

## Urban design guidance of smart growth and their application in Iran\*

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### Abstract

Nowadays increasing growth of urbanization and Urbanism has led to many problems for urbanites. Along this problems, the idea of urban sustainable development and coordinate with specific approaches emerged as new urbanism and smart growth that with its principle giving new life to the cities. The smart growth is one of the newest approach of urban planning and urban design, that providing strategies and policies in urban planning and urban design to create optimal space and urban achieve maximum quality. Smart growth can oversee regional planning, urban design, physical design, architecture, environmental design as landscape, which represents its influence on the future of human social. In condition that political, social and economical problems are vitals, this approach concerns on designing, with this belief that design can have an important role in solving problems that government cannot solve them only with the money and plan. The purpose of this paper is recognition the mission of smart growth in urban design and introducing the urban design documents of smart growth and expresses the structure of each of them and their usage in Iran. This research with descriptive- analytical method is in trying to find the main structure of smart growth and defining the urban design documents of smart growth and In addition, Recommends the use of smart growth guidance documents in Iran. The results of this research show that the smart growth guidance are generally envisioned to facilitate the planning and design of any space, building, and street, and they are means to achieve proper management of sustainable urban development and compact urban design with maximum quality of urban space. Because the model of smart growth offers principles and strategies in various geographical levels, Can conclude documents guiding of this approach are “location-based” and The use of these documents in urban development plans in Iran Can provide the realize of sustainable urban development vision, in the other hands, According to the form and function of all components of the city will be possible.

### Keywords:

Design guidance, smart growth, urban design framework, Agenda, Smart code, Iran.

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## Introduction

In today's world, urban design is of great importance due to multiple published documents. Generally, urban design's official-professional documents consist of two types which are "location-based" and "theme-based" documents. Therefore the importance of urban design guidance has been regularly emphasized in all documents available all over the world (Golkar, 2008).

In the final decades of the twentieth century following the emergence of issues such as explosive urban growth, environmental concerns and therefore environmental instability, movements such as urban sustainable development and new urbanism were taken into consideration. Following this trend, smart growth approach was raised at the beginning of this century to maximize the ability to adapt to solve the problem of sprawl in different geographical locations. Smart growth is a philosophical approach and is an alternative for traditional urban planning following the integration of more economic, environmental and social aspects of planning and urban development. Smart growth isn't anti-growth and includes some of the required tools to address global challenges and is far broader than sustainable development. According to this, smart growth is a new urban theory which we can be used to improve the quality of the environment, economy and human life, and regarding its suggested solutions in the field of increasing physical compactness, improves the quality of urban space and uses related policies to guide city development towards sustainability. What is considerable in this approach is the urban design approach in urban and regional planning such that the approach provides substantial offers in all scales of area, neighborhood, district and street.

The issue of rapid growth and horizontal expansion of cities in Iran might be more severe than many of developing and developed countries. This issue became much more complicated in the aftermath of the Islamic revolution. Before the revolution in the process of providing urban designs, only the range of the cities were considered and urban designs collection

(detailed and comprehensive) took into consideration physical changes and physical designing. The output and product of these designs were only two 2D documents and maps for proposed land use and movement network and recommended accessibility. But after the revolution and the emergence of many urban problems, paying attention to the sphere of influence and rural hinterlands was raised as a necessity. And this led to pacing "development plan of the city and sphere of influence" "on the agenda but still the output and guidance documents of this design were two land use maps and movement network and recommended accessibility. After that in late 70s and the beginning of the 80s Hijri, preparing strategic structural comprehensive designs and detailed designs with urban design approach was on the agenda. From other influential items regarding urban development design in Iran we can mention providing strategic development designs. Thus, in recent years in Iran we can witness more significance of design-based planning in the process of preparing urban development plans.

The main objective of this article, is analyzing development guidance documents and the urban design of smart growth pattern as a new comprehensive approach and the method of applying it in urban development designs system in Iran. Therefore the main question of the current research is "are smart growth patterns' urban design guidance documents capable of being used and implemented in urban development designs in Iran and what suggestions can be proposed to properly implement these documents in Iran's urban system?"

## Research methodology

Research methodology in current article is descriptive-analytic and reasoning. Therefore by reading documents and using them, the assumptions and theoretical principles of smart growth are discussed as the theoretical basis for the research. Then using analytical-reasoning method, smart growth urban design guidance documents are introduced by studying the content and form of

all documents. According to the aforementioned theoretical foundations, classification and analysis of the documents will be implemented in smart growth pattern, and then we'll study and analyze urban development designs guidance documents in Iran. And eventually using the reasoning method, we'll introduce the main components of applying smart growth pattern design guidance documents and provide suggestions to have a better understanding of its practical application in urban design and planning system in Iran.

### Urban design guidance

Urban design document guidance is a general term used for documents by which builders and designers and other components can guide their developments, and constructions and designs and plans. Urban design guidance mechanism can provide support for design and planning policies, facilitate participation process, formulate the perspective, set the necessary design standards and determine the next step. Urban design guidance documents can:

- Provide frameworks for development control in relation to city council policies about a special area or site.
- Serve as a process of reviewing the plans and municipal policies.
- Provide a clear basis for negotiation between municipality, developers and local people.
- Provide a tool to reach consensus and support designs.
- Provide an integrated perspective on how to develop an area or a site.
- Support land consolidation process for the development of construction.
- Portray the proposed urban form in 3D and explain it and describe the desired features to obtain a desired perspective for a given location.
- Test and review different development scenarios and different design options.
- Inspire a creative architecture, and eventually lead to more innovative responses than Earth features.

Generally, urban design guidance documents

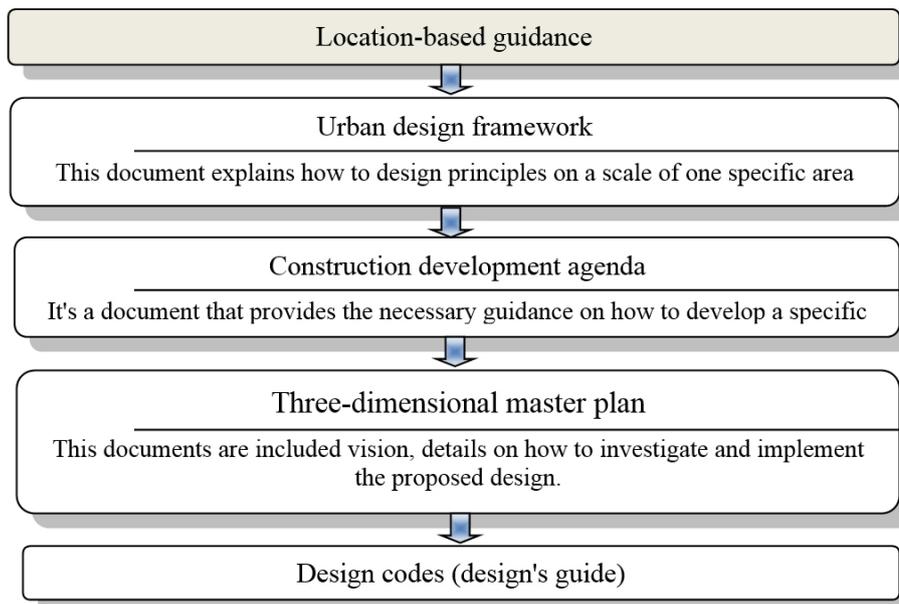
usually include four distinct groups of documents namely: location-based guidance documents, theme-based guidance documents, policy-based guidance documents and full scope guidance documents of a municipal district. Since the purpose of this article is studying smart growth pattern guidance documents and these documents are the location-based type, we'll investigate these documents' features and all types.

