

SEA
for land-use plans

Dr. Olivia Bina

Research Fellow

Centre of Philosophy - University of Lisbon

For

GTZ

A Dutch case: the Deltrametropool

Rob Verheem
Netherlands Commission
For Environmental
Assessment (NCEA)
For:
WBI course

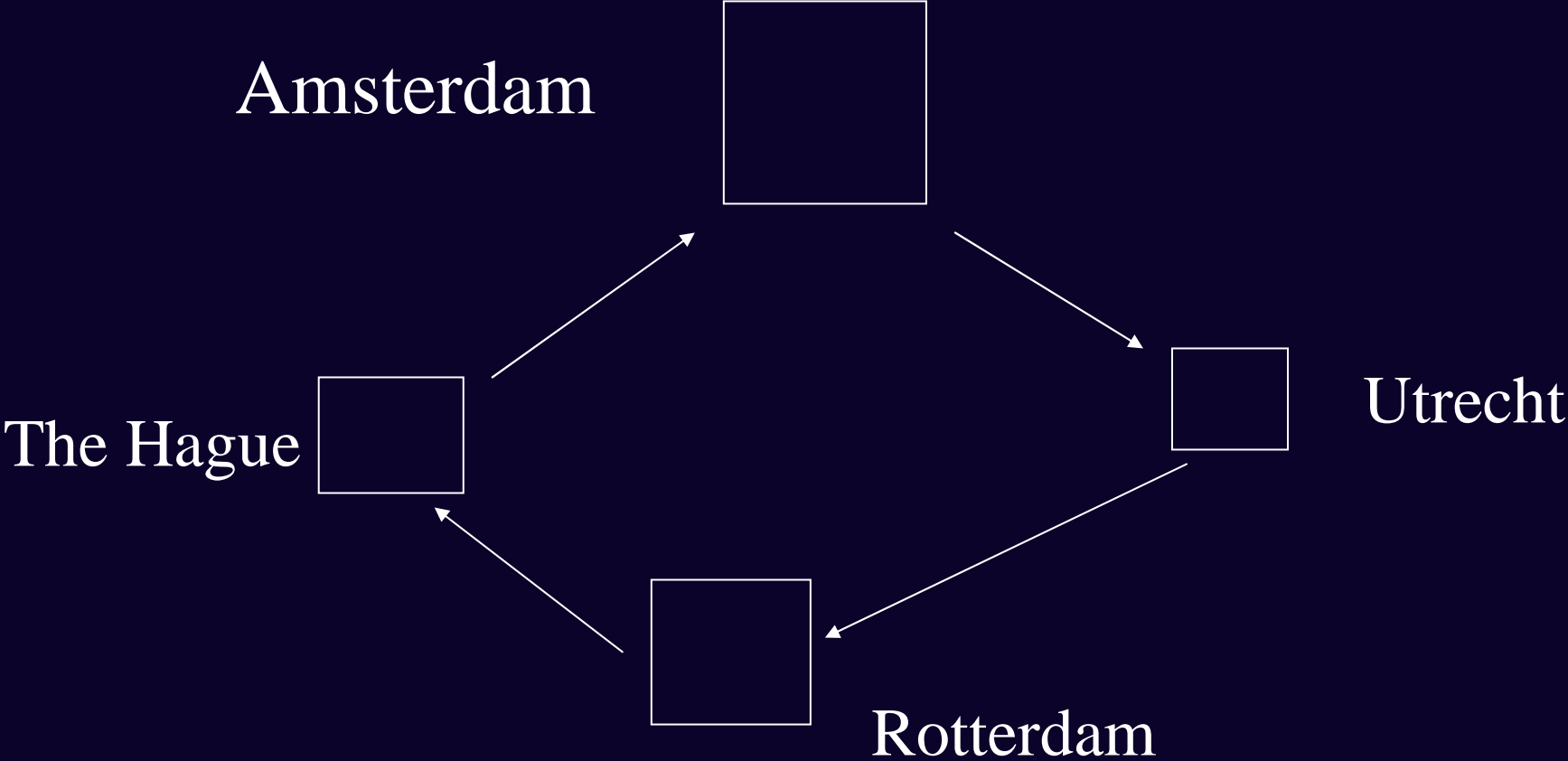


The Plan: Development Deltrametropool

- Part of 5th National spatial planning program
- **Deltametropool:**
 - highly populated western part of the Netherlands
 - Including Amsterdam, Utrecht, Rotterdam, the Hague



