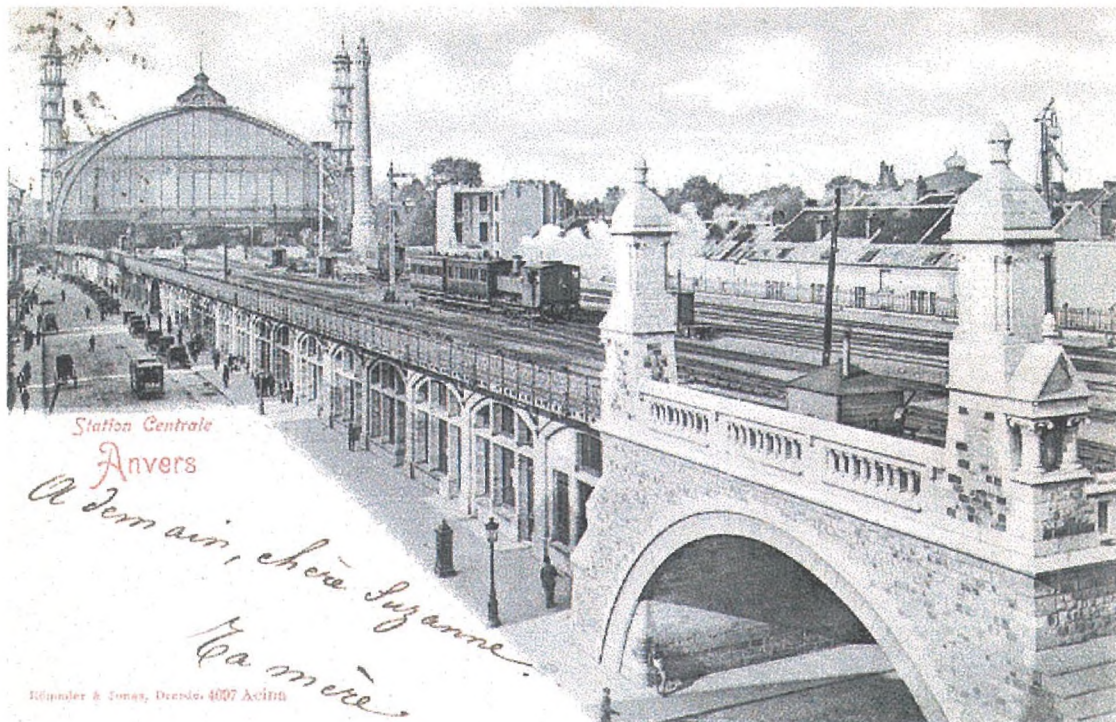


HST NORTH-SOUTH JUNCTION IN ANTWERP “THE CENTRAL STATION: SOMETHING DIFFERENT”

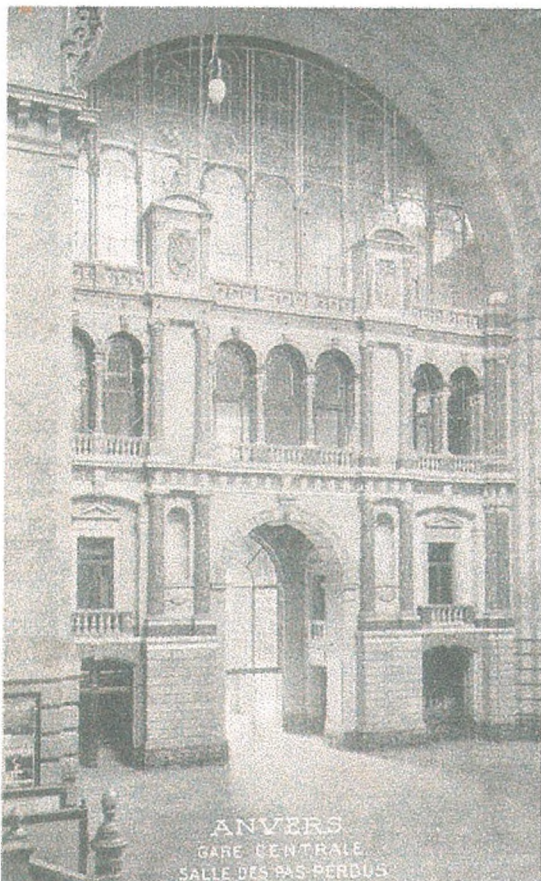
by J. Voncke
architect for Eurostation n.v.



There was already a railway station nearby the Antwerp centre in the second half of the 19th century. At that time trains were running at street level. At the end of the years 1800, King Leopold II decided to build a new monumental station with trains running on a higher level. Leopold II is still famous for the many monumental realisations throughout Belgium. The new Antwerp station became a combination of historical “grandeur” and high-tech of the 19th century.



