TRANSPORTATION – LAND USE CONNECTION: THE CHANGING LAND USE PATTERNS ALONG THE AYALON FREEWAY BETWEEN THE YEARS 1982 AND 2007[1]

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This research deals with the transportation – land use connection and the impacts of transportation investments on land use. The study's main goal was to investigate the connection between investment in the Ayalon freeway and the changes in land use along the freeway or in close proximity to it. The main research hypothesis is that investing in the construction of the Ayalon freeway has impacted the surrounding area and resulted, during the years since it was erected, in changes in land uses and development densities.

Two main goals were set for this research: The first was to characterize the changes in land use patterns along the Ayalon freeway, in Tel Aviv neighborhoods which are located in close proximity to the freeway. These changes were explored using three measures: The rate of development of floor space, the change in land use mix (ratio between residence to non-residence), and the changes in density of development (intensity of various land uses). Different land uses were examined both separately and collectively over a period of 25 years, between 1982 and 2007. The changes in land use of 72 neighborhoods in the city of Tel Aviv were investigated based on their distance from the Ayalon freeway.

The second goal of this study was to develop a multiple regression model, in order to describe and explain the changes found in land use, by using several explanatory variables that together impacted the urban activities along the Ayalon freeway. These variables are - accessibility measures, socio-demographic values, North-to-south location, and planning policy.

The central conclusion derived from this research is that there is a statistically significant difference between the neighborhoods located in close proximity to the Ayalon freeway, as opposed to the other neighborhoods (that are located farther from the freeway). These differences appear in all of the three measures we explored. Another conclusion is derived from the multiple regression model. The model shows that the explanatory variables for residential land uses differ from those explaining the non residential land uses. Altogether, both models, for residential and for non-residential land uses, explain 58% and 55% of the variability in the changes in land use, respectively.

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[1] Master thesis in City and Regional Planning, the Technion (2011). The study was supervised by Prof. Daniel Shefer

Finally, the main conclusion of this research is that there is a statistically significant association between the transportation investment in the Ayalon freeway, and the changes in land use in the neighborhoods of Tel Aviv located in close proximity to the freeway.