

CI Best Practice Methodologies

Methodology	Theory of Constraints
Theory	Manage Constraints
Process Steps	<ol style="list-style-type: none">1. Identify Constraint2. Exploit Constraint3. Subordinate Process4. Elevate Constraint5. Repeat Cycle
Focus	System Bottlenecks

Theory of Constraints (TOC)

- In the mid 80's Eli Goldratt, wrote the book - "The Goal", from this he formalised his theories and developed the methodology of the Theory on Constraints.

- Key Focus of TOC, the System.

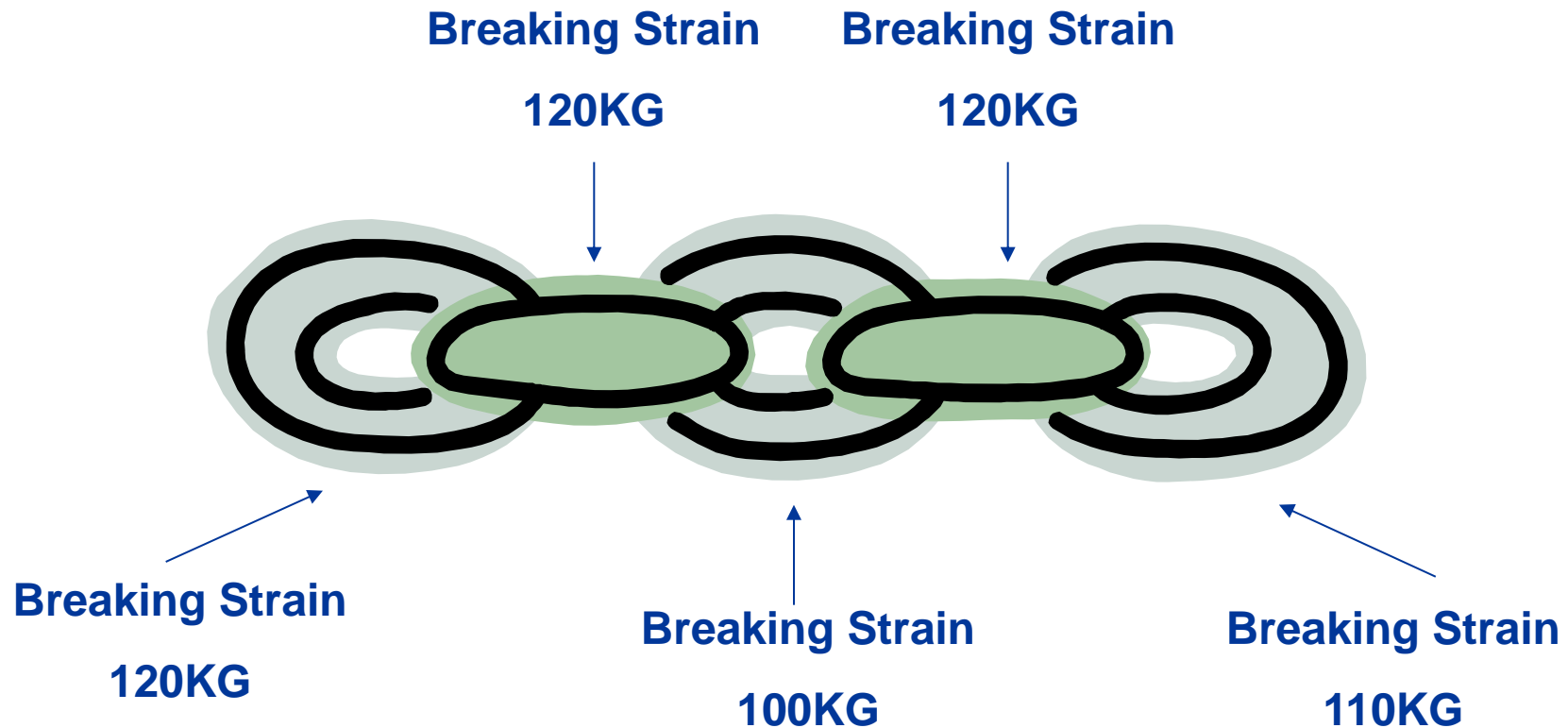
A System

... is a network of interdependent components that work together to accomplish the aim of the system.

