Role of Rail as a Base of a Future Sustainable Transport System

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Dr. Peder Jensen
Acting Head of Air and Climate Change Programme, EEA
Freight transport - growing faster than the economy

- Transport volume growth follows growth in GDP
- No clear signs of decoupling of transport volume from economic growth
- EU-15 MSs show increase in freight intensity

Source: EEA, 2010
Freight transport
road transport dominates the inland market

- Road transport has a 77% market share
- Road transport share has grown at the expense of rail and inland waterway transport
- In the EU-10 road transport's share reached 70% in 2007 at the expense of rail transport

Source: EEA, 2010
Quarterly road freight statistics

Financial crisis impact clear

Source: EEA, 2010
Greenhouse gas emissions

- Transport 19.3% of all Kyoto greenhouse gases
- 25% if bunkers included
- 33% if life cycle emissions included

Source: EEA, 2010
Transport Fuels - biofuel production in EU MSs (2007)

Source: EEA, 2009, 2010
# Noise exposure

## Table 7.1 Noise exposure reported by 26 EEA member countries

The overall exposure data as reported by 26 EEA member countries are summarised below. The total population in EU-27 is around 500 million people.

<table>
<thead>
<tr>
<th>Total population exposed</th>
<th>Major roads</th>
<th>Major railways</th>
<th>Major airports</th>
</tr>
</thead>
<tbody>
<tr>
<td>&gt; 55 dB L_{den}</td>
<td>59 107 300</td>
<td>12 458 000</td>
<td>6 888 100</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Population in agglomerations exposed</th>
<th>Roads</th>
<th>Railways</th>
<th>Airports</th>
<th>Industry</th>
</tr>
</thead>
<tbody>
<tr>
<td>&gt; 55 dB L_{den}</td>
<td>41 198 400</td>
<td>3 684 900</td>
<td>1 782 331</td>
<td>761 700</td>
</tr>
<tr>
<td>&gt; 50 dB L_{night}</td>
<td>27 802 500</td>
<td>2 516 700</td>
<td>1 081 100</td>
<td>390 700</td>
</tr>
</tbody>
</table>

**Note:** Population exposed based on quality-checked round-one noise maps up to February 2009.

Source: EEA, 2010
Spatial and transport planning: matching transport demand to the needs of access?

Number of jobs accessible in one hour travel time in NL (2000)

Access by car

Access by public transport

 существует низкая доступность для тех, у кого нет автомобиля.

Source: EEA, 2004
Example: Fehmarn bridge

Source: EC, 2009
Example: Alps crossing

Heavy goods vehicles, change between 1990 and 2008

- Change in net tonnes, 2000=100
- Change in journeys, 2000=100

HGV fee introduced

Source: Swiss NGO, 2009
Example: Alps crossing

Transalpine freight traffic: Changes in rail transport 1990 to 2008
2000 = 100, in net tonnes

HGV fee introduced

Source: Swiss NGO, 2009
Example: Alps crossing

Freight traffic crossing the Swiss Alps (total): percentage change in market share, 1990 to 2008

HGV fee introduced

Source: Swiss NGO, 2009
Combined measures

Index of emissions (1990 = 100)

Each curve shows the additional effect of adding further instruments.

1. 'Improve' package: improved engine and vehicle design, electric cars, low-carbon fuels and technologies encouraging behavioural change. These measures lead to a 44% reduction in transport CO₂ emissions.

2. 'Avoid and shift' package: road pricing, car clubs, increasing population density in cities, travel planning. These measures lead to a 20% reduction in transport CO₂ emissions.

Source: EEA, 2010
April 23, 2010, 9:32 am

Imagining a Jet-Free Europe

By ELISABETH ROSENTHAL

On April 15, the European Environment Agency in Copenhagen convened a two-day workshop on how to move toward a more sustainable transport system on the Continent by 2050. Since flying is by far the most highly emitting form of transportation, the central question was “How would Europe look and function without aviation or with much less aviation than we have now?” as Peder Jensen, the agency’s transportation expert and the event’s organizer, put it.

Perfect timing. As participants from all over Europe gathered, a cloud of volcanic ash was spreading eastward from Iceland and by day’s end had grounded flights from Britain to Germany. “On Thursday morning [the 15th] the participants couldn’t imagine Europe without aviation: by Friday night they were living it – I just got the last person home yesterday, to Spain, by rail,” Dr. Jensen said in a telephone interview on Thursday.

“It takes something like a giant ash cloud to get people to imagine something different,” he said.

To reduce Europe’s emissions, the agency is looking hard at whether high-speed rail could partly – or mostly – replace aviation on a Continent that is highly interconnected by fleets of planes…
Intercity traffic – feeder lines

Vejle-Struer
CO₂-udledning pr. person
- ■ Ved 1 passager
- ○ 2 passagerer
- □ 1,47 passagerer*
- ▼ 3 passagerer

Peugeot 107, 1,0 benzin
VW Polo Bluemotion, 1,2 diesel
Honda Civic sport 1,4, benzin

Belægning: 32,9%
7 kilo

*1,47 passagerer i bilen er gennemsnittet for biler på danske veje.

Source: www.ing.dk, 2010
Flying car 2010

Source: www.moller.com, 2010
Conclusion

Rail is part of the future sustainable transport system
... If we want it to be!

We must create a common vision for this system to guide long term planning

Creating a new common transport policy is essentially creating this vision.