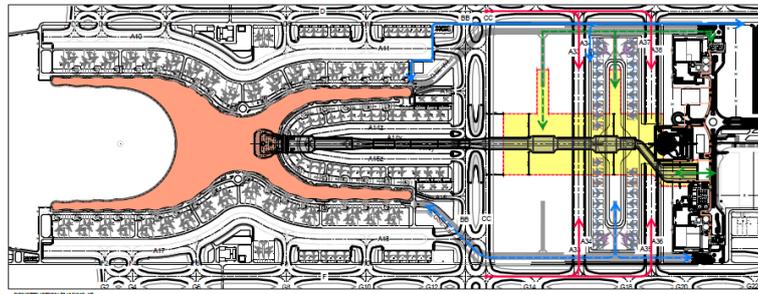
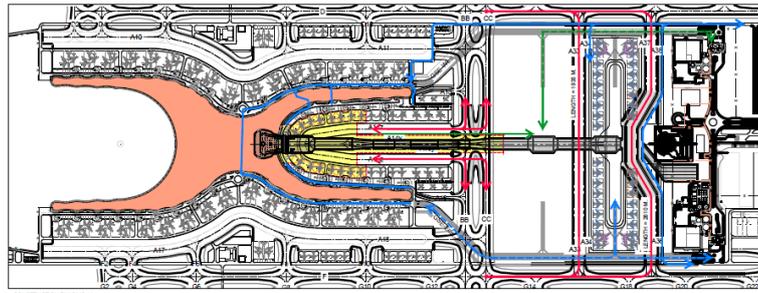
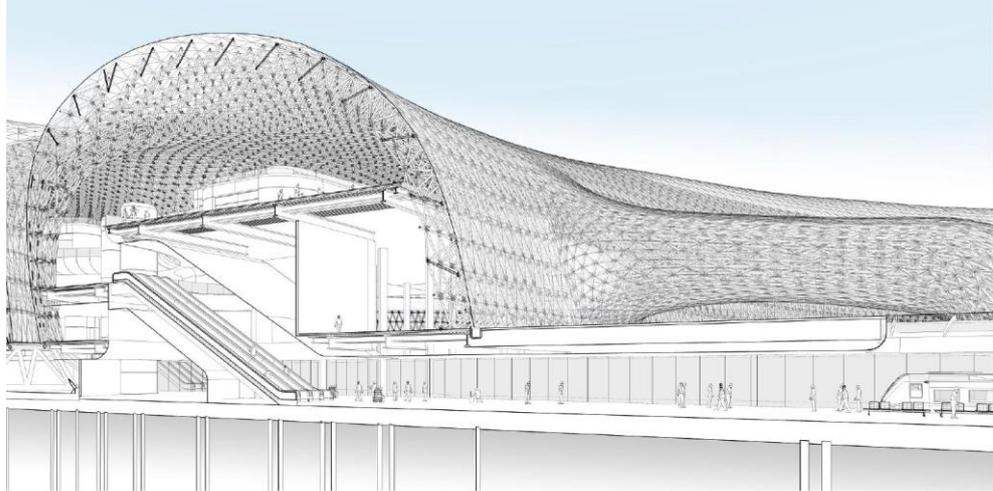


Project identification

Mexico City New International Airport - APM tunnel

Type of project

Automated People Mover Tunnel Construction Phasing Study



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Client

Grupo Aeroportuario de la Ciudad de México

In co-operation with

NACO, Grupo SACMAG, Grupo TADCO

Project assignment

Concept design development incl. construction staging at a full operational airport

Country

Mexico

Location

Mexico City

Project duration

Feb 2018- Feb 2019

Project phase

Design / study phase

Construction cost

Consultancy fee

Approx. € 650.000
(excl. VAT)

Mexico City New International Airport

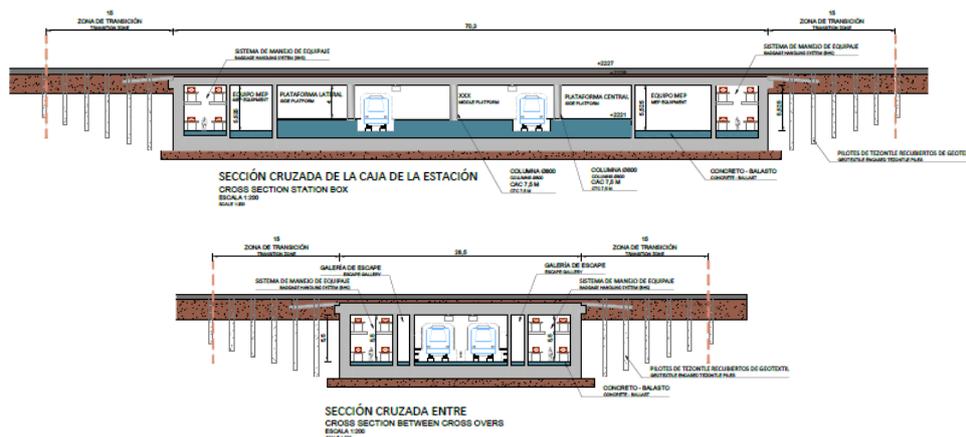
Airport design with cut & cover tunnels

Project description

The new airport will replace the Mexico City International Airport, which is at full capacity. The new airport will have three runways to start and will be expandable to up to six runways. With three runways in simultaneous use the airport will be able to serve up to 50,000,000 passengers per year.

During the design phase of the project a new masterplan was issued by the client due to the increase in the air traffic forecast. This new masterplan requires the first satellite building to be operational in 2030 including an APM connection with the main building. The purpose of this study was to check the feasibility of building the tunnel on an operational airside. For the feasible solution the construction method and phasing has been analysed to study the impact on airport operations.

The construction phasing and the impact on the design of the APM tunnel and the connection to the terminal and satellite buildings and the transition from the tunnel to the aprons are challenging due to the soft soil conditions, heavy airplane loads crossing the tunnels and severe seismic conditions.



Scope of work

TEC was sub consultant to NACO for the NAICM project and responsible for the APM tunnel design including a construction phasing that would be appropriate for the tunnel operation and would address complicated connections to other new and to existing structures, considering the challenging ground and seismic conditions.

Amongst others TEC defined the minimum required construction space and phasing. NACO looked at the operational aspect (aircraft stand demand and aircraft routing). After an iterative process, this resulted in two main scenarios. These scenarios were further developed for detailed tunnel segment construction planning, operational clearances and taxiway routing scenarios, construction traffic access, availability for construction site offices/lay down areas and cost implications. A final check on stand availability of aircraft stands and the requested aircraft stand demand was performed. The outcome were two realistic construction scenarios for the APM tunnel construction in an operational airport situation. The financial, operational and construction time impact were identified for client decision-making.