- Think of a system as a chain, it is only as strong (effective) as its weakest link, this weakest link is the constraint or roadblock in the system.

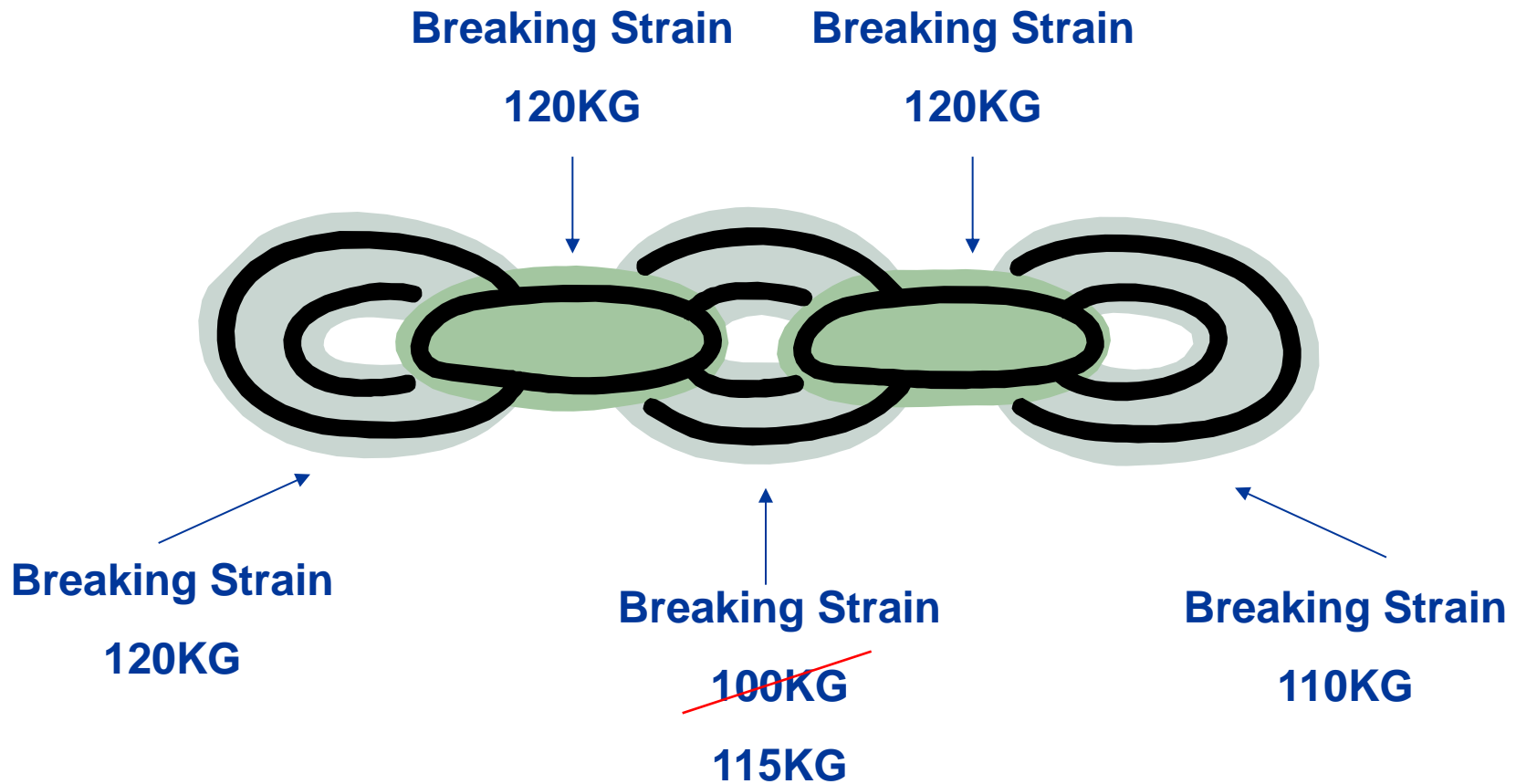
Theory of Constraints (TOC)

- Think of a system as a chain, it is only as strong (effective) as its weakest link, this is the constraint or roadblock in the system.



