TTK INFORM

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ROBUST AND EFFICIENT PUBLIC TRANSPORT

TTK PROJECTS PROVIDE RELIABLE INPUT FOR DECISION MAKERS

Since our last TTK inform edition well over a year has gone by. Time to inform you about our current interesting and upcoming projects.

At present many of our tram and tramtrain projects deal with operational planning and simulation. Using the OpenTrack tool we study the capacity of individual lines but also large networks. The results are used as a basis for pinpointing the bottlenecks in operating procedures and hence for a better adaptation of development and extension plans to the demands of the actual operation. In this current edition of TTK inform we tell you about two large network extension projects: Heidelberg and Montpellier. For the Aquitaine region TTK supplied a feasibility study for the modernisation of the line and technical assistance for the introduction of the new high speed TGV-line around Bayonne.

As in our former editions we have compiled slightly differing topics fitted to the markets and developments in Germany and France. Feel free to ask us also for the German and/or French version.

Enjoy your reading!

HEIDELBERG ACTIVITIES

Network optimisation in Heidelberg – acceleration and improvement of the PT service while saving money

The city of Heidelberg and the RNV GmbH had TTK carry out network optimisation to make public transport more attractive. Tasks were short term measures (lines and tram frequency), acceleration measures, mid term measures (network extension) as well as a cost benefit analysis (CBA) for the line through the historic city centre.

IN-DEPTH ANALYSIS OF TRANSPORT OFFER

TTK took stock of the RNV public transport offer: with seven well developed tramtrain stops within city boundaries and the network of regional bus lines Heidelberg's service level is well above that of comparable cities in the region.

A number of variants was developed and evaluated to decrease the numerous bus services running in parallel to the tram trains and to reduce the tram frequency from 5 to 10 minute intervals. Transport parameters (such as number of passengers who do not change trains, travelling time, etc) do hardly differ. Therefore the suggestions focussed on a reduction of overlapping tram lines and bus lines running in parallel.

Campus II and apartment blocks – simulation of the new public infrastructure in Heidelberg's Bahnstadt (Source: Amt für Öffentlichkeitsarbeit der Stadt Heidelberg – www.bahnstadt-heidelberg.de)

The possible savings amount to more than 2 Mio. Euro/year. An intensive dialogue was entered into with citizens and the various politic circles. However, the necessity of savings in the city's budget for public transport was interpreted differently and the implementation of the plans fell through in the end. In the discussion the possible measures for an extension of the rail network were not available to the same extent and at the same time though. This remains an open issue.

Heidelberg definitely is a rail transport city. Bus lines running in parallel to the tram will have to be adapted – at the latest when the tram through the Neuenheimer Feld, the Bahnstadt and the historic centre will be introduced. After all, a value of considerably over 1.0 as the result of the CBA for the variant through the historic centre and along the bank of the river Neckar is very positive.

At least the efforts to save cost by way of acceleration measures are pushed. Time will show whether and to what extent that will be possible.

MOBILITY NETWORK HEIDELBERG

After the network optimisation a new project called mobility network Heidelberg has been set up in order to make the city's PT more attractive. Unfortunately, it was not possible to work on both projects at the same time where – beyond the usual synergy effects – both might have benefited from further input and ideas.

With the mobility network altogether seven individual projects are to be bundled to a package amounting to approx. 150 Mio. Euro.
To this end two central axes are built with the access of Heidelberg's historic centre via the main station to Schwetzingen (OstWestbahn) as well as from Bismarckplatz via Neuenheimer Feld to Handschuhsheim (Campusbahn).

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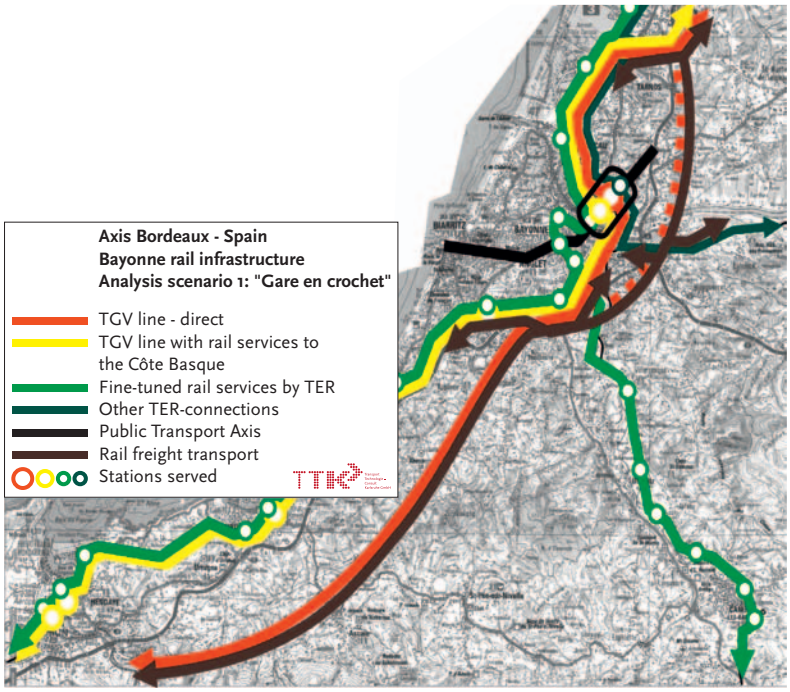
Besides the line through the historic centre along the bank of the river Neckar currently there are also plans for a line to the Universitätsplatz along Friedrich-Ebert-Park. The entire package of measures is to be implemented until 2019 – an aim which is rather ambitious but not impossible.