Deltametropool



Objectives & Issues

- **Objectives of the Plan:**
 - to stimulate economic development
 - four cities moulded into one metropolitan area
 - through infrastructure and urban development
- **Issues:**
 - Strategy for further urbanisation
 - Strategy for improving public transport
 - Development of green/blue network
 - Improving business climate

SEA Methodology

Step 1 - Issues

Step 1: identification of issues to examine - effects on:

- Spatial diversity
- Economic & social efficiency
- Cultural diversity
- Social justice
- Sustainability
- Attractiveness & human scale
- Flexibility & robustness
- Costs & transport effects

Step 2 - Indicators

- Step 2: appropriate indicators for each issue
- Extracted from existing policies
- Complemented by:
 - Indicators suggested by NGOs and business community
 - Indicators from expert judgment.

Example - i

- Amount of urban and rural area
- Surface area open landscape
- Surface area valuable landscape
- Surface area historical valuable area
- Green belts between major cities

Example - ii

– **Social justice, example**

- Accessibility of working and living areas via public transport

– **Sustainability, example**

- affected area high natural value
- number physical barriers linking nature-open area
- impacts on potential natural values
- CO2 emissions
- area suitable for water retention

Example - iii

– **Attractiveness, example**

- Housing in areas susceptible for hindrance
- Accessibility of green areas
- Quality of recreational areas

– **Flexibility, example**

- Possibility of step wise realisation
- Adaptability to changes in
 - demographic/economic development
 - demand for public transport, quality of housing

– Impact analysis largely based on GIS analysis

The main choices - alternatives

- Choices:
 - Type and location of new high speed railway system between cities
 - Location of new urban and industrial areas
 - Location of new 'green' and 'water' areas
- Conflict between national and local authorities about strategy for new housing areas

Purpose and characteristics of SEA

- to show range of potential options
- integrated assessment of options
- SEA not mandatory, no formal decisions
- only 4 months available for SEA
- **scoping critical**
- priority to transport and housing issues
- separate cost-benefit analysis

- competent authority: Ministry of Spatial PLanning and Environment

Defining alternatives

- Developed in three steps:
 - First: design of green & water areas
 - Then: design of infrastructure
 - Finally: design of housing & industry area

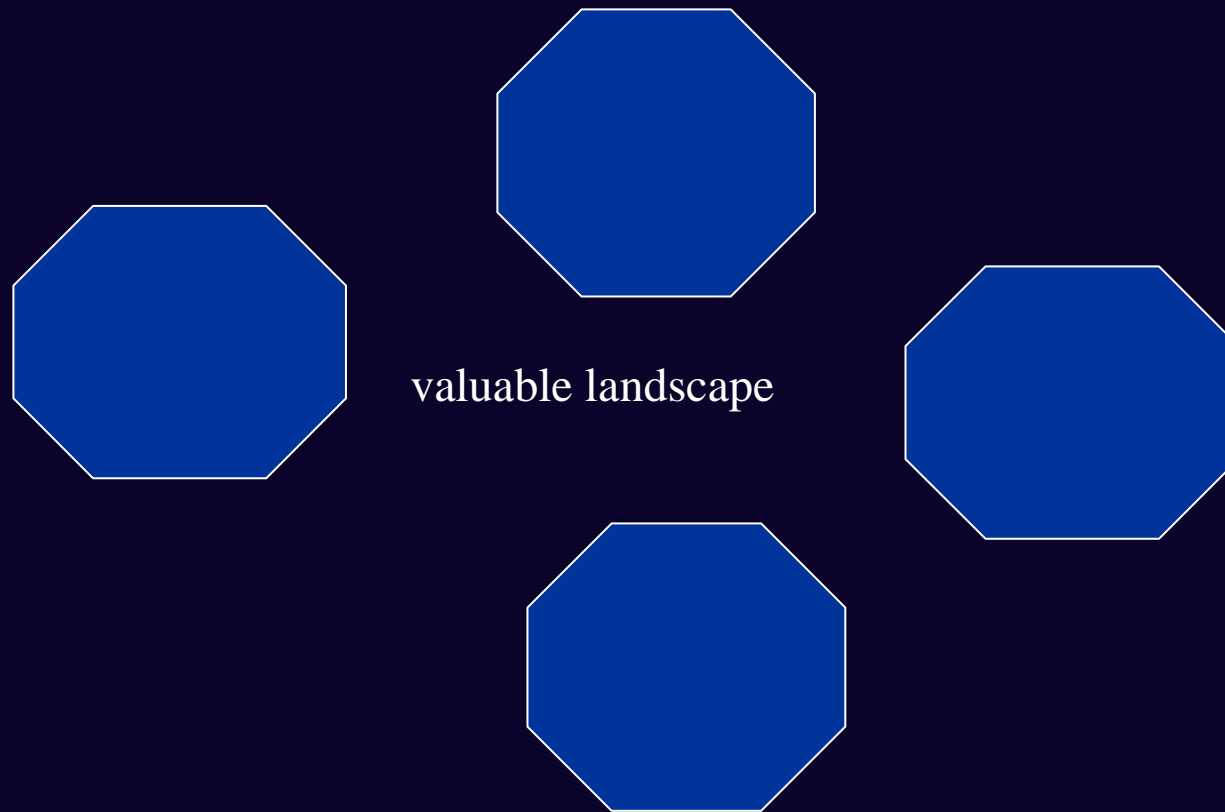
Two main alternatives (and several sub-options)

