



# Calculation of dynamic effects i transport investments in Denmark

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# Agenda

- Lessons with socio-economic assessments of major infrastructure projects in Denmark
- Experiences when evaluating / assessing the dynamic effects in the evaluation of dynamic effects of major infrastructure projects
- Current status of work on assessment of dynamic effects



# Eksampels of major transpot investments in Denmark – fixed links

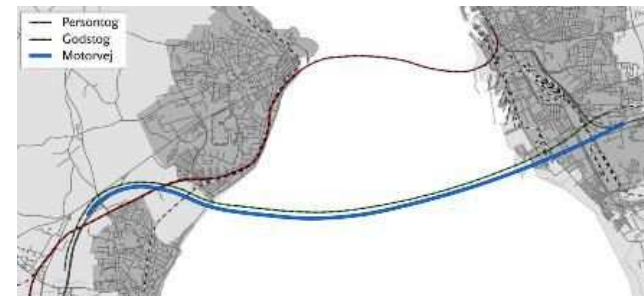
## Store Baelt 1998



## Femern 2020



## HH 2030?



## Oeresund 2000



## Kattegat 2030?



# Railway projects

## Ringsted-Roedby 2020



## City Ring 2018



## København-Ringsted 2018



# Highway projects

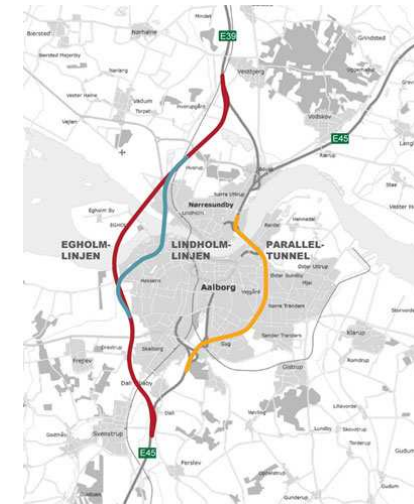
## Frederikssund highway 2015



## East Highway Ring ?

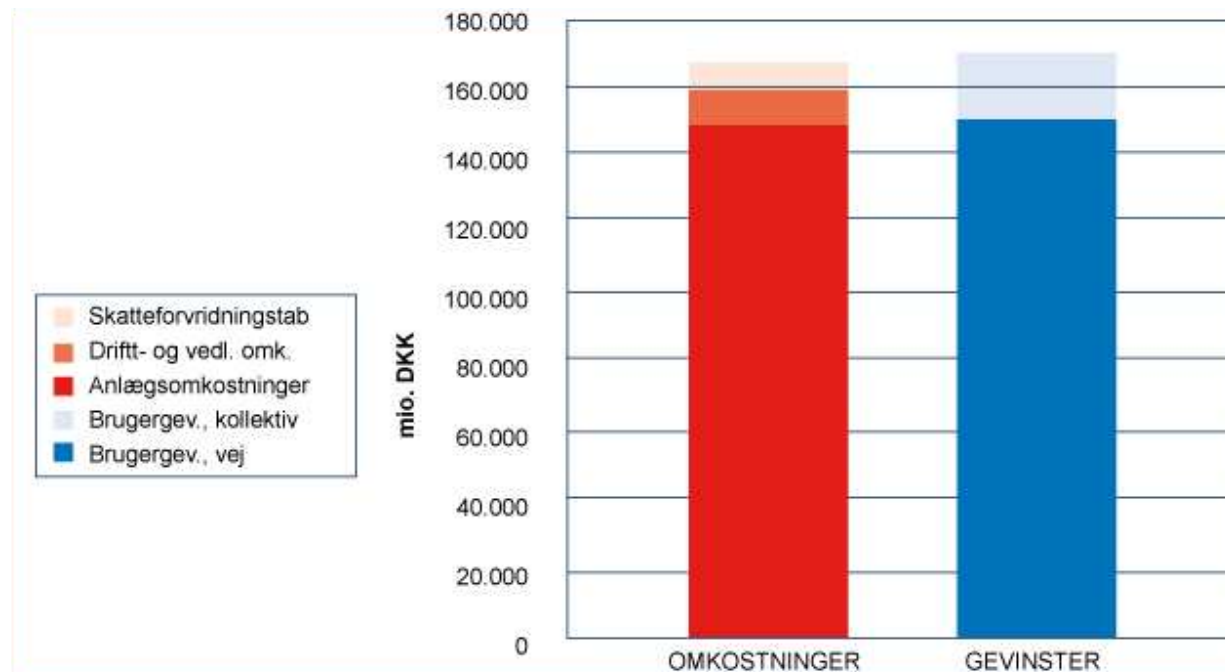


## 3. Limfjords links ?



# TERESA – The Danish Cost-Benefit Model for transport investment

- To weigh the project's investment costs with the benefits to road users in the form of saved travel time and driving costs



# TERESA - Outputs

All TERESA calculations will output in:

- Net Present Value
- IRR
- Net profit per. public cost ratio

In other words:

***If the projects benefits are higher than the projects cost  
– the project has a positive social-economic***

# TERESA – included effects

## Direct effects:

- Construction costs
- Traffic nuisance during construction
- Operation and maintenance costs
- Running Costs
- Travel Time Savings
- Accidents
- Tax Distortion Loss

## External effects:

- Noise
- Air pollution
- Greenhouse Gases
- Barrier Effect

# TERESA – not included the dynamic effects

- Labour Market Effects
- Industrial Effects
- Settlement Effects
- Urban Development Projects
- Tourism Effects





# Experience with TERESA

- Great tool to make political prioritize between several public transport investments
- Missing the dynamic effects, which no included in TERESA

# The big question in the danish debate!

*What effects are not caught up by saving travel time and how these are calculated?*



# Status

- There are general political and consensus about that dynamic effects matters in major transport investments
- Today there is absence of a general accepted method of economic model to calculate the dynamic effects
- Today the calculations of dynamic effects take place with different methodological choices
- Ministry of Transport has initiated a project focusing at transport investments effects on the labour market
- It is expected that over time can create a model or manual for the estimation of dynamic effects associated with transport investment

# Methods to calculate dynamic effects

Dynamic Effects	Quantitative	Qualitative
Labour Market Effects	■ Commuting	Interviews?
Industrial Effects	■ Sale ■ Jobs	Interviews?
Settlement Effects	■ New citizens	Interviews?
Urban Development Projects	■ New cities	Interviews?
Tourism Effects	■ Nights	Interviews?



# Design of a economic model

- Input – output model?
- multiplikator model?
- Regional data



# Methodological challenges



# Questions

- Are there experience in connection with the calculation of dynamic effects?
- Are there any specific ideas on calculation methods of dynamic effects?



# Thank you for your time!

Questions and remarks are welcome