Designing an Integrated Public Transportation Service Offering
Oakland, 15th of November 2016
The Product

DEMAND

INFRASTRUCTURE

PRODUCT

Freeway — Main Road

Double track — Single track — Street

Regional — Intercity Bus — HSR — Intercity
A Competitive Product

- On-Time
- Reasonable
- Reliable
- Modern
- Good value for money
- Performant
- Useful
- Easy to use
- Flexible
- Private Automobile

Source: ZVV
A Competitive Product

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Source: ZVV
Success Factors

**Competitive trip times**
- Direct connections
- Optimized transfers
- Unimpeded runs (e.g. bus lanes)
- Fast pedestrian access

**Easy and Convenient Use**
- Memory schedule
- Intuitive network design
- Pulsed services
- 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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Source: ZVV
Standardization and Simplification

- standardized lines
- pulsed frequencies
- connections by design & integrated ticketing
### Departure Times

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

**Departures:** 41  ➡️  47
## Standardization and Simplification

<table>
<thead>
<tr>
<th>Pulse</th>
<th>Service Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>120-min</td>
<td>Long Distance</td>
</tr>
<tr>
<td>30 to 60-min</td>
<td>Intercity</td>
</tr>
<tr>
<td>15 to 30-min</td>
<td>Regional</td>
</tr>
<tr>
<td>7.5 to 15-min</td>
<td>Local</td>
</tr>
<tr>
<td></td>
<td>Local</td>
</tr>
</tbody>
</table>
Random Example from Zurich

see for yourself: www.zvv.ch
Connections by design

Source: ZVV
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
Leisure
Shopping
Other
Business
Service and personal attendance

Work/education/school 40%
Leisure 37%
Shopping 10%
Other 6%
Business 6%
Service and personal attendance 1%

Source: ZVV
California Public Transportation Vision

Attractive Network for many Uses
- Many access points throughout California
- Frequent service even amongst smaller places

Efficiency 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
Thank you
The Zürcher Verkehrsverbund (ZVV)
The Zürcher Verkehrsverbund (ZVV)

Management

Staff functions

Marketing

Transportation Planning
Strategic planning of services offered, timetabling process, infrastructure projects, official planning procedures and environmental.

Finance

Source: ZVV
The Zürcher Verkehrsverbund (ZVV)
Those European cities...
# Zurich – Los Angeles

<table>
<thead>
<tr>
<th>Measurement</th>
<th>2012 Canton (State)</th>
<th>2010 L.A. Urbanized Area</th>
</tr>
</thead>
<tbody>
<tr>
<td>Area</td>
<td>668 sq mi</td>
<td>1,736 sq mi</td>
</tr>
<tr>
<td>Population</td>
<td>1,443,436</td>
<td>12,150,996</td>
</tr>
<tr>
<td>Density</td>
<td>2,200/sq mi</td>
<td>6,999/sq mi</td>
</tr>
</tbody>
</table>

**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

1/2 mile
¼ 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
Los Angeles: Combine the best of two worlds
Los Angeles: Combine the best of two worlds

I want to go from A to B

You will need to leave at X, estimated arrival..

Leave now..

Rating

$