Regional Integration of Public Transit
- From the Perspective of a Transit Company

April 2019
Facts about Munich

- Capital of the State of Bavaria
- Population: City ca. 1.5 million
- Greater Munich area: 3 million
- Munich Metropolitan Area over 5 million
- In the city almost 1 million jobs
- Area: 310 km² (City)
- Density: 5,000 inhabitants/km²
1858: Population 137,000
Munich is the growing capital of the kingdom of Bavaria – limited by walking.

1908: Population 600,000
Munich can grow, because of the tram (electric operation since 1895)
1940/1950: City Population 800,000
The car as new challenge.

Quick recovery after the war: Karlsplatz has heaviest traffic in all of Europe

1960s: Population 1,000,000
Decisions for urban underground system and suburban rail systems
1971: Founding of MVV Verkehrsverbund (Founded by Munich‘s public transit department and German Railroad – represented by the Mayor of Munich and the Federal Minister for Railroads), regional buses operated by federal railroad and German Post Service were integrated
Biggest obstacle: financing and distribution of farebox revenue

First section of U-Bahn (municipal subway) starts operation
Transport as Key Factor for Munich’s City Development

1972, Olympic Games in Munich:

Common Tariff gets into effect

Suburban S-Bahn-system starts operation

Principle: One network, one ticket, one time table

In following years integration of private bus companies and bus lines of surrounding counties
Today: Population 1,550,000 – Growths 1970-2000 mainly in the suburbs, since 2000 strong growth (+20%) in city itself
Transport as Key Factor for Munich’s City Development

1950: Greater Munich Area, population around 1 million inhabitants (City 800,000, Surrounding area 200,000)

- 47,000 cars
- Suburban Rail: 30 million passengers
- Tram: 200 million passengers

Today: Greater Munich – population 3 million (1.5 million within city, 1.5 million within surrounding area)

- 1,400,000 cars
- Suburban Rail: 250 million passengers per year
- Tram: 120 million passengers
- Metro: 410 million passengers
- Bus: 210 million passengers (City)
- Regional/suburban bus: 60 million passengers
• Munich City: 1 million jobs on 1.5 million inhabitants
• 45% of jobs occupied by commuters
Mobility in Munich – Mostly Without Cars

City: Mobility without cars = 68% (MVG research)

MVV Area (total):
54% mobility without cars

Suburban Area (only):
42% mobility without cars
### Who is Who in Munich‘s Public Transit?

#### MVG: Münchner Verkehrsgesellschaft / Munich‘s Municipal Transit Company

<table>
<thead>
<tr>
<th>Owner:</th>
<th>Municipal Enterprise, part of Stadtwerke/City Works Munich (electricity, water, gas and public transit)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Responsible for:</td>
<td>Metro, bus and tram, including network planning, building and timetable planning (except underground lines – planned and built by the municipality, handed over after construction to MVG)</td>
</tr>
<tr>
<td>Number of Lines:</td>
<td>8 Metro, 13 Tram, 75 Bus</td>
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<tr>
<td>Employees:</td>
<td>3,900</td>
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<tr>
<td>Annual Ridership:</td>
<td>Metro 410 million, Tram 120 million, Bus 210 million</td>
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<tr>
<td>Network:</td>
<td>Metro: 95 km, Tram: 82 km, Bus: 505 km</td>
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</tbody>
</table>
Who is Who in Munich‘s Public Transit?

S-Bahn München

Owner: Deutsche Bahn AG / German national railroad

Responsible for: S-Bahn (rapid rail commuter system connecting Munich with the region)

Number of Lines: 10

Employees: 1,000

Annual Ridership: 250 million

Network: 442 km
Who is Who in Munich’s Public Transit?

Münchner Verkehrs-und Tarifverbund (MVV):

Owner:
City of Munich, districts and communities around Munich, State of Bavaria

Responsible for:
Unified tariff, cooperation between transit companies, transit planning for region around Munich

710 million passengers yearly in service area (population 3 million)

Service Area 5.530 square kilometers

Average trip length: 10 km
Who is Who in Munich’s Public Transit?

Institutions involved in public transport within MVV area:

**Federal government:**
- Provides money for regional rail transit to state government.
- State has own company to organize, finance and plan regional rail transit and makes contracts with railroad companies.

**City government:**
- Owns municipal transit company, municipal transit company provides subway, city bus and tram (costs covered by farebox revenue).

**Suburban Counties/districts:**
- Finance suburban bus and define guidelines for planning, MVV plans suburban bus lines and makes contracts with different bus companies.
When is public transit an alternative to the car?

Public transit should be:

- Fast
- Reliable
- Going where you want to go - and when you want to go
- Comfortable
- Easy to use
Integrated Rapid Rail System

Annual passengers overall in MVV-area doubled since 1972 (complete linked trips counted)
Population within MVV rose from 2.1 million (1972) to 3 million (today): +40 percent

Commuter rail (S-Bahn) passenger growth in percent since 1972 till today 350%
(from daily 240,000 to 840,000 now)
(Passengers one year before integration in MVV: 160,000 daily)

Passengers of suburban bus lines tripled within 20 years to 57 million per year
Reasons for the Success

One Ticket, One Tariff, One Timetable for All

One ticket can be used for:
Suburban Rapid Rail, Metro, bus and tram

- Easy transfer between the systems
- Most riders use monthly passes
- Ticket machines in all city buses and trams
- Boarding at all doors of city buses
Reasons for the Success

**Frequent Service 24 hours a day**

- Metro in operation until 1:30 AM, on the weekend till 2:30 AM
- Frequency of trains up to every 2 minutes during peak hours
- Tram and bus network: 24 hours, day and night
- Public transit stops always in walking distance
Reasons for the Success

Direct Access from the Region to the Heart of Munich

S-Bahn / Suburban Rail:
(Owner German National Railroad)

Responsible for: rapid rail commuter system connecting Munich with its region, within 40 km around Munich

Annual Ridership: 250 Million

Network: 442 km

From the region... every 10 to 20 minutes...

...up into the pedestrian area

...into the central tunnel
Challenges

Integration of additional counties and cities to match changed commuter patterns and longer commuter distances
Challenges

Second central tunnel under construction to expand capacity and integrate larger commuter area into S-Bahn-system (commuter rail)
58 Verkehrsverbünde in Germany (population 82 million)

First founded as HVV in Hamburg (1965)

70% of the area with 85% of population are covered by Verkehrsverbünde

Financial aspects:
In Germany 76% cost coverage of public transport

In MVV-area over 80% by farebox revenue

MVG (municipal) 100% of operational costs (tram, subway, city bus) covered by farebox revenue

Proposed expansion to South Bavarian Verkehrsverbund
The future of yesterday -1970ies:
(In the past, the future used to be better, too)

- Self driving electric cars
- Personal Rapid Transit/Cabintaxi (Service on Demand)

City of Hagen, Germany: operating tram system (55 km length) was closed in 1976 in favor of projected PRT system (above: test track in Hagen 1972-1978)
Thank you for your attention!

Today are the good old days of the future…