



# THE PEP Workshop

Efficient urban transport and public transport systems  
26-27 September 2013, Almaty

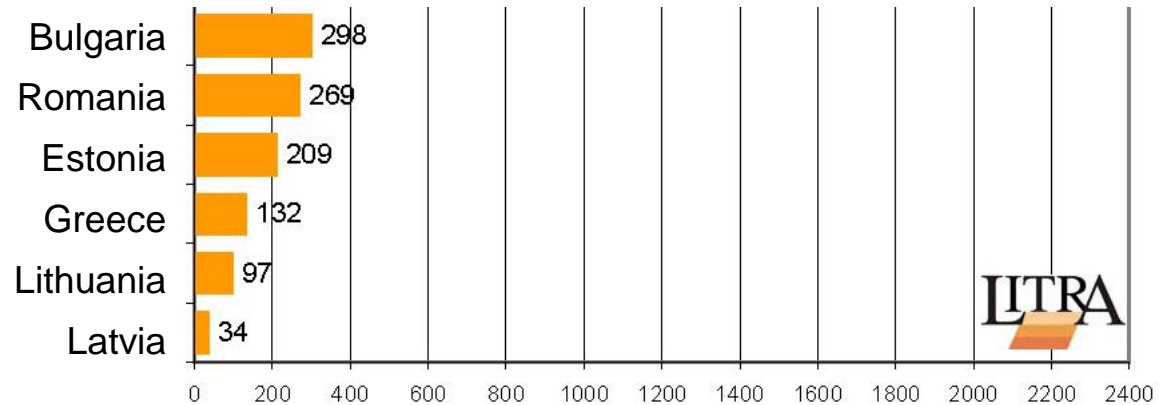
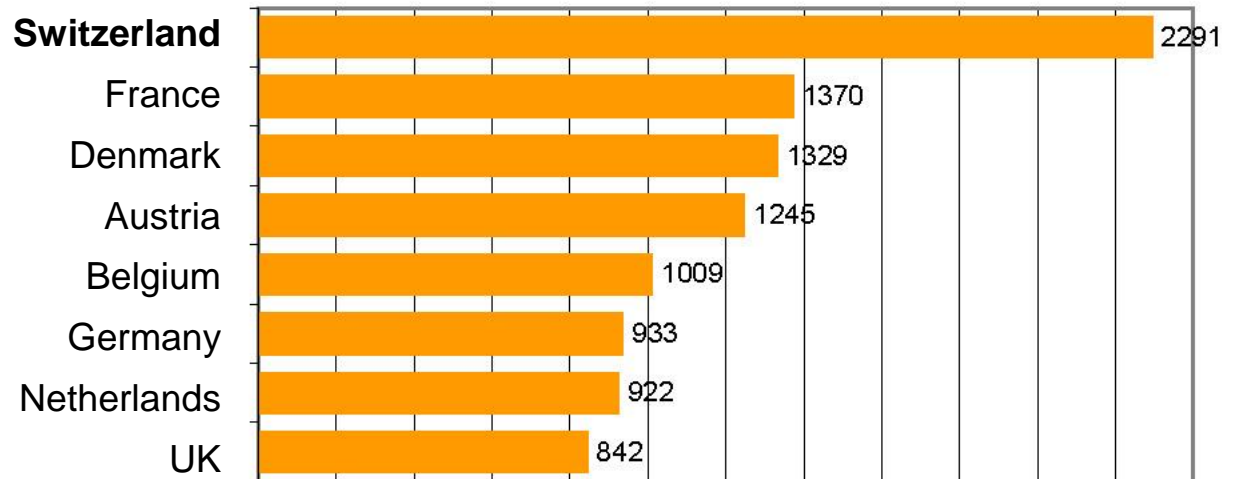
## Integration of Public Transport in an Overall Transport System