### Location-based guidance

Location-based guidance documents are documents that are prepared in relation to the guidance of specific locations design guidance. This group of documents themselves includes three main types which include "urban design framework (for areas)", "construction development agenda (for sites)" and "three-dimensional master plan" (for sites). Diagram. 1 demonstrates all location-based guidance documents (Diagram. 1).

The first urban design guidance document is urban design framework. This document explains and illustrates how to implement policies and design principles on the scale of one specific area. These types of documents are provided for areas that require control, guidance and motivation for transformation. The second site urban design guidance document is "construction development agenda". Construction development agenda is a document that provides the necessary guidance on how to develop a specific site that is of significant size or importance, in a way that its construction is done in harmony with planning policies and upstream documents' design. And the third urban design guidance document is a three-dimensional master plan and this document has provided the comprehensive planning process in the form of a map and explains how to build a site or a series of sites and includes details on how to investigate and implement the proposed design. Design code (design guide) is also a document that determines how to use design and planning principles about a specific location fairly accurate through detailed drawing or diagrams. Design code is mostly used as part of

Diagram. 1. Location-based guidance. Source: authors.



urban design framework, a development agenda or a comprehensive 3D design (Kovan, 2006).

**Smart growth pattern**

Smart growth is an urban design and planning movement which encourages combining applications and neighborhood and covers the residential and occupational scope. In this approach unlike the modern and functional urbanization of “Athens Charter” in which we divide the city into four separate locations “work, housing, leisure and communication network”, on foot access and protecting the environment are emphasized (Flint, 2006: 132). America planning board, defines smart growth inclusive of a combination of planning, regulations and development experiences which use Earth resources more effectively through building density, development between spaces and moderation in the parking lot and street standards. One of their goals is reducing the spread of exterior urbanization,

protecting the earth in terms of the environment and followed by creating neighborhoods with a sense of community (APA, 2005). According to investigations, the definition of smart growth from the authors’ viewpoint is as follows: smart growth is an urban, regional and transportation planning theory which stresses on preventing the spread of dispersed cities, informed urban planning and also compact urban design to promote the quality of human life and sustainable development and supports compact user allocation, with a focus on public transportation, a city suitable for walking and biking, mixed-use development and different housing options, using development inner potentials and infill lands (such as abandoned industrial lands and other urban abandoned and useless regions) and avoiding urban sprawl (suburbia). Refer to Diagram 2.

**Smart growth principles**

Smart growth approach considers major principles

which different communities can comply with some of these principles, based on their geographical and social – economic conditions. Smart growth network, the national association of home builders and America planning board are amongst the most important centers which proposed some rules for smart growth. Although the number of proposed principles by each of these centers is different, their contents are the same. In this section due to complete and concise statement of principles by smart growth network, we'll describe these principles in the form of Table 1.

### **Introducing smart growth pattern's urban design guidance documents and the main components of its application**

By the comparison of definitions and concepts discussed about smart growth pattern and since smart growth recommends principles and strategies in different geographical levels (area, neighborhood – neighborhood and city block – street and building) we can conclude that guidance documents of this approach are “location-based” documents. According to the investigations conducted in this study, it was determined that guiding development document in smart growth approach offers instructions in accordance with shear zoning at three levels: regional, city and neighborhood – neighborhood unit and street block. Based on this, the first development guidance document in smart growth approach is urban design framework. We'll discuss this later.

#### **Smart growth urban design framework**

Smart growth principles and policies on a regional scale instead of the simple zoning that most contemporary cities have, provides a more complicated structure based on three main factors that include neighboring communities, regions and corridors (natural, vehicles or traffic). In the next scale of city blocks and its streets and private buildings, we'll discuss the communication between the one on a vehicle and the need for more walkable areas. This approach doesn't vote for the removal of cars but invites us to create environments that can support walking, biking and vehicles simultaneously. Also provides an outlook of strategies

which strengthen human scale but blends them with today's realities. From present article's analytical perspective we can classify smart growth urban design framework's general structure as Table 2.

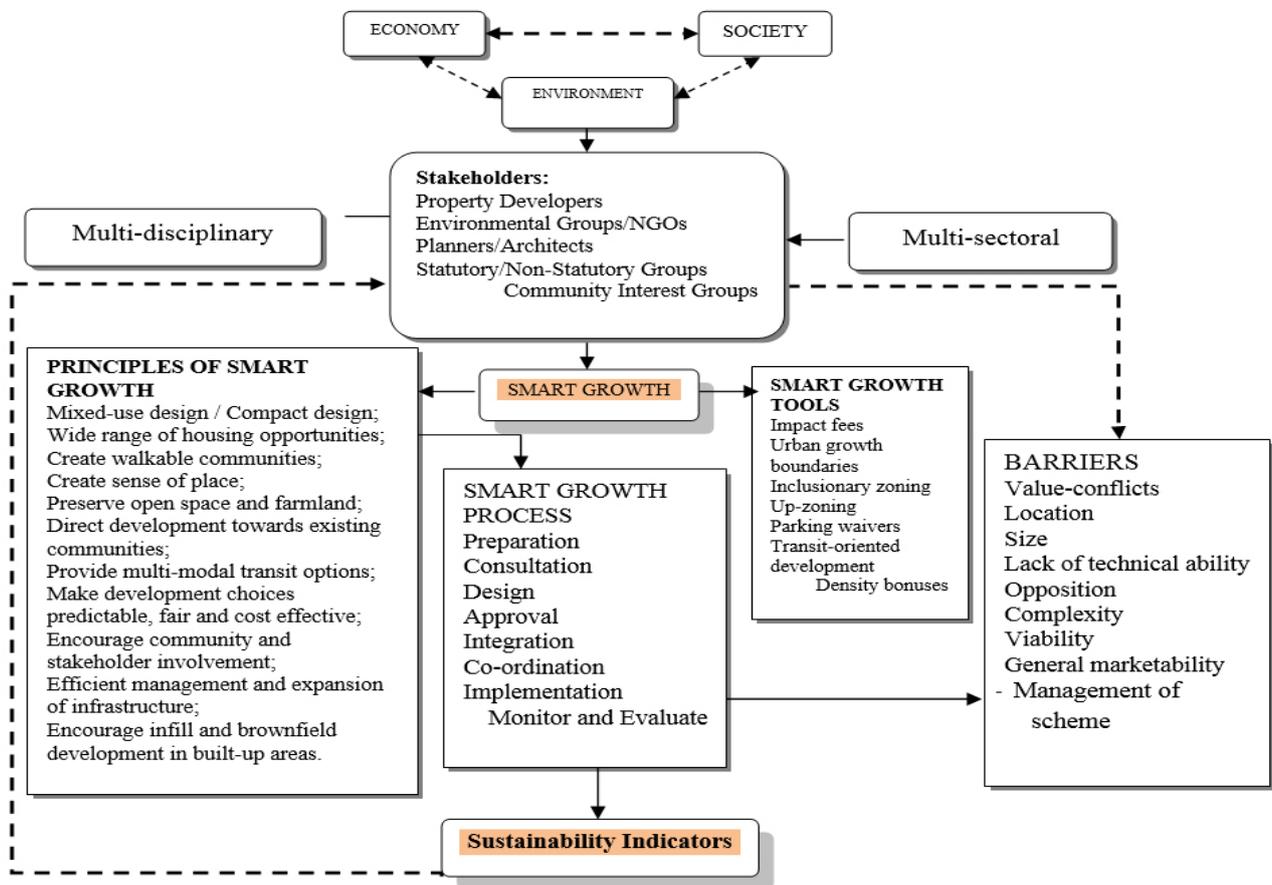
### **Development and construction agenda**

