

RANDSTADRAIL

What went wrong?

Holland's RandstadRail has been 20 years in the planning but was derailed – literally – when a train and a tram came off the track on the same day just a month after its launch. **Dr. Rob van der Bijl** investigates what went wrong and believes there's a wide-ranging lesson for light rail – not just in the Netherlands.

The central-western part of the Netherlands, behind the dunes of the North Sea, is a densely-populated area. This land is referred to as 'Randstad', an artificial Dutch word meaning 'a fringe of cities'.

This urban super-region is the pulsating heartland of polycentric Holland. With major cities like Amsterdam, Utrecht, Rotterdam and Den Haag (The Hague), Randstad is home to seven million people, more than a third of the country's total.

A common feature of all Randstad cities is congestion. Two decades ago a blueprint was created to alleviate Randstad's growing congestion by creating a through rail link between the extensive tramway systems of Den Haag and Rotterdam. Both tramways are standard-gauge, and both are electrified at 750V dc. The distance from Den Haag to Rotterdam is a mere 20km (12 miles). Also included in the plan was the 1970s-built New Town of Zoetermeer, 10km (6 miles) east of Den Haag. *RandstadRail* was born to design a rail system for the area.

RandstadRail received a warm reception. It seemed a logical solution. Yet no one ever undertook a thorough, in-depth analysis of the problems and options. Should the link be heavy rail? Or would it be better to use light rail instead and regard the link as a virtual extension of Rotterdam's existing 'metro' network (underground/subway)?

Or, perhaps it should be light rail, but regarding the rail link as a form of interconnectivity for the existing tramway systems of Den Haag and Rotterdam?

Compromise and muddle

The idea's launch was followed by ten years of fruitless haggling between 1989 and 1999, a period of much bureaucratic infighting and non-decision making. By 2000, Den Haag and Rotterdam had reached a compromise solution, as described in *TAUT 826* (October 2006). It rested on two pillars:

(a) Extension of the Rotterdam metro to Den Haag Central Station, over an existing railway that would be upgraded. Building a connecting tunnel between the railway and the tunnel of the North-South metro line in central Rotterdam;

(b) Extension of Den Haag tramway to Zoetermeer, over the northern section of the railway between Den Haag and Rotterdam, by using the 1977 commuter railway to Zoetermeer. Building a new branch line in Zoetermeer itself, to light-rail standards.

Thus the two 'systems' would track-share the northern section of the railway, known as the Hofplein Line, from which Dutch national railway NS would withdraw, which it did in 2006. From every viewpoint, *RandstadRail* was a technical and functional compromise.

Randstad derailed

Many technical hurdles were encountered during the first months of testing, from August to October 2006, yet *RandstadRail* was still officially launched on 29 October 2006 even though the connecting metro tunnel in Rotterdam is not due to be finished until 2008 or even 2009.

An unreliable, incremental service ran in

the first days but soon afterwards it proved impossible to offer regular operation.

The situation became national front-page news when an HTM *RegioCitadis* derailed on the tram viaduct in Den Haag on 29 November 2006, while on the very same day an RET metro car derailed at one of the common tram-metro switches. Buses took over and *RandstadRail* operations were halted for months. What had gone wrong?

RandstadRail, as we now understand, suffers from its technical complexity. Different types of vehicles are in service and moreover, the infrastructure is widely divergent. Included in *RandstadRail* are:

- (a) An old railway (parts of the ex-NS Hofplein Line);
- (b) New and renewed tracks (the ex-NS line in Zoetermeer);
- (c) Renewed combined tram-metro tracks (other parts of the Hofplein Line);
- (d) Old and new combined tracks, (such as portions of city tramlines in Den Haag which were integrated with *RandstadRail*).

This infrastructure is used by the Alstom low-floor *RegioCitadis* trams operated by HTM, high-floor RET metro vehicles and - within Den Haag's city limits - HTM's traditional high-floor city trams.

RandstadRail planners had to accept many technical compromises for the relationship between vehicles and tracks and between vehicles and platforms, as well as for safety and detection equipment. It proved a challenge to define compatibility of wheel and track profiles, in particular for switches in sections used by both HTM's *RegioCitadis*



The track monitoring car ('Meettram'), a modified PCC, is the only tram that is allowed on all tracks of the Den Haag network. It is seen in Zoetermeer. K. Pronk



A *RandstadRail* car in the Den Haag tram subway on the 'new' route 3 linking Loosduinen and Centraal Station (and later Zoetermeer). R. Weterings





A Den Haag RegioCitadis, built by Alstom-Salzgitter. R. Weterings

and the RET metro, with their different wheel profiles.

