Statistics on the Costs and Funding of Transport

Swiss Federal Statistical Office

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Outline

1. Aims of the CFT statistics
2. Methodological framework
3. Results
4. Further extensions
1. Aim of the CFT statistics

Key questions
• What is the overall cost of transport?
• What are the cost drivers?
• Who is bearing the costs?

Target groups
• policy makers
• general public
• science

features
• yearly data → time series
• stable methodology over time
2.1 Methodological framework

Motorised transport

- **road**
  - private motorised transport
  - public transport
  - freight transport (light and heavy-duty vehicles)

- **air**
  - line and charter (incl. belly-freight)*

- **water**
  - passenger transport
  - freight transport on the river Rhine

Non-motorised transport

- **rail**
  - passenger transport
  - freight transport

- **road**
  - walking
  - cycling
Cost categories

- Environment
- Accidents
- Infrastructure
- Transport means
Cost categories

Motorised transport

- road
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  - passenger transport
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Non-motorised transport

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- air
2.2 Methodological framework

The diagram illustrates the origin of costs and the final cost bearers in a graphical representation. The bars for origin of costs and direct cost carriers show a clear distinction, while the final cost bearers display a breakdown among the general public, state, transport providers, and transport users. The same amount indicates a balance in cost distribution.

- **Origin of costs**:
  - health and environment
  - accidents
  - transport means
  - Infrastructure

- **Final cost bearers**:
  - general public
  - State
  - transport providers
  - transport users
3. Results
Total costs of CHF 90 billion - three quarters by passenger transport

Total costs of motorised transport, 2015

<table>
<thead>
<tr>
<th>Mode</th>
<th>Passenger Transport</th>
<th>Goods Transport</th>
</tr>
</thead>
<tbody>
<tr>
<td>road</td>
<td>53.4</td>
<td>18.6</td>
</tr>
<tr>
<td>rail</td>
<td>8.8, 2.2, 11.0</td>
<td></td>
</tr>
<tr>
<td>air</td>
<td>6.4, 6.4</td>
<td></td>
</tr>
<tr>
<td>water</td>
<td>0.3</td>
<td></td>
</tr>
</tbody>
</table>
Passenger transport
Costs of transport means are dominating

Costs of passenger transport by cost category, 2015

CHF billion

- **road**
  - private: 3834
  - public: 49546

- **rail**
  - infrastructure: 199
  - transport means: 8811

- **air**
  - transport means: 6399

- **water**
  - health and environment: 199

Legend:
- brown: infrastructure
- orange: transport means
- yellow: accidents
- light yellow: health and environment
Unit costs

Unit costs of motorised passenger transport by cost category, 2015

**short distances**
- Public road transport
  - Infrastructure: 12
  - Transport means: 66
  - Accidents: 4
  - Health and environment: 87

**medium distances**
- Private road transport
  - Infrastructure: 6
  - Transport means: 29
  - Accidents: 9
  - Health and environment: 51
- Rail
  - Infrastructure: 21
  - Transport means: 19
  - Accidents: 3
  - Health and environment: 43
- Inland waterways
  - Infrastructure: 2
  - Transport means: 98
  - Accidents: 23
  - Health and environment: 123

**long distances**
- Air transport
  - Infrastructure: 3
  - Transport means: 9
  - Accidents: 3
  - Health and environment: 15
Cost trends in passenger transport

Development of total costs

Index 2010=100

2010 2011 2012 2013 2014 2015
95 100 105 110 115

Development of unit costs

Index 2010=100

2010 2011 2012 2013 2014 2015
75 80 85 90 95 100 105 110 115

rail  road – public transport  air  road – private transport
Some interesting details…
The general public pays too

Costs of freight transport by final cost bearers, 2015

- **Road, light-duty vehicles**: 92% transport users, 8% transport providers, 21% State, 28% general public.
- **Road, heavy-duty vehicles**: 90% transport users, 10% LSV, 25% State, 21% general public.
- **Rail**: 50% transport users, 4% transport providers, 25% State, 21% general public.
- **Water**: 62% transport users, 10% transport providers, 28% general public.

Transport costs:
- 9.6 bn for road, light-duty vehicles
- 9.0 bn for road, heavy-duty vehicles
- 2.2 bn for rail
- 0.1 bn for water
Climate costs: road ahead of air transport

Environmental and health costs of transport, 2015

CHF billion

- Road: 9.5 billion
  - Local air pollution: 1.0 billion
  - Noise: 2.0 billion
  - Climate: 4.5 billion
  - Other: 2.0 billion
- Rail: 1.0 billion
- Air: 1.2 billion
- Water: 0.1 billion

Graph showing the distribution of environmental and health costs for transport modes.
4. Further extensions

- Adoption of new transport modes (e.g. combined transport, electric vehicles)
- More details (e.g. regional differentiation)
- New indicators (e.g. cost per GDP, cost per capita, ... ?)
- International comparison (NEW: Luxemburg, ... ?)
Further Information

• [www.statistik.ch](http://www.statistik.ch)  
  > 11 «Mobility and Transport» > Kosten und Finanzierung des Verkehrs

• Methodology Report

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