In order to adjust smart design codes for different purposes, we need to define the agenda of development and construction. Smart growth pattern first provides a regional zoning for different levels in order to define the design codes. This zoning is defined from regional scale to the design of individual buildings. For this purpose smart growth pattern first provides a development agenda for three categories of sector, region, social sector and shear zones. Table 3 illustrates the general structure of smart growth pattern zoning (Fig. 1; Table 3). Development and construction agenda of smart growth deal to explain how to design parts for open sectors and growth sectors for new developments and infill plots for redevelopments (Duany, A., Sorlein, S. & William, W, 2008). Thus these documents for each of the eight zones defined from regional scales to street and urban space deal to provide instructions and pattern according to the nature and structure of each sectors. Table number 5 introduce the structure of Development and construction agenda in each transect zones. According to this table the overall patterns of development based on the principles and framework for smart growth approach to creating compact mixed use, pedestrian-oriented and is based on the use of public transport (Table 4).

### **Smart design codes**

Smart code is an example of comprehensive codes, and change smart growth and new urbanism principles to the language of codes and standards. Smart codes are actually the confluence of laws and design and are tools that guide land development pattern in a way that restores urban life to neighborhoods and cities. New York State (Department of Transportation, 2013) is a form-based code meaning that illustrates and promotes a significant physical consequence. This form may be related to a region, neighborhood, block or

Diagram 2. Smart Growth Framework. Source: Stewart, 2010: 113.



building (Duany, 2006).

These codes, namely zone land developments are used based on the analysis of development characteristics in the range of talent and potential and propose strategies, regulations and standards in these zones in a way that land development pattern is regulated in order to achieve smart growth principles. Therefore, smart code is a tool to guide construction form of urban environment in order to create and support compact and walkable development patterns, and mixing applications. Among the tasks of smart codes we can mention:

- These codes are categorized based on area zoning systematically from the privacy area to city centers.
- These codes include planning scale of the regional level, city scale and neighborhoods to units and private open spaces and their architectural details.
- These codes integrate design processes in professional affairs.
- These codes relate methods of environmental

protection, protection of open and natural spaces and surface waters quality control.

- These codes integrate physical divisions, general affairs and transfer of development rights standards (TDR).
  - These codes provide a set of common zonings for new communities and internal development of existing urban spaces and textures.
  - These codes are compatible with architectural, environmental, sign, lighting, reducing the risk and urban landscape standards.
  - These codes maintain a balance in the process of available urban spaces and new urban spaces.
- These codes provide an agreement for the preparation and processing of the applications
- These codes generally authorize a wide range of options and far more than normal zoning codes.
- These codes as the latest development guidance documents explain building and segment standards in each zone, diagrams and support tables. Among the

Table 1. Smart growth principles and their policies. Source: authors.

principles		Policy
<b>1. Mix Land Uses</b>	Smart growth supports the integration of mixed land uses into communities as a critical component of achieving better places to live	<ul style="list-style-type: none"> <li>- Provide incentives through state funds to encourage residents to live near where they work.</li> <li>- Adopt smart growth codes to parallel existing conventional development codes.</li> <li>- Use innovative zoning tools to encourage mixed-use communities and buildings.</li> <li>- Facilitate financing of mixed-use properties.</li> <li>- Zone areas by building type, not by use.</li> <li>- Convert declining shopping malls and strip commercial streets into mixed-use developments.</li> <li>- Create opportunities to retrofit single-use commercial and retail developments into walkable, mixed-use communities.</li> </ul>
<b>2. Take Advantage of Compact Building Design</b>	Compact building design presents opportunities to absorb growth and development in a way that uses land more efficiently	<ul style="list-style-type: none"> <li>- Ensure ready access to open space in compactly developed places.</li> <li>- Establish model state-level design standards and codes to encourage compact building design that can be adopted by local communities.</li> <li>- Ensure a sense of privacy through the design of homes and yards.</li> <li>- Support regional planning efforts to encourage compact communities.</li> </ul>
<b>3. Create a Range of Housing Opportunities and Choices</b>	By using smart growth approaches to create a wider range of housing choices, communities can begin to use their infrastructure resources more efficiently, better accommodate the housing needs of all residents.	<ul style="list-style-type: none"> <li>- Enact an inclusionary zoning ordinance for new housing developments.</li> <li>- Revise zoning and building codes to permit a wider variety of housing types.</li> <li>- Plan and zone for affordable and manufactured housing development in rural areas.</li> <li>- Implement a program to identify and dispose of vacant and abandoned buildings.</li> </ul>
<b>4. Create Walkable Communities</b>	Walkable communities are integral to achieving the goals of smart growth because they enhance mobility, reduce negative environmental consequences, strengthen economies, and support stronger communities through improved social interaction.	<ul style="list-style-type: none"> <li>- Concentrate critical services near homes, jobs, and transit.</li> <li>- Adopt design standards for streets that ensure safety and mobility for pedestrian and nonmotorized modes of transport.</li> <li>- Adopt design standards for sidewalks.</li> <li>- Beautify and maintain existing and future walkways.</li> <li>- Provide Americans with disabilities easy access to sidewalks, streets, parks, and other public and private services.</li> <li>- Identify economic opportunities that stimulate pedestrian Activity.</li> </ul>
<b>5. Foster Distinctive, Attractive Communities with a Strong Sense of Place</b>	Development should not only respond to basic commercial or housing needs, for example, but should also help create communities that are distinctive and unique.	<ul style="list-style-type: none"> <li>- Create a state tax credit to encourage adaptive reuse of historic or architecturally significant buildings.</li> <li>- Create active and secure open spaces.</li> <li>- Define communities and neighborhoods with visual cues.</li> <li>- Create opportunities for community interaction.</li> <li>- Enact clear design guidelines so that streets, buildings, and public spaces work together to create a sense of place.</li> </ul>
<b>6. Preserve Open Space, Farmland, Natural Beauty and Environmental Areas</b>	open space preservation is an important component to achieving better places to live	<ul style="list-style-type: none"> <li>- Coordinate and link local, state, and federal planning on land conservation and development.</li> <li>- Adopt a green infrastructure plan.</li> <li>- Create a network of trails and greenways.</li> <li>- Provide mechanisms for preserving working lands.</li> </ul>