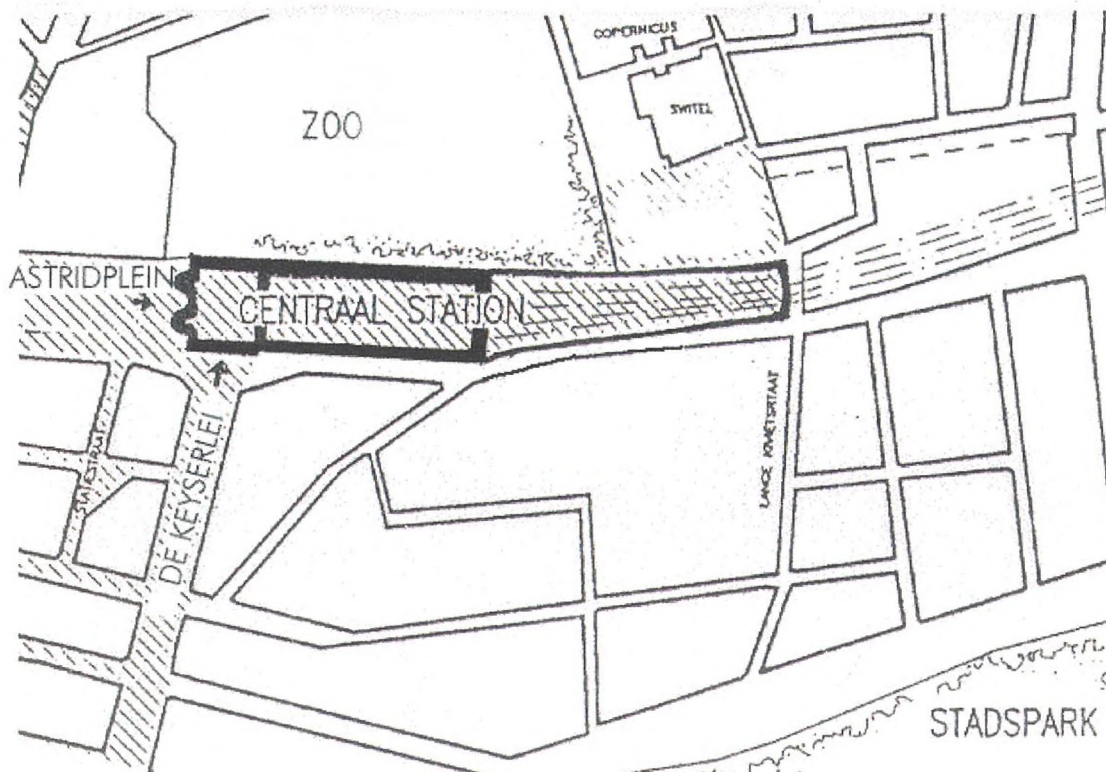
The passenger building of the terminal station was a huge stone mosque. It housed all administrative and public services such as ticket selling, waiting rooms, buffet en luggage rooms.

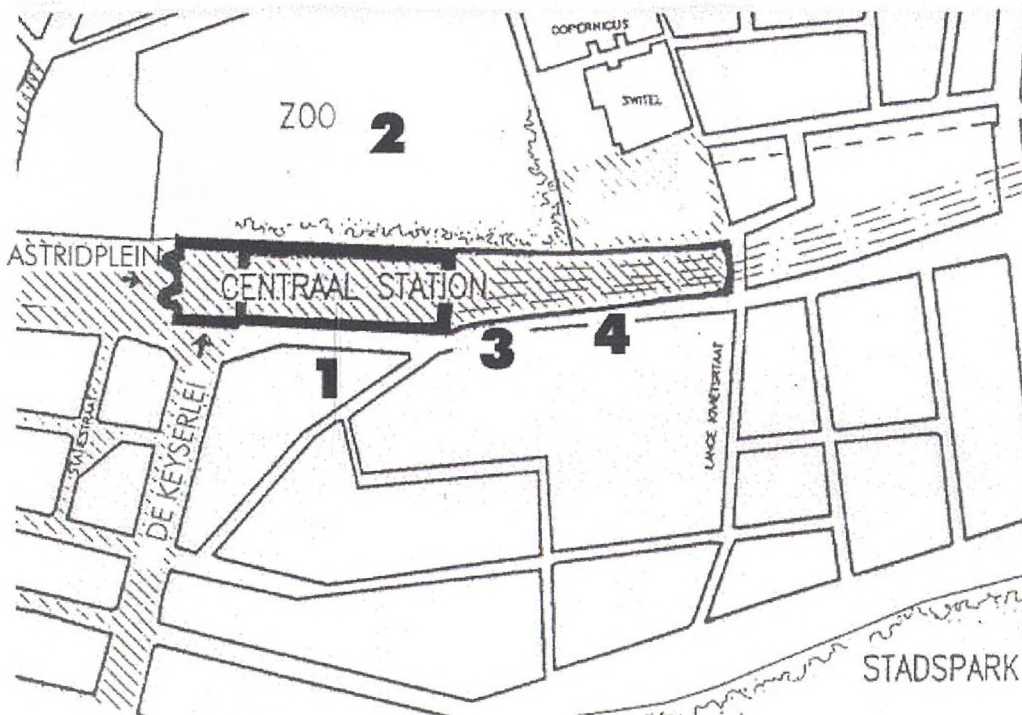


Behind the mosque stood a giant hall: a steel construction with a glass roof and glazed façades. There was room for 10 tracks.



The stone building at the front looked out on a large square: "Astridplein". A beautiful wide avenue "De Keyserlei" linked the station to the heart of the city. Ever since it has always been a pleasant experience to take the train to the centre of Antwerp.





Conversely, this monumental station building created an almost exotic atmosphere in this part of town, as a starting point to faraway destinations.

Lots of remarkable singularities around the Central station emphasise that exotic atmosphere:

- the station faces the Jewish diamond quarter (1);



- the station was built next to the Antwerp zoo, which is also a listed monument and is even older than the station itself. The zoo is a huge park with monumental buildings. The lions, tigers and elephants provide an adventurous atmosphere (2);



- dozens of little jewellery shops around the station create an atmosphere one can find in Istanbul or Marrakech (3).



- also the railway viaduct has an exotic aspect thanks to the little towers, the ornaments and the cast ironwork (4).

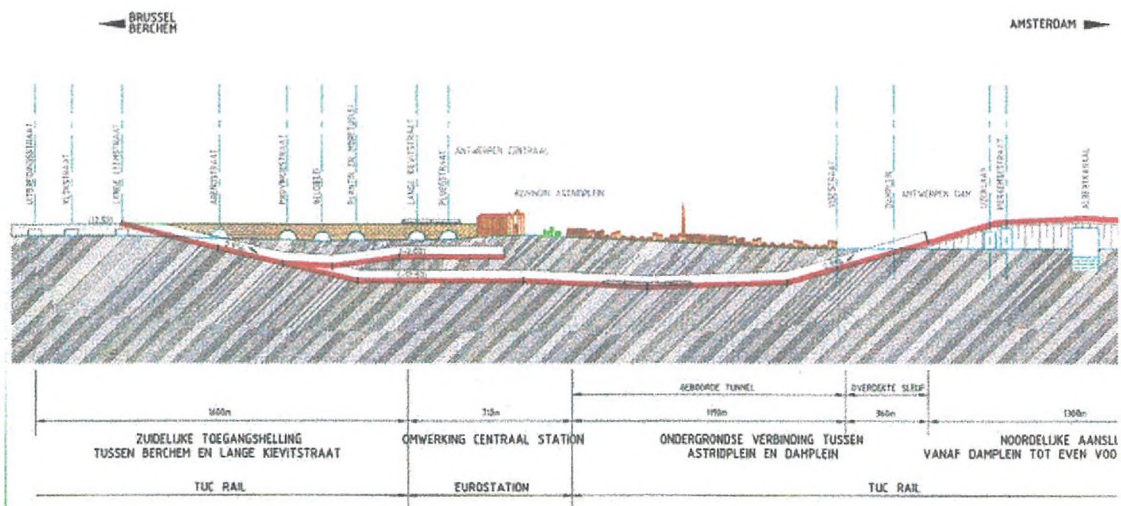
The combination of all these elements is synergetic: every element reinforces the other one. The monumental station building, the zoo, the Jewish diamond quarter, the wide avenue to the old centre turn this site into an unique entity that contributes a great deal to the success of Antwerp as a metropolis.

