INDUSTRIAL SEVILLE BIKE TOUR

FROM THE PLAZA DE ARMAS RAILWAY STATION TO THE ARTILLERY FACTORY

SEVILLE'S HISTORICAL RAILWAY STATIONS.

These railways spaces originally followed European (French and English) designs. Later, when they became inactive, they again followed the French model, interpreted by Spanish architects at the stations of Atocha (Plaza de Armas) and El Norte, in Madrid (San Bernardo Station).

The urban-planning objectives set out for Seville's stations can be outlined as follows: 1) Avoid interruption to access routes into the city; 2) Connect the railway network with the port; 3) Locate the stations close to the urban centre; 4) Respect the city's architecture; and 5) Avoid internal communication problems. It should be noted that these principles were not faithfully adhered to, least of all, those affecting the interruption of internal communications within the city.

THE ROYAL FACTORIES

Manufacturing in Europe began around the 14th and 17th centuries, and coincided with the changes in feudal society following the revitalisation of trade resulting from the discovery of the Americas.

European mercantile doctrines introduced working at home at the same time as fostering the establishment of limited companies owned by shareholders, a phenomenon that appeared late in Spain, and whose goals were the separation of work and technological improvements. The economic outcome of the process was a rapid accumulation of capital under the control of entrepreneurs.

This situation was closely related with the shift in attitudes arising with the Scientific Revolution, in which investigation, discovery and dissemination would represent the basic process of explaining the world, a method that would finally affect not only science, but also industry as practical applications emerging from theoretical studies by members of the first scientific associations were being promoted. The state administration would also be affected by these changes. And just as the universe began to be conceived as an object that was governed by precise laws, the state became a machine moved by a social class with the illusory objective of promoting progress and happiness.

The beginnings of industrialisation in Seville were linked with state-created factories: Segura Wood Warehouse (Real Almacén del Rey de Maderas del Segura, 1735), in Calle Arjona is currently used by businesses and housing; the Tobacco Factory (1728-1757) on calle de San Fernando is now home to the University of Seville; the Artillery Factory (1727-1782), on Avenida de Eduardo Dato is unused; the Royal Shipyards, Reales Atarazanas (1252), at the Arenal dock are currently being restructured to house the Caixa-Forum Cultural Centre.

PLAZA DE ARMAS RAILWAY STATION. The station belonged to a style widespread in the previous century, the terminal station. The design of the roof structure was similar to that of the Gallery of Machines at the Paris Universal Exhibition of 1879. The platform area is 105 metres long, 30 metres wide and has a height of 20 metres, and occupies a surface area of 6,500 square metres. The style was based on the historical "Neo-Mudéjar" trend, and its most direct references can be found in historically famous examples, such as the Alhambra in Granada.
When the new station at Santa Justa come into service, a restructuring plan to make it into a shopping centre was implemented in 1998.

The Plaza de Armas station originally had a project date of 1889 but construction was delayed until 1901. The designers of the initial project were the engineers Nicolás Suárez Albizu and José Santos Silva. The Plaza de Armas station (also known as the Station of Córdoba) was planned by Compañia M.Z.A. It was Seville's main station until it was decommissioned between 1990 and 1991, as a preliminary step to carrying out the infrastructure works for the 1992 World Exposition, for which all the station's service buildings were demolished, resulting in the loss of valuable railway heritage.

ALMACÉN DEL REY DE MADERAS DEL SEGURA (1735) ON CALLE ARJONA. The way these wood warehouses operated was also interesting; just as in Western movies, trees felled in the far-off Sierra de Segura mountain range, near the sources of the Guadalquivir river, were swept downstream by the water until they reached Seville, where the trunks were trapped between the barges that supported the pontoon bridge that at the time connected Seville and Triana. This river-based sieve collected the timber which was stored in the new building.
It had a single floor and neoclassical appearance, but had elements of artistic licence, such as the small watchtowers on the corners.

The site chosen for the building, known as *Afueras de la Puerta de Triana*, was practically perfect from a strategic standpoint: along with the old Puerta de Triana city gate, one of the most active and hectic gates into the city, the warehouse was close to the Puente de Barcas bridge which linked the city with the district of Triana and the Aljarafe area; it was also close to the shipyards, which it supplied with wood for repairing and building boats and ships.
The building was first restructured in 1927 and definitively renovated in the 1940s by architects Balbontín and Delgado Roig, in a series of works that radically changed its use and appearance.

PUENTE DE TRIANA. The old pontoon bridge survived until the mid-19th century, when the modern-day Puente de Isabel II bridge, popularly known as the Puente de Triana, was opened in 1854. After a number of preliminary plans in 1844, French engineers Fernando Bernardet and Gustavo Sternacher presented three types of bridges: stone, suspension and cast iron with two central piers. The iron bridge was finally chosen, making it the first infrastructure in the city built in that material. The designers were inspired by the Carrousel Bridge in Paris which has since disappeared.
The casting of the bridge was carried out in Seville at the San Antonio foundry, run by Narciso Bonaplata. To finance the bridge, a toll with two booths was set up for 10 years until the debt was paid off.
Besides giving the city wealth and a magnificent appearance, the river Guadalquivir often caused many problems. One of the most significant of these was connecting the two banks. This is why a bridge to link both banks was established in the 13th century by placing a series of boats from one bank to the other.
On 12 December 1845, the first stone of the new bridge was laid on the Seville-side support. Nine years later, in 1854, the bridge was opened.

