

# TRB Intercity Passenger Rail Committee Workshop

## **Designing an Integrated Public Transportation Service Offering** Oakland, 15<sup>th</sup> of November 2016

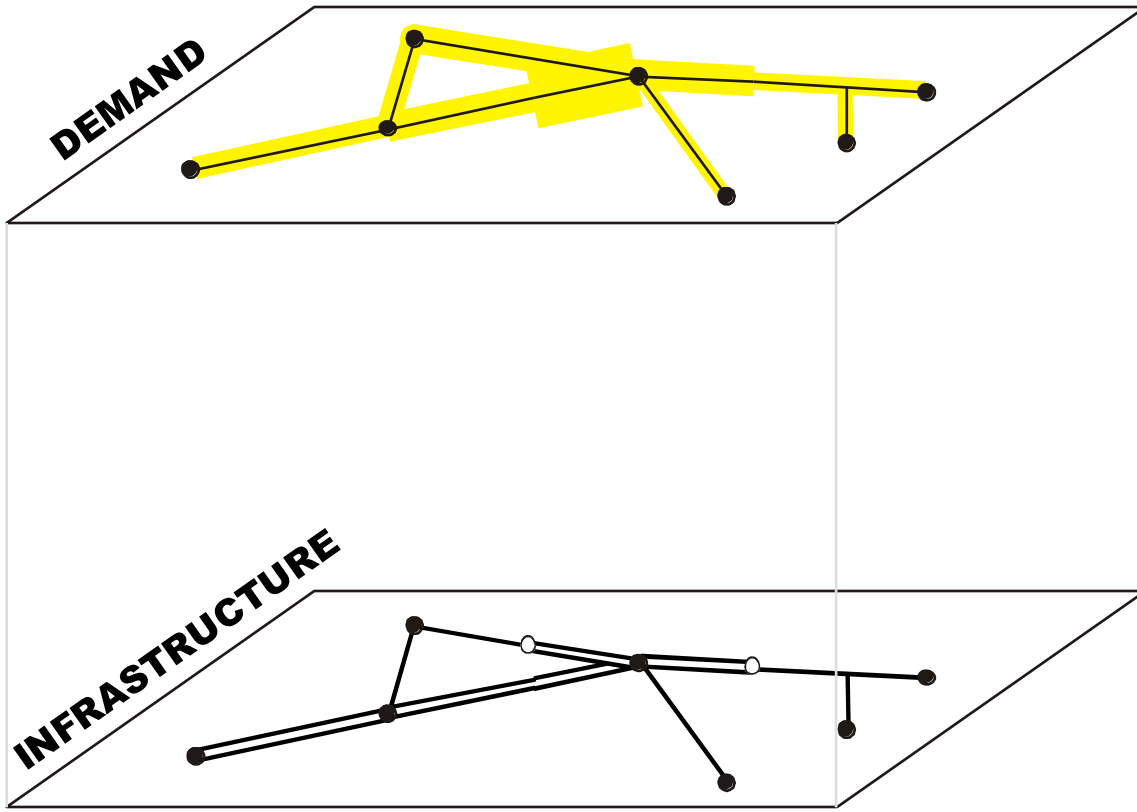
**optimizing railways** SMA Rail Consulting +IT, Corp.

