Regional Public Transport Associations: A Proven Model from Germany, Austria, and Switzerland

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Trend in Motorization in Berlin, Zurich, Vienna, Hamburg, and Munich, 1970-2010 (Cars and Light Trucks per 1,000 Population)
Motorization Rates in VV Core City and Surrounding Area (Cars per 1,000)

<table>
<thead>
<tr>
<th>Location</th>
<th>Core City</th>
<th>Outside of Core City</th>
</tr>
</thead>
<tbody>
<tr>
<td>HVV</td>
<td>404</td>
<td>590</td>
</tr>
<tr>
<td>MVV</td>
<td>493</td>
<td>796</td>
</tr>
<tr>
<td>VOR</td>
<td>394</td>
<td>960</td>
</tr>
<tr>
<td>ZVV</td>
<td>368</td>
<td>583</td>
</tr>
<tr>
<td>VBB</td>
<td>324</td>
<td>542</td>
</tr>
<tr>
<td>VRR</td>
<td>497</td>
<td>547</td>
</tr>
</tbody>
</table>
Trend in Public Transportation Annual Passengers per Capita, 1990 - 2015

Spatial Variability in Percentage of Daily Trips by Public Transport 2008-2012

<table>
<thead>
<tr>
<th>City Center</th>
<th>Outside of Center</th>
<th>Suburbs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Berlin</td>
<td>29</td>
<td>26</td>
</tr>
<tr>
<td>Hamburg</td>
<td>12</td>
<td>19</td>
</tr>
<tr>
<td>Munich</td>
<td>51</td>
<td>22</td>
</tr>
<tr>
<td>Vienna</td>
<td>44</td>
<td>38</td>
</tr>
<tr>
<td>Suburbs</td>
<td>8</td>
<td>10</td>
</tr>
<tr>
<td>Suburbs</td>
<td>9</td>
<td>9</td>
</tr>
</tbody>
</table>
### Overview of Government and Public Transport Agencies Collaborating in VVs

<table>
<thead>
<tr>
<th>Name</th>
<th>City</th>
<th>Number of Collaborators in Verkehrsverbund</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>States</td>
</tr>
<tr>
<td>MVV</td>
<td>Munich</td>
<td>1</td>
</tr>
<tr>
<td>HVV</td>
<td>Hamburg*</td>
<td>3</td>
</tr>
<tr>
<td>VOR</td>
<td>Vienna*</td>
<td>3</td>
</tr>
<tr>
<td>VBB</td>
<td>Berlin*</td>
<td>2</td>
</tr>
<tr>
<td>ZVV</td>
<td>Zurich</td>
<td>1</td>
</tr>
<tr>
<td>VRR</td>
<td>19 Cities</td>
<td>1</td>
</tr>
</tbody>
</table>

* Hamburg, Berlin and Vienna are not only cities, but also federal states. Thus they appear in both columns.
Organizational Structures of VVs

Source: Based on information in Duemmler, 2015 and VDV, 2009
1 stakeholder takes lead—often at monetary expense

- Hamburg helped cover operating subsidies of S-Bahn and helped with capital projects
- Zurich covering losses of small bus operators
- Austrian federal government guaranteed revenues for small public transport agencies joining VOR

- Often in combination with large infrastructure investments (Vienna, Munich, Berlin, Zurich)

- Top-down and bottom-up roles: Hamburg (city and PT agency), Zurich (referendum), Berlin (federal and state); Vienna (federal gov.)
Typical Tasks of Case Study VVs

- Ticketing, including monthly, annual and tickets for special groups (e.g. students)
- Marketing, branding and consistent messaging
- Customer information and service
- Planning of coordinated public transport services
- Coordination and distribution of fare revenue
- Quality control and tracking of quality standards set in transport service contracts with PT providers
## Allocation of Tasks in Case Study VVs

