ITU A|Z • Vol 20 No 3 • November 2023 • 643-658

Residential mobility of suburban households under the unforeseen impacts of large-scale projects in Istanbul

Somaiyeh NASROLLAHZADEH[1]*, Turgay Kerem KORAMAZ[2]
[1] s.nasrz@yahoo.com.tr • Department of Urban and Regional Planning, Faculty of Architecture, Istanbul Technical University, Istanbul, Turkey
[2] koramaz@itu.edu.tr • Department of Urban and Regional Planning, Faculty of Architecture, Istanbul Technical University, Istanbul, Turkey

* *Corresponding author*
Received: December 2021 • Final Acceptance: August 2023

Abstract
The purpose of this study is to investigate the determinants of residential mobility in the event of unforeseen effects of new developments referring to household vulnerability. Each household has experienced mobility according to its own assessment of housing and residential environment. This sort of mobility is the result of a mismatch between a household's current residence and their expected living environment. Fluctuations in land value changes and neighbourhood rezoning among many consequences of new residential developments lead to forced mobility in the neighbourhood. Göktürk, one of the most important peripheral residential districts in Istanbul, is surrounded by ongoing developments as well as the presence of informal settlements with expanding gated communities. Therefore, the socio-demographic characteristics of households, as well as their housing status and environment, are applied to determine the probability of household vulnerability. This study is based on primary data, which was collected directly from a designed survey of 210 households in this neighborhood. Furthermore, Binary Logit Regression is used to identify the vulnerability of households exposed to forced mobility. According to the findings of the study, the location, households' dimensions, middle and low income groups, and insurance ration are significant predictor variables in residential mobility. Another finding of this study is that the probability of vulnerability is assigned to each household in the event of unforeseen effects of large-scale projects. This study contributes to addressing the issue of prospective mobility of households in a peripheral district of Istanbul City by taking into account the probability of their vulnerability.

Keywords
Binary logit regression, Household, Land value, Residential mobility, Vulnerability.

doi: 10.58278/0.2023.30

1. Introduction

Large-scale urban transformation projects have been underway in Istanbul for almost 40 years, but there have been ongoing difficulties with the financing system, technical construction principles, urban planning laws, and the eviction of the urban poor. Among other issues in these projects' planning and implementation processes, the routes and locations of these projects are incompatible with urban plans and environmental regulations. The abovementioned projects, also recognized as UTPs (urban transformation projects), actually imposed a mechanism on the urban land market in Istanbul that the first victims were households in informal settlements, whether or not they had title deeds (Kuyucu & Ünsal, 2010; Doğan & Stupar, 2017). Since the 1980s, the relocation of the urban poor from city centers to remote areas such as the countryside to reconstruct the image of Istanbul city, following prescribed globalization rules and guidelines while disregarding local living conditions, has resulted in a chain of tragedies in Istanbul's urban planning system (Yıldız, 2004; Kuyucu & Ünsal, 2010).

According to globalization theory, the so-called global countryside is created when differentiating geographies with changing degrees are connected to the global network through place reconstitution. Differential outcomes resulting from local interactions define the extent and patterns of reconstitutions. In the event of poor urban governance, global countryside areas are exposed to unforeseen and uncertain opportunities that can turn into threats and weaknesses. For urban developers, such areas are the main targets for developing residential and commercial projects to engage in the globalized economy and commercial exploitation (Matusitz, 2010; Welsh & Heley, 2021; Woods, 2007). Relying on documented experiences, such reconstitutions violate environmental resources and urban poor rights (Kuyucu, 2014, 2017; Eren, 2019).

The conflict between large-scale project developers and the vulnerable group is more severe in some cases and more peaceful in others since the result is the same (Yıldız, 2004; Kuyucu & Ünsal, 2010). Because, under the banner of neoliberalism, the beneficiaries of UTPs are urban developers, speculators, and households that are economically stronger (due to the duplication of their property values). Since these projects were early-return investments, the location selection was more noticeable for central government and developers than providing advocacy plans for the urban poor living in the target sites. Therefore, the urban poor is considered as a vulnerable group in this reinterpretation of socioeconomic separation (Eren, 2019; Dogan & Stupar, 2017).

There is some confusion in the debate about the definition of vulnerable in this article, which mainly refers to one type of vulnerability. The vulnerable variable in this discussion comprises households that encounter difficulties once they are forced to leave their current housing and are also at risk of eviction due to their socioeconomic and locational circumstances.

The experience of the Ayazma and Tepeustu regions, and the forced relocation of its poor residents with low-income levels, large average households size, and relocation away from their workplaces (factories and industrial centers) are among the first examples that detected the characteristics of vulnerable households (Kusucuoglu, 2010; Uzunçarşi, 2016).

Another concept used by this study is the vulnerable residential environment, which refers to areas in informal settlements, worn-out dwellings enclosed between newly built luxury residential projects (apartments) and gated communities, and also areas with high housing and land market dynamics. Forced evictions occur in such an environment that possesses the aforementioned features.

The Göktürk district in Istanbul, one of Turkey's most significant metropolitan areas, is chosen as an example location because it is thought to be particularly vulnerable to such changes in the greater Istanbul area. This means that the city's urban areas frequently present considerable uncertainties for residential construction. The neigh-

borhood is surrounded by two large-scale projects and is located in a protected forestry area. Having informal settlements attached to it, as well as a suitable housing and land market due to the presence of new groups of demanders (employees in international airport companies, employees, pilots, and so on), Göktürk was chosen as a proper case for the current study. Ignoring the monitoring of the development process of the specified projects in this area can result in serious threats such as the presence of land speculators seeking profit and the emergence of new informal settlements in forestry areas (Figure 1).

The spatial-physical changes in the areas adjacent to Sabiha Gokcen Airport demonstrate the importance of addressing the Göktürk neighborhood concerning the construction of large-scale projects such as the airport. One of the effects of the construction of Sabiha Gokcen and Ataturk airports on urban development is that workers at these two airports choose the nearest neighborhood for their residences. Before the construction and opening of Sabiha Gokcen Airport (2001), the neighborhood's building and population density was low, and the price of urban land and accessibilities in this neighborhood were reasonable. Following the launch of this project, the construction of communication roads, urban density, job opportunities, and demand for residential unit construction accelerated (Karaca, 2015; Özcan & Gündoğar, 2015). Scholars in socio-politics and urban planning have always attempted to address the issue of pressure on low-income households and their eviction from their dwellings in a supportive manner (Kuyucu & Ünsal, 2010; Kuyucu, 2014, 2017). However, this study aims to take a practical step toward overcoming this issue.

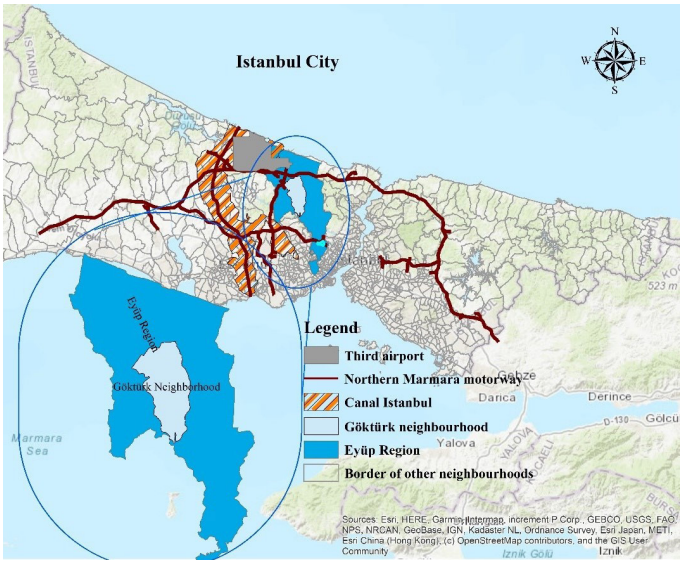

Figure 1. *Location of case study and large-scale projects (Göktürk).*

The current study attempts to investigate the determinants of residential mobility in the event of unforeseen effects of new projects (Third Highway Ring -Kuzey Marmara Otoyolu, the new airport, and Canal Istanbul, which will connect the Black Sea with the Marmara) emphasizing vulnerable households.