2677 N. Main St., Suite 825  
Santa Ana, CA 92705  
United States of America

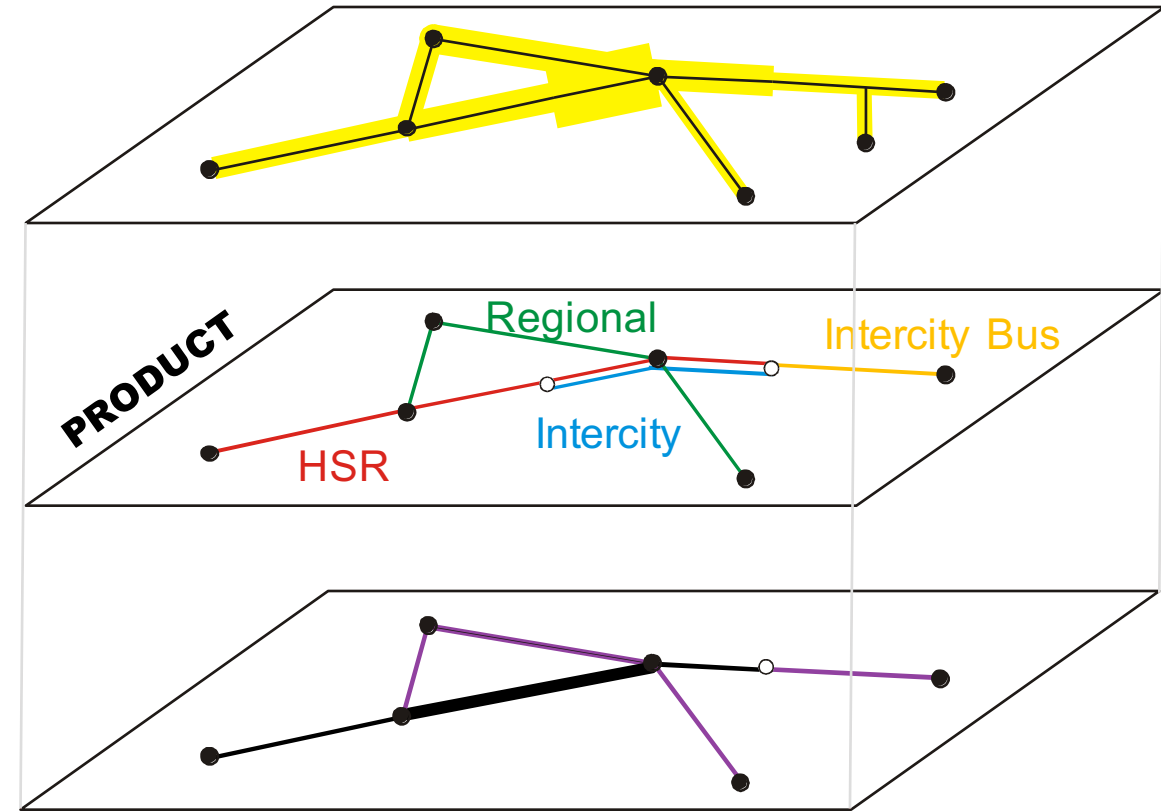


# Public Transportation Service Offering

# The Product



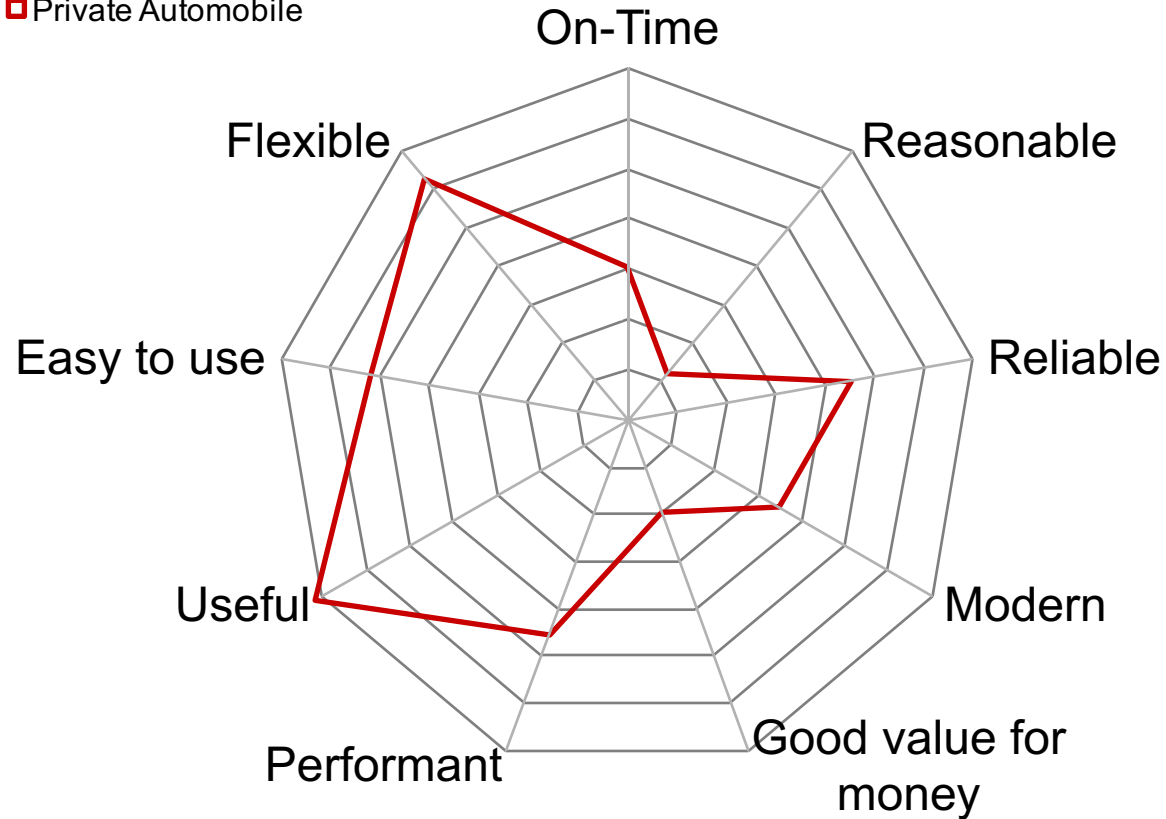
== Freeway — Main Road



— Double track — Single track — Street

# A Competitive Product

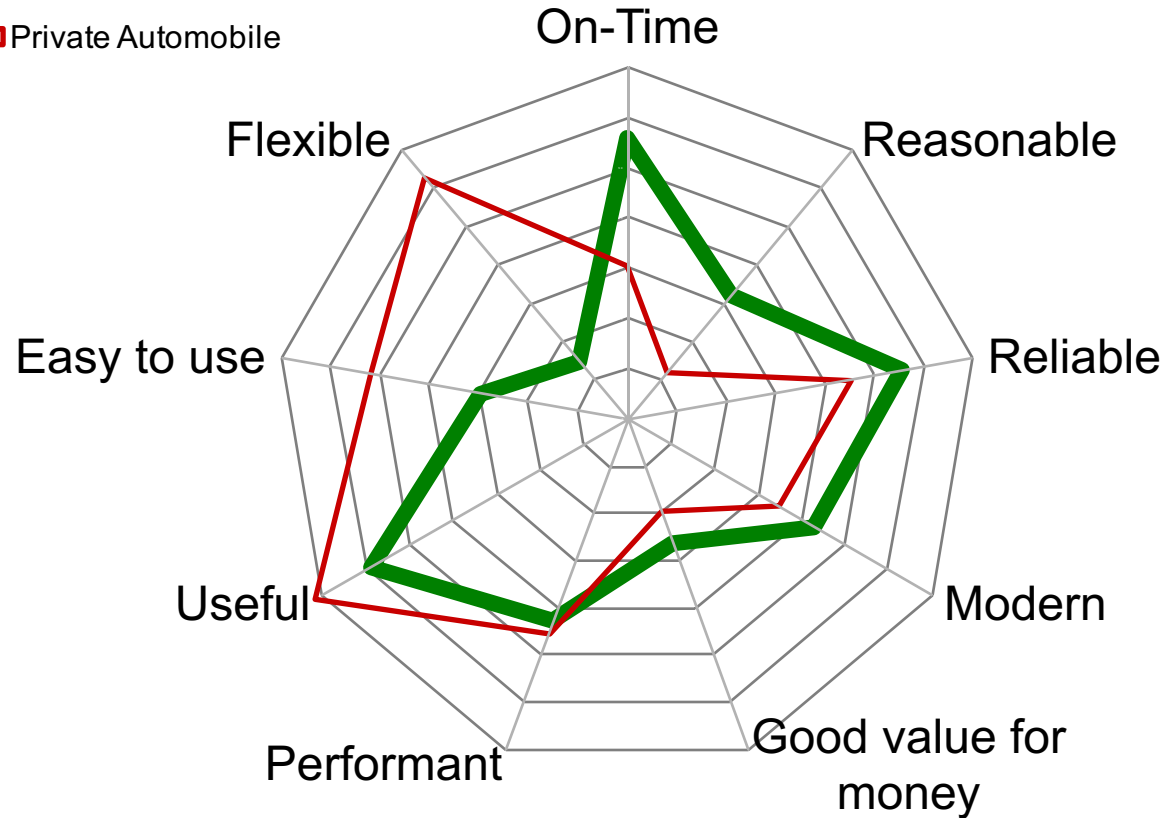
Private Automobile



# A Competitive Product

■ Public Transportation

■ Private Automobile



# Success Factors

## Competitive trip times

Direct connections

Optimized transfers

Unimpeded runs (e.g. bus lanes)

Fast pedestrian access

## Easy and Convenient Use

Memory schedule

Pulsed services

Intuitive network design

Always the same chain/transfer route

Always the same stopping pattern/routing

Always a complete chain (ticketing)