- Outer ring model
 - major cities connected by high speed train on existing railways
 - Urbanisation spread
- Inner ring model
 - magnetic levitation train in inner circle of towns(new infrastructure)
 - Urbanization concentrated close to inner circle

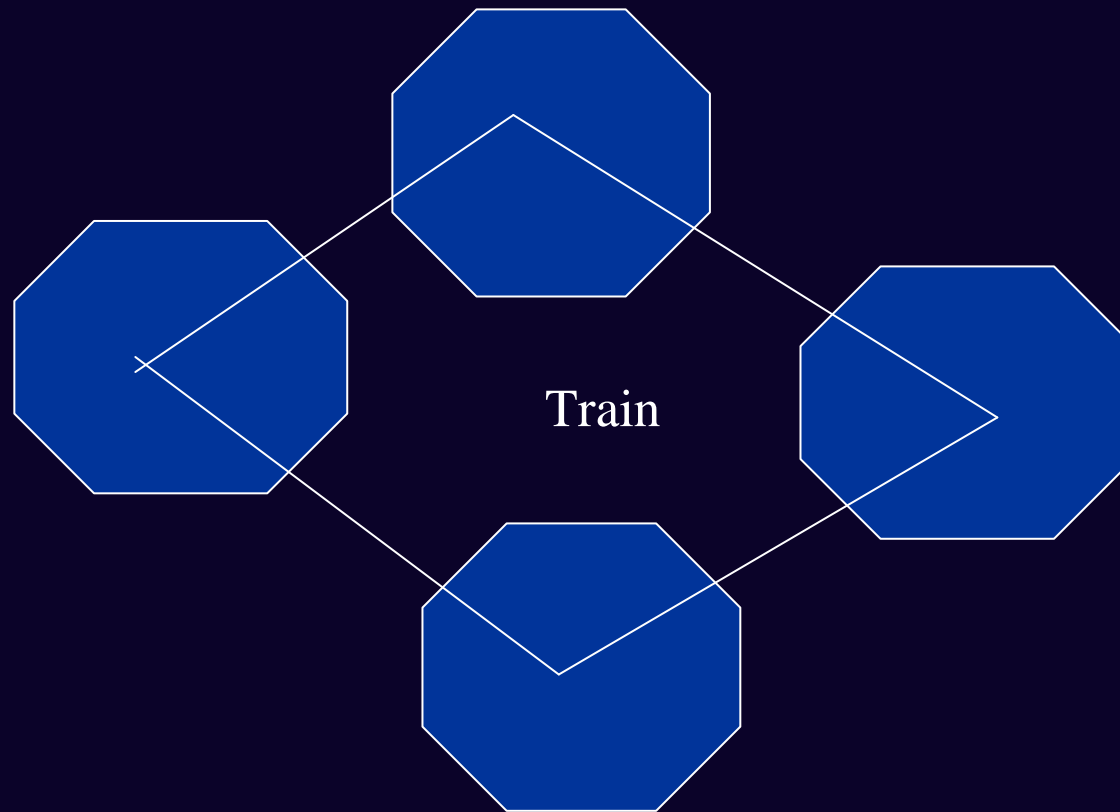
Deltrametropool

Deltametropool

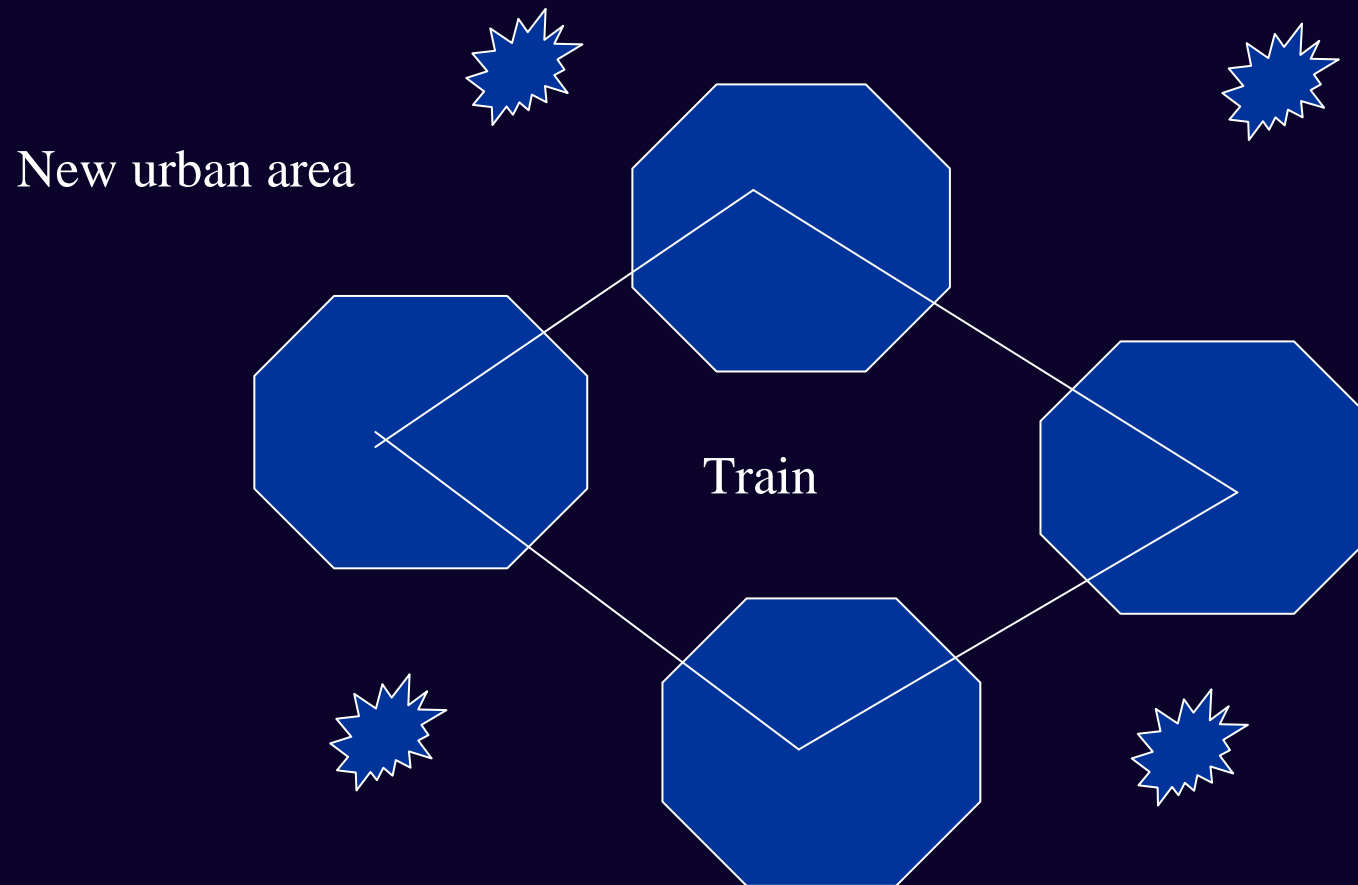
Existing situation



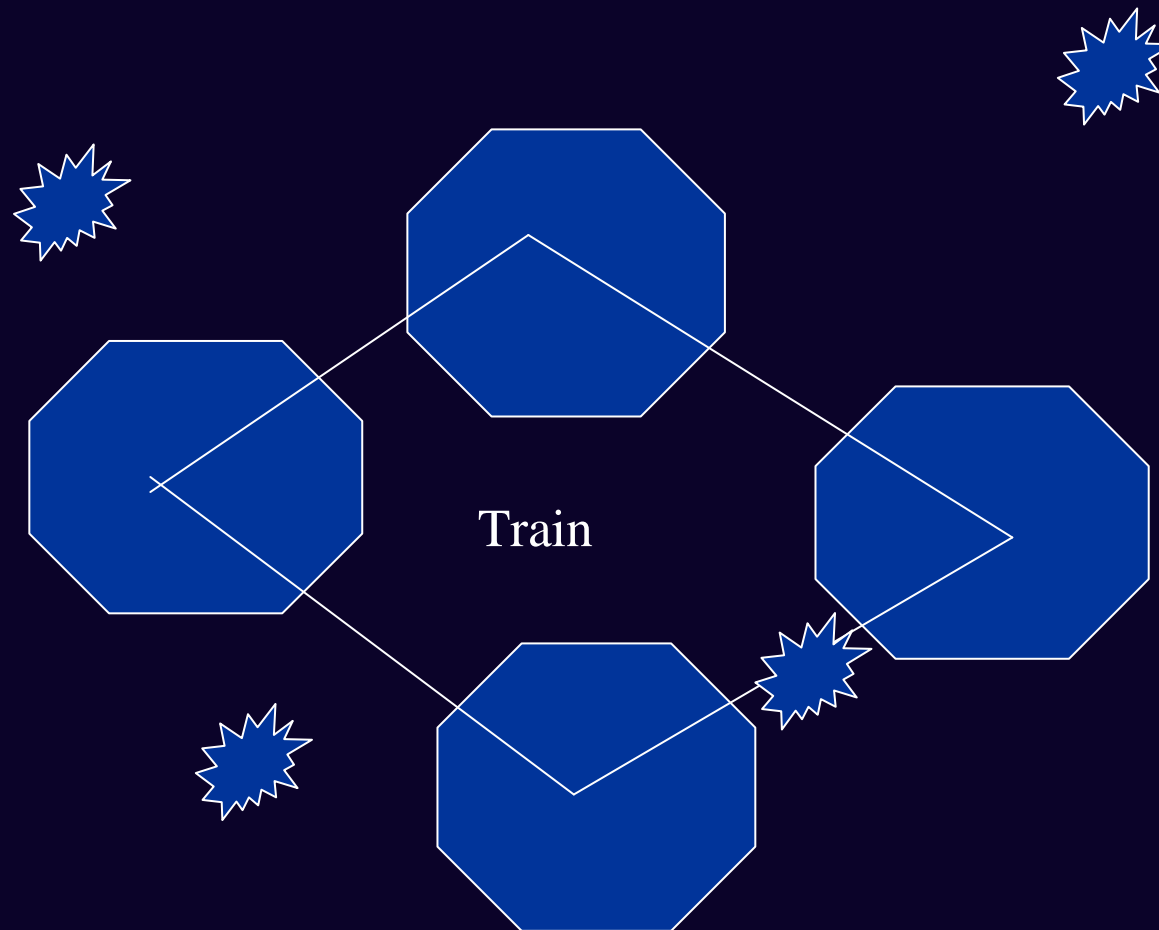
Alternative 1



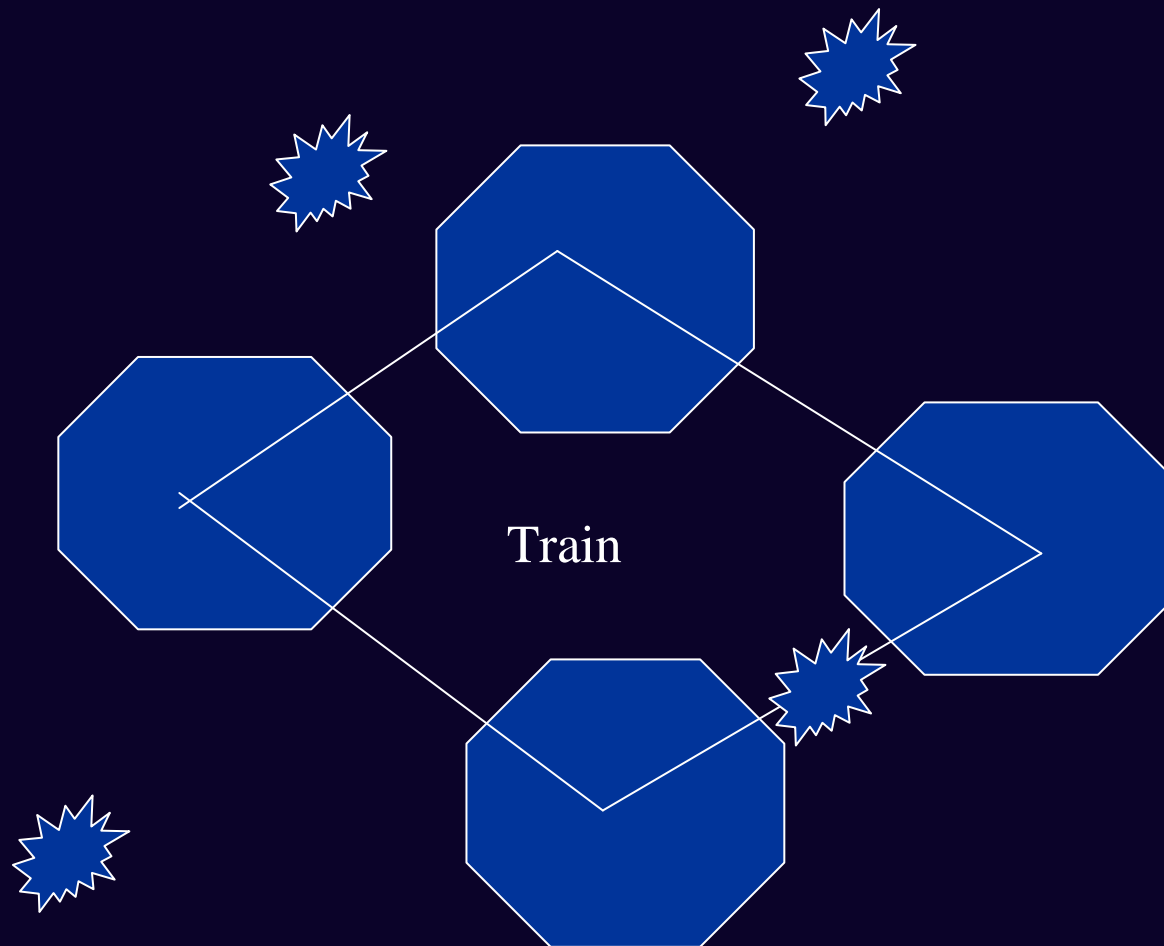
Alternative 1