When, 100 years later, we had to decide either to build a HST connection around or through the city, it was not that simple.

Opponents claimed it was quite easy to pass round the old town centre by building a new line at the outer border of town above street level. However, the Antwerp outskirts are also very densely populated, so that building a new high-speed line through an urban development was not so evident.

“Fortunately” there were too many technical problems and unacceptable urbanistic solutions to build a HSL around Antwerp. Eventually, constructing a tunnel underneath the Antwerp Central station from south to north became the most acceptable solution.

The construction of a new line around Antwerp would have turned the Central station into a second-rate station. Just imagine this historical point of departure and arrival in Europe being transferred to the outskirts of the city, in a rather uninviting neighbourhood.



The construction of the new station

The aim of the whole operation is to conserve every original element of the monumental station building: the huge stone building at the front, the railway hall, the façades over the entire length of the street alongside the station. The renewed station will be built inside this borders.

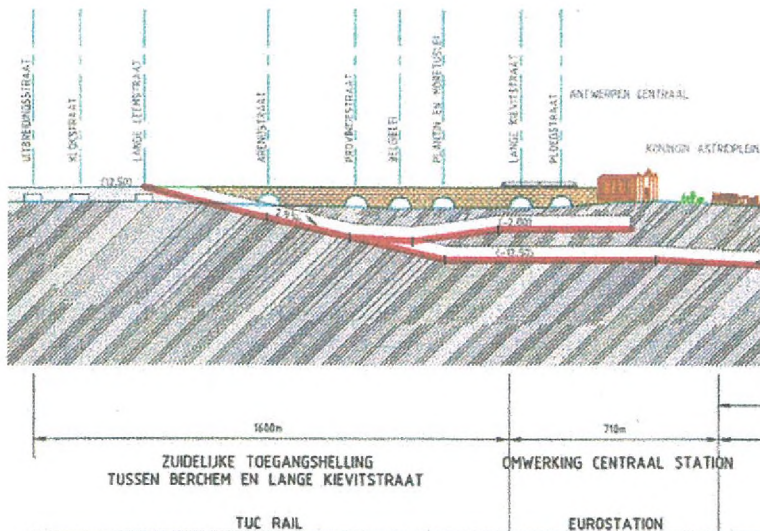
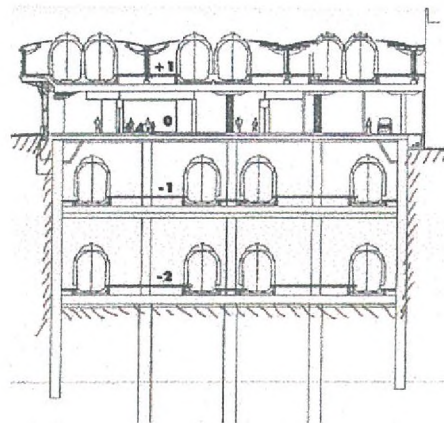
The aim is to cope with the big boom of passengers expected in the future years. Nowadays there are about 50.000 movements a day. 100.000 and more are expected in the future. An important part of these will be travellers on the high-speed trains.

How can we deal with such a growth in traveller traffic?

Today the terminal station houses 10 tracks at level +1, that is about 7 meters above the street level.

In the future there will be:

- 6 track at level +1;
- 4 tracks at level -1;
- 4 tracks at level -2.

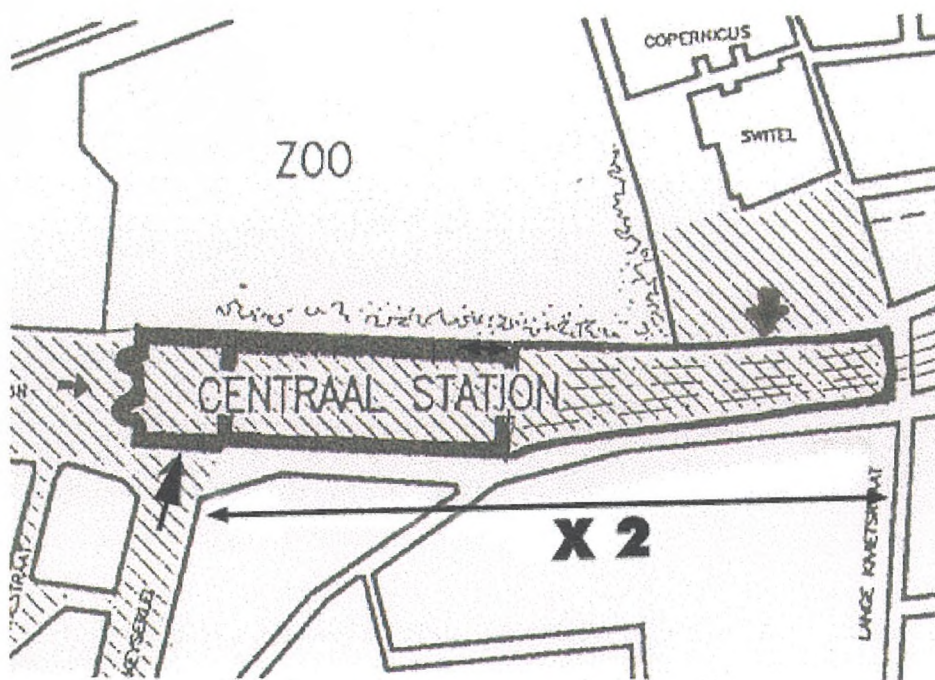


There will be 14 tracks compared to 10 tracks today. The 4 tracks at level -2 will pass under the city of Antwerp in a tunnel. Thanks to these through tracks, together with the tracks on levels +1 and -1, which have longer platforms and better conceived access grids, the global capacity of the station will be doubled.