<table>
<thead>
<tr>
<th>Level of VV</th>
<th>Typical Tasks</th>
</tr>
</thead>
</table>
| **Government Jurisdictions**| - Determining overall level of PT services and fares  
- Setting level of government funding and infrastructure investment  
- Deciding which PT services to tender and under what conditions |
| **VV Executive Body**       | - Planning and coordination of PT service levels, routes, and timetables  
- Issuing calls for tender and awarding PT service contracts  
- Integrating fare structure and ticketing  
- Distributing fare revenues and government subsidies among PT firms  
- Marketing and public relations  
- Setting and monitoring service quality standards  
- Long-term planning and coordination of PT infrastructure projects |
| **PT Operators**            | - Running PT services  
- Collecting fare revenue  
- Maintaining vehicles, stations, and rights of way  
- Implementing infrastructure projects |

Sources: Based on information in VDV, 2009; Duemmler, 2015; HVV, 2015; MVV, 2012; VRR, 2015; ZVV, 2015; VOR, 2015.
Typical Policy Goals

- “One Network, One Timetable, One Ticket”
- More and better transit service
- Full multi-modal and regional integration
  - More recently also: bikeshare, carshare, taxis…
- Attractive transit fares and convenient ticketing
- ‘Compete with the Private Car’
  - *Cheap; Easy fare system; Available, Fast*

- Favorable supporting policies (compared to the USA):
  - High taxes and restrictions on car use; and
  - Land-use policies that promote compact, mixed-use developments.
Trend in Place Kilometers of Public Transport Service per Capita, ‘90 – ‘15

- VRR (Rhein-Ruhr)
- VBB (Berlin)
- HVV (Hamburg)
- MVV (Munich)
- VOR (Vienna)
- ZVV (Zurich)

Attractive & convenient trams, buses, metros, and suburban rail trains

Source: City of Berlin

Source: City of Freiburg

Source: Wiener Linien

Source: author’s pictures if not indicated differently
Discounts for Monthly, Annual, and Special Group Tickets, 2016

Monthly vs. Single Tickets
Annual vs. Single Ticket
Seniors*
University Students*
School Students*

Example: 365 Euro Ticket in Vienna

- Entire City of Vienna for €365
  - Reduction from €449
  - Among cheapest annual tickets in Europe
  - Jump in annual tickets from 363k in ‘11 to 778k in ‘17
- Senior ticket €224 per year
- Student ticket (high school): €60
- Overall: 875 to 962 million trips per year (‘11-’17)

Source: Krone.at
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<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>HVV (Hamburg)</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
</tr>
<tr>
<td>MVV (Munich)</td>
<td>0.80</td>
<td>0.80</td>
<td>0.80</td>
<td>0.80</td>
<td>0.80</td>
<td>0.80</td>
</tr>
<tr>
<td>VOR (Vienna)</td>
<td>0.60</td>
<td>0.60</td>
<td>0.60</td>
<td>0.60</td>
<td>0.60</td>
<td>0.60</td>
</tr>
<tr>
<td>VBB (Berlin)</td>
<td>0.40</td>
<td>0.40</td>
<td>0.40</td>
<td>0.40</td>
<td>0.40</td>
<td>0.40</td>
</tr>
<tr>
<td>ZVV (Zurich) (in SFR)</td>
<td>0.20</td>
<td>0.20</td>
<td>0.20</td>
<td>0.20</td>
<td>0.20</td>
<td>0.20</td>
</tr>
</tbody>
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Integration with other modes

- Karlsruhe (KVV) “Regio Move” Project:
  - State, EU, and city funding
  - Physical integration
  - IT integration (app)
    - Car sharing
    - Bike sharing
    - Public transport
      - Including AVs

Source: https://www.raumobil.com/projekte/regiomove
Lessons

- VVs successfully increased ridership
  - “One Network, One Timetable, One Ticket”
  - More and better service
  - Annual, monthly and special tickets

- Joint cooperation of governments and PT providers

- Founding of VVs
  - Often one stakeholder took lead/risk
  - Bottom-up and top-down
  - Large regional infrastructure investments

- Favorable land-use and automobile pricing policies


THANK YOU