

by Kurt Bauer

The metronom trains are owned by LNV (Landesnahverkehrsgesellschaft Niedersachsen mbH) which is responsible for procuring all regional rail services in Niedersachsen. The train services, however, are an important pillar in the HVV transport offer and can be used with HVV tickets between Lüneburg/Tostedt/Himmelforten und Altona.

Integrated Public Transport Associations (IPTA)

Successful public transport, especially regional public transport, has to be easy to use in all aspects. Several studies have shown that easily understandable fare systems, tickets valid on all public transport modes, coordinated timetables and seamless flow of information attract a significant number of users despite constantly increasing car ownership. The study "The Impact of Integrated Tariff Systems on Public Transport Demand"¹ found out that the introduction of an integrated tariff system (*ceteris paribus*) can increase the number of passenger-trips by 2.72% in the short-run and by 12.65% in the long-run.² The management of integrated public transport areas in Switzerland record a yearly increase in passengers between 1.5% (mature IPTA which were established more than 10 years ago) and 20% (IPTA established more recently). The growth rate also depends on the extent of the integration.

All forms and depths of integration can be found, especially in the German speaking countries. The first IPTA in Germany and worldwide was founded in 1965 in Hamburg (HVV). Today in Germany more than 60 IPTAs can be found, all differing in responsibilities, depth of integration and duties. Generally speaking an IPTA aligns the

various transport modes and services in order to achieve a single public transport product. The IPTA is the middle layer in a three step pyramid. On the top the Public Transport Authority (PTA) is the political decision-maker guaranteeing that public transport is in line with the broad political objectives. The IPTA as the middle layer organises the public transport in a region as detailed below, but is bound in its decision to the general objectives set by the PTAs. The IPTA defines the services to be performed by the lower layer, the transport operators.

The organisation of IPTAs in Germany can be classified in three broad categories, company joint ventures, public transport authority joint ventures and mixed joint ventures. Company joint ventures are under company law aligned transport companies active in a region (e.g. Verkersverbände Bremen/Niedersachsen – VBN). Public transport authority joint ventures exist if the PTAs manage the IPTA (e.g. Verkehrsverbund Berlin-Brandenburg – VBB). Mixed joint ventures exist, if both local transport operators and PTAs are responsible for public transport in a region (e.g. Verkehrs- und Tarifverbund Stuttgart).

Despite the different organisational concepts all IPTAs have some common duties:

1. Design, development and management of the common tariffs and conditions of carriage
2. Distribution of the fare box revenues among the operators
3. Organisation of a standardized sales and distribution as well as marketing framework
4. Coordination of the public transport services on offer and publishing timetabling information
5. Market research (e.g. passenger counting) for the purpose of marketing and distribution of farebox revenues
6. Management of consistent passenger information
7. Public relations management

The users of public transport cannot recognize the different organisational approaches, as the user interface is comparable in all IPTAs. The organisation, however, has an effect on the duties which may go beyond the duties mentioned above. Company joint ventures managed by transport operators are understandably much more reluctant to tender public transport services, as they would act against their own interest. RMV on the contrary, a public transport authority joint venture, took the lead in large scale competitive

tendering of bus services when it tendered packages of bus services of the city of Frankfurt. Alpina, a company of Veolia Verkehr, just recently won a tender and will from December 2010 operate approximately 40% of the public transport in Frankfurt.

As can be seen above, the IPTA landscape is very diverse. This is due to different historical developments and different needs defined by the local context.

Farebox Revenue Distribution

The methodology of farebox revenue distribution is very critical for the transport operators and their commercial success. Over the years the system has become more and more sophisticated. In former years, the revenue distribution of HVV, for example, was based among other parameters on the number of seats in a vehicle. This gave the operators the incentive to use over dimensioned vehicles like bendy buses or to add additional coaches to the train. This, however, was no benefit to the travellers. The system was thus changed to the number of passengers per line. This incentivised the operators to offer a customer oriented service and thus attract the maximum number of passengers and simultaneously to optimize the size of the vehicles used because overcapacity was not any longer paid for. More and more IPTAs change the system from an offer based system (capacity) to a demand based system (number of passengers).

