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Development of Underground Land in Malaysia: The Need for Master Plan of Urban Underground Land Development

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Abstract

Underground land development often takes place in the urban area where the cities are becoming increasingly overcrowded. The developer will face the challenge of how development is to be carried out in term of its land use, zoning, and also density, regarding the absent of the planning framework. The objective of the study is to explore the needs and the importance of planning framework in developing underground land. It is utmost important for Malaysia to be ready with the master plan for underground land development because the identification of the elements for the planning framework will drive to the sustainability of the development.

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1. Introduction

The pattern of land development nowadays is not limited as the horizontal development but also has been widely going vertical development in underground. Utilization of underground land use often takes place in an urban area of

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the cities where the supply of the land is scarce. For the purpose to avoid congestion on the land, underground development seems to be an alternative to the current development pattern, such as the utility purpose especially for infrastructure were build underground. Looking at this matter, planning authority take an initiative to stipulated the urban master plan. However, the planning were disregarded the underground land for development purpose. Logically, underground land development is the most risk development that need a proper master plan before any ongoing development process.

According to Bobylev (2009), a master plan is an instrument used to control the use of land for sustainable urban development. As any development on the surface land, Department of Town and Country Planning had required that for the physical development plan must consists four development plans to be prepared in stages for the state then the local authority as the basis of development control. The master plan for development, needs to take into account the needs of economic and social aspects through the establishment of a comfortable physical structure. In other words, physical development plans are one of the instrument that control the development to achieve sustainable development. Therefore, for a master plan of the development of an underground land it is essential to set out only development that is sustainable to be put underground.

Even though Malaysia have had the underground development itself, nevertheless a master plan for that kind of development in the future has yet to be made. Indirectly, the developer will face the challenge to develop the underground land with the absent of planning framework regarding the use of land, zoning, and density because there are no regulations or guidelines to refer too. Thus, the objective of this paper is to identify the importance of the needs of the master plan for underground development.

2. Current situation

Underground land development in Malaysia was seen to be growing especially in the urban area where the supply of the land is limited. It can be seen from the development of Plaza Putra below the Merdeka Square many years ago, followed by Light Rail Transit (LRT), Stormwater Management and Road Tunnel (SMART) (Megat Abdul Rahman, Abd. Rasid, & Alias, 2000), and ongoing construction of Mass Rapid Transit (MRT). Even though Malaysia lack of experience in developing the underground land, those developments has proved that Malaysia are now looking towards a new kind of development for the future.

2.1. SMART Tunnel

The construction of SMART Tunnel shows that Malaysia has succeeded in challenging the underground land development. It is because SMART Tunnel is the first tunnel which have double functions that was successfully built; as an alternative routes as well as for flood prevention in Kuala Lumpur area from the Southern Gateway of KL-Seremban Highway, Federal Highway, Besraya, and East-West Link from entering and exiting the city centre .

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