

Analysis of Traditional Neighborhood Development Principles in Neighborhood Planning of New Towns (Case Study of Baharestan New Town)

Dr. Mohammad Ali Firoozi,¹ Dr. Majid Goodarzi², Maryam Mollaei³

¹. Associate Professor of Geography and Urban Planning, Shahid Chamran University of Ahvaz, Ahvaz, Iran

². Assistant Professor of Geography and Urban Planning, Shahid Chamran University of Ahvaz, Ahvaz, Iran

³. MA Student of Geography and Urban Planning, Amin Institute of Higher Education, Fooladshahr, Iran

Received: January 8, 2017

Accepted: March 17, 2017

ABSTRACT

Emergence of New Urbanism Movement in the 1980s and 1990s changed the old perspectives on town development and its related issues. TND¹ is an approach rooted in New Urbanism Movement attempting to appropriately address the needs of neighborhoods and their residents. The present study offers a new theory in urban planning and design by analyzing the principles of Traditional Neighborhood Development (TND). The study follows a descriptive-analytic methodology. The statistical population comprises the entire residents of Baharestan, aging between 15 and 50 years in 2014. The number of the residents is not known. The data obtained from measurement instruments are processed using SPSS software. In addition to using statistical indicators such as frequency, percentage, mean, standard deviation, and Kolmogorov-Smirnov (in order to determine statistical population normalcy), inferential univariate and univariate variance analysis (ANOVA) were employed. Results from univariate t test indicated that, according to the opinions of Baharestan New Town's residents, TND principles including walk ability; connectivity; smart transportation; mixed and multiple uses; various housing; quality architecture and urban design; preservation of traditional neighborhood structure; increased density; resident participation; preservation and improvement of open, public, and green spaces; construction and management of stations; use of design tools for increased security in neighborhood have been excluded from urban planning of Baharestan New Town.

KEYWORDS: TND, New Urbanism, Neighborhood planning, Baharestan New Town.

INTRODUCTION

Prior to industrialization, urban neighborhoods were able to acclimatize themselves to the slow socio-economic developments, and, while preserving the natural values of their environments and satisfying the individual and social needs of their residents, enjoyed necessary dynamism and liveliness. Gradual change in living styles in the aftermath of the Industrial Revolution as well as failure to maintain economic, social, and environmental variables entailed some kinds of textural, cultural, and social disruption throughout urban neighborhoods, resulting in the inefficiency of neighborhoods (Rafi'ian, 2010). When dissatisfied with their place of residence, families leave their neighborhoods and move elsewhere. Then, the neighborhood ceases to act as an element for preservation of social identity, hence the emergence of residential instability. The efforts of theoreticians and urban developers in response to issues and problems generated by the new age and in search of a strategy to resolve these issues led to the formation of a new movement called New Urbanism (Seghatoleslami and Aminzadeh, 2011). New Urbanism movement is recognized as one of the most significant perspectives on humanistic urban development in the world. Early promoters of this view sought to revive traditional urban development norms of North America which resulted in widespread social behaviors and human interaction (Mohammadiju, 2013). New Urbanism is also known as New Traditional Design, Transit-oriented Development (TOD) and Traditional Neighborhood Development (TND). It is an urbanity view which emphasizes the development of urban environment with such main characteristics as residents' walk ability, provision of necessities, performance of daily activities, and possession of human scale (Ebrahimi Ghuzlu, 2013). One of the concepts on which this movement focuses is Traditional Neighborhood Development approach. This pattern is a type of development plan which refers to the development of a complete neighborhood or city using traditional urban planning principles and which includes the adaptive reuse of existing buildings, which mainly includes new construction remaining to be developed on the ground (Gosling, 2015: 170). This approach strives to increase social interaction by reinforcing and improving neighborhood physical space, and

¹. Traditional Neighborhood Development

*Corresponding Author: Dr. Mohammad Ali Firoozi, Associate Professor of Geography and Urban Planning, Shahid Chamran University of Ahvaz, Ahvaz, Iran. M.Alifiroozi@scu.ac.ir

by improving the sense of attachment to place, economic self-sufficiency, and social capital (Frampton, 2014: 110). TDN is restricted to a neighborhood or city scale and must not be confused with New Urbanism which includes all scales of planning and development (Halprin, 2015: 827). TDN is a blend of many different architectural styles. A known example for a TDN for the modern style is the nontraditional style (Johnson, 2014: 517). To meet the requirements as a project, TDN must incorporate a wide variety of housing, a network of well-connected streets and blocks, and public human space and amenities such as shops, schools, prayer houses, considering their distance from people's homes and places of residence. For this approach, the fundamental elements of organization of New Urbanism are neighborhood unit, zone, and corridor, and it sets some design principles for each. This approach targets urban neighborhoods with the strategies it offers, return dynamism, liveliness, and sustainability to urban neighborhoods (Ebrahimpur Masumi and Partovi, 2011). In the newly-built towns or those under construction, it is observed that today's towns have turned into mere dormitories for people, with no trace of a sense of belonging to towns, and no liveliness or dynamism (Angurani, 2013: 35). One of these new towns is Baharestan, which is located 15 kilometers south of Isfahan City and on the eastern route between Isfahan and Shiraz. This town accommodates the surplus population of Isfahan and it has been to some extent successful in fulfilling this function. However, it appears that this town is facing problems in terms of planning for some urban spaces, particularly in planning for neighborhoods (Baharestan Municipality, 2014). In addition, since constructions are still going on in the non-developed parts of the city, the necessity of having a suitable planning pattern with a more humane approach is felt in order to improve the life quality of the residents (Bavand Counseling Engineers, 2012: 30). In their policies, the authorities should adopt approaches that integrate modernity and tradition so that they can exploit tradition's advantage of responsiveness to people's needs as well as keeping up with world standards. By taking a closer look at the neighborhood planning trend in Baharestan Town from the perspective of its residents, the present study seeks to compare and contrast this trend with the principles of TND. Besides, in addition to analyzing the issue, some suggestions are proposed for improving neighborhood planning in this town in order to help resolve the problems faced by the town's neighborhoods. Few studies have investigated the neighborhoods of new towns using this approach, hence the necessity of the present study. This paper attempts to address the following question: Does neighborhood planning in Baharestan Town uphold the principles of Traditional Neighborhood Development (TND)?