<p><b>7. Strengthen and Direct Development Towards Existing Communities</b></p>	<p>Smart growth directs development towards communities already served by infrastructure, seeking to utilize the resources that existing neighborhoods offer and to maintain the value of public and private investment</p>	<ul style="list-style-type: none"> <li>-Strengthen state or local brownfields programs.</li> <li>-Adopt a “fix-it-first” policy that sets priorities for upgrading existing facilities.</li> <li>-Conduct an “infill checkup” to evaluate and prioritize infill and brownfields sites for redevelopment.</li> <li>-Facilitate programs to encourage home renovation and rehabilitation in existing neighborhoods.</li> <li>-Support community-based organizations involved in revitalizing neighborhoods.</li> </ul>
<p><b>8. Provide a Variety of Transportation Options</b></p>	<p>providing people with more choices in housing, shopping, communities, and transportation is a key aim of smart growth</p>	<ul style="list-style-type: none"> <li>-Finance and provide incentives for multimodal transportation systems that include supportive land use and development.</li> <li>-Modify roadway level-of-service standards in areas served by transit.</li> <li>-Connect transportation modes to one another.</li> <li>-Adjust existing transit services to take full advantage of transit- supportive neighborhoods and developments.</li> </ul>
<p><b>9. Make Development Decisions Predictable, Fair and Cost Effective</b></p>	<p>for a community to be successful in implementing smart growth, its vision, objectives, and actions must be embraced by the private sector</p>	<ul style="list-style-type: none"> <li>-Provide financial incentives to aid the development of smart growth projects.</li> <li>-Conduct smart growth audits.</li> <li>-Implement a process to expedite plan and permit approval for smart growth projects.</li> <li>-Maximize the value of transit agency property through joint development of transit-oriented development.</li> <li>-Incorporate by-right smart growth redevelopment into existing communities’ masterplans.</li> </ul>
<p><b>10. Encourage Community and Stake Holder Collaboration in Development Decisions</b></p>	<p>A key component of smart growth is to ensure early and frequent involvement of all stake holders to identify and address specific needs and concerns.</p>	<ul style="list-style-type: none"> <li>-Seek technical assistance to develop a public participation process.</li> <li>-Use unconventional methods and forums to educate nontraditional, as well as traditional, stakeholders about the development and decision-making processes.</li> <li>-Incorporate opinions and interests often and routinely into the planning process.</li> <li>-Bring developers and the development community into the visioning process.</li> </ul>

distinctive features of smart codes, we can mention social justice in a way that emphasizes on social diversity in designs. To prove this we can mention the following. Regarding the incorporation of housing, achieving social diversity, through the allocation of services, and neighborhood facilities with proper design and proportional to people’s needs, paying attention to housing incorporation, access to urban centers and edges, considering communications and size of the block to focus on one of the primary

principles of ecological view that doesn’t require isolation of different housings from each other. Building blocks of smart codes can be studies in three separate parts (requirements, organization and procedures). Regarding these codes’ requirements we can say that they should have some criteria regarding each of these zones and should be flexible enough. In order for the new codes to be efficient, we should add a new system of standards to these codes which include fire fighting codes, brown

Table 2. Smart growth urban design framework. Source: authors.

scales	Urban design framework
<b>Regional Scale</b>	<ul style="list-style-type: none"> <li>- Preserve Open Space, Farmland, Nature and Environmental Areas.</li> <li>-Effective usage of land and development.</li> <li>Create an independent and self-reliance suburbs and improve travel choices at district.</li> <li>- Emphasis on redevelopment and within the context of existing neighborhoods, Increased mixed use and enhance diveres transport system, Especially walking and public transport in the regional scale.</li> <li>-Useof smart zoning regulations.</li> </ul>
<b>Neighborhood Scale</b>	<ul style="list-style-type: none"> <li>- Encourage local communities and investors to cooperate in the development.</li> <li>- create Self-reliance communitie, Reducing average distances traveled and encourage walking, cycling with the establishment of various land uses near each other.</li> <li>-increasing Accessibility and transport opportunities.</li> <li>- Create attractive communities with a Strong Sense of Place.</li> <li>- Urban design Compact.</li> <li>- Encouraging cluster development.</li> <li>- Encourage development within the context.</li> <li>- Encouraging the development of public transport routes based on.</li> <li>- Centralized Activities: Encouraging public transport trips and walkingBy creating “nodes” of mixed development.</li> <li>- Effective usage of existing urban facilities and services.</li> <li>- Efficient management of parking: Encourage the use of common parking and other parking management strategies.</li> <li>-Improve non-motorized travel: Encouraging walking and cycling by improving sidewalks.</li> <li>-Protection of green areas: Protection of open spaces for areas that have high environmental value.</li> <li>-Design and Create diverse types of housing.</li> </ul>
<b>urban blocks, streets and buildings scale</b>	<ul style="list-style-type: none"> <li>- Physical definition of streets and public spaces as places for everyone.</li> <li>- Improving the design of the street to create an interconnected network of streets.</li> <li>- Rehabilitation of urban places depends on safety and security.</li> <li>- The design of streets and squares comfortable and safe for pedestrians.</li> <li>- Use ecological architecture and landscape design, From the local climate, topography, history, and local manufacturing methods.</li> <li>- Create public buildings and places of social gathering to promote community identity and culture of democracy.</li> </ul>

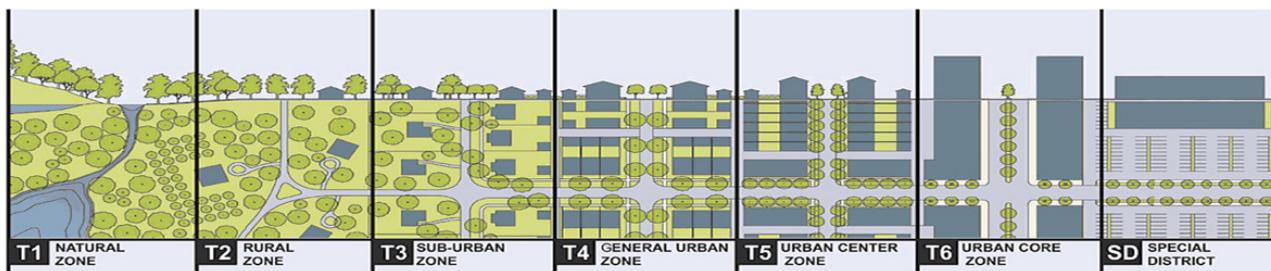


Fig. 1. A Typical Rural-Urban Transect, with Transect Zones. Source: authors.

