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Stations as Nodes

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**exploring the role of stations
in future metropolitan areas
from a French and Dutch
perspective**

**Delft University of Technology,
Faculty of Architecture and the Built Environment**

Delft Deltas, Infrastructures & Mobility Initiative

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Stations and station areas: envisioning spatial integration with the city

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Introduction

Today, in the 21st century, the constantly growing demand of mobility claims an important position in the current and future agenda of cities. In addition, the necessity of improving public transportation networks as alternative to congested vehicular traffic, together with the urgency of developing environmentally friendly mobility solutions, poses very complex prospects for all involved actors. This issue is becoming even more challenging when looking at the current development strategies of transportation nodes in many European cities, particularly in the case of railway nodes: densifying and increasing urbanization around railway hubs via mixed use interventions combining effective public transportation with high quality public areas. As matter of fact, the above mentioned framework applies to several cities in The Netherlands. With the 2008 crisis left behind, the main Dutch cities are currently flourishing and attracting more and more people and activities within or very close to their centres. The positive economic climate favours investments, the number of jobs is constantly increasing and, subsequently, the demand of housing in the main cities is running sky high. With regard to railway nodes, higher frequencies of transportation, the accommodation of different flows of traffic, the increased variety of functions as well as number of users, and the necessity of attractive public spaces, is requiring stations and station areas to be repositioned and to transform

towards much strongly integrated and interactive public (transportation) poles in their urban context.

The aim of this essay is to focus on the integration of railroads and stations in the urban context, drawing particular attention to the architectural approach and touching upon the way new forms of interaction with the existing cities can be envisioned. Starting with some historical premises about the matter, one excellent example from the past will be illustrated, the Vienna's Stadtbahn by Otto Wagner. This project is still very contemporary with regard to the approach towards integration of railroads and cities. The final reflection will be addressing the stations of Amsterdam Central and Amsterdam Sloterdijk. Some of the themes, very clearly tackled by Wagner's project, are actually very fruitful contribution particularly when thinking about several spatial but also functional challenges that current stations and station areas bring about.

Railroads in the urban context of the modern city

In the course of history, the integration of railway yards and stations into urban areas has been always a rather problematic matter. Although often kept out of the historical cities, the first railway lines and stations became part of the urban landscape rather quickly, but only by being functionally and economically related to the city. When cities expanded and train tracks were suddenly laying into the city, this relationship changed drastically. The main problem is that, for various reasons throughout history, it has always been quite complicated to combine other types of urban circulation and functions to the railway yards. Railways are by nature too

often physically disconnected from their (urban) environment, forming an autonomous transport system that follows the logics of efficiency in performance and technique, even when they are located in central urban areas. According to this practice, many railways have been built in the past without considering their integration into the surrounding (urban) environment. On top of this, stations as well as railway yards, due to the expansion of cities and the rapid developments around railway terminals, ended up being completely enclosed by urban fabric; phenomena like ribbon developments and fringe belts' became more and more common. Typical 'fringe belt' buildings had no fixed characteristics and, depending on their functions, had fronts or, more often, backs facing the train tracks. While the city was further developing, reaching the railway tracks, the characteristics of the fringe belt zone did not change. Even when the railway is located in the city centre, this tendency does not show any major mutations over the course of time. Long blind walls mark the boundaries between city and railways and the backside of most buildings face the tracks. Nevertheless, already from around the second half of the 19th century, the necessity of changing the identity of stations from mere shelters for trains to modern gateways to the city came about in a rather substantial way. Meanwhile, with the construction of metropolitan railway lines, railroads started to play a role themselves as a means of urban transportation. It became than evident that, in order to accommodate trains in the existing cityscape, the construction of metropolitan railway lines required a different architectural approach; in order to build stations, viaducts, tunnels and bridges in existing cities, the expertise of architects was needed.

