Contents of Presentation

- Introduction
- Dutch National Land Use Planning
- Transit & Transportation Planning
- Defining “Best Practices”
- Lessons learnt from Dutch history
- 4 specific Dutch examples
Institutional Set-up

- Ministry of Housing, Spatial Planning, & the Environment (VROM)
- Ministry of Transport, Public Works & Water Management (V&W)
- 12 Provinces & 483 Municipal Authorities
- 19 Public Transport Authorities
- Netherlands Railways (NS)
- 4 municipal transit operators
- 15 private regional transit companies

Transport & Spatial Planning

- Improve accessibility to support economy
- Facilitate travel growth & harness strength
- Decentralise if possible, Centralise only when necessary
- Encourage compact urban development
- Provide reliable & predictable accessibility
- Stimulate public private partnerships
Fifty Years of Spatial Planning: “urban compaction”

1959:
development nodes & supplementary nodes
1966:
development nodes & overspill towns

1983:
growth centres (till 1990)& growth centres (till 1980)
1991: urban development nodes (HST) growth centres and Vinex areas

Land Use Planning 1956 - 2006

- 1956 – 1973: optimistic era, rapid growth, overcrowding west
- 1974 – 1893: uncertainty, envir., urban renewal
- 1983 – 2000: balance between ec. development, Randstad and the environment, reducing car use, greater role of private sector
- 2000 - 2010: decentralisation, integrated location development, mobility has to be facilitated, apply User pays & Polluter pays principles
Definition of compaction

Spatial concentration of urban and economic functions (housing, working, facilities) and infrastructure within a certain area

Urban Compaction Policy

- 1966: clustered dispersal (2nd ND)
- 1973 - 1983: compact city (3rd ND)
- 1991: Vinex districts (4th ND Extra)
- 2005: concentration areas (NSS)
Why urban compaction?

The Randstad
1950

1950 2010

2005:
Compaction areas
Nota Mobiliteit 2004-2020

- Improve access to socio-economic centres
- Provide reliable door-to-door travel
- Increase transit share in personal mobility
- Enhance operating efficiency & safety
- Improve passenger satisfaction
- Preserve a feeling of personal security

Growth of Residential Areas

Rijkswaterstaat
Development of Railway Network

Gesloten na 1960
- 1950 - 1960
- 1970 - 1979
- 1980 - 1989
- 1990 - 1999
- 2000 - 2009

Geopend na 1960
- 1960 - 1969
- 1970 - 1979
- 1980 - 1989
- 1990 - 1999
- 2000 - 2009

Geopend voor 1960
- voor 1955

Spoorwegennet
- gesloten
- voor 1955
- 1950 - 1969
- 1970 - 1979
- 1980 - 1989
- 1990 - 1999
- 2000 - 2009

Regional Train Services

2007:
21 services decentralised
Impacts of More Urban Sprawl

- Higher %& extensive built-up area
- less natural habitat, more splitting up
- 5-10 % higher car use
- more emissions, noise, vibration
- more congestion & bottlenecks
- 5 – 25 % less accessibility to jobs

Table 1: Development of population, residential areas, infrastructure and traffic 1955-2005

