Innovative governmental approaches to support and promote intermodal transport on transalpine corridors through Switzerland

Martin Ruesch

- Rapp Trans AG, Zürich, Switzerland
- Member of the Management Board / Partner
- martin.ruesch@rapp.ch

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- Freight Development in Switzerland and Key Problems
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Introduction

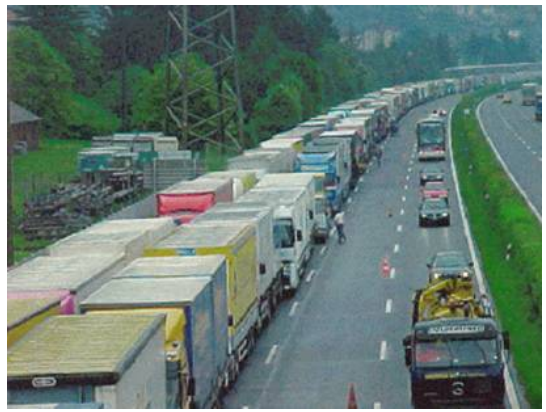
- Increasing road freight transport and limited capacity

- Alpine range as an environmental sensitive area

- Severe accidents in alpine tunnels

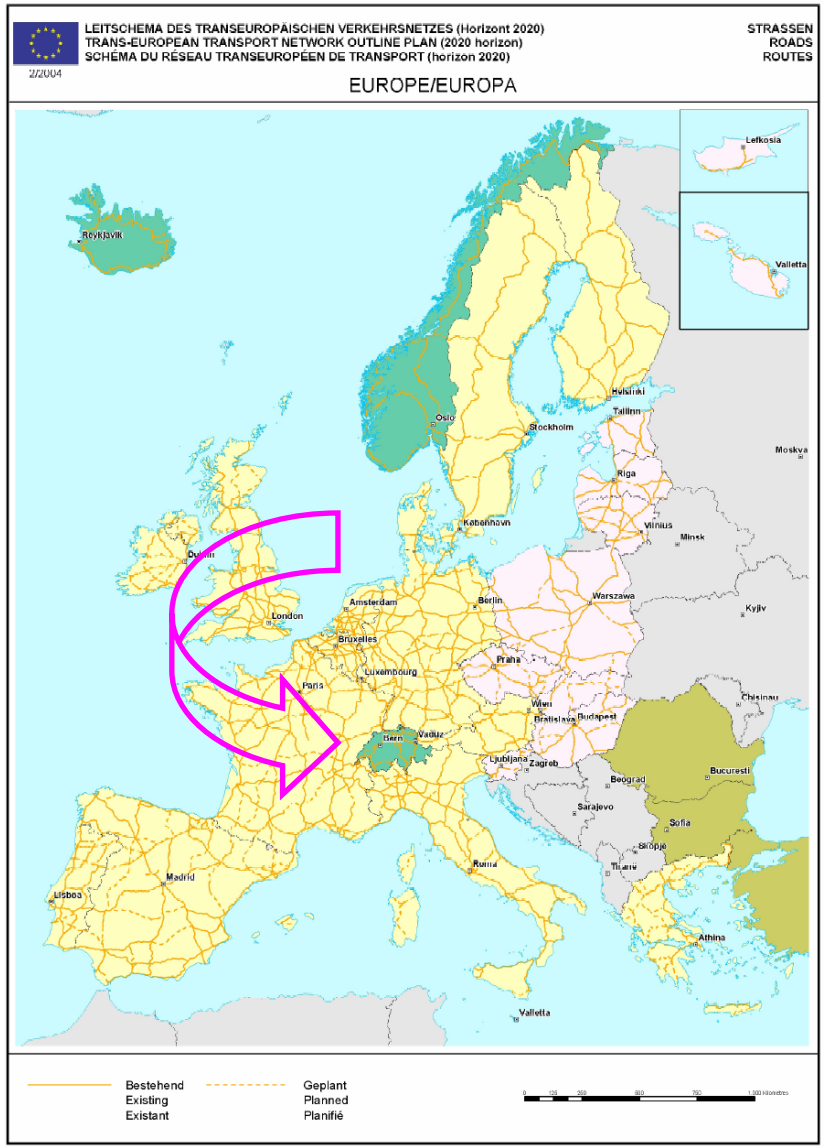
- Barriers that hinder today a wide breakthrough of intermodal logistics

- Policy aiming at an increasing share of more environmental friendly transport modes



Switzerland in Europe

- Central location in Europe
- North South Transit traffic through Switzerland
- East West Transit traffic mostly around Switzerland

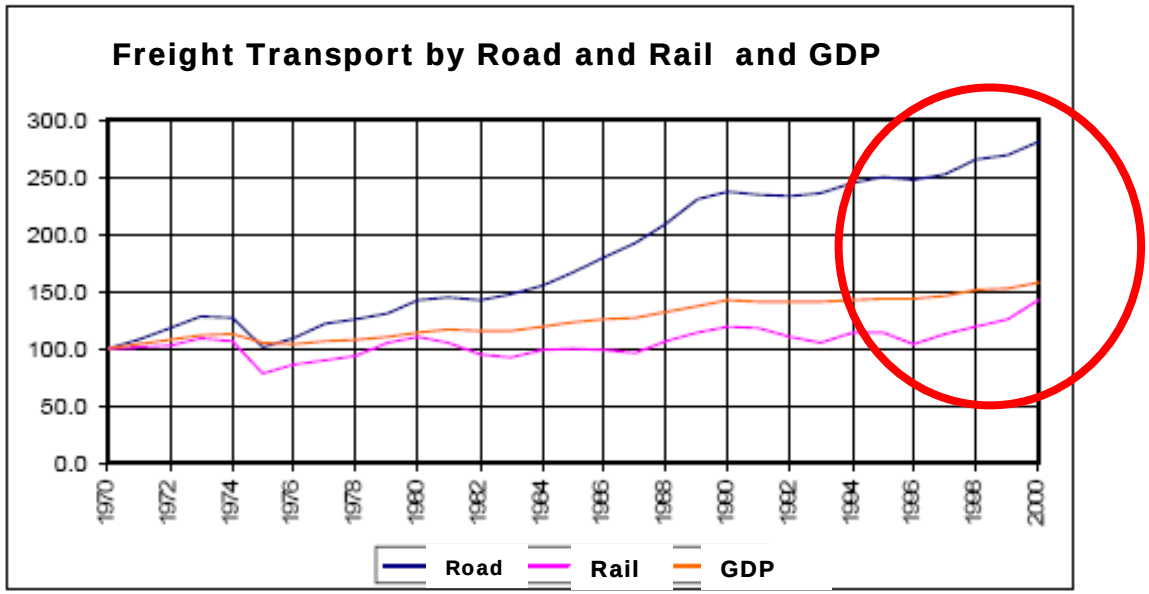


Freight Developments in Switzerland (2)

- **Growth Rates (1970 to 2000):**
  - ➔ **GDP: 1.5% per year**
  - ➔ **Road freight: 3.5% per year**
  - ➔ **Rail freight: 1.2% per year**

- **Increasing freight growth rates by the end of the ninetees for rail and road compared to GDP**