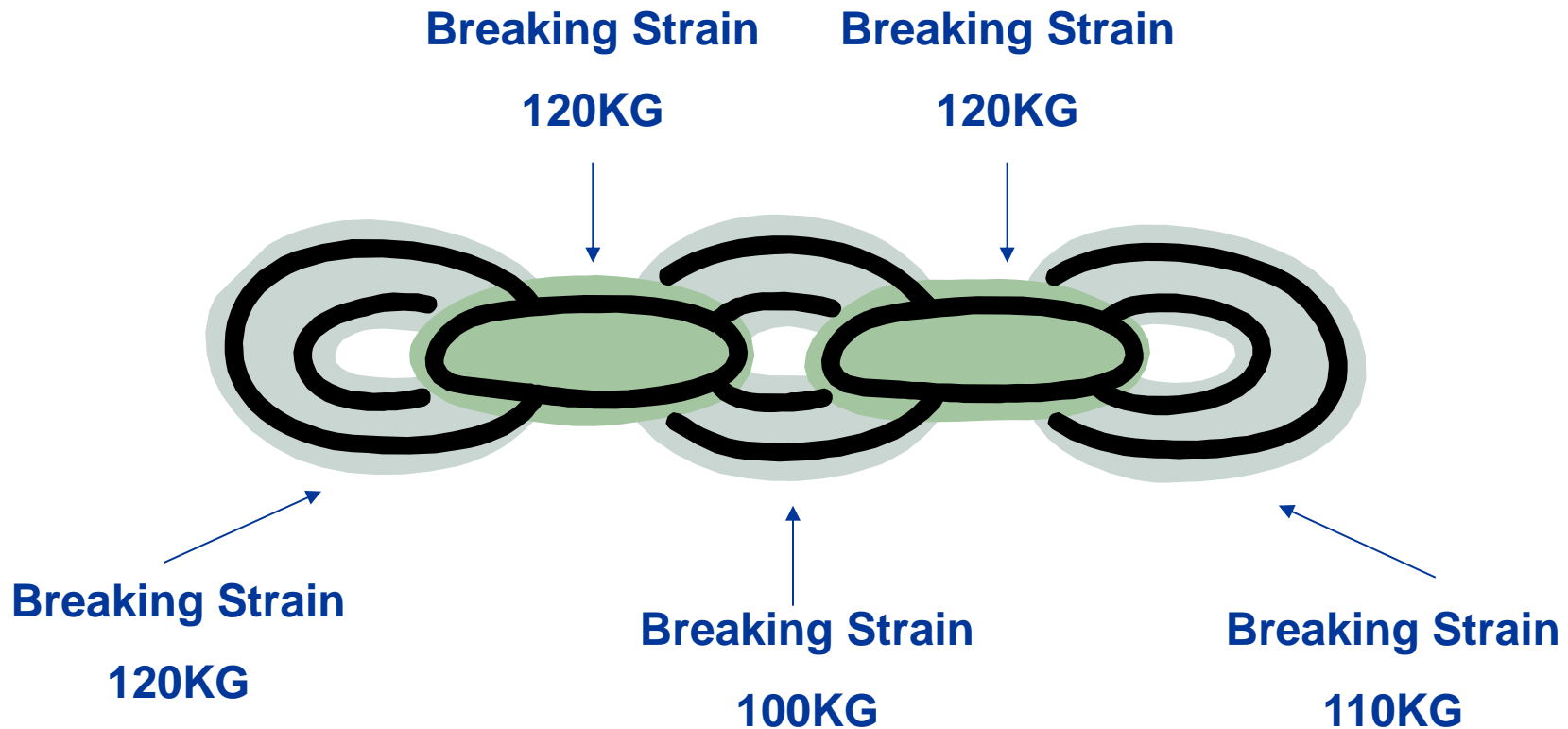
Theory of Constraints (TOC)

- Have we improved the system and if so by how much?



