



Bridge Life Cycle Optimisation

Closing Seminar
14-15 May, 2012
Malmö



KTH Structural Engineering & Bridges

Research within the area of LCC and LCA

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Three on-going PhD projects

Bridge Life Cycle Optimisation

- Guangli Du, Tech lic. LCA. She will present her research this afternoon
- Mohammed Safi "Safi", Tech lic. He will present his research this afternoon
- Jonas Wennström, he was not able to come to-day so I will shortly present his research

LCC aspects on infrastructure investments

Jonas Wennström

The Swedish National Road and Transport
Research Institute
and KTH

The project is very broad

I hope that this project can serve as
liaison between different kind of LCC
schemes

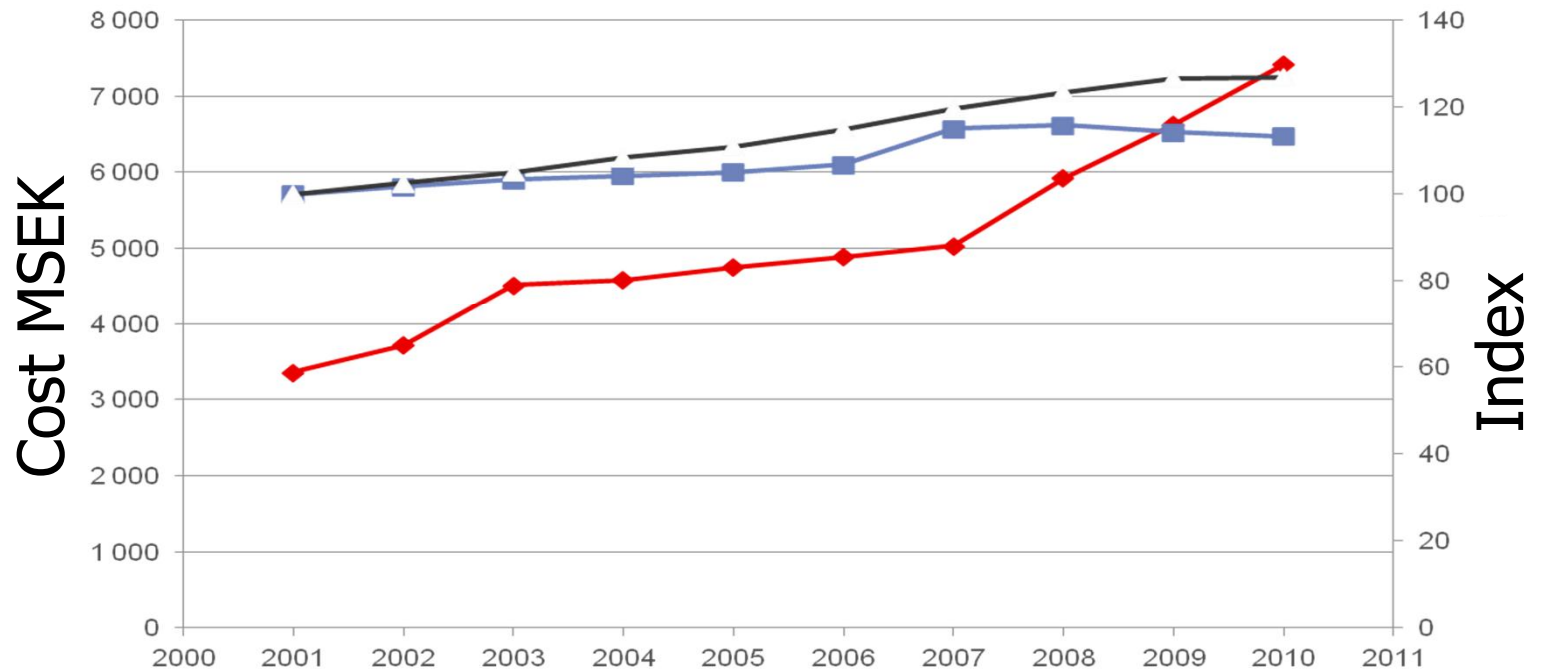
The three levels

Bridge Life Cycle Optimisation

- LCC for a country or county
- LCC for choosing the best road or railway from A to B
- LCC for individual items i.e. a bridge or even an element i.e. an edge beam

Bridge Life Cycle Optimisation

Allocation MR&R railway



- MR&R costs
- Train kilometers
- Railway index



It is obvious that the more that is built

Bridge Life Cycle Optimisation

- The less in percentage we will be new-built in the future
- The more will the cost for MR&R increase in the future
- The relation between investment and MR&R will change over time
- Thus increasing the percentage MR&R in relation to new construction
- A part of the research will focus on these issues based statistical “research”

Bridge Life Cycle Optimisation

- Comparing different LCC methodologies for these three different levels
- Comparing different LCC methodologies for different things like
 - Roads
 - Railways
 - Bridges
 - Tunnels
 - Etc.

**Bridge Life Cycle
Optimisation**

Licentiate is planned for May 2013
PhD is planned for 2015

This will thus hopefully be our 4th
PhD within the area of LCC/LCA