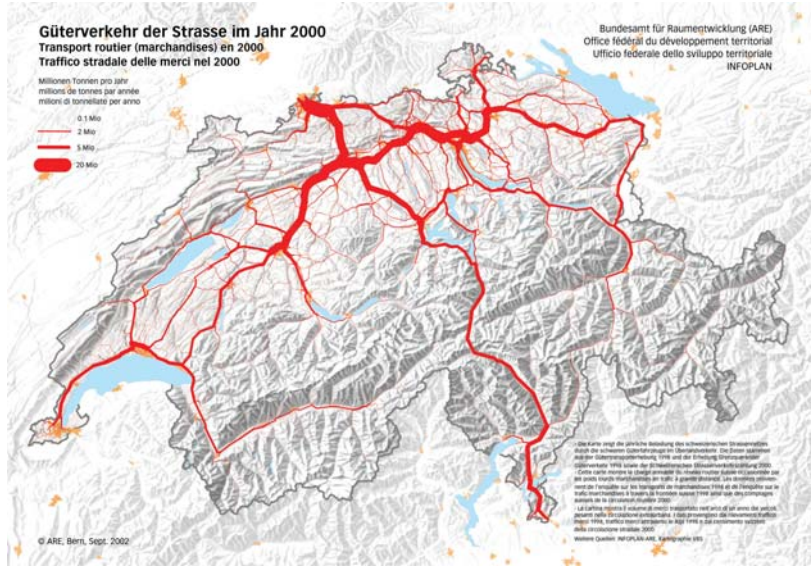
- **Negative decoupling of economic development and freight development**



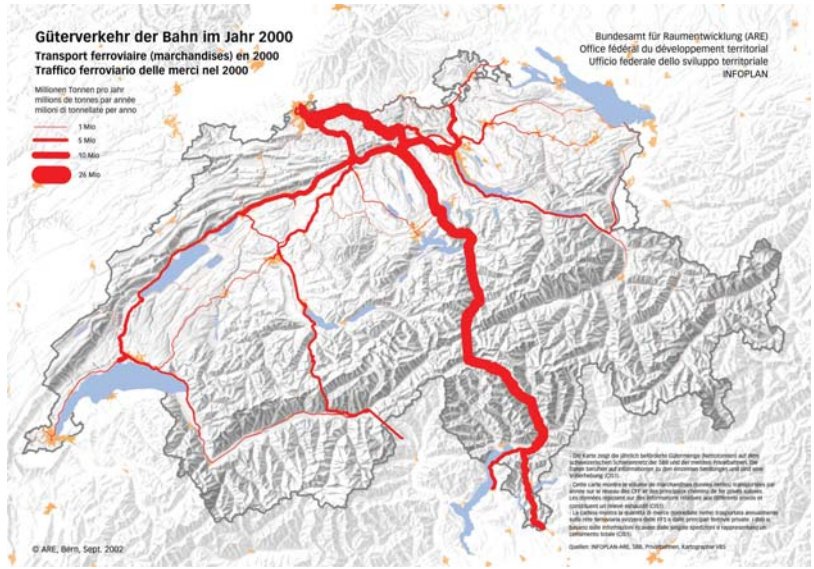
Quelle: Bundesamt für Statistik, Neuenburg

Road and Rail Freight Flows

- **Road freight flows (2000):**
  - ➔ Biggest flows east-west
  - ➔ Biggest flows around conurbations
  - ➔ Increasing flows on transalpine corridors



- **Rail / Intermodal freight freight (2000):**
  - ➔ **Highest volumes on transalpine corridors north-south**
  - ➔ **High volumes between Basel, Zurich and Bern**

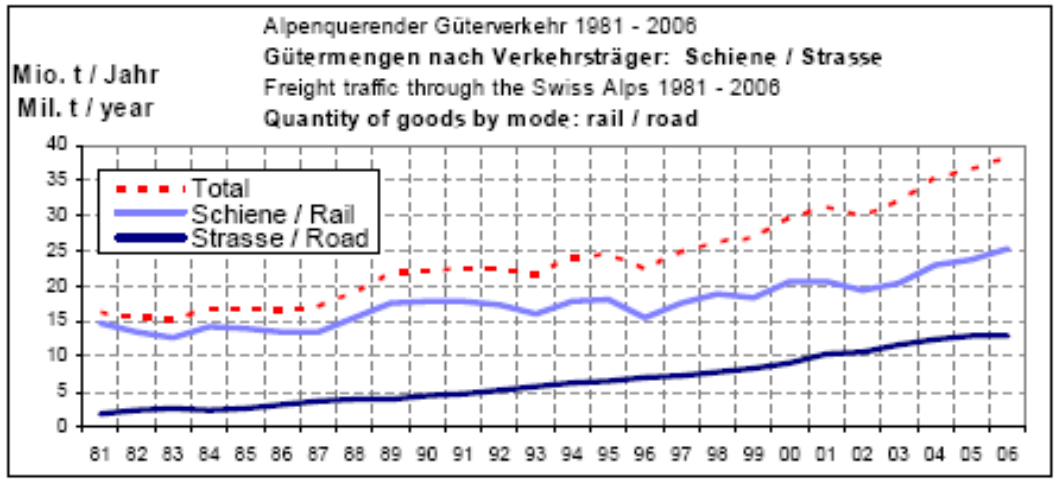


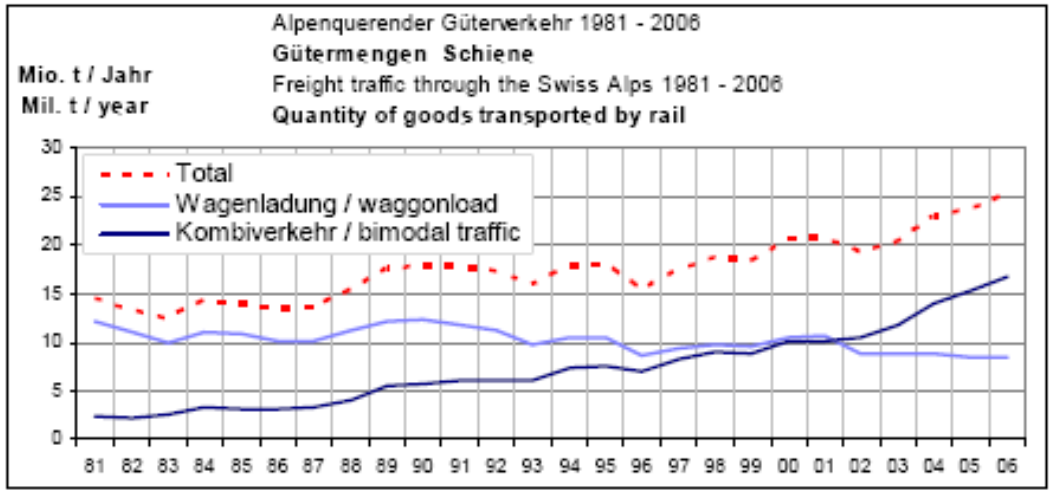
Freight Developments in Switzerland: Transalpine Traffic 1981-2004

- **Road freight transport increased significantly since the opening of the Gotthard tunnel (1981)**