Research Background

Foreign Research Background

In an article entitled Access for all (Transportation and Urban Growth), Schaffer and Skelar (2010) found out that emphasizing public transportation and following New Urbanism principles prevents the dispersion of dwellings and use of private automobiles, reduces energy consumption, eases access to urban services, and decreases traffic (Schaeffer and Sclar, 2010).

In their article, The Neighborhood, the District and the Corridor, Zyberk and Duanny (2012) purport that New Urbanism is a response to urban sprawl. They state that New Urbanism, by stressing traditional textural features, tends to learn lessons from traditional urbanism in order to find solutions for contemporary, regional, and urban concerns.

In his book, The Old Neighborhood: What We Lost in the Great-Suburban Migration, Suarez (2014) maintains that despite differences, there are similarities and close links between assumptions such as smart growth and New Urbanism and the movement of urban structured cores. According to Suarez, the dual function of creating new neighborhoods and renovating cities' existing old textures is possible by following the principles of New Urbanism in urban neighborhoods.

Haas (2015), in a study entitled A Traditional Neighborhood Development Model, concluded that the neighborhood must be designed such that most houses are located within a 3-minute walking distance to the neighborhood parks and a 5-minute walking distance to the neighborhood's common central square, and the neighborhood must have a meeting center, kindergartens, bus stops, and supermarkets.

Persian Research Background

In a paper entitled "Traditional Urban Neighborhood Design: TND, a Strategy Towards Urban Redevelopment," Ma'sumi and Partovi (2013) concluded that, by introducing traditional neighborhood design strategies and its principles and rules, one can create a general framework for preventing the uncontrolled sprawl of cities and strengthen the traditional structure of neighborhoods in order to reconstruct and renovate them. Considering the richness of Iranian traditional municipal engineering and city textures, this is a suitable foundation for the implementation of new plans.

In a paper entitled “Proposals of TND Approach for Organizing Neighborhoods,” Moeini (2014) concluded that this approach attempts to increase social interaction by improving and strengthening neighborhood physical space and thus improve attachment to place, economic self-sufficiency, and social capital. This approach can also help to promote the efficiency of New Urbanism and its relation with Iranian-Islamic Urbanization and to protect and strengthen this feature in future cities and promote the environmental and identity-related quality of their neighborhoods.

In a paper entitled “Renovation of Traditional Neighborhoods with an Emphasis on TND Approach,” Zandi and Ashrafi (2016) concluded that the principles of this approach such as compressed development, mixed uses, various housing, narrow and interconnected streets, pedestrian-orientedness and various transportation, and, in general, the main goals and principles of this approach are effective in the dynamism, vitality, and stability of neighborhoods. This approach can serve as a basis for neighborhood-based policy-making in the process of urban renovation and reconstruction.

Many studies have been carried out in Iran on urban neighborhoods. There has also been some general research on the application of New Urbanism principles to the recreation of urban neighborhoods as well as researches on a world scale about new urbanization and New Urbanism. However, no study has addressed the principles of Traditional Neighborhood Development (TND) paradigm in neighborhood planning, especially for new cities. Thus, it could be argued that the present study presents a rather new concept.

METHODOLOGY

This is an applied study in terms of purpose and a descriptive-analytic one in terms of its nature, and it is carried out in the form of inductive reasoning. Data and information were collected using library and observation methods. The statistical population includes the entire residents of Baharestan, aging from 15 to over 50 years in 2014. The number of these residents is statistically unknown. Since the study intended to analyze the application of the principles of TND development paradigm to neighborhood planning according to the survey-elicited opinions of

Baharestan New Town’s residents, a descriptive-survey research method was chosen. The (formula
$$n = \frac{Z^2 S^2}{D^2}$$

was used to determine the sample size. According to calculations
$$n = \frac{1.96^2 \times 0.25}{0.05^2} = 384$$
), the obtained sample size was 384 individuals, 362 complete and acceptable questionnaires were returned though.