Not only the number of tracks, but also the length of the platforms will be doubled (350 to 400 m). The new station will be much longer than the existing building.

Extending the station resulted in very long platforms. All passengers present themselves at one point at the far end of the building.

Thanks to the lengthening of the platforms it was possible to build a second entrance without disturbing the neighbourhood too much. The new part of the station will be situated in a free space in the city. An opportunity was created as far as accessibility is concerned, now it is ...



possible to make the station accessible without sending the road traffic to the heart of the city. More about this later on.

Result: the new station will have two entrances: the old historical entrance and a new one at a certain, on the other side of the tracks.

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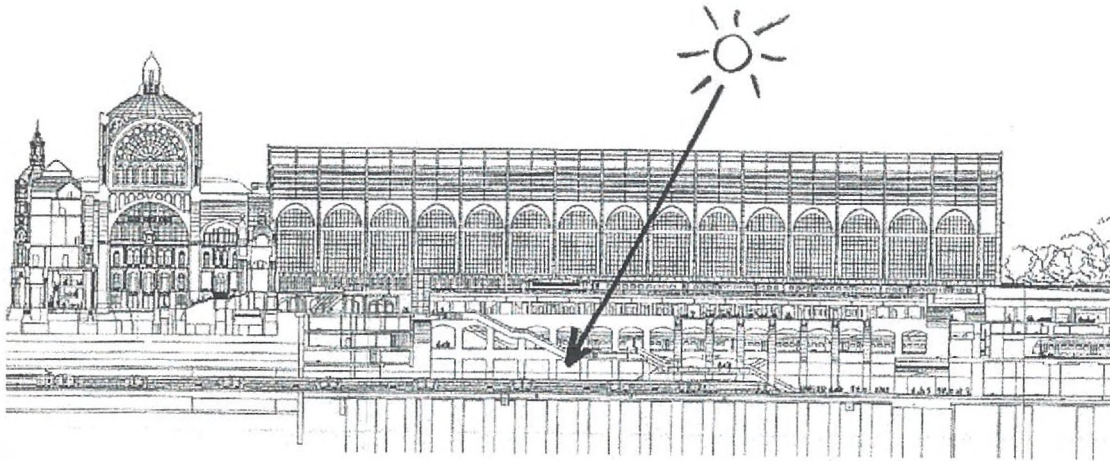
The perception of the new station

The aim was to preserve the idea of openness and light in the renewed station.



However, it is most unlikely to achieve openness and light in a station with two underground levels ...

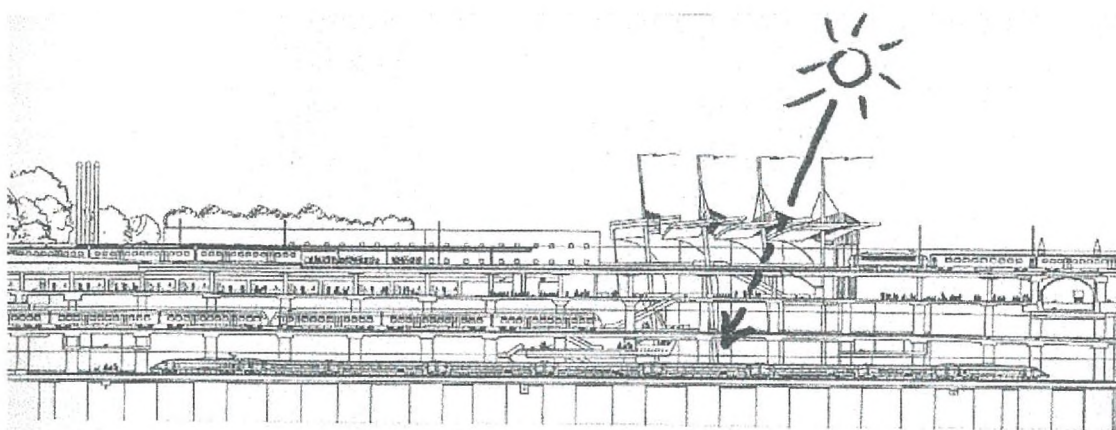
Yet the new part will not be like a metro station where passengers have to climb stairs and walk through corridors to reach the ground floor.