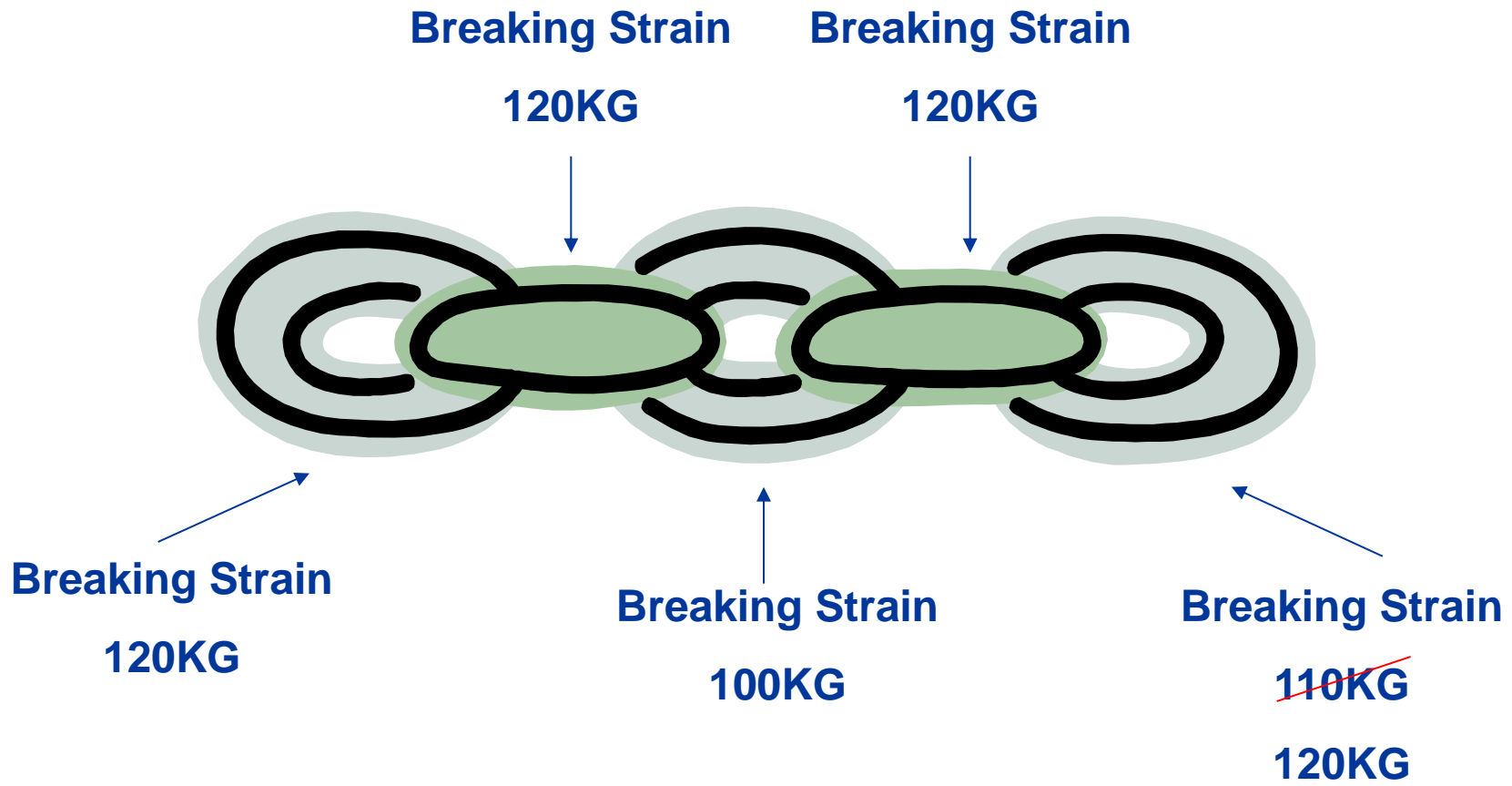
Theory of Constraints (TOC)

