Why are transport projections often wrong?

Hans Nijland
2004: review

**Lessons:**
- we don’t know the unknown (congestion)
- recent history dominates our views (oil price)
Lessons:

Uncertainty highest when a lot of policy (and new technology) is involved

Source: Annema & de Jong, 2009
Flyvbjerg: costs overruns
lower-than-predicted revenues

Demand forecast

<table>
<thead>
<tr>
<th>Type of project</th>
<th>Number of cases (N)</th>
<th>Average inaccuracy (%)</th>
<th>Standard deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rail</td>
<td>25</td>
<td>-51.4</td>
<td>28.1</td>
</tr>
<tr>
<td>Road</td>
<td>183</td>
<td>9.5</td>
<td>44.3</td>
</tr>
</tbody>
</table>

- 84% of rail forecasts wrong > 20% in all 20 countries of the study in 5 continents, 9 out of 10 overestimation
- Inaccuracy is constant during 30 years → estimates have not improved

Why?

- Technical explanations (inadequate data, inadequate models etc.)

- Psychological explanations (optimism bias)
  (Lovallo and Kahnemann 1993, 2003)

- Political-economic explanations (‘strategic misrepresentation’, lying to win competition for scarce funds)

Source: Annema et al., 2008

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Source: Hilbers et al., 2010
Underestimated costs + overestimated benefits = project approval

2001 white paper (Time to Decide)
2011 white paper (roadmap to a Single European Transport Area)

2030: 30 % of road transport >300 km by rail and inland navigation
2050: 50 %
How to deal with an uncertain future (1)

- recognize uncertainty: scenarios

How to deal with an uncertain future (2)

- reference class forecasting

Kahneman

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It’s difficult to make predictions, especially about the future

Mark Twain (1835-1910)