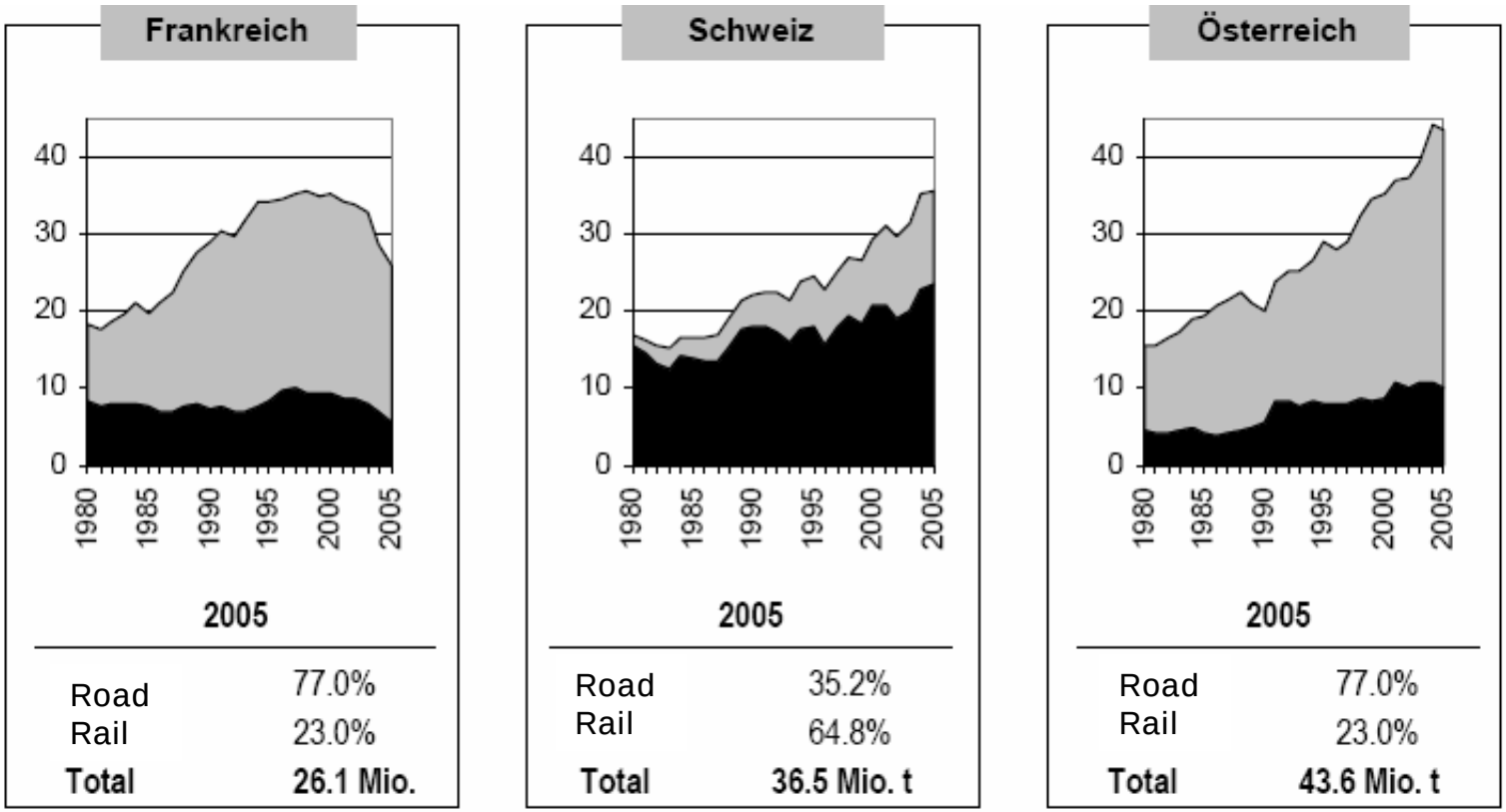
- **Stronger growth of road than rail / intermodal**

- **Since approx. 2001 the share of intermodal transport is higher than the share of railway transport**
  - increased containerisation
  - reduction of private sidings
  - decreasing bulk transport
  - increasing transport to seaports
  - higher punctuality of intermodal transport (than rail)
  - higher costs of pure railway transport.





Freight Developments Alpine Range



- **Between 1980 and 2005 the freight volume increased from 50.7 mln t to 106.3 mln t (+110%).**

- **The rail/intermodal share over the whole alpine range was in 2005 37%; 23% in France and Austria, 65% in Switzerland.**

Key Problems

	Freight Problems in Conurbations	Freight Problems on transalpine corridor
Increasing road freight traffic in mileage and tonne-kilometeres (especially in conurbations and transalpine)	XX	X
Limited capacity of the railway and intermodal network (incl. priority conflicts between freight and passenger transport)	XX	XX
Capacity problems on road network (also affecting accessibility and reliability of road freight transport including location attractivity for enterprises)	XX	X
Increasing share of environmental burdens of road freight (especially NOx, particles, CO2-emissions, noise)	XX	XX
Safety/security in freight transport (especially road tunnels)	X	XX
Higher external costs of road freight transport	X	X

National Freight Policy (1)

- The single modes should be used to their comparative advantages and combined in a suitable way (Co-modality).

- The high share in rail freight should be kept.

- Modal shift from road freight transport to rail / intermodal (Intermodality)

- Improving capacity and attractivity for alpine crossing rail freight transport (including intermodal transport)

Transalpine freight transport related laws and regulations

- **Article 84 of the Swiss constitution: basis for the protection of the alps against negative impacts of heavy goods transport by**
  - ➔ Modal shift of transalpine freight from road to rail (including intermodal transport)
  - ➔ Not increasing the road transport capacity through the alps.

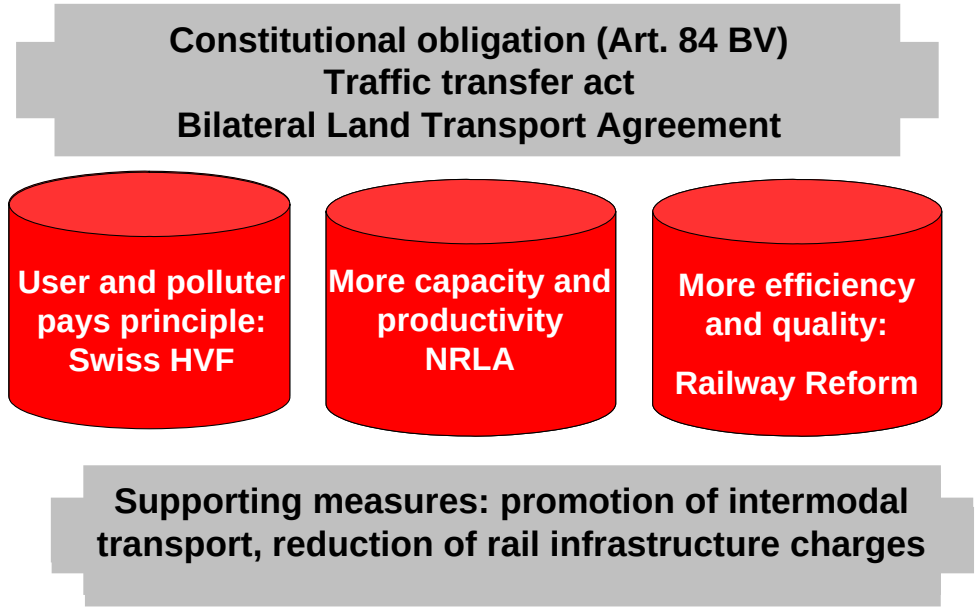
- **Based on the article 84 the traffic transfer act of 8th October 1999 defines the explicit modal shift target:**

  - ➔ Reduction of the number of heavy goods vehicles crossing the alps by road to a **maximum of 650'000 trucks per year** (in 2005 approx. 1.2 mln. trucks)
  - ➔ This reduction must be reached two years after the opening of the new Lötschberg rail tunnel through the alps (in 2009).