In the 1970s, the Ministry of Public Works sent Seville City Council a demolition plan so that the bridge could be replaced, but pressure from institutions and the people of Seville at large prevented it from being torn down.

FISH MARKET (LONJA DE PESCADO). The Naves del Barranco building is a former fish market. The building has a square groundplan, with iron and glass clearly predominating to form a set of four bays covered by barrel-vaulting using galvanised iron sheets with large glass windows, all supported by a cast-iron structure and columns. It featured a portico around the front and back of the building and a diaphanous interior.
It is currently the exhibition gallery for Seville City Council and a tourist information office. It is planned to be used by the local television company.

Together with the Puente de Triana and the former Plaza de Armas station, it is one of Seville's few examples of iron architecture, a style combining iron and glass that emerged in the mid-19th century. In 1861 Seville Council decided to build a modern fish market. The project was commissioned to Portilla White y Compañia in 1876. The work finally concluded in 1883 under the management of municipal architect José Sáez López.

ROYAL SHIPYARDS. These Gothic and Mudéjar shipyards were produced in the brick factory, which reveals the influence of Almohad art on medieval buildings in the city. The enormous dimensions of the long, wide buildings covered by arris vaults, and suited to the task of building the largest ships of the time, are astonishing. The buildings are connected laterally by thick, slightly pointed and facing arches which rise directly from the floor.
They have undergone major modifications, and only seven of the original 17 buildings have survived to this day. Renovation works currently being carried out are intended to provide a site for the "Caixaforum" Cultural Centre.

Seville's shipyards were created just after the city was taken from the Moors (in 1248) by King Ferdinand III of Castile. In 1252 His son, Alfonso X, decided to build royal shipyards to produce galleys on land outside the walled city, but by the river, in the area between the Torre del Oro, Torre de la Plata, and the Puerta del Carbón and Puerta del Aceite gates. The riverside carpenters worked on building ships, the fishermen and warehouse owners salted fish, and the traders sold their wares; from the 18th century it became a factory and warehouse for artillery.

ROYAL MINT The Royal Mint of Seville has an irregular shape, which is almost triangular, and was built on the site of a former 13th-century mint. It underwent several alterations during use as a Royal Factory: one of these in the 16th century and other in the 18th, when a large portal was added as the main point of entry. The work was by Sebastián Van der Borcht, as were other renovations intended to deal with the problems of leaks and structural defects resulting from the Lisbon earthquake in 1755.

The mint was the centre for smelting gold and silver at the time. These were made into standards and doubloons and later underpinned the European economy in the 16th century, the era of the conquistadores in the New World. In the centuries comprising its heyday, over 200 employees were responsible for stoking the furnaces and operating the smelting process. The mint was located at the entrance to the city, between the Torre del Oro and Torre de la Plata. It had no problems supervising whatever arrived at

the Casa de Contratación, the government's agency for trade with the New World, from the Americas.

ROYAL TOBACCO FACTORY. Begun in the 18th century, the Royal Tobacco Factory is one of the largest and best architectural specimens of its type in Spain, as well as one of the oldest in this category still preserved in Europe from the Ancien Régime. The building extends over a 185 x 147 metres rectangular area with slight protrusions at the corners. In Spain, only the El Escorial monastery, covering an area of 207 x 162 metres, is larger. The building is surrounded on three sides by a moat to cut it off from the outside. It is two stories high with mezzanines in the residential areas.

The Spanish discovered the tobacco plant when they arrived in the Americas in 1492. Seville, home of the Casa de Contratación–, had the monopoly for trade with the Americas and the first tobacco plants had already reached the city as early as the 15th century. In the early 16th century, the first tobacco manufacturing industries, the first in Europe, were established here. At the outset factories were spread out through the city. Although for health reasons and also because of state control of the business, the different factories later merged into a single factory opposite the church of San Pedro.

ROYAL ARTILLERY FACTORY. The artillery factory's design is in line with the concept of large military buildings of the time with a uniform sense of space. The initial concept was based on the definition of a continuous square whose unit of repetition was formed by four pillars joined by an architrave system and covered by a groined vault with the size of a large furnace. The system created a large space which was easily able to house the different workshops in which the production process was carried out.
The ordered structural sequence meant that the factory could be adapted without problems for later successive extensions using new construction systems and materials different to those originally used.

The Artillery Factory, originally called the "Bronze Factory", was established around 1565 in the district of San Bernardo, outside the city walls and underwent a whole of raft of modifications to adapt it for modern artillery. No traces are left of the original building since the old workshop was steadily demolished for the new building in 1720 which eventually occupied the original layout, a complex within the district's urban fabric to which several streets were added, as internal courtyards.
In the late 19th and early 20th centuries the building had the proportions that we see today. For centuries the factory had been one of the main areas of economic development for the district of San Bernardo, and therefore shaped its urban character.