Targeted random sampling was employed since the desired age group was scattered throughout different urban regions. The research was conducted in the first half of the year 2014 and the geographical location was Baharestan New Town. In this study, an author-made questionnaire was used. Questionnaire items were designed based on the 12 parameters of walk ability; connectivity; improved public transportation; mixed-use and diversity; mixed housing; quality architecture and urban design; preservation and improvement of traditional structure; increased texture density, use of resident participation; preservation and improvement of open, public, and green spaces; creation and management of stations; and employment of design tools for increased security in urban environments. The aforementioned questionnaire consists of 57 closed-ended questions on a five-level scale (strongly agree-agree-neither agree nor disagree-disagree-strongly disagree). In order to determine the validity of the questionnaire, 60 questions were initially designed using resources, preliminary studies, and expert judgment. Afterwards, 7 professors and experts were asked to evaluate each question on a scale of “very weak” to “very good” and 3 questions were evaluated as weak and very weak. The mean of the experts’ evaluation scores of the remaining 57 questions was 4.04 (in Likert’s five-value scale), which indicated acceptable validity of the instrument. Then, in order to enhance the validity, the questionnaire was reviewed and revised and a 57-item questionnaire was obtained. According to Kendall’s coefficient, the validity of the revised questionnaire was calculated to be 0.72, which exhibited good validity. Following a series of preliminary studies and determining questions’ variance, the questionnaire’s reliability was measured using Cronbach’s alpha and a coefficient of 0.85 was obtained. For analyzing the data obtained from the measuring instrument, statistical indicators such as frequency, percentage, mean, standard deviation as well as inferential statistics such as univariate t, Kolmogorov-Smirnov test and univariate variance analysis (ANOVA) methods were used.

Identifying the study area

Baharestan Town is located 15 kilometers south of Isfahan in the skirts of Lashtar Mountains. A beautiful, low mountain range called Miankooh creates an attractive wall in the south of the town. The town’s lands connect to the

green plains of Zayanderood in a mild south-to-north slant. Baharestan is the product of studies and predictions of Isfahan region comprehensive plan passed in 1986 by the Iranian Supreme Council of Architecture and Urban Development and implemented in 1988. In this plan, the town's area is estimated to be 2500-3000 hectares with a population of approximately 320-350 thousand. The first stage of the town's development is in its nascent form, encompassing an area of approximately three thousand hectares including phases 1, 2, and 3 predicted to accommodate 100000 people. Accommodation of population began in 1992 (Advising Engineers, 2015). Based on the last census, Baharestan New Town's population approximates 64000 (Isfahan Governor's Office, 2012). Figure 1 illustrates the geographical location of the town.