- **Swiss policy has been contractual secured with the European Union**

Main Pillars of National Freight Policy

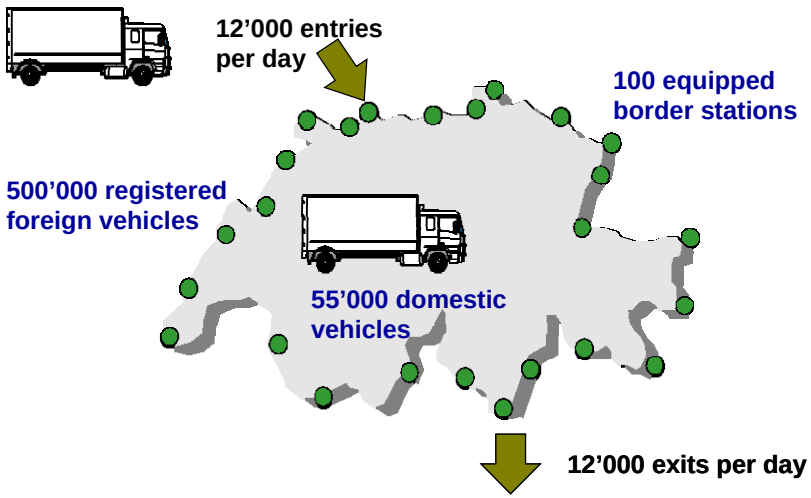
- **3 main pillars:**



- **Supporting measures:**
  - ➔ financial support of rolling motorway
  - ➔ **funding of intermodal terminals in and outside of CH**
  - ➔ **subsidies for unaccompanied intermodal transport**
  - ➔ reduction of railway infrastructure charges
  - ➔ monitoring of productivity improvements in railway transport
  - ➔ partial reimbursement of the heavy vehicles fee for trucks used in the pre- and endhaulage of intermodal transport
  - ➔ **road truck traffic management**
  - ➔ **enforcement of road freight transport regulations.**

Measures to support and promote Intermodal Transport: Heavy Goods Vehicles Fee (1)

- **Legal basis:**
  - ➔ Federal Law for the Distance-related HVF of 19.12.1997
- **Objectives:**
  - ➔ True Costs
  - ➔ Demand Management
  - ➔ Reduction of Alpine transit road traffic and shift to rail
- **Subject: Heavy Vehicles > 3.5 tons**
- **Infrastructure: <u>All</u> public roads**
- **Tariffication:**
  - ➔ per Kilometre and per Ton
  - ➔ Emission-dependent
  - ➔ 40 t truck: 0.65 Euro per km
- **Operator: Swiss Customs Authority**
- **Implemented: 1 January 2001**

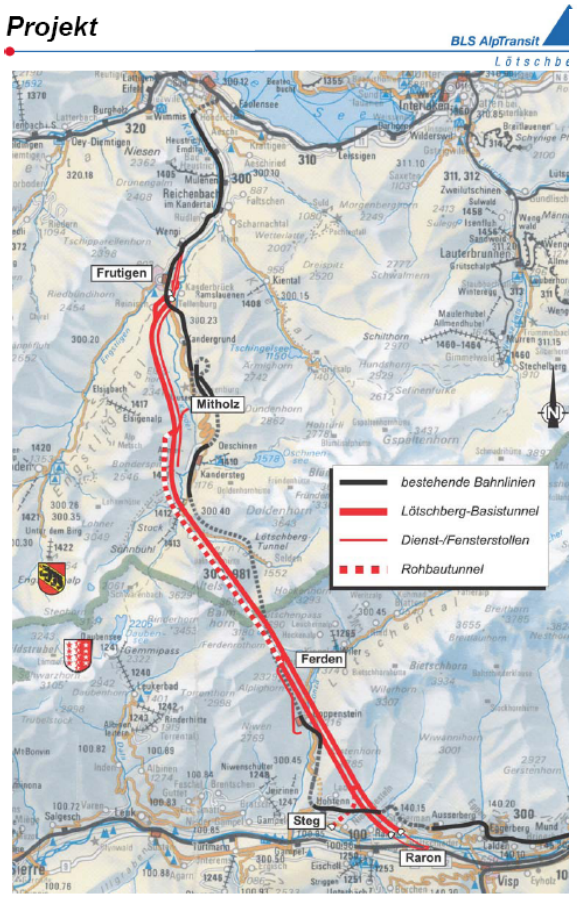


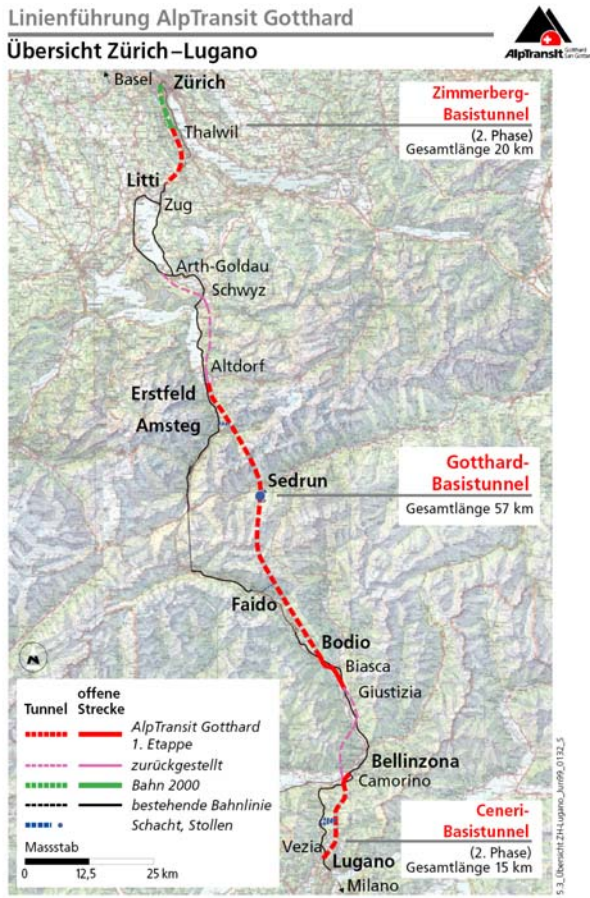
Measures to support and promote Intermodal Transport: New Railway Tunnels through the Alps

- **Improved Railway connections**
  - Gotthard tunnel: 57 km
  - Lötschberg tunnel: 34 km

