



WELCOME TO ANTWERP CENTRAL
THE RAILWAY CATHEDRAL OF THE 20TH AND 21ST CENTURY





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Resp. editor: Erik Sclep, Communication Manager SNCB Holding
Rue de France 85 1060 Brussels

Illustrations: Leo Goossenaerts, Stan Wagemans

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foreword

WELCOME TO ANTWERP CENTRAL A WORLD-CLASS MONUMENT

Antwerp Central station is a pivotal point in the midst of the hustle and bustle of green mobility. Trains, trams, buses, bicycles, cars... their comings and goings effortlessly blend in quasi-orchestrated motion. In no time you can find yourself right downtown or in Paris. Some fast shopping, maybe? No need to travel into the city. You can find what you're after right inside the station, where also a variety of other services are available. Antwerp Central is a beehive of activity. The unique architecture of the station, now protected as a landmark building, only emphasizes its particular distinctiveness. By using this guide, you can on your own embark on a discovery quest through the history of this exceptional monument, this Antwerp railway cathedral, and discover why Newsweek chose Antwerp Central as the fourth most beautiful train station in the world.



A NEW DYNAMIC FOR TRAIN STATIONS

At the start of the 20th century, stations were often the most prestigious constructions in a city. Yet, in the span of some 175 years, transportation modes have undergone drastic changes during which the train lost its battle with the car. It was only in the eighties that there emerged new fertile ground for the

railways to thrive in, namely with the coming of the first high-speed trains (HST). For journeys up to 500 km, the train is more than a worthy competitor to the car and plane. Today, the HST is more popular than ever and is gaining ground and market share.

Stirred and inspired by the railway companies, urban developers quickly



realized the importance of train stations within the fabric of sustainable urban development. As a result, the train regained its position as the ideal medium to raise sustainable mobility to a valuable and rightful position within the very heart of our modern society.

Instead of the closed-in “static” stations, Belgium favoured “alive” stations, that is to say, vibrant public places and spaces accessible to everybody, transit centres to connect urban neighbourhoods and districts with each other. This novel visionary concept has assumed concrete form in carefully planned stations (for instance Brussels-Midi...) and majestic (Antwerp Central) renovation projects or other exceptional brand-new constructions (Liege-Guillemins).

The SNCB Holding, which operates the 37 largest stations in the country, commissioned a large-scale opinion study in order to find out how best to accommodate itself to the needs and expectations of users of the train

stations. The results have subsequently been translated in three core ideas that together constitute the station philosophy:

Without wasting time

Your train trip should get started from within a well-organized environment where you can readily find your way around. Without wasting time. Where you will find all useful information exactly where you need it. Bus, tram, subway, automobile, bicycle, or on foot, all transport modes, all of them individually, mesh perfectly with the train schedules on the platforms. This kind of connectivity puts the traveller at ease, all the more so in the case of individuals with impaired mobility.

A place of encounters

The stations are pervaded by a pleasant, expectant atmosphere throughout. You're bound to run into someone you already know and to discover something that you don't

know yet: an attractive boutique, a rousing popular restaurant, and events by the dozen. The station, model of neatness and safety, has become a cultural and relaxation centre. At the same time, stations are places brimming with energy.

Smart times

Stations offer not only a welter of boutiques but likewise all kinds of services. You can buy newspapers or a bouquet of flowers there, enjoy a meal, get your bicycle fixed, etc... All of these products and services allow you to gain time smartly or to pass the waiting time purposefully.

The SNCB Holding has translated this station philosophy into the brand name “the Station” and is now using new colourful logos or totems that function as symbols of all that the station has to offer!

Antwerp Central is a manifest model of a train station that perfectly reflects to this new station philosophy.

ANTWERP CENTRAL IN A NUTSHELL

Today, Antwerp Central accommodates over 50,000 travellers and many other visitors a day. Eight hundred trains arrive and depart in a space of twenty-four hours.



Monumental station hall

Constructed by architect Louis Dela Censerie in 1905.

Shopping centre

Centrally located between the Astrid and Kievit Square entrances, the centre offers shoppers a very large choice assortment of products in 74 shops and boutiques (4000 m²).

Station entrance on Kievit Square

Full-scale second station entrance on Kievit Square with bicycle storage facility and ample car parking.

Astrid Square

Features underground car parking and a bicycle storage facility.

Train hall

Constructed by architect Clement Van Bogaert in 1899 as a terminal train arrivals and departures hall with 10 platform tracks on 1 level. The present hall features 14 extended platform tracks on three levels.



TIMELINE ANTWERP CENTRAL



3 May 1836

The first train in Antwerp steams from Malines to the present Breydelstraat located outside of the then Antwerp city walls. At that time, the station building was a wooden barrack alongside 4 tracks.

26 June 1854

The surface railway connection Antwerp-Roesendaal is being inaugurated with a great deal of fanfare.

A new wooden station building is erected on what is now Astrid Square.

1895 > 1899

National engineer Clement Van Bogaert constructs the roofing over the track. Next, the railroad embankment with the monumental 'Centers' in the direction of Antwerp-Berchem is built.

Thereafter, the train arrivals and departures hall (the train hall) offers room to ten terminal platform tracks.

1899 > 1905

Louis Dela Censerie constructs the station building as directed by King Leopold II.

The wooden construction on Astrid Square is demolished and permanently removed.

1940 > 1945

The train hall is severely damaged by the impact of V2 bomb attacks. Nonetheless, the structural stability of the building remains intact. The wave configuration in the hall's roofing presents until this very day a testimonial to the bombs' impact.

Spring 1957

A traveller is hit by a falling stone that breaks away from the facade's cornice.



Three turrets and the pediment on the facade facing De Keyserlei need to be dismantled and removed.

12 March 1975

By Royal Decree, the station building and the roofing over the train hall are now designated as protected historical landmark constructions, but funds for restoration works are unavailable.

Spring 1979

Following a severe winter, a block of stone weighing 300 kilos breaks loose from the corner cornice of the dome. With permission from the Department for the Preservation of Monuments and Sites, three turrets on the facade

facing the Antwerp Zoo are dismantled and stored away.

Spring 1986

Start of the first phase of the restoration of the roofing over the train hall.

Spring 1988

For the occasion of the "Antwerp Cultural Capital 1993" event, the indoor and outdoor facade walls of the station building are cleaned up.

