Introduction

Today uncontrolled urban growth incompatible with neighboring land, with the cities has created many problems and urban management has always been the acting against crisis rather than editing preventive and predictive policies. Issues and problems in urban transportation and traffic issues are included. Transport and traffic in cities, especially in the late nineteenth and early twentieth centuries following the developments of the industrial age in the city is one of the main concerns of the authorities and inhabitants of cities, especially large cities has become. However, the transport in cities is in relation with other urban factors. Among the factors that are land use, its design and management and relevant to the objectives mentioned in the transport sector; thus the land use produces the traveling and forms of transport and traffic as a result system of land use - transport takes place. The transport and urban land use, along with other relevant factors, form the system so that management decisions affect one another in one else and the whole system can be effective in achieving the goals, it is therefore necessary to be considered and managed uniformly. Mashhad, the second largest city in Iran and the first religious metropolis, due to the large number of pilgrims and travelers to the city, every year, faces to traffic and caused severe problems, especially in the downtown area (Business Center - offices, which is consistent with the scope of pilgrimage). Problems that often due to the lack of optimal use of available space, poor distribution of land, construction land travel absorbent (such as business) in the metropolitan area, and so on. The design of large commercial complex in central areas of cities with high economic powers such as Mashhad is impossible to avoid. East Diamond commercial complex is an absorbent sample in Mashhad city. So checking application of integrated management of land within the East Diamond commercial complex and its transportation systems could play a role in organizing and improving traffic and transport situation in Mashhad may be necessary to perform.

Materials and methods

The main research questions, is whether there is a positive relation East Diamond commercial complex between travel demand and traffic by business users in Mashhad? Is the East Diamond commercial complex (Sub Centre) able to improve transport and traffic of the city, especially in the downtown area? Whether there is a relation between East Diamond user management and organizing transport system (sustainable transport) in order to flowing Mashhad traffic? The investigation of possible answers to the question that there is positive relationship thought to be between travel demand and traffic by business users in Mashhad East Diamond, and commercial center of East Diamond as an indicator of subsidiary is able to improve, transport and traffic of the city, especially the downtown area and eventually there is a relation between East Diamond user management and organizing transport system. These responses are probable assumption that would be preliminary investigated for rejecting or proving.

This paper employs descriptive research method - analytical review procedures and statistics, data, images, documents and maps, GIS in the context of library studies and interviews and observations in the context of field studies. To analyze and evaluate the traffic impacts of applications management the classical model of transportation software EMME / 2 is used. Moreover EMME / 2 software is a performance improvement planning tool to help urban planning has been used for three decades. The first version of this software was introduced early 80th century by the Transportation Research Center, University of Montreal (CRT).

Finding and results

In relation to the first question, traffic was evaluated before and after the construction of the application. Figure 1 indicates the flow of traffic in the streets surrounding the Spad complex 90 years before the construction of the East diamond. Also, Figure 2 shows the situation after the project diamond to East. In this image, green meaning fluid movement, and yellow means slow and red means traffic flow is critical.

However, in these images it is so difficult to detect the changes in traffic flow conditions before and after construction of a commercial complex in East Diamond, thus, in Figure 3, only changes in traffic volume due to the complex construction is shown. In this figure, blue and red paint mean the reduction and increase of traffic respectively.