- **Improving railway / intermodal transport**
  - Increasing efficiency (shorter leading times, higher productivity)
  - Increasing reliability

- **Start of operation**
  - 2007 for the Lötschberg route
  - 2015 for the Gotthard route



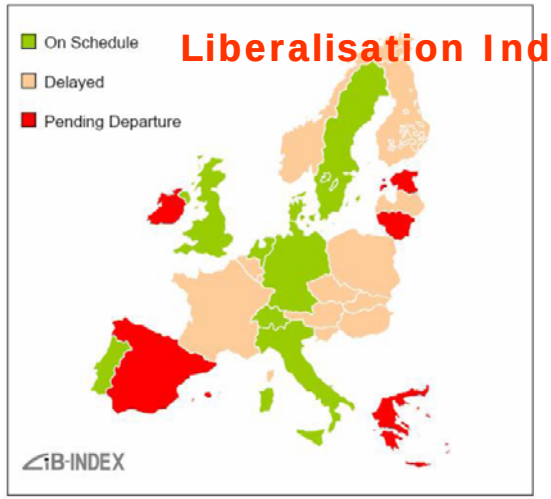


Measures to support and promote Intermodal Transport: Railway Reform

- **The first step of the railway reform came into force on 1st January 1999.**
  - ➔ separation of infrastructure and traffic/operation
  - ➔ the implementation of the order principle for operational subsidies
  - ➔ regulation for the railway network access and the liberalisation of the railway traffic.

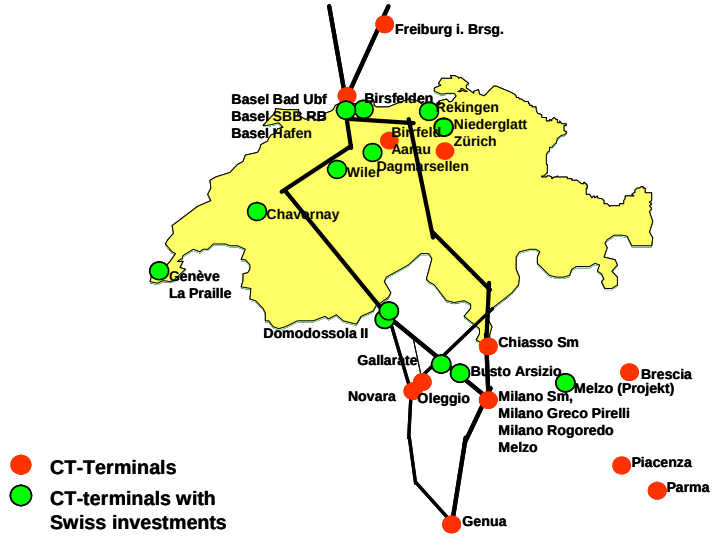
- **Switzerland on schedule relating to liberalisation and network access**

- **Further implementation steps of the railway reform are in preparation:**
  - ➔ independent railway track slot management.



Measures to support and promote Intermodal Transport: Funding Intermodal Terminals

- **National law for terminal funding**
- **Financed elements:**
  - buildings/ infrastructure
  - installations and equipment
  - rolling stock
  - other investments
- **Maximum share of co-financing is 80 %**
- **Minimum requirements:**
  - Modal shift from road to intermodal transport
  - Need for transhipment capacity
  - Investment is necessary to reach policy aims
  - Terminals would not be built without financial aid.
- **Acceptable cost / benefit factor**
- **Terminal funding outside CH possible**
- **Switzerland funded terminals 2002-2005 with 12 to 75 Mio CHF per year (1CHF=0.6 Euro).**



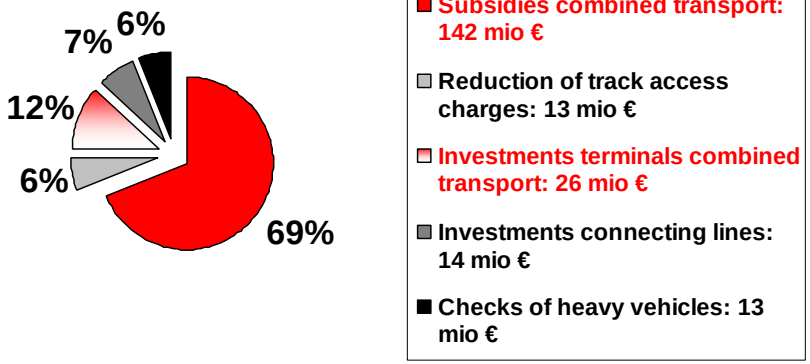
Measures to support and promote Intermodal Transport: Subsidies for Unaccompanied Intermodal Transport

- **Subisidies**
  - Based on national laws
  - ordering principle by the Swiss government
  - paid to the intermodal operators and not to railways (18 in 2006)

- **Subsidy**
  - per intermodal consignment or train
  - Depending on origin and destination (75 connections in 2006)
  - Average approx **48 Euros per intermodal consignment** (in 2006)
  - Reduction path 5% per year

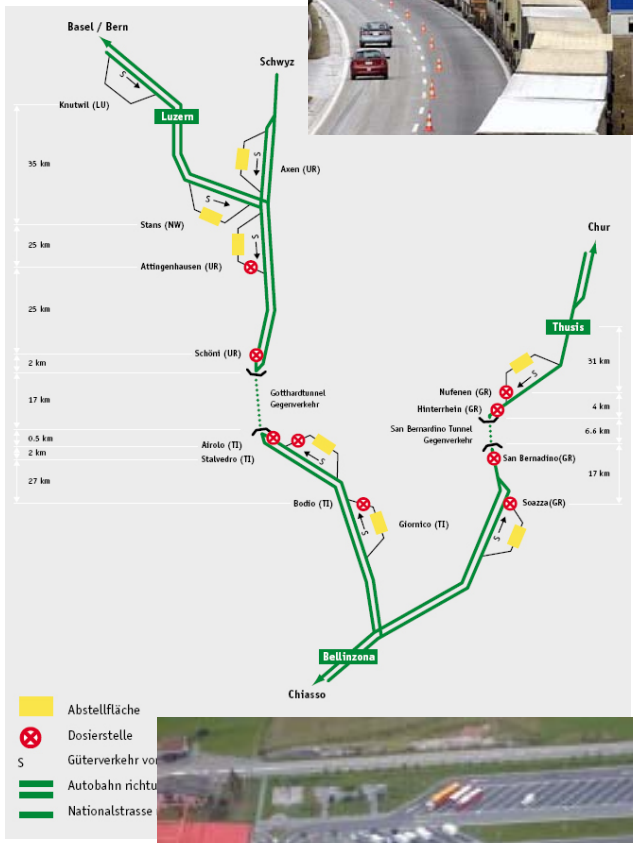
- **In 2006**
  - more than 1.2 million intermodal consignments have been subsidised (900'000 in transalpine traffic)
  - more than 1/3 of the whole intermodal transport through the Swiss alps.