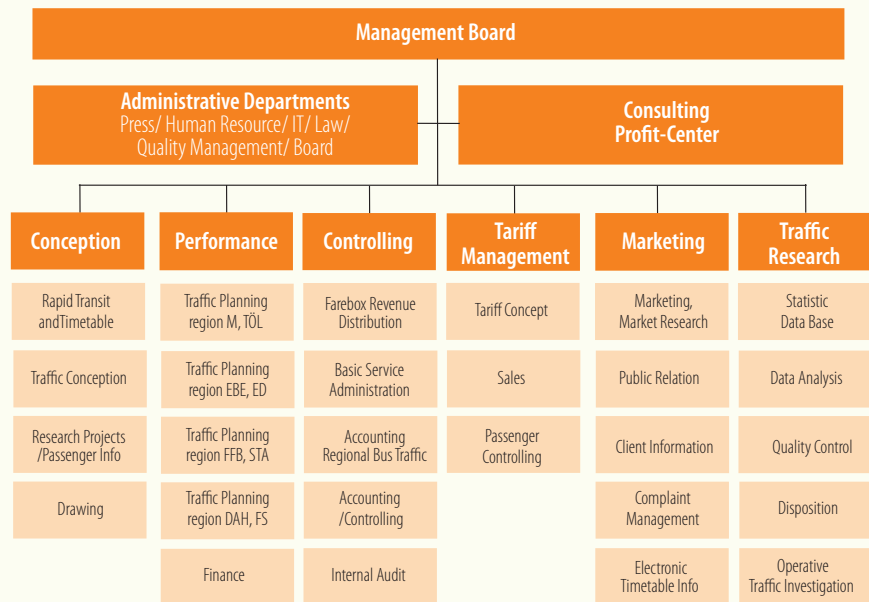
Regulation EC 1370/2007

The IPTAs make use of the choice to tender public transport services or award them directly. The MVV operates its own bus services within the city boundaries as non-profit oriented services. However, for some bus services outside of the city boundaries invitations to tenders have been published. As already mentioned above the RMV and the city of Frankfurt took another decision and tendered the entire bus network.

Customer Information

The availability and accessibility of information for public transport passengers is vital. Static information includes printed timetables and route maps for private use as well as at stops and stations, fare information and other relevant information for the journey. The development of IT systems allows the provision of real time information through various channels. Typical areas of application are dynamic arrival and departure indicators at stops and stations and real time information on the internet and for mobile devices. Besides this information like accessibility for handicapped people, area information at stations and clear signage of connections can help to increase the attractiveness of the public transport significantly.

Verkehrsverbund Bremen/Niedersachsen (VBN) is currently investigating how to achieve area-wide real time information availability and guarantee of connections. A special focus is on the feasibility of its implementation for small and medium sized transport operators. The assessment takes into account technical solutions as well as financial and organisational implications for the operators and the IPTA.



Maximisation of infrastructure investment benefits

A particular benefit of an IPTA is the long term view on infrastructure investment. Only a coordinated and intelligent operations concept for nodes and transport hubs can maximise the benefit of expensive infrastructure investment. Bus services typically feed into rail systems (heavy rail, light rail, tram) and thus duplication of services is avoided. The consistent and customer oriented planning and development of the infrastructure is the most critical parameter in order to be able to offer demand oriented transport services in the medium to long run.³

Polycentric IPTAs

The Verkehrsverbund Rhein-Neckar is a good example of a polycentric IPTA, which was founded in 1989. Medium sized cities like Kaiserslautern, Ludwigshafen, Mannheim and Heidelberg are covered. The unique achievement in this area is the successful establishment of a rural S-Bahn system. The S-Bahn system was inaugurated in December 2003. The S-Bahn system can be classified as best practice in rural areas. Despite the fact that the S-Bahn does not have dedicated infrastructure in city centres, which means that in order to reach the city centre a transfer to another mode is necessary, a constantly increasing ridership is recorded. Success factors are the consequent feeder services to the S-Bahn system, attractive season tickets, high frequency services and the remarkable punctuality and reliability of the system. The success of the system and the very positive attitude of the local population towards the VRN and the S-Bahn incentivised political decision makers to expand the system. Several steps of extension are currently in the implementation or design phase.

S-Bahn systems seem to be very popular in more rural areas, because they are perceived as innovative by the local population and are something to show for politicians. Especially in Austria there is an increase in rural S-Bahn systems in Salzburg, Innsbruck and Vorarlberg. The positive aspect is that the investment in such public

transport systems increases the awareness of the public and improves the reputation of public transport systems in general.

Mono-centric IPTAs

The Münchner Verkehrs- und Tarifverbund (MVG) serves a mono-centric area. The major S-Bahn and underground interchanges are in the city centre. In contrast to the example above heavy investment was necessary to build the dedicated S-Bahn infrastructure. All other transport systems are oriented towards feeding into these two rail systems. The fast connections from the suburbs to the city centre have also significantly changed the development of new housing and industrial developments. The demand for S-Bahn services has grown so significantly that currently a second bore through the city is under investigation.

The performance of MVG was ranked best in a benchmarking⁴ with 22 European conurbations. All 5 German cities (Munich, Hamburg, Frankfurt, Leipzig and Köln) were ranked in the top 10 in the benchmark.

High-quality public transport – a competitive advantage for a region

A study⁵ of public transport in Germany has shown that the perception of public transport companies is much better than had been thought. The importance of a well functioning public transport as a decision making factor for investment in an area however has been highly underestimated and business clients as a target group for IPTAs has not yet been in focus. This is particularly surprising as 70% of all business trips cover a distance of less than 50 km, which is typically within the catchment area of an IPTA.