February 1998

> March 2007

February 1998 signals the start of the

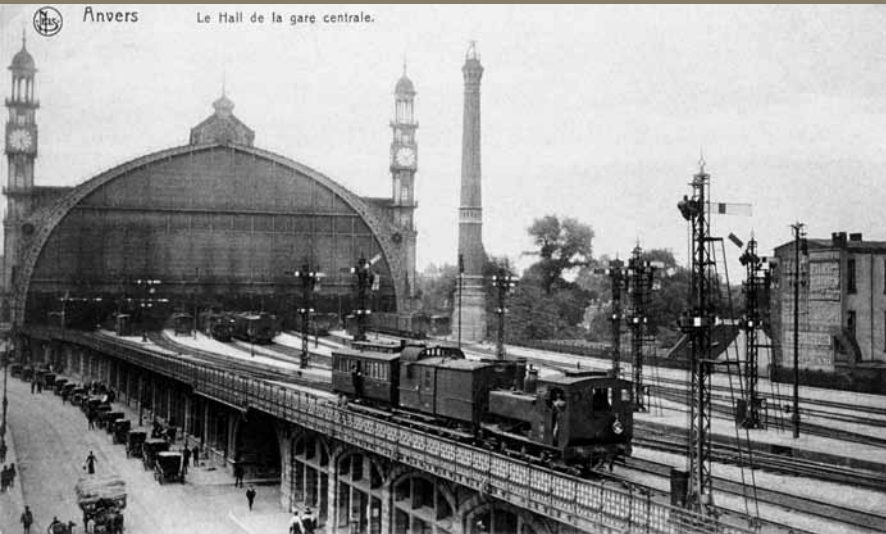
capacity expansion of Antwerp Central with the construction of the North-South connection. On 23 March 2007, the new continuous railway tracks at tunnel level are taken into service. Next, the works on platform -1, the second station entrance, and the shopping centre area are completed.

April 2007

> September 2009

Completion of the final renovation works to the Antwerp Central station building with, as crowning glory, the reconstruction of the pediment on the facade facing De Keyserlei. The inauguration takes place in the presence of Prince Philippe.

ANTWERP CENTRAL: A TRAIN TRIP THROUGH TIME



1836

First trains to Antwerp

We board the train for a journey through past times.

The first passenger rail line on the European continent was inaugurated on 5 May 1835 in Belgium. The line connected Groendreef in Brussels with Malines. As early as 15 July of that year, a start was made with the construction of the railway line between Malines and Antwerp. The rail tracks were already on site in October. The official inauguration followed on Tuesday, 3 May 1836.

The station in Antwerp – a small wooden building, three tents, four railway tracks, and a turning table for locomotives – was situated outside the Spanish Walls, probably in the vicinity of the present square near Breydelstraat, near a road that ran via Kipdorp Gate to the city centre. De Keyserlei and Statiestraat were not yet in existence at the time. No photos or illustrations of that first station, then called Borgerhout, exist.

It was meant as a temporary station, the plan being to build the permanent passenger station inside the city walls. But the initial intention to build it near the beguinage was abandoned and the station remained on the outside. To have a train proceed all the way into the centre of the city, the walls would have to be pierced, and that was out of the question. The city defence still deserved the highest possible priority. In Antwerp, it was decreed that an open unencumbered firing range extending for some 500 metres be kept free in front of the ramparts. For that reason, the station was of a wooden construction. In case of outbreak of war, it had to be possible to dismantle it in a hurry and reconstruct it somewhere else.

1841

In 1841, a pedestrian tunnel was drilled into the ramparts near Leysstraat. Vehicles proceeded via Kipdorp Gate and the current Gemeentestraat.

In the course of the same year, the Royal Zoological Society settled in the station's vicinity. Two years later, Borgerhout became a station for ongoing train traffic.

Via Van Schoonhovenstraat and Sint-Jan Square through the city walls along the Rijn Gate (near the current Houwerstraat), the railway line was extended towards the freight station 'Gare Principale'. That station was situated on the filled-in Ankerrui, on the site where, today, vehicle traffic enters the Waasland tunnel. In 1874, the station Borgerhout – by then rechristened to Antwerp-East – again became an end-of-the line station.

1854

'A station of standing'

The City Council considered it high time that Antwerp be favoured with a 'station of standing'. On 20 January, Railway Company President Masui and

General Delannoy of the War Department decided that a new station ought to be constructed at the same site of the first station. Once again, it would have to be constructed in such a way that, in case of war, it be possible to dismantle it very quickly. In this case, timber and iron were employed as building materials.

It is not known who drew the plans for this second station building (100 metres long, 10 metres wide, and 18 metres high). The city architect Pierre Bourla approved of the style of the building, given its situation outside the city walls. He did, however, suggest making the waiting room more spacious, this at the expense of the wickets hall. At the end of 1854, beginning 1855 – the exact date is not known – the station was put into active service. In 1900, when construction on the present Antwerp Central station was started, the timber building was demolished.

The story that the Antwerp station was reconstructed in Dendermonde belongs



to the realm of fantasies. In 1880, Dendermonde witnessed the construction of a station that bore a very close resemblance to the second Antwerp station. But it is, indeed, a fact that the first roof covering over the train hall platforms was moved from Antwerp to Turnhout in 1895.

In the meanwhile, on 26 June 1854, the railway connection Antwerp – Roosendaal had been inaugurated with suitable pomp and circumstance. On 16 December of the same year, the pedestrian tunnel inside the wall near Meir lane was replaced by the Station

Gate or Railway Gate. The gate now also became accessible to vehicles. The narrow Meir lane was widened in 1855 and rechristened to ‘Statiestraat’.

1864 **Negotiable improvements**

Following demolition of the Spanish Walls, the city suddenly found itself with more usable space. Since the location of the station and the rail tracks presented an obstacle to urban expansion, the city engineer Theodoor Van Bever did at the end of 1864 propose that the railway

lines be diverted to run around the outskirts of the city boundaries.

From Stuyvenberg, where a marshalling yard was scheduled, one railway line would run to a freight station by the harbour and another to what is currently Roosevelt Square. For the site where today sits the Atheneum, Van Bever planned the passenger station. However, the government refused to entertain the idea of moving this station to another location, although it was amenable to discuss ‘improvements to the second temporary station’.

1869

In 1869, City Council was informed that the Minister of Public Works had agreed to the plan to divert the railway lines. On 15 July 1869, a Royal Decree was issued 'authorizing the purchase by judicial expropriation order of immoveable properties needed for the expansion of the Antwerp train station and the connection of the commercial station of the same said City with the railway lines of the railroad to Rotterdam'.

The period 1868-1870 then witnessed the construction of the Municipal Square on the axis Kipdorp Gate – Gemeentestraat (this would subsequently become the Victoria Place and Franklin Roosevelt Place). Sometime later, the forty-metre wide De Keyserlei was constructed as the extension of Leysstraat and Teniers Place.

As of 1880, City Council had continuously reiterated the need for a new, 'acceptable' station. A number of private individuals proposed designs. Architect Theo Coppieters, together with L. Moentack, submitted in 1886 the best known and most interesting plan. They favoured a complete free-standing and easily accessible station, which would be located near the present Simonsstraat.

