Casa-Port New Railway Station
Casablanca, Morocco

Architect
AREP and Groupe 3 Architectes

Client
Office National des Chemins de Fer

Design
2007-2010

Completed
2014
Casa-Port New Railway Station
Casablanca, Morocco

I. Introduction

The Casa-Port project is a transport hub, located in Casablanca at the confluence of three major areas. It links the new town development, located by the seaside, the Art Deco district of the city and the old Medina. It connects the port, the railway station and the internal urban transport system of the city (buses and tramway). The project originally arose from a latent conflict between the city and the national railroad company about the use of this station and its relationship with the new development as foreseen by the municipality. Two groups partnered in a joint venture for the project: AREP, a subsidiary of the Société nationale des chemins de fer français (SNCF), and Groupe 3 Architectes (G3A) from Morocco.

II. Contextual Information

The Casa Port station predated the project and was located at the confluence of three major areas (the Art Deco district, the Medina and the new development of Casablanca). Obviously, the way it was designed did not satisfy the municipality and did not fit with ambitions of increasing its capacity, as foreseen by the ONCF (Office national des chemins de fer). AREP was commissioned to provide a master plan for the organisation of the area and Groupe 3 joined the team to design the project.

A. Brief historical background

Casablanca is the commercial capital of Morocco. With a population of 4’250’000, the city is built on the site of the ancient settlement of Anfa. This fast-growing city had a population of only a few thousand one century ago. It has become, over the last decades, the centre of the Moroccan economy and a symbol of modernity for the Kingdom.

B. Local architectural character

This city has always been considered a “laboratory” of architecture in Morocco.

Consequently, different architectural styles are found within the city. During the first half of the 20th century, architects (mainly from the Beaux-Arts) experimented with Art Deco architecture on a large scale in the city, and included elements of traditional Moroccan architecture into their productions. The Medina still has kept its traditional architectural features, while the Habous neighbourhood is a commercial area built in the 1920s and 1930s based on a concept of traditional architecture. The new developments in the city are considered to be a showcase of Moroccan modernity going into the 21st century.

C. Climatic conditions

The climate in Casablanca is mild (Mediterranean-type, with influence from the ocean). Temperatures fluctuate between 8.4°C and 26°C, with the coldest month being January, averaging 13°C, while the months from July to September average 21°C.

Annual rainfall is estimated at 426 mm.
D. **Site and surroundings**

The site is at the heart of the urban area, at the junction between three main architectural areas (the Art Deco district, the Medina and the new developments). The area is characterised by its density, with some buildings of more than 20 storeys. The project is located at the end of Boulevard Houphouët-Boigny, at the junction with the Boulevard des Almohades Corniche. The Medina is close by the project site and the Art Deco district starts next to it. The project faces the port of Casablanca, in particular the area reserved for the future development of a marina.

E. **Topography**

The old station was located at the end of Boulevard Houphouët Boigny. The site is flat and there are no particular difficulties in terms of topography.

III. **Programme**

A. **History of the inception of the project**

AREP was initially commissioned to propose a master plan indicating how it might be possible to develop a strategy of integration of the railway station within the mainframe of the city, taking into account a desire to open the city towards the sea with a marina development, and to propose an integrated transport hub taking into account the major traffic streams on the two boulevards of the city. AREP, a former subsidiary of SNCF, proposed different schemes and one of them was implemented.

After the city approved the integration strategy, the architects G3A joint-vented with AREP for the project.

B. **How were the architects and specialists chosen?**

AREP was chosen by the ONCF to develop the master plan and the strategy of integration.

Groupe 3 Architectes was chosen by ONCF to be the architects of the project. ONCF decided that the two groups would form a joint venture to produce the project. Groupe 3 Architectes had previously designed a railway station (Station de l’Oasis) in another neighbourhood in Casablanca (actually transforming a small stop into a railway station).

C. **General programme objectives**

The project was to provide facilities for increasing traffic, with projections of 25 million travellers every year. The municipality had a vision of integrating this infrastructure into the larger development scheme for this area. The programme had to satisfy those two main requirements.

D. **Functional requirements**

The programme intended to provide specific railway transport facilities to the prospective 25 million passengers. But it was also designed to be a meeting/connection point and therefore it includes commercial facilities. One important point was to be able to integrate the future developments in the city centre with an opening towards the sea.
IV. Description

A. Building data

The total site area is 2’500 m².

The total built area is 33’500 m² including underground parking.

B. Evolution of design

Response to physical constraints

The architects had to face the usual constraints in Morocco: the desire to produce modern architecture and the strong demand from officials and the population to showcase the “Moroccanity” of the project.