## Consistent High Quality

Long hours of service

Dense service

Guaranteed connections

Reliable service

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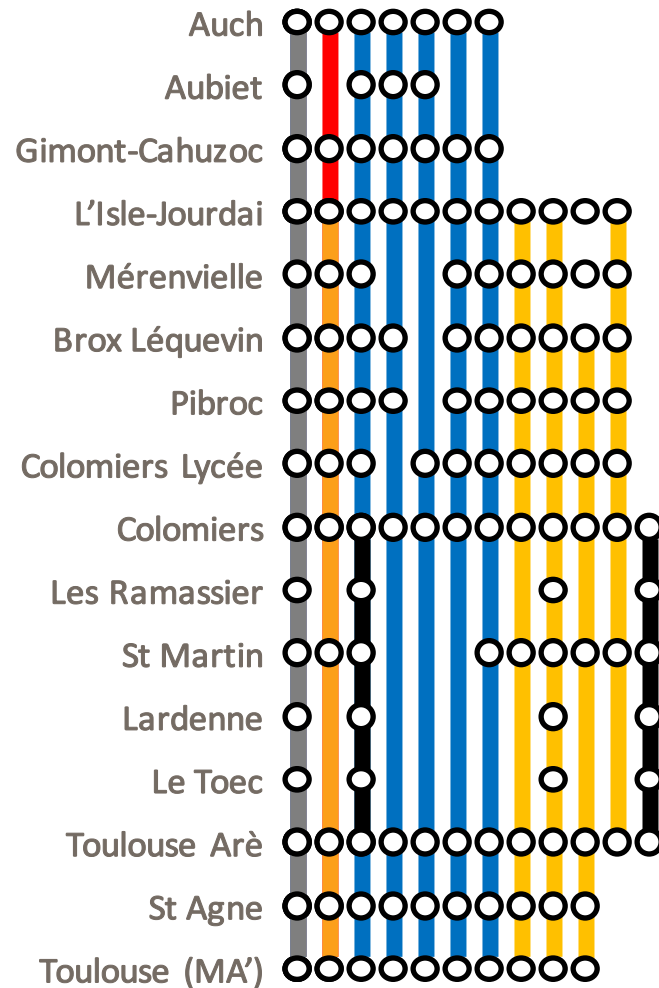
Reliable service

# Standardization and Simplification

- standardized lines
- pulsed frequencies
- connections by design & integrated ticketing



# Standardization and Simplification

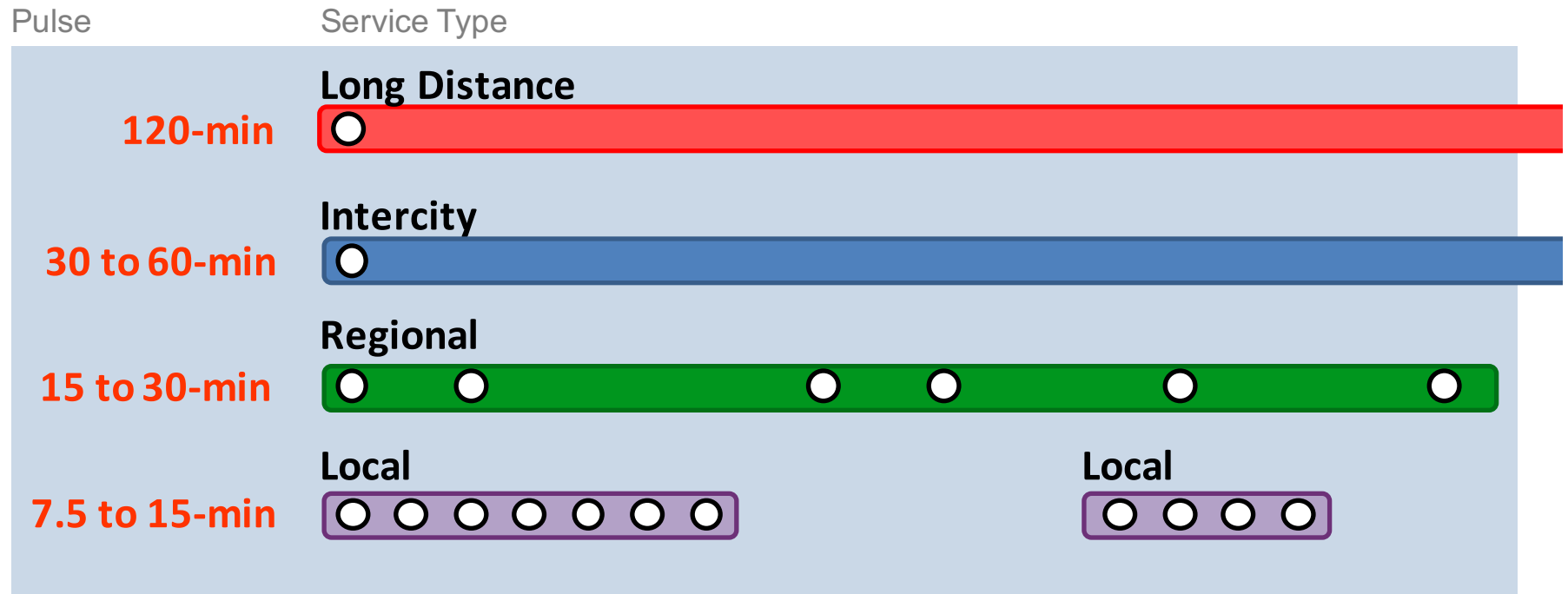


Departure Times

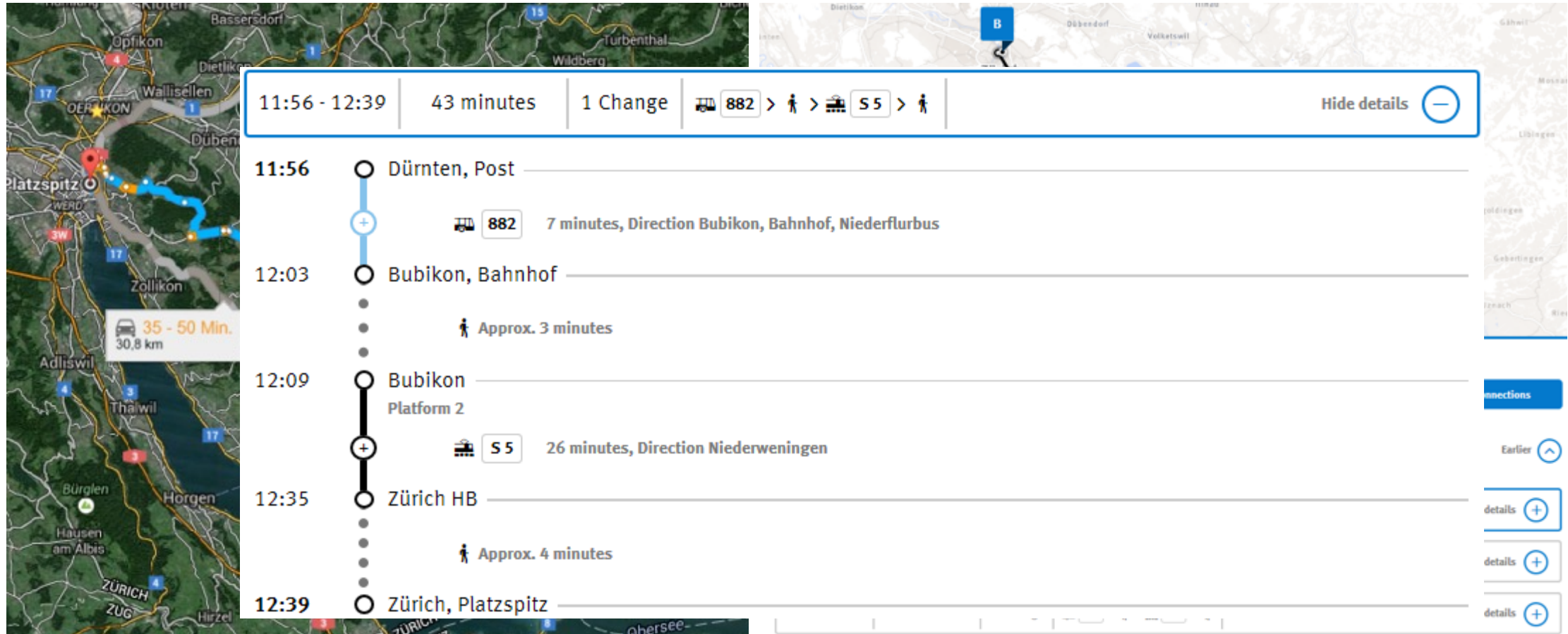
Hour	Before (2003)
05:00	
06:00	28 35 53
07:00	06 18 35 43
08:00	08 33 58
09:00	18
10:00	03 11 44 48
11:00	33 42
12:00	13 53
13:00	19 33
14:00	03 18
15:00	03 43
16:00	10 25 37
17:00	04 31 37 58
18:00	25 43 52
19:00	37 48
20:00	22 32
21:00	07 52