The Example of the Greater Zurich Area

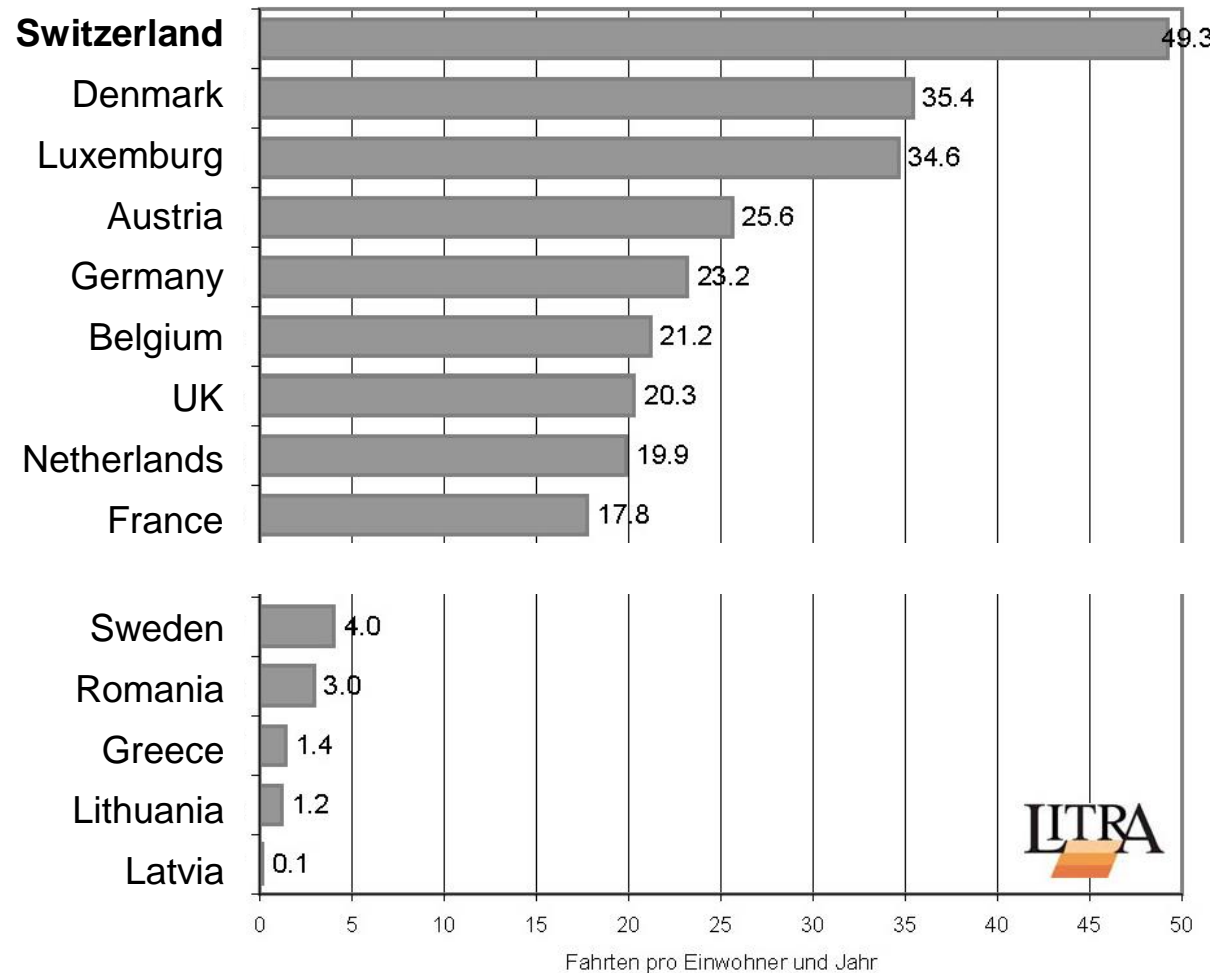


Christian Vogt, Zurich Transport Authority (ZVV)

