

Visit report 18/10/2016: Transbay Terminal

By: Sam de Roover

In the afternoon of the 18th of October the students and tutors were welcomed in the high-rise on 201 Mission street, where from the 21th floor an aerial view on the project was offered. A presentation of the project was given by an employee of Turner, the construction overseer of the project, who was helped by a project manager of the Transbay Joint Powers Authority, or TJPA.

The Transbay Terminal of San Francisco could be described as the phoenix of San Francisco. The birth of the first terminal took place in 1936 in the reclaimed wetlands where First and Mission Street now are. It was one of the projects to help the economy get through the Great Depression and it was financed by the City with tolls raised at the Bay Bridge, which was also completed at that time. The Transbay Terminal then accommodated besides busses also trains, and at its prime 26 million passengers passed through the terminal in 1946. Later however, the automobile gained more and more popularity and eventually in 1959 the rail tracks were removed from both the bay bridge and the Transbay Terminal.

Over 20 years ago, the project for replacing the old Transbay Terminal for a new one was initiated as part of the Transbay Transit Center Project, which was overseen by the TJPA. In line with the Bay Area governments' desire for encouraging the use of public transport in the Bay Area, a direct rail connection was to be built between the end station of the AmTrack at 4th Street and Townsend and the Transbay Terminal. With this connection, commuters will not have to cross 2.4 kilometres through the city to get to and fro the financial district. Older generations would be tempted to use public transport instead of their car to travel in and out of San Francisco, and capacity is provided to anticipate the growing portion of younger generations of commuters, who prefer public transport over car use (according to the spokesman of Turner). It is anticipated that on a yearly basis 45 million persons travel via the Transbay Terminal.

The \$2.245 billion project was financed in a number of ways. \$400 million was given by the federal government as of the American Recovery Act. Before the end of 2016, this money is all to be spent on the project in order to stimulate the American economy after the economic recession. \$700 million is generated by sale of city-owned land and (to be) developed real estate surrounding the Transbay Terminal. 7 residential high-rises are to be built alongside some offices. Residential units are to be built too on the location of the current Temporal Transbay Terminal.

The whole project consists out of two phases. Phase 1 features the terminal itself and the adjacent bus ramp. Phase 2 involves the tunnel connecting the terminal to the existing Caltrain rail yard. Pelli Clarke Pelli Architects and its subcontractor Adamson & Associates Architects consulted on the design, with the Webcor-Obayashi Joint Venture doing the actual construction.

Phase 1 started in 2010 with the excavation for the three city blocks long terminal. Sheet piles were driven 43 metres down into a clay layer to accommodate a dry building pit with a maximum depth of 20 meter. On the 1800 micro piles resting upon the 81 metres down bedrock, first the train terminal was constructed. On the floor above, still below street level, the train station is situated, in which room is reserved for ticketing, baggage handling and retail. In the train station place is also reserved for the anticipated Californian High speed rail. On street level, city busses will arrive and depart. Also some of the busiest streets in the USA cross the street level of the terminal. Traffic flow along these streets was made possible during the excavation by replacing road sections with temporary bridges.

On the second floor the bus station is located, where mainly busses of AC transit (80% of the routes) will be found. Busses will not only be able to access this floor by a ramp, but also to leave via the same way, thereby avoiding city traffic on the way out. Passengers of both the busses and trains could access, besides citizens and visitors of San Francisco, the top floor park. This park will consist out of different gardens and will be fed by rainwater, recycled grey water and occasionally by water from the water supply system.

Since the terminal is constructed near the Andreas fault, features to make the building earthquake resilient were put into place. Examples are the steel rods in the high strength steel columns to make the structure more rigid, and castings which hold the upper structure together, which are partly covered by awnings. The structure should be able to cope with an earthquake with a maximum magnitude of 10.4 on the Richter scale, making it likely more resilient than surrounding buildings.