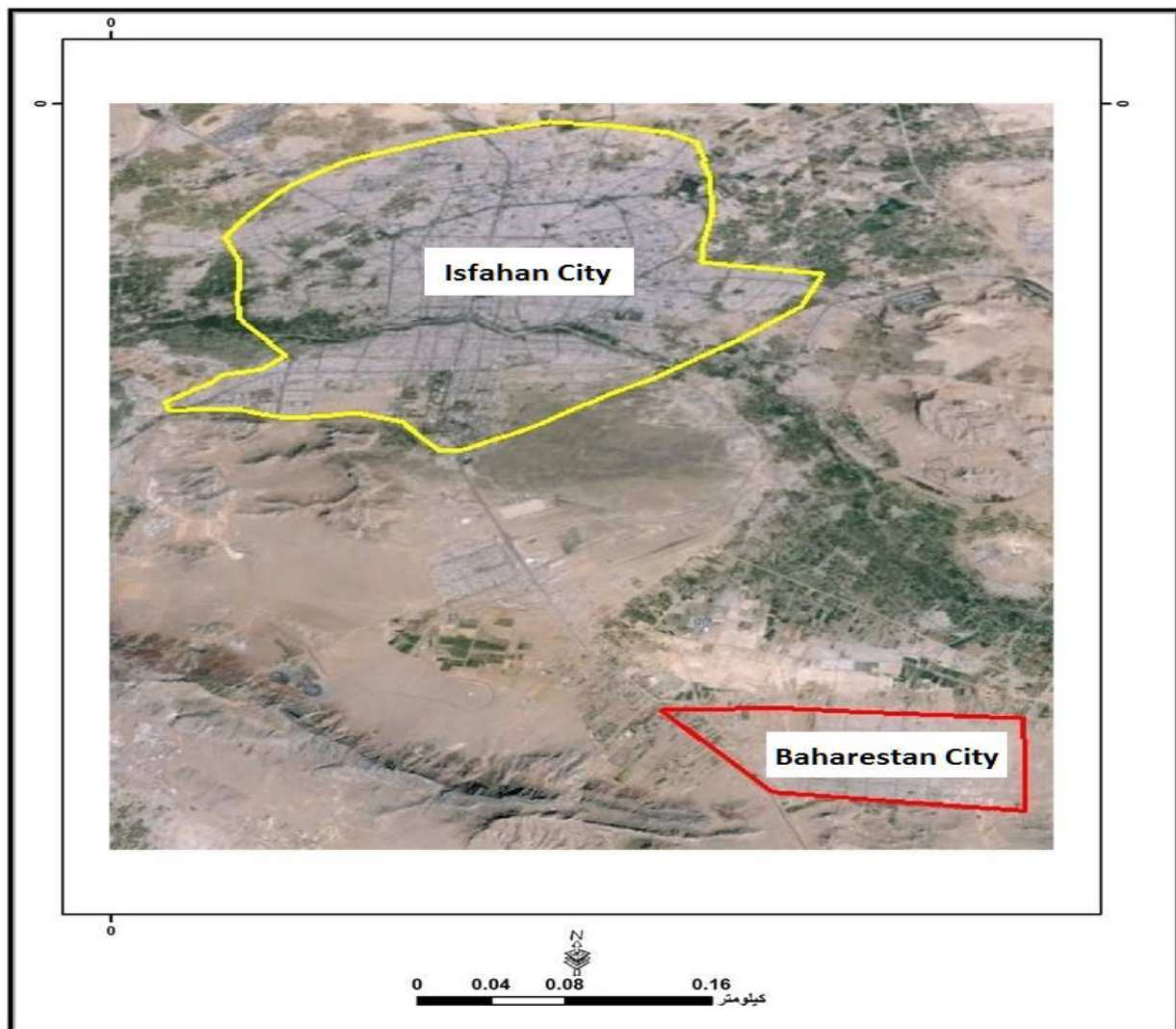


Figure 1. Geographical location of Baharestan in Isfahan

Theoretical framework

Neighborhood

According to dictionary definitions, “neighborhood” is part of a city, an area with distinct features, and a place where human material and spiritual needs are met. From the perspective of experts, neighborhood unit has its own specific standards. For instance, Hildebrand Frey defines “ideal neighborhood [as] a neighborhood with an access radius of 600 meters built on a surface of 110-120 hectares with the density of 60 people per hectare and a population of 7000 people and delineated with railway lines, traffic routes and/or natural elements such as rivers and greenery (Cowan, 2008).

New Urbanism

New Urbanism (known as traditional neighborhood design and neo-traditional neighborhood design) is a set of planning principles that create livable and walkable neighborhoods in a desirable walking environment. New Urbanism is a response to urban sprawl and an effective way to counterbalance automobile-dependent communities where private cars are used for all commutes (Zucker, 2012: 73).

New Urbanism:

New urbanism (the designing of traditional and nontraditional neighborhoods) is a set of design principles which create livable and walkable neighborhoods in an appropriate environment. New urbanism is a reaction to urban sprawl and an effective way to tackle automobile-dependent societies where all trips are made by car (Hikichi, 2010: 56).

The Concept of Traditional Neighborhood Development (TND)

TND refers to the development of a complete neighborhood or city using the principles of traditional urban planning (Grant, 2011: 15). Contrary to the modernistic approach which considers four criteria for urban planning and development (i.e. free and fast flow of traffic, abundant parking space, complete separation of uses, and relatively low concentration of buildings), this approach emphasizes the construction of concentrated neighborhoods with various uses, giving priority to pedestrians in the design, construction of areas with appropriate location and characteristics as well as beautiful, functional corridors which can stabilize natural environments and built neighborhoods. Construction and development of traditional neighborhood units is based on human scales; walkable neighborhoods with low-to-high residential concentration with mixed usages that are in contrast with suburban development. This provides different types of transportation and reduces the use of private cars due to increased intra-neighborhood commutes. It encourages walking and bicycling and enhances safety by slowing down vehicles (Mccoy, 2000). In general, the space required for creating such neighborhoods is 10-15 acres. The distance from the center of the neighborhood to its outskirts is a 400-meter walking distance. Typically, 10-20 percent of the entire neighborhood is allocated to open spaces, 70-80 percent to housing blocks, and the remaining 10 percent to mixed usages, particularly commercial and administrative ones. This type of development is based on creating concentrated neighborhoods in the town, because establishing internal communication and launching commercial and administrative usages throughout the neighborhood requires the neighborhood's human resources and social capital. In addition to mixed usages throughout the neighborhood, some markets are needed for employment and satisfaction of the needs of the residents. Therefore, urban planning and design should provide access to other areas and neighborhoods through regional transportation systems such as trains, buses, highways, etc. (Moris, 2012: 107).

In smart urban development, TND is defined as a compact neighborhood with mixed residential and commercial usages, and administrative buildings that are situated in the vicinity and in contact with each other. It is a type of planning based on the principles of traditional small towns and urban neighborhoods (Revell, 2013: 75). It is revitalizing and updating past values in response to inefficiency of usages and infrastructures in new urban developments. By targeting different human needs, this approach seeks to give identity to urban neighborhoods and compact development of urban neighborhoods or towns, and it is based on planning principles of traditional towns. Of course, the RND project considers many different synthetic architectural styles and does not focus merely on traditional aesthetics (Steuteville, 2014: 54). This development can include in-town developments and reuse of existing buildings, or it can be in a new form on undeveloped lands (Neal, 2013: 65). Projects include various types of dwellings, interconnected streets and blocks, public spaces, and amenities such as shops, schools, and chapels which are located within walking distance. The scale of these projects is restricted to neighborhoods and towns and should not be mixed, in terms of scale, with New Urbanism, because New Urbanism includes a type of urban design and planning in different scales of various architectural styles of building and area design. Besides, the point worthy of attention here is that developing traditional neighborhoods does not mean that this approach is old; rather it means the use of past values and norms and a type of comprehensive planning system that entails updating them in new urban development based upon a compromise between tradition and modernity (Sallis, 2013: 95). Traditional neighborhoods are the partners of urban development and are favored by the people (Jepson, 2014:33). Figure 2 is the situation of a neighborhood in North Carolina, which has benefitted from new urban development based upon TND strategy in the contemporary era.



Figure 2. An example neighborhood in Chapel Hill (North Carolina) with new development situation based upon TND strategy (source: www.NewUrbanism.org , 2014).

TND Goals and Advantages

The objectives of traditional neighborhood design can be divided into three general categories, some of which are discussed in what follows:

TND can prove useful only when functional zoning gives its place to land-based zoning. Using other standard regulations is also effective in the implementation process. This approach creates neighborhoods which are economically dynamic and environmentally sustainable and which possess social identity and a sense of place.