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Population (x mln)</td>
<td>10.7</td>
<td>11.4</td>
<td>13.0</td>
<td>14.1</td>
<td>14.9</td>
<td>15.9</td>
<td>16.3</td>
<td>52%</td>
</tr>
<tr>
<td>Houses (x mln)</td>
<td>2.3</td>
<td>2.9</td>
<td>3.8</td>
<td>4.9</td>
<td>5.9</td>
<td>6.6</td>
<td>6.3</td>
<td>176%</td>
</tr>
<tr>
<td>Built area</td>
<td>3.2%</td>
<td>3.9%</td>
<td>5.6%</td>
<td>7.7%</td>
<td>10.5%</td>
<td>12.0%</td>
<td>12.8%</td>
<td>300%</td>
</tr>
<tr>
<td>Private cars (x mln)</td>
<td>0.3</td>
<td>0.5</td>
<td>2.5</td>
<td>4.3</td>
<td>5.5</td>
<td>6.3</td>
<td>7.0</td>
<td>2333%</td>
</tr>
<tr>
<td>Highway network (km)</td>
<td>180</td>
<td>330</td>
<td>940</td>
<td>1760</td>
<td>2060</td>
<td>2250</td>
<td>2370</td>
<td>1317%</td>
</tr>
<tr>
<td>Railway network (km)</td>
<td>2480</td>
<td>2490</td>
<td>2480</td>
<td>2510</td>
<td>2620</td>
<td>2610</td>
<td>2620</td>
<td>6%</td>
</tr>
<tr>
<td>Railway passenger stations</td>
<td>301</td>
<td>297</td>
<td>312</td>
<td>348</td>
<td>368</td>
<td>398</td>
<td>405</td>
<td>35%</td>
</tr>
<tr>
<td>Passenger.km/car (mld. km)</td>
<td>4.5</td>
<td>18.0</td>
<td>79.1</td>
<td>106.8</td>
<td>125.1</td>
<td>141.1</td>
<td>146.1</td>
<td>3247%</td>
</tr>
<tr>
<td>Casualties in traffic</td>
<td>1552</td>
<td>1926</td>
<td>3181</td>
<td>1997</td>
<td>1376</td>
<td>1085</td>
<td>817</td>
<td>~47%</td>
</tr>
</tbody>
</table>
Noord-Zuidlijn in Amsterdam

- 9.5 km metro in Amsterdam
- 6 km underground
- 3.2 km drilling tunnel
- Costs: € 1.5 billion
- Ready in 2012
- 200,000 passengers a day
- headway: 4-5 min day time; 10 min evening
- Travel time: 16 minutes (av. 35 km/hr)
RandstadRail

Route map
Vinex location
Opened in 2006
Operated by HTM & RET

RandstadRail

Material
Phileas – Eindhoven (1)

Start date: September 2004
New technology / vehicle (frog)
Free bus lanes
Integrated with urban development
Frequency: 8 x per hour
Costs € 1 billion (US $ 1,370,000,000)

Phileas (2)

minimal distance to platform
Dynamic travel info

Also cellphone and via internet

Eindhoven Airport

<table>
<thead>
<tr>
<th>Lijn</th>
<th>Bestemming</th>
<th>Wachttijd</th>
</tr>
</thead>
<tbody>
<tr>
<td>017</td>
<td>Veldhoven 't Look</td>
<td>02 min</td>
</tr>
<tr>
<td>003</td>
<td>Eindhoven CS</td>
<td>05 min</td>
</tr>
<tr>
<td>000</td>
<td>Cc</td>
<td>xx min</td>
</tr>
</tbody>
</table>

Phileas in Eindhoven

key project west corridor
Zuidtangent, Connexxion (1)

Route Expanded to IJburg

Zuidtangent, Connexxion (2)
Defining “Best Practices”

- Unambiguous policy goals & objectives
- Evaluate the merits of available options
- Specification to suit local circumstances
- Seek commitments from the stakeholders
- Monitor progress & review the results
- Appraise performance & periodic reporting

West Netherlands existing situation in 2000
West Netherlands without compaction in 2000

NS Central Station, Rotterdam
NS Central Station The Hague (1)

NS Central Station The Hague (2)
Light Rail Rijn-Gouwe (1)

Light Rail Rijn-Gouwe (2)
RijnGouweLijn

2003 (east)
LRT on existing rail
Gouda-Boscoop-Alphen
Light train Alphen-Leiden
Financed by urban dev
2010 (west)

Goudse poort in Gouda
Houten (nr. Utrecht)

Houten (2)
Houten (Network of cycle paths)

Houten (bus)
Houten (Trains & Light Rail)

Lessons Learnt: Dutch Experience

- Mobility gains a lot from spatial planning
- Most effective strategy: buildings (in high density), close to city centre, good PT and complement with a form of pricing
- Transport policy and spatial policy have to work together