# Kilometres per person and year (railways)



# Trips per person and year in Europe

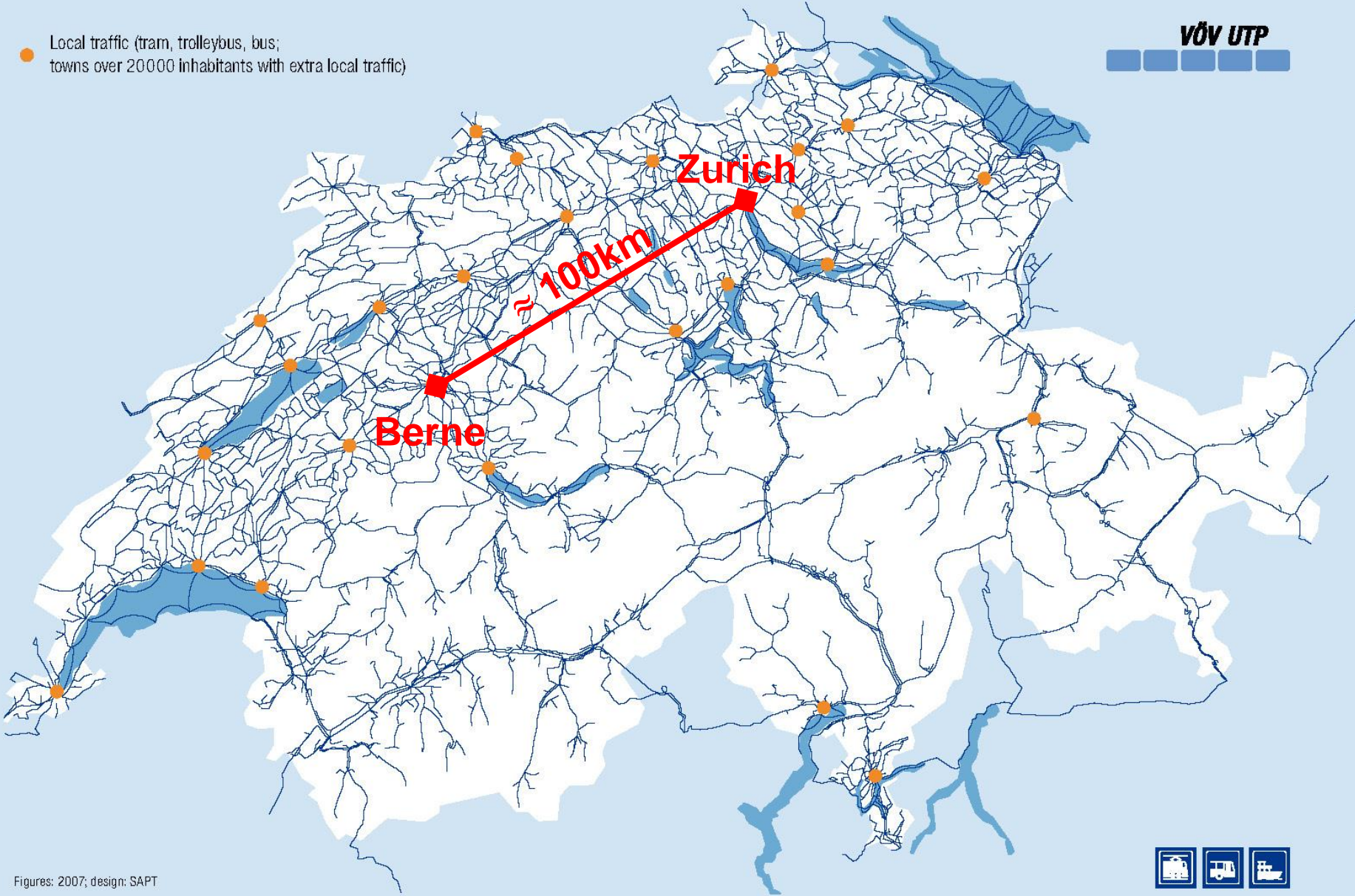


Quelle: Railway Statistics Summary 2008

# Public Transport Network Switzerland

the network

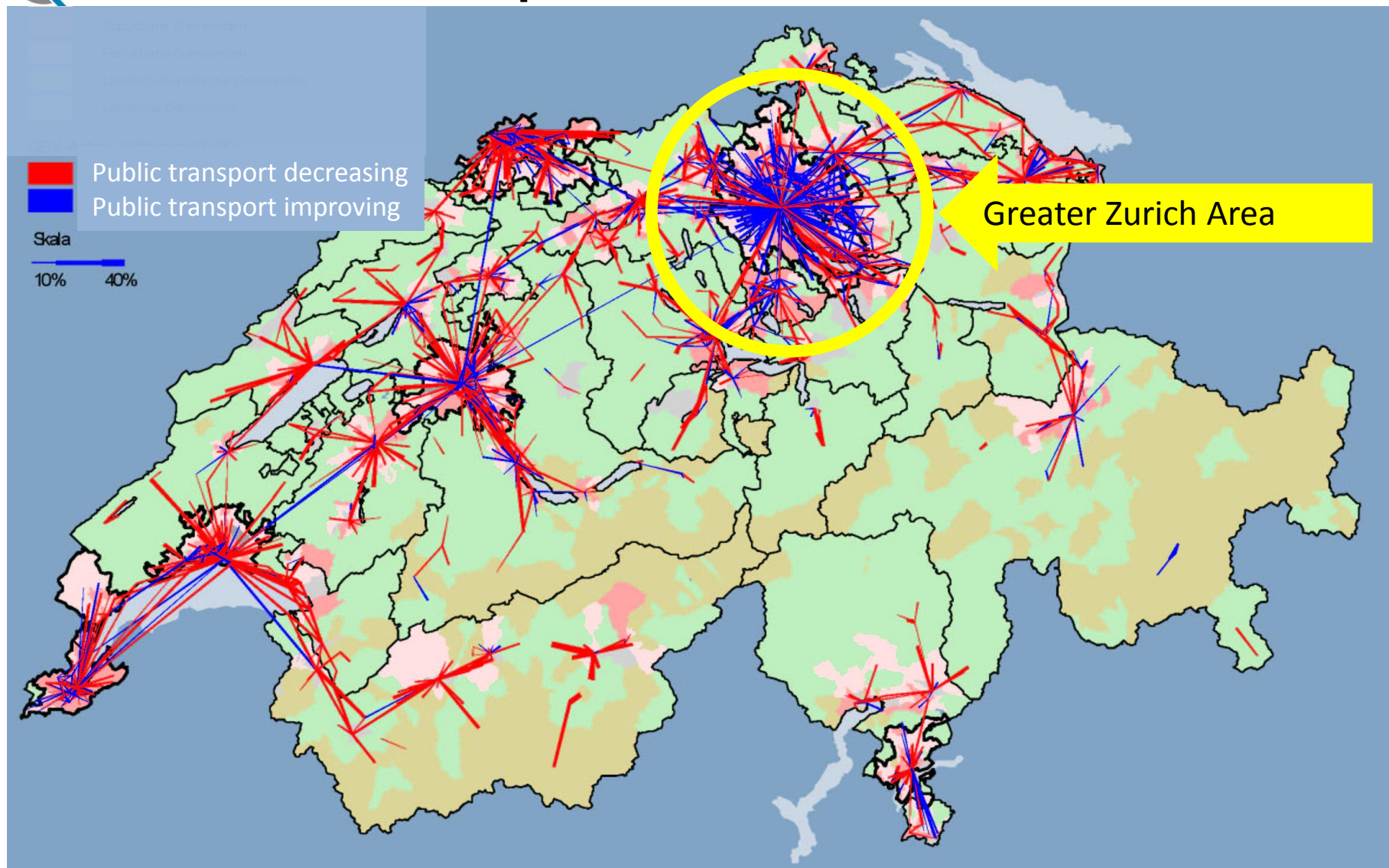
● Local traffic (tram, trolleybus, bus;  
towns over 20000 inhabitants with extra local traffic)



