



The need to use rigid procedures and replace them with flexible procedures

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Abstract— In any country, the vital role of the road transport network in its economy is inevitable. Therefore, the physical condition of the infrastructure is very important. At present, for various reasons, the need to use rigid (concrete) pavements in the country is well known. Among these reasons can be a significant increase in the price of bitumen, many problems of asphalt pavements in certain places such as the southern coast of the country, cargo terminals, pavement of airports and industrial areas, a suitable option for cement consumption, Higher durability and lower life cycle cost noted. For this purpose, experts proposed the use of concrete slabs as a strong and durable layer. Concrete pavements have a relatively high flexural stiffness and transfer external loads to the substrate with minimal deformation at a relatively large surface, and therefore the strength of the substrate will not play a decisive role. Rigid pavements, despite the need for high initial investment, due to their special features, such as high durability and longer life than asphalt pavements, bearing heavy loads at airports, as well as high-speed railways, lack of Deformation and maintaining smoothness on steep slopes, applicability in all environmental conditions, traffic and poor substrates, greater resistance to solvents and petroleum oils compared to asphalt pavements have a special place and importance Therefore, due to the existence of materials and materials for the construction of concrete procedures in the country, it is necessary to create sufficient technology, bed and experience in this field and to improve the quality of pavement of roads and airports and Also reduce maintenance costs. Also, today, in addition to economic and technical goals, environmental aspects and the requirements of sustainable development are increasingly considered in the design, construction and maintenance of pavements and other infrastructure projects. In general, the use of concrete pavement is recommended due to its greater compatibility with the environment, greater economic efficiency, high durability and long life in the construction of Iranian pavements.

Keywords: Concrete pavement (rigid), Asphalt pavement (flexible), Pavement failure, Pavement life