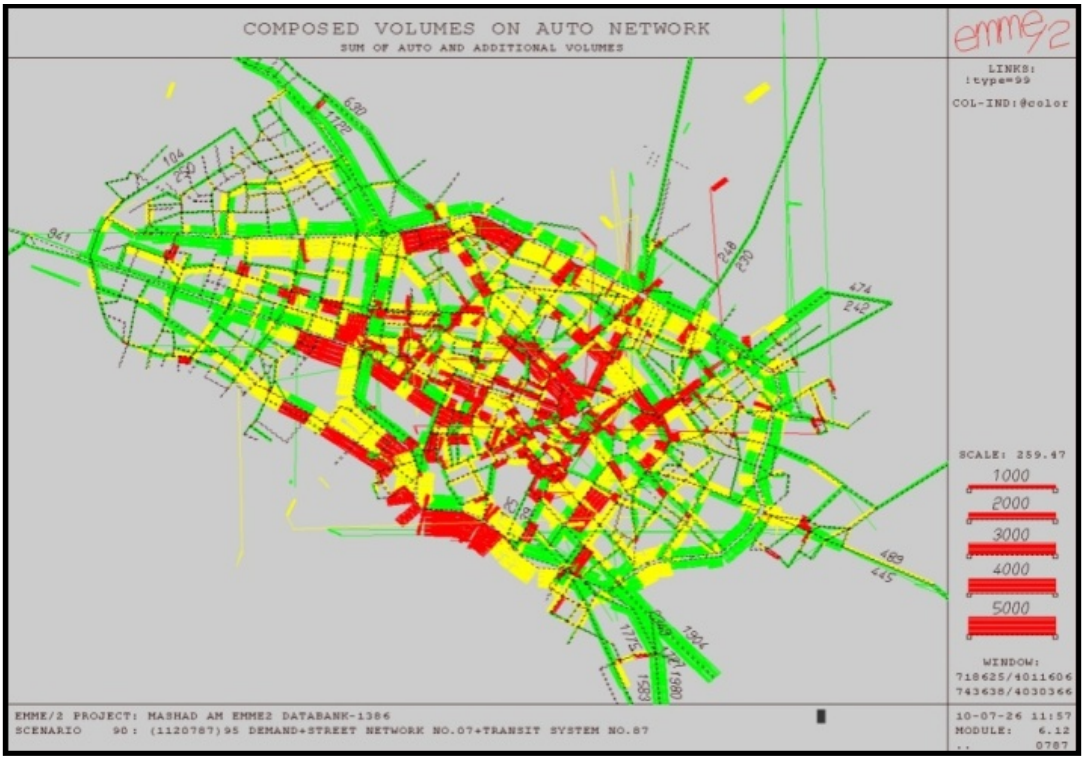

Fig 1. Equivalent volume of passenger traffic in the first scenario, Before the Diamond East Commercial Construction, Source: survey of 1390.

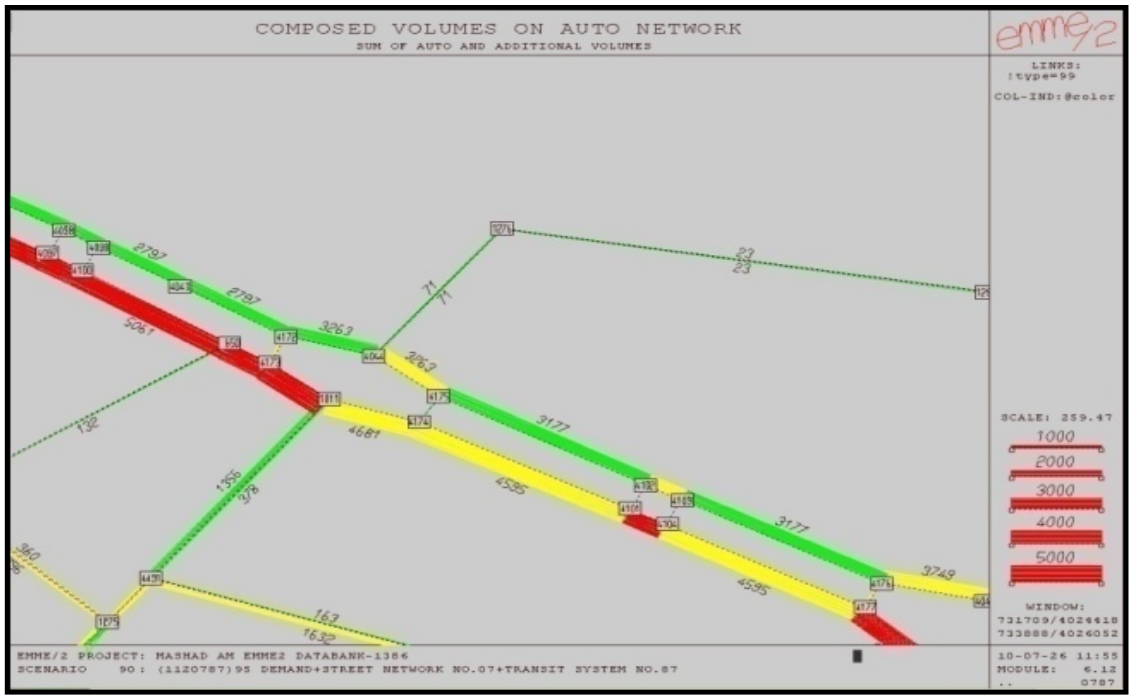

Fig 2. Equivalent passenger traffic in Scenario 1, the diamond-East Commercial Construction, Source: authors, 1390.