The main entrance would front an impressive square. Coppieters and Moentack left the choice open between a ground-level railroad line and an elevated one. With a station at a three-metre elevation, there would be through-passage ways at Plantijn and Moretuslei, Leopoldslei (later Belgiëlei) and Zurenborgstraat.

At the western side of the square, a roofed street was to be constructed at the location of the existing station. De Keyserlei would issue on Station Square and the view upon the Antwerp Zoo would not be impeded. This visionary design was not deemed suitable for discussion.

1891

The new 'East Station' remained for years the main topic of discussion in the metropolis. The opposition from the government and residents to the construction of a new station on the same location and to an elevated railroad line was literally enormous. The input promised to the city by the Minister proved eventually no more than pure moonshine. The 'input' just created more delays. On 1 March 1891,



Parliament, with 254 'Yeah' versus 17 'Nay' votes, adopted the plan for the location of the new station. Hence, the Zoo was forced to cede at the side of the station a zone of 210 square metres to the State. In exchange, the 'Zoological Society' received a parcel of land measuring 850 square metres.

1898

National Engineer Clement Van Bogaert had been ready with his design for the train hall since May 1889. The construction of this hall took from 1895 to 1898. The then Mayor, Jan Van Rijswijk, officially inaugurated the facility on Friday evening on 15 July 1898.

Subsequently, the Ministry instructed the Antwerp Architect Ernest Deltjens to design the plans for a station building.

Deltjens brought a lot of proven experience to the job. He had previously designed the plans for the Zuiderapers House at the Waalse Kaai, (built in 1882), the Sint Norbertus Church (1901-1903), the orphanage for girls on Albert Grisardstraat (1879-1882), the hotel on Lange Lozanastraat (1879-1883), and the stately patrician mansions on both corners of Leysstraat.

His station design drew inspiration from the stations in Frankfurt and Strasbourg, for what concerned both style and the interior outfitting. The government, however, did not quite like his choices and rejected his design at the start of 1894 on the grounds that it did not meet the expectations and the objectives. There exists also the possibility that King Leopold II did not consider the building sufficiently grand.

Dieltjens was replaced by Louis Dela Censerie (1838-1909), known for his neo-Gothic designs. The architect from Bruges had won the Prize of Rome in 1862 and it is said that Leopold II was one of his great admirers. Amongst other accomplishments, Dela Censerie had designed the City Hall in Diksmuide (1877-1900), the Teachers' College

(1880-1883), the Sint-Jan hospital (started in 1886), the Provincial House (1890), and the Post Office building (1890) in Bruges.

In May 1894, Dela Censerie, accompanied by engineer Van Bogaert, left for a study trip to, amongst other destinations, Germany and Switzerland. Dela Censerie undoubtedly dug

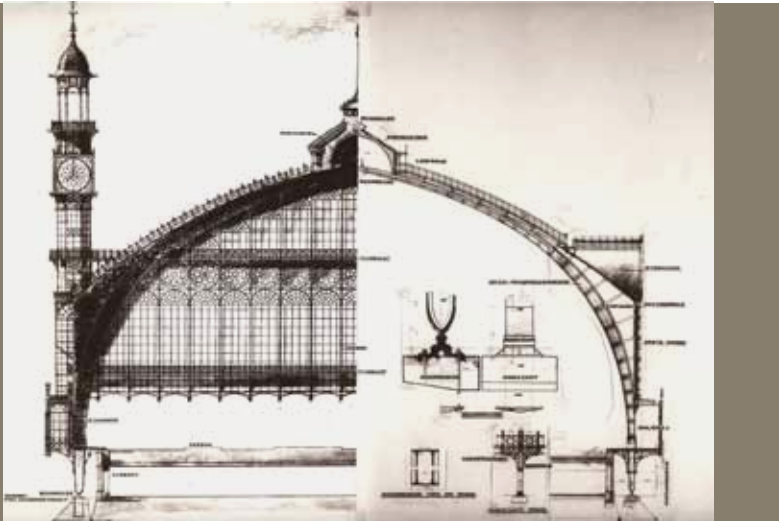
inspiration from the station in the Swiss city of Lucerne, a creation by the architects Friedrich Keck and Hans Wilhelm Auer. This station had been constructed during the period 1889-1896.

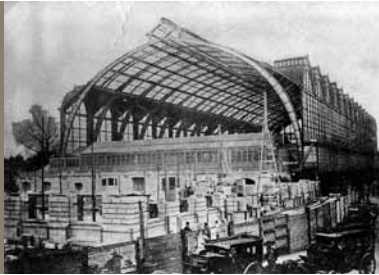
1899

The preliminary designs were ready in October 1894 and approved in February 1895. The Antwerp residents never got to see these plans. Even more remarkable, they were not shown to the Antwerp City Council until February 1899.

The Municipal Secretary at that time suggested that the name 'East Station' be replaced by 'Central Station'. Again, this suggestion did not sit well with the Minister, but in the end, the City prevailed.

In November 1898, M. Simoens from Schaarbeek was given the contract to build the new station. His firm was with its tender of 5.898.000 francs the least expensive of all of the tender bids submitted. The Simoens tender lay 1.150.000 francs above the estimated budget.





1905

The monumental Central station, in eclectic style, became Dela Censerie's masterpiece. He had found inspiration for it in the train station in Lucerne and the Pantheon in Rome.

Twenty different varieties of marble were incorporated into the staircase, the station's showpiece. The staircase affords on the second storey level access to two prestigious waiting halls that were transformed into buffets. Inside the hall, six sculpted figures shore up the interior walls with symbols of industry and commerce.

The new station was put into service on 11 August 1905. Without much ado. The railway cathedral was at that time considered a daring achievement. And, even today, the building is capable of captivating many people's imagination. The Ghent architect Gaston De Smet has more than once labelled Antwerp Central as the pinnacle of Belgian station architecture, and also in eclecticism. De Smet was, as architect with the SNCB in Antwerp, the untiring advocate of the restoration of the Antwerp Central Station. In the eighties of the previous century, he was instrumental in getting this renovation started.

"Home owners in the 6th district! ..."

"Home owners in the 6th district!! It appears the verdict against you is now in! Your homes, your business properties... they will shortly all suffer the forecast demise! The alien rats, the Statiestraat victories, as well as the newspaper that defends their rights! The most beautiful district in the city will be criss-crossed through with gruesome walls or elevated berms like mountainous obstructions. The twice proffered notice from our own City Fathers that disapproved of and rejected all elevations in excess of two metres has been trampled underfoot! Their opinions are asked for, only to be summarily laughed out of court later on! City and State coffers are empty, and yet they will proceed, in honour of De Keyserlei, to haemorrhage millions in construction berms. All hail to these fearless gentlemen that deign to treat their fellow citizens with such commendable consideration!"

(translated extract from a pamphlet disseminated in November 1888)

CENTRAL STATION: DECLINE AND RESURRECTION OF A SINGULAR MOMENT



› **The sixties: the decline**

At the start of the sixties of the previous century, the station building was not what one would call a 'ruin' or a 'wreck', but it definitely showed clear signs of its decline. The problem with the 'station' started in 1953 when stones from one of the corner cornice elements of the great dome fell onto the roof of the building. It was at that time that the SNCB discovered for the first time that the Vinalmont stone, a carbon limestone, displayed fissures.

In the spring of 1957, a passenger suffered a skull fracture when hit by a falling stone, an incident that led to an inspection of all of the cornice elements. Hazardous sections were secured in place by means of steel anchor rods or partially removed. In some places, projecting parts had to be removed. The condition of the

three decorative turrets and the pediment facing De Keyserlei was so bad that the decision was made to dismantle them.

But this was not all. More problems were in the offing. In order to provide more light to the collaborators in the drafting department, it had been decided in 1959-1960 to replace the fan-shaped window and the higher crown between the turrets on the wall facing Astrid Square by a rigid construction distinguished by its great expanse of glass.

During the 'golden' sixties – and likewise during subsequent years – the SNCB did not have the necessary funds to fully refurbish 'Central Station'. More than one half century following the opening of the station, this would not have been an unnecessary luxury.

Railroad engineers with a 'vision for the future' but with a dim eye for architectural aesthetics had in the meantime been working at another 'solution'. The end-of-the-line station Antwerp Central was to be transformed into a station for on-going through-traffic, thus to re-establishing a North-South connection. The railroad cathedral would be demolished and replaced by a 'contemporary' station in the style of Brussels-North. The trains would roll across a viaduct towards their northern destinations. This was somewhat of a hard pill to swallow for Antwerp, a city that had suffered through quite a bit of demolition already. Also because the viaduct was bound to leave a wake of demolition in its train throughout the populated neighbourhoods, these plans subsequently were shelved.

'The building is deeply imprinted upon my mind and into my memory with the recall of many things. It belongs inseparably and irrevocably to the cityscape and into the memory of the city as we conserve it within our minds. But also the successive generations of commuters that pass through the building on their way to gaining their daily bread are sentimentally attached to it.'
Bob Cools, former Mayor of Antwerp.



> 1975 Protected building

Nevertheless, the SNCB kept flirting with the idea of demolition, especially with the demolition of the impressive roof expanse over the train platform, which actually in turn posed a great deal of problems because of maintenance works that were sorely wanting. But the glory days of the defenders of 'Central Station' were just around the corner. By Royal Decree of 12 March 1975, the station became designated as a landmark building. The SNCB did not have a problem listing it as a protected monument, but was struggling with a financing problem. In the course of the implementation of the protection decree procedures, the Railway Company submitted a notice of objection to the Minister of Dutch Language Culture and Education. 'Because of the failing stone elements, maintenance to preserve the

building would require exorbitant expenditures on the part of the municipality'. And by Royal Decree of 12 March 1975, likewise the roofing over the train hall was designated a protected construction.

After the severe winter of 1978-1979, a block of stone weighing 300 kilos toppled onto the roof of the station building. The stone had been dislodged from a corner cornice element of the dome. At the same time, new fissures in one of the turrets facing Astrid Square were discovered.

At that point, the SNCB decided to conduct an investigation into the question how both the patently failing and apparently sound Vinalmont stone would hold up in the course of the next thirty years. The assignment was conducted by the Scientific Technical Centre for the Construction Industry.



In order to safe pedestrians from the dangers lurking overhead, protective roofing was erected around the exterior contours of the building.

Beginning 1981, the SNCB formed a committee to investigate the technical and financial aspects of a restoration. Aside from the SNCB, the Ministries of Transport, the Department for the Preservation of Monuments and Landscapes, and the City of Antwerp were represented on the committee. It became quickly evident the SNCB could not count on any subsidies for restoration of the building. The restoration of the station building using new natural stone alone was estimated at some two billion Belgian francs.

In February 1982, the study of the Vinalmont stone was completed. Conclusion: all stone elements, even the apparent sound stones on the exterior, display within evidence of potential fissures and thus present the risk of cracking. A rather frightening prospect. The SNCB immediately took drastic protective measures. A hoarding was erected all around the building. In order to keep the entrances on Astrid Square open for use, pre-fab tunnel passages were installed. The three turrets on the facade facing the Zoo were dismantled carefully with consent

from the Department for the Preservation of Monuments and Landscapes. The condition attached was that they would be re-installed after restoration.

Meanwhile, it was investigated if cracked stones could be injected with liquid artificial resins. Unfortunately, that appeared not to be a solution. Some of the stones actually crumbled during the drilling of the injection holes.

The SNCB was looking for a system to significantly reduce the high costs of restoration with natural stone. Seeing that the exterior of the internally unsound stones remained fairly smooth and unaffected, perfect moulds could be made of them. This then provided the opportunity to make duplicates in artificial stone that came very close in appearance to the natural stone. The Scientific Technical Centre for the Construction Industry conducted numerous tests with this artificial stone, using a composition of high quality concrete. And with success! The Department for the Preservation of Monuments and Landscapes agreed with the principle to carry out the renovation works using artificial stone. However, there still remained the question of finding the needed funding.

> The seventies: the study of the North-South Connection

Begin 1979, a study commissioned by the SNCB from the Study Centre for Economic and Social Research (SESO) was published. Conclusion: the construction of a North-South Connection in Antwerp is a profitable project from a socio-economic perspective. The study in question was conducted by Walter Nonneman, Roel Bellens, and Evrard Claessens at a cost of 3.5 million Belgian francs.

According to this study, the investment, which, depending on the solution chosen, was estimated at anywhere from 6 to 12 billion francs, would favourably reflect on the SNCB's operating results and promote greater use of transportation by train.

The SESO studied four solutions, amongst which the shallow construction of a railway line with retention of the protected Antwerp Central building was the one favoured by the SNCB. The costs were estimated at 8.3 billion Belgian francs.

The deep-construction (multi-level) project, featuring a tunnel from Berchem underneath the Albert Canal to the Noorderdokken (Northern Docks), and a station with platforms on 3 levels, was estimated at 12 billion Belgian Francs.

For the moment, the Railway Company lacked the funds to construct the desired North-South Connection. At the same time, people did express doubts about the project's technical feasibility.

> The eighties: Restoration of the train hall

'Antwerp Central to close down on 31 January 1986, unless agreement is reached about the restoration', thus the headline in the 'Gazet van Antwerpen' newspaper of 12 December 1985. The news hit like a bomb, especially amongst the tens of thousands of travellers that were daily commuters in and out of 'Central Station'. The SNCB had already worked out a scenario. Since Berchem could not possibly play the role of main station, the trains coming from Essen would stop in Antwerp-East, and the trains from Boom in Antwerp-South. There still remained the question whether or not a commuter service between Central and Berchem was feasible.



The decision to close down Antwerp Central had to do with the poor condition of the roofing over the train arrivals and departures hall. Every day, there was greater fear that fragments of glass would drop out of the roof. The SNCB was very concerned about this safety risk and raised the subject of the restoration files for the platform cover and the building again. The dossiers had been tendered for some time already but the Board of Directors refused to give final approval, being of the opinion that the Railway Company should not, and could not, be expected to shoulder all of the very high costs on its own.

On 20 December 1985, the SNCB Board finally agreed to begin the first phase of the restoration of the roof covering over the train hall, this at a cost of 250 million Belgian francs. The works were started in the spring of 1986. The SNCB did not have the money for the station building and hoped still to be provided with a substantial contribution from the Flemish Community.

The roofing over the platform tracks in the arrivals and departures hall is a

construction involving 39 000 tons of steel and glass. National Engineer Clement Van Bogaert, using the three-hinged arch construction method, had built an enormous hall measuring 66 m wide, 186 m long, and 43 m high. In the course of the eighties, a thorough renovation was needed and 12.000 of the one million rivets that held the steel plating in place were replaced. The 11.000 glass panes were substituted by plastic ones. A striking feature is the beautiful glass fan between the train hall and the main station hall that, given its shape, is known as the 'peacock Tail'.

In November 1988, the then SNCB CEO, Etienne Schouppe, revealed the future-oriented plans for the railway cathedral. On the drafting board stood a 'transparent' station building on four levels and featuring a North-South Connection. "We are giving a new dimension to this landmark station, maintaining our esteem for its past services and remarkable history. Moreover, we will restore it to its former glory. If we cannot realize our objectives, then we had better close the station down and

turn it into a museum", thus said Schouppe at the time.

The inconspicuous driving force behind the new Antwerp Central was the dedicated and committed engineer – architect Herwig Persoons. As the boss of Eurostation, a subsidiary of the SNCB Holding Company, he and his enthusiastic and highly expert team of professionals began, as of 1998, to turn the in the meantime updated plans into a reality.

1998 > 2007 **Expanding the capacity in Antwerp Central**

That the 'station' has once again reclaimed its position as a sparkling presence in the City by the River is first and foremost a tribute to the political courage and adroitness of Jean-Luc Dehaene. As Minister of Transport he put the contentious HST project on the right track. Antwerp and Liege were, besides Brussels-Midi, stations on the European high-speed grid. That meant the go-ahead for the construction of the North-South Connection, the renovation of the station, and, last but not least, the restoration



of the creation of the Bruges architect Louis Dela Censerie.

On the occasion of the 'Antwerp Cultural Capital' event in 1993, the SNCB had refurbished the interior and exterior walls but, of course, that was not exactly a 'real' restoration. This time, at least, the restoration made the station building once again look 'presentable' to the many domestic and foreign visitors.

The substantial reconstruction of Antwerp Central, the construction of a tunnel underneath the landmark

building, and the drilling-out of two single-track tunnel shafts between Astrid Square and Viséstraat are truly outstanding technical feats that fully deserve the attribute of 'world-class'.

Tunnelling underneath the station

Fourteen platform tracks were constructed inside the train arrivals and departures hall, divided over three levels (one at ground-level and the other two underground). All of the platforms along the tracks are 400 metres long so that, in contrast to past practice, travellers can comfortably disembark from the long intercity and international trains. The lowest level lies 20 metres below the surface. It is on this level that the trains on the North-South Connection come to a halt: a 3.8-km long railroad tunnel that runs underneath the city and the foundations of Central Station.

The station's capacity expansion appears too large but following new

additions such as the direct railway connection with the Zaventem airport in 2012, and the extension of the international train network, the number of passengers is bound to increase quickly.

For the project, 60,000 cubic metres of earth had to be excavated. The foundations for the tunnel under the train arrivals and departures hall extend down 45 metres into the clay stratum. Where no cranes could be used for excavating, the technique of timbering trenches was employed. By using this mining technique, which is free of dangerous vibrations, 34,000 m³, or 90,000 wheelbarrows, of earth were dug out manually. 150,000 m³ of concrete was needed, or a column of concrete mixers extending from Antwerp to Paris.

In order to prevent subsiding of the station building, the so-called compensation grouting technique was employed. On the basis of precise measurement data, liquid could be

injected at the right spots via a network of narrow branching tubes in support of the foundations.

The SNCB Group and the contractors may take special pride in the construction of the tunnel underneath the railway station cathedral. In February 2000, starting from an excavated pit on Astrid Square, eight large steel conduits were forced beneath the building towards the excavated pit at the rear of the station (situated beneath the front section of the roofed arrivals and departures hall). These conduits were filled with reinforced concrete and would serve as supports to shore up the building during the tunnel construction works. Since any cracking had to be avoided at all costs, tracking instruments were installed all around the building to record any and all eventual abnormalities.

From the sides of the exterior conduits, former miners constructed the retaining walls of the eighty-metre long tunnel. Excavations and the pouring of the concrete alternated. Upon completion of the walls, work was started on preparing the floor and ceiling slabs.



On 27 and 28 October 2001, seventy thousand curious visitors passed through the tunnel underneath the railway station cathedral. As it happened, these public admission days perfectly dovetailed with the events celebrating 75 years of the SNCB's existence.

Tunnel shafts

The two single-track tunnel shafts beneath the city were drilled out and excavated with the help of two drilling machines, the borers named 'Zandvreter' and 'Krabbekoker', which roughly means that these mechanical monsters devour, claw, and bite their way through the obstacles.

The tunnel boring machine, weighing in at 680 tons, consists of a 9-metre long drill head with a cutter-blade wheel, and three wagons, each 17 metres long, with equipment and machine rooms. The machine would scrape away five metres of earth at a time and then, with



a jib, install from the inside the concrete walls. The insides of the tunnel shafts are covered with 13,000 concrete segments each weighing five tons.

Work activities on Antwerp Central's major facelift were started in 1998. The very complex operation was expected to be finished in 2005. It would turn into 2007. Especially the access tunnel between Antwerp-Berchem and Antwerp Central was a technical feat of great distinction. The foundations for the elevated railway banks, the so-called 'Centers', were not included in that kind of tunnelling. The access tunnel had to be constructed without demolishing the Centres. Furthermore, the contemplated access tunnel would cross major entry

and exit roads to and from the city centre. Moreover, during the excavations, one could not completely exclude all car traffic from Belgiëlei and Plantin and Moretuslei. Forgotten in the interim is the tour de force of the Operations Department and the workforce. The trains to and from Antwerp Central were kept in active service during the reconstruction works. With only three platform tracks in operation, the 'old' SNCB succeeded in carrying 70% of the passengers directly into 'Central'. The remainder had to transfer in Berchem. These conditions of course forced contractors to phase their work in stages, as demanded by the circumstances.



2007 > 2009

The ultimate renovation of the station building

Marble floor

In order to enable the construction of the tunnel beneath the station building, the marble floor had in 1999 to temporarily cede the way to a pumping installation.

Only a limited number of the original tiles would subsequently prove re-usable. In other words, a large number of tiles were damaged during their removal. And even though all the tiles were numbered and stored safely away in crates, only part of them withstood the rigours of the outside temperatures unscathed.

The tiles that had survived the ordeal were repositioned in a kind of commemorative

section in the centre of the hall in nine cassettes. The original floor pattern had featured three different kinds of stone originating from the regions between Namur and Liege, e.g., Noire de Mazy (black tile), Longpre (light-grey), and Vinalmont (of middling-greyish colour). The stone quarry at Longpre was no longer in operation but, after a tedious search, a stone variant was found in the French Savoie (Bleu de Savoie). Using these stone varieties, it became possible, at the end of 2007, to restore the marble floor in the main passenger departure to its original splendour.



Facade renovation and fronton reconstruction

The Vinalmont natural stone was used extensively on the outside of the building. In the walls, the stone alternates with sections of porphyry stone. One negative aspect of Vinalmont stone is that it tends to develop microscopic calcite veining. This considerably weakens the stone's resistance to temperature fluctuations. Consequently, after a severe winter, fissures and cracks may quickly develop and chunks of weakened stone may break loose and

tumble down. On the occasion of the final renovation in 2005, the extent of damage already suffered by the stones was set forth in detail, subsequently to be followed at the end of 2007 by a nine-month long restoration.

The crowning glory of all this renovation work was the rebuilding of the most beautiful ornamentations that in the sixties had been dismantled for safety

reasons. It pertains here to some turrets facing the Zoo and a turret commanding the view and appearance from De Keyserlei. But the truly crowning piece was the reconstruction of the so-called fronton; this is the pediment that also looks on the side of De Keyserlei. As a result of this work, likewise the two bronze lions and the station's clock were restored to their original position.





Central dome

The dome mounted on top of the station building is a striking construction. It is double-walled, like the Brunelleschi dome in Florence, and is one of the first Belgian concrete constructions after the model of François Hennebique (1842-1921), who held the patent for reinforced concrete.

The arches in the dome are reinforced hollow elements that are suspended from a skeletal structure. When examined, it was discovered that especially these hollow elements evidenced signs of damage. Sections had broken loose from them, or their

iron-rod reinforcements had been affected by corrosion.

During the occupation years, the Germans had removed the red copper roof and the peak. After WW II, red copper was a rare commodity and, for that reason, the dome was given a slate covering. Because of the difficult accessibility for repair work, the marble stone in the main hall was eventually threatened by leakages from above. For that reason, for the next renovation, the choice was made to once again use red copper roofing.

On the inside of the dome, the pollutants accumulated on the walls were

steamed off, after which the entire expanse was refurbished in the original colours with acrylic paint. And, lastly, the steel work platform that had screened the dome as a safety measure could finally be removed.

The 75-metre tall dome with a diameter of 43 metres was completely renovated both inside and out. The roof covering consisting of 1,300 m² of lead and 850 m² of copper ensures that the dome is easy to maintain.

The Antwerp Railway Cathedral has also on its outside been enhanced by rich ornamentation. Nevertheless, during the construction, there is already evidence of the need to save money. The higher up, the less visibility from street level and the less elaborate the ornamentation. Hence, fewer decorative motifs have been sculpted into the natural stone of the roof covering on the rear exterior than on the visible side of the corner turret facing Astrid Square /De Keyserlei. In some spots on the walls, a combination of natural stone and bricks has been employed, probably because of the lack of enough Vinalmont stone during that period.

Jacques Voncke creates a magical light display inside Antwerp Central

Project architect Jacques Voncke immediately understood what was needed. The new station was not to become a "metro station". In the past, the station had had only one single level with ten tracks (+1) supported on a mound of earth and masonry arches. By moving the original surface tracks underground, a majestic atrium was created. This open infrastructure ensures that sunlight via the roofing over the tracks could penetrate down to the deepest point below (20 metres underground). Moreover, the lower-lying levels received a direct view on the old railway cathedral, which makes it extremely easy for passengers to navigate through the station's many through-passages and corridors. Even at the lowest level, one intuitively finds the way to the city.

The new atrium was constructed in red brick, a harking back to the material used in the old arches. Deeper inside the station, the style becomes rougher and the red brick is being replaced by concrete. Here, blue floodlight is used to hide

the imperfections of the rough concrete faces. On the various levels, Voncke has created a lighting design that reinforces the architecture and makes the traveller forget that he is walking 20 metres below ground.

"To devise a novel architecture for the railway cathedral did not at all seem a sinecure to me. My answer was rather a minimalistic station, devoid of all frills. Explicitly no spectacular high-tech architecture, this in order to avoid creating a tension field with the existing ornamentation. I did not want to focus my work on details, but rather on the global grandeur of the (existing) station."

(Jacques Voncke, project architect Eurostation)



ANTWERP CENTRAL AS MOBILITY HUB

Stations are interchanges where different modes of transport meet. They form the bridge between trains, other modes of public transport and specific solutions such as bike points, Cambio car sharing and other initiatives. Stations are central to new, networked mobility. As is the case in Brussels-Midi, also Antwerp Central offers the unique advantage to travellers of being deposited right in the very heart of the metropolis. The majority of travellers proceed on foot to their eventual destinations. Not surprising then that in its Transportation Plan, the City gives absolute right of way to pedestrians and bikers, and this in keeping with the STOP principle (Stappers, Trappers, Openbaar vervoer, Privaat vervoer = Pedestrians, Bikers, Public Transit, Private Transport).

For that reason, in the reconstruction of Astrid Square, pedestrians have been given preferential treatment by way of wide sidewalks and reserved bicycle paths. The Spanish architect Jordi



Ferrando, appointed by the SNCB Holding, turned Astrid Square into a pedestrian-only zone. For cyclists, spacious roofed facilities have been provided to park their bicycles at the station's entrances on Astrid and Kievit.

Also public transit receives right-of-way over private transport in keeping with the STOP principle. On construction of the North-South railroad line, a direct connection was provided from the train station platform to the metro train platform at the Diamant station.

A bus stop and a tram stop are available on Astrid Square, both at street level, while cars can proceed to the underground Kiss&Ride area where there is also commercial parking for private vehicles. Station-bound travellers can

park their cars on the side of the Kievit entrance, which is easily accessible. From this entrance, drivers quickly make their way via Van Immerseelstraat and Plantin and Moretuslei to the Ring and Singel. This parking area, operated by B-Parking, also features a rental car and Cambio vehicles service.

It goes without saying that Antwerp Central has full facilities to accommodate travellers with impaired mobility. From car parking to the train platforms, from the sidewalk to the elevator, throughout, careful consideration has been given to travellers with cumbersome and heavy luggage or strollers or impeded by some physical impairment. The station likewise features the needed facilities to accommodate visually and hearing impaired travellers.

TWO FULL-ACCESS STATION ENTRANCES

At the onset of the railroad era, City Councils and military authorities resolutely rejected the idea that stations and railroad tracks be constructed inside the city walls. Not only the first Antwerp station but also the first Brussels station were built outside of such walls, respectively at the Kipdorp Gate and the Groendreef.

In 1905, Antwerp Central was still located at the city outskirts and by the construction of the raised railroad embankment, the so-called 'Centers'; an extra barrier was erected between two sections of the city. In the course of the next one hundred years, Antwerp kept on growing around the station but the division between the downtown city core and Borgerhout remained and the connection between these city sections on both sides of the station was a fragile one. With the construction of the North-South Connection, and especially after the building of the second station entrance on Kievit,



there came an opportunity to reunite the two separate city sections by means of an extra wide throughway on Lange Kievitstraat. Antwerp Central had now been fitted with two very worthy functional main entrances and there can no longer be question of the rear of the building being neglected.

The Kievit entrance was conceived as a below-ground train hall featuring a contemporary overhang consisting of 900 tons of steel and 6500 m² of glass. To make the whole unit water-proof, a 10-kilometre long strip of silicone sealing was used. All traveller facilities such as wickets, public washrooms, and a striking

buffet area have been located underneath this roofing. Beneath the storage space for 800 bicycles, there is the station parking facility for 600 cars. Around the station, many major corporations took up quarters, occupying 35 000 m² of office space.

The physical tie between station and City is especially emphasized in the architecture at the station's ground-level by the many doors providing access from the 'Centers' to the shopping area on Pelikaanstraat. On this side, travellers can use three entrances to access the platform levels via the elevators, escalators, or the staircases.

UNIQUE MIX OF SHOPS AND SERVICES



In the design of the remodelled station, optimal account was taken of the fact that travellers have to be offered the opportunity to smoothly transfer from one mode of transportation to the other. But, of course, the station is much more than a mere transit platform.

The station offers a comforting feel to the traveller that wants to save time by combining mobility with a quick purchase. The station does exactly offer that opportunity by giving passengers the chance to make a quick purchase in the superette, buy a snack

on the run, draw money, or buy a bouquet of flowers. Arranging an appointment or a brief meeting over a cup of coffee or inside the station's restaurant is a smart solution that suits today's mobile business people. Many major brands can be found in the stations (such as Spar, Base and Starbucks – the first in Belgium outside Brussels airport).

Antwerp Central offers a wide variety of services, such as an information office operated by the public transit company, De Lijn, and a Job Shop

service. On the ground-floor, tourists can consult the Antwerp Tourism Office for information. The station further has invested in a quality Bicycle Centre that supervises the bicycle storage facilities on Astrid Square and Kievit Square. This Centre also rents bicycles to tourists for a discovery quest through Antwerp.

Diamond Gallery

The gold shops inside the arcade on Pelikaanstraat have, as it were, become inextricably fused with Central Station.



At one time, one could count 100 of these gold shops clustered around the building. Even the forcible move to the containers during the tunnelling works did not discourage or diminish this phenomenon. Following the completion of the North-South Connection, some 35 of these outlets settled inside the station. The gold merchants were allowed to occupy space in the shopping centre in keeping with the principle of market consultation. As a result, Antwerp Central is the sole station in the world that can boast of its own diamond gallery.

A vibrant station

Everything about the new Antwerp Central is geared and predicated on generating a dynamic that is strong enough to inspire and infect the entire city. The station and its surroundings offer unique space for staging events. The filming of the dance act 'In search of Maria' was done inside the station and circulated worldwide via Youtube. The Zoo organized at the birth of baby elephant Kai-Mook in 2009 a giant baby get-together on Astrid Square.

Inside the station, cultural events are taking place practically every week. Amongst them, visitors have already come to enjoy a sports initiation event of basket ball or rope skipping, or a tango salon or salsa demonstration. And all of this at no charge!

Likewise, there is room for conferences. The easy accessibility and the unique historical character of Antwerp Central is a considerable asset to event organizers.

A WELL-MAINTAINED AND SAFE STATION



Since cleanliness is an important feature inside the station, it is necessary that, every day, 47,000 m², or the equivalent of 12 soccer pitches, be cleaned.

Securail, the security services of the SNCB Holding Company, safeguards, day and night, the safety and security of the travellers. Inside the control room, some three hundred surveillance cameras are closely monitored. The station features 48 escalators, 40 elevators, 1,701 loudspeakers, and 275

fire alarm systems. All of these are likewise kept under constant surveillance from inside the control room.

In the event of fire, the removal of smoke and heat is conducted by means of an ingenious smoke-elimination and ventilation system that operates via discharge channels and ventilator ducts. The station will further deploy 236 fire curtains with a length of 1.2 km to prevent the smoke from spreading throughout the entire station building.

Inside the drilled-out tunnel shafts, escape routes have been provided for, plus three emergency exits and two cross-connecting passages in the event a disaster should occur. Lighted pictogram signs show the travellers the way to safety.

A corps of 40 Securail security agents, assisted by the Federal Railroad Police, maintains order and security inside the station.

ANTWERP CENTRAL: VIBRANT HEARTBEAT OF THE STATION'S SURROUNDINGS



Astrid Square: gateway into the city

Queen Astrid Square is Antwerp's calling card for everyone leaving Central Station. It is here that the City and the Station blend into one harmonious complementing whole. The monumental lantern posts and the car-free square are a lingering testimonial to the fact that this is still the same railway property where

once the wooden station stood as predecessor of the current building. Street names such as Rotterdamstraat and Stoomstraat recall the then ground-level rail connection Antwerp-Rotterdam.