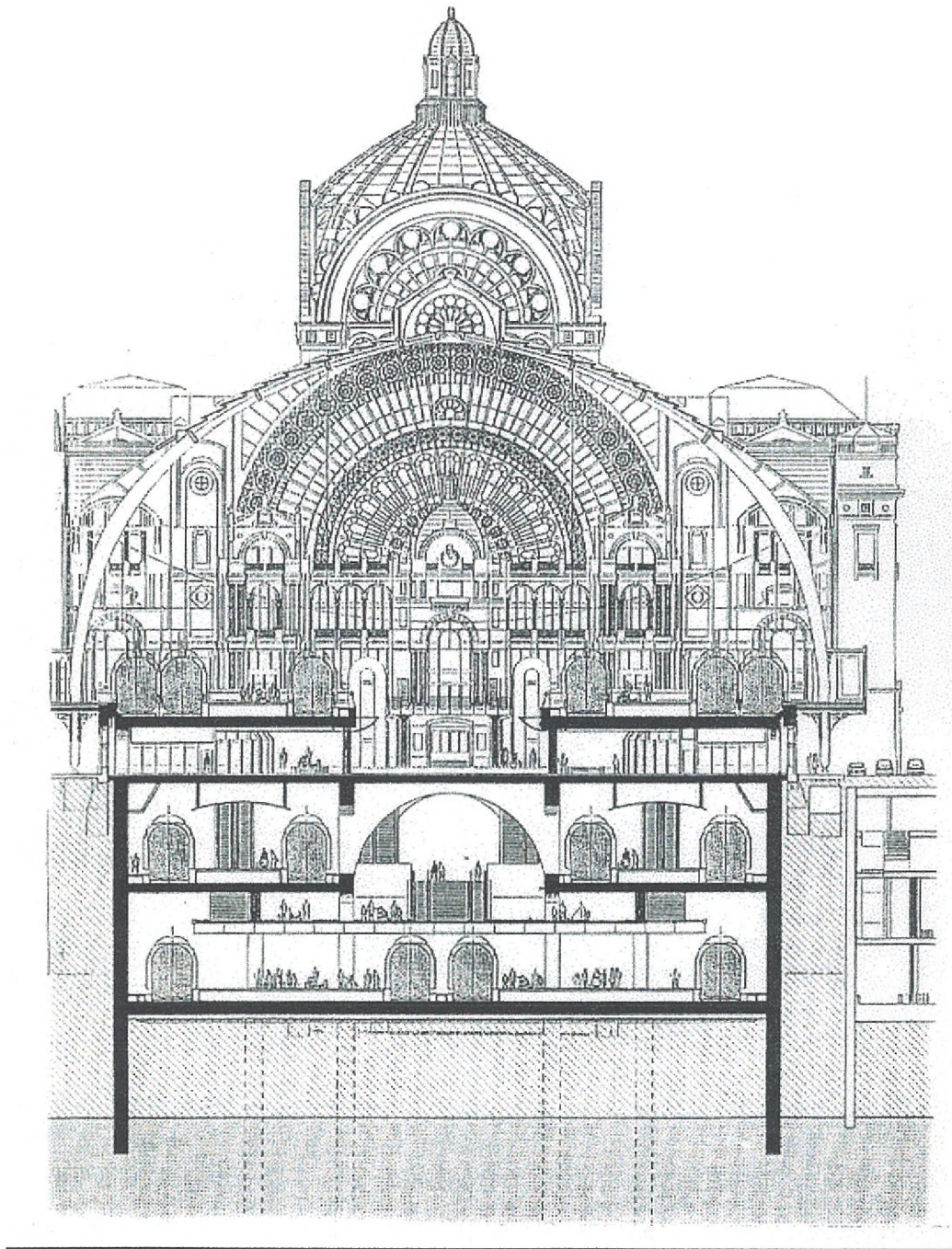


A central atrium will be built in the first part, under the old railway hall. The daylight will be able to penetrate as far as the lowest level. Further on, where the tracks are closer to each other, it is impossible to build such an atrium. It will be built next to the tracks, creating a lateral window.

At the same time the streams of passengers will be assembled around these atria. The passenger will find his way out in a natural movement towards the daylight.

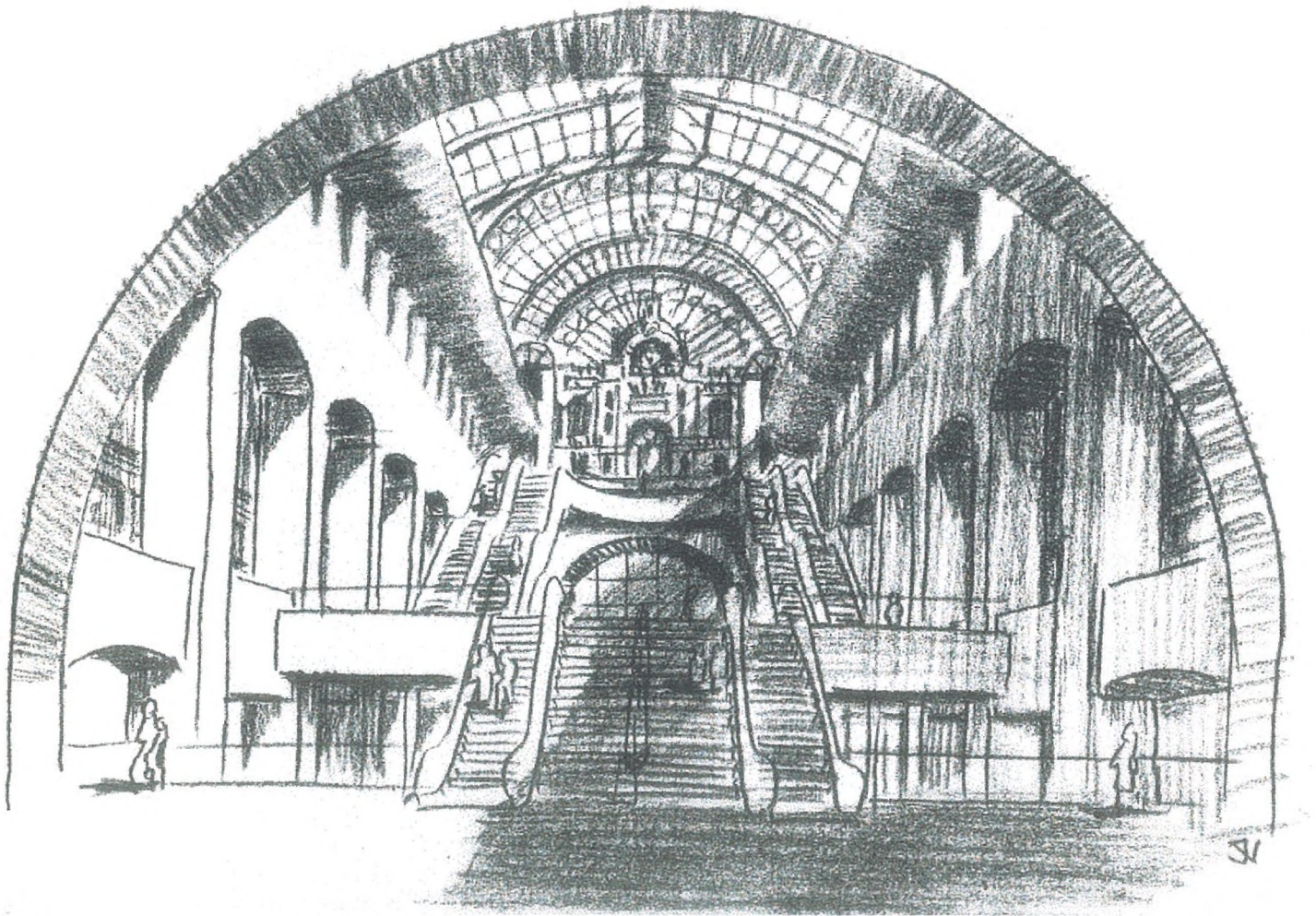
The architecture in this intervention is two-sided: on the one hand the aim was never to minimise the extension and to make a back-door entrance of it. No, on the contrary, the new entrance of the station is a result of an enormous work which will ask an even greater effort than 100 years ago, when the original station was built. The new part must also express this, since more than half of the passengers will use this entrance. On the other hand, a clash between the old and the new architecture has to be avoided; thanks to the great distance between both entrances, this was possible to achieve.