Table 1. Objective and Advantages of TND

Social Advantages	<ul style="list-style-type: none"> – Increases interactions in space – Creates a social sense of place – Security – Reduces class gaps – Improves physical and mental health of individuals
Economic Advantages	<ul style="list-style-type: none"> – Creates jobs – Saves time – Reduces transportation costs
Textural Advantages	<ul style="list-style-type: none"> – Closeness of workplace and home – Takes human scale into account – Beautiful landscape in harmony with nature – Reduces traffic in the neighborhood
Environmental Advantages	<ul style="list-style-type: none"> – Decreases automobile dependency, thus reducing air and sound pollution – Preserves natural resources – Sustainable development

(Rafi'ian, 2010: 15)

The objectives and principles of this approach are interconnected and integrated. There are many principles as well as different categorizations specified for this approach in the literature. In this study, some of the most important principles are mentioned.

Compact Development (increased density)

The development of traditional neighborhoods is compact; this paradigm is true for both residential and commercial uses. The purpose of compact development is effective land usage and reduction of urban infrastructure costs. In addition, compact development follows human scales in which walking distance, building height, street signs, and other features are in proportion to human population and needs. One of the most important advantages of compact development is increased social interaction in environments such as parks, open spaces, and public buildings. In this state, residential, commercial, and urban uses are placed in each other's vicinity in order to encourage walking in this environment (Asgharzadeh Yazdi, 2010: 26).

Mixed Use and diversity

There are different assumptions with respect to mixed use. Mixed use refers to a combination of residential, non-residential, commercial, administrative, and open space uses. Mixing uses increases the neighborhood's tax burden,

results in the formation of an active neighborhood center, provides security for the entire neighborhood, and influences its identity fashioning. The neighborhood center can be a park, leisure center, school, or library. Sometimes, the combination of residential and commercial uses in on different floors of a building is also referred to as mixed use. Uses include the following:

- Commercial uses: including retail stores, bookshops, stationary shops, and service centers such as hairdressers, laundries, drugstores and short-stay residences;
- Residential uses: including single- and multi-household houses and apartments;
- Administrative or municipal uses: e.g. municipalities, fire stations, museums, educational centers, transportation stations, religious centers, etc.;
- Open spaces: including central squares, neighborhood parks, and playgrounds(Asgharzadeh Yazdi, 2010: 26).

Diverse Dwellings (Construction of various types of housing)

These dwellings are in the form of single-household residential units (separate from or adjacent to each other), multi-household residential units, apartments, etc. The aim is to satisfy the needs of different income groups and to increase affordability throughout the neighborhood, which reduces class conflict among residents(Asgharzadeh Yazdi, 2010: 26).

Walk ability

In traditional neighborhood development, walking and driving are valued equally. Neighborhoods are usually designed based on walking and favor pedestrians. Using green spaces and floral verandas is effective in encouraging walking. Existence of mixed uses is itself another reason for increased walking throughout the neighborhood. Using speed-reducing techniques in the neighborhood and designing narrow streets are also effective in ensuring pedestrian safety(Asgharzadeh Yazdi, 2010: 26).

Diverse Transportation (smart transportation)

Walking, bicycling, and using public and private transportation provide the residents with different options to choose from, and this is one of the best advantages of TND.

Narrow Streets and Small Blocks (Connectivity)

In TND, streets are as narrow as possible, and interconnected and dead-end streets are not favored. Streets are hierarchies in the following order:

Primary Collectors

These streets are part of the urban connection network and provide access to commercial and other mixed uses. Diagonal or parallel parking lots are designed as a technique for easing the traffic flow.

Secondary Collectors

These streets are responsible for providing access to residential areas. Traffic flow is low in these streets and speed limits are lower than 25 km/h.

Alleys

Provide secondary access to residential buildings(Asgharzadeh Yazdi, 2010: 26).

Responsiveness to traditional neighborhood structure

Any measures taken in TND process must be in accordance with cultural and environmental characteristics of the place, and must attempt to preserve historical buildings and sites and the natural conditions of the land.

- Maintaining land grade;
- Preserving natural ponds;
- Managing surface waters;
- Utilizing local plants of the area;
- Meticulous building design;
- Taking historical aspects into account (Ellis, 2010: 263).

All of the above-mentioned factors are effective in sustainable development.

New Town

According to the first article of the law of new town development, “new towns are spots allocated, under the framework set by the Iranian Supreme Council of Architecture and Urban Development, for accommodation of at least thirty thousand people, in addition to buildings and necessary public, social, and economic amenities for the residents (The Secretariat of the Supreme Council of Urban Development and Architecture, 2011 : 89).

Neighborhood Planning

Neighborhood planning is a new approach in planning aimed at integrating different groups engaged in planning or other stakeholders and considering their general needs and wishes in developing plans. This method revolves around the notion of neighborhood engagement, participatory function, neighborhood leadership, and strategic prospect (Frampton, 2014: 107).

Neighborhood Planning Theories

Many theoreticians have offered their ideas for planning quality and human neighborhoods, some of which are discussed below. All these theories have been proposed for resolving new neighbors' issues.

In his book, *The Great Good Place: Cafes, Coffee Shops, Bookstores, Bars, Hair Salons, and Other Hangouts at the Heart of a Community*, Oldenburg proposed the pivotal theory that in order to be comfortable and satisfactory, the daily life of individuals should find its balance in experiential, residential, vocational, and social territories. By introducing the term "the third place," he emphasized neighborhoods' public spaces and the role of convergence of first and second places (work and home territories) as the main source of identity for a town's neighborhood. Oldenburg argued that, since expectations have risen beyond the capacities of families and jobs, people require the release of the energy and excitement that the more socialized territories can provide (Carmona et al., 2012: 102).

