

Tram-trains: Euphoria or depression?

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Independent consultant **Axel Kühn** reflects on a concept that is not making as much progress as its pioneers hoped.

Today most people who hear the words tram-train or tracksharing still immediately think about Germany and the famous Karlsruhe model.

This industrial city on the western edge of the country is still seen as a glorious success story despite of some well-known weaknesses such as poor accessibility and the overcrowding of the city centre with regional tram-trains. The latter feature now seems to lead into a subway project, and the complete disappearance of trams in the pedestrian zone.

Looking at more than 80 feasibility studies since 1993 on the transferability of Karlsruhe's ideas, one has to face the fact that only a very limited number have been successfully implemented or are at least approved projects in the queue for construction funding. The schemes that have gone forward have in most cases turned out to be derivates, that is taking the ideas further in a creative way.

Even inside Germany, which definitely shows enough interest to become a fertile breeding ground for tram-trains than elsewhere in Europe, progress is limited. The good news however is that there are some very interesting projects which one could see as part of a second generation. The most advanced are for Kassel, Nordhausen, Chemnitz and Zwickau, and a few others may follow.

Across the rest of the continent, we can detect some keen interest in Sunderland (United Kingdom), Alicante (Spain), and the Rijn-Gouwe-Lijn in the Netherlands.

Perhaps surprisingly, France, which a few years ago seemed to be the spearhead for the final tram-train victory with a dozen projects promoted by SNCF seems have run out of momentum. Mulhouse is the only current (real) survivor, but this had its fair share of problems because of dramatic cost increases caused by additional railway-style requirements in rolling stock. This has raised concern about the viability of the tram-train part of the overall project. Aulnay-Bondy is more a conversion project and the AVANTO dual-mode-vehicles will not operate under joint running conditions. Strasbourg is postponed, Grenoble cancelled and only Lille is still in the discussion phase.



In the US state of New Jersey, the River Line from Camden to Trenton uses diesel light rail with some on-street running. A. Kühn

The new approach

Recent research has tried to identify the reasons for success and failure. Under the title Tram-Train – The Second Generation, the author of this article and Rob van der Bijl searched for the ideal tram-train-city. (The paper that was presented at ETC 2004 in Strasbourg, can be viewed under www.lightrail.nl/TramTrain).

The findings? The tram-train is neither cheap nor easy to install or operate. A promoter needs to have, or be able to generate, some supporting institutional environment. The big problem in France, and many other countries, is the lack of harmony with urban planning and existing public transport characteristics. The authors developed a rating method that allows an early assessment of tram-train cases that has, in the meantime, been applied for three Scandinavian projects.

There is a firm belief that a broader and less technocratic approach is needed for these projects, and more creativity to use

the variety of options available at the borderline between the tram-train and train-tram.

Looking at rolling stock developments in the heavy rail world such as the 2.7-metre wide low-floor electric multiple units for the Swiss Seetalbahn show that many more options are available than just trying to copy Karlsruhe.

Other interesting schemes are the RiverLine diesel units in New Jersey (United States), which are able to operate with 40 m-curve radius in street-running conditions, and the Kassel Dieseltram developments.

Our conclusion is that there is no need to be depressed about the tram-train idea in general, but it needs very careful handling!

● It is planned to present a feature of the Zwickauer model and American River Line project as the case for train-tram in a future issue of *Tramways & Urban Transit*.