

عنوان مقاله:

انتخاب روش حفاری تونل مترو با روش های AHP و TOPSIS

محل انتشار:

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خلاصه مقاله:

When a tunnel passes through weak soil with different conditions, or there is a thin layer of soil on top of the tunnel, the mass of soil or rock must be stabilized. In addition, an excavation method must be chosen and applied in order to control the amount of subsidence and convergence which are among the most significant factors in excavation a tunnel especially in urban area, since the soil between the tunnel and the ground moves due to changes in the shape of the tunnel through excavation, and progression of these movements toward the ground is manifested in subsidence of the surface structures. Therefore, in order to choose an excavation method based on the conditions of the project site, providing a decision-making model is essential. The ultimate goal is to select the most suitable subway tunnel excavation method among all available alternatives based on some determining criteria for Isfahan subway tunnel (Line 1). These criteria along with Multi-Criteria Decision Making (MCDM) models helped prioritize suitable alternatives. This model was designed based on technical, financial, executive, social, political and geo-mechanical features of the research site each of which subsumes a number of criteria. On the one hand, alternatives include Open Shield (full face) method, Slurry method, NATM method and excavate twin tunnel with TBM method which are used in the model. Finally, alternative D (excavate twin tunnel with TBM method) was selected as the best alternative of the .(site in both AHP(D=0.225) and TOPSIS(D=0.676391)

کلمات کلیدی:

Excavations method, Multi Criteria Decision Making, Isfahan Metro Line 1

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