

# Light Rail Bergen

## Depot Simulation with VISSIM



### Technical assistance & operations

Client: Bybanen  
Partner: Mott Mac Donald

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Bergen is Norway's second largest city with 270,000 inhabitants. Its light rail line will be extended from today 13.4 km to 20.5 km length. This will result in a direct connection to the airport in Flesland.

The extension requires the construction of a new maintenance infrastructure and depot. An operational simulation was carried out to determine whether the proposed design would provide enough capacity.

Both track network and vehicles were therefore modeled using PTV's VISSIM software, allowing a detailed simulation of each of the vehicles as well as a visualization of the runs.

A special challenge was the signal programming and controlling in VISSIM, so that all vehicles could run on the predestined routes when travelling between the storage and maintenance facility.

The model shows the vehicle ramp down in the evening, the maintenance works as well as the ramp up the next morning. The interim stabling and maintenance during the afternoon off-peak was also represented. Additionally it was possible to determine the number of vehicles that can be cleaned and refilled with sand.

The depot maintenance capacities for servicing, inspection and repairs also had to be checked against the specifications of German VDV.

Eventually, alternative options were tested for ensuring ongoing operation even in the event of a switch failure.

Overall, it was possible to approve the proposed design. Recommendations for further improvements were suggested.

Bergen Panorama



Outline of the depot



Model of the depot (VISSIM)

