

Subject: A SkyTrain Pacificat? Or an affordable, region-wide transit grid?

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A note from the Light Rail Committee:

This abridged article from the LRTA, about Strasbourg, shows what we could have in Vancouver, if politicians and planners would only look beyond SkyTrain to all available modern LRT. Instead, the GVRD and regional politicians support dated and extremely expensive mini-metro (a.k.a. SkyTrain) construction. The article refutes the nonsense spouted by RAV Co., Mayor Campbell and Mayor McCallum that much cheaper LRT causes traffic gridlock at intersections and that LRT can not handle large ridership! LRT, properly designed, has proven to be the backbone of the transit system, attracting ridership that buses could not!

Further, to address the unions, the building of 1.5 times more transit infrastructure for the same cost as RAV, would create even more, longer-lasting jobs than will SkyTrain.

Malcolm Johnston
Light Rail Committee
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(My comments in red italics)



Strasbourg: Interurban tram strategy strengthens city system

Article from the March 2003 edition of *Tramways & Urban Transit*

The Eurotram has gained favour all over Europe, and expansion is on everyone's political agenda in this French city, says C. J. Wansbeek reports.

Air passengers arriving at Strasbourg pass through a stylish airport terminal building, as befits the city where the European Parliament has its seat. Minutes after landing, travellers reach the airport bus, with departures every 20 minutes. Another 15 minutes later, after travelling along motorway A35, the trip ends with a turn into a nondescript residential area. Everyone alights. It may pour with rain, but passengers, some of them struggling with impressive suitcases, all accept the situation. Not exactly a convenient interchange. Twenty metres away from the bus stop, there is a tram station, called Baggersee (German for Lake of Mud), with a shelter. Baggersee is not a tram terminus, it is an intermediate stop, so one cannot count on an inviting, waiting tram. Instead, trams stop here only a few seconds, and off they go.

The Baggersee bus-to-tram transfer is the only weak point this author encountered during a recent tour of the tramways of Strasbourg. Five years ago, it was decided to curtail the airport bus, which no longer serves the city centre. Instead, the last few km are to be done by connecting tram. The EUR 4.70 ticket, sold by the bus driver, allows the holder to continue the trip by tram, or bus, within one hour. But why is this interchange so primitive? The explanation probably is that there are serious plans to extend the tram, perhaps in the form of a so-called "tram-train", to the airport. So the days of the Baggersee interchange are numbered.



The city centre precincts function safely with trams, pedestrians and cyclists. (M. R. Taplin)

As soon as the passenger finds himself aboard the tram, the mood changes. Riding the easily-accessible seven or nine-section low-floor trams of Strasbourg is a truly cosmopolitan thrill. The long and wide vehicles offer a fast and smooth ride, over grassed tracks. Loading and unloading of passengers goes quickly, thanks to wide sliding doors. The tram ride through the narrow streets of the historic inner city, dominated by the Cathedral, goes unhindered. Motor cars have only limited access to the city, **trams have priority at all traffic signals, so they move fast.** Here **no**

underground heavy metro (*SkyTrain (RAV) qualifies as an underground metro*) would be able to surpass the tram in terms of point-to-point journey times.

The interior of the Strasbourg tram is big-city magic. Indirect lighting effectively provokes a sensation of spaciousness. There are upholstered seats in beautiful pastel colours, advertisements for fashion, cosmetics, and the Galeries Lafayette, just as in Paris. Glued to the ceilings of the tram are tram system maps in Métro-style. Riding this tram means entering the Beau Monde. Even with heavy rain, the noiseless air conditioning and the heating system both function well, and the large windows of the tram remain transparent. There is no stench of wet raincoats so familiar from rather primitive, overcrowded buses.

When Strasbourg, like so many other French cities, decided to bring the tram back in a contemporary form, it hired designers who grasped the importance of subjective, but essential values. Almost by intuition, it was understood at Strasbourg that a tram is something superior, a class by itself, and that all efforts should be undertaken to make the tram's potential come true. The French, with their feeling for system planning and functional elegance, have, since the 1990s, become champions in tram innovation, with Strasbourg as its Mecca. It was the explicit wish of the City Fathers to use the tram as an instrument for embellishment of the city and, even, thoroughly improving the quality of life. People in Northern Europe feel uneasy with such heavy words, but the French mean it when they say that they wish "une meilleure qualité de vie". They act accordingly, and often with surprising results.



