

2 more tunnels 2 go

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Late 2003 an ambitious plan was published for a new metro-like transit system, connecting the Dutch cities of Leiden, The Hague, Rotterdam, Dordrecht and Gouda. In four years time Stedenbaan would have replaced the existing local trains with a new, fast and frequent service. That rail service then should be reinforced by the transit-oriented development of the existing and many new station areas. But late 2007, there are no signs that a new rail system will start any time soon. This is troublesome. Transit-oriented development can't do without a transit system of course.

This article investigates where we stand today and assesses where to go from here. It looks at the relationship between Stedenbaan and the other new transit in the province Zuid-Holland: RandstadRail. It points also out that the provision of additional underground infrastructure may hold an important key to the future development of transit and transit-oriented development in this part of the Netherlands.

The Stedenbaan project was initiated by the South Wing Administrative Platform (Platform Zuidvleugel). This Platform combines the cities Rotterdam and The Hague, the urban regions of Leiden, The Hague, Rotterdam, Dordrecht, Gouda as well as the province Zuid-Holland. Back in 2003 the Platform expected that in four years time the work on two strategic rail projects would be completed and bring about major changes in the overall rail network. These projects were the BetuweRoute, the new freight line between the Rotterdam port and the German hinterland and the HSL-Zuid, the new High Speed Train line between Amsterdam Airport and Antwerpen Central.

The Platform argued that the completion of the two rail lines would alleviate the congestion on the existing Zuid-Holland rail network. Cargo trains to Germany and Thalys trains to France would no longer clog the

rail lines between Leiden, The Hague, Rotterdam, Dordrecht and Gouda. Additional capacity would become available, enabling more frequent local rail services. A new system, Stedenbaan, would take advantage of this. Stedenbaan then would bring a much needed innovation in public transport in the province Zuid-Holland.

In September 2007 the Atelier Zuidvleugel (a provincial think tank) did deliver an in depth investigation into the spatial potential of the new and existing stops and stations of Stedenbaan. The 'Line and Space' report by the Atelier Zuidvleugel concluded that at least 40.000 housing units can be build within a radius of 1200 meter radius from the existing and new stations and stops. Such a massive transit-oriented development provides a welcome boost for the new transit service. But at the time the report was delivered it was clear that the introduction of a new transit service seemed as far away as back in 2003.

Between 2003 and 2007 three issues emerged. The national rail carrier, the NS, responded only luke-warm to the Stedenbaan concept. Additional capacity did not become available like it was thought. Stedenbaan failed to formulate the relation with the other new transit systems in the province, like the RandstadRail and the RijnGouweLijn.

Carrier

In recent years the national rail carrier, the NS, was privatised. Many of the rail services on branch lines are tendered nowadays. New carriers emerged. Most of the previously ailing rail lines are revitalised. As a result of better services and improved bus-rail connections these lines show impressive increases in the number of passengers. The NS still holds the concession for the national main network. At this national main network it doesn't need to compete with other carriers. This situation will remain until 2015 when that concession is re-evaluated. All three Stedenbaan-services will have to use such main lines. In other words: the NS holds a key position in the development of the Stedenbaan-concept for almost another decade.

The NS responded only lukewarm to the Stedenbaan ideas. In fact, the company will treat the line as any other main line in the country. The current local trains will be replaced by new rolling stock, so-called Sprinters. Early 2006 the NS published its most far reaching overhaul of the national train schedule since the 1960's. It became clear that the

service level of the new Sprinter trains will be not much different from that is currently offered by the so-called stoptreinen (trains that halt every stop and station). We should question if the NS is the right carrier for a Stedenbaan-transit.

Capacity

In 2007 the BetuweRoute and HSL-Zuid infrastructure were completed or almost completed. The Betuweroute was officially opened early 2007. Commercial exploitation started in December the same year but it seems that a shift of freight trains towards the Betuweroute is a relatively slow process. At the same time the overall transport of rail cargo is growing steadily with about 6-7% a year. For the time being there seem to be no decline in the number of cargo trains on the overall network. While the Betuweroute offers the necessary capacity for further growth, there is a real possibility it might not be relieving congestion on other lines after all. Complications with safety systems and the delivery of rolling stock pushed the start of the HST services on the HSL-Zuid back to 2009. The NS plans to use the slots that will become available on the network to increase the number of Intercity services, not the number of Sprinter services.