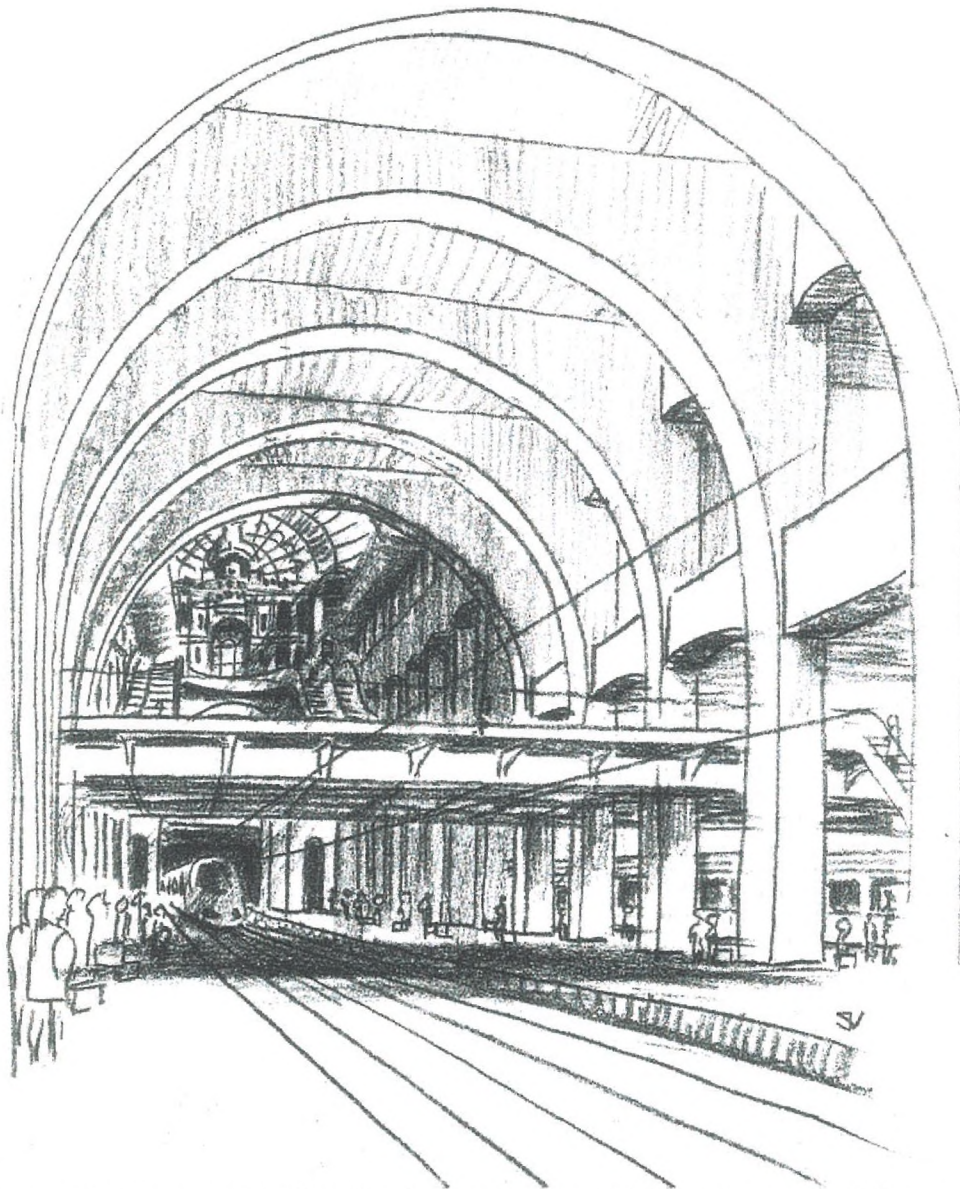
Architecture nearby the existing railway hall

During the design of the underground part under the existing railway hall, the object was to create “supporting” views and images. All views upwards are put in “frames” with the existing monument as background.



The central atrium is considered as a central stairwell, as a compensation for the existing monumental stairs in the building.

Conversely, the trains are only visible when moving downwards. The station's inner part is not revealed abruptly, giving a overview of old and new in one glance.

