Taiwan High Speed Rail

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Agenda

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Plan Overview

- Under BOT (Build-Operate-Transfer) model.
- The largest private sector investor public construction project at the time.
- The high speed rail system is 345km in length from Taipei to Kaohsiung (Tsoying), passing 14 major cities and counties, and 77 townships and regions.
- Commence revenue service in 2006.
- The total construction investment needed is of approximately US$18 billion.
Main Line Overview

Bridge Construction
Main Line Overview (Continuous)

Track Structure & Viaduct
Main Line Overview (Continuous)

Tunnel Construction & OCS
Main Line Overview (Continuous)
Features and Advantages

- **Relief of Traffic Congestion**
  It can effectively resolve traffic in west corridor to promote balanced development of western region of Taiwan.

- **Integration of Transportation Network**
  1) Integrate with Taiwan Railway, Taipei Rapid Transit, and bus system of each metropolitan area.
  2) The integration will include route, stopping, schedule and ticket services, which accelerates a complete high speed transportation network.
Construction View of J-Slab Track
Construction View of J-Slab (Continuous)

J-Slab Track – Construction Sequence Principle

1. Civil structure
2. Roadbed concrete
3. J-Slab & CA Mortar
4. Fasteners / rails
Construction View of Rheda Track

Rheda Track – Construction Sequence Principle
(for comparison)

1. Viaduct deck by Civil works
2. Protection layer by Trackworks (150mm thick)
3. Track / Turnout slab by Trackworks
Construction View of Projection Concrete (Bollards)

½ circle (at CEJ)  
Full circle
View of Stations

Taipei Main Station

THSR Taipei Station and Taiwan Railway Taipei Station are managed by sharing the same site.
Taichung Station

Design Concept is from "a shuttle" and a loom, meaning speed and connection, and represents the train moving forward through the rail network as a shuttle connecting all stations in north and south.
View of Stations (Continuous)

Taichung Station
View of Stations (Continuous)

Chiayi Station
Design Concept of Chiayi Station emphasizes on the design idea of "mutualism". The metal roof gradually tilts from west to east connecting the roof of the station and platform horizontally with the environment.
View of Stations (Continuous)

Chiayi Station
**Zuoying Station**

Design Concept:

1) The wave-shaped roof is the most eye-catching feature of the entire station.
2) The glass curtain wall brightens the station and makes it more spacious.
3) The stunning view of Mount Banping and Lotus Lake can be seen from here.
View of Depot
View of Depot (Continuous)
THSRC 700T Train

Design ideas of THSRC train system

- The train design is on the basis of 700 series Shinkansen.
- The power system refers to 500 series Shinkansen.
- The air conditioning system inside the train is enhanced to adopt to hot and humid weather in Taiwan.
Features of THSRC 700T train

- **Model**: THSR 700 T
- **Number of carriages**: 12
  
  (1 business car, 11 standard cars)
- **Number of Seats**: 989 seats
  
  (66 seats in business car, 923 seats in standard cars)
- **Top operation speed**: 300 km/hr
- **Length of train**: 304 m
- **Seats allocation**: 2+2 in business car
  
  2+3 in standard car
THSRC 700T Train (Continuous)
THSRC 700T Train (Continuous)

- Business Car
THSRC 700T Train (Continuous)

- Standard Car
Staff Uniform

- Train Driver
- Train Attendant
Staff Uniform (Continuous)

- Train Master & Station Staff
Staff Uniform (Continuous)

- Station Staff
- PA Staff
Organization Introduction
Transportation Department

- **Operation Control Center**
  - Control train operation on the main line
  - Monitor Disaster Warning System
  - Resolution and Resumption of Abnormal Operation
  - Rescue and Recovery from Emergency Operation

- **Train Operation Section**
  - Train Scheduling
  - Crew Scheduling
  - Crew Training

- **Crew Office North & South**
  - Train Crew Dispatch
  - Supervision of Train Crew
    (Train Driver, Train Master and Train Attendant)
OCC Control Room Function

- Train Controller (North)
- Train Controller (Central)
- Train Controller (South)
- Train Crew Util. Controller
- Trainset Util. Controller
- Timetable Controller
- Power Controller
- Chief Controller
- Facility Controller
- Passenger Service Controller
View of Control Room
700T Driving Simulator

- 700T Driver Simulator is to familiarize and teach drivers about the operation of the 700T trainset in Normal, Degraded, and Emergency operating conditions.
  - Basic Training
  - Refresher training
  - Qualification and certification
The 700T Driving Simulator is divided into three separate areas:

- Driving Cab
- Training Work Station
- Technical Support Hardware
700T Driving Simulator  (Continuous)

- Divided into two stations for training:
  - Instructor Station
700T Driving Simulator (Continuous)

➢ Trainee Station

Trainee follow the progress of the exercise (Driver in the CAB, line pictures, Driver’s console indications, OBC screens, …), and participate actively to the Driving simulation training.
700T Driving Simulator (Continuous)

- Driving Cab
Taiwan High Speed Rail

The End