BAYONNE / AQUITAINE

Assistance for high speed line planning

So far the philosophy behind SNCF/RFF plans for high speed lines has neither very much taken into account nodes of interchange nor integrated interval timetables. But now – as the high speed line between Paris and Lyon has reached its capacity limits – RFF is thinking more along the lines of interval timetables. Moreover, the regions which are contributing financially to TGV-projects, demand a better integration of the high speed services into regional public transport.

In a number of such planning processes TTK has been asked for assistance, including in the Aquitaine region. A new TGV line is to be built between Bordeaux and Spain, in the framework of which the Aquitaine Region and Bayonne have asked TTK to analyse RFF planning and make optimised suggestions for the line's location and the future. A number of scenarios exist ranging from an option bringing the TGV right into the centre to a solution providing a station 10 km. Finding a solution meant facing the challenge of combining suitable services for Bayonne and the right TGV and freight transport functionalities with a view to the Bordeaux-Spain transit.



The TTK result, based on route survey (plans at 1/10.000 scale) and cost estimations, favoured a solution with a station in the centre of the Bayonne agglomeration rather than at its edge as well as a high speed alignment as close as possible to the centre. Such an alignment was not estimated more costly but would have come rather close to the coastal urbanised area. In the end RFF – torn between a good access to Bayonne and the political pressure of the insertion of the high speed line rather as far as possible from the coast – opted for an intermediate solution as shown in the picture.

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LATEST NEWS

TTK developments in the Netherlands

For a few years now TTK has been getting back into the Dutch market. In 2010, together with our cooperation partner Mott MacDonald Netherlands we won the Interreg project "Tram/ Tramtrain/ Regional railway Nijmegen – Kleve". Topic was the extension of the (as yet non-existant) City-Tram Nijmegen via a de-activated rail line to Kleve (Cleves). Kleve is terminus of the Niers-Express from Düsseldorf (Lint 41 vehicles of the Nord-Westbahn). In the framework of a technical feasibility study different ways of operation (EBO, BOStrab) were analysed as well as the link to the Dutch rail network and the City-Tram Nijmegen.

In 2011 – again in co-operation with Mott MacDonald – TTK won a framework contract for the study of any tramtrain questions the City of Utrecht might have. First mandates comprise e.g. depot accessability and rail-wheel interface. The Netherlands are a dynamic market where TTK will carry on playing an active role.

Photomontage: Tram in Goesbeek (source: Mott MacDonald)

MONTPELLIER TRAM 2020

Within the framework of the transport development plan 2010-2020 Montpellier is pushing the plans for an extension of the tram network. Today two lines are in operation, a third and fourth are being built.

For 2020 three more lines are discussed, among them a Tram Express with a speed of up to 100 km/h. Along these lines Montpellier would rise to become France's largest and most complex tram network.

In March 2011 TTK was asked to undertake the detailed planning of this network extension. Together with the responsible authorities those scenarios have to be chosen which promise to be the most successful. A sophisticated demand model has been set up TKK to study the effects of the individual scenarios. In a number of workshops the choice was narrowed down to three:

- A basic scenario which basically updates the ideas from the transport development plan (PDU).
- A scenario TramExpress and
- A "scénario combiné" consisting of a promising synthesis of other potential scenarios.

For these three scenarios a dynamic simulation of service operation will be carriet our until the end of 2011 using the OpenTrack tool. It is to answer the following essential questions:

- Network configuration (1 or 2 tracks, speed limits, signalling, ...)
- Operational robustness of the scenario
- Capacity and layout of inner city nodal points
- Iterative process of network development stages
- Quantity structures (number of vehicles, vehicle-kilometres, ...)

Whether the central nodes have enough capacity for the network extension is one of the major open questions for Montpelier authorities. The conflict among at the station forecourt St. Roche – today already two, from 2013 then four lines and – depending on the scenario – even more from 2020 onwards. The conflicts amng the trams but also with strong pedestrian flows will at first increase. The new TGV station close to the airport will, however, alleviate the problem as it is linked to the tram network right from the beginning.

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TTK uses OpenTrack to test all scenarios for their capacity; this way the decision as to the future Montpellier network will be based upon a stable foundation.

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