Departures: 41 → 47

# Standardization and Simplification

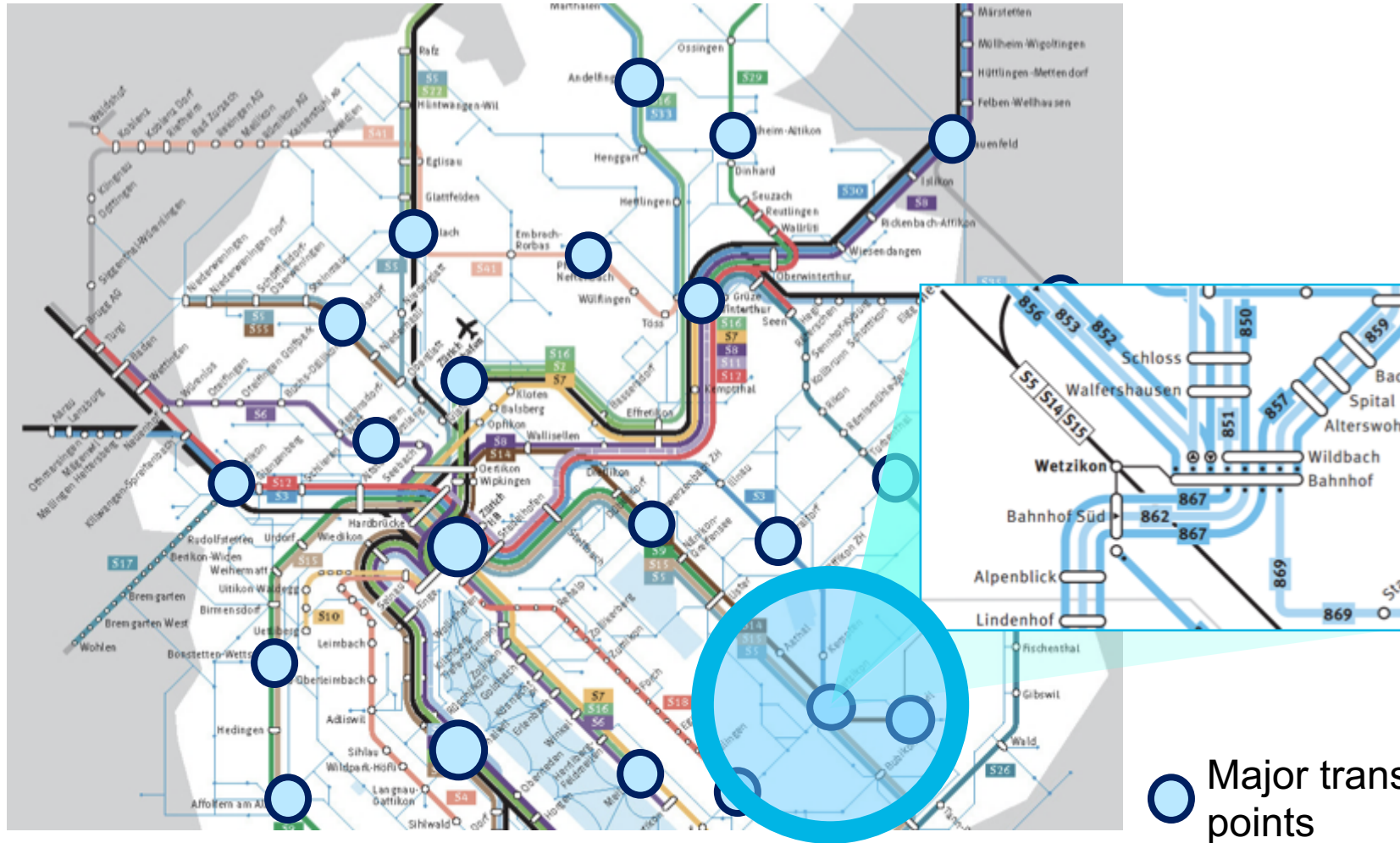


# Random Example from Zurich



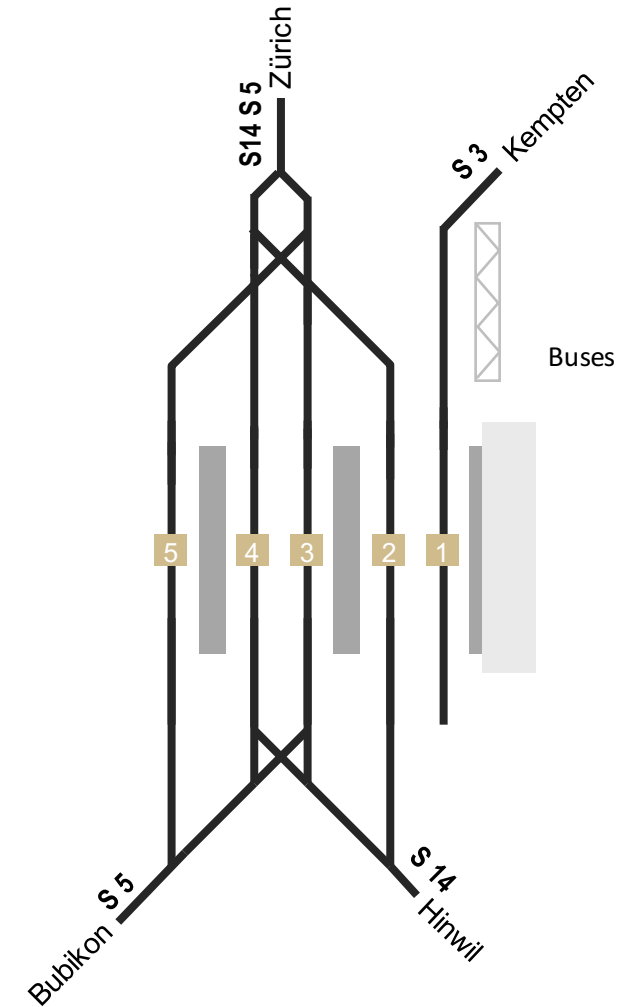
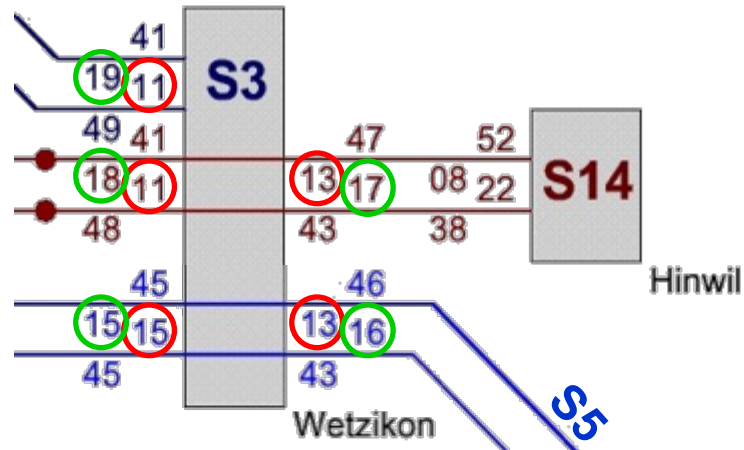
see for yourself: [www.zvv.ch](http://www.zvv.ch)