The first important decision made was to move the station eastwards so that it would no more appear as a dead-end to Boulevard Houphouët Boigny. This decision allowed the freeing-up of the right-of-way that was used as the taxi connection to the Boulevard and to become the beginning of the entrance plaza. The architects decided that they needed to have a very simple organisation, providing clear directions to the passengers into and out of the station, and an efficient connection to Casablanca’s urban transport system (bus lines, tramway and taxis). This organisation of space emphasised natural lighting and the possibility of cross-ventilation.

Response to user requirements

The project is organised on different levels. The entrance plaza continues on inside the building to a main arrival and departure hall linked to the ticketing and the platforms. This hall includes some facilities (restaurants and fast food) and sitting areas for the passengers.

The shops and meeting points are located at the first underground level. The administration is at the end of the hall just above the ticketing area. One office building by the railways is connected to the passenger hall. It is intended to be the beginning of the future developments on the Boulevard des Almohades. All levels are linked by lifts.

Purely formal aspects

The station itself appears as a big steel-canopy roof supported by individual concrete and metal poles that split into eight branches. The underside of the roof is made of wood. The side walls are transparent onto the city and platforms, allowing the passengers to clearly understand the organisation and functions before they enter the station.

The southwestern facade is protected by a mashrabiyya in reference to traditional architecture and protecting the hall from direct sun in the afternoon. This feature, made of fibre-reinforced concrete, is one of the most sophisticated elements of the building. The meeting points organised within the main hall help get rid of the usual crowd/speedy feeling that you have in railway stations halls, as they allow people to rest and socialise within that main hall, although not interfering with the main passengers streams. The underground shops and restaurant give a cosy feel to those activities.
Landscaping

One very interesting achievement is the fact that the strategy allowed the continuity of Boulevard Houphouet Boigny right up to the front facade of the building. The station itself is in continuity with the plaza and the later development of the marina and opening onto the seaside will give this area a sense of fluidity that is very engaging. From Boulevard Houphouet Boigny, there is no rupture in the landscaping. The plaza and its access to the underground parking help “open up” the project to the city.

C. Structure, materials, technology

Structural systems

The former railway station was demolished and the new one is a concrete and steel structure. There is a general canopy roof that encloses all the activities. This roof extends beyond the facades to provide shading and sun protection. The roof includes sky openings above the structural columns that allow natural lighting inside the building. The hall level has an atrium opening to the lower level at its centre. The structural poles’ lower parts can be seen from the ground level, reinforcing the visual continuity between the levels. The lower level can be reached by a taxi driveway in front of the building.

The brief included the necessity to prepare the connection to the future underground rapid-transit station and provision has been made for that connection. The architects also decided to organise a connection to the nearby tomb of a marabout, Sidi Abderrahmane. The lower underground levels are reserved for the parking areas.

Materials

The main materials used in this project are steel, concrete and glazing. The floors are covered with Ben Slimane limestone slabs, coming from a city 80 kms from Casablanca, arranged in simple geometric patterns. The underside of the roof is covered with wood.

Construction technology

The technology used for the construction is standard. Concrete is used extensively on the underground levels while the ground floor is built of steel and glazing to ensure the lightness and transparency in the building. The shops inside the hall are arranged so as to be easily occupied and transformed. The roof is supported by a series of concrete and steel columns (concrete on the lower levels of the building and steel on most parts of the ground floor to the canopy). The space for the underground levels was excavated and the lower levels used for the parking areas. The roof structure is made of steel with the underside in wood.

Building services

No special provisions made for site utilities
D. **Origin of:**

- **Technology:** International
- **Materials:** Morocco
- **Labour force:** Morocco

**Professionals**

**Project Supervision:**

- **AREP, France:** Etienne Tricaud, Philippe Druesne, Christophe Iliou
- **Groupe 3 Architectes, Rabat, Morocco:** Omar Tijani, Skander Amine, associate architect, Vincent Missemer, project manager
- **Structural Engineering: MaP3** Emmanuel Livadiotti, Érick Cuervo
- **Structural and Technical Consultants:** UTECA / INGECOBAT, Morocco
- **Landscaping:** Atelier Bertrand HOUIN, Morocco

V. **Construction Schedule and Costs**

A. **History of project design and implementation**

- **Start of urban design:** Summer 2006
- **October 2006:** Choice of option by the ONCF. AREP designs the sketch of the building and proposes it along with its urban studies
- **Early 2007:** Start of architectural project
- **May 2008:** Start of construction
- **September 2014:** Delivery of the project

B. **Total costs and main sources of financing**

400'000'000 MAD = ca. 41’000’000 USD = 36’000’000 EUR

Office national des chemins de fer, Maroc

C. **Maintenance costs**

According to Mr Adnan BELAKHDIM, stationmaster, operation and maintenance of the station are very easy. Costs could not be obtained
F. Ongoing costs and “life performance” of building

Costs could not be obtained, but, because of the quality of construction and materials, it is likely that this building will easily last over the years.