Table 3. Outline of the Smart codes. Source: authors.

	ART ICLE 2 REGION AL SCALE PLANS	ART ICLE 3 & Article 4 COMMUN ITY SCALE PLANS		ART ICLE 5 BUILDING SCALE PLANS
	A. Regional Sector	B. Community Unit	C. Transect Zones	Standards
<b>Open Lands</b>	O <sub>1</sub> Preserved Open Sector	None	T <sub>1</sub> Natural Zone	
	O <sub>2</sub> Reserved Open Sector	None	T <sub>2</sub> Rural Zone	
<b>New Development</b>	G <sub>1</sub> Restricted Growth Sector	CLD Clustered Land Development	T <sub>2</sub> Rural Zone T <sub>3</sub> Sub-Urban Zone T <sub>4</sub> General Urban Zone	
	G <sub>2</sub> Controlled Growth Sector	CLD Clustered Land Development	T <sub>2</sub> Rural Zone T <sub>3</sub> Sub-Urban Zone T <sub>4</sub> General Urban Zone	
		TND Traditional Neighborhood Development	T <sub>3</sub> Sub-Urban Zone T <sub>4</sub> General Urban Zone T <sub>5</sub> Urban Center Zone	
	G <sub>3</sub> Intended Growth Sector	TND Traditional Neighborhood Development	T <sub>3</sub> Sub-Urban Zone T <sub>4</sub> General Urban Zone T <sub>5</sub> Urban Center Zone	
		RCD Regional Center Development	T <sub>4</sub> General Urban Zone T <sub>5</sub> Urban Center Zone T <sub>6</sub> Urban Core Zone	
	<b>Existing Development</b>	G <sub>4</sub> Infill Growth Sector	TND Traditional Neighborhood Development	
RCD Regional Center Development			T <sub>4</sub> General Urban Zone T <sub>5</sub> Urban Center Zone T <sub>6</sub> Urban Core Zone	
<b>Other</b>			CBCivic Building CS Civic Space	
		SD Special Districts		

Table 4. Development and construction agenda. Source: authors.

Regional Scale	Transect Zones	basic Community Unit types in each zones
<ul style="list-style-type: none"> <li>• <b>O-1 Preserved Open Sector</b> and O-2 Reserved Open Sector for protection of open lands</li> <li>• <b>G-1 Restricted Growth Sector, G-2 Controlled Growth Sector, and G-3 Intended Growth Sector</b> for New Communities</li> <li>• <b>G-4 Infill Growth Sector</b> for managed growth of existing urbanized areas.</li> </ul>	<p><b>T-1 Natural Zone</b> consists of lands approximating or reverting to a wilderness condition, including lands unsuitable for settlement due to topography, hydrology or vegetation.</p> <p><b>T-2 Rural Zone</b> consists of sparsely settled lands in open or cultivated state. These include woodland, agricultural land, grassland, and irrigable desert. Typical buildings are farmhouses, agricultural buildings, cabins, and villas.</p> <p><b>T-3 Sub-Urban Zone</b> consists of low density residential areas, adjacent to higher zones that some mixed use. Home occupations and outbuildings are allowed. Planting is naturalistic and setbacks are relatively deep. Blocks may be large and the roads irregular to accommodate natural conditions.</p> <p><b>T-4 General Urban Zone</b> consists of a mixed use but primarily residential urban fabric. It may have a wide range of building types: single, side yard, and row houses. Setbacks and landscaping are variable. Streets with curbs and sidewalks define medium-sized blocks.</p> <p><b>T-5 Urban Center Zone</b> consists of higher density mixed use building that accommodate retail, offices, row houses and apartments. It has a tight network of streets, with wide sidewalks, steady street tree planting and buildings set close to the sidewalks.</p> <p><b>T-6 Urban Core Zone</b> consists of the highest density and height, with the greatest variety of uses, and civic buildings of regional importance. It may have larger blocks; streets have steady street tree planting and buildings set close to the wide sidewalks. Typically only large towns and cities have an Urban Core Zone.</p> <ul style="list-style-type: none"> <li>• <b>Civic Zone</b> consists of Civic Buildings and/or Civic Spaces appropriate to their Transect Zones.</li> <li>• <b>Special Districts</b> consist of areas with buildings that by their Function, Disposition, or Configuration cannot, or should not, conform to one or more of the six normative Transect Zones.</li> </ul>	<p>The Regional Sectors each contain one or more of the three basic Community Unit types (CLD, TND, and RCD).</p> <ul style="list-style-type: none"> <li>• <b>CLD - Clustered Land Development</b> (Hamlet, settlement, cluster) permitted in Growth Sectors G1, G2</li> <li>• <b>TND - Traditional Neighborhood Development</b> (Village, neighborhood), permitted in Growth Sectors G2, G3, G4</li> <li>• <b>RCD - Regional Center Development</b> (Regional Center, town center, downtown), permitted in Growth Sectors G3, G4</li> </ul>

fields' redevelopment laws, and traffic engineering standards, surface waters management and etc. also smart codes organize and regulate urban elements through cutting criteria, criteria that are defined for different zones and various and fully interrelated scales. Furthermore, these codes encompass designs, standards and their requirements.

### **Investigating urban development designs guidance documents in Iran**

Today in Iran, urban development designs (in the scale of urban planning and design) in line with guiding cities' development, monitor the development and control the use of lands and create high quality urban environment as the most important urban planning tool. Studies indicate that in Iran many transformations have been established over time in the structure and nature of urban development plans and their related documents. The most significant changes in the structure of these designs go back to 1370 Hijri, and so do proposing strategic-structural designs instead of city development and construction plans and sphere of influence. Previously, comprehensive urban plans were prepared according to the approved type 12 contracts. These contracts work based on form 6 of the attachment, attachments one to three were about providing city development plan and sphere of influence which in fact included urban area scale and the city. The fourth attachment is about providing detailed design documents and the fifth attachment placed mapping urban planning details on the agenda. The sixth attachment was also used in the action criteria design after approving the design and the necessity for revising. On the one hand due to numerous issues and problems considered about the nature and configuration of these designs and how to adapt, prepare and implement them on the other hand, in the late 1370s (1990s), at the same time with the introduction of the idea of structural design, new developments were proposed in view of the urban development plan and their guidance documents. The basis of structural-strategic designs in Iran which are inspired by structural designs in