# Connections by design

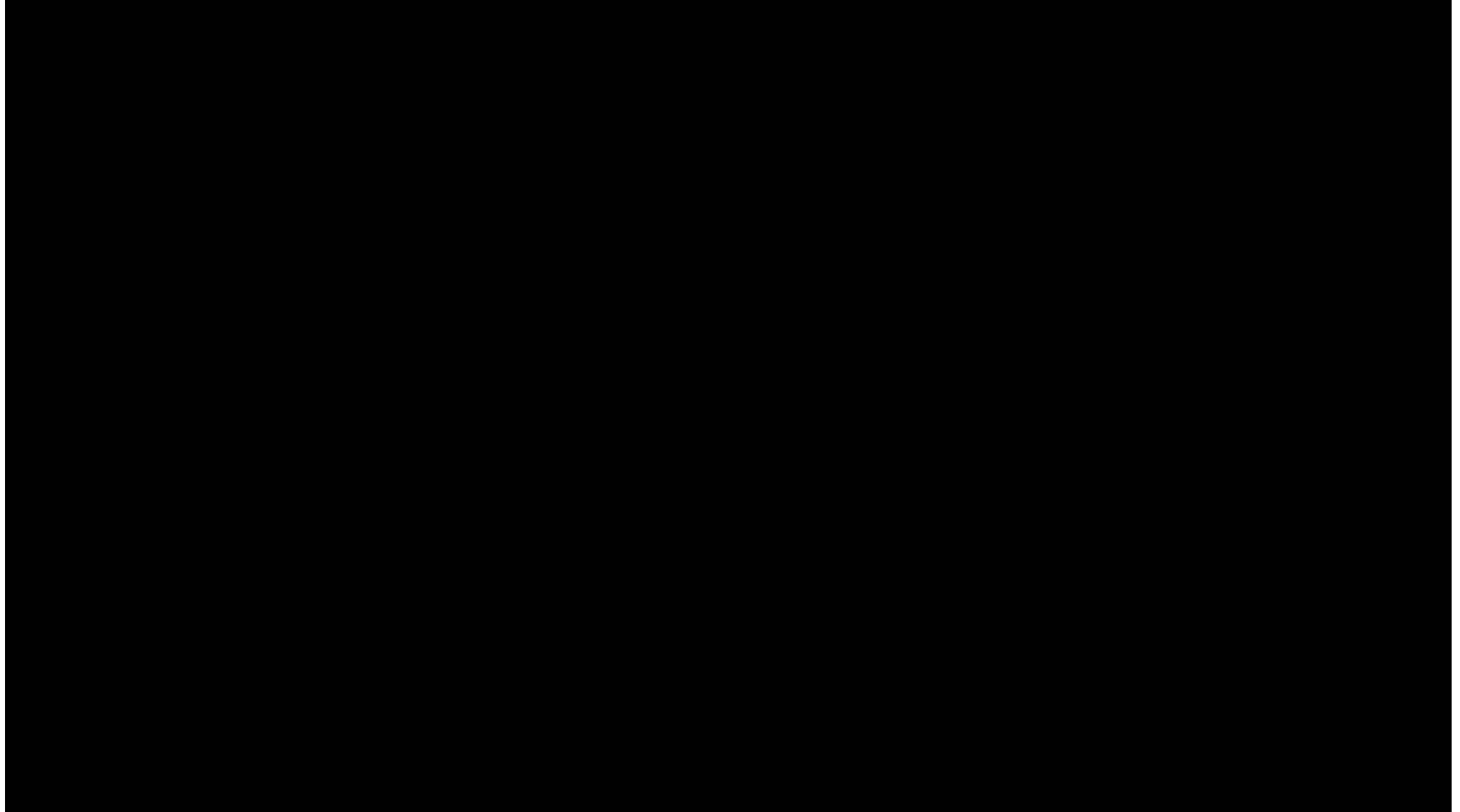


# Connections by design

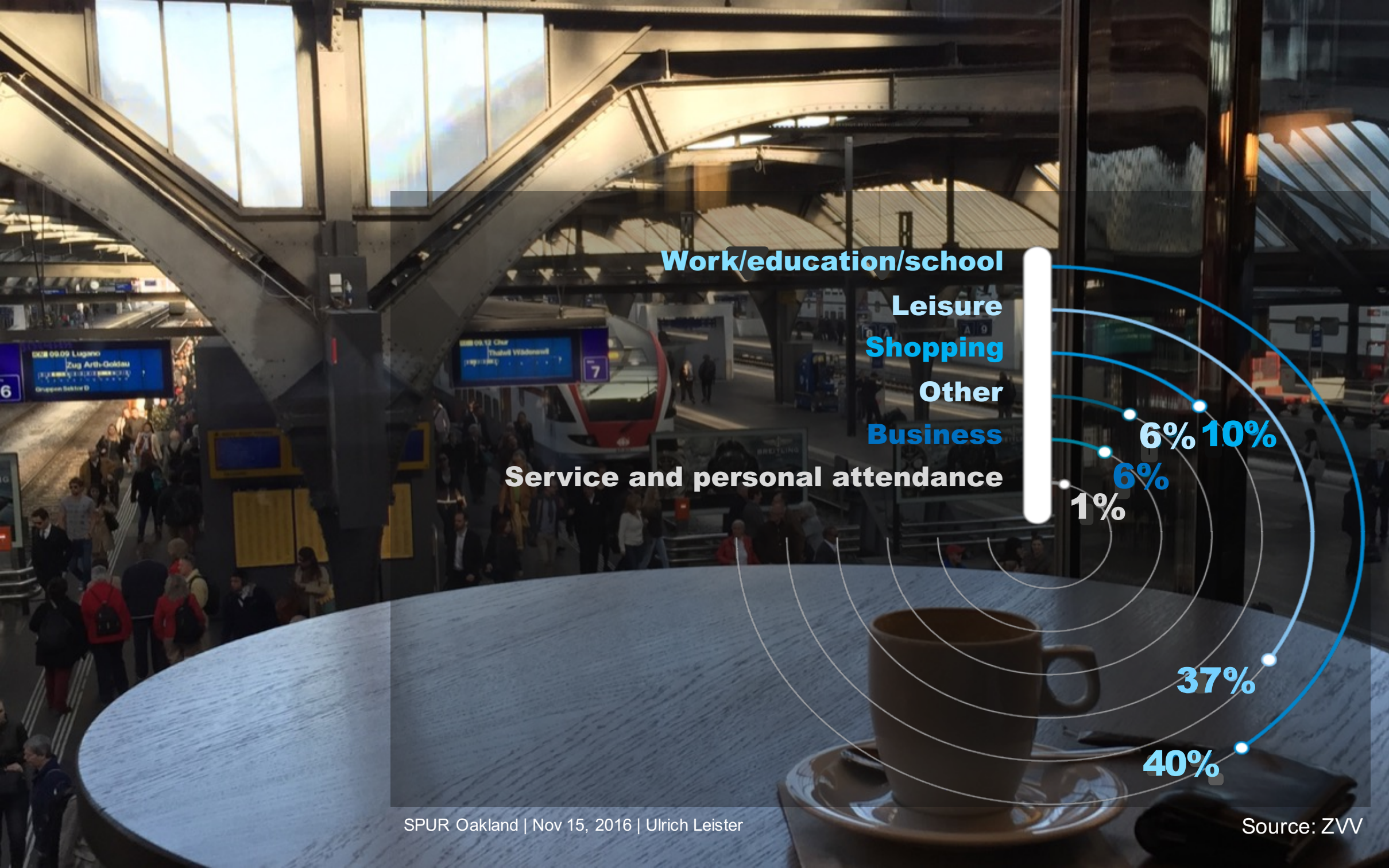
1. Buses arrive in advance of the trains
2. Trains arrive in the station
3. All services are in the station
4. Trains depart from the station
5. Buses depart from the station



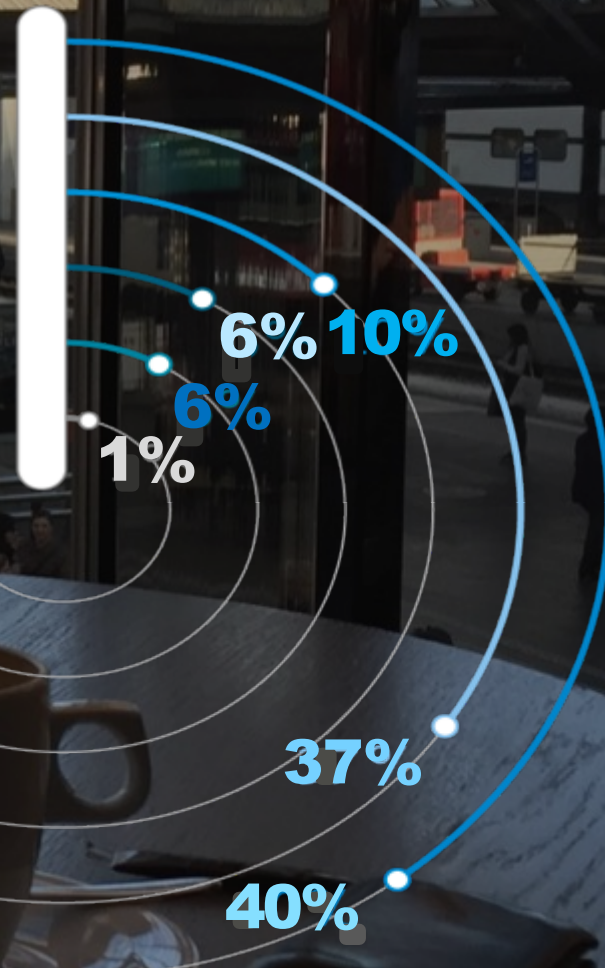
# Connections by design







**Work/education/school**  
**Leisure**  
**Shopping**  
**Other**  
**Business**  
**Service and personal attendance**

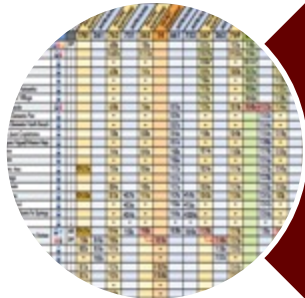


# California Public Transportation Vision



## Attractive Network for many Uses

- Many access points throughout California
- Frequent service even amongst smaller places



## Efficient Production

- Standardization and simplification
- Utilizing network effect with designed-for connectivity at transfer points