Clare Copper Marcus and her colleagues' book entitled *People Places* evaluates the residential environment of urban neighborhoods and divides urban neighborhoods' spaces, particularly in terms of establishing social relations, into 7 types: neighborhood parks (neighboring units), miniparks, campus outdoor spaces, outdoor spaces in housing for the elderly, child-care outdoor spaces, and healthcare outdoor spaces (hospitals) (Bacon, 2009). Lewis Mumford, who claims to be extending Patrick Geddes' ideas, may be considered one of the first theorists to incorporate provision of security, sense of place, and human scale into urban spaces in the twentieth century. In his book *The Culture of Cities*, he refers to the city as a place for the crystallization of culture and man's defense against automobiles and mentions the diversity and mixture of uses in urban space and the priority of the pedestrian over the driver in urban environment (Tavassoli, 2012: 43).

In his invaluable book *Making People-Friendly Towns*, Francis Tibbalds, architect and former president of Royal Town Planning Institute, emphasizes public spaces in cities and the consideration of human scale in urban environments, particularly urban neighborhoods. According to Tibbalds, learning from the past, integrating uses and activities, freedom of pedestrians, accessibility for the public, creating enduring environments, and controlling and combining different methods are other principles and criteria to improve the quality of towns and the public territories of neighborhoods (Tibbalds, 2011: 29).

Andre Duanny and Elizabeth Platter-Zybeck were American architects and town developers whose concern about the deterioration of city centers, scattered growth of neighborhood communities, and domination of automobile over urban environments led them to found the New Urbanism movement in the early 1990s. Issues already mentioned in the present paper are walkability, connectivity, mixed-use and diversity, mixed housing, quality architecture and urban design, return to traditional neighborhood structure, increased density, smart transportation, quality life and sustainability, which serve as the ten principles of New Urbanism. In fact, one may consider New Urbanism as a reaction to the modernist era in town building and the incontrovertible dominance of private cars in cities. Proponents of this theory, which can be considered as an urban design package, believe that new urban environments must be designed efficiently and sustainably and in harmony with human scale using traditional neighborhood design principles in order to achieve the goals of new urban development.

RESULTS

Main Hypothesis Test

Main hypothesis

The principles of Traditional Neighborhood Development are incorporated into the neighborhood planning of Baharestan New Town.

Table 2: Univariate 2 test results; a comparison of the mean of respondents' opinions about compliance with TND principles in planning neighborhoods in Baharestan New Town with hypothetical mean

Variable	Mean	Standard Deviation	T	Significance
Adherence to TND principles in neighborhood planning of Baharestan New Town	2.47	0.09	111.93	0.001

In inferential analysis, t test ($\alpha = 0/05$) was used in order to determine the significance level. Considering the fact that the obtained mean (2.47) is smaller than the hypothetical mean (3), and that the obtained t is significant and larger than the table's critical value (1.95), it may be concluded that, according to the residents of Baharestan Town, principles of TND have not been incorporated into neighborhood planning of Baharestan New Town.

Table 2: Univariate 2 test results; a comparison of the mean of respondents' opinions about compliance with TND principles in planning neighborhoods in Baharestan New Town with hypothetical mean

Variable	Mean	Standard Deviation	T	Significance
Walk ability	2.62	0.27	26.05	0.001
Connectivity	3.04	0.43	1.86	0.064
Improving Public Transportation	2.77	0.38	11.27	0.05
Mixed Uses	2.43	0.33	32.30	0.001
Diverse Housing	2.58	0.46	17.06	0.001
Increased Textural Density	1.71	0.29	85.31	0.001
Paying attention to the historical and cultural conditions of the environment	2.01	0.36	43.15	0.001

In inferential analysis, t test ($\alpha = 0/05$) was used in order to determine the significance level. Considering the fact that the mean obtained from the parameters of walk ability, improving public transportation, mixed-use and diversity, mixed housing, increased density, connectivity, and paying attention to the protection of cultural and historical conditions of the environment were smaller than the hypothetical mean (3) and that the obtained t is insignificant and smaller than the table's critical value (1.95), it can be concluded that, according to the residents of Baharestan Town, the principles of TND have not been incorporated into neighborhood planning of Baharestan New Town.

DISCUSSION

The present study was aimed at analyzing the use of TND principles in neighborhood planning of new towns. According to the results, the distribution of frequency obtained from the sample based on age indicated that the age group 20-30 ranked first in terms of frequency (30.9% of frequency), age group 41-50 ranked second (30.4% of frequency), and age group 31-40 ranked third (29% of the frequency). Also, the descriptive results of the questionnaires showed that the connectivity factor had the highest mean and the increased density factor had the lowest mean. Besides, the greatest amount of variance of scores was found to belong to connectivity (0.33) and the lowest amount of variance belonged to increased density (0.12). According to the results, considering the fact that the results of the Kolmogorov-Smirnov testing the questionnaire of TND principles were between -1.96 and +1.96, the normality of distribution of the population is proven with a confidence coefficient of 0.95. Since the studies conducted in Iran on the use of TND principles in urban neighborhood planning are not explanatory studies, the present study attempted to identify the reasons for the neglect of some practical TND principles in urban neighborhood planning. These reasons are mentioned in the Conclusion section.