In the following debates, the neighborhood of Göktürk is analyzed using variables derived from residential mobility literature and the binary logit regression. BLR has been utilized in light of the current study's strategy, which bases residential mobility on a dual status (move or stay). Furthermore, the vulnerable degree of location is defined by fluctuations in land values and features of residential quarters.

2. Literature review: Residential mobility and households' vulnerability

Individuals and households have a wide range of options and degrees of mobility depending on the prevailing circumstances, including life events and cycles and the economic, political, social, and environmental impacts. Mobility is defined as "whether or not a move occurred," and it is an action taken by people who can and are motivated to change their circumstances (Teater, 2009).

Newton and Bell (1996) provide an in-depth analysis of mobility due to spatial characteristics of physical locations from the perspective of social justice. According to their research, insufficient government policies regarding the land housing market process result in inequalities in access to services and benefits obtained from urban reconstitutions in terms of the income distribution. Because the positive and negative features of urban areas influence household income, vulnerability is felt

strongly in low-income households as a result of the interaction between social justice, location, and population movement in the countryside. (Newton & Bell, 1996; Wulff & Newton, 1996).

It should be noted that there are winners and losers during the mobility process since opportunities to move to suitable housing are not equally distributed to dwellers (low and middle-income families). Moreover, in most cases, movement worsens their situations due to external conditions (Wulff & Newton, 1996; Barnhardt & Barnhardt, 2016). According to Wulff and Newton (1996), The decision-making process behind mobility is best comprehended as a continuum ranging from voluntary to forced moves (Wulff & Newton, 1996).

Due to McAuley and Nutty (1982), the requirements for individuals and families depend on the present life-cycle stage, dwelling size, neighborhood amenities, school quality, proximity to businesses or services, employment opportunities, and climate (McAuley et al., 1982).

Residential mobility is influenced by changes in the family life cycle (McCarthy, 1976), as well as the housing needs and consumption opportunities of households in response to changes in their circumstances. Affecting residential mobility, life courses, and life cycle concepts emerged as supportive tools that distinguish mobility patterns and interpret probable household reactions to external changes (Clark & Onaka, 1983; Catte et al., 2004). According to this approach, when there is a mismatch between the housing characteristics and the family's requirements and preferences, the household is prompted to move to adjust its housing and needs. Rossi's (1955) research of "household mobility between Philadelphia neighborhoods" up until the mid-1980s is where the life-cycle notion in the residential mobility approach first developed (Jones & Wenning, 2005). (Morris, 2017; Rabe & Taylor, 2009; Anderson et al., 2014; Sánchez & Andrews, 2011; Morrow-Jones & Wenning, 2005; Warner & Sharp, 2016).

The other perspective, life-course, which has become the dominant model in mobility studies since 1980, is traced back to Rossi's pioneering work in sociology and developmental psychology (Withers, 1997). The theory's core premise emphasizes how a nuclear family, as one of the several socially constructed institutions, influences individual life. In the early studies for life course, a family is not the only major life institution in which people participate, but other events such as life course components (such as housing career, main events, occurrences from education, family formation, and career decisions) are also interrelated (Jones & Wenning, 2005).

The relationship between mobility and life courses and cycles has significant implications because when external shocks are experienced by households at different stages of their life cycle, whether they are nearing the end or just starting, they will react differently. (Coulombel, 2010). Their reactions to shocks such as abrupt development projects may be welcoming, resistive, or interactive (Kuyucu & Ünsal, 2010; Ronquillo, 2014; Coulombe, 2010),

The next subject concerning residential mobility is the cost of living, associated with household income, which drives this study to migration pattern followed by the discussion of the life course as the movement of people between regions and within cities is examined via migration (Cadwallader, 1985). According to Da Vanzo, 1978, who investigated micro-level data, the unemployed are more inclined to move than the employed (Fischer & Nijkamp, 2014).

It can be argued that remote working, which has gained widespread attention during the global pandemic of COVID-19, could not significantly affect avoiding the potential threats to evictions of urban poor people because of structural socioeconomic gaps between those who can and cannot work remotely. Households with low socioeconomic status are employed in jobs that are categorized as elementary and service jobs and require armed forces. According to the International Standard Classification of Occupations (ISCO), the abovementioned jobs are at skill level 1 and are considered simple and manual tasks. This skill level re-

quires merely a basic level of education and physical strength. House and office cleaning, kitchen assistance, skilled agricultural, gardening, forestry, sales, and specialized workers are among the occupations that frequently provide services to residents of other areas (International Labour Office, 2012; Cetrulo, 2021; Tronco Hernandez, 2020).

Migration is also classified into two types, short and long-distance moves. Life cycle, accessibility, and housing choice reasons prevail in short-distance moves, whereas employment reconsiderations dominate in long-distance moves (Hedman, 2011). The mobility that occurs within an area is termed short-distance moves. Local movers do not pass any administrative boundaries. Such mobility depends on the satisfaction of the housing environment (such as local housing markets and accessibility) and family circumstances (e.g., life-cycle). Due to interstate-scale mobility and dependence on employment opportunities, long-distance moves occur less frequently than short-distance moves. While comparing the difficulty of long and short-distance moves, the former is regarded as a lifetime decision (Clark & Onaka, 1983; Kang et al., 2012; Morrison et al., 2003). The dynamics of local and short-distance migration have emphasized the dissatisfaction or relocation behavior induced by both family circumstances and the housing environment or the stress created by the provision of government services and developers' privileges (Hedman, 2011). In other words, mobility is imposed on households as a result of abrupt changes which are beyond their control and are rooted merely in metropolitan economic policies (Steinbrink, 2013; Kusucuoglu, 2010; Uzunçarşi, 2016).

In conclusion, a household's monetary and non-monetary resources, such as income, life stage, tenure situation, neighborhood status, and others, which change over time, determine a household's intention to move either directly or indirectly. In addition, individual characteristics such as employment, education, socioeconomic position, cultural and social preferences, migration intentions, destination, and origin households are all significant in moving up the neighborhood ladder (McAuley et al., 1982; Hedman, 2011). On the other hand, the housing market's dynamics and the stages of a household's life cycle could potentially modify the housing characteristics (Clark & Onaka, 1983; Henley, 1998). Space of housing units and Household size are significant reasons for moving, as larger families require more space, while smaller families are compelled to migrate due to the lack of available space (Rossi, 1955; Speare et al., 1975; Clark & Onaka, 1983). In the context of the combined discussion of income and life cycle measures, the income variable has less influence on migration forecasting for the retired population (Cadwallader, 1985). Family ties and work security are likely to be more significant for older people, thus reducing their motivation to move (Cadwallader, 1985; Clark & Lierop, 1987; Eluru et al. 2009; Hedman, 2011).