## Easy Access and Navigation

- Intuitive and standardized customer interface, including integrated ticketing



# RailCity

Fernverkehr			
Abfahrt	IR	IC	ICN
12.30	IR	IC	ICN
12.32	IR	IC	ICN
12.34	IR	IC	ICN
12.35	IR	IC	ICN
12.36	IR	IC	ICN
12.37	IR	IC	ICN
12.37	RegioExpress	IC	ICN
12.38	IR	IC	ICN
12.39	IR	IC	ICN
12.40	RegioExpress	IC	ICN
12.40	IR	IC	ICN
12.57	IR	IC	ICN
13.00	IR	IC	ICN
13.01	IR	IC	ICN
13.02	IR	IC	ICN
13.04	IR	IC	ICN

Olten	Solothurn	Biel	16
Bern	Lausanne	Gendve - Aéroport	8
Basel	Zug	Luzern	4
Thalwil	Basel	Chur	17
Baden Brugg	Landquart	Konstanz	9
Sargans	Winterthur	St. Gallen	11
Flughafen →	Aarau	Winterthur	13
Lenzburg	Winterthur	Schaffhausen	12
Flughafen →	Wien	Bern	7
Sargans Buchs	Bülach	Hamburg	18
Oerlikon	Burgdorf	Visp Brig	12
Olten	Bonn Köln	Lausanne	13
Basel	Ziegelbrücke		6
Oerlikon	Thun		16
Bern	Neuchâtel		15
Aarau Biel			



**DRITTE EXPRESS**

HEISSER KAFFEE

KNACKIGE WÜRSTE

HAUS-  
GEMACHTE  
KNACKIGE  
WÜRSTE  
VOM  
GRILL!

