Defining the Urban Design Process: A theoretical perspective

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Defining the Urban Design Process:

A theoretical perspective

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ABSTRACT

Urban design was defined as a new term added to these activities to join other design disciplines including architecture, planning, civil engineering, and landscape architecture. Generally, the first step of the investigation of the status of urban design at any place in the world is to identify the theoretical standards of the Urban Design Process. This paper seeks to answer the question: What are the defining elements of the Urban Design process from a theoretical perspective, which is defining the Urban design process from a theoretical and literature background, along with all the elements contributing to the process including its relationship with the urban planning process, covering the theoretical understanding to what is meant by the urban design process.

Introduction to urban design emergence

Urban design was defined as a new term added to these activities to join other design disciplines including architecture, planning, civil engineering and landscape architecture (Kreiger 2006, Lang, Urban Design: a typology of procedures and products 2005, Meadows 1980). The term "Urban Design" was first used and popularized during the 20th century in Chicago international conference in 1956 (Kreiger 2006). Urban design also had an earlier start, where the word "Civic Design" was used to describe the design for major civic buildings and spaces, which later on expanded to include the relationship between the city buildings and public realm as a whole (M. Carmona, S. Tiesdell, et al. 2010).

The urban design discipline came into emergence as a reaction to the need for solving the situation of urban planning and architecture relationship which started with the social movements around 1960's and after the industrial revolution. The planning discipline was more focused on creating solutions that "fits all" for the city. On the other hand, the architectural concepts during the modernist era had its focus on the buildings themselves and not on the relationship with the public realm either (Moor 2006).

The urban design process elements:

The elements of a process start with defining the term of the process itself. In the case of the urban

design process, it translates to the question "What does urban design term mean?" The second element is defining what the process aims to achieve as an end-product; this translates to the process objectives. The third element is those who are involved in the entire process, known as the stakeholders. The fourth element is the process flow followed. The fifth element understands the previous process, which the urban planning process is, and finally the other factors affecting the urban design process and its relationship with other disciplines, and urban policy. The Paper defines the six elements contributing to the urban design process within the next sections.

1. Defining urban design term:

The term Urban Design originates in the Latin word 'urbs' which means city, yet it has contained a significant added value since Lewis Wirth wrote his legendary paper in 1938; 'Urbanism as a way of life' (A. R. Cuthbert 2006, Elshater 2014) The proceedings of Chicago international conference of 1956 showed two working definitions expressed by Jose Luis Sert; the organizer of the conference. The first definition was 'It is that part of city planning dealing with the physical form of the city'. The second one considered urban design as the common basis yet a wider scope of three professions' joint work; architecture, landscape architecture and city planning (Kreiger 2006, Mumford 2002). Urban design has established a scientific discipline as its development has surged in recent decades. (Elshater 2014)
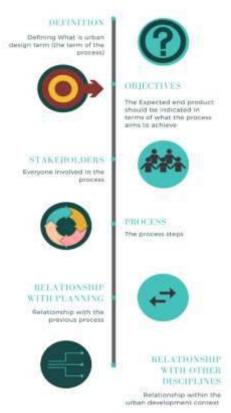
Urban design offers a bit of a problem when trying to reach a basic definition, and many urban designers have been challenged to give a simple inclusive answer to define urban design (Arida 2002, Madanipour, Ambiguities of Urban Design 1997, A. Cuthbert 2010). According to Lang, the term urban design is poorly defined to the point that it is seems like there is a conspiracy that the term stays meaningless (Lang 2014) One of the statements, which accepts and concludes the nature of urban design, is Alan Rowley's statement:

"Many urban designers reflect a deep-seated anxiety when challenged to define urban design. They long for a short, clear definition but in reality, this simply is not possible. Therefore, it is pointless to search for a single, succinct, unified and lasting definition of the nature and concerns of urban design. It is much better to follow a number of signposts about, for example, the substance, motives, methods, and roles of urban design." (Arida 2002, 109)

Francis Tibbalds states that we must accept there is no simple, single agreed definition for urban design, yet some of its attributes and concerns can be listed, as well as what it is not.

"Urban design has always had no clear role, territory, and authority. …In this context, perhaps urban design's

Figure (1) Urban design elements in theoretical view
Source: Author

unique value stems from its vagueness or rather from its provision of an overarching framework that

can bridge more specialized design efforts." (Marshall 2009, 54)

Lang states that categorization provides design professionals with a basis for asking questions about proceeding in any given situation (Lang 2005). The research tackles those two approaches to define urban design, however, the following definitions and classifications are not exhaustive but rather offers a wide understanding of what urban design is.