- **Split of financial support (per year)**



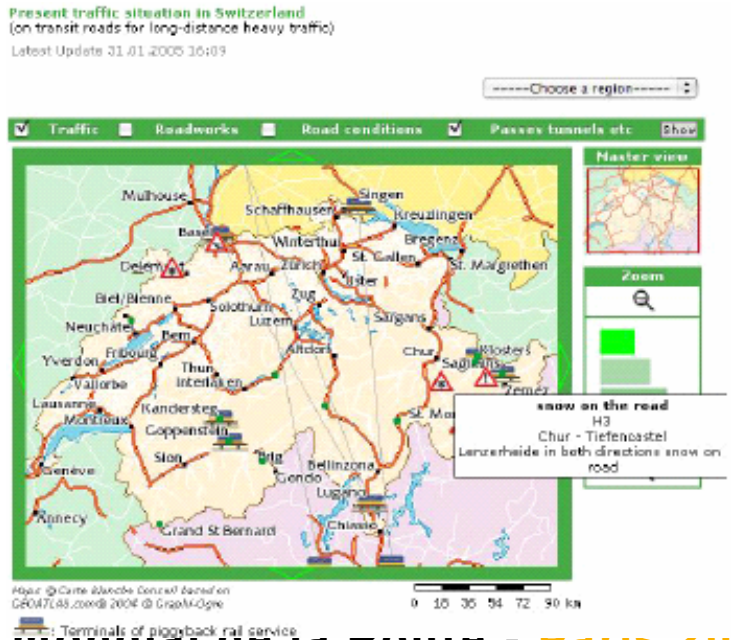
Measures to support and promote Intermodal Transport: Heavy Goods Vehicles Management on Alpine Crossings

- **Objectives**
  - ➔ **Minimisation of accident risks in tunnels / Improving safety**
  - ➔ **Homogenisation of traffic flows**
- **Concept:**
  - ➔ **Capacity Management with metering of heavy truck traffic at tunnel entrance**
  - ➔ **Minimum 60 trucks/h and direction (high car volumes)**
  - ➔ **Maximum 150 trucks/h per direction (low car volumes)**
  - ➔ **Using of emergency lanes at metering points at tunnel portals**
  - ➔ **Parking areas and HGV Service Centers with waiting and departure areas**
  - ➔ **Phase Red: Ban to use the Gotthard/Bernardino tunnels if the daily capacity of the tunnel is overstepped**



Measures to support and promote Intermodal Transport: Truck Information System

- **Objectives**
  - Opimal use of transport capacity over the alps
  - Support trip and route planning
  - Support modal shift
- **Main features of the service**
  - Real time traffic situation on road and rail
  - Weather forecasts and related road conditions
  - Intermodal routing
  - Explanation of permanent traffic management measures, intermodal supply, policy and legal background
- **Further features**
  - Timetables for intermodal services
  - General driving restrictions for heavy vehicles
  - Recommendations relating to road truck transport
- **Public Private Partnership**
- **www.truckinfo.ch**



Measures to support and promote Intermodal Transport: Enforcement of Road Freight Transport Regulations

- **Objectives:**
  - → **to improve road safety**
  - → **to provide a fair competition**

- **Concept:**
  - → **enforcement of the relevant road transport regulations**
  - → **driving and resting hours, weight, vehicle and driver conditions**
  - → **Mobile control facilities**
  - → **Heavy Goods Vehicles service centers at key locations in the motorway network.**

- **Implementation:**
  - → **Since 1999**
  - → **approx. 1/3 of controls show problems**

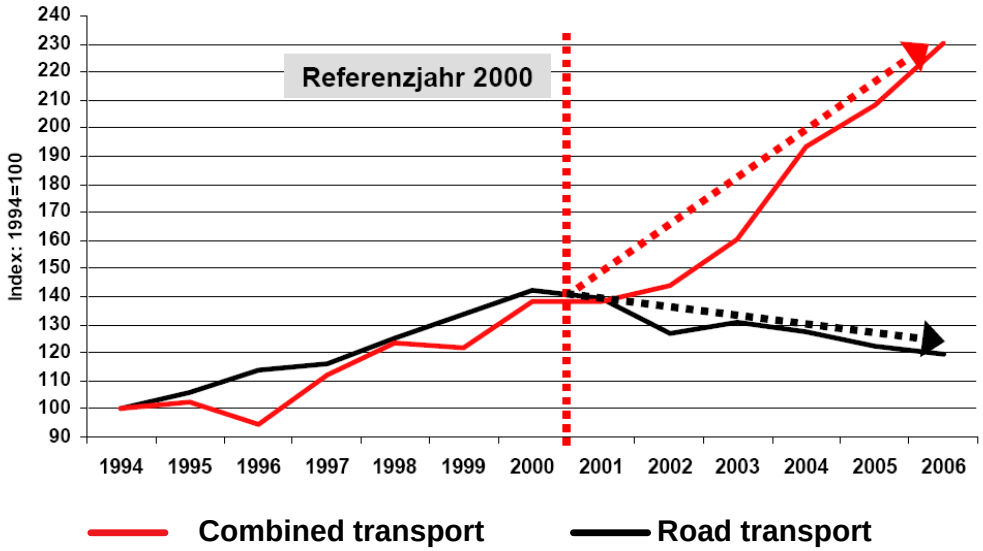
Experiences and Impacts: Impacts on Intermodal Transport (1)

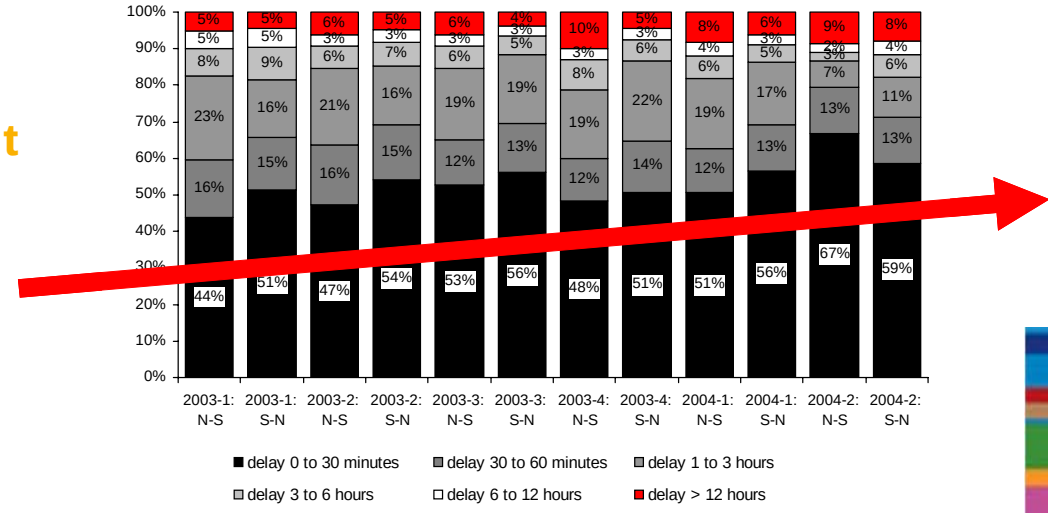
- **Monitoring project for experiences and impacts on transalpine freight traffic and specific evaluation studies (isolation of impacts for single measures difficult)**

- **The Swiss freight transport policy shows an impact on the modal share of freight transport through the Alps**