**Glückes**  
Machen Sie n  
Die Eglung Wunderlampe gibt He  
wunderlampe  
Die Poller...



Thank you

[www.sma-usa.com](http://www.sma-usa.com)

Ulrich Leister  
President and CEO  
SMA Rail Consulting + IT, Corp.  
u.leister@sma-usa.com

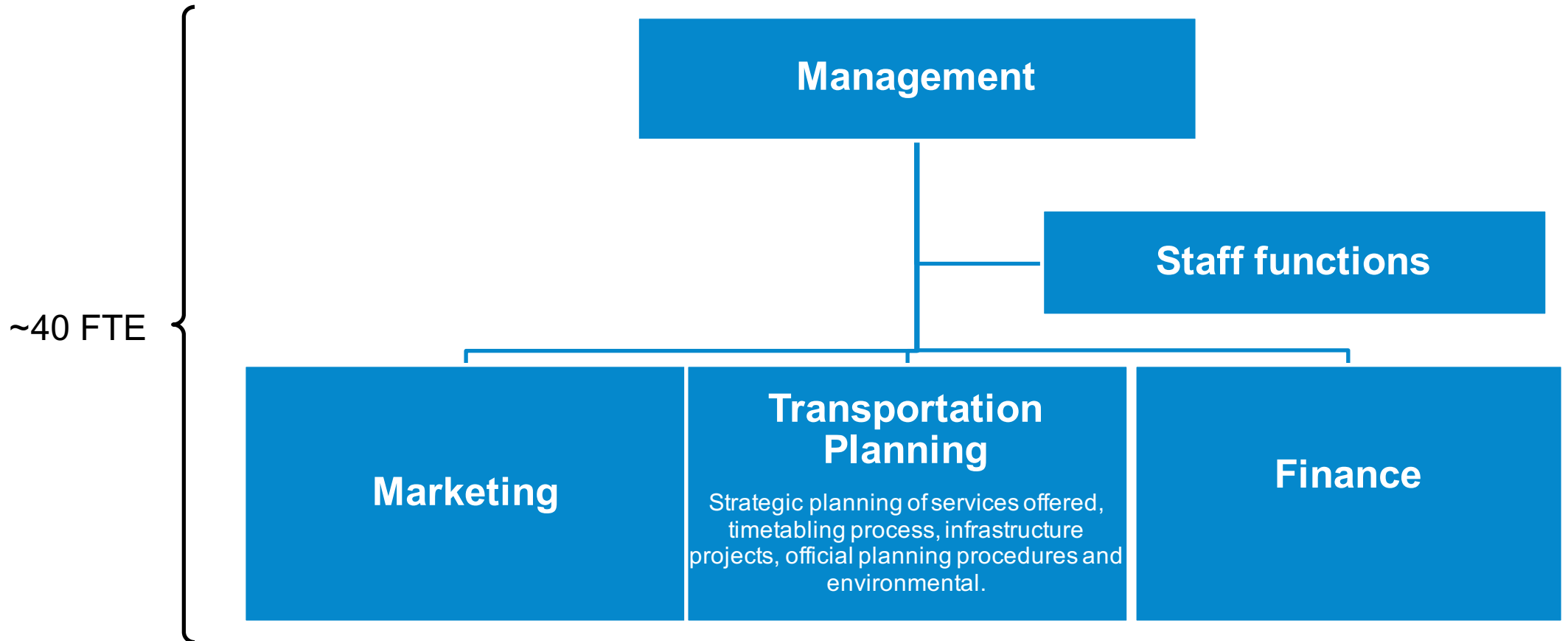
**BACKUP**



# The Zürcher Verkehrsverbund (ZVV)



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# The Zürcher Verkehrsverbund (ZVV)



The ZVV logo is a white circle with a diagonal slash, followed by the letters 'ZVV' in a bold, sans-serif font, all on a blue background.

 	 	 	 Sihltal Zürich Uetliberg Bahn 
 	 	 	 

Those European cities...





# Zurich – Los Angeles



Measurement 2012 Canton (State)

Area 668 sq mi

Population 1,443,436

Density 2,200/sq mi

2010 L.A. Urbanized Area

1,736 sq mi

12,150,996

6,999/sq mi

Top 5 densities

Zurich:	17,870/sq mi
Horgen:	10,400/sq mi
Dietikon:	10,118/sq mi
Uster:	9,351/sq mi
Meilen:	9,049/sq mi

Koreatown:	42,611/sq mi
East LA:	16,854/sq mi
North Hollywood:	14,862/sq mi
Norwalk:	10,576/sq mi
Redondo Beach:	10,122/sq mi



# Zurich – Los Angeles



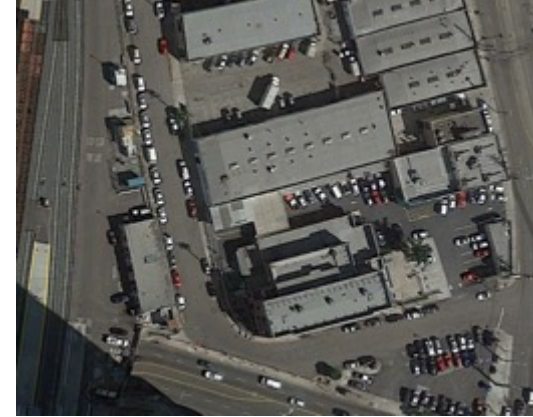
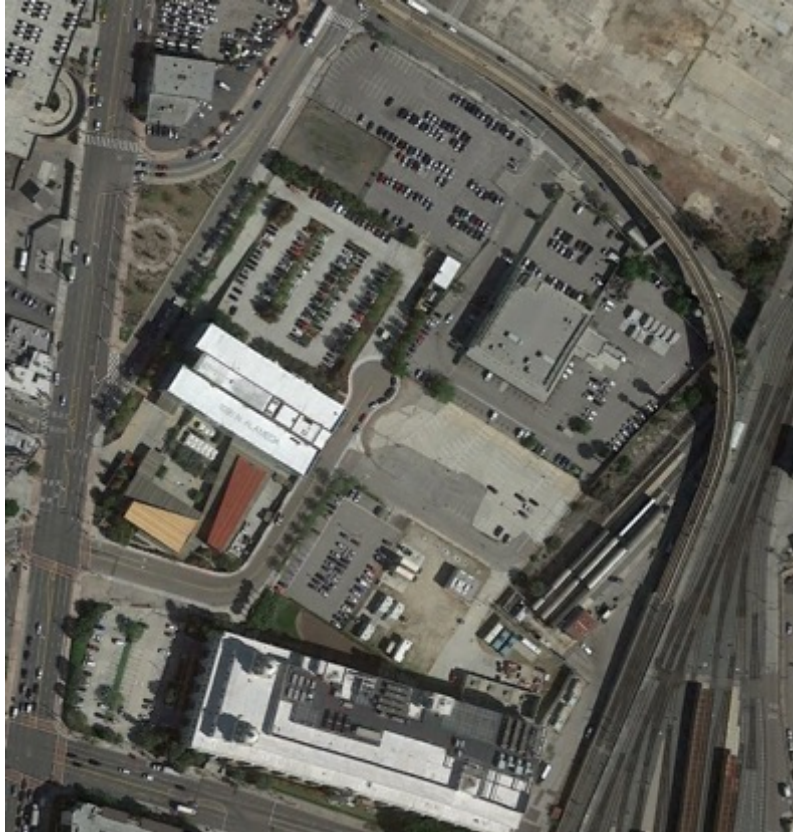
- + Great coverage
- + Stations are destinations,  
system access usually by foot