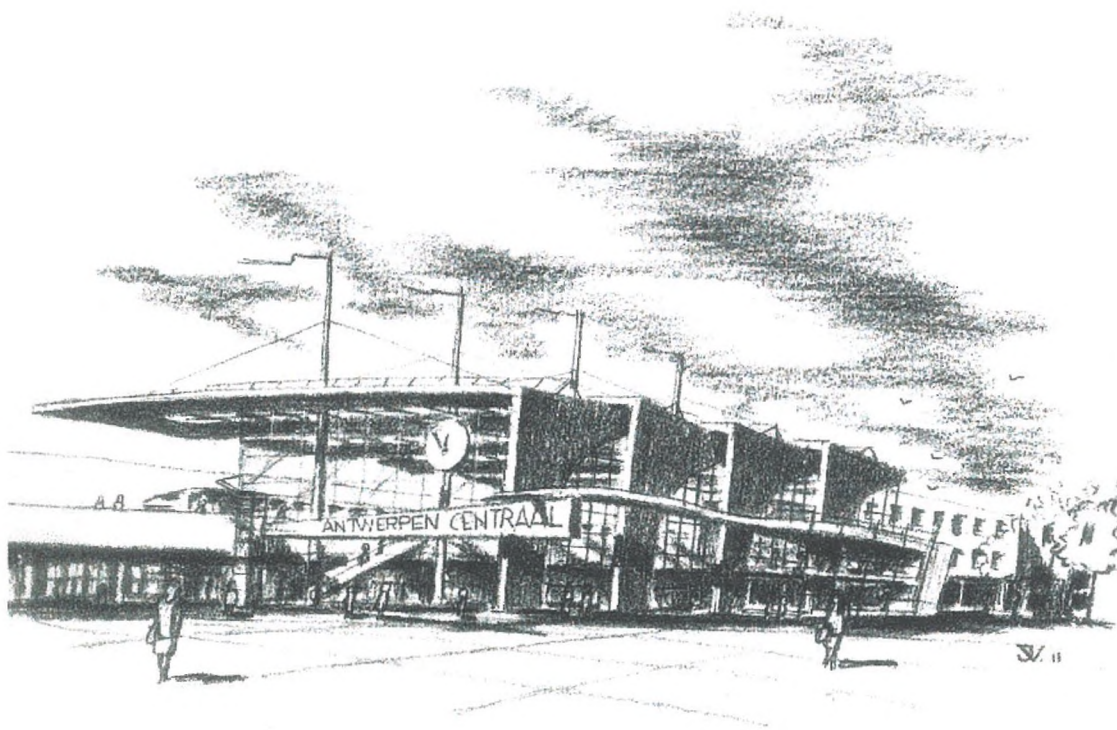


On the contrary, approaching the inner station will be a journey of discoveries.

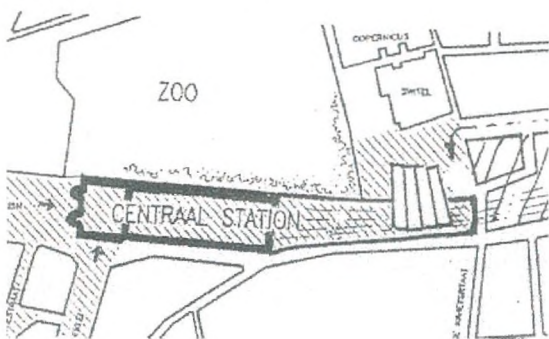
The aim was also to gain a harmonic insight into the structure: the existing railway hall is light with a structure on a 12 m module, the underground is more massive like a foundation with vaulted forms (such as the original brick foundations on a 8 m module). A brick sheeting will also be used.

Conclusion: the object was uniformity, but without copying the existing architecture. The existing station attracts attention because of its ornaments and the variety of natural stones. That is not the case for the new part where design and austerity prevail.

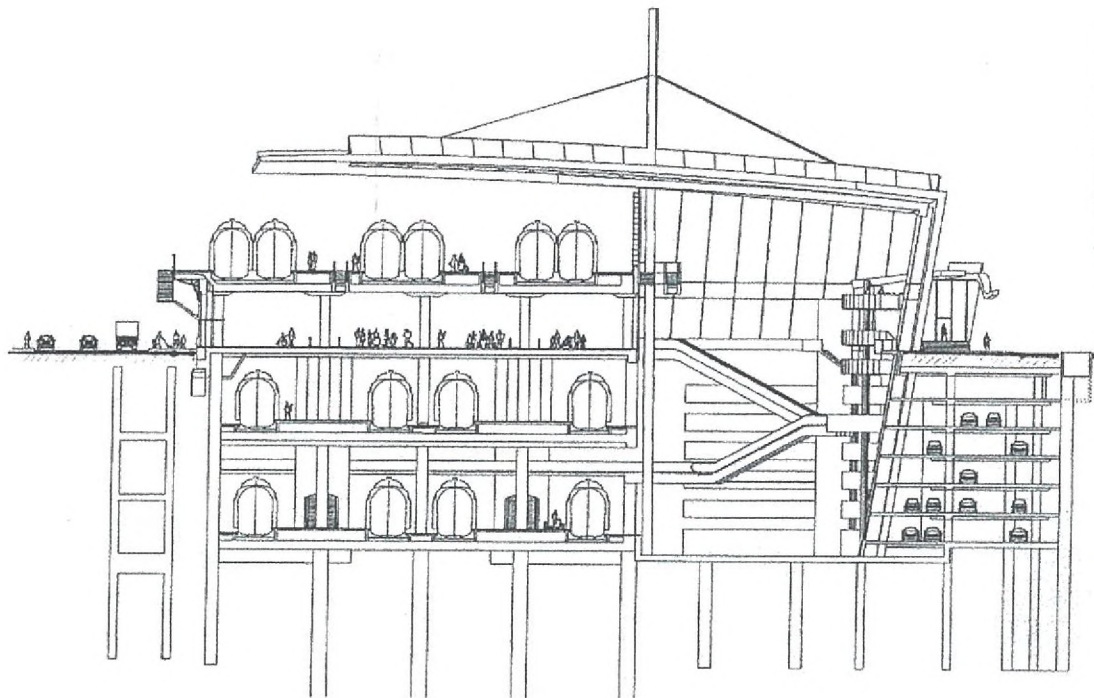
This austerity will help to bridge the gap between the old and the new part. Only low canopies will be used above groundfloor level on the platforms between the old station and the new entrance. Underground, the 160 m distance will also be worked out in a very neutral way.



Architecture of the new entrance



It is only the new station entrance that will have an expressive dynamic character, with an almost maritime atmosphere (do not forget Antwerp is an international seaport).



The new entrance will have wings fanning out from the street over the platforms. This fan shape also refers to a number of elements:

- the square and the surrounding houses are situated at an angle with the tracks;
- the tracks themselves take a bend in the very same place.

Last but not least, the entrance will be constructed without affecting the volume of the railway embankment. Masts and cables are used consciously to make a big canopy, yet without making a connection with the existing monument. In this way, the scheduled façade on the free street side will not be spoilt with new elements.