England and strategic plans in America is based on localization and continuation of past structures with use of modern technological advances and creating new structures for cities (Majedi, 2010). Thus, instead of developing idealistic perspectives for cities, we should define social, economic and cultural and physical-functional structures and then some strategies should be defined for the realization of these structures and eventually some executable plans should be formulated for each of the structures related to defined strategies. Also in structural-strategic designs, the range of specific areas which have special economic, social and environmental issues, are determined for the preparation of topical and thematic designs and general strategies and policies are planned to organize them. This way, with the rise of strategic-structural designs, design-based planning was somehow placed on the agenda. According to the debates, after less than a decade of the idea of providing comprehensive city plans with a strategic-structural perspective as the newest approach in Iran, this approach is only used for developing urban development designs for metropolises such as Tehran and Mashhad. At the same time in other countries providing development and construction designs and sphere of influence based on type 12 contracts is still stressed. This is one of the most important reasons for the traditional performance of urban planning in Iran.

From other successful achievements in the field of urban development plans in Iran is providing urban strategic development design which is by nature the process of providing a long-term perspective for the city for which the short-term plan is provided. This plan has been implemented in Iran for some cities including Shahrood, Qazvin, Babolsar and etc. in the following we'll study and analyze the evolution of urban development designs and each one's guiding documents in Iran's urban system (Table 5). As you can see in table 5, urban development plans in Iran had historical evolution and acceptable development. But still in many cities of the country, traditional comprehensive designs or second division

projects are prepared and formulated and despite strategic-structural designs being more complete, these designs are only developed in a few metropolises and still aren't operated. Among these designs, regarding guiding documents, urban development of section three designs (strategic-structural designs) and urban strategic development design in terms of nature and functional structure are better off. But these designs still require fundamental changes, compared to development guide documents in other developed countries some of which will be examined in the following. On the other hand, despite the effectiveness of urban development designs, they still have no legal basis in Iran and are merely developed in the form of research projects in a few cities in the country. When introducing strategic-structural projects as legal projects in Iran it can be argued that generally in structural-strategic projects, first strategies necessary to obtain an ideal perspective are placed on the agenda. Then based on a comprehensive study of strengths and weaknesses and potentials and access restrictions for each policy, suitable strategies will be predicted. It is obvious that physical structure field work is the economic strength and current dynamism in urban social structure that raises its urbanism proposals according to those structures. The main characteristic of strategic-structural designs in the first place deals with maintaining the city and interaction between the main trend of physical development and long-term economic-social trend and gives away the responsibility of planning for subsidiary and more detailed areas to specific designs and their specific conditions of time and place and gradual implementation.

Therefore in these types of designs instead of putting emphasis on physical form and determining the final status of land use, physical terms per capita, and the focus will be on long-term economic, social and cultural goals and their coordination with physical goals' development. In fact, each strategic-structural design first defines development and construction macro policies about key urban issues and then according to that provides a guidance framework to

prepare and implement all types of plans and small, local projects.

Basically while planning such designs, planning ideas are rejected in the form of a single prepared and definitive plan (as a land use map) and instead of that using various coordinated urban designs is accepted and emphasized. In this pattern, urban development and construction is considered a multi-dimension, dynamic and continues phenomenon which necessarily needs different levels of planning and intervention. Therefore within the framework of urban development and construction plan, all kinds of smaller subsidiary designs are provided and implemented in the form of topical and thematic projects to obtain different purposes and respond to specific needs.

Generally until today, urban designs guidance documents aren't prepared legally and formally in accordance with the definitions provided in theoretical foundations. What is used today as strategic-structural designs documents in urbanism system and urban management in Iran, is a set of type service description in which according to the project's scale, desired parameters and factors are defined. Another issue regarding urban development design in Iran is the lack of certain theoretical bases that fit to this country's ecology and culture. Most theoretical foundations available in Iran and specially academia, have no license to become operational and be used in urban development designs and also aren't localized. On the other hand, poor coordination between urban development designs' strategies in different scales of county, city, neighborhood and public participation in the process of providing urban development designs is another problem these designs face. Also from social and economic aspect, low turnout of public participation in the process of providing urban development designs, is another weakness of these documents which in turn lowers economic efficiency in most designs and leads to their non-realization.

Generally, we can conclude that unlike the rest of the world, urban development designs in Iran

lacks goals, clear roles and functions, is identified and documented and there is no communication and coordination between designs' documents in different scales of urban planning and design, so that we mostly witness non-realization of most proposed strategies in different structures and consequently in planning details as well, the implementation of non-aligned standards and design codes with suggestion and superior strategies occur.

### Data analysis and discussion

By the comparison of definitions provided we can conclude that smart growth approach provides a method in order to understand, plan and design different types of housing in a wide range (rural to urban). Therefore, the importance of this approach is inclusion of a wide range from rural to urban. Using smart growth urban design guidance documents can help facilitate community's planning and design or each type of building, street and artificial environment classification. Another feature of these documents is connecting regional planning and local designs, taken together the issues raised, groups such as planners association of America and smart growth network and other scholars in this article all emphasize on the fact that smart growth general goals are as following: 1. Protecting the environment and efficient use of land and improving the quality of life, 2. Compact design, mixing applications, creating walkable neighborhoods, 3. Public transportation developments, 4. Using the collaboration of influential interest groups, 5. Paying attention to all society segments and providing diverse required housing supply, 6. Considering economic optimum efficiency and urban growth management. Based on the aforementioned elements, researchers in this article provided an alternative definition of smart growth urban design guidance documents as follows and placed it as a basis to perform further actions: "Smart growth urban design guidance documents, in relation to planning and design guidance, provide a wide range of special places and offer frameworks to control development and compile an integrated

perspective about how to develop a specific region or site, in line with the realization of urban sustainability goals and in relation to superior policies in urbanism system."

Based on this definition and analyses in regard to urban development designs in Iran, if we want to use these documents in planning and urban design, we can express the main components of using these documents in 5 components as follows, in order to make the operational and professional flow of smart urban growth more effective:

- Using objectives, principles and measures of smart urban growth in the whole planning scale (planning engagement and urban design): urban design conscious intervention and guiding it in the direction of city development and construction goals to intervene and monitor at all levels and different topics and coordination between them requires creating cohesion and solidarity amongst planners and urban design, on the one hand, smart growth pattern has some general and specific goals and achieving them should be placed in an acceptable axis. Its general goals are related to urban planning scale and its specific goals are related to urban design.
- The existence of hierarchical levels and scales of smart growth pattern development guidance documents to be used in urban development plans: resources available since the beginning of the twenty-first century, consider smart growth approach cover, in three scales including: macro scale: metropolitan area and the city, middle scale: urban areas, neighborhoods and regions and micro scale: a group of urban space, street or single space. At macro level, city and region scale of smart growth approach in the form of urban design framework, provides design macro policies, at regional level of smart growth approach in the form of urban design framework provide design macro policies, at neighborhood scale by providing a development and construction agenda, defines design patterns based on identified urban design framework and its proposed zoning and in the end in order to implement defined design patterns with the help from design codes and

the ruled governing the operation of smart growth pattern and sustainable city. Therefore, smart growth urban design guidance documents, should provide possible and creative methods and solutions to find the suitable decision-making substrates in different levels of urban development designs and proportional to the outputs and suggestions of upstream projects and these designs should be defined and explained in different levels.