- **Intermodal transport increased and road transport decreased**

- **Improving Intermodal quality (and especially the railway part)**



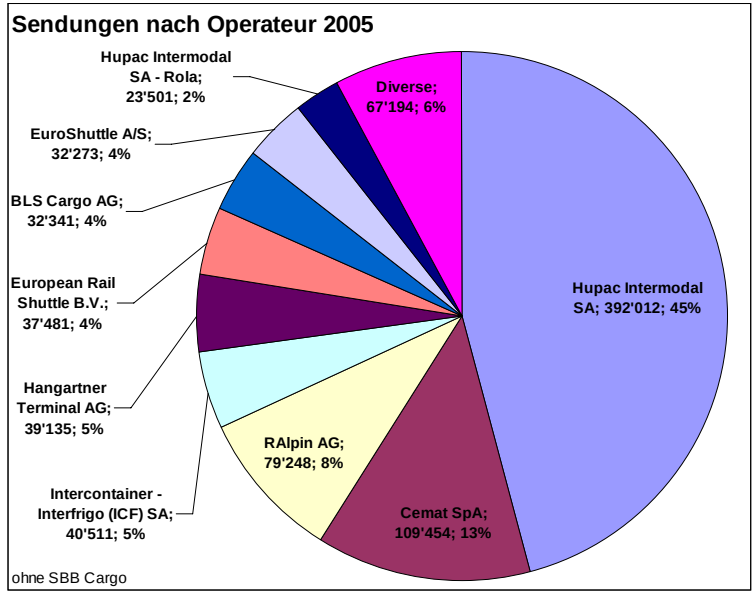


Experiences and Impacts: Impacts on Intermodal Transport (2)

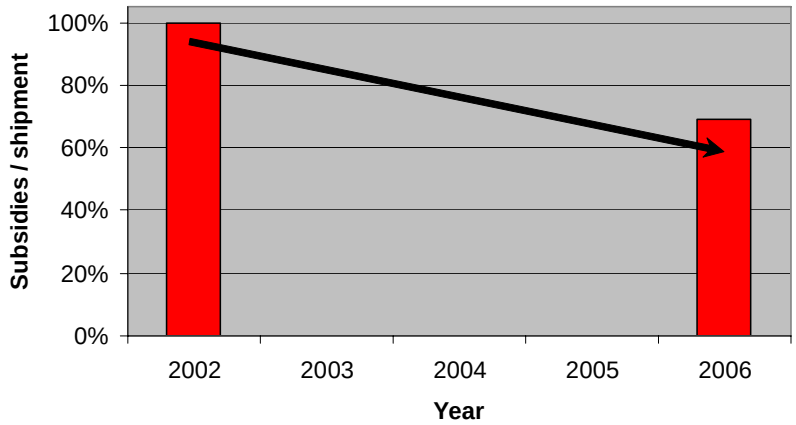
- **Increased competition in railway and intermodal transport on the transalpine corridor**

- **Progress in the railway reform: More than 15 intermodal operators provide services on more than 60 transit connections**

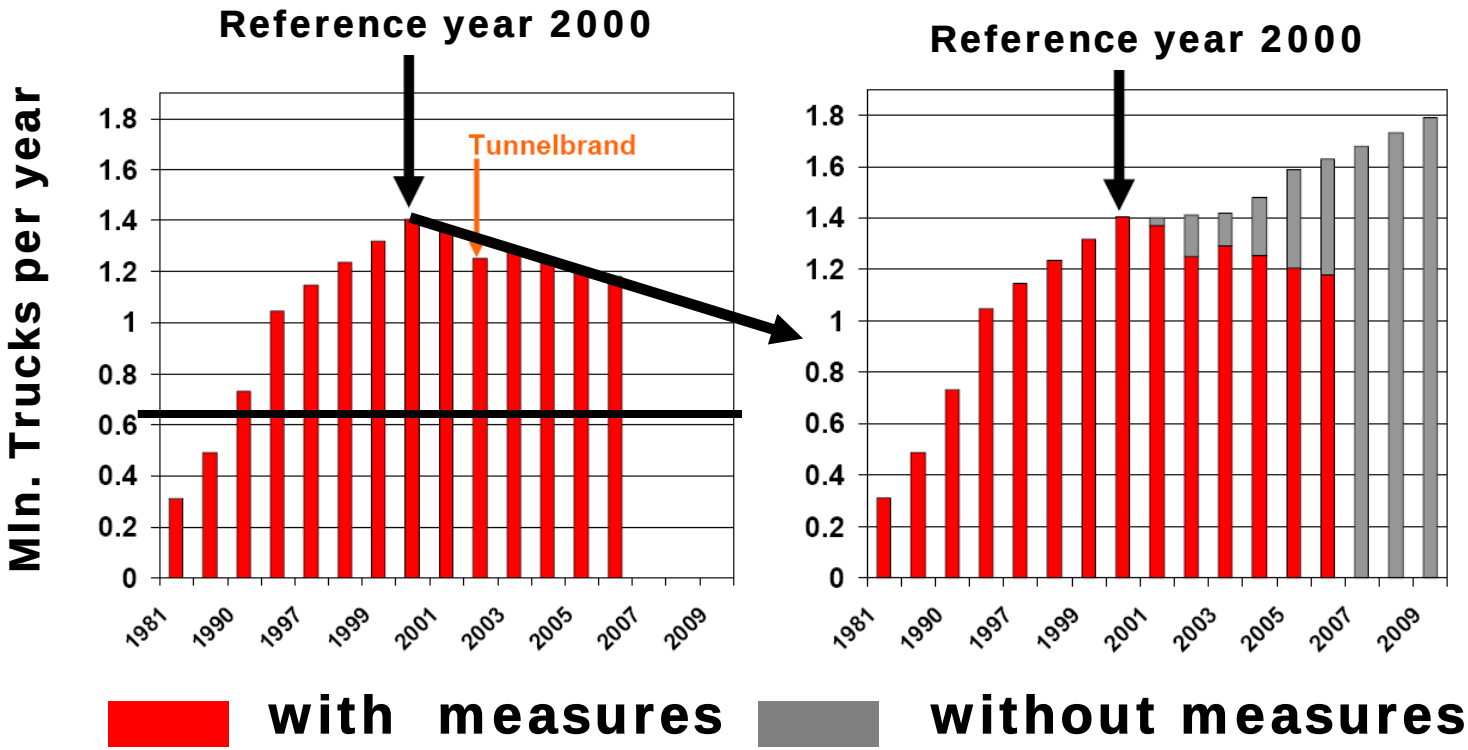
- **The intermodal ordering and subsidy system proved to be effective and efficient relating to the requirements.**
  - The subsidies per intermodal consignment could be reduced
  - A further optimisation of the system is possible.