A 'short' Eurotram approaches Ancienne Synagogue Les Halles from the city centre stop at Homme de Fer. (M. R. Taplin)



The unique profile of the Eurotram is demonstrated in this view of 1053 waiting to leave the depot. The bogie is right under the driving cab, leaving room for the adjacent sliding door. (C. J. Wansbeek)

The first modern tramway at Strasbourg opened in 1994. Ever since then, further expansion has taken place. So Strasbourg now boasts one of Europe's finest tramway networks. **Today, there are four tram lines, (By contrast, Vancouver has built two expensive mini-metro lines in 24 years!) made up of two groups, each consisting of one pair of two mainly overlapping lines.**

The north-south group consists of lines A and D. The east-west group is formed by lines B and C. All four lines serve Homme de Fer (Iron Man), which is a square in central Strasbourg. **Lines A and D soon carried more than 100 000 passengers daily.** In the days before Christmas 2001, this number swelled to 140 000, which was near saturation level. The other group, consisting of B and C, also carries more than 100 000 daily. **So total patronage of the Strasbourg tramway is now well beyond the 200 000 mark. (This ridership equals that of Calgary's and is much greater than our present SkyTrain mini-metro system)** During rush hours, the tram offers system-wide 4-minute headway's, and there is seldom a disturbance of the system. **The tram has brought a 75% increase in CTS ridership in the first six years of its existence.** A reliable tram. In French, "un tramway très performant".



This map shows the existing tramway system as solid lines with dotted lines for the extensions of routes B, C and D, and the creation of route E, by 2006, (CTS)

Like all new tramways of France, the Strasbourg system is classic in layout. It is standard-gauge, double-track, **and there no underpasses or fly-overs, (where is the traffic chaos, at intersections, predicted by Vancouver's City Engineer or RAV Co. or TransLink?)** with the exception of the short tunnel which, due to lack of space, had to be built underneath the main railway station. It is a real city street tram, on median strips in streets, and unlike several UK tramlines, it is not laid on former railway alignments.



Interior view of Strasbourg Eurotram showing the continuous low floor. (M. R. Taplin)

Bridges, tracks, infrastructure, and so forth, the entire project was broken up into sub-tasks, and each sub-task was then awarded to a specialised consultancy firm, under the overall supervision of GETAS (Groupement d'Etudes du Tramway de l'Agglomération de Strasbourg). This GETAS company is allied with the well-known SEMALY consultancy firm of Lyon, which designed several new French tramway systems, including those of Nantes, Grenoble, Montpellier and Lyon. All SEMALY-designed tramways in France have proved highly successful.

By organizing the work in this way, Madame Trautmann built a quality tramline in time, without cost overruns. She was elected twice as mayor, the reward for "her" tramway. Now aged 51, Madame Trautmann left office as mayor in March 2001, when her party lost the elections at Strasbourg as France lurched to the right. But her way of tackling problems did much good for the city. The proven efficiency of tramway-building means that the banks will continue to lend money at discount rates, now that they know that the Strasbourg tram project PLC represents an extremely reliable client. It proved useful a part of the Strasbourg tram project was financed by the Caisse de Dépôt et Consignation, which holds a controlling stake in Transdev. In 1991, Transdev became a minority shareholder in CTS, the transport undertaking of Strasbourg.

Under the supervision of Mme Trautmann, about 50% of the FRF 2000 million (**305 million Euros or CAD \$489.6 million**) spent on the first phase of the tram project went to the tram system properly, the other 50% to indirect measures, such as embellishment of streets through which the tram would run. This including the planting of 1700 trees, as well as a total rebuilding of the Kléber Square in the city centre. Moreover, three bridges were rebuilt. This is a typical French touch of quality: one single source of money for trams and for an upgrading of the urban environment. This is unique in Europe. (**Actual LRT construction was CAD \$245 million!**)

Part of Mme Trautmann's job was to gain political support for a logical, coherent routing. This went step by step. The first tramline was in fact only half a line, to run from Baggersee in the south to Kléber Square in the centre. Soon, Mme Trautmann gained support for extending the line to the main railway station, and from there to the north-west. This is how line A became a coherent and strong route, with a length of nearly 10 km. The tramline runs through a succession of self-governing communities, each with deep local roots, and each with long shopping lists.