The Vienna's Stadtbahn

The debate about expanding modern cities finds in **Otto Wagner** one of its most remarkable advocates. This theme was already a subject in **Wagner's** writings. About the modern city he stresses in his book *Moderne Architektur*: "their unprecedented size has given rise to a number of new problems that await an architectural solution."² **Wagner** underlines the need of technologically advanced transportation systems as the backbone of the ideal city. The new problems awaiting an architectural solution become visible when the new railway system needed to be integrated in the existing cityscape. The railway with its iron bridges and viaducts, symbols of the modern technology but traditionally belonging to the world of engineers, is considered a threat for the existing city and its monuments. In this respect the mission of the architect is to harmonize the realistic and practical approach of the engineer with the more idealistic attitude of the artist.

The participation in the competition for the Stadtbahn in Vienna in 1890, is for **Otto Wagner** a unique opportunity to deal with this issue in practice. In the various projects for the railway system presented since 1871, the main concerns of both municipality and public opinion were on how viaducts and railway tracks above ground could be appropriately combined with the existing city. **Wagner** won the competition by proposing six lines in total, four of which would be realized. The commission choose **Wagner** probably because in his plans the elevated part of the metropolitan railway is reduced to the minimum. But what makes **Wagner's** proposal extraordinary is the powerful range of drawings wherein he envisions the integration between infrastructure and city. The production between 1894 and 1900 of almost



2000 drawings for the Stadtbahn confirms Wagner's determination to control every single detail of the project.

In the final realization we can identify various stylistic tendencies, particularly in the stations of the various lines. In the extension of the Wientallinie line, the Donaukanallinie, we can observe more formal research by the architect. This line develops itself along the embankments of the Donau canal and thereby represents a transition between nature and city. This part of the Stadtbahn is completely integrated in Wagner's proposal for a general plan of the city of Vienna, including the Stadtpark and the re-make of the canal embankments. His drawings for the rearrangement of the Donaukanal are the first studies to assemble two new urban routes lying on different levels.

In the most peripheral line, the Vorortelinie, Wagner designs several types of stations stylistically different. A remarkable example is the Unter-Döbling station. Wagner's various studies about the relationship between city and infrastructure become completely explicit, in my opinion, in the Gürtellinie. This part of the Stadtbahn, characterised by the alternation of bridges, viaducts and walkovers, crosses almost all city radials connecting the heart of Vienna with the outskirts. In the main traffic points, Wagner treats the side elevation of the railway viaducts like the

facade of a building. In addition, Wagner studies carefully the overlaying points between railway and city, controlling as much as possible the impact of the infrastructure on the existing urban context. In several illustrations Wagner shows how the new railway line could be superimposed on the existing urban tissue; this is clearly visible in the drawings by means of broken lines projected on the urban plan.

The famous perspective drawings for the Hochbahn-Viaduct and the pavilion on the Elisabethplatz are clear examples of Wagner's interest in the architectural problems of the modern city. Wagner's studies on the integration of architectonic prototypes in the urban scenery, without any reference to precedents, are quite unique for that time. The viaducts fulfil a double role. On the one hand they statically support the tracks on the higher level but, on the other hand, they function as buildings with facades on the street or facing the square. Following this interpretation, we could consider these elements as hybrid buildings produced by the development of the modern city. On the same level of the street or square we find not only the access to the station or the accommodation for the railway machinery, but also other commercial activities, often housed on two levels under the viaducts. Therefore, these 'new buildings' are not only prototypical by means of their integrated architectural

features, but are also effectively part of the city through the interaction fed through the activities and the functions they house.

Yet, Wagner's choice for the perspective's viewpoints brings about the experimental character that he entrusts to his drawings. He controls the perception of the entire urban space as well as the proportion of viaducts from man-height viewpoints. It is for this reason that, as Günter Kolb notes in his publication on the project,³ the viewpoint in Wagner's perspectives is very decentralized in relation to the drawing frame. By making the drawings in this way he can appropriately show the right proportions of the different elements composing the street. Pylons and walls, the main structural elements of the viaduct, are placed parallel to the direction of the street, underlining the urban continuity at ground level also in the presence of an underpass.

