

Investigating the Effects of Transportation Policies on Sustainable Neighborhood Development (Case Study: Chelekhaneh Neighborhood, Rasht City)

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Abstract

The growing use of private cars has raised concerns about traffic, environmental pollution and neglected historic sites in cities. Currently, due to the dominance of cars in the city of Rasht, many valuable neighborhoods in the central part of the country have become inaccessible to pedestrians and have only become a place for activities such as car parks. The aim of this study is to investigate the impact of traffic-absorption policies on the development of sustainable neighborhoods. In this study, modified coefficients, regression and structural analysis were used to analyze the path of two attractive policies of public transportation development and development of spaces for pedestrians and two repulsive policies of restricting car traffic and parking restrictions to evaluate Chelekhaneh neighborhood of Rasht. Is. The Cochran's formula was used to determine the sample size, which was calculated to be 384 people. The reliability of the questionnaires was obtained by Cronbach's alpha of 0.834. By examining the findings, the regression coefficients in the two repulsive policies; restrictions on car traffic and parking restrictions are ranked first in the physical-environmental dimension, and fourth in the communication and stress dimension, respectively. The physical-environmental dimension of the environment with a beta coefficient of 0.86 in the limit of car traffic and in the parking limit with a beta coefficient of 0.84 and the communication and control dimension in the restriction of car traffic and parking limit with a beta coefficient of 0.75 and 59.5, respectively. 0 was obtained from the citizens. As a result, absorption policies alone cannot be involved in recreating neighborhoods; Rather, these policies can be effective when complemented by other traffic policies, such as repulsion policies.

Introduction

Today, the growing trend of urbanization and the rapid expansion of cities in recent decades has strengthened and reinforced the idea that the city and its components are part of the inseparable life of today's human beings. Following increasing urban growth, poverty, the spread of inequality in urban spaces, and the growth of social and cultural anomalies are becoming more pervasive. As a result, urban instability has become one of the main issues and challenges of 21st century cities. The persistence and inequality of such urban growth has challenged and warned of the instability of the current urbanization. Therefore, the concept of sustainability has become a sustainable method in urban studies. In this regard, the concept of urban sustainability neighborhoods is a new approach in urban design and planning that aims to improve and sustain environmental quality and health of citizens. The structure of urban neighborhoods emphasizes greater longevity and sustainability, and social,

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economic, and physical construction. Therefore, due to over-concentration of the population and economic activities in urban centers, especially in less developed countries, the sustainability of urban development has been considered more. Sustainable urban development has broad and complex dimensions. At the moment, relying on an individual factor to shape it is not a deliberate measure. The best factors that should be considered in the development of this urban phenomenon are: economic, environmental, social and physical factors. Thus, sustainable development is not just about environmental policy, and it cannot be achieved without solving economic, social, and physical problems. And it is important that the neighborhood was inhabited by ethnic, racial and religious groups. In large cities, each neighborhood has sometimes been a city in its own right, semi-independent with specific markets, mosques, and administrative offices, as opposed to the city's administrative, commercial, and religious centers, which have been part of the city's solidarity chart.

Materials and Methods

The present study is descriptive-analytical in terms of method and practical in terms of purpose. The research is a survey conducted by completing a researcher-made questionnaire and reviewed several times by experts. To measure the sustainability of neighborhoods, five dimensions of physical-environmental environment, access, social and economic have 11 criteria and are questioned based on 20 sub-criteria. To this end, 18 policies have been extracted, and finally, based on the conditions of the study area, 4 final policies have been selected, and thus documented. These include the dominance of private cars and the lack of proper infrastructure and services for public transport. The sampling method is random and correlation information analysis method, which is considered as one of the analysis methods. Finally, to fit the data - the model is used through AMOS software version 24 and SmartPLS software to provide a structural analytical model of each of the hypotheses expressed in the research in relation to its variables. And to calculate the reliability of the indicators, a sample of 384 people was performed and then the reliability of the questionnaire was calculated by Cronbach's alpha method and Cronbach's alpha coefficient was 0.834, which indicates the high level of reliability of the questionnaire. The SPSS 25 software has also been used to analyze data. The indicators evaluated in the research have been extracted with emphasis on measurability and measurability by reviewing the relevant texts.

Results and Discussion

The correlation coefficient between the variables of sustainable neighborhoods and the positive nature of public transport development has been calculated. As the rate of this type of policy increases in Rasht, the physical-environmental indexes are 80%, communication and access 75%, social 81% and economic 0.80. will increase. On the other hand, one of the prerequisites for regression analysis is to examine the significance of regression analysis, which according to Table 11, regression analysis is significant, and then presented. It is noteworthy that car traffic limitation variable is 74% capable of predicting physical-environmental changes, 57% communication and accessibility, 67% social and 64% economic of a neighborhood. The beta coefficients of the variables were calculated as 0.860, 0.759, 0.822 and 0.805, respectively. These positive coefficients indicate that if a variable standard deviation of the car traffic limit increases around the neighborhood of Chalkhaneh, the coefficients of this tendency of citizens to be more socially, environmentally, more easily accessible and economically connected, there is also an increase

in the likelihood of people being restricted by car traffic. The indirect effects of parking restrictions on the components of sustainable neighborhoods have also been investigated. The AMOS software version 24 is used to evaluate the accuracy of data-models to evaluate models of all four policy areas. There are several indicators in this path analysis, including the most important ones. From: GFI, AGFI, CFI, NFI, RMSEA. These values indicate the fit of the fit-and-fit data-model indices. The main indices are the Normalized Fit Index (NFI), which for the proposed model must be between zero and one. Also, the RMSEA index is used in most structural equation analyzes, which, if the value is less than 0.05, fits the model well if it is between 0.05 and 0.08. The value of this index is also reported in the present study.

Conclusion

In the present study, a study of the correlation coefficient of policies by qualitative dimensions of sustainable neighborhoods shows that negative or punitive policies including two policies of car traffic restrictions and parking restrictions, respectively, have the greatest impact on improving the physical-environmental quality of Cheleh neighborhood. Also, two positive or incentive policies, including the development of public transport and the policy of developing spaces for pedestrians at a greater distance than the other two policies, have been effective in improving these characteristics, respectively. In other words, negative policies provide more physical-environmental-environmental, social, economic and communication and access options than positive policies by providing more options. Therefore, it can be said that among the four selected policies, the two policies of restricting car traffic and parking restrictions, which are punitive policies to reduce dependence on personal cars, have had a much greater impact than the other two policies. . These two policies provide a platform for increasing the use of public transport and provide spaces for pedestrians. In general, incentive traffic policies alone cannot lead to the re-creation of sustainable neighborhoods; Rather, these policies can be effective when supplemented by other punitive traffic policies, such as restricting car traffic and parking restrictions.

Keyword: Pull and push policies, sustainable neighborhoods, RMSEA indicator, Cheleh Khaneh neighborhood, Rasht.

References

1. Ahmed, K. G. (2012). Urban social sustainability: A study of the Emirati local communities in Al Ain. *Journal of Urbanism: International Research on Placemaking and Urban Sustainability*, 5(1), 41–66.
2. Banister, D. (2012). Assessing the reality-Transport and land use planning to achieve sustainability. *The Journal of Transport and Land Use*, 5(3), 1-14.
3. Chatman, D. (2013). Does TOD need the T: on the importance of factors other than rail access. *Journal Planner Assoc.* 79 (1), 17–31.
4. Putra, K.E., & Sitanggang, J.M. (2016). The effect of public transport services on quality of life in Medan city. *Procedia – Social and Behavioral Sciences*. 234. 383 – 389.
5. Toche, L. O., Arellano, L.I.S., & Munoz, G. M. (2014). Evaluation of profile of sustainable transport specialist in Mexico. *Procedia – Social and Behavioral Sciences* 160, 494 – 498.
6. Trudeau, D., & Kaplan, J. (2015). Is there diversity in the New Urbanism? Analyzing the demographic characteristics of New Urbanist neighborhoods in the United States. *Urban Geography*. 36 (3), 1-25.