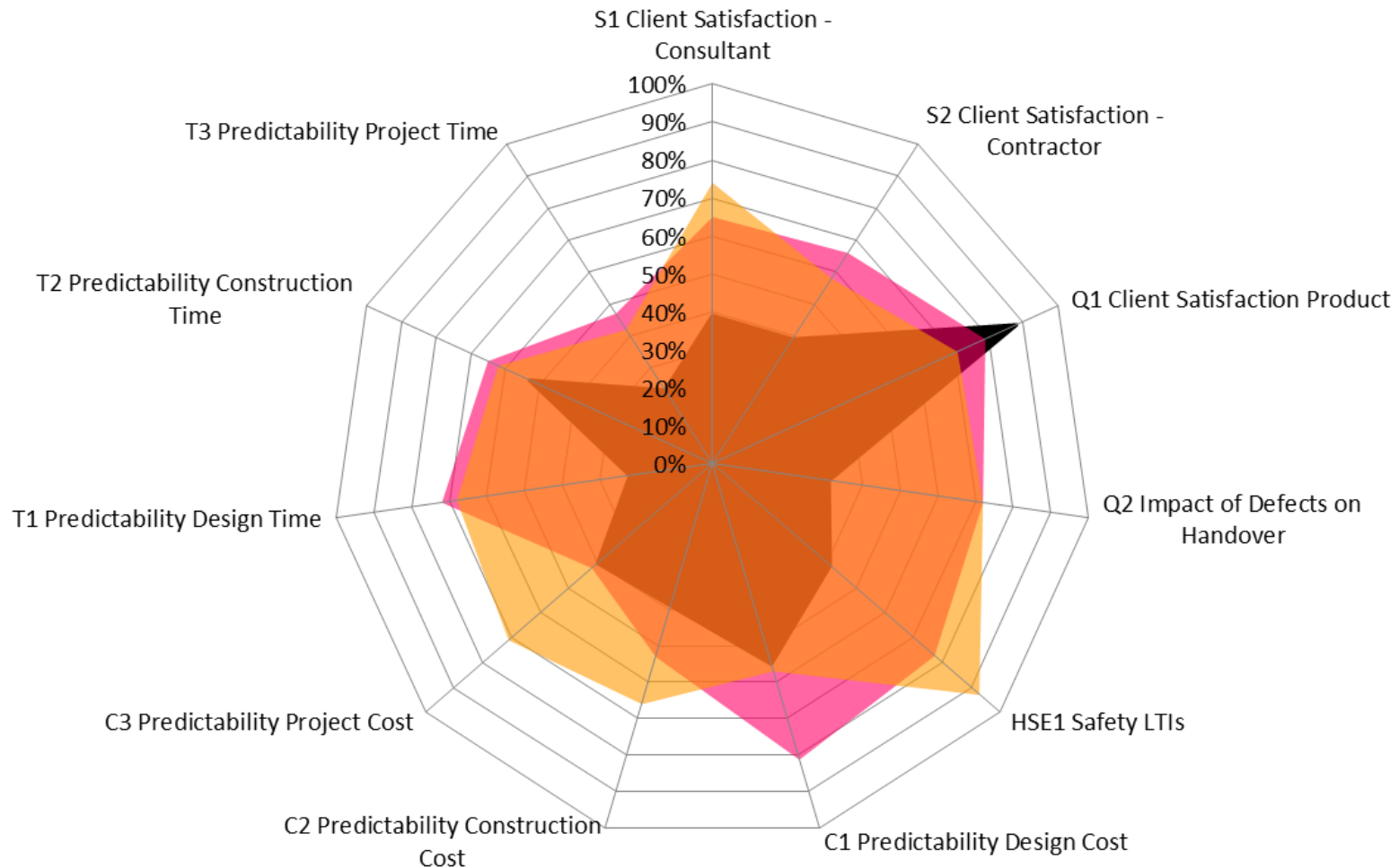




# Pursue Perfection



# National Industry Performance 2006, 2011, 2013



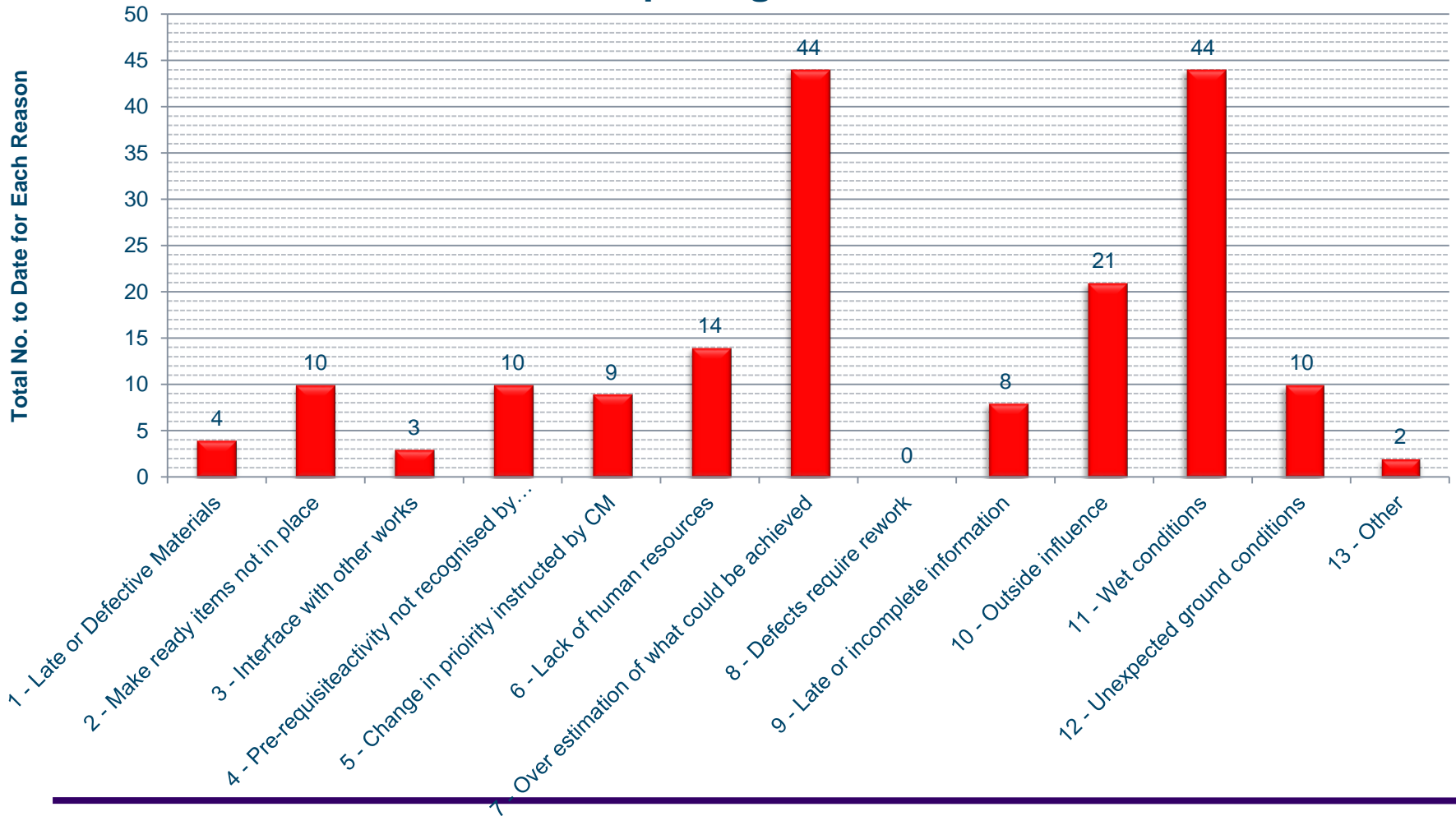
2006 2011 2013

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# Last Planner



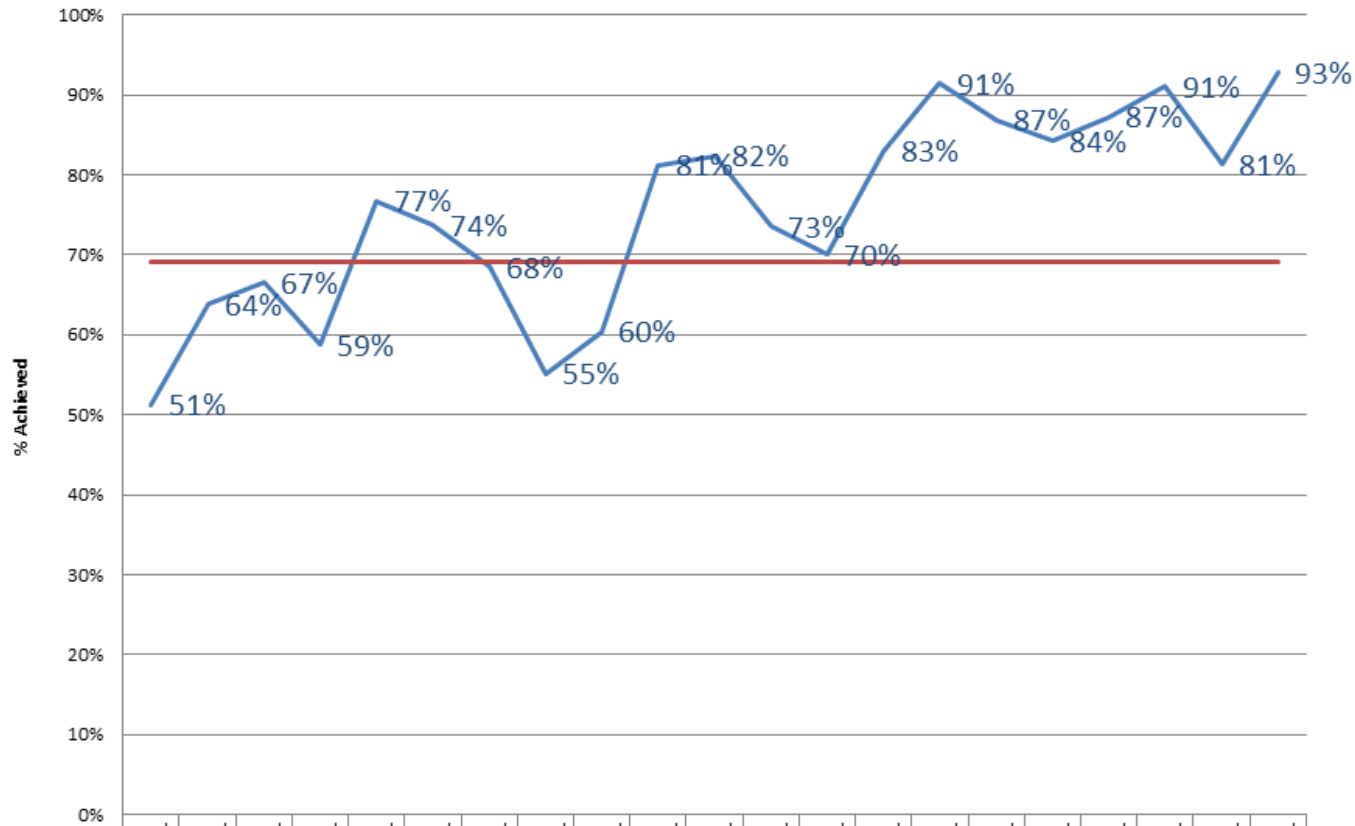
## Reasons for Not Completing WWP Task - Total to Date





# Last Planner Overview – Waterview PPCs

PPC % Achieved



— % Achieved	51%	64%	67%	59%	77%	74%	68%	55%	60%	81%	82%	73%	70%	83%	91%	87%	84%	87%	91%	81%	93%
— Minimum Target	69%	69%	69%	69%	69%	69%	69%	69%	69%	69%	69%	69%	69%	69%	69%	69%	69%	69%	69%	69%	69%



# How we can help...

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- ▶ In-house Lean Construction training modules
- ▶ Last Planner implementation & training
- ▶ Facilitation of Lean programmes

Contact

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