VI. Technical Assessment

A. Functional assessment

The stationmaster stresses the ease of operation of the station. The way the different functions are organised makes it very easy for the user to understand the layout of the station and increases efficiency. The station, though, is not only a transport facility but a “meeting point” and a place to socialise, used by travellers, students and the people of Casablanca for lunch, rendez-vous, etc…

B. Climatic performance

The architects have taken into account the climate in Casablanca to design a building that responds easily to the weather conditions (with possibility of cross-ventilation, protection from direct sun…)

The acoustics are not like the usual acoustics of railway stations. Though, functionally, volume is important and most of the materials are reverberant, the level of noise is very low, especially within the shop and restaurant facilities. No particular sound control system has been deployed.

C. Environmental response

The exterior design is very similar to the type of environmental design used elsewhere in the city of Casablanca (palm trees, greens…) and creates a continuity with Boulevard Houphouet Boigny.

D. Choice of materials, level of technology

Simple, local and quite standard, apart from the light concrete of the mashrabiyya

E. Ageing and maintenance problems

No major issues foreseen

F. Design features

One of the major achievements of this project is the quality of its integration with its surroundings. In fact, this project enhances the perspective from Boulevard Houphouet Boigny and opens up the future port extension and developments in the rest of the city.

G. Impact of the project on the site

The accessibility to the different functions of the transport hub allows the very high traffic volume on the Boulevard des Almohades and Boulevard Houphouet Boigny to still flow.
**H. Durability and long-time viability of the project**

Very good

**I. Interior design and furnishing**

Simple and appropriate for the heavy traffic

**VII. Users**

**A. Description of those who use or benefit from the project**

The whole population of Casablanca and travellers to and from other cities in Morocco benefit from the project.

**B. Response to project by clients, users, community, etc.**

*What do architectural professionals and the cultural “intelligentsia” think about the project?*

The project is widely regarded by other architects as a beautiful and efficient architectural achievement.

*What is the popular reaction to the project?*

It seems that the project has been widely accepted by the population. Not only do travellers use the station but it has become a meeting point for people, especially young people, in the central district of Casablanca.

**VIII. Persons Involved**

AREP, France: Urban strategy project and architectural design
- Etienne Tricaud
- Philippe Druesne
- Christophe Iliou

Groupe 3 Architectes, Rabat, Morocco: Architectural design
- Omar Tijani
- Skander Amine, associate architect
- Vincent Missemer, project manager

MaP3: Structural engineering:
- Emmanuel Livadiotti
- Érick Cuervo

Structural and technical consultants: UTECA / INGECOBAT, Morocco

Landscaping: Atelier Bertrand HOUIN, Maroc
IX. Bibliography

See: http://projets-architecte-urbanisme.fr/26-09-14-gare-casa-port-casablanca-maroc/

Casa-Port Railway Station / AREP, *Archdaily*, June 2015
See: http://www.archdaily.com/769001/casa-port-railway-station-arep


La Gare de Casa Port vers une mobilité multimodale, *Architecture du Maroc*
See: http://ameditions.net/councours-architecture/la-gare-de-casa-port-%E2%80%89vers-une-mobilite-multimodale/

Zancan Roberto, Casa Port, *Domus*, May 2015
See: http://www.domusweb.it/en/architecture/2015/05/08/casa_port.html

Casa Port, ceci n’est pas une gare, *Le Courrier de l’Architecte*
See: http://www.lecourrierdelarchitecte.com/article_6864


See: http://www.bladi.info/threads/nouvelle-gare-oncf-casa-port.387537/

Jean-Charles Tall
May 2016
The site is at the heart of the urban area, at the junction between three main architectural areas (the Art Deco district, the Medina and the new developments), and is characterised by its density, with some buildings of more than 20 storeys.

The lower level, which accommodate the shopping centre, food court area and underground car park can be reached by a taxi driveway in front of the building.
The project was to provide facilities for increasing traffic, with projections of 25 million travellers every year.

The station itself appears as a big steel-canopy roof supported by individual concrete and metal poles that split into eight branches.
The entrance plaza continues on inside the building to a main arrival and departure hall linked to the ticketing and the platforms. This hall includes some facilities (restaurants and fast food) and sitting areas for the passengers.

The main hall has an atrium opening to the lower level at its centre. The structural poles’ lower parts can be seen from the ground level, reinforcing the visual continuity between the levels. The shops and meeting points are located at the first underground level.
The southwestern facade is protected by a mashrabiyya in reference to traditional architecture and protecting the hall from direct sun in the afternoon. This feature, made of fibre-reinforced concrete, is one of the most sophisticated elements of the building.

The roof includes sky openings above the structural columns that allow natural lighting inside the building.