- Let's take another look

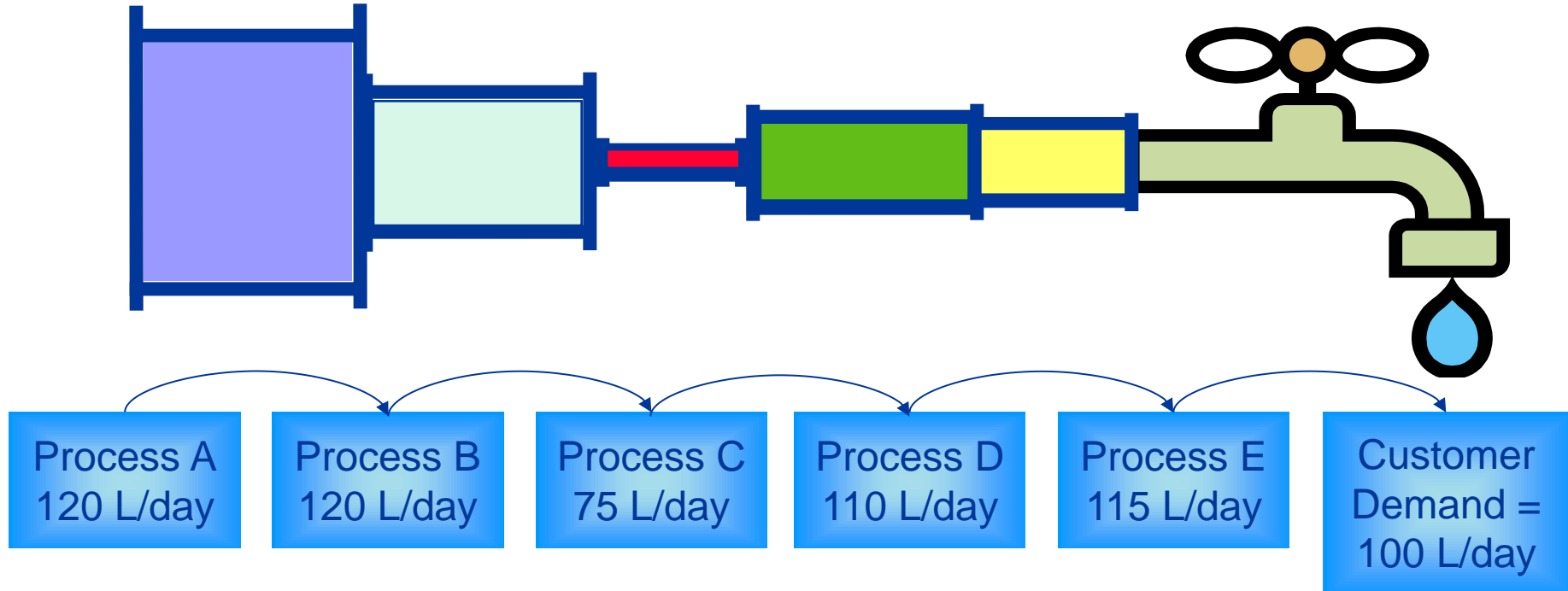


Theory of Constraints (TOC)

- Have we improved the system now?



