

Fact Sheet

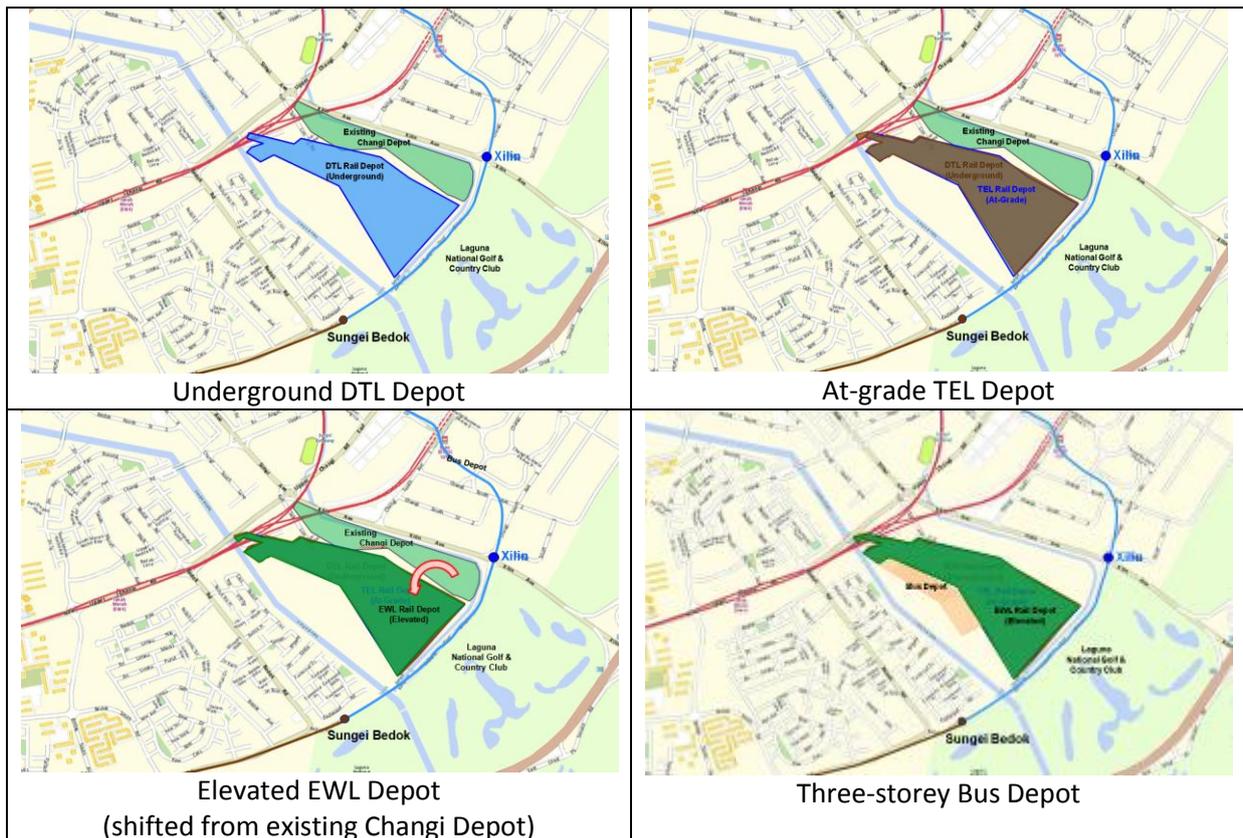
No.1 Hampshire Road Singapore 219428
Tel: 1800-CALL LTA (1800-2255 582) Fax: (65) 6396 1595

Date: 25 August 2014

World's First Four-In-One Depot

The four-in-one depot to be built together with the Thomson–East Coast Line (TEL) by 2024 is a first in the world to integrate three train depots and one bus depot within a single site. As depots occupy a lot of space and are costly, the Land Transport Authority (LTA) looks at alternative ways to build depots cost-effectively, without compromising the land use.

With the East-West Line (EWL), Downtown Line (DTL) and TEL running in the vicinity of the depot site, LTA made use of the opportunity to optimise land use by stacking three train depots above one another. With such integration, 44 hectares of land, or an area of approximately 60 football fields will be saved in land-scarce Singapore.

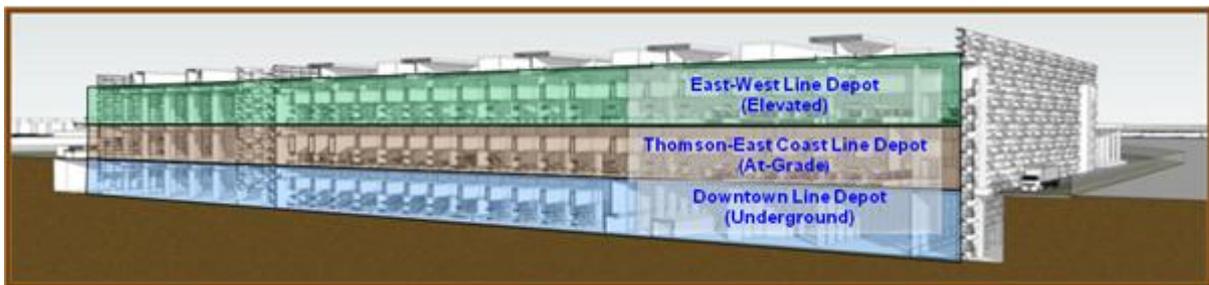


The train depot complex comprises three levels. The DTL Depot is located underground, followed by the TEL Depot at-grade, and the EWL Depot elevated on the level above. The three train depots have been designed to operate independently of one another, though very careful planning has been done for them to share the same layout so that MRT lines with

different number of train cars¹ can be stacked on top of one another. The total stabling capacity of the integrated depot is around 220 trains.



Perspective of Four-In-One Depot



Cross Section of Train Depots

The bus depot is an independent, three-storey structure located next to the train depots. The layout and location of the bus depot was planned to minimise land use, while maximising the capacity. The workshops are located on the first level while parking bays for around 550 buses are planned on the second and third levels.



Cross Section of Bus Depot

¹ DTL uses three-car trains, TEL uses four-car trains and EWL uses six-car trains.

The optimisation of land use on this site presents positive benefits on two fronts: Firstly, releasing valuable land for other uses and secondly, the stacked design of three train depots results in an efficient structural scheme that allows sharing of facilities.

By designing a multi-storey depot, the same set of foundations and columns is shared among the three train depots, leading to structurally efficient and economical design. The co-location of the depots also enables cost savings through the centralisation and sharing of common facilities and systems.

If built separately, the four depots would need to occupy a land size of 80 hectares. With the economical design occupying just 36 hectares, we save 44 hectares of land, construction and soil improvement works cost. The estimated cost of building this four-in-one depot is \$6.2 billion.

Challenges of Relocating the Live EWL Depot

Once the four-in-one depot is completed in the year 2024, LTA will start working on transferring the operations from the current Changi EWL depot to the new depot.

To ensure minimal disruption to the EWL operations, it is critical that the new depot is fully tested and commissioned before the depot operations can be fully transferred. These tests include the full testing of trains launching from and returning to the EWL depot. Such tests can only be conducted and must be completed during non-service hours so as not to affect the train services for commuters. This testing routine will continue until the new depot is fully tested. LTA will thereafter need to coordinate closely with the Public Transport Operator to transit the operations from the existing depot to the new one in a seamless manner.

In addition, with the new EWL depot, new reception tracks need to be constructed to connect to the existing EWL tracks. LTA will have to plan, construct and commission the reception tracks carefully taking into consideration safety and service quality impact on the existing EWL.

#####