Looking back with the wisdom of today it was not right to expect that the year 2007 was going to be of strategic importance. This conclusion makes it necessary to carefully assess the Stedenbaan concept to see how it could match the available rail infrastructure in the province Zuid-Holland as it will develop during the next decades.

Four track versus two track

Stedenbaan combines services on three existing rail lines: the rail line Gouda-The Hague, the rail line Gouda-Rotterdam and the so-called Oude Lijn, the rail line Leiden-The Hague-Rotterdam-Dordrecht. There is a fundamental difference between the first two lines and the last one. During the last two decades the Oude Lijn is expanded to four tracks, almost over its entire length. The other two lines are regular double track lines. Between Leiden and Dordrecht it is relatively easy to separate local train services and intercity/cargo services. The prospect of a new transit concept on the Oude Lijn is feasible. On the other two lines it is problematic. The Stedenbaan concept needs to acknowledge this fundamental difference. The two lines that link Gouda also run parallel to two major highways: the A12 and the A20. Because of air pollution and

noise it will be more difficult here to strengthen station by transit-oriented development. As a consequence we should let go on the idea of Stedenbaan on two the lines that connect Gouda. For the time being we have to focus on the Oude Lijn instead.

Oude Lijn Underground

The Oude Lijn was built in the 19th century between and along the small and compact Dutch towns. The line was adjusted to the rural areas that still dominated this part of Holland. Only in the city of Rotterdam the new rail line run straight through the city by means of an elevated viaduct construction. A century later this high line reached the end of its life cycle and had to be replaced by a four track line to meet a growing demand for extra capacity. After much debate a tunnel proved to be the better solution. Not only it would improve the quality of life in the Rotterdam city centre. It would also avoid further conflicts between shipping on the river Nieuwe Maas and rail traffic. The construction of the Willemspoortunnel initiated the start of the transformation of the Oude Lijn. That new tunnel became a showcase for what the use of underground space could mean for urban development. The underground station Rotterdam Blaak proved that, if designed properly, such facilities can be pleasant places to be.

During the early nineties the track between Leiden and Rijswijk was expanded. Rijswijk used this once-in-a-life-time opportunity to get rid of the barrier that the Oude Lijn caused in its city centre. The Rijswijk station was suppressed. Late nineties the Oude Lijn in Barendrecht was not only expanded to four tracks but also combined with the BetuweRoute and the HSL-Zuid. The municipality successfully argued that an above ground tunnel (with a park on top) would be the best way to integrate this massive eight track rail infrastructure.

Currently there is just one stretch that remains to be expanded: Delft-Schiedam. Since the late eighties the city of Delft is advocating for a tunnel solution. Only in 2004 did the Minister of Transport finally decide to build a 2,3 kilometre four track rail tunnel here. It will replace the two track high line that currently cuts the city in two. The Delft station area will be redeveloped according a master plan developed by the Catalan professor Joan Busquest.

Each of these projects are well documented over the years. But each of

the authors failed to place these separate projects in the context of the transformation of the Oude Lijn as a whole. Although the expansion of the Oude Lijn will be completed in 2020, there is no reason to believe the gradual transformation of the Oude Lijn will come to a conclusion. Stedenbaan will develop as a deliberate strategy to make the most of the stops and stations along the line. Time after time it will pose the question if an underground integration wouldn't be a better solution for the transit-oriented development of its station areas.

RandstadRail

We just reviewed the role that the use of underground space plays in the gradual transformation of the Oude Lijn. This perspective allows us to draw parallels to a new transit, recently introduced in the same region: RandstadRail. RandstadRail will integrate two regional rail lines (the Hofpleinlijn and the Zoetermeerlijn), parts of The Hague's tram system and the one of the two Rotterdam metro lines.

In 2005 a light rail transit tunnel was completed in the city centre of The Hague: the so-called Souterrain. Its construction had to overcome many technical hurdles but the architecture is breathtaking. The Souterrain paved the way for the introduction of the RandstadRail. For decades the Zoetermeer new Town was linked by the Zoetermeerlijn: a Sprinter service that brought people to The Hague Central station but not any further. By linking the Zoetermeerlijn to the The Hague tram network and by replacing the Sprinter trains by low floor light rail vehicles a much improved service is created. Projections forecast an increase of passenger numbers up from 17.000 towards 42.000 a day.

The RandstadRail-concept includes also a link between the Hofpleinlijn and the Rotterdam metro. Also here a tunnel paves the way. In 2008/2009 the Statentunnel will link the RandstadRail with the Rotterdam Central station. The municipality of Pijnacker (in between The Hague and Rotterdam), used the opportunity the RandstadRail project as well to suppress its station below street level. In this way it reconnected the urban areas west and east of the rail line.