# Zurich – Los Angeles





1/4 mile or less from where we are:



# Zurich – Los Angeles



- Great coverage
- Stations are destinations, system access usually by foot
- Little security issues

- Lots of service gaps
- Risk of getting stranded
- Rough at times
- huge population and demand
- competitor's serious problems



# Los Angeles: Combine the best of two worlds

**Competitive trip times**  
**Convenient use**  
**Consistent quality**

## **Intercity**

- comfortable
- very reliable
- very fast

## **Regional**

- high capacity
- very reliable
- fast

## **Urban**

- frequent
- available

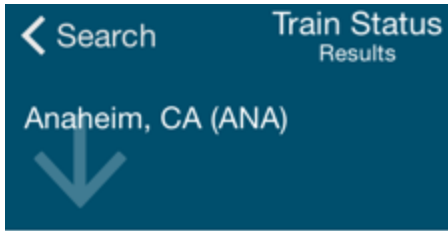
## **Uber**

- flexible 24/7
- door-to-door

**Imagine this to be an integrated product**

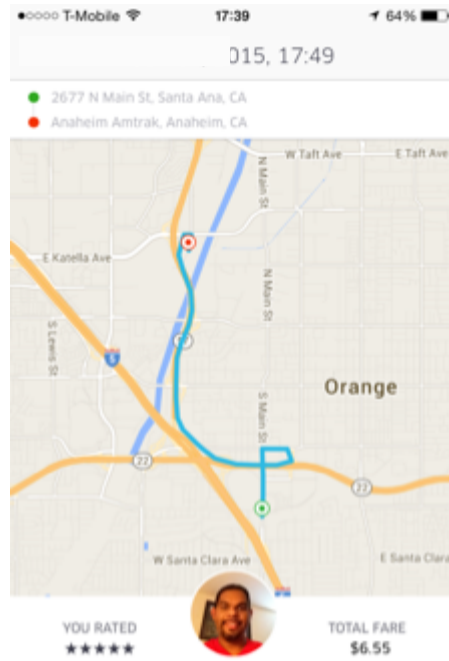
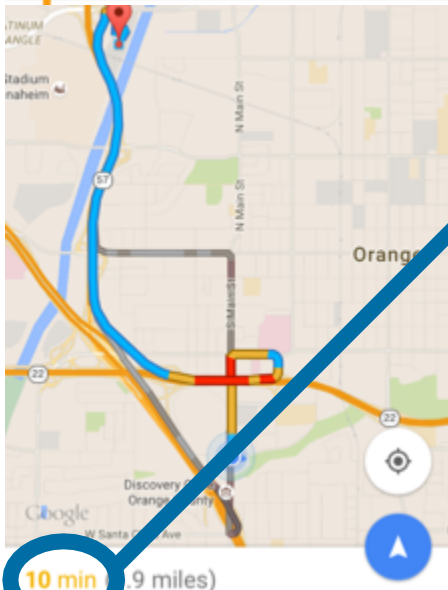
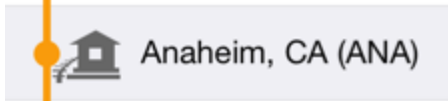


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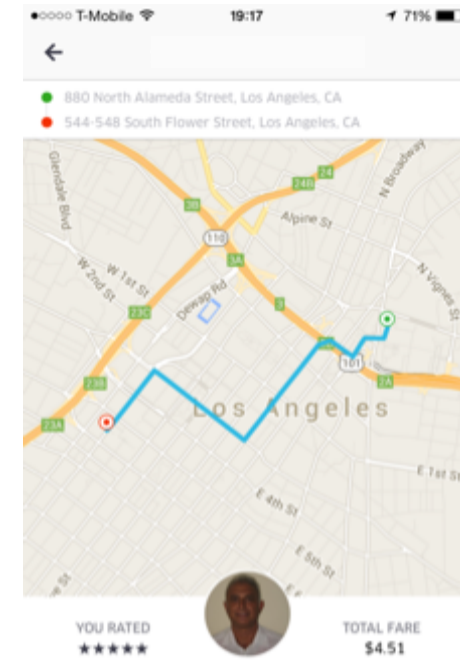
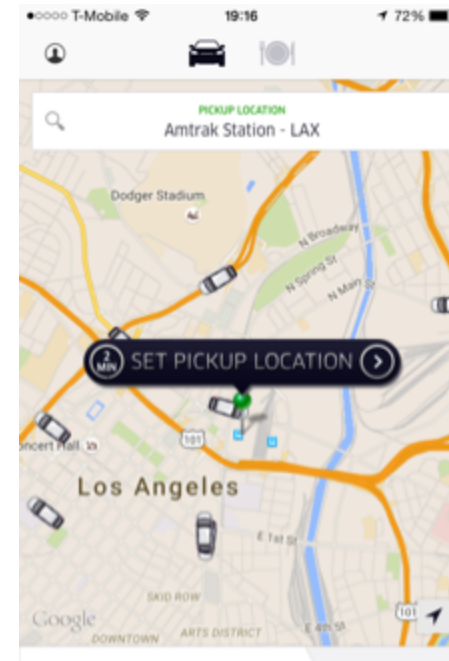


785 Pacific Surfliner

Scheduled arrival 18:08  
Today **18:23**  
15 minutes late



RES# D40369-18MAY15



# Los Angeles: Combine the best of two worlds