The abovementioned variables will be covered in more detail in the following discussion, along with their correlations with each other to determine how vulnerable households can be.

2.1. Determinants of households' vulnerability in residential mobility

Residential mobility theories link household behavior (family stability, neighborhood quality) to (re)produce spatio-temporal structures. In contrast, the socio-economic and micro-geographies of the neighborhood, which act as a structuring engine, influence household mobility (Bruch & Mare, 2012). The analyses under this theory are designed to predict household mobility based on their characteristics and neighborhood quality. Binary Logistic Regression has been applied in this study since the outcome is modeled based on whether they move or not.

Logistic regression is efficient to investigate the relationship between household vulnerability, socio-demographic characteristics, and neighborhood features. When a researcher needs to model the relationship between one or more predictor variables and a dichotomous dependent variable, binary logistic regression (BLR) is preferable. The issue can be addressed by estimat-

ing the probability that a case will fall into one of two categories based on the dependent variables provided by the model's predictors. BLR estimates regression parameters by taking into account the fact that probabilities are limited to 0 and 1. Additionally, it does not assume that residuals have a normal distribution and constant variance (Tabachnick & Fidell 2007).

Before defining the dependent variable and employing a binary model, the paper assesses a household's vulnerability to unforeseen changes in development based on socioeconomic circumstances. This evaluation is necessary because it identifies vulnerable households who are more likely to encounter eviction from their dwellings.

According to related research, being single or cohabiting influences residential mobility because singles seek new opportunities and couples expect no changes (Dane et al. 2014). Single-person households, whether elderly or young, and single parents with school-aged children affect residential mobility badly (Parkes et al. 2002).

Marriage and having children necessarily entail more space, while a divorce or any other type of family dissolution necessitates moving into a smaller home with adult children (Eluru et al. 2009; Rabe & Taylor 2009v; Heppenstall et al. 2011). Families with children might require a smaller home after their children marry or, depending on their culture, seek a large house. Due to their dependence on the schedules and locations of their children's activities, families with school-aged children are less likely to move. Another significant variable that influences the intention to move is higher education, which generates more job opportunities and higher earning potential (Dane et al. 2014). Households can consider more options for mobility if they have the chance to work in higher economic positions (Böheim & Taylor, 1999). Households have varying propensities to move depending on their income level. High-income households are hesitant to relocate because they frequently live in homes that they have chosen from a variety of options based on criteria other than price. Depending on their other economic characteristics, people in the middle class are hesitant to move. Since living to them merely means shelter of the lowest standards, low-income people frequently move (Dane et al. 2014). Therefore, the determinant factor affecting land values is the location of dwellings, as residents of higher-valued areas are less likely to move to new homes (Fernandez-Duran et al. 2011). So, families with elementary or illiterate levels of education in Göktürk are vulnerable to abrupt development changes due to fewer opportunities to find new jobs.

The other factor that must be taken into account when estimating a family's intention to move is the disproportion between household size and dwelling space (Sánchez & Andrews, 2011; (Kelley, 1980).

Regarding the preceding statements, single-person households and households with home mates would be classified as vulnerable people. Other variables that influence household relocation encompass work type and insurance status. Households who work informally and without insurance may encounter difficulties with the unforeseen effects of physical adjustments. Households with low incomes and those earning less than the minimum wage (according to Turkish labor law) are considered vulnerable (Agarwal et al., 2022). Additionally, in the event of a significant urban transformation, people with Yeşil Cards, no insurance at all, or who are covered by a family member's insurance are all at risk of being evicted.

Tenant households and families with numerous children are also vulnerable (Theodos & Mctarnaghan, 2018). According to the EU standard for housing space per person (Appolloni & D'alessandro, 2021), households' intention to move may increase if there is an insufficient proportion between the dwelling space and the size of their households.

The living environment quality is determined by the location of the dwelling, as households living in informal settlements (Gecekondu) or besieged by such areas are considered vulnerable in terms of the land val-

Table 1. *Definition of household's vulnerability variables.*

Variable	Description
Elderly ration (Life-cycle stage)	Home mate One-Single households (Elderly or Young) Elderly couples no child Elderly couples with little child Elderly couples with adult & little child
Having schooling child	Age <15
Informal Job	Farmer Seasonal worker Irregular unskilled jobs Unpaid family work
Income	Low income group Salary <Minimum wage in Turkey
Insurance type	Yeşil card, No insurance, Benefited from one of the family members
Education Level	Illiterate, elementary level
Dwelling Tenure	Rent, Family
Housing space per person	<42.56 m2 (EU standard)
Location	Squatter settlements (gece kondu), apartments, residential projects, Gated communities

ue and the quality of their residential environment. Built on the lands, with or without official titles, without building permits, considered an extraneous economic market, belong to the state, their dwellers are developers and hold use value, so-called informal settlement (Gecekondu). It must be noticed that informal settlement in Istanbul dates back to the early 1950s and is recognized because of industrialization and subsequent rapid urbanization. Formed close to the factories and workplaces, informal settlements are the aftermaths of poor urban governance of Istanbul's massive rural immigration wave (Şentürk, 2013; Sezer, 2017; Turgut Yildiz, 2004).

The abovementioned properties are the outputs of the selected model due to specified independent and dependent variables. They are merely related to the socioeconomic status of the residents, such as working in the informal sector because of their education level, having large households, etc., and living in areas with land value fluctuations. Vulnerable households exposed to the unforeseen effects of large-scale projects are assumed to be classified based on their socioeconomic characteristics, as shown in Table 1.

3. Methodology

This paper discusses the findings of a model for households exposed to unforeseen development effects based on 2019 survey data collected in a spatial sampling model that depicts the residential mobility pattern of all income group households in the case study. This survey covers 210 cases to investigate the characteristics of Göktürk neighborhood residents. The questionnaire is divided into two sections that assess households' socioeconomic characteristics and their satisfaction with the physical qualities of their neighborhood. The Pearson chi-square test is utilized to investigate the relationship between the socioeconomic characteristics of a household and the dependent variable, which is supposed to be applied in a binary logit model.

The validity of the extracted models is examined using tests such as Chi-square (Omnibus, Hosmer, and Lemeshow) and values of -2 Log-likelihood. Two factors are utilized for spatial sampling in the case study that contributes to defining the dependent variable (vulnerability of the residential environment). First is the geographic distribution of neighborhood fragments in Göktürk (informal settlements, Kemer country, 2B lands, apartments, and new residential projects), and second is land value fluctuation between 2004 and 2018. Gece Kondu refers to settlements inhabited by low-income households, whereas Kemer Country includes high-income households living in gated communities (Figure 2). It should be noted that the term "2B lands" was derived from the "B" clause of Article 2 of the 1987 Forest Law No. 6831. According to the Article 2B clause, lands that have lost their forest character since October 31, 1981, and have been determined to be suitable for other agricultural purposes should be excluded from the forestry lands (URL 1).

By assigning weights to the variables of both factors on a Likert scale ranging from 3 to 9 and then overlaying them, a map of subareas is produced that defines the specific level of environmental vulnerability for each household's location. This map provides a base for randomly choosing 210 samples from the categorized subareas of Göktürk. Weights are assigned to variables 3 to 9 respectively, Kemer country to informal settlements for neighborhood segments, while for land values, 3 belongs to areas with zero or at most one change in the value and 9 refers to more than three times the change in value.