Conclusion

After the World War, automobiles emerged as a new problem. Streets were soon full of automobiles, and issues such as air and sound pollution and destruction of landscapes followed. Today, the non-livability of cities and neighborhoods has turned into an international issue. In Western countries, people have sought refuge in suburbs. New Urbanism was formed in the aftermath of these problems and one of its approaches is TND. Prioritizing urban neighborhood development, this approach tries to return the lost vitality to the neighborhoods. Developing traditional neighborhoods does not mean that this approach is old; rather it means that past values and norms are integrated in new urban developments. This approach does not aim to eliminate automobile from daily life, but it attempts to provide security, comfort, and satisfaction for pedestrians as well as drivers. In these neighborhoods, houses with various qualities, sizes, and architectures are placed next to each other. Thus, different income groups can live together in such neighborhoods and this brings about cultural and income mixture. By prioritizing neighborhood as the building core of the city, TND is considered an instrument for the formation of neighborhoods based on a predefined plan and organization. Therefore, applying this approach as a regulating strategy for textural, social, and cultural environment throughout the neighborhood is deemed necessary. Results obtained from theoretical and field studies in this paper indicate that the principles of TND approach investigated in the present study have not been incorporated into the neighborhood planning of this city. Results indicate that approximately 87% of Baharestan New Town residents believe that the city's neighborhood planning does not comply with TND paradigm; the most important reasons for this noncompliance are executive authorities' failure to implement plans proportionate to the cultural and local conditions, inability to consider residents as the main owners of neighborhoods' textures, failure to use the people's assistance in implementing plans on behalf of project executors, inability to pay attention to historical and identity aspects of citizens, insufficient financial system to ensure investment, failure to observe the hierarchy of city centers, departure from the initial objectives of building urban

neighborhood such as creating functional and lively spaces and providing limited driving access to blocks, unavailability of special groups and public organizations to act as advisors and intermediaries between people and project directors, etc. All these factors influenced the respondents' opinions. Therefore, as can be seen, programs and plans implemented for developing this town's neighborhoods have failed to encompass all environmental and life needs of the residents of these neighborhoods. Thus, if urban managers and planners propose suitable plans and strategies based on expert work and a good understanding of the situation, a brighter prospect can be expected for Baharestan Town and its residents and the neighborhoods of this town can turn into high-quality, livable places.

Suggestions

Table 4: Executive Strategies for Planning Baharestan New Town's Neighborhoods according to TND Approach Principles

Principles of New Urbanism	Advantages	Executive Strategies
Walkability	<ul style="list-style-type: none"> • Reduces the number of car trips both in number and distance • Preserves energy and improves air quality • Improves public health due to increased walking and bicycling • provides independence for those who do not drive, especially the elderly and adolescents 	<ul style="list-style-type: none"> * Placing basic goods and services providing centers within a 10-minute walking distance from residential area * Using natural elements based on the natural conditions of the surroundings including water, plant, and air * Continuity of building sizes, architectural details * Buildings, flooring, and urban furniture * Creating walking access within short distance * Suitable lighting to provide adequate light at nightfall * Placing mixed uses and various activities in space * Creating spaces for pausing, relaxing, and sitting * Improving attractive activities to encourage citizens to walk * Establishing necessary amenities for disabled people's mobility
Enhancing Public Transportation	<ul style="list-style-type: none"> * Reduces car-dependency * Saves consumables * Reduces traffic flow * Reduces energy consumption and improves air quality 	<ul style="list-style-type: none"> * Placing major activity centers within the closest possible distance to stations * Integrating adaptable uses supported by public transportation * Placing schools in the vicinity of public transportation
Creating Mixed Uses	<ul style="list-style-type: none"> * Reduces car-dependency * Preserves green space and natural resources * Increases liveliness * Brings about economic development and regulates housing prices * Gives residents a sense of social participation * Creates opportunities for increased social relationships * Creates variety and improves environmental quality 	<ul style="list-style-type: none"> * Mixing residential and housing uses in residential neighborhoods * Giving liveliness and dynamism to the environment * Creating diverse uses for building floors * Establishing uses active at night in open spaces * Observing the principle of adaptability in neighboring uses
Mixed Housing	<ul style="list-style-type: none"> * Helps different classes of people, of any age, race or income, to interact positively * Improves necessary personal and social commitments and relations in good neighborhood communities * Creates a successful, thriving society * Establishes justice and equity 	<ul style="list-style-type: none"> • Building a wide range of housing type with different prices in neighborhoods • Observing the principle of diversity in new buildings' design • Attracting population from different income groups by combining private and public housings • Good design and planning of public housing development
Increased Diversity	<ul style="list-style-type: none"> * Results in saving caused by concentration * Prevents horizontal growth and sprawl * Makes optimum use of lands within the environment 	<ul style="list-style-type: none"> * Increasing building density to the extent it does not damage the town's look * Renovating and improving upon residential environments in order to attract population and increase gross residential concentration * Setting out urban land management rules in deteriorated texture and making executive decisions about unused lands
Preserving and Improving Traditional Neighborhood Structure	<ul style="list-style-type: none"> * Improves neighborhood quality * Protects neighborhood identity and personality and creates readability. * Creates a strong mental image of the environment in residents 	<ul style="list-style-type: none"> * Determining demarcated outskirts for the neighborhood * Determining neighborhood center in the vicinity of the neighborhood's central point * Placing mixed uses that provide the needs of the residents at the center of the neighborhood * Improving neighborhood center by designing public buildings such as libraries and mosques, a square, and/or a green space. * Designing neighborhood center based on the principles of enclosure, proportion, and scale
Preserving and Improving Public Open and Green Spaces	<ul style="list-style-type: none"> * Provides beauty and balance * Gives shape to the neighborhood * Improves life quality in the neighborhood 	<ul style="list-style-type: none"> * Creating a public open or green space within 5-10 minutes distance from the neighborhood center * Creating public spaces and get-together spaces in the neighborhood

REFERENCES

- Advising Engineers. (2015). Detailed Eastern Plan of Baharestan Town. Winter 89-91.
- Asgharzadeh Yazdi, S. (2010). Basic neighborhood planning with an emphasis on the principles of new urbanism, MA thesis, Islamic Azad University, Tehran Markaz Branch, Faculty of Art.
- Bacon, E. (2009). Design of Cities, Iranian Urbanization and Architecture Research Center Publications, Tehran.
- Baharestan Municipality. (2014), Department of Planning and Research and Information Technology, www.baharestanportal.ir.
- Bavand Counseling Engineers. (2012). The comprehensive project of the east of Baharestan City, P. 30.
- Carmona, M., et al. (2012). Places Urban Spaces, Architectural Press, Amsterdam & Others.
- Cowan, R. (2008). The Dictionary of Urbanism, London, Street Wise Press.
- EbrahimiGhuzlu, M. M. (2013). Evaluating New Urbanism criteria in Mashhad Metropolis. First National Conference of Urbanization and Architecture through the Time, pp. 36-50.
- Ebrahimpur Masumi, H., and Partovi, P. (2011). The basics and principles of the New Urbanism Movement. Construction and Architecture Monthly15, pp. 8-20.
- Ellis, C. (2003). The New Urbanism: Critiques and Rebuttals, Journal of Urban Design: Vol. 7, No. 3, 261-291.
- Frampton, K. (2014). New urbanism for suburbs and small communities, Journal of the American Planning Association, Volume 83, Issue 5, Pages; 102–119.
- Gosling, D. (2015). New Urbanism and Smart Growth: Toward achieving a smart National District, Journal of the American Institute of Planners, Volume 42, April, Pages 164-174.
- Grant, J. (2011). Planning the Good Community, New Urbanism in Theory and Practice, Rutledge, London.
- Haas, T. (2015). A model for traditional neighborhood development, Journal of Home, Volume 13(2), Issue3, Pages; 130–146.
- Halprin, L. (2015). New Urbanism Principles versus Urban Design Dimensions towards Behavior Performance Efficiency in Neighborhood Unit, Cities Journal, Pages 826–843.
- Hikichi, L. (2003). New urbanism and transportation, CE 790, University of Wisconsin-Milwaukee.
- Isfahan Governor's Office (2012). Census Division. Housing and Population Census Report for Fourteen Divisions of Isfahan City.
- Jepson, J. (2014). How Possible is Sustainable Urban Development?, An Analysis of Planners' Perceptions about New Urbanism, Smart Growth and the Ecological City, Environment and Planning B: Planning & Design Journal, volume 20(1, pages; 29 – 66.
- Johnston, R. (2014). The transformation of residential neighborhood: the emergence of new urbanism in Australia culture, Journal of Building and Environment, Volume67, Issue 5, May, Pages; 515–529.
- McCoy, D. (2000). division of highways north Carolina development of transportation, TND Guideline.
- Moeini, H. (2014). Suggestion of the TND for organizing neighborhoods, Tehran: Azarakhsh. P. 50.
- Mohammadiju, M. (2013). Modern models of achieving urban sustainable development. First National Conference of Geography, Urbanization and Sustainable Development. Pp. 48-60.
- Morris, W. (2012). New Urbanism An Overview and Australian Examples, Journal of Urban Design, volume 18(2), pages; 105 – 118.
- Rafi'ian, M. (2010). Urban recreation and traditional urban neighborhood development approach ND. Internet Journal 2(8)
- Revell, J. (2013). Making Canada's city more livable: the success of new urbanism depends on parking planning, Journal of the American Planning Association, Vol 12, No5, Pages; 71-95.
- Sallis, J. (2013). Neighborhood-Based Differences in Physical Activity: An Environment Scale Evaluation, American journal of Public Health, Volume 93(9), Issue 7, Pages; 93-110.
- Schaeffer, K. H., Sclar, E. (2010). Access for All: Transportation and-Urban Growth (New York, Columbia University Press).

- Secretariat for Iranian Supreme Council of Architecture and Urban Development. (2009). Regulations on Urbanization, Architecture, Development and Construction Plans (1st Ed.). Tehran. Nashr-e Tose'e Iran.
- Seghatoleslami, E., and Aminzadeh, B. (2011). Comparative analysis of the concept and role of neighborhood in Iran and neighborhood unit in West. Third Conference of Urban Planning and Management. Pp.45-62.
- Steuteville, R. (2014). The New Urbanism: An alternative to modern, automobile-oriented planning development, Journal of Urban Economics, Vol 18(2), No3, Pages; 51-65.
- Suarez, R. (2014). The Old Neighborhood: What We Lost in the Great-Suburban Migration, 2000-2013(New York, Free Press).
- Tavassoli, Gh. A. (2012). Social security with from a neighborhood perspective. Name Pajouhesh Farhangi (9). Pp. 23-31.
- Tibbalds, F. (2011). Making People-Friendly Towns: Improving the Public Environment in Towns and Cities, Khaak Publications. Isfahan.
- Zandi, A., and Ashrafi, S. (2016). Reconstruction of traditional neighborhoods using the TND. MA thesis of Urban Development, Faculty of Fine Arts, Tehran University, p. 73.
- Zucker, P.I (2012). New Urbanism and Traditional Neighborhood Development, Journal of Planning Education and Research, Volume 55, Issue5, Pages; 70-87.
- <http://www.newurbanism.org/pages/416429/index.htm>), 2014.