What went wrong?

Two questions already arise. Firstly, why did planners build a system of such bewildering technical complexity? Secondly, why was there so much pressure to start operations when *RandstadRail* was still unreliable?

In my view, *RandstadRail* suffers from the lack of an administrative umbrella above it. There is neither an all-comprising regional government, nor a Public Transport Authority for the area covered. Although there is a provincial government (Zuid-Holland), the Province decided years ago to leave the bulk of *RandstadRail* planning to others.

The Dutch Ministry of Transport also decided not to intervene, and had no say in the direct planning process. Even worse, the Netherlands' national government acted merely as a 'pay office', doling out hundreds of millions of Euros for the project.

Central government opened the door to bureaucracy and irresponsible financial behaviour by local authorities, as the latter felt free to spend without being accountable. Once the money was assured, there was no political pressure to find a simple solution.

Much time and energy was lost on endless talking between 1993 and 1999. The Transport Ministry floated one idea after another, but many of its proposals were oversized and unrealistic. It also suffered from incoherent decisionmaking, and a zig-zag political course.

A public-private partnership proved impossible. Had private parties been involved *RandstadRail* would, in all probability, have been simpler and more manageable. In this political void, Den Haag and Rotterdam could virtually decide themselves how to spend the state's money. Den Haag preferred a tram solution, but Rotterdam was unwilling to give up its preference for a metro. Both got what they wanted. Another time-consuming factor

was sustained opposition from citizens in Rotterdam over plans for the metro tunnel. One scheme after the other was rejected before, finally, the tunnel got the green light and construction could begin.

Planning problems were compounded by the complex procedures for all the individual segments of *RandstadRail*. Overall budget discipline was weak, with hardly anyone having a complete overview of finance.

Another factor was the role played by the regional transport authorities for the greater Den Haag and greater Rotterdam areas, each with their own working methods. To make things worse, all eight local governments had an equal say, leading to endless compromises.

There were also skirmishes in Den Haag, where the city government tried to take the lead, but where the formal responsibility to organise public transport had been entrusted to Haaglanden, a regional entity including Den Haag. This turf war drags on to this day, much to the detriment of *RandstadRail*'s quality.

Sense of urgency

In 2002, many realised that the planning process had already lasted a full 13 years, and that for them, the moment of truth was approaching. They now had to deliver a quality product. In fact, this sense of urgency was mistaken, as the final go-ahead was only taken in December 2002. Only then could actual construction start, yet many political leaders acted as if they expected *RandstadRail* to start operations within weeks or months.

Still unsolved was transfer of ownership of existing railways (Hofplein and Zoetermeer) from ProRail to regional authorities. ProRail is the Netherlands' state-controlled agency in charge of railway infrastructure. This transfer was a complicated legal and technical operation and used time that could have been spent on a more balanced conversion of railways to *RandstadRail* standards.

Then there was uncertainty about the

future operators. HTM and RET were candidates, of course. The Transport Ministry considered organising a call for tenders, which might have opened the new system up to competitors. But the Ministry was vague in its approach, and in the end gave up: HTM and RET, without further consultation, were confirmed as the future operators. Only then could HTM and RET order the rolling stock they needed.

Another setback was the realisation that NS had long lost interest in regional and suburban railways. Although opened as recently as 1977, the Zoetermeer railway had a serious maintenance backlog. *RandstadRail* found the track condition to be far worse than expected.

Another nasty surprise was ProRail's refusal to allow *RandstadRail* to use the existing substations (1500V electric power supply). *RandstadRail* was forced to build its own, independent power supply system for 750V.

The lessons

RandstadRail suffered immensely because it suddenly had to be realised in a very short time. Does all this imply anything for the future of light rail in the Netherlands or elsewhere? High quality urban and regional public transport systems remain a precondition for a healthy human environment. These may be light or heavy rail, or road-based, but we cannot survive without them.

We need new, strong institutions to encourage light rail, and make the best use of its enormous potential for mass transportation. It is high time that regional governments understood their responsibility, and found ways to better organise light rail planning.

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