The winged construction rises up from the underground. Aboveground, there is no contact with the original existing volume. Yet underground there is an interlacing with the station.

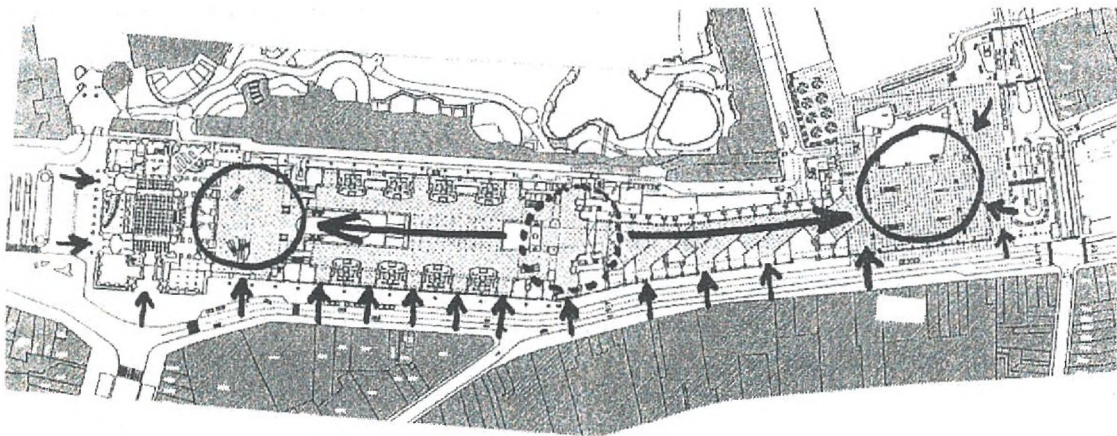
The circulation in and around the station

Internal

As said before, there are two entrances, one in the existing station and one at the far end in the new part. That is where the vertical circulation takes place.

A second important element in circulation is the ground floor. Formerly, the ground floor was not accessible and there were only a few shops at one side under the tracks. Now the entire ground floor is opened and the shops are scattered so as to create a shopping mall.

The ground floor level has very important functions:



- it is in fact the link between the two entrances. It is possible to walk from south to north without using the platforms;
- it broadens the street function: the railway embankment which used to be a huge wall, is opened;
An open connection is created between two city quarters which were formerly only connected through small tunnels;
- extra space is created with lots of functions such as snacks, rent-a-car, souvenir shops, paper shops, flower shops, etc which were difficult to integrate in the scheduled monument.

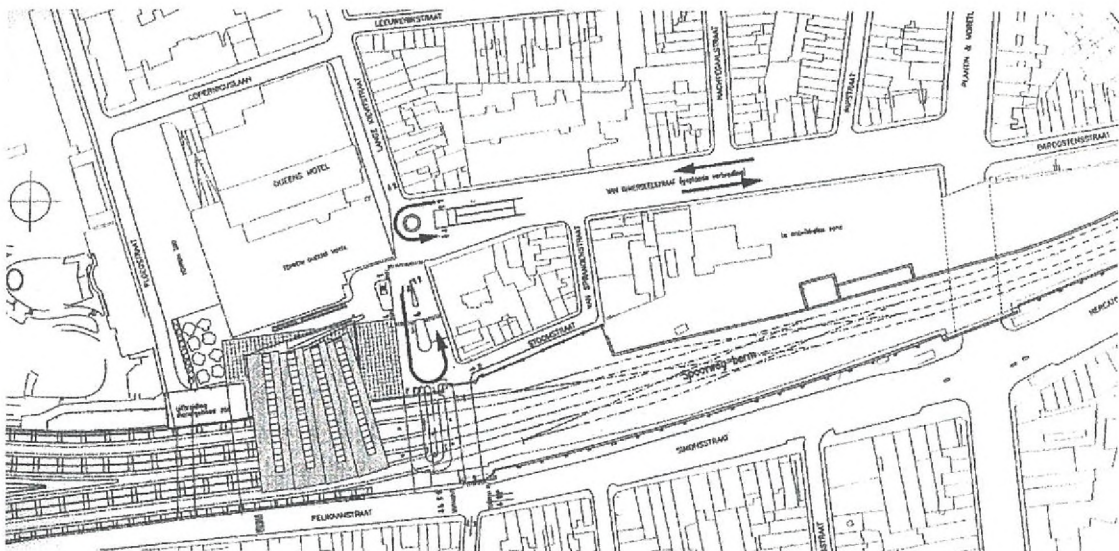
External

As written before, it was not so evident to welcome a double number of passengers in the existing centre. The second entrance of the station offers the possibility to reach the station quickly from the outskirts of the city. It was decided to reserve the original entrance for the local public transport (tramway and bus) and to a lesser degree for cars (with a small underground parking lot).

The new entrance, on the other hand, would be reserved for private transport. In addition to an underground parking lot, large taxi ranks and a kiss & ride zone^s will be built. Private buses are allowed to let people get on and off, and receive parking places in the neighbourhood.

To optimise the accessibility of the second entrance, an existing street will be doubled widthways over its entire length.

Both entrances to the station will have spacious underground bicycle sheds. The particularity of the second entrance is that the bicycle sheds and the parking lots are brought together near the station atrium. The vertical circulation of the station and the parking lot take place in the same room, which improves the readability of this entrance to a great extent.



Future developments

The renewed station will possibly draw new needs. A strip of land is provided for that purpose alongside the street that is to be widened. Studies will determine how the 40 to 50.000 m² floor surface can best be used.

Timing and phasing

Preliminary works started in 1997. The real works started at the end of 1998. The surface train level has to be finished by the year 2002; the entire station in 2005.

During the works at least 3 surface tracks will remain in service. This requires a particular phasing of the works with an alternating use of the tracks.

General conclusion

It concerns a major operation, which will be requiring a great deal of time and effort. However, it is the only possibility if we want to cope with the increasingly growing mobility in the next decades. The conception of the operation is such that it not only respects the historical monument, it will also add a new dimension to it.

In the past, arriving or leaving by train in the Central station was always a real pleasure. That will also be a special event in the renewed station. Antwerp's star as a metropolis will be rising again.