These hybrid buildings are treated almost as monuments envisioned as architectural symbols of the modern city. As already mentioned before, the means of transportation becomes a building with facades but also through the enclosure of functions; it is not a barrier anymore but it integrates itself in the cityscape. This is one of the most innovative aspects of Wagner's work; he is fascinated by the possibility created for the traveller of understanding the city through another perception and speed, thanks to the new means of transportation. In some of his writings he describes the coexistence between railway and city in a romantic way, fitting to his period, but at the same time with the firm conviction of a Modernist.

Beyond mobility; towards attractive public space in Amsterdam' stations and station areas

Urban transformations and increase in number of users, both visitors and locals, required many adaptations of Amsterdam Central Station throughout history. While the flux of users continues to grow, the amount of public space stays the same. This is the cause of increasing pressure on pedestrians, cyclists and drivers, bringing along the negative effects of overcrowding. In order to cope with this problem, a major redesign addressed recently the space historically 'behind' Amsterdam Central Station, where the many ferries take cyclists and pedestrians commuters across the IJ river to Amsterdam-Noord. This public space has been recently delivered following the idea of shared space⁴, avoiding the use of traffic lights. This concept is also bringing a new dimension of interconnection between station and its surrounding area. The traveller space intertwines with the public space, making these two spatial entities, usually rather separated, merging into one another, echoing the fundamental spatial ideas brought forward in Wagner's project. Subsequently, and in line with the contemporary tendencies, the station area is becoming more and more a multifunctional gathering place for the public, whether travelling or not. This is underlined also by the integration of leisure activities and new public spaces in the renewed spatial configuration of the station, reinforcing the role of Amsterdam Central as prime urban destination. An example is the Lil'

Amsterdam⁵ venue, a multifunctional event space positioned in the historical part of the station complex, an attraction for visitors of different ages. Yet, the Cuypers passage for bicycles and pedestrians, with the very attractive Delft Blue ceramic pattern on the walls portraying some important moments of Dutch history, and highlighting the link between mobility hub and the monumental station.

Although via different kinds of processes and initiatives, similar ideas are taking shape also in other stations. In this respect, the case of Amsterdam Sloterdijk is definitely interesting. Most probably triggered by the recent financial and economic crisis, the area around the station has been the theatre of a number of bottom up interventions that delivered a renewed dynamism, particularly in terms of conveying other (public) activities next to the main purpose of travelling. Café Bret, but also the reshaping of the front station area, the so called Orly Plein, made the immediate surrounding of the station much more attractive for the public. Thereby, other projects, like the crowd funded vineyard Tuin van Bret, but also the realisation of couple of extra bars in small pavilions located in the vicinity of the station, contributed to an increased liveliness in a neighbourhood that only couple of years ago was one of the most unattractive areas of the city. Last but not least, thanks to the new policy of NS Stations⁶, and although without undergoing major spatial upgrading, it is worth mentioning the inside space of the station itself, where some interesting cultural activities took place, like the live theatre spectacle Mollen in May-June 2018.⁷

Also in the case of Sloterdijk it is clear that station and station area are attempting to get ready for future transitions, where traveller space and public space should smoothly merge into a high quality urban configuration.

Notes

¹ For a detailed explanation about fringe belts, see B. von der Dollen, "A historical-geographical perspective on urban fringe-belt phenomena," in T.R. Slater, *The built form of Western cities. Essays for M.R.G. Conzen on the occasion of his eightieth birthday*. Leicester, Leicester University Press, 1990, p. 319.

² Otto Wagner, *Moderne Architektur, Seinen Schülern ein Führer auf diesem kunstgebiete*, Vienna 1896, 1898, 1902, revisited in 1914.

³ Günter Kolb, *Otto Wagner und die Wiener Stadtbahn*, Munich (Scaneg) 1989.

⁴ See article *Is de shared space bij CS nog veilig?* In Het Parool, 19 April 2017 available on: <https://www.parool.nl/amsterdam/is-de-shared-space-bij-cs-nog-veilig~a4488569/>

⁵ For more information, see: <http://lilamsterdam.nl/>

⁶ NS Stations is the Dutch company taking care of station buildings. For more information about public related activities in stations, see: <http://www.activatieopstations.nl/>

⁷ For more information, see: <https://watwedo.nl/project/mollen/>