- **Definitions by Term**

Luis Sert, John Levy, Francis Tibbalds and Michael C. Cunningham define urban design as a bridge between architecture and urban planning, which concerns the physical aspect of architecture and how to apply it in planning (Levy 2009, Tibbalds 1992, Cunningham 1972). While Willo von Moltke, the Urban Design Group, Richard Marshall, Marion Roberts and Clara Greed define it as a multidisciplinary, complex process confining more than architecture and planning only. (Urban Design group 2011, Roberts and Greed 2001, Marshall 2009)

The Department of the Environment, Transport and the Regions (DETR) and Peter Buchanan explain urban design in terms of the relationship between built and unbuilt space (Urban Design group 2011), while Peter Webber, Doug Paterson, Cliff Moughtin, Rafael Cuesta, Christine Sarris and Paola Signoretta, and Moughtin, Peter Buchanan define it as the art and qualities of city form and values. (Moughtin, et al. 1999, Urban Design group 2011)

Carmona, Heath, Oc and Tiesdell, Alex Krieger, Jerry Spencer, DETR & CABE, David Prichard and Jonny Mc define it as the art of making better places for people in public life. (DETR & CABE 2000, M. Carmona, S. Tiesdell, et al. 2010, Kreiger 2006)

Finally, Peter Batchelor and David Lewis, Richard Marshall and other urban designers define it as a way of thinking (Marshall 2009, Urban Design group 2011) or other definitions that do not comprehend the full aspects of urban design only confining it to the design of spaces between buildings. As shown in table 1.

Table (1) Categorization of urban design definitions

Perception	Urban designer/ group	Definition
1. Urban design as a physical discipline acting as a bridge between planning and architecture	Jose Luis Sert (organizer of urban design conference 1956) (Kreiger 2006)	'The part of planning concerned with the physical form of the city'.
	David Gosling, Barry Maitland (1984) (Gosling and Maitland 1984)	It lies between the two design scales of town and regional planning and architecture. It is concerned with the physical form of the public realm over a limited.
	Michael C. Cunningham ,1972 (Cunningham 1972)	Urban design is physical in nature like architecture, but similar in scale to planning, which addresses the issues of neighbourhood, contexts, and cities
	Francis Tibbalds 1988 (Tibbalds 1988)	A bridge between the two-dimensional master plans and planning briefs, and detailed architecture.
	John M. Levy (Levy 2009)	A profession falling between planning and architecture, which deals with large-scale organization of buildings and their spaces, not with each building individually.
	David Prichard and Jonny Mc Kenna of Metropolitan Workshop with Peter Stewart (Prichard and Mc Kenna 2015)	The Link between architecture and town planning
	Peter Buchanan (Urban Design group 2011)	Urban design lies between the broad scope of planning abstractions and the specifics of architecture
2.Multi-disciplinary practice/	Francis Tibbalds 1988 (Tibbalds 1988)	Urban design concerns a coming together of several aspects such as business, governance, planning and design. It is the interface between town planning, architecture and other related professions.

complex process	Ian Bentley and Georgia Butina (1991 (M. Carmona, S. Tiesdell, et al. 2010)	Urban design is the interface between town planning, landscape architecture and architecture with reference to some traditions of environmental management and social science tradition of contemporary planning.
	Willo von Moltke, chairman of the Department of Urban Design at the GSD (Kreiger and William 2009)	Urban design is not architecture. Urban design is a collaborative profession involving other professions that gives form and order of the city, providing a master program and form for the urban growth.
	Urban Design Group (UDG) (Urban Design group 2011)	Urban design is the collaborative and multi-disciplinary process of shaping the physical setting in cities, towns and villages.
	Marion Roberts & Clara Greed (Roberts and Greed 2001)	Urban design can be considered an economic, political, aesthetic, and functional process.
	Richard Marshall (Marshall 2009)	Urban design is not a discipline but rather a way of thinking which operates holistically within the fragmentations of disciplinary distinctions.
3.Built and unbuilt space-relationship	The Department of the Environment, Transport and the Regions (in Planning Policy Guidance Note1) (Urban Design group 2011)	The relationship between different buildings, and spaces, which make up the public realm, as well as the relationship between the parts of the city, thus establishing patterns of movement. **In short, it is the complex relationship between all the elements of built and unbuilt space.**
	Peter Buchanan (Urban Design group 2011)	Urban design is more than just townscape; it is concerned with configuring the network of buildings, transportation framework, