

Lisa Baker

# Level -1

Contemporary Underground Stations of the World

BRAUN

Szent Gellért tér

← Kelenföld

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# PREFACE

The oldest subways were built as an urban extension of the intercity railway network. In the 19th century, the largest railway stations were built on the edge of the city and often served only one direction, like the Gare de l'Est in Paris. As the number of passengers increased, train connections in the inner city became necessary. The first subway in London went into operation in 1863; connecting Paddington, Euston and King's Cross underground and using wooden wagons pulled by a... steam train! The line was continuously expanded despite the dense smoke and steam in the stations and tunnels, not to mention in the train wagons, and in 1880 the inner circle was completed – built entirely to the north of the Thames. Marc Brunel's tunnel (1835–1843), which stretched beneath the Thames and connected the city quarters of Rotherhithe and Wapping, was also used by a steam train, despite originally being built for use by pedestrians and horse-drawn vehicles. This served as a connection to the South London Line, drawing the individual lines together to form a network.

The Athens & Piraeus Railway Company soon followed in London's footsteps, and Istanbul also began constructing an underground route for horse-drawn omnibuses (funicular tunnel, 1875). However, the idea of an underground public transport system only really made a breakthrough when trains were powered by electricity. In 1879 Werner Siemens presented an electric-powered train at the Great Industrial Exposition in Berlin and in 1881 he opened the first electric tramway in Berlin-Lichterfelde. Following Siemen's plans, the

first electric subway line was built in Budapest in 1896 and London also began using electric trains in 1905.

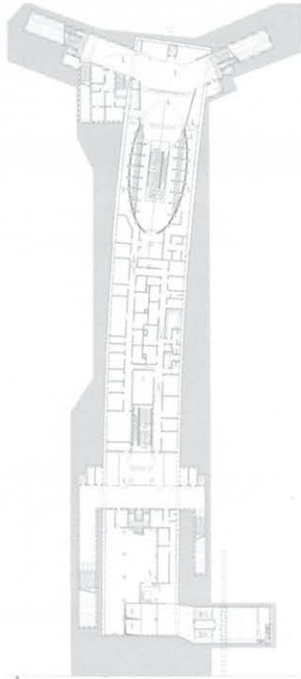
An important milestone in architectural history that took place in around 1900 was the construction of the Métropolitain in Paris. In 1897 and in preparation for the World Fair in 1900, the city of Paris and the French government agreed on the construction of six subway lines, after the idea of building a metro network had been on the cards for almost 30 years. This network was 65 kilometers in total and work began on line 1 in 1898 – stretching from Porte de Vincennes to Porte Maillot. However, the network was not completed for the World Fair in April 1900, but was actually finished in July. It transported four million passengers during its first six months of operation. Charles Garnier, the architect who also built the Paris Opera, declared that Paris residents would only accept the Métro in their city if it were presented as a work of art and not simply a functional construction. After a competition to select the design was held and failed to select a winner, young architect Hector Guimard was commissioned based on his successful design for the Castel Béranger. He fused the rational design of Eugène-Emmanuel Viollet-le-Duc with the Victor Horta's organic esthetic. By 1914, a total of 141 entrance pavilions and cast iron arches in abstract floral shapes were constructed. The design was also economical because numerous elements were prefabricated. Only a few of the large stations still remain today (Abesses – formerly the Hôtel de Ville, and Porte Dauphine, both from 1900; as well as Châtelet, 1901). The two largest stations were both

dismantled in 1925 and 1962. The Paris Métro has the highest user satisfaction level in the world in comparison to other local public transport networks.

In Asia, the Tokyo subway network went into operation in 1927 and even today has the highest number of passengers in the world – along with the Moscow subway. However, the Tokyo subway barely meets demand and “pushers” are employed to help optimally fill the carriages during rush hour.

Despite all these developments, elevated railways that were built on stilts and stretched through the historical old towns dominated until the First World War. It wasn't until after 1945 that city planners began to view subways as a way to remedy inner-city traffic problems, while trams were removed as they were seen as causing a disruption to the flow of traffic. The most important subway network at that time was built in Moscow, where Josef Stalin constructed numerous subway stations known as “palaces of the working class”. During the 1930s, the stations were built in the Art Déco style, while those constructed after the Second World War were examples of Social Classicism. In both cases, the stations were decorated in historical style and expensive materials were used in the construction (Image: Komsomolskaya Station by A.V. Shchusev, 1952). Even today, the Moscow stations clearly show this tradition, although the details have become more modern and abstract. The choice of materials and the basic fundamental shapes are still very much connected to local architectural history.

Architects: AMC – Andrzej M. Choldzynski  
Location: Plac Wilsona, Słowackiego Street, Warsaw, Poland  
Completion: 2005  
Gross floor area: 8,970 m<sup>2</sup>  
Number of public levels: 2  
Number of platforms: 1



## PLAC WILSONA A-18 SUBWAY STATION WARSAW, POLAND

Plac Wilsona A-18 subway station is located in the heart of Żoliborz. Consistency between the design of reinforced concrete structure, technology and function form a coherent architectural whole. The intention was to create a space of peace and tranquility, monumentality, contrary to the hectic hustle and bustle usually associated with subway stations. The heart of the underground part of the station is the space beneath the reinforced concrete oval dome. Changing colors illuminate this concrete shell: dawn, midday and evening light. The dome creates a mega-acoustic structure which absorbs the noise of passing trains and users. Exits from the station are also an example of the symbolic language prevalent throughout the design.





Plac Wilsona

Plac Wilsona

abbaty →

21:50

21:55

Plac Wilsona



← Kabaty

koniec trasy

Plac Wilsona

Plac Wilsona

Plac Wilsona

Plac Wilsona

Plac Wilsona

Plac Wilsona

Plac Wilsona

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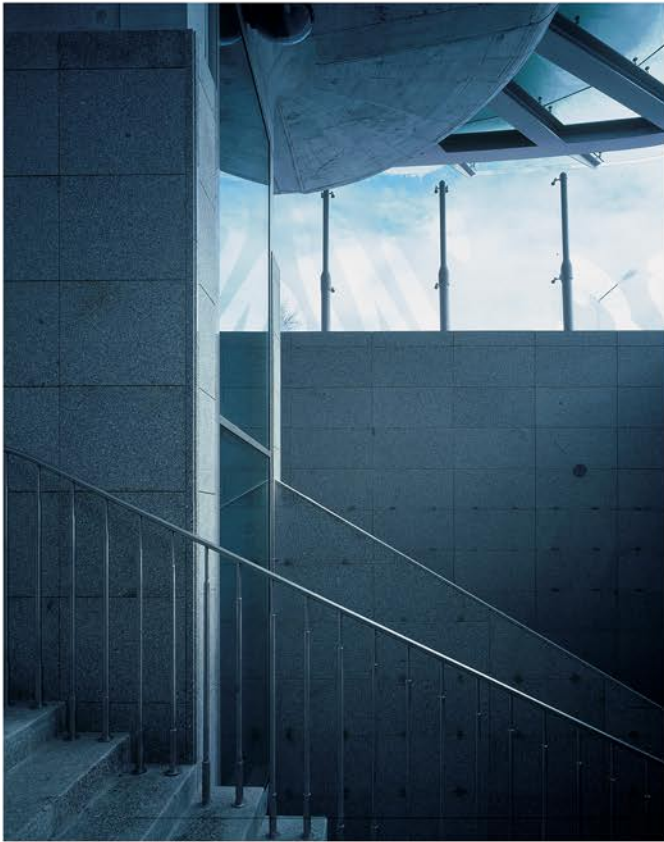
Plac Wilsona

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Plac Wilsona

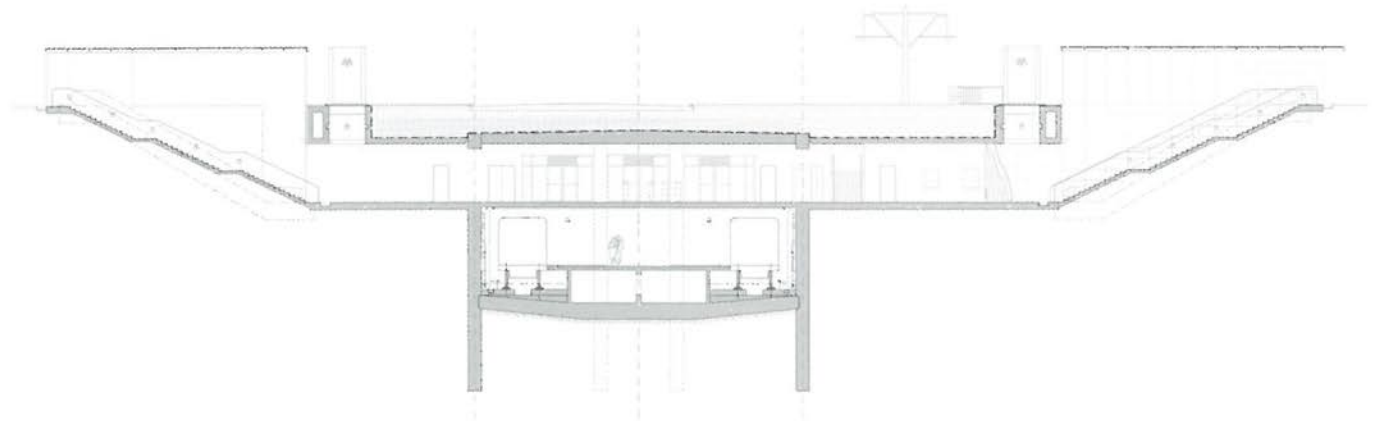
Plac Wilsona



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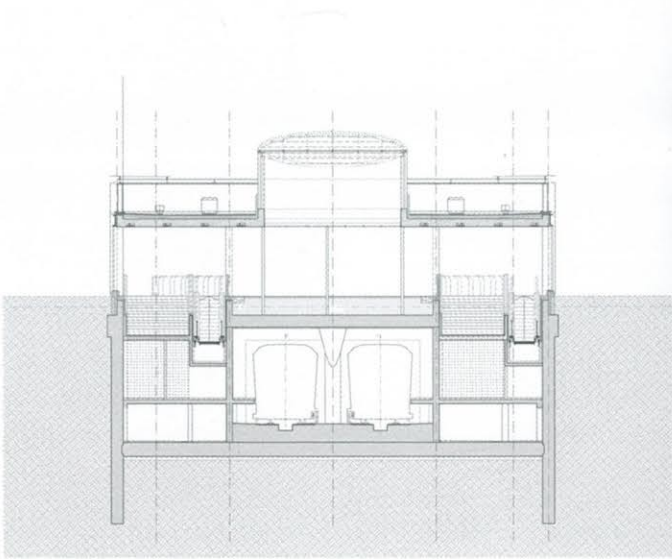
The London Underground was opened in 1863 and is the world's oldest metro system.

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Architects: AMC – Andrzej M. Choldzynski  
Location: Jana Kasprowicza, Bielany district, Warsaw, Poland  
Completion: 2008  
Gross floor area: 8,173 m<sup>2</sup>  
Number of public levels: 2  
Number of platforms: 2



## WAWRZYSZEW A-22 SUBWAY STATION WARSAW, POLAND

The Wawrzyszew A-22 subway station is located between the park and forest greenery in the vicinity of the housing estates built during the communist era. The historical Bielany district is situated next to the station, and is based on the idea of the garden city for workers during the interwar period. The entrances to the subway are free-standing pavilions made of glass, steel and graphite-gray brick. Steel trellises on top of the pavilions are covered by greenery rising along the glazed walls. Mega-skylights on the roof of the pavilions draw daylight inside. The space is designed to slow down the traffic rhythms and perception, calming communication and the roar that comes from the continuous movement of trains.





 Wawrzyszew



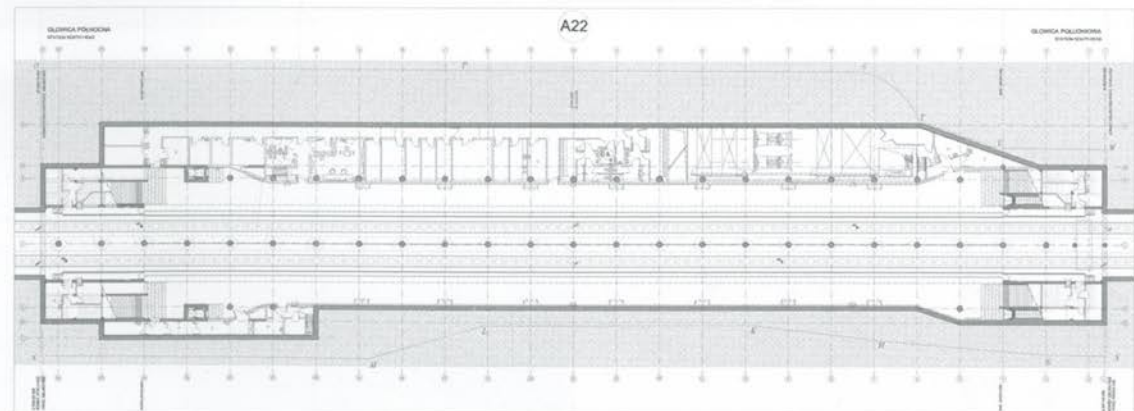




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“One thing about trains: It doesn’t matter where they’re going.  
What matters is deciding to get on.” –  
Conductor in the film “The Polar Express”

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# LONDON CROSSRAIL VARIOUS LOCATIONS, ENGLAND

Grimshaw forms part of the multi-disciplinary C100 consortium for the Crossrail project. Taking passenger experience as the key driver, the consortium is designing the architectural components that will be used throughout the platform and tunnel environments to create an integrated line-wide identity. The Crossrail project comprises 40 stations and will link Maidenhead and Heathrow in the west, to Shenfield and Abbey Wood in the east via 21 kilometers of new tunnels under central London. It is estimated that around 200 million passengers will travel on Crossrail each year. Simple, forward-thinking and intuitive passenger environments have governed the design, which will be completed in 2019.



Architects: Grimshaw

Engineers: Atkins

Location: various locations, London, England

Completion: 2019



← Way out 出口  
← Underground 地下鉄

← 0.1 miles to Tottenham Court Road →

Southbound Platform 1

There is currently a good service on all networks...

**Tottenham Court Road**  
Calling at Ealing Broadway, Acton Mainline, Paddington,  
Shenfield  
Abbey Wood

DIGITAL ADVERTISING

DIGITAL ADVERTISING



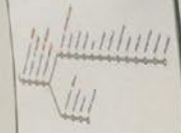
← Westbound Platform 2  
For trains to Heathrow  
and Maidenhead

Eastbound Platform 1 →  
For trains to Shenfield  
and Abbey Wood

← Eastbound Platform 1

Orange:  
General travel to and from Heathrow Airport  
Booked for London services  
All customers have easy access

SING





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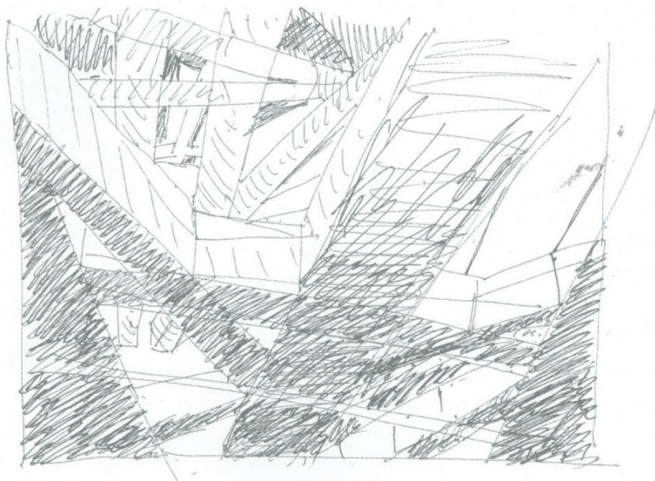
“There’s something about the sound of a train that’s very romantic and nostalgic and hopeful.” – Paul Simon, American musician

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# SZENT GELLÉRT TÉR STATION BUDAPEST, HUNGARY

Szent Gellért tér station is one of the deepest stations on the M4 line; it is composed of a cut and cover box and tunnels. The box is supported by levels of reinforced concrete beams, producing a structure similar to a net or skeletal system. The architectural and structural concept is based on a random beam grid and the underground texture and construction system were compatible without compromising the often volatile and changing conditions of the planning and building processes. The main front of the box is a concrete wall covered with corten steel, while the tunnels have a curved cross section. The walls and the columns are covered with mosaic tiles reflecting the Zsolnai ceramic tiles of the nearby Gellért hotel.



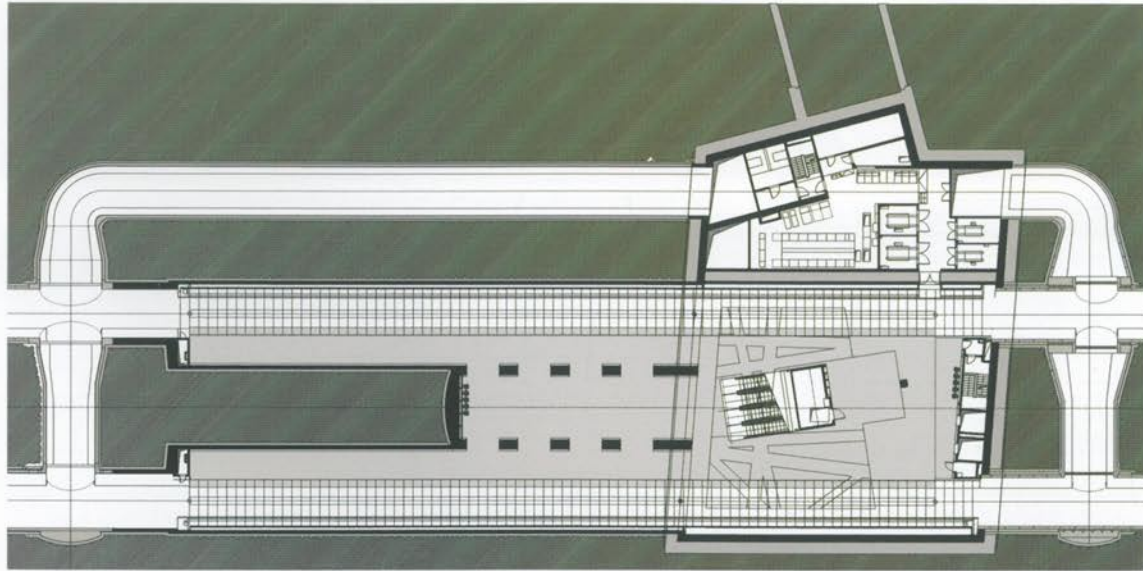
Architects: sporaarchitects  
Location: Szent Gellért tér, Budapest, Hungary  
Completion: 2014  
Gross floor area: 7,100 m<sup>2</sup>  
Number of public levels: 3  
Number of platforms: 1  
Number of passengers/day: 15,000







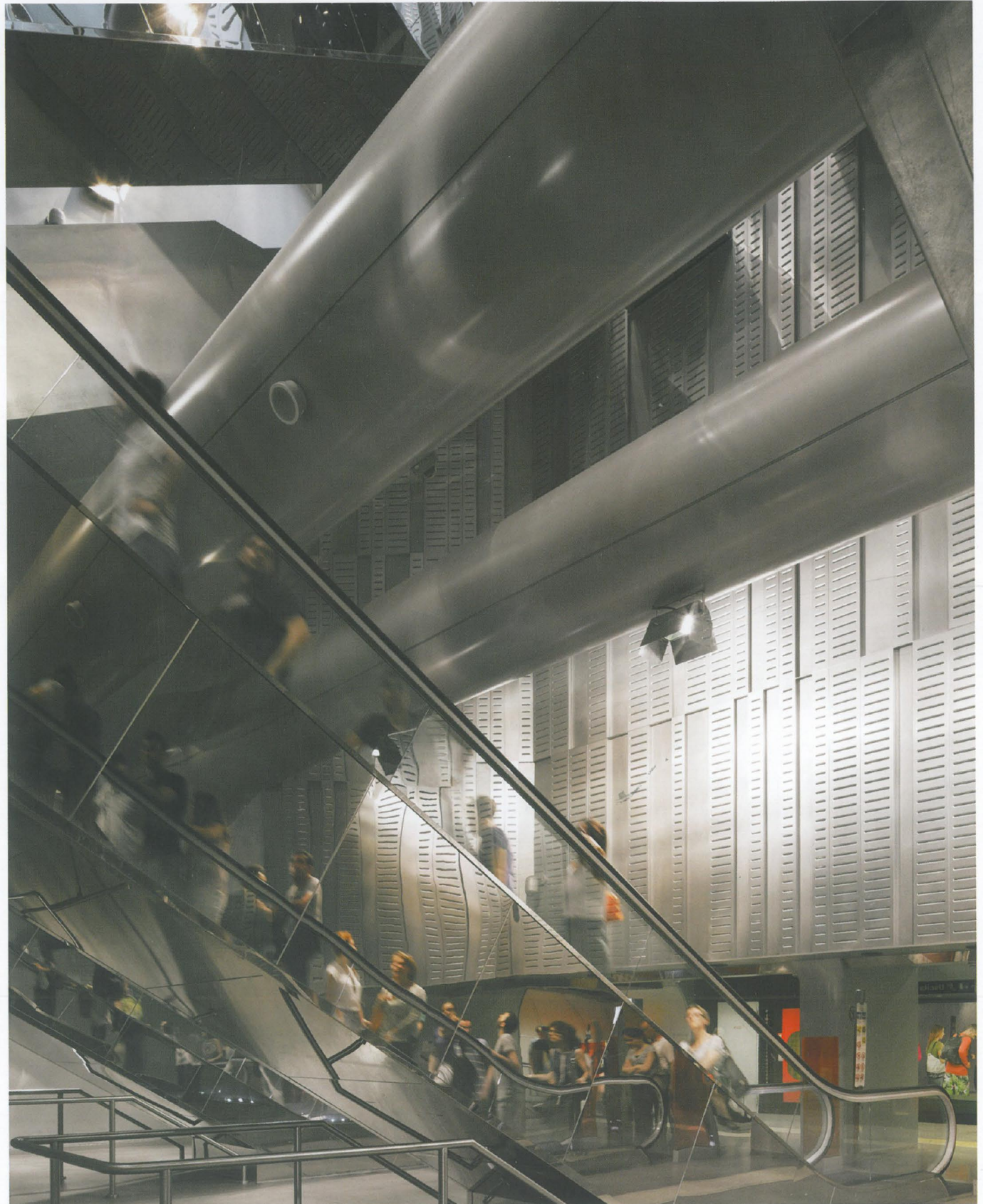
← Keleli pölyaudvar



Architects: Dominique Perrault Architecture  
Location: Piazza Garibaldi, Naples, Italy  
Completion: 2014  
Gross floor area: 13,120 m<sup>2</sup>  
Number of public levels: 4  
Number of platforms: 2  
Number of passengers/day: 18,000  
Additional functions: public space, commercial gallery,  
cinema, parking lot, access to train station

## PIAZZA GARIBALDI NAPLES, ITALY

Dominique Perrault was commissioned by the Metropolitana di Napoli to redesign the Piazza Garibaldi and build an accompanying subway station. The chance to design a new metro station provided the architect with the opportunity to reform the urban space, creating a location full of vitality and characterized by the fragmentation of the pedestrian spaces. A huge gallery has been inserted into the ground and the underground network is permitted to surface at certain points, drawing light into the depths. High metal 'trees' rise out of the ground to support the roof.





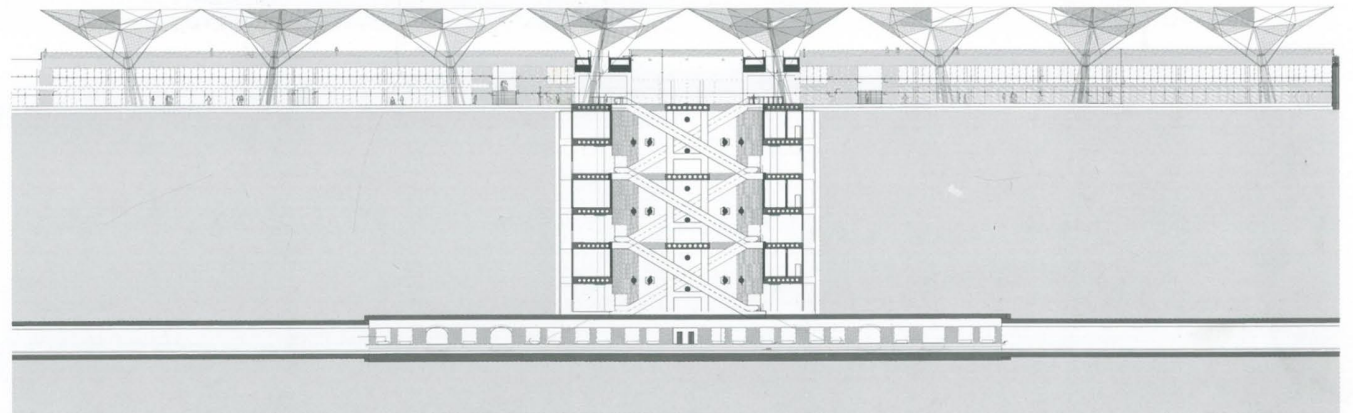




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“I’m not a car guy. The subway gets me where I need to go efficiently and cheaply,  
and I don’t worry about traffic.” –  
Joe Scarborough, American news presenter

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Tunnel systems constitute the arteries of every modern city. In increasingly densely populated and growing metropolises the underground metro system is gaining in importance. Consequently, existing underground networks are constantly expanded and improved while completely new systems are developed.

With design, lighting, furnishing and frequently with artistic interventions, the underground complexes made of tracks, platforms and accesses have become the subject of great spatial creations. The unique combination of architecture and engineering is what makes this area of construction so exciting and that underlines the fact that the projects presented in *Level -1* can be rightfully described as public transportation cathedrals.

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