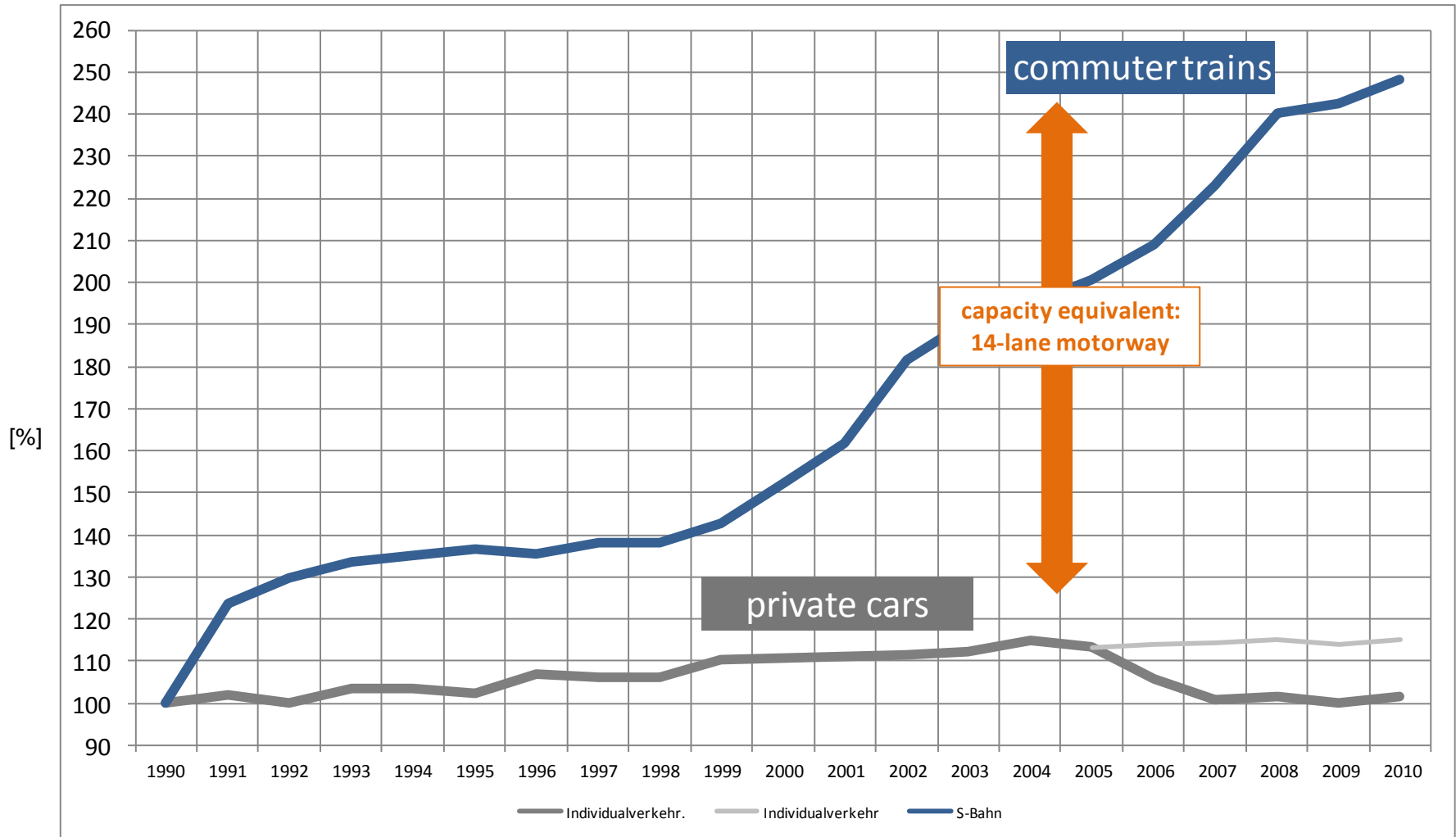
Figures: 2007; design: SAPT



# Modal-Split in Switzerland 1990 vs. 2000



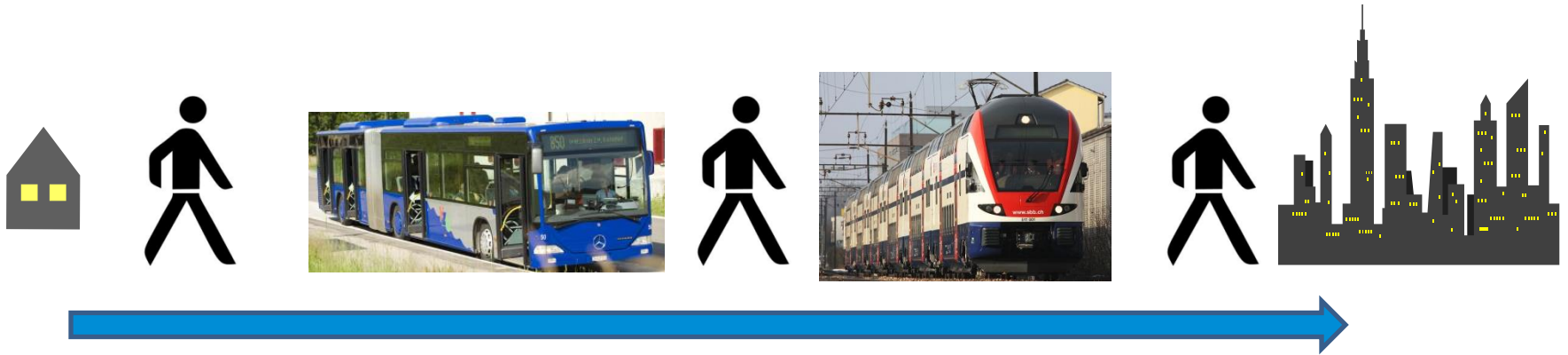
# Passengers in commuter trains vs. private car traffic at Zurich city boundary [in %]



# Why choose Swiss people public transport?



# The optimized transport chain door-to-door



## Most relevant factors

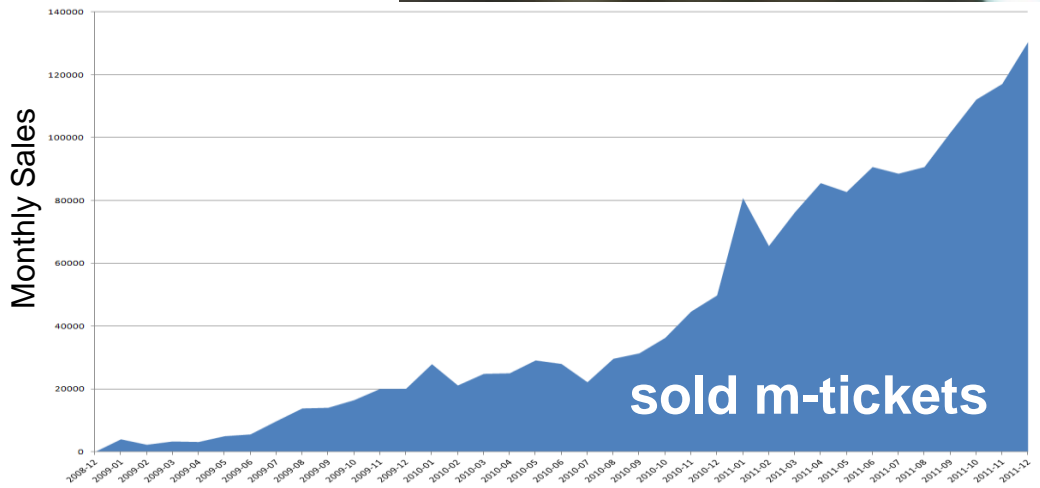
- **easy access** → memorisable timetable / ticket buying
- competitive **total journey time** → compared to private cars
- high **frequency of services** → whole transport chain
- **reliability** → punctual services and guaranteed connections
- *security / comfort / cost of trip / others*



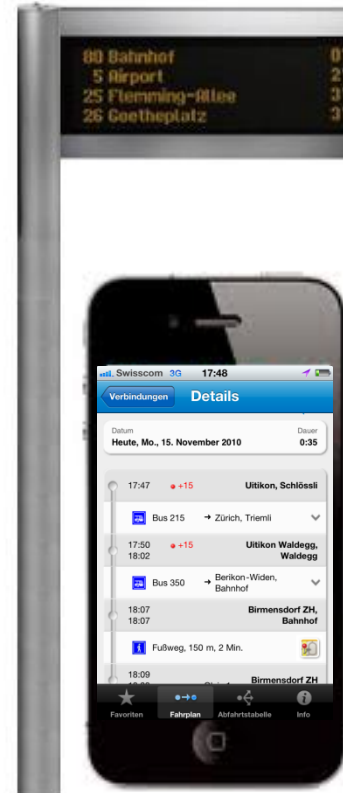
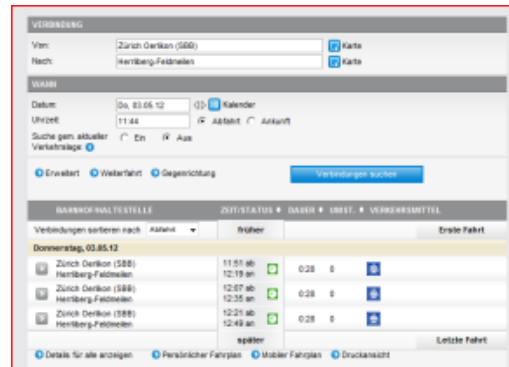


# Network access

smart phones become increasingly important



# Trip planning starts at home



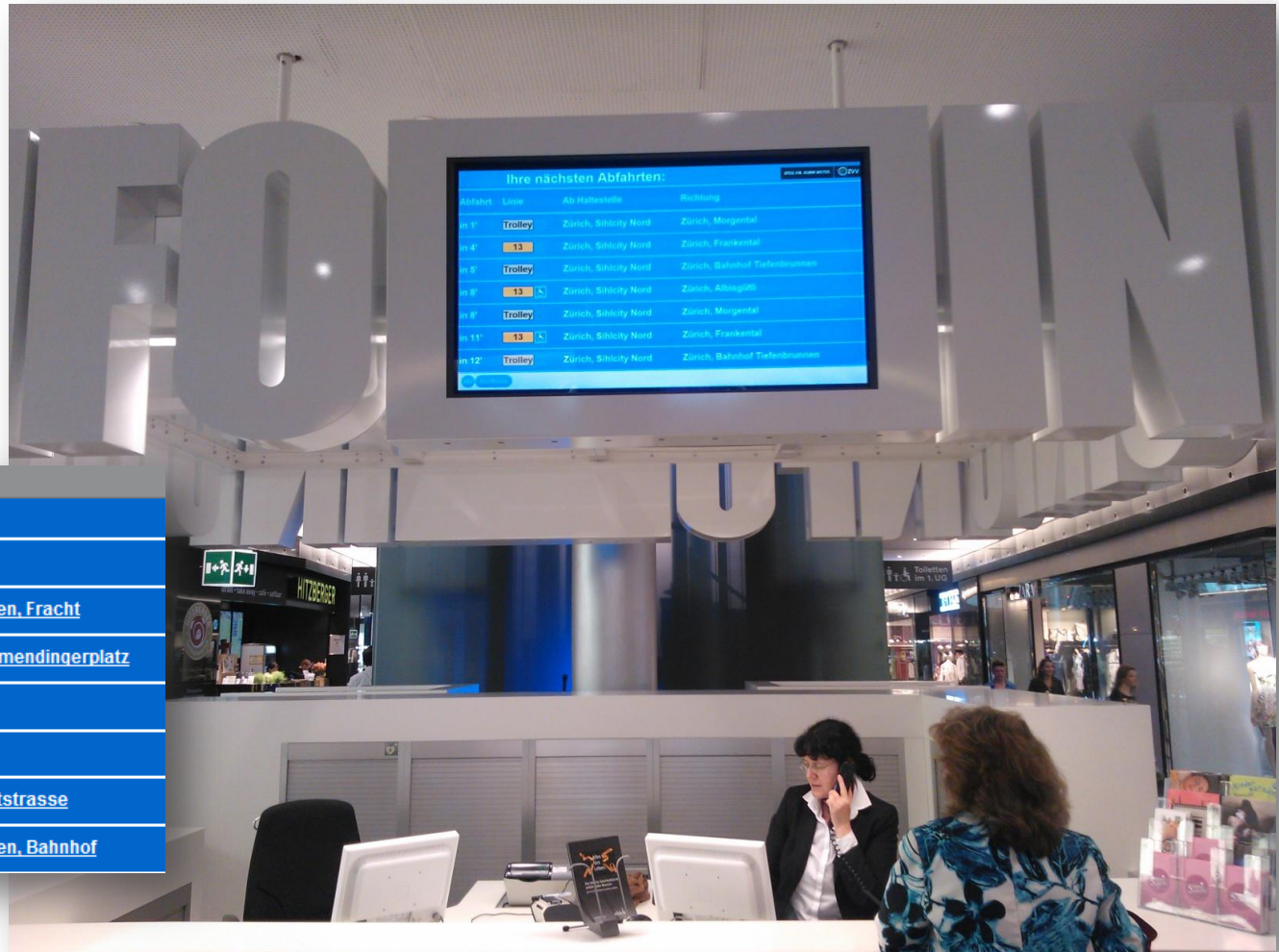
Anschlüsse	Gleis/Karte	Status	Hinweis
16:31	510	A	Isnapp 2' später
16:32	S16	9A/9B	Isnapp
16:34	IR	7	o.k. 15' später
16:35	S2	8	o.k.
16:37	S660		Wintthur, Hauptbahnhof
16:37	530	6	o.k.
16:39	768		Zürich Oerlikon, Bahnhof
16:42	EC	3	o.k.





# Real time departure screens

shopping mall, hotel lobby, reception desks, sport & cultural events



DEPARTURE		
Time	Travel with	To
10:35 +0	94	Zentrum Glatt
10:36 +0	10	Zürich Flughafen, Fracht
10:35 +2	61	Zürich, Schwamendingerplatz
10:37 +0	11	Zürich, Rehalp
10:37 +0	14	Zürich, Triemli
10:37 +0	64	Zürich, Maillartstrasse
10:37 +0	768	Zürich Flughafen, Bahnhof

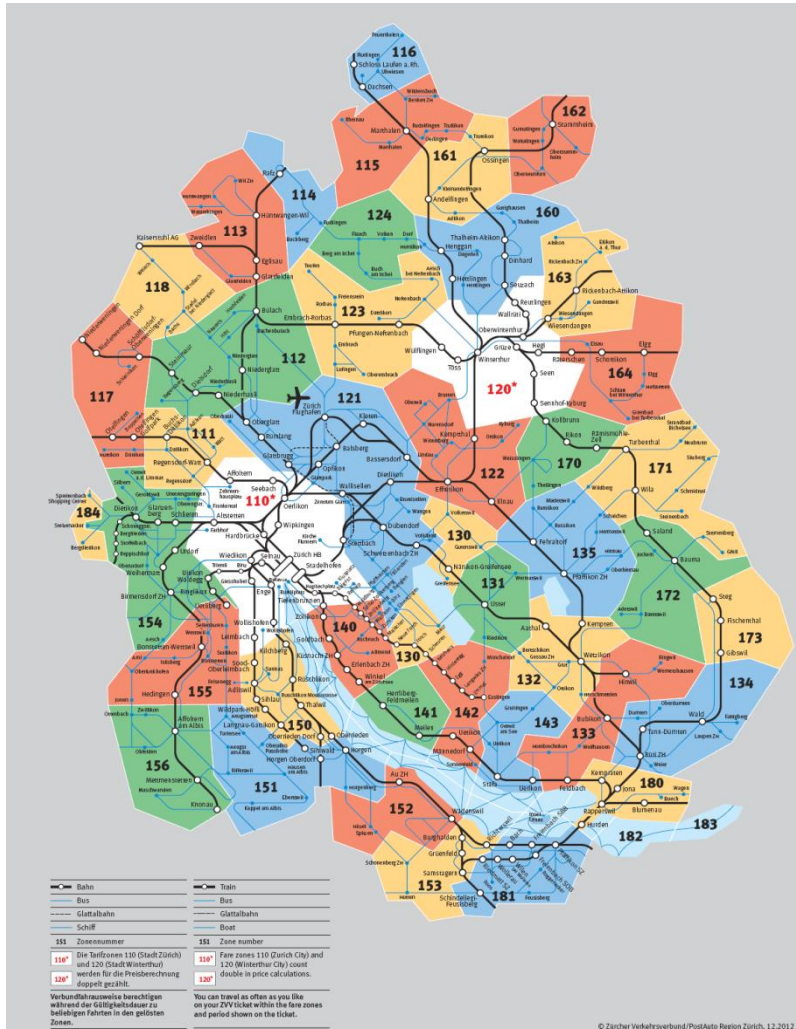
## Easy access

### The ticket system

- +/- integrated ticket system nationwide
- 100% integrated regional ticket systems
- 100% open system: no reservations, no supplements, no access gates, no time restrictions
- 40% of population over 16 years own halfprice card
- 7% own general public transport card



# „One ticket for everything“



- Zone-based fare system
- Unlimited within zone & time period
- Free choice of transport mode
- Uniform price level



# Comfort Rolling stock



Swiss Federal Railway SBB, RABe 514  
Constructed 2005–2009  
Manufacturer Siemens



# Comfort Rolling stock



Swiss Federal Railway SBB  
Constructed: 2010 – (2018)  
Manufacturer: Stadler Rail



# Comfort Tramway and Bus

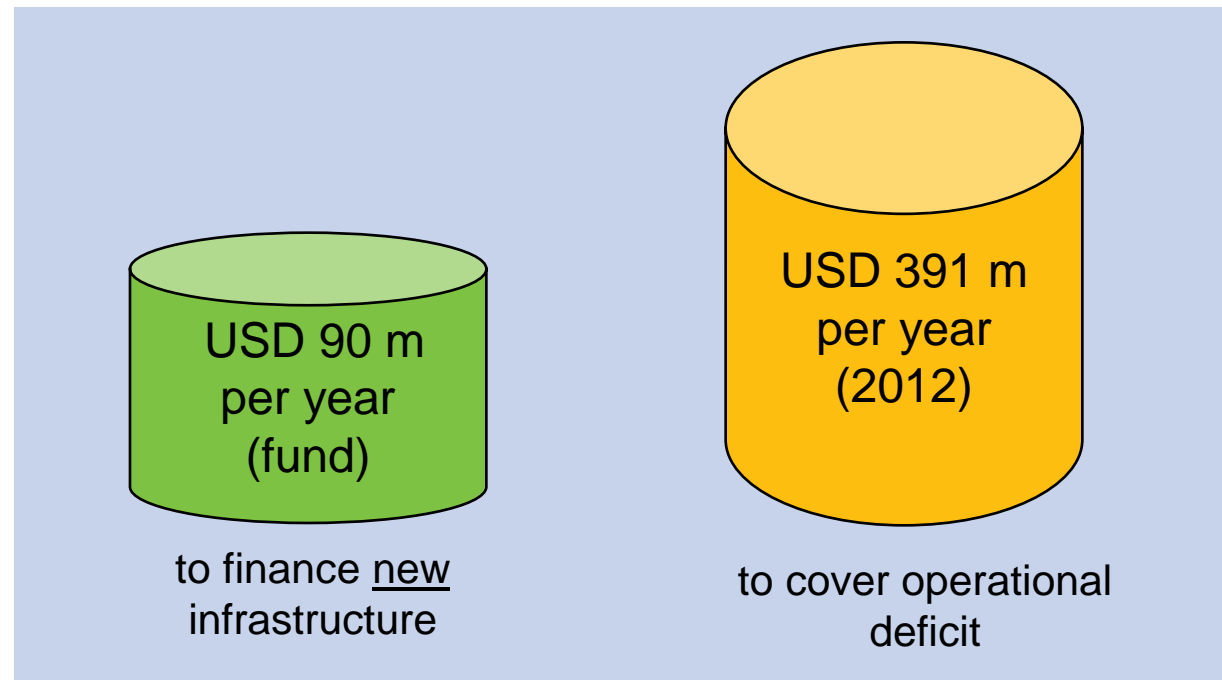




# Infrastructure and operations financing

## Financing from one source

- Centralised financing is favoured over all systems optimisation



- Approx. 7% of the total tax income of the Zurich Region goes into public transport

# Planning process and challenges

## Planning process

- Always in tight cooperation with operators and infrastructure company
- Zurich Area timetable 2019 was fixed by the minute in 2007

## Problems / Challenges

- Overcrowded trains
- Punctuality and capacity of international trains
- Short time planning of neighbouring countries
- Extensive and expensive station infrastructure
- Low flexibility

## Political and public acceptance

- All public referendums since 1982 on railway and tramway projects were accepted
  - all new roads were rejected
- All political parties generally support public transport

## Conclusions

- Public transport functions only as an integrated network
  - Every trip starts at home
  - Changing modes requires very high reliability
  - Integrated fare structures
  
- Keep it simple (it is already quite complex)
  - Fare structure, timetable, passenger information
  
- Don't forget the private car traffic – limit parking space and road capacity
  
- Good public transport is not cheap - but it pays off!

# Cycling is an alternative – also in cities!

## Key factors

- Safety

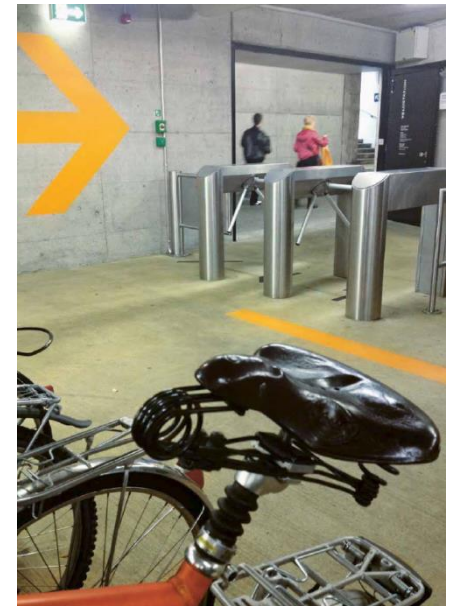


- Cycle path system



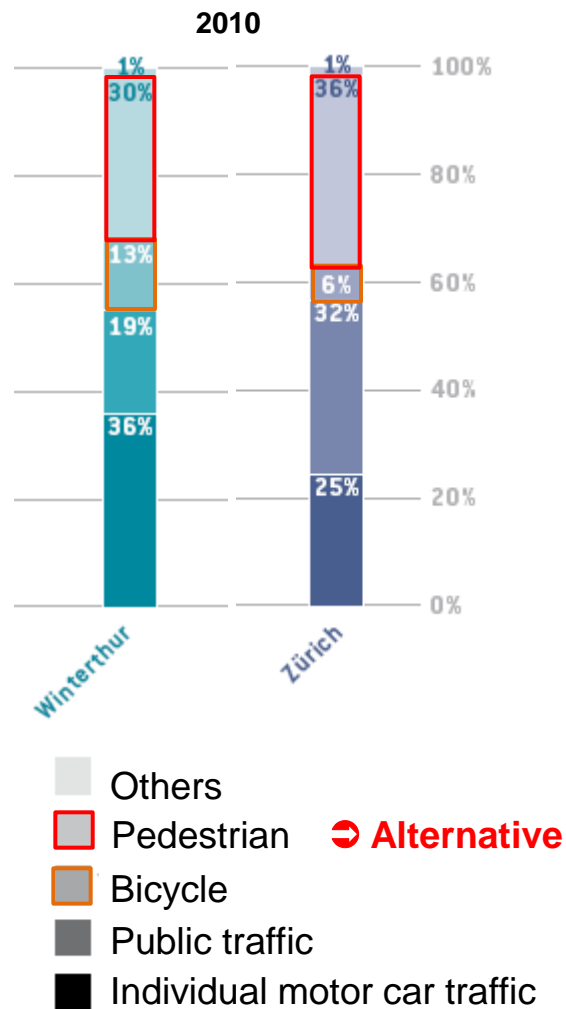
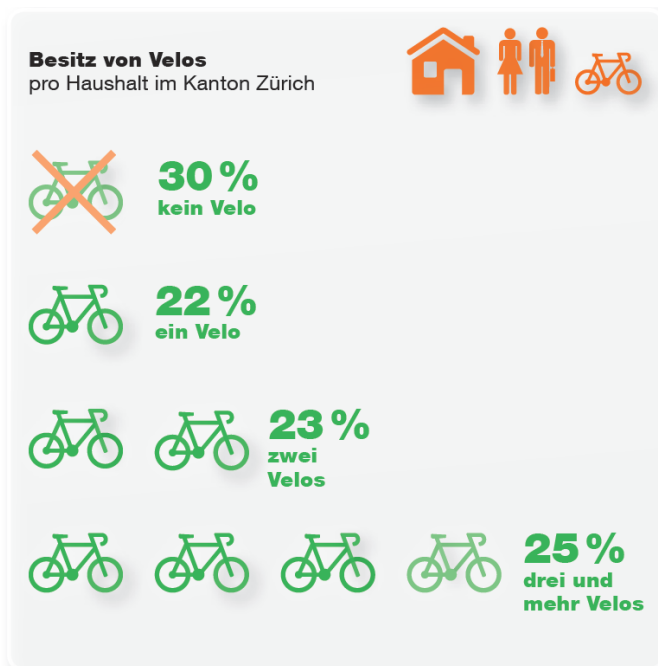
# Cycling is an alternative – also in cities!

- Parking facilities



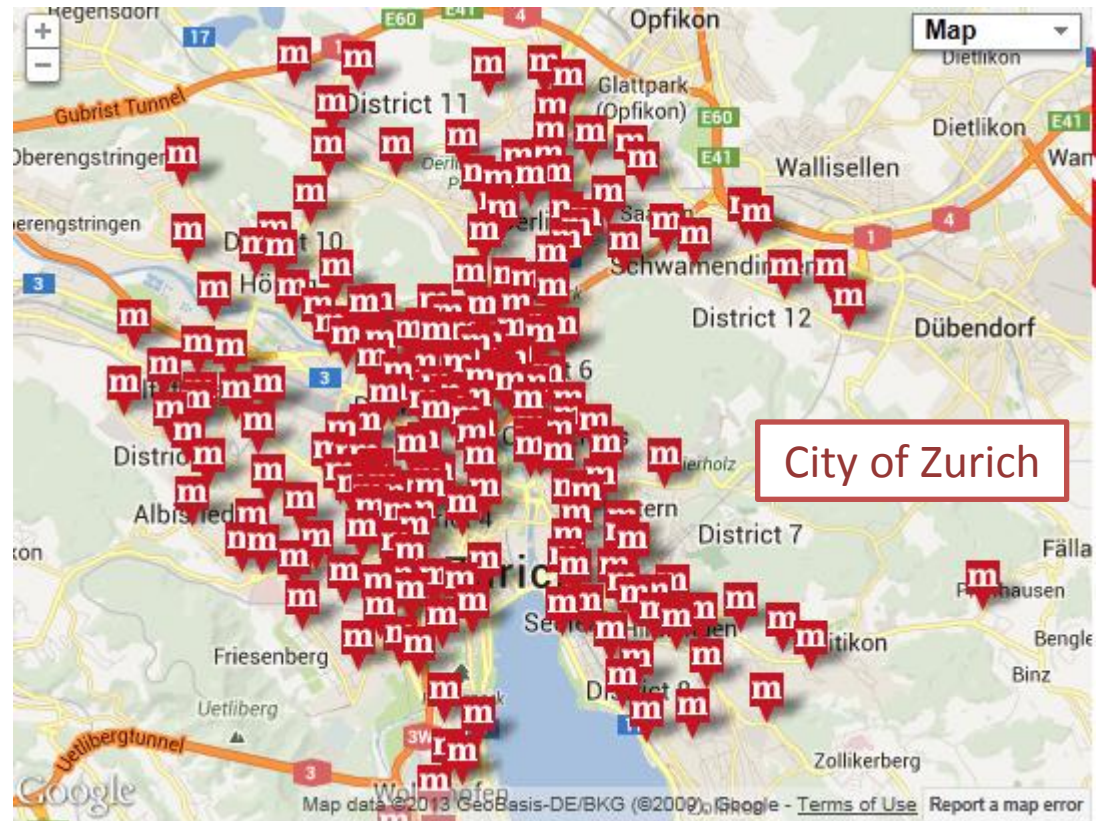
# Cycling is an alternative – also in cities!

## Local value



## Key factors

- Stations





# Carsharing

- Fleet



- Reservation

- Internet - customer portal
- App "mobility car"



- Costs

- Annual subscription (reduction of 35% with a ZVV annual travelcard)
- Hourly and kilometre rate



# Thank you for your Attention