Development of subsidies



Experiences and Impacts: Impacts on Road Freight Transport (1)



- **Increasing efficiency of road transport:**
  - ➔ Increasing utilisation degree, less empty trips
  - ➔ Reduction of road mileage
- **Target cannot be reached without additionnal measures**

Experiences and Impacts: Impacts on Road Freight Transport (2)

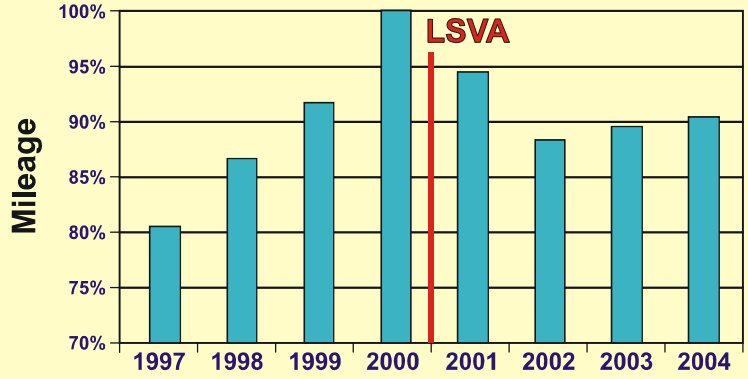
- **Reduction of empty vehicles and mileage**

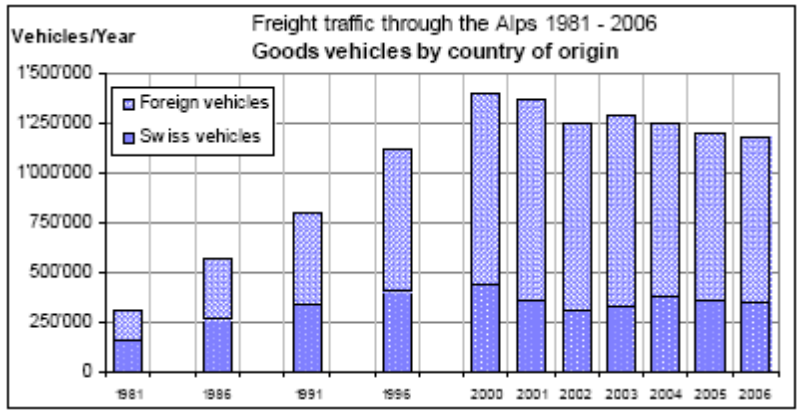
- **Fleet adaptation and renewal with a replacement of high-emission trucks**

- **No significant changes from truck to lorries < 3.5**

- **Traffic management measures on alpine crossings showed positive effects as a homogenisation of traffic flows and improved safety**

- **TruckInfo is used and accepted by the transport industry**





Conclusions and Outlook

- **Road freight transport demand is increasing faster than supply and freight transport gains importance relating to capacity use, environmental and societal effects**

- **An integrated bundle of measures taking into account intermodal and road freight transport is needed to reach more sustainable freight transport**

- **Several measures have been successfully implemented in Switzerland, covering economical, operational, legal and infrastructural measures**

- **Subsidies for intermodal transport is not a long term solution. Subsidies should be limited to infrastructure or to start up aids for the operation of new intermodal services**

- **Still there is a need for action; further innovative measures as a alpine transit exchange with tradeable passage rights or a slot reservation system for road freight transport have to be taken into account**

More Information

Thanks for your Attention!

Martin Ruesch

Member of the Manag. Board / Partner

MSc Civil Engineering

martin.ruesch@rapp.ch

Rapp Trans AG

Uetlibergstrasse 132

8045 Zürich, Switzerland

Phone: +41 43 268 60 43

Fax: +41 43 268 60 40

www.rapp.ch

Rapp Trans

- Traffic and Transport Consulting
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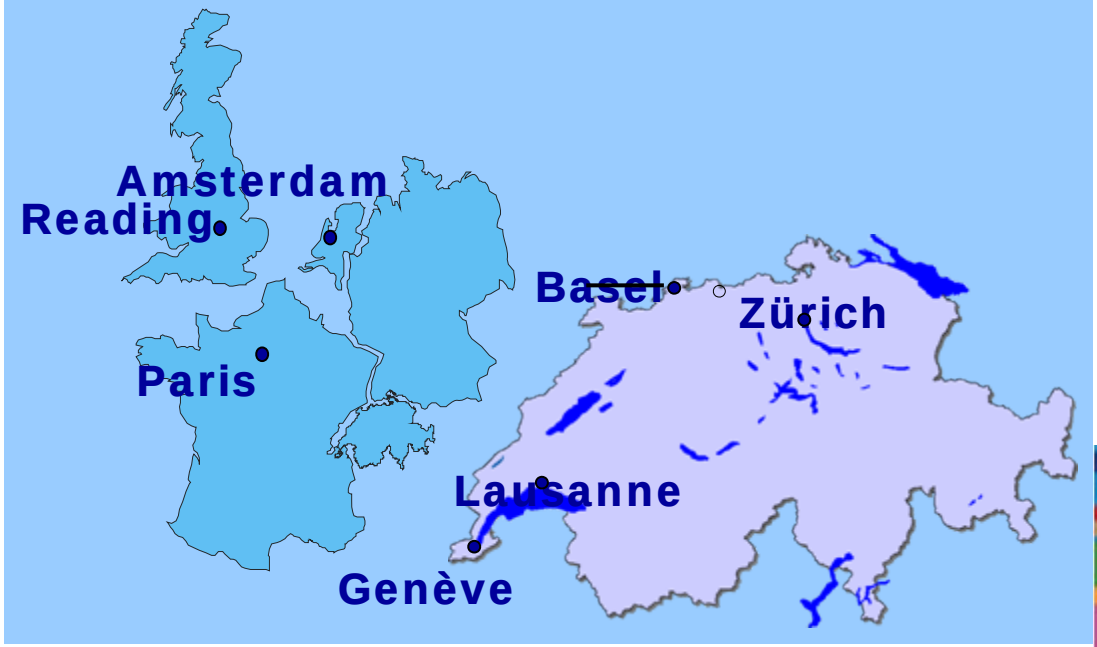
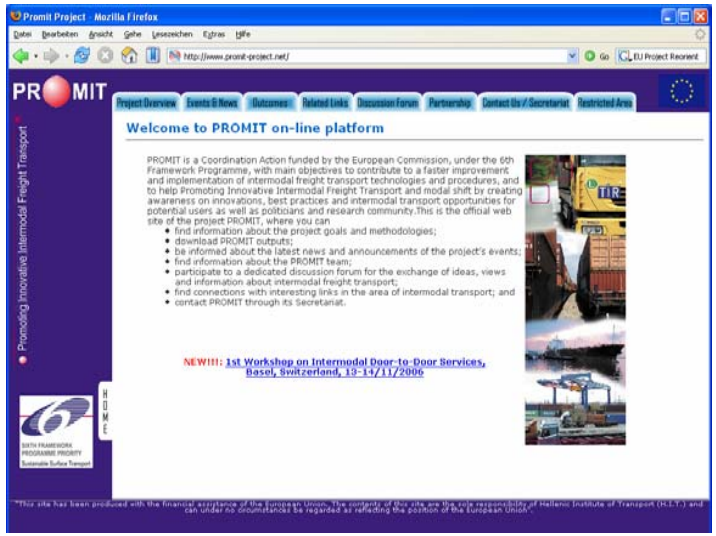


PROMIT Project

Promoting Innovative Intermodal Freight Transport



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PROMIT Project Secretariat
Mrs. Jovanna Koukouloudi
Tel: +30 2310 498263 •
Fax: +30 2310 498269
Email: ikouk@certh.gr •

www.promit-project.net