All these aspirations, often conflicting, had to be brought under one common denominator. Once line A had been defined, it proved much easier to structure the second line, or, rather, group of lines (B and C), as explained above. The result today is a cross-layout mature tramway system, with which all communities are happy. At Strasbourg, there is no opposition to the tram whatsoever, says Monsieur Georges Muller, Light Rail Projects Manager of the CTS Projects Directorate.

The most challenging hurdle proved the selection of rolling stock. Existing tram types, such as the Alstom-built partially low-floor tram of Grenoble, were dispatched to Strasbourg and exhibited in public. But Strasbourg wanted more, a 100% low-floor tram, with far more electric power than any existing tram type, given the 8% gradients of the ramps of the tram tunnel underneath the Strasbourg main railway station. The solution to install additional motors in existing tram types was discarded, as this could only be done at the expense of the doors, and Strasbourg underlined the importance of wide doors, as many as possible. In the end, Strasbourg decided to develop the tram on its own initiative. This ran counter to the spirit of the time, as the new emerging trend was to buy trams from the shelf, and let the industry take all risks of development of rolling stock.

The clever formula elaborated, in collaboration with SEMALY, enabled Strasbourg to precisely indicate what it needed, without taking any financial risk. This included a much wider panorama from the driver's cab than any existing tram type offered. It also meant a much more spacious cab, not stuffed and overloaded with equipment. It also meant that Strasbourg, which saw the increasing importance of **catering to the handicapped and the elderly, insisted on a 100% low-floor tram, while rejecting the high platform solution preferred by new US tram systems, such as Buffalo and San Jose. (And Vancouver!)**

Moreover, this implied that Strasbourg would insist on getting a tram equipped with air conditioning, a feature that the industry found absolutely superfluous. But Strasbourg was convinced that aircon would soon become a standard feature of private motor cars as well as public transport vehicles, and it insisted on this. It meant good looks, elegance, and very wide doors, wider than was recommended by the industry of that time. It also meant that an industrial designer, Monsieur Philippe Neerman, a Belgian (now retired), was given a free hand to stylise the tram into the world's most striking vehicle on rails, with all ergonomics as specified by Strasbourg.

The public tendering procedure for the trams, in which seven companies participated, resulted in an order for ABB together with Milano-based SOCIMI. The latter factory, although small in size, was famous for being a gathering place for Italian engineering top talent, and Strasbourg assumed that SOCIMI engineers would be the best and most flexible to turn the shopping list into reality. This proved true, but, unfortunately, SOCIMI went bankrupt soon after it got its share of the Strasbourg order. The contract however was solid, and ABB had to compensate what its partner SOCIMI failed to deliver, and it did so in a very loyal way. It meant that for the production of the Eurotram just selected by Strasbourg, ABB used its plants at York and Derby, the latter being a former BR repair shop, and so it did, with success.

Soon, three important new developments will take place, with the backing of the right-wing authority, which, since the 2001 municipal elections, dominates local politics at Strasbourg. After a few months of initial hesitation, the new masters have now become staunch supporters of the tram. They fully support a policy to expand the tramway much further.

The first step forward will be the ordering of low-floor trams, with a length of 45 m. It is hoped that the order can be placed in by mid-2003, which is later than had been reported before. The new trams are awaited eagerly; the first unit should enter service not later than mid-2005. The order will be split between a firm order for 35 trams and an option for twelve more, or less. This means that a maximum of 47 units will be ordered.