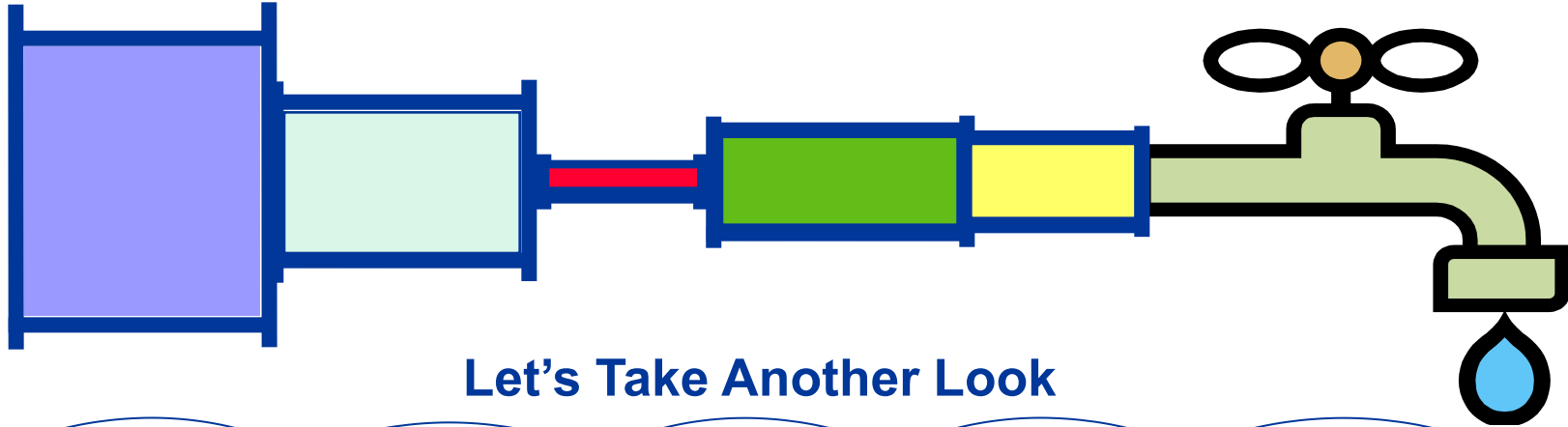
Example of TOC - A Water Delivery System



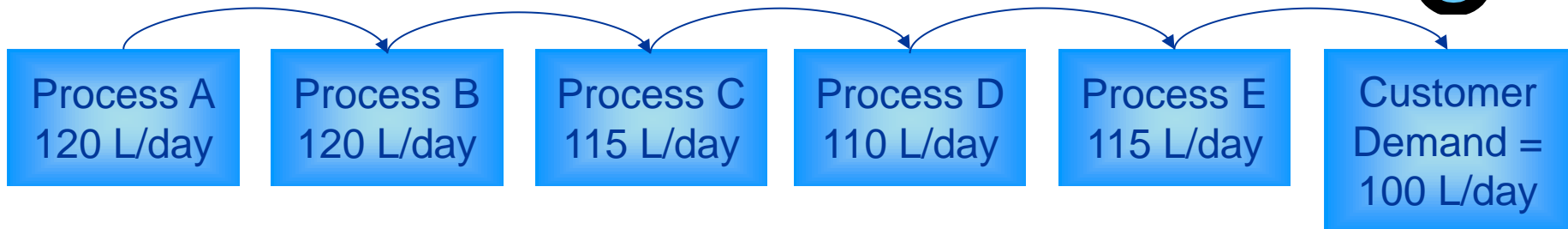
How much can we produce each day?

Where is the constraint?

Example of TOC - A Water Delivery System



Let's Take Another Look

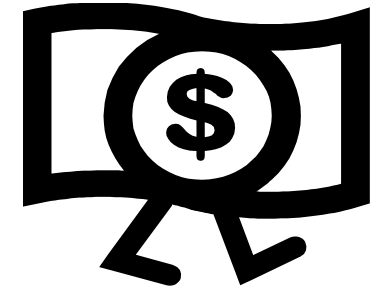


How much can we produce each day?

Where is the constraint?

A Real Life Example of Non System Thinking

“The visible costs that your financial system captures are trivial compared to the hidden costs associated with producing an automobile.”



Dr. Deming to a Car Manufacturing Company circa 1980

	Engine Dept.	Transmission Dept.	Company Total
Present Costs	\$100	\$80	\$180
Proposed Costs	\$130	\$0	\$130
Proposed Savings per Automobile			\$50

At 1,000,000 Annual Units this was a \$50,000,000 Lost Opportunity

TOC In Summary

■ Step 1: **IDENTIFY** the system's constraint

Where is the

■ Step 2: Decide how to **EXPLOIT** the system's constraint

How to get the most out of that

■ Step 3: **SUBORDINATE** everything else to the above decision

Organise the rest of system to minimise the impact of the

■ Step 4: **ELEVATE** the system's constraint

constraint

■ Step 5: If in the previous steps a constraint has been broken, **GO BACK** to step 1

Improve the constraining step

Because we will have a new