The transformation of the Zoetermeerlijn and the Hofpleinlijn did require the use of underground space. This is not a coincidence. these rail lines were built in the countryside. Now a century later their reintegration in the urban fabric require different technical solutions.

RandstadRail = Stedenbaan One could argue that transit-oriented development is not much different from everyday Dutch urban planning. In Holland new housing districts are often located near stations and stops of rail lines. In a similar way we might question what the difference is between the Stedenbaan concept and the RandstadRail. The Zoetermeerlijn and the Hofpleinlijn were the two branch lines where the NS developed its Sprinter service during the seventies. Now RandstadRail replaces these Sprinter services. Why not using the RandstadRail as a model for a transit service on the Oude Lijn? Why are we reintroducing the Sprinter in Zuid-Holland.

Lets take a for a moment a careful look into the passenger forecast for the Rotterdam RandstadRail.

In 2006 about 7.000 passengers used the Sprinter service that ran on the Hofpleinlijn. This number is expected to grow to 28.000 passengers when the high-floor version of the Rotterdam RandstadRail takes over. 10.000 new passengers will result from new stations. These new stations will serve the new (VINEX) housing estates along the line. 7.000 new passengers will use the new Bus Rapid Transit that connects the new town Zoetermeer. 6.000 new passengers will be attracted by the fact that the RandstadRail will bring them directly to Rotterdam Central station and the Rotterdam city centre without the need to transfer. 3.000 new passengers will result from 'spontaneous growth'. 1.000 passengers currently use the Oude Lijn and switch to the Hofpleinlijn. The RandstadRail is tightly integrated with the urban developments in its surrounding.

There is just one major difference between the Stedenbaan-concept and the RandstadRail/VINEX development. Stedenbaan depends on the Sprinter services offered by the NS. That transit will bring its passengers just to the Central Stations but not into the city centre. Nowadays most of the leisure activities, retail and employment are located in these centres. RandstadRail doesn't make this mistake. It brings its people where they need to be. RandstadRail can do that because of its underground infrastructure. The passengers projections show that this is a promising concept. RandstadRail contains just one flaw. The Hague opted for a low floor RandstadRail-vehicle. The platforms of the Souterrain tunnel is adjusted to this height. For this reason the Rotterdam RandstadRail with

its high floor can't utilise the same tunnel.

There is much to gain by integrating the Stedenbaan and RandstadRail concepts. It will make transit easier. Combined it will double the number of station areas. Therefore it will offer much more possibilities for a sustainable urban development. There is no reason to limit transit-oriented development just to the stops and stations of Stedenbaan.

Linking the Oude Lijn to the Rotterdam RandstadRail/metro network is relatively easy. Missing links can be developed at Schiedam Centrum, Vlaardingen Oost and Rotterdam Lombardijen.

In Rotterdam the two existing metro tunnels can integrate Stedenbaan tightly into the city. In The Hague the integration of Stedenbaan and RandstadRail would require a second city-tunnel. This tunnel doesn't need to be long but it needs to bring what is missing for decades: a swift link between The Hague HS station and The Hague Central station and a swift link between The Hague HS station and the city centre. Three underground stations could deliver this: The Hague HS, Spui and The Hague Central. Looking at the disparity between the investments in underground rail infrastructure between Rotterdam and The Hague it is not a strange conclusion that The Hague needs more underground rail infrastructure. The Hague is clearly lagging behind at this point.

The ambitions laid down in the Stedenbaan project are sound and worthwhile to pursue but the 2007 deadline came clearly too soon. A new deadline is emerging. The NS-concession on the Oude Lijn when it is up for review in 2015. The province Zuid-Holland should work jointly with the city regions The Hague and Rotterdam to bring changes in this concession. The regional authorities need to open up the rail monopoly to become free to choose the best rail carrier they can get.

In the time between now and that next milestone an integration between the RandstadRail network and the Oude Lijn should be prepared, both in The Hague and Rotterdam. The missing links in the Rotterdam region are relatively small in size. The missing link in The Hague is more substantial but reasonable when compared to the Rotterdam underground infrastructure. Linking the Oude Lijn and the RandstadRail network should go hand in hand with the completion of the rail tunnel in Delft.

With two more city tunnels to go (Delft and The Hague) and with the opening up of the rail market a network could emerge that is well equipped to give direction to the urban development in the province Zuid-Holland for years to come.