

عنوان مقاله:

Assessment of the acoustical condition of metro stations by emphasizing auditory satisfaction (Case Studies: Saat
(and Khayyam Metro Stations

محل انتشار:

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خلاصه مقاله:

Metro stations as public places are very important in terms of speech clarity, safety, and security. However, due to the size and physical-special characteristics of these places, the use of non-acoustic materials, and providing acoustical comfort is practically not possible, and in emergencies, hearing voice messages is not possible for people with different mental and physical conditions and workers are prone to hearing damage. The purpose of the study is to assess the acoustic conditions of metro stations to provide auditory satisfaction. Two crucial and distinct stations of Tabriz city were measured using B&K ۲۲۶۰ sound level meter. SPL and RT are two of the most significant parameters in users' auditory satisfaction, which are used in the assessment of sound level and speech perception by humans. The measurements and evaluations show that (Lt) in Saat and Khayyam Stations are ۱۰۶.۴ and ۱۰۴.۲ dB, and the minimum is ۸۵.۶ and ۸۲.۴ dB, respectively. The measured maximum reverberation time (RT) is ۷.۲۱ and ۵.۱۷ seconds, respectively, at frequencies of ۵۰۰ and ۶۳۰ Hz with Gain=-۲۰. According to the values of international standards, both parameters are in the unacceptable range, and in addition to causing irreparable damage to human hearing, in the long run, it covers all sounds, and people are not able to hear the sounds with lower levels than the level of the environmental noise. Therefore, by increasing the surfaces and reducing the volume via architectural elements, it is possible to help improve the acoustical conditions in metro stations.

کلمات کلیدی:

Acoustical conditions, sound pressure level, reverberation time, Metro stations, Auditory satisfaction

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