- Public participation and design with a little help from smart growth guidance documents: planning basically happens based on what happens in practice and the qualities available will be judged and evaluated and relying on this point, planning system dilemma needs extended social support in planning process in order to guide and control development. Citizen participation of great public involvement in urban design process, is based on democratic urban design policies and considering public interest in design's revision is of importance in urban design practical application in urban development planning process, and as was mentioned in previous sections, one of the fundamental principles of smart growth approach is using collaboration of interest and influential groups in the process of urban planning and design. Therefore it is necessary that executive management, decision makers, developers and all stakeholders be aware of concepts, realities, values and qualitative importance of the external and public environment in the development and growth of the community in all aspects.

- Localization of smart growth development guidance documents: considering the fact that smart growth pattern is a pre-prepared template and its metrics are regulated by general definitions of middle-sized American cities, while using smart growth guidance documents of this pattern in a special place, we should consider multiple topics according to local values and conditions. Text format of these documents has a noticeable effect on the posteriori from, therefore localization and its consequences should be taken into account by urban planners and designers. Materials and measures of these documents that

can be localized are as follows: zoning regulations, allowed uses in each zone, the dimension of blocks, streets' designs standards, sidewalks' requirements, varieties of authorized public places, setbacks and salience's of side pieces of main and secondary buildings, allowed parking for each use in each zone, parking place and any kind of special places standard.

- Supporting smart growth pattern of urban designs guidance documents: in order to use this pattern in urban development designs we should support a coherent set of urban design framework, development and construction agenda and design codes of smart growth pattern in the process of providing development plans, guidance, framework, reports and urban design rules of this pattern. Also we should provide a context for translating the goals, principles, policies and smart growth instructions proportional to local conditions and outputs of outreach plans, at all scales from city to multiple urban spaces, therefore the necessity of legal and political support of smart growth development guidance documents in urban planning and design is amongst the most important components of practical application in this pattern.

approach cover, in three scales including: macro scale: metropolitan area and the city, middle scale: urban areas, neighborhoods and regions and micro scale: a group of urban space, street or single space. At macro level, city and region scale of smart growth approach in the form of urban design framework, provides design macro policies, at regional level of smart growth approach in the form of urban design framework provide design macro policies, at neighborhood scale by providing a development and construction agenda, defines design patterns based on identified urban design framework and its proposed zoning and in the end in order to implement defined design patterns with the help from design codes and the ruled governing the operation of smart growth pattern and sustainable city. Therefore, smart growth urban design guidance documents, should provide possible and creative methods and solutions to find the suitable decision-making substrates in different

Table 5. Urban development plans and their documents guiding. Source: authors.

period	Urban development plan	explained	Develop guidance documents
1960-1980s	District plan( towns)	Since the early 1960s providing urban development plans were lawful in Iran. Among the features of major projects in this period are, The absence of basic framework for a comprehensive and detailed plan, Lack of attention to socio-economic mutual relations in the sphere of influence (lack of attention to the relationship between the city and the region), Provide only physical suggestions, Using criteria and Western standards and lack of compliance with reality, Of abstract were prepared plans and were made without the presence of the people and their participation.	Suggested document of land-use and network access (in order to solve urgent problems of cities)
	Master plan		-Forecast the city's population for the next 25 years. -Suggested land-use document. - Suggested network access document. -Provide regulations for plan.
	Detailed plan		-Suggested land-use document. - Suggested network access document. -Provide Executive regulations for plan.
1980-1990s	District plan( towns)	By Preparation and approval of the contract with type 12, in 1982 Urban development plans excluded from being simply physical, and economic and social development of the city in addition to the physical development were noted. In addition the relationship between the city and the surrounding hinterland were analyzed. Accordingly, after the preparation of development plans and determine the functional area and main street network, And to implementing the recommendations of this plan, detailed plan were produced to verify the landuse and access detailed urban units.	-Suggested land-use document. - Suggested network access document (in order to solve urgent problems of cities)
	Development plan of the city and hinterland		-Forecast the city's population And how to connect the city with surrounding areas. -Suggested land-use document (user zoning). - Suggested network access document. -Provide zoning regulations.
	Detailed plan		-Suggested land-use document. - Suggested network access document. -Provide Executive regulations for plan.
Until the late 1990s	County development and construction plan.	In this plan The Organizing housing projects in the county, Determine the structural physical development of county, Zoning capabilities environmental, economic, etc and tuning Development programs for the coordinated development of physical-space county were done.	-Urban land use zoning maps. -Document ranking of population and services in the county. -infrastructure development document.
	City development and construction plan (strategic-structural plan)	Due to the dynamic balance between the main trends of physical development and socio-economic trends in long-term And maintaining the whole city can be seen in the plan. Also in the project structure first identified then policies of development About social welfare, Environmental Protection and sustainable development, landuse and access network and public transportation system are explain and Based on this policy framework and guidance for preparation of detailed plans will be prepared. (majedi, 2012)	- Prepare visions and goals. - Prepare policy document and guidelines. - prepare document of land-use zoning. - prepare document of access network. -prepare document of infrastructure development and urban infrastructure. - Document preparation of physical-spatial urban development patterns.
	District plans Subject plans Action area plan	Detailed review the situation of landuse and access parts at the local urban level and neighborhood, As well as supplying subjective and action area plans to overcome the specific structural problems And zones defined in the Plan of Urban Development and implementation details of these plans are carried out.	- Land use proposal document splitting parts. - The proposal document detailed street network. - The proposed provision physical form, image of city, public areas. - Determine the general and specific measures designed zones. - Provide Executive regulations for plan.
Mid 2000 so far	City development strategy plan(CDS)	This plan be prepared With the aim of formulating integrated strategies of the urban landscape, Improve urban management, Increased investment and economic growth and reducing systematic and persistent urban poverty. Among the key elements of it is visioning process. The goal of visioning is Conclusion and visualize the long-term objectives and strategic goals for spatial planning and sustainable urban. (Muspp, 2007)	-document Visions of urban development with a focus on providing stakeholders and influential participation. -prepare scenarios for the future development of the city to realize the vision of the city. - Preparation of action plan and implement it With the aim of prioritizing and coordinating the components of the vision statement (Transmission vision, goals and policies into programs and projects available) (ashrafi and malekzadeh, 2010).

levels of urban development designs and proportional to the outputs and suggestions of upstream projects and these designs should be defined and explained in different levels.