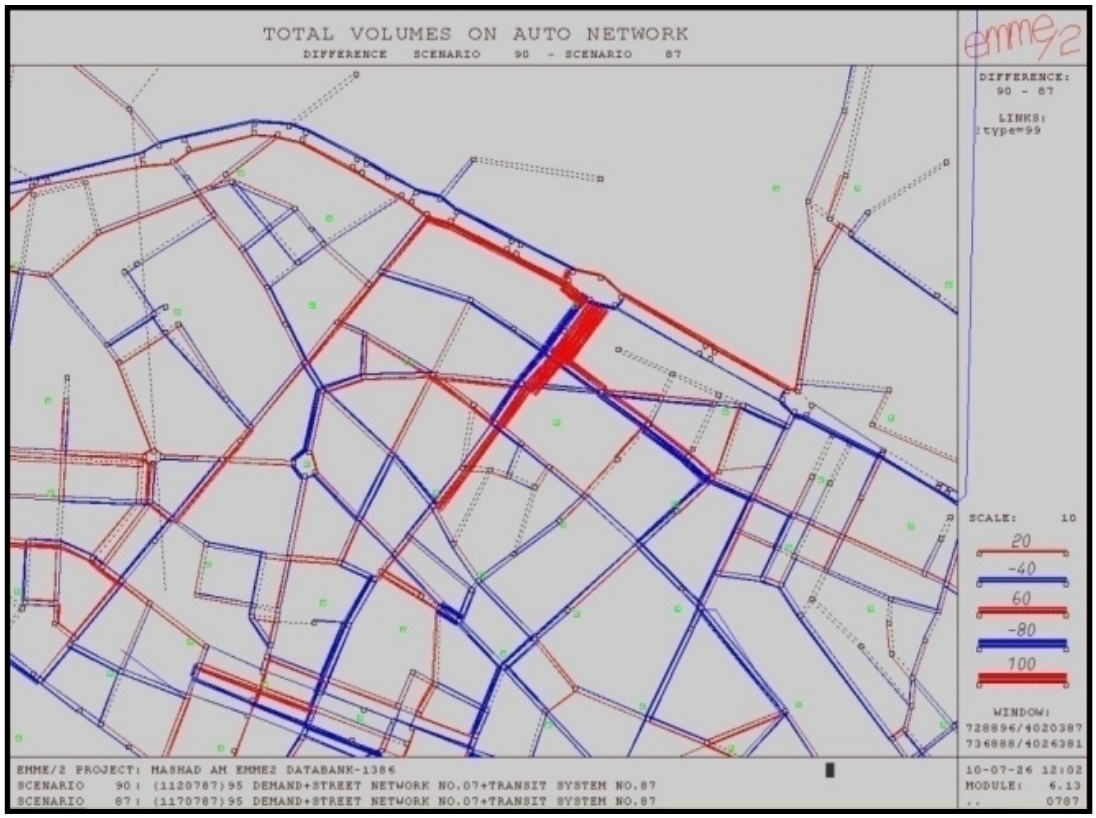

Fig 3. Comparison of changes in traffic volume in the two scenarios (2 and 1) the scale of the entire city Source: authors, 1390.

Figures 1 to 3 displays the changes in the volume of commercial traffic after the construction of the East diamond. It is clear that a significant portion of the metropolitan area that had critical traffic already fallen down and construction of commercial East diamond complex is quite positive. Questions relating to the Status of Transport and Traffic in the entire city, especially in the downtown area, in general we can say, many of these criteria are recovered after construction of East diamond complex.

As you can see major indexes such as average speed, average speed, in central area and the number of passengers riding in public facilities transportation and traffic after construction have increased; travel time and walking distance is reduced. These statistics show that indexes of transport and traffic of the city, especially the downtown area are improved. In connection with the last research question, research

findings show that the construction of East diamond complex on the border of outside the city, according to the management and provision of adequate facilities for the parking of private cars and providing convenient access to commercial spaces and existence of enough space for the number of clients Has been able to shorten the route of the customers to the business district and reduce energy consumption and emissions, and to provide the conditions for achieving sustainable transport.

Conclusion

Transport and traffic in Mashhad, management strategies are often applied independently of Land Management. The management system has performed a part of the system. This has led to the failure of land management and urban transport and traffic; hence, to overcome this problem, the best option is to take a systematic and integrated management. According to adhere to these standards, the comprehensive transportation management plan for the city of Mashhad, subsequent years operational plans have been developed for Mashhad transportation management. And in this planning, transportation and land use management system has been considered integrated.

The aim of this study was to develop a systematic process to improve the management of land use and urban transport and traffic. The results of the analysis of software EMME / 2 and evaluation of status of East diamond complex indicates that with integrated land use system management and transportation in order to reduce travel demand reduction to downtown, Decentralization of downtown, environmental sustainability and conservation, improving urban sustainability and traffic indexes, to improve transportation and traffic of Mashhad city. However for the implementation of a strategic management system necessary expenditure related for the provision of infrastructure seems very important. Due to the high cost of implementing such a strategy, and also due to limited resources, land limitation and adverse environmental impacts, developing an extensive network of roads is not possible and instead of focusing on the development of such networking systems it is suggested to focus on decentralization and shifting travelling and traffic to margins of the city.