The Strasbourg tram fits effortlessly with the background of this historic city. (M. R. Taplin)

Monsieur Georges Muller confirms that **Bombardier** is still able to produce Eurotrams, even if Strasbourg would seek certain modifications. However, as he explains, Strasbourg today prefers double doors, and no longer the very wide single doors of the existing fleet of Eurotrams, which have proved vulnerable to hoodlums, who can block the doors all-too-easily. The Strasbourg

Eurotram production could be re-activated after the delivery of the 70 Eurotrams ordered by Porto.

The second step will be the creation of a fifth tramline, route E, which will become operational as soon as enough of the new trams are delivered, which may be in 2006. Designed as an orbital route, line E will share tracks with line B in north-east Strasbourg. It will start near the Wacken railway station, then share tracks with line B to reach the Place de République in the city centre, from where it will continue its course over tracks of line C in the in the direction of Esplanade. Line E, after running though eastern Strasbourg, will reach a neighbourhood called Neudorf. From Neudorf, a track link will be created to reach the nearby line A. From Neudorf, extended line C will go further south on new tracks to reach the neighbourhood of Neuhof.

It has not yet been decided which tram line will run over to the future link, described above, between lines E and A near Neudorf. Line E will thus become Strasbourg's first tramline not to serve the city centre, it will be known as "la Ligne Transversale", designed to form the major link between two university complexes, one in the south, one in the east of the city. Plans are to extend line E further to the north-east, to reach Robertsau, passing by the European Parliament. Another major extension of the city tram will be the five-km extension of line B, in south-west Strasbourg, from Elsau to Ingolsheim. This extension may be inaugurated in 2008, at the same time as the Tram-Train described below.

The third step will be the creation of a tram-train, a dual-voltage hybrid, a supertram over railway tracks. In the last months of 2002, much progress was made during negotiations with SNCF, the French state railways. A new company was founded, called SIBS, with money from SNCF, CTS and Transdev. The acronym SIBS stands for Société d'Intermodalité du Bassin Strasbourgeois. This SIBS will, after approval, be in charge of building a long tram-train line. As a consultant in the background, TTK of Karlsruhe, Germany, will be involved. TTK has already been active at Strasbourg.



The tram-train plan from Strasbourg to Barr with a branch line to Gresswiller

The TT (tram-train) line will start in the neighbourhood of Esplanade, where it will share track with tram line C, until it reaches the Rue du Vieux-Marché-aux-Vins. From there it will run through the Faubourg de Saverne and over Boulevard Wilson, before reaching Gare Centrale (SNCF main railway station), where it will use an old tunnel, which was used by the postal tram services then running at Strasbourg until 1947, to reach the SNCF tracks.


The TT line will continue in a straight line to the west, near Molsheim, it will split in two, one short branch further to the west, and the other to the south, to reach Gressweiler, a village at the foot of the Vosges mountains. The total length of this TT line will be 44 km, of which 4 km will be over existing urban tram tracks, 25 km over SNCF double track and 15 km over single track. The new TT line will serve 32 stations, including eight existing tram stations, 14 existing SNCF stations and 10 future stations to be created on the occasion of the creation of the new line. It is estimated that the TT line will serve 100 000 inhabitants of the suburbs, and that it will provide access to 40 000 jobs in the suburbs outside Strasbourg, where economic growth is high.

The TT line will run with headways of 15 minutes, and tram-train LRVs will have a length of 60 m. The LRVs will use SNCF lines over which there is busy cargo traffic, as well as frequent passenger train traffic. To further complicate matter, the LRVs must also share tracks with city trams, on routes where there is already a very intense traffic. But all studies undertaken so far conform that it can be done. **Even the long single-track rail line with its 40-odd level crossings at the foot of the Vosges can be incorporated into the future TT network without difficulty. (If one designs LRT to work, it will work. If you design LRT to fail, like TransLink, it will fail!)**

The light rail expansion fits into a cleverly-designed programme, which is aimed at preserving Strasbourg on the list of 35 European metropolitan cities with a population of one million or more. At present, the greater Strasbourg area has a population of 560 000, and the population growth is minimal. For this reason, Strasbourg is re-defining itself, as a Franco-German economic growth area (with over a million inhabitants), situated on the banks of the Rhine river.


The author thanks Monsieur Georges Muller, Light Rail Project Manager of CTS, for his kind assistance with the preparation of this article.

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