- Public participation and design with a little help from smart growth guidance documents: planning basically happens based on what happens in practice and the qualities available will be judged and evaluated and relying on this point, planning system dilemma needs extended social support in planning process in order to guide and control development. Citizen participation of great public involvement in urban design process, is based on democratic urban design policies and considering public interest in design's revision is of importance in urban design practical application in urban development planning process, and as was mentioned in previous sections, one of the fundamental principles of smart growth approach is using collaboration of interest and influential groups in the process of urban planning and design. Therefore it is necessary that executive management, decision makers, developers and all stakeholders be aware of concepts, realities, values and qualitative importance of the external and public environment in the development and growth of the community in all aspects.
- Localization of smart growth development guidance documents: considering the fact that smart growth pattern is a pre-prepared template and its metrics are regulated by general definitions of middle-sized American cities, while using smart growth guidance

documents of this pattern in a special place, we should consider multiple topics according to local values and conditions. Text format of these documents has a noticeable effect on the posteriori from, therefore localization and its consequences should be taken into account by urban planners and designers. Materials and measures of these documents that can be localized are as follows: zoning regulations, allowed uses in each zone, the dimension of blocks, streets' designs standards, sidewalks' requirements, varieties of authorized public places, setbacks and salience's of side pieces of main and secondary buildings, allowed parking for each use in each zone, parking place and any kind of special places standard.

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## Conclusion

Since urban design is concerned with creating a better future for cities, is essentially focused on favorable prospects and therefore is originally a leadership process. Smart growth strategy also tries to intelligently grow and developed cities, reshape the cities again and guide them towards a formidable community with access to the environment. The main characteristic and the major representative of this approach is the inclusion of quality issues and urban design and guiding them towards a wide area of special places. This is an essential step in urban development integrated planning transformation in order to improve the quality and sustainability of the environment. Generally if planning system and urban management wanted to place improved quality and environmental sustainability in their agenda, fundamental transformation will definitely be necessary in the field of attitude, structure and organization. In this regard employing a new, strategic and sustainable approach of smart growth and making it operational can be a very important step. And this requires transforming methods, organizations and existing urbanism rules and preparing a substrate for this purpose. In this regard, the present

article tries to identify development guidance documents based on smart growth approach and employing it to overcome defects and other problems of Iran urban development system especially in qualitative dimension, using theoretical studies conducted and the explored experiences and ideas. Therefore out of necessity, by reviewing and categorizing smart growth development guidance documents and analyzing the relationship between them, we identified the main components to take advantage of these documents in urban planning and design in the country. For this purpose, by reviewing some of the references in this regard and analyzing them, we found a definition for smart growth pattern urban design and planning guidance documents. According to the role, characteristic and structure of this approach and its guidance documents it is recommended that this approach should be present at all levels of urban planning and design system. The influence of this approach in planning system is different from macro to micro level and the closer we get to local scale, the more powerful and effective it gets. This article illustrated that realization of these documents in the acceptance and observance of fundamental principles is 5 components which include: “using the purposes and principles of smart growth design in different planning scales”, “hierarchical levels and scales of smart growth development guidance documents”, “public participation”, “localization of development guidance documents”, “supporting development guidance documents”. Finally, acceptance and observance of the above components for practical application of smart urban design and development guidance documents and creating an excellent system of urban design and planning in Iran which believes in the presence of urban design in planning process and supporting it officially and legally, and provides the public participation context is suggested.

## Reference list

- American Planning Association (APA). (2005). *Model Smart Land Development Regulations*. Interim PAS Report, United State.
- Ashrafi, y & malekzadeh, a. (2009). The participation vision in the process of urban development strategy (CDS). *Journal of urban management*, (25): 169-186.
- Duany, A. Sorlein, S. & William, W. (2008). *Smart Code Version 9 and Manual*. Ithaca: New Urban News publications.
- Duany, A. (2006). A common Language of Urban Design (Congress for the New Urbanism). *Places Journal*, 11(3): 76-78.
- Duany, A. & Talen, E. (2002). Making the Good Easy: The Smart Code Alternative. *Fordham Urban Law Journal*, 2(4): 1446-1468.
- Flint, A. (2006). *This Land: the Battle over Sprawl and the Future of American*. Baltimore: the Johns Hopkins University Press.
- Golkar, K. (2008). Policymaker urban design and urban design planner, Operational patterns to develop guidance and control tools in Iran. *Journal of soffehe*, (46): 51-66.
- John E., Hasse, R. & Lthrop, G. (2003). Land resource impact indicators of urban sprawl. introduction, Elsevier, USA. *Applied Geography*, 23 (2-3): 159-175.
- Kovan, R. (2006). *Urban design guidance*. Translated to Persian by Golkar, K. & Hoseinion, S. Tehran: Eslimi.
- Majedi, h. (2002). Urban development plans at the methods and principles of executive. *Journal of shahrdariha*, (42): 29-31.
- Majedi, H. (2012). Theory of structural-strategic plans (regional and local). *Journal of hoviateshahr*, (11): 17-26.
- (MUSPP)Municipal Special Planning Support Program me. (2007). *Making better cities together*. United Nations Human Settlements Programme Kosovo. Available from: [resilient-cities.iclei.org/fileadmin/sites/resilient-cities/.../F1\\_Domgioni\\_RC2013.pdf](http://resilient-cities.iclei.org/fileadmin/sites/resilient-cities/.../F1_Domgioni_RC2013.pdf).
- NewYork State Department of Transportation. (2013). *Smart Growth Screening Tool*. Available From: [https://www.dot.ny.gov/.../smart.../SG%20Tool%20GuidanceJuly2013\\_FINAL.pdf](https://www.dot.ny.gov/.../smart.../SG%20Tool%20GuidanceJuly2013_FINAL.pdf). Accessed 21 November 2014.
- Smart Growth Network, SGN. (2002). *Getting to Smart Growth, 100 policies for Implementation*. Available From: <https://www.epa.gov/smartgrowth/getting-smart-growth-100-policies-implementation>. Accessed 21 November 2014.
- Smart Growth Network, SGN. (2004). *Getting to Smart Growth II: 100 More Policies for Implementation*. Available From: [nepis.epa.gov/Exe/ZyPURL.cgi?Dockey=30006J7X.TXT](http://nepis.epa.gov/Exe/ZyPURL.cgi?Dockey=30006J7X.TXT). Accessed 21 November 2014.
- Smart Growth Network. (2007). *Getting to SmartGrowth American Planning Association (APA), the Principles of Smart Development*. Planning Advisory Service Report Number 479, September 1998.
- Stewart, Dorothy. (2010). *Smart Growth: From Rhetoric to Reality in Irish Urban Planning 1997-2007*. Dublin Institute of Technology.