Ticketing and Inter-IPTA Ticketing

One of the biggest benefits of an IPTA is the validity of one single ticket. Despite the fact that this is already standard in most German speaking regions, several major Western European conurbations still have not achieved this goal. In Madrid and Lisbon for example inter-ticketing

2008	VRN (polycentric)	MVV (monocentric)
Area of the region covered (km ²)	9,967	5,500
Residents in the tariff area (million)	3.02	2.66
Number of private cars per 1.000 residents	555	527
Number of trips p.a. (million)	314	617.68
Passenger km (million)	3,122	6,271.60
Farebox revenues (million)	242.00 €	609.76 €
Number of trips / resident	103.97	232.21
Average trip distance in km	9.94	10.15
Average revenues per trip	0.77 €	0.99 €

The table above shows that the different IPTAs have to master different challenges depending on the structure of the area. VRN covers nearly twice the area of MVV, but has only about 10% more inhabitants. In the area of MVV people travel more than twice as often by public transport than at VRN. However, the mean distance per trip is comparable. Carownership is slightly higher in more rural areas. The city of Munich with the excellent public transport network and the restricted parking areas are the main reason for the slightly lower carownership in the MVV region. The revenues per trip are lower in the VRN region. MVV is often criticized for very high pricing of tickets.

between bus and metro is not possible – each time a new ticket is required. In the Spanish capital the customer has the option between 70 (!) different season tickets.

A particular challenge is the ticketing of “inter-area” journeys, meaning crossing from one IPTA area to another. The willingness of an IPTA to cooperate is the most important success factor concerning this issue. The State of Nordrhein-Westfalen has for example introduced one single tariff for the entire State in order to overcome this customer-unfriendly restriction. The tariff systems of Verkehrsverbund Rhein-Sieg VRS (which had an increase of passenger trips between 1987 and 2008 of 41%) and Verkehrsverbund Rhein-Ruhr VRR (which had an increase of passenger trips between 1990 and 2008 of 55%) remain, but are complemented by an additional fare system covering the entire State. The State wide tickets are available at all points of sale of VRS and VRR.

Size of an IPTA

The size of an IPTA cannot be determined in general, but the local context and requirements need to be taken into account. However, there is evidence, that those IPTAs are more successful where the area and transport needs are some-

what homogeneous. In conurbations the transport flow is typically oriented towards the city centres. The biggest gains for passengers are thus fast connections from suburbs to the city centres. In more rural areas a more diverse origin/destination matrix can be found. In Germany all sizes of IPTAs can be found. The largest IPTAs like Verkehrsverbund Berlin-Brandenburg and Verkehrsverbund Rhein-Ruhr have more than 1.2 billion travellers per year, whereas the smallest like the Verkehrsverbund Vogtland have little more than 10 million travellers per year.

A particular challenge is the integration of regional rail services into IPTAs, especially the financing and timetabling. In Germany two different approaches exist. Either the IPTA themselves organize regional rail transport, or there is a separate public body organizing and tendering rail services in close cooperation with the affected IPTAs. A good example of the first case is Rhein-Main Verkehrsverbund (RMV) with more than half a billion travellers per year, which is responsible for planning and tendering the entire rail transport in Southern and Middle of Hessen. A successful example of the latter is the Bayerische Eisenbahngesellschaft (BEG), which coordinates and tenders the regional rail services for the entire State of Bavaria. BEG covers an area larger and

more densely populated than the whole of Austria and coordinates the regional rail services with more than 10 IPTAs.

Prerequisites for successful IPTAs:

Ability to achieve quick gains at the beginning of its existence – guaranteeing connections for example can be realised without heavy investment. Especially at off-peak periods this improvement has a massive impact on public transport clients and will be appreciated by voters and thus by politicians.

– there is nothing more devastating to regional transport planning than unclear and disputable competences between the different stake holders.

Stable funding – public transport requires long term investment in infrastructure and assets; unstable funding does not allow long term strategic planning and implementation.

Independence of short term political influence – public transport is a highly political issue; it has to be made sure that the IPTA is independent of short term oriented political actions.

Local decision making power – it is important that the IPTA a) has wide reaching decision making power and b) that the decisions can be made locally.

The evidence found in the German speaking countries suggests that there is no single successful approach towards an IPTA. The local context, particularities and requirements as well as the history of IPTA determine the organisation and shape of the IPTA. However, the homogeneity of the area covered is a critical success factor.

Footnotes

1. Graziano Abrate; University of Eastern Piedmont
2. Even if this result may appear not very significant, it must be noted that it simply reflects the introduction of a different price policy over a given network, with given quality attributes (e.g. unchanged timetables, etc.) and keeping constant the average price for passenger-trips. As a consequence, the estimated impact is not affected by eventual quantity discount policies, such as season tickets, which are often associated with integrated tariffs.
3. IGES Institut GmbH
4. Nahverkehrstudie ADAC
5. Prognos AG