Following the construction of the tunnel shaft underneath the railway cathedral, the square was renovated on the basis of a design by the architect Jordi Ferrando. Its underground parking will accommodate

four hundred vehicles. Above ground, a spacious and car-free open square has been created with plenty of room to stage events. The below-ground bicycle storage facilities hold 1500 bicycles. More than ever before, Astrid Square is a mobility contact point but, at the same time, not a bad place to spend some time.

In the building permit for the North-South Connection and the reconstruction of Astrid Square, guarantees were

asked for the solution to a number of questionable issues.

In the past, too much space was afforded to vehicular traffic at the expense of pedestrians. The green parquette was off-limits and, hence, an obstacle to uninterrupted pedestrian movement. Also the locations of the bus and tram stops were infelicitous and led to an imbalanced distribution of activities at the west and south sides.

Today, the redesigned Astrid Square consists of two sections. The southern part occupies one third of the square and has been constructed entirely in bluestone as a pedestrian zone, while also maintaining enough room for events and gatherings.

The northern part brings, as it were, some welcome green relief while

being, at the same time, the focal point for public transit. Today, one can stroll amongst the greenery sections and little parquettes, with the tram and bus stops symmetrically planted around the square's periphery.

Underneath the street level Square, there is also an underground square. Spacious and abundantly lit, this area establishes a below-ground connection between the subway stations Astrid and Diamant. It is also the spot for cars to drop off travellers with impaired mobility. The capacity inside the underground commercial parking has been deliberately restricted since the streets in the vicinity cannot accommodate excessive streams of car traffic. The station parking by the second entrance on Kievit Square is better situated, with its exit onto Plantin and Moretuslei towards the Singel and the Antwerp Ring.

The Antwerp Zoo and Central Station are complementary

The Antwerp Zoo and the former station building on Astrid Square are contemporaries. In 1843, the dromedary figure towered above the Zoo's main entrance. Although the Zoo is squeezed and confined between the city's development and the station, both grew up, and grew, together as neighbours. The Antwerp Zoo is the only one with an international train station next door. This is a priceless mobility asset. In its own master plan, the Zoo wants to shift the tickets and admissions area at its main entrance further backwards, thus creating a new public parquette on the spacious Queen Astrid Square.

The Royal Society is in charge of events at the Antwerp Convention Centre. Following the renovation of the Elisabeth Hall and the expansion of the conference space for 2,500 participants, Astrid Square will henceforth play a major role in the development of Antwerp as a Convention City. Likewise, the station

will provide the Convention Centre with additional places.

Pedestrian-only boulevard De Keyserlei and Pelikaanstraat

In its renovations of De Keyserlei, it is the City's intention to create a pedestrian boulevard extending from the station all the way to the Scheldt. Together with the reconstruction of the Opera Square, the City Fathers want to restore the old boulevard to its former glory of years past. And, as is the case with other city districts, here also the starting principle is STOP. This makes it possible to create a pedestrian-only axis line that runs from Central Station to the historical downtown core of the city – an axis that will preserve

the historical background and makes a connection between the station's resplendent past grandeur and the contemporary spirit of Meir Avenue. The eventual realisation of the De Keyserlei's projects as visualized by designer Manuel de Sola Morales will take at least until spring 2012 to come to fruition.

To the side of Central Station lies Pelikaanstraat, now completely renovated. The street is, except for bicycles and pedestrians, from both directions only accessible to public transit. Pelikaanstraat marks the start of a green boulevard that runs alongside the 'Centers' and terminates right near the Antwerp-Berchem station. Along large sections of the busy road between both stations, a green median has been constructed.





Kievit Square: new entrance to the station

Until a few years ago, the Kievit district lay hidden behind Central Station and the Zoo. The square had especially been known in the district for the Hotel Switel, which burned down on New Year's Eve in 1994. After that disaster, the square remained for the longest time a rather forlorn site.

But the real eye catcher in the Kievit district is unquestionably the large glass cube and ditto roof that, as it were, is folded right down into the station's underground train hall. The lines in this trellised structure run parallel to the tracks and to the building line of the office towers that rise up around Kievit Square. This free-floating, red-lined 'bin', houses a restaurant/buffet. Spectacular also is the transit level that, like a red runner, establishes the connection between

the parking facility and the train platform level. This site didn't take long to become the most sought-after space for the staging of events.

The district has turned into an internationally-prized top location, with the office complex development 'Kievit Phase I' as the immediate result. Amongst many other occupants, Alcatel NV and the Flemish administration have established offices inside this first high-rise tower near the new station's main entrance.

Following the completion of Kievit Phase I, the City decided it wanted to assume a greater role in the development in this district. As a result, for the development of the land along the railroad bank (including the former marshalling yard), the decision was taken in 2006 to appoint the City as project leader. The City Design 'Kievit Phase II' is the achievement of the City

that has assumed the management of the development in this district. The plans call for the future widening of Van Immerseelstraat and the laying-on of a green belt zone. New housing blocks will be erected along the railroad embankment, these to be lower than the high-rise buildings in the Kievit Phase I. The new programme as planned for the entire area in question is a mix of facilities, offices, and residential dwellings. This mix is necessary to fully exploit the economic potential of the location, on the one hand, and, on the other, to guarantee ongoing development and vitality of the region.

Vehicular traffic across the entire Kievit district is allowed only underground. The streets are reserved strictly for pedestrians and bicyclists. The two parking garages are accessible via a below-ground rotunda.

There is space for 1,200 cars and 600 bicycles. The "Station" car park offers special rates for travellers.

Another important realisation for the entire district is the erection of a green rock face. Through this creation, the Zoo is now, as it were, part of Kievit Square. At the other side of this rock face live the penguins, and other animals. Ploegstraat, the street that skirts the rock face, has been completely remodelled and 'greened'. In the street too one comes upon blocks of rock. By erecting life-size steel giraffes by these boulders, graphic and light-hearted reference is made to the nearby presence of the Zoo. Both of these projects have been realized under the impulse from the City, based on the plan that the Study Group Environment drew up for the creative use of the public spaces within this area.

Photo and film location

There are practically daily requests from bridal couples and amateur photographers to hold photo sessions of weddings or some photo reportage from the marble staircase or inside the train hall. But, likewise, film crews from all over the world have included pictures of the

station in their documentaries about Antwerp. Advertisers are happy to pay to use the beautiful décor of Antwerpen-Centraal for their advertisements.

Well-known TV series such as 'Thuis', 'Familie', 'Langs de kade', 'Zonde van de zentijd' are filming action scenes in the station's surroundings. Domestic hits

such as 'De zaak Alzheimer' have allowed actors such as Jan Decleir to strut their stuff inside the train hall. Also many foreign film directors have used Antwerp Central to shoot scenes with their most famous stars: Yves Montand, Michel Piccoli, Charlotte Rampling, Jean-Louis Trintignant...







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