In this study, since residential mobility is being analyzed in a dichotomy state (resistant =stay, vulnerable=ex-

Table 2. *Data, methods, and outcomes.*

Data gathering method	Data analysis method		Achievement
	Method	Platform	
land use (2006, 2013, 2018)	Spatial analysis	GIS-Molusce	Homogenous residential sub-areas
Land taxation value (e-devlet) (2004 to 2018)	Land value prediction	GIS-Kriging-Recalssify-Overlay	Assigning grades into the dummy variable of vulnerability and resistancy to move (or force to move) to another residence
		Regression analysis	Vulnerability of built-up environment (graded map)
Households survey	Binary logit regression		Probability of households vulnerability
	Descriptive analysis	SPSS- Pearson, Chi-square test/ logistic regression	Definition of variables dependence into vulnerability (households profile), (socio-economic features), grades (0-9)

posed to mobility), the most appropriate method is Binary Logit Regression.

To define the vulnerable areas to the unforeseen effect of large-scale projects, the following steps are taken (Table 2).

4. Case study

Göktürk is a neighborhood in the northern periphery of Istanbul. In 1986, it was a small village where the main activities of its inhabitants were agriculture and livestock. However, with the establishment of Göktürk municipality in 1994, it gradually transitioned into an urban neighborhood (Rieniets & Esen, 2016). This neighborhood is divided into four sub-areas, which include 2B lands, gated communities, newly constructed apartments, and informal settlements (Eyup Municipality, 2014). The areas surrounding new apartments and housing developments are a mix of run-down apartments from the neighborhood's early development and newly constructed luxury apartments in the last ten years. Between 2000 and 2018, the neighborhood experienced nearly fourfold population growth (8383 to 36811). The greatest increase in population growth between 2007 and 2015. (16085 to 34976) -(Figure 3). In terms of land value fluctuations, during the years 2004 and 2018, on average, land values have grown by about 48 times across the neighborhood. In these years, there were three distinct periods of abrupt value increases: 2005-2006, 2009-2010, and 2017-2018- (TÜİK, 2000-2018; URL 2) -(Figure 4).

By examining the diagrams of population and land values, it is clear that the population in this neighborhood nearly doubled shortly after the increase in land prices. This increase in land value and population has occurred between the years of approval and implementation of large-scale projects. The population of Göktürk has multiplied which has increased the demand for housing from workers at the new airport and driven up land prices in three stages.

Furthermore, this neighborhood is bordered by three large-scale urban projects: the third airport, canal Istanbul, and the Marmara motorway- (Sari, 2016). The development of Göktürk can be seen as a multifold increase in

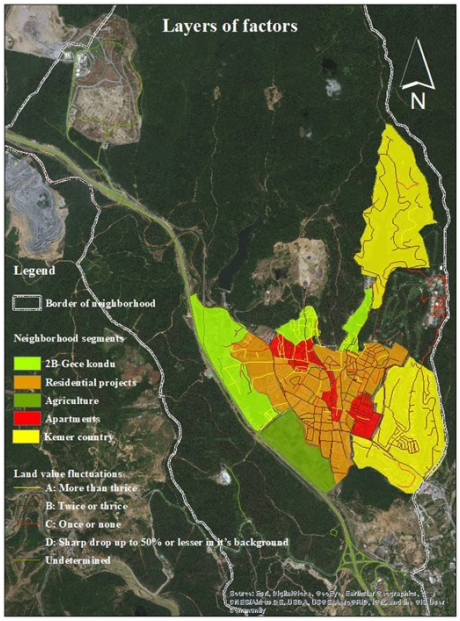

Figure 2. *Layers of factors.*

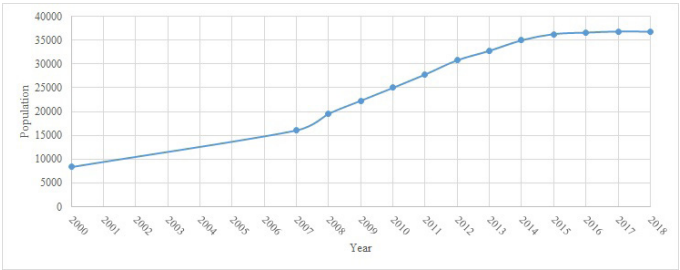

Figure 3. *Population changes.*

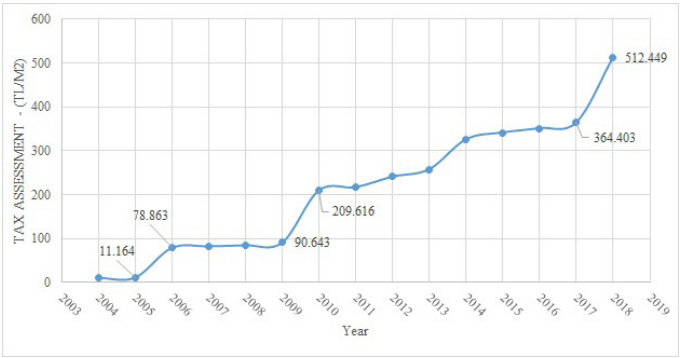

Figure 4. *Land value changes.*

Table 3. *Variables included in the binary models.*

Independent variables		Crosstab coefficient indexes	Pearson Chi-Square	Cramer's V
Socio-economic characteristics	Having a schooling childern	Value	10.343	.222
		P	0.016	.016
	Elderly ratio	Value	9.197	.210
		P	0.056	.056
	Illiterate ration	Value	3.475	.129
		P	0.747	.747
	Household's size	Value	10.64	.226
		P	0.059	.059
	Tenure status	Value	4.845	.152
		P	0.089	.089
	Income	Value	15.018	.268
		P	0.002	.002
	Informal job	Value	0.147	0.027
		P	0.702	0.702
	Insurance type	Value	22.407	0.327
		P	0.021	0.021
	Living years in current housing	Value	40.126	.438
		P	0.02	.021
Dwelling features	Housing per space	Value	54.843	.512
		P	0.002	.002
Residential environment	Location	Value	16.837	.284
		P	0.00	.000

population and, as a result, an increase in housing demand from employees working at the new airport, as well as a three-stage increase in land prices and new roads.

This discussion will be covered in sufficient depth in the following sections.

5. Result and discussion – households' vulnerability model to unforeseen effects of large-scale projects in Göktürk, Istanbul

Defining a specific variable is required for this study to utilize the binary model. The dependent variable is determined by the level of vulnerability of the sub-areas in which the household resides (Location). This section discusses the specifics of defining this variable from the residential environment and socioeconomic factors, as well as determining their degrees in the proposed models.

5.1. Dependent variable for depicting the vulnerability degree

The vulnerability degree of the built-up area is utilized to define this variable, specifically through fluctuations in land values from 2004 to 2018 (Nasrollahzadeh & Koramaz, 2021) and zoning of residential neighborhoods. Within the utilization of land price changes over time and residential features of the site, sub-areas are significantly specified, with degrees greater than the threshold (degree=6) as vulnerable (affective status to unforeseen impacts) and degrees less than that as resistant (resistant to unforeseen effects) (stable to any socio-physical development shocks). The value allocation logic of BLR is used to define the vulnerability threshold value. As a result, the threshold is defined as a moderate value (degree 6) between '3' (the lowest) and '9' (the highest) (degree 6). There are mutual relations between changes in land values and economic characteristics of households, as well as residential zoning and social household characteristics. So the vulnerable variable derived from the preceding discussion is employed in the binary logit model.

Cross-analysis and the chi-square test are used to examine its dependence on other independent variables referring to households' socioeconomic circumstances. Independent variables with significant and non-significant dependence on household vulnerability were investigated in order to define different models using binary logit analysis to extract significant factors indicating highly exposed families to the unforeseen effects of large-scale projects.

According to Table No. 3 Cramer's V test, some variables have greater severity of dependence than the rest, such as having a school-aged child, household size, income, income, insurance type, living years in current housing, housing per space, and location (Table 3).

5.2. Probability of residential mobility based on households' vulnerability

Household vulnerability (more exposed to unstable environmental status) is declared as a categorical variable in the binary logit analysis, while the dependent variable is vulnerable or resistant; "Vulnerable" is chosen as the reference category.

Vulnerable: '1', Resistant: '0', and '1' refer to households that are more likely to be relocated based on their vulnerability degree derived from their environmental circumstances (as the overlay of vulnerability degree to large-scale project effects and the types of the neighborhood in Göktürk - (Figure 5).

In the first model, the factors obtained from the regression model (Table 3) are assumed to distinguish the vulnerability of households exposed

Table 4. *Significant variables in the equation.*

Predictor	B	S.E.	Wald	df	Sig.	Exp(B)	95% C.I.for EXP(B)	
							Lower	Upper
Insurance ration	1.768	1.122	2.484	1	.115	5.857	.650	52.773
Income (Middle)			10.799	2	0.13			
Income (1) (High)	1.250	.568	4.839	1	.028	3.492	1.146	10.640
Income (2) (Low)	1.510	.475	10.107	1	.001	4.527	1.784	11.483
Having schooling child	.069	.225	.093	1	.761	1.071	.689	1.664
location	1.643	.460	12.772	1	.000	5.173	2.100	12.740
Housing space per person	.016	.012	1.687	1	.194	1.016	.992	1.041
Living years in current housing	.025	.022	1.218	1	.270	1.025	.981	1.071
Constant	-2.411	.962	6.280	1	0.012	.090		

to unforeseen consequences of large-scale projects, whereas, in the second model, all the variables are taken into account. The following discusses which model was chosen to predict household vulnerability, exposing recent developments and trends implying the unforeseen consequences of large-scale projects and how it came to be preferred.

5.2.1. Model 1: Considering significant variables

In this model, predictor variables are chosen based on their dependency on dummy variables as categorized in Table 3. Income is the only categorical predictor, the reference variable of which is middle (coded zero=middle, 1=high, 2=low) - (Wald=10.799, df =2, p=.013). Low income is defined as a positive coefficient (b=+1.510, s.e=+.475, p=.001) – (OR=4.527 > 1) while the high-income variable is a significant predictor of vulnerability to unforeseen development changes (b= 1.250, s.e=.568, p=.028, OR=3.492>1).

The insurance ratio has a positive coefficient which suggests that households having weak insurance type are more likely vulnerable (b=1.768, s.e=1.122, p=.115) while the odds ratio indicates that vulnerability increases by a factor of 5.857(OR > 1) in case it is a non-significant predictor. In this model, having a schooling child is a positive and non-significant (b= .069, s.e= .225, p= .761) variable with the odds indicating the relationship between the increase of every unit on the predictor variable and the probability of vulnerability for every household. Location (informal settlement) is a positive and significant (b=+1.643, s.e=.460, p= .000) predictor and the odds ratio indicates that vulnerability increases by a factor of 5.173 (OR>1). Housing space per person is a positive and significant predictor (b=+.016, s.e=.012, p=.194) and the odds ratio indicates that vulnerability increases by a factor of 1.016. Living years in current housing is the last predictor in the model with a positive and non-significant coefficient which suggests that households having bigger houses are less likely vulnerable than those who suffer from worn-out houses (b=+.025, s.e=.022, p=.270).

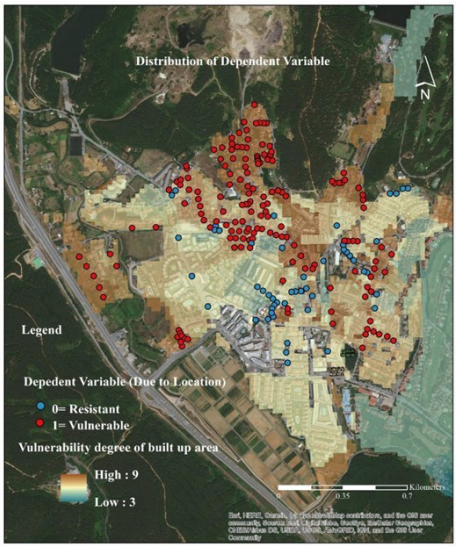

Figure 5. *Location of survey points and distribution of dependent variable regarding location.*

5.2.2. Model 2: All relevant explanatory variables regardless of significance

With this model, the attempt is to model the likelihood of vulnerability to unforeseen effects of large-scale projects in a sample of n=210 inhabitants in Göktürk by the independent variables, referring to socio-economic features. These variables are; having a schooling child, elderly ratio, illiterate ratio, household size, tenure status, income, informal job, insurance type, Living years in current housing, housing per space, and location.

The following model examines the probability of vulnerability to unforeseen effects of large-scale projects in a sample of n=210 Göktürk residents, accompanied by independent variables referring to socioeconomic characteristics. These variables encompass having a school-aged child, an elderly

Table 5. *Variables in the equation.*

Predictor	B	S.E.	Wald	df	Sig.	Exp(B)	95% C.I.for EXP(B)	
							Lower	Upper
Insurance ration	2.879	1.460	3.888	1	.049	17.794	1.017	311.176
Informal job	.412	.708	.339	1	.561	1.510	.377	6.052
Households' size	.846	.399	4.489	1	.034	2.330	1.065	5.095
Income (Middle)			9.696	2	.021			
Income (1) (High)	1.093	.678	2.602	1	.107	2.985	.790	11.270
Income (2) (Low)	1.697	.555	9.336	1	.002	5.459	1.838	16.214
Having schooling child	-.589	.420	1.969	1	.161		.244	1.263
location(1)	1.664	.503	10.943	1	.001	5.279	1.970	14.147
Illiterate	-.665	.342	3.795	1	.051	.514	.263	1.004
Tenure status (rent)			2.272	2	.321			
Tenure status (1) -family	.690	.587	1.380	1	.240	1.994	.631	6.303
Tenure status (2)-owner	.646	.544	1.410	1	.235	1.908	.657	5.547
Elderly ration	.652	.948	.472	1	.492	1.919	.299	12.306
Housing space per person	.028	.016	3.274	1	.070	1.029	.998	1.061
Living years in current housing	.019	.024	.585	1	.444	1.019	.971	1.068
Constant	-4.885	1.559	9.811	1	.002	.008		

ratio, an illiterate ratio, the size of the household, tenure status, income, informal job, insurance type, number of years lived in current housing, number of housing spaces, and location.

Two predictors in the model are categorical: "income" (coded zero=middle, 1=high, 2=low) and housing tenure: (coded zero=rent, 1=family 2=owner), while reference categories (last) are defined respectively middle-income group (Wald=9.696, df =2, p=.021) for income and rent for housing tenure (Wald=2.272, df =2, p=.321). The income variable with the positive coefficient suggests that households in the low-income level are more likely vulnerable to unforeseen effects of socio-spatial development (b=+1.697, s.e=+.555, p=.002) – (OR= 5.459> 1). High income is a positive and non-significant predictor of households' vulnerability (b= 1.093, s.e=.678, p=.107, OR=2.985>1).

In this model, household size is a positive and significant (b= .846, s.e= .399, p= .034) variable with the odds (2.330) indicating the direct relationship between the increase of every unit on the predictor variable and the probability of vulnerability for every household. The tenure status variable is a non-significant predictor for vulnerability to the uncertain status of the environment. According to Table 6.26, the owner variable (coded=2) is a positive and non-significant (b= .646, s.e=.544, p= .235) predictor and the odds ratio indicates that vulnerability increases by a factor of 1.908. On the other hand, living in a shared dwelling is a positive and non-significant (b= .690, s.e= .587, p= .240) predictor in the vulnerability status of households' living environment.

"Having a child enrolled in school" (b= -.589, s.e=.420, p=.161) is a negative and significant predictor variable of household's vulnerability with the OR (=.555>1) indicating that for every one unit increment on the predictor, the odds of vulnerability increase. Informal job ratio is a positive and non-significant predictor variable of household vulnerability (b=+.412, s.e=.708, p=.561) with the OR (=1.510>1). Location as another variable is a positive and significant predictor (b=+1.664, s.e=.503, p=.001) and the odds ratio indicates that vulnerability increases by a factor of 5.279 (OR>1). Households living out of squatter settlements are less likely vulnerable than those who are living in such areas due to the uncertain status of squatter settlements. Housing space per person has a positive coefficient which suggests that households having bigger houses are less likely vulnerable (b=+.028, s.e=.016, p=.070), while the odds ratio indicates that vulnerability increases by a factor of 1.029 (OR>1).

The illiterate and elderly ratio are other two non-significant predictors of a household's vulnerability (respectively, (b=-.665, s.e=.342, p=.051, OR (=.514<1) and (b=+.652, s.e=.948, p=.492, OR (=1.919>1). This finding indicates that families with a high ratio of illiterate are less likely vulnerable and elderly members are more likely vulnerable than those who are highly educated or have young members. Living year in current housing is also positive and non-significant (b= +.019, s.e=.024, p= .444) while the odds ratio (OR= 1.019>1). Insurance is positive and significant (b=+2.879, s.e=1.460, p= .049) while the odds ratio (OR >1) indicates that for every unit increment on the predictor, the odds of vulnerability increase. Due to the observed OR, Since the abovementioned variables fell between the lower and upper bound for a 95% confidence interval, the compound odds ratio is not significantly different from 1.0 (Table 5).

In the following of this debate, how

Table 6. *Variables in the equation.*

Model No.	Constant variables	Value	Test	Value	df	P	Analysis	Value %
Model 1	B	-2.411	Chi-square (Omnibus)	38.416	8	.000	Sensitivity	95.6
	S.E.	.962	-2 Log likelihood	191.565				
	Exp(B)	.090	Chi-square (Hosmer and Lemeshow)	15.144	8	.056	Specificity	24.0
	P	0.012	Percentage Correct	78.5 %				
Model 2 (Selected)	B	-4.885	Chi-square (Omnibus)	47.383	14	0	Sensitivity	94.3
	S.E.	1.559	-2 Log likelihood	182.599				
	Exp(B)	0.008	Chi-square (Hosmer and Lemeshow)	8.613	8	0.376	Specificity	38
	P	0.002	Percentage Correct	80.9 %				

well the abovementioned model is defined is supposed to be measured with chi-square (Omnibus), -2log likelihood, and chi-square (Hosmer and Lemeshow).

In the first model, the chi-square of the omnibus test is significant with P<0.05 (.000), while the -2 log likelihood value is 191.565, so due to the omnibus test, this model is statistically conventional. The P value of the Hosmer and Lemeshow test (p: .056) also supports the model where the predicted percentage correct is 78.5 %. In the second and preferred model, five other variables are added to the model, which has reduced the -2 log likelihood (chi-squared distribution = 182.599) by 8.966 with 14 degrees of freedom. The p-value for the result of adding tenure status, informal job, household size, elderly ration, and illiterate ration (insignificant variables) to the model is presented in Table 6.26. Hence it can be concluded that the addition of the abovementioned predictors to the model is statistically significant because the p=0.002 value and the overall predicted percentage correct increased to 80.9 % (Table 6).

According to the results of estimating a defined model, insurance ratio, household size, income (middle), income (2)-(low), and location (squatter settlement) are more significant predictor variables in the probability of vulnerability. The abovementioned model is chosen to create the map of the spatial distribution of the probability of vulnerable families throughout the neighborhood in consideration of the households' characteristics and neighborhood circumstances in the case study as well as the significance of variables drawn from related studies (Figure 6).

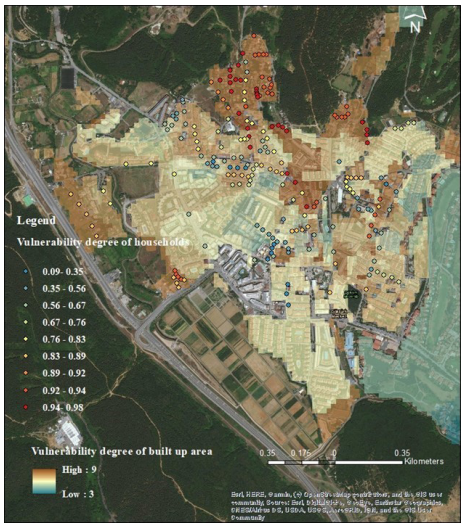

Figure 6. *Probability of households' vulnerability due to built-up environment.*

6. Concluding remarks and evaluation

The current study sought to determine how vulnerable households in the Göktürk neighborhood are exposed to unforeseen changes caused by large-scale urban projects. Vulnerability assessments were obtained based on the degree of the built-up area as determined by changes in land value and residential subareas. The features of 210 households in the area were surveyed, and the results revealed a wide range of life cycle stages. The most notable stages included young couples, young couples with children, and elderly couples with adult children.

The size of middle-income households ranges from 2 to 5, and occasionally they include adults over 60 or children in school. Furthermore, some are classified as nuclear families, with multiple families living in the same house and earning money through informal jobs.

The positive coefficient of the predictor variable of informal jobs implies that any rise in the rate of this factor results in the households' vulnerability, according to the values given in the binary model. The obtained scores of some variables from low-income and high-income households, as well as the significance of their impact on vulnerability assessment, determine the fact that high-income households living in this area have chosen their current

residence based on their evaluation of some options. Therefore, high-income households are not deemed as vulnerable in the event of abrupt changes in the city because they can adjust to large-scale enterprises and own high-priced dwellings. Regarding the location variable, the number of vulnerable households accurately decreases with the development of renewed residential areas. In other words, high-income families surround these vulnerable families, who cannot afford to live in the conditions of high-quality residential neighborhoods.

The presence of informal settlements in the north and west parts of the neighborhood exacerbates the impact of development in this area. Rising illiteracy rates have made households more vulnerable because they create fewer employment opportunities, particularly for those living in this area with more school-age children. In terms of housing tenure, tenant households are more vulnerable than homeowners or nuclear families who share a home. As their socioeconomic circumstances have stabilized, families with a high percentage of elderly members find it much harder to move than the rest of the population. Finally, households in smaller housing units are more likely to move due to pressures like escalating land value caused by the effects of large-scale projects.

Middle-income households may not suffer as much as low-income families, for whom home is merely a shelter and whose main source of income—given their low levels of education—comes from labor and service sector jobs provided to high-income groups. Due to their reliance on the socioeconomic and environmental conditions in which they currently reside, middle-class households are also vulnerable to economic changes. Because, unlike the upper class, they do not always have the means to choose the desired residence and they are not as willing to live in any environment with the fewest amenities under any circumstances as low-income families are. A significant finding in this paper indicates that high-income households contribute significantly to the vulnerability of low-income groups during times of crisis as a result of large-scale projects. They may be forced to relocate because they currently live in areas considered to be outside the scope of formal urban regulations and thus not protected by the law. The distribution map of vulnerable households in the neighborhood reveals that these households are dispersed throughout the neighborhood's center (which has a relatively long history of settlement) and in informal settlements in the north and west parts, so their behaviors must be taken into account in any large-scale projects.

Insurance ratio, household dimension, middle and low-income groups, and location (gecekondu or new residential projects) are all significant predictors in model no.2 for estimating household vulnerability in the event of a forced mobility strategy implemented by urban decision-makers.

Large-scale projects with no local planning background that are intended to benefit national economic development affect households that are unable to adapt to new planning settings due to socio-economic circumstances (high quality of neighborhood). Essentially, this acknowledges that the effects of large-scale project development in Istanbul have expanded to the city's countryside, as in the case of Göktürk. In terms of its proximity to Istanbul's city center, the Göktürk neighborhood is regarded as the countryside. By examining the Göktürk neighborhood in terms of the global countryside, it can be stated that one of the consequences of Istanbul's engagement in the globalization network for the neighborhood is the creation of opportunities for investors and the attraction of a mass of wealth, which has increased social polarization.

The transition from a low-income rural texture to a bipolar area of gated communities and the urban poor living in vanishing informal settlements (Gecekondu) is perceptible. Land developers who invested in the development of luxury residential projects profited immensely from the neighborhood's poor governance of the land and housing market dynamics. The neighborhood witnessed the exclusion of the urban poor (residents in

informal settlements) and an increase in forced migration for the middle-income of society as a result of one of the principles of globalization. The principle refers to the creation of a competitive environment beyond its location and identity (due to the increase in housing rental and sale values). The economic dynamics affecting the land on the one hand, and the social composition on the other, have reconstituted the neighborhood. Low and middle-income households, who are or will be equally affected by the negative effects, will be the first to be affected by these changes. Identifying the areas affected by the unforeseen consequences of large-scale projects thus contributes to managing the residential mobility of evicted households.

The findings of the current study assist in comprehending the potential eviction processes for vulnerable households while looking at the households' locational-spatial characteristics and their grading in the event of forced mobility caused by large-scale projects. Additionally, determining a household's vulnerability rating contributes to developing a suitable schedule for addressing the issues that would arise from relocating the households.

Further research could be conducted to determine where graded groups would relocate in the event of eviction and, depending on their circumstances, whether they would move around the neighborhood, leave, or stay during the construction of large-scale projects.

References

Agarwal, S., Ambrose, B. W., & Diop, M. (2022). Minimum wage increases and eviction risk. *Journal of Urban Economics*, *129*(103421).

Anderson, S., Leventhal, T., & Dupéré, V. (2014). Residential Mobility and the Family Context : A Developmental Approach. *Journal of Applied Developmental Psychology, 35*(2), 70–78. https://doi.org/10.1016/j.appdev.2013.11.004

Appolloni, L., & D'alessandro, D. (2021). Housing spaces in nine european countries: A comparison of dimensional requirements. *International Journal of Environmental Research and Public Health*, *18*(8). https://doi.org/10.3390/ijerph18084278

Barnhardt, S., & Barnhardt, S. (2016). Moving To Opportunity or Isolation ? Network Effects of a Randomized. *American Economic Journal: Applied Economics*, *9*(1), 1–32.

Böheim, R., & Taylor, M. (1999). Residential Mobility , Housing Tenure and the Labour Market in Britain. *Institute for Social and Economic Research and Institute for Labour Research*; University of Essex Colchester, Essex CO4 3SQ, 99-35.

Cadwallader, M. (1985). Structural-Equation Models of Migration: an Example from the Upper Midwest USA, Environment and Planning A; *17*, 101 -113

Clark, W. A. V., & Van Lierop, W. F. J. (1987). *Residential Mobility and Household Location Modeling,* Chapter 3,. In P.nijkamp (Ed.), *Handbook of Regional and Urban Economic*, 97-132. Elsevier Science Publisher BV (1). https://doi.org/10.1016/S1574-0080(00)80006-1

Clark, W. A. V., & Onaka, J. L. (1983). Life Cycle and Housing Adjustment as Explanations of Residential Mobility. *Urban Studies Journal Limited*, *20*(1), 47–57.

Coulombel, N. (2010). Residential Choice and Household Behavior State of the Art. Working Paper, *École normale supérieure de Cachan*, 2.2a, 8-53.

Dane, G. Z., Grigolon, A. B., Rasouli, S., & Timmermans, H. J. P. (2014). Determinants of Residential Mobility Intentions: A Mixed Binary Logit Model. *19th International Conference of Hong Kong Society for Transportation Studies*, *Transportation and Infrastructure*, (pp. 21–27).

Dogan, E., & Stupar, A. (2017). The limits of growth: A case study of three mega-projects in Istanbul. *Cities*, *60*(2017), 281–288. https://doi.org/10.1016/j.cities.2016.09.013

Eluru, N., Sener, I. N., Bhat, C. R., Pendyala, R. M., & Axhausen, K. W. (2009). "Understanding Residential Mobility: Joint Model of the Reason for Residential Relocation and Stay Duration". *Transportation Research Record* (*2133*), 64–74.

Eren, F. (2019). Top government hands-on megaproject management: the case of Istanbul's grand airport. *International Journal of Managing Projects in Business*, *12*(3), 666–693. https://doi.

org/10.1108/IJMPB-02-2018-0020

Esen, O. & Rieniets, T. (2015). Fortress Istanbul. Gated Communities and the Socio-Urban Transformation. In F. Eckardt & K. Wildner (Ed.), *Public Istanbul: Spaces and Spheres of the Urban* (pp. 83-112). Bielefeld: transcript Verlag. https://doi.org/10.1515/9783839408650-004Falkingham, J., Sage, J., Stone, J., & Vlachantoni, A. (2016). Residential Mobility Across the Life Course: Continuity and Change Across Three Cohorts in Britain. Advances in Life Course Research, (Vol. 30, pp.111–123). https://doi.org/10.1016/j.alcr.2016.06.001Fernandez-duran, L., Llorca, A., Valero, S., & Botti, V. (2011). The Impact of Location on Housing Prices : Applying the Artificial Neural Network Model as an Analytical Tool, *51st Congress of the European Regional Science Association, Barcelona,* ERSA 2011.

Fischer, M. M., & Nijkamp, P. (2014). *Handbook of regional science*, (pp.1–1732). https://doi.org/10.1007/978-3-642-23430-9

Hedman, L. (2011). Residential Mobility and Neighbourhood Effects: A Holistic Approach. Department of Social and Economic Geography, Box 513, SE-751 20 Uppsala, Sweden. *Institute of Housing and Urban Research*, Box 785, SE-801 29 Gavle, Sweden, (88).

Heppenstall, A., Crooks, A. T., Batty, M., & See, M. L. (eds). (2011). *Agent-Based Models of Geographical Systems*, DOI 10.1007/978-90-481-8927-4_2, Springer Science & Business Media B.V. 2012.

Jonathan Matusitz (2010) Glurbanization theory: an analysis of global cities,International Review of Sociology, 20:1, 1-14, DOI: 10.1080/03906700903525651

Jordan, R., Birkin, M., & Evans, A. (2012). *Agent-Based Modelling of Residential Mobility, Housing Choice and Regeneration;* In: A. Heppenstall, A. Crooks, L. M. See, M. Batty (eds): Agent-Based Models of Geographical Systems. Heidelberg: Springer Science+Business Media B.V.; pp. 511-524.

Karaca, A. D. (2015). Master's Thesis. Location and Environmental Effects of Airports in Airway Transportation in Turkey: The Case of Sabiha Gökçen Airport. Istanbul: Istanbul University Institute of Social Sciences, Department of Geography.

Kelley, A. C. (1980). Interactions of Economic and Demographic Household Behavior; In R. A. Easterlin (ed): *Population and Economic Change in Developing Countries*: University of Chicago Press; 403 - 470, http://www.nber.org/chapters/c9669.

King, R., Lulle, A., Mueller, D., & Vathi, Z. (2013). Visiting Friends and Relatives and its Links with International Migration: A Three-Way Comparision of Migrants in the UK, *Willy Brandt Series of Working Papers in International Migration and Ethnic Relations, 4,*13.

Kuyucu, T. (2014). Law, Property and ambiguity: the uses and abuses of legal ambiguity in remaking Istanbul's Informal settlements. *International Journal of Urban and Regional Research*, *38*(2), 609–627. https://doi.org/10.111/1468-2427.12026

Kuyucu, T. (2017). two crises, two trajectories: the impact of the 2001 and 2008 economic crises on urban governance in Turkey. In F. Adaman, B. Akbulut, & M. Arsel (Eds.), *Neoliberal Turkey and Its Discontents: Economic Policy and the Environment under Erdoğan.* (Issue february, pp. 44–74). London: I.B. Taurus.

Kuyucu, T., & Ünsal, Ö. (2010). Urban Transformation as State-led Property Transfer : An Analysis of Two Cases of Urban Renewal in Istanbul. *Urban Studies Journal Limited*, *47*(June), 1479–1499. https://doi.org/10.1177/0042098009353629

Marc Welsh & Jesse Heley (2021): Rural regionalism in the 21st century: a tale of no cities, Territory, Politics, Governance, DOI: 10.1080/21622671.2021.1916579

McAuley, W. J., & Nutty, C. L. (1982). Residential Preferences and Moving Behavior: A Family Life-Cycle Analysis. *Journal of Marriage and the Family, 36*(3), 301-309.

Morris, T. (2017). Examining the Influence of Major Life Events as Drivers of Residential Mobility and Neighbourhood Transitions. *Demographic Research, Journal of Population*, *36*, 1015-1038. https://doi.org/10.4054/DemRes.2017.36.35

Morrow-Jones, H. A., & Wenning, M. V. (2005). The Housing Ladder, the

Housing Life-cycle and the Housing Life-course : Upward and Downward Movement among Repeat Home-buyers in a US Metropolitan Housing Market, *Urban Studies*, *42*(10), 1739–1754.

Nasrollahzadeh, S., & Koramaz, T. K. (2021). Large-scale projects and land value changes in peripheral residential development in Istanbul. *Journal of Housing and the Built Environment*, *37*(3), 1221–1253.

Newton, P., & Bell, M. (1996). Mobility and chnage in Australia. In P. Newton & M. Bell (Eds.), *Population Shift: Mobility and chnage in Australia* (Issue July, pp. 9–12). AGPS.

Oh, J. (2020). "Residential Mobility and Quality of Life between Metropolitan Areas: The Case of South Korea." *Sustainability, 12*(20), 1–14.

Parker, D. C., Berger, T., & Manson, S. M. (2002). Agent-Based Models of Land Use / Land Cover Change. *LUCC International Project Office,* LUCC Report Series. 6, 79-88. http://www.globallandproject.org/Documents/LUCC_No_6.pdf.

Rabe, B., & Taylor, M. (2009). Residential Mobility, Neighbourhood Quality and life-course events. ISER Working Paper Series: *Institute for Social and Economic Research*, *28*, 1-37. https://www.iser.essex.ac.uk/files/iser_working_papers/2009-28.pdf

Ronquillo, E. J. (2012). The 2014 Brazilian World Cup : Consequences and Legacies, *Scripps Senior Theses,* (71). http://scholarship.claremont.edu/scripps_theses/71

Sari, T. (2017). *Istanbul : As the Capital of Mega Projects and Investors in Global Context 8 . 2 Istanbul : As the Capital of Mega Projects and Investors in Global Context Tuba SARI * Field of Research : Economics*. *18*(June), 39–49.

Sánchez, A. C., & Andrews, D. (2011). Residential Mobility and Public Policy in OECD Countries. *OECD Journal: Economic Studies*, *2*(1), 185–206.

Steinbrink, M. (2013). Festifavelisation: Mega-events, slums and strategic city-staging - The example of Rio de Janeiro. *Erde*, *144*(2), 129–145. https://doi.org/10.12854/erde-144-10

Tabachnick, B. G., & Fidell, L. S. (2007). *Using Multivariate Statistics* (5th ed.). Allyn & Bacon/Pearson Education, 346-400.

Teater, B. (2009). Factors Predicting Residential Mobility Among the Recipients of the Section 8 Housing Choice Voucher Program, *Journal of Sociology & Social Welfare*, *36*(3), 159-176.

Theodos, B., & Mctarnaghan, S. (2018). Family residential instability What can states and localities do? https://www.urban.org/sites/default/files/publication/98286/family_residential_instability_what_can_states_and_localities_do_1.pdf

Turgut Yildiz, H. (2004). Istanbul's new housing trends: THe structural analysis of housing pattern in the process of urbanization & globalization. *Itu A|Z*, *1*(2), 77–90.

URL 1: https://www.turkiye.gov.tr/eyup-belediyesi-arsa-rayic

URL 2: Forest law No. 6831. Official Gazette in Turkey on 8 September 1956, available at https://www.mevzuat.gov.tr/MevzuatMetin/1.3.6831.pdf

Warner, C., & Sharp, G. (2016). *The Short- and Long-Term Effects of Life Events on Residential Mobility. Advances in Life Course Research*, *27* ,1–15. http://www.sciencedirect.com/science/article/pii/S1040260815000519

Withers, S. D. (1997). Methodological Considerations in the Analysis of Residential Mobility: A Test of Duration, State Dependence, and Associated Events. *Geographical Analysis*, *29*(4), 354-372.

Woods, M. (2007). Engaging the global countryside: globalization, hybridity and the reconstitution of rural place. Progress in Human Geography, 31(4), 485–507. https://doi.org/10.1177/0309132507079503

Wulff, M., & Newton, P. (1996). Mobility & Social Justice. In P. Newton & M. Bell (Eds.), *Population Shift: Mobility and chnage in Australia* (Issue July, pp. 426–439). Australian Government Publishing Service [AGPS].

Wulff, M. G., & Newton, P. W. (1996) *Mobility in the Public Rental Market*, In: P. Newton and M. Bell (Eds) Population Shift: Mobility and Change in Australia, (pp. 276–302). Canberra: Australian Government Printing Service Press.

Özcan, K., & Gündoğar, R. (2015). Effects of Organized Industrial Investments on Spatial Development Processes: The Example of Tuzla (Istanbul). *Turkish Journal of Geography*, 11-18