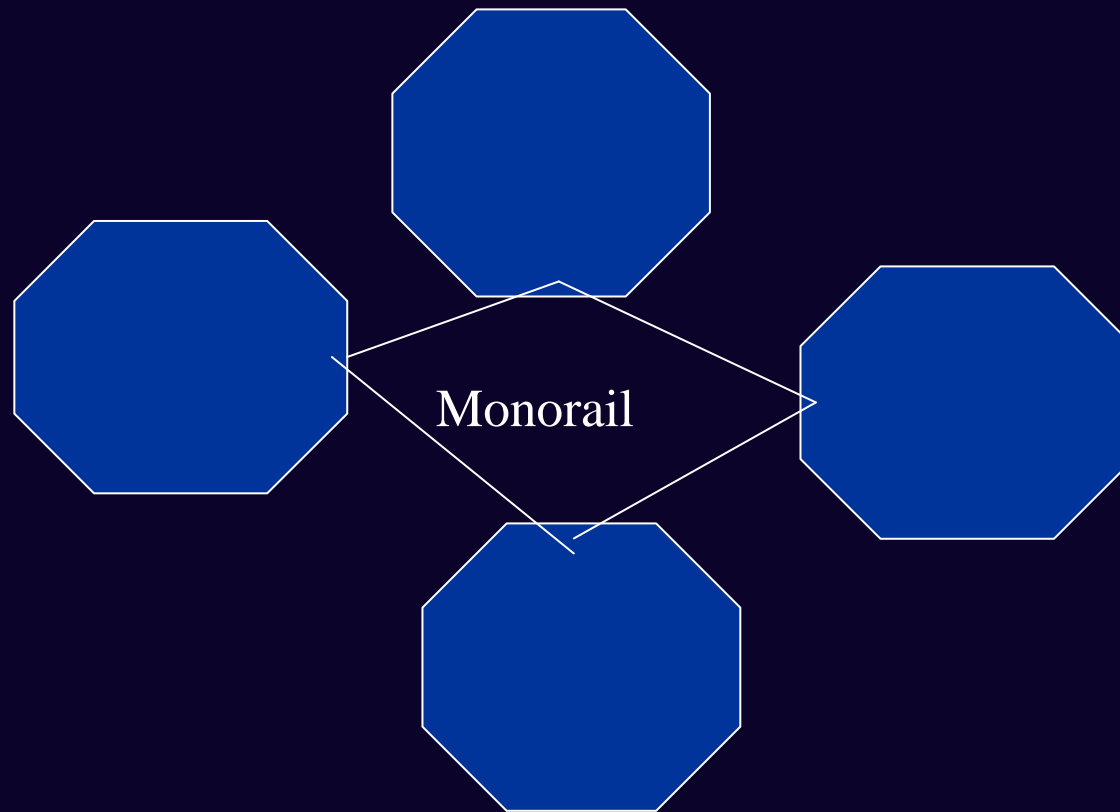
Alternative 2



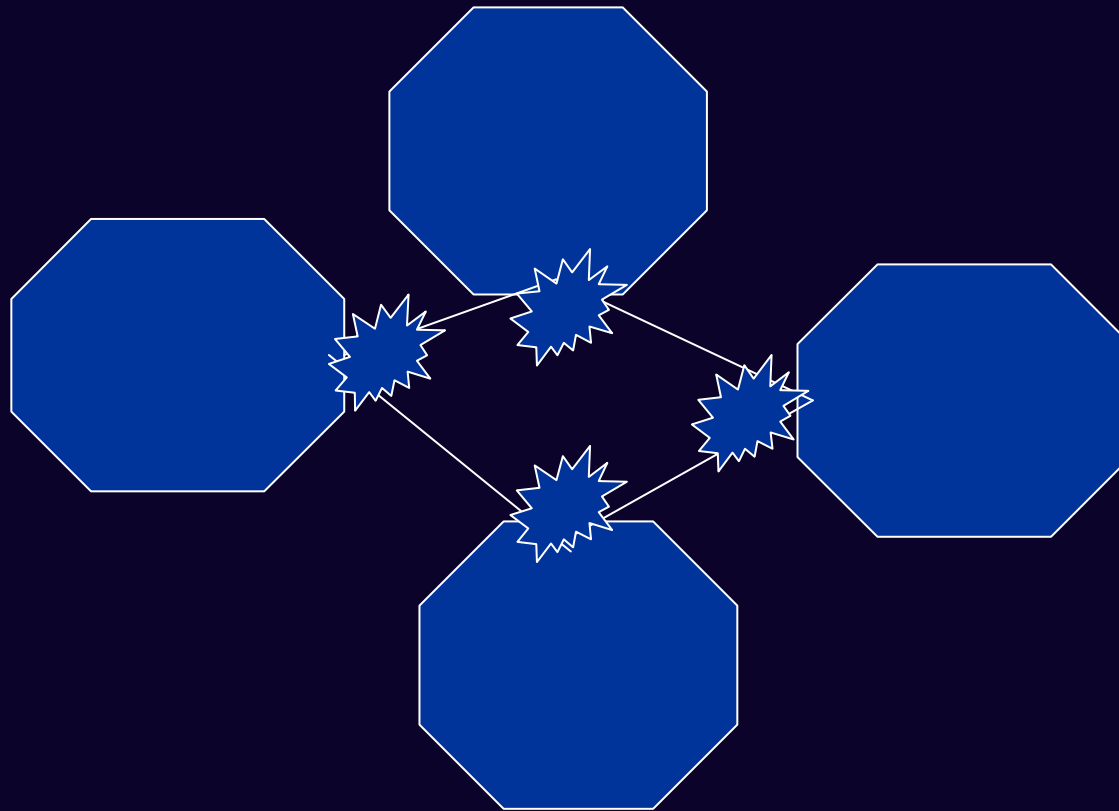
Alternative 3



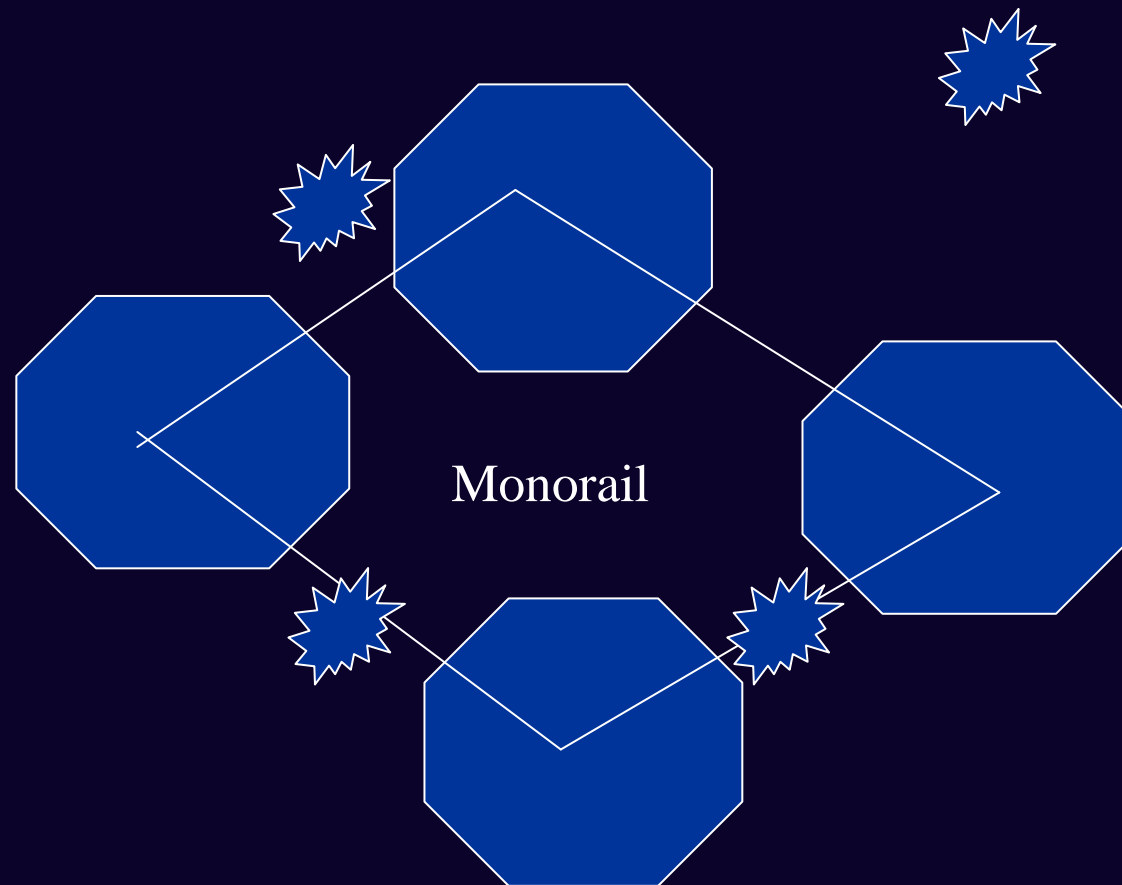
Alternative 4



Alternative 4



Alternative 5



Methods for comparison of alternatives

- Not one, but **multiple** methods were used:
 - Quantitative score per indicator
 - Ranking per indicator
 - Matrix: ‘best’ & ‘worst’ model per indicat.
 - Contribution to policy objectives
 - Economic cost benefit analysis
 - Qualitative discussion end results

