DEFFICIENCY OF HIGHWAYS IN MASS TRANSPORTATION: NORTH CYPRUS

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ABSTRACT

Highway system has several drawbacks in mass transportation. When compared with speedy railway system, it has longer construction and travel time and significant environmental impacts. Furthermore it is less safe and has higher construction and operation costs. Instead of a speedy railway 5 highway projects are under design and/or construction.

North Cyprus has fertile lowland at the interior part of Cyprus, extending from east to west. It is susceptible to earthquake disaster. In another words, the plain is proper for farming rather than construction. The Nicosia – Magusa highway goes through the heart of this fertile plain. The highway will invite factories, settlements, and new roads with large intersections to destroy all the fertile lands, shortly after the construction. The northern coastal line is also under danger of new highway projects.

KEYWORDS: Expressway, Railway, Mass transportation, Cost comparison, Environment.

INTRODUCTION

As indicated in Fig. 1, North Cyprus is characterized by five-finger Mountain Chain trending in E-W direction and separating northern coastal line and the Mesanorian plain. As emphasized in Yilmazer et al. (1999a-b), the plain is being densely dissected by highways. The construction for settlement, factories, universities, and for the other purposes will definitely follow the construction of highways (Yilmazer et al., 1996; 2001).

HIGHWAY AND RAILWAY PROJECTS IN NORTH CYPRUS

Highways and railways are complement of each other. They are not competitive. Railway is the strictly recommended system in mass transportation. It is speedy, environmentally friendly, safe, and has low operation-maintenance cost. In spite of that, the developing countries have been provoked to be dependent on highways. Turkey is one of them. One can not walk over the sidewalks because of the cars. The cities can be defined simply as Kingdom of Cars. Air pollution, scenery pollution, noise pollution soil pollution (Turer, 2000), and water pollution are pertinent to traffic in the countries where private transportation encouraged. In 1948 the related American Authorities came over Turkey. They made a master plan for transportation.

Since then, the highway became dominant in mass transportation. It serves 93% of transportation (Yilmazer, 1995a; 2002).

The same emphasis is given to highway in North Cyprus. Instead of a speedy railway 5 highway projects are under design and/or construction (see Fig. 1). The authors have been involved in geotechnical investigation of some these highways. Furthermore, particularly the first author has been involved in numerous international highway and railway projects. North Cyprus has still chance to change the transportation policy. They stop more highway construction and commence speedy railway projects.

The Nicosia - Magusa section serving the Ercan airport has priority. Then, its extensions to Girne and Cape Plakoti come. The number of passengers in this route exceeds 20,000 per day. Operation and maintenance cost is around $100 million USA annually. However, it is around one tenth in the case of railway. The third phase is the E-W trending route along the toe of the Five-Finger Mountain chain. Finally, the fourth phase which completes the loop of the third phase work.
Figure 1. Layout of the proposed railway the highways under design and/or construction.
This is the last phase, but the most important phase to save the charming coastal region. Otherwise, destruction similar to the one as being practiced in Turkey (Yilmazer, 2002; Yilmazer et al., 2002) will be realized inevitably. The proposed railway routes geotechnically are stable. There is not any unstable ground affected from the trinity water-discontinuity-clay (WDC) which is the main agent behind the geotechnical problems (Yilmazer, 1999b; Yilmazer et al., 1997).

More important than all, North Cyprus has fertile lowland from Magusa to Lefke at the interior part (see Fig. 1). Climate is perfect to get products every season in the presence of water. The necessary water can be supplied through pipes from Taurid Mountains of Turkey. Head loss due to friction already become negligible in the last decade. Thus, the low lands through the heart of which highways are located under great danger of roads.

This is the last chance to change the transportation policy and save the fertile lands and the adjacent gently sloping regions for farming.

CONCLUSIONS AND DISCUSSIONS

It is a common sense that railways are environmentally friendly whereas highways particularly the motorways are environmentally destructive. The mean total cost of construction, operation, and maintenance for highway is at least twice higher than that of speedy railway.

The coastal line has an attractive potential for tourists. The speedy and safe railway link between main locations such as airport, seaport, main city centers, cultural heritages, natural and historical monuments, trade centers, and farm trade centers will increase national income appreciably. Highways never fulfill such requirements for trade, tourist, farm and recreational activities. They deteriorate the existing condition rather than to improve them.

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REFERENCES