Methods for Impact Assessment

- Most effects: GIS
- Some social impacts: transport models
- Economic impacts: monetarisation +CEA
- Expert judgment workshops on methods & results.

Public participation

- Public in an early stage on starting document
- Experts in working sessions and symposium throughout process
- EIA Commission and State Bureau for Economic Policy Analysis

- methods
 - information meetings
 - discussion meetings
 - written comments
 - web-site

Quality review

- Independent EIA Commission concluded:
 - Positive: good SEA in short time
 - Negative: no alternatives for:
 - green and water area
 - regional transport alternative
 - Neutral: social & economic assessment not (yet) good enough

Results of the SEA

- Alternative 1: good for environment, but inflexible and costly
- Alternative 4: bad at almost all points
- Alternative 3: best one overall
- All alternatives: costs higher than benefits

Decision

- Government decided for alternative 3
 - No to magnetic levitation train with housing in inner circle (impact on nature and costs)
 - Preference for high speed train in outer ring (alternative 3), but with a modified transport option to improve cost benefit ratio:
 - High speed train between major cities
 - Metro between medium sized cities
 - Bus and light rail for small towns
 - Hence:
 - more concentrated urbanisation
 - more public transport within the circle

Lessons Learned

- Methodology & information:
 - some differences between models were evident,
 - no quantitative analysis needed
- Assessment
 - too many criteria
 - too much overlap
 - (Time & cost effective because of previous SEA)
- Start earlier(quick scan), more participation possible (NGO's) - this SEA started too late.

References

- <http://www.eia.nl/ncea/database/index.htm>
- <http://web.worldbank.org/WBSITE/EXTERNAL/WBI/WBIPROGRAMS/ENRLP/0,,contentMDK:20380450~pagePK:64156158~piPK:64152884~theSitePK:460957,00.html>

Thank you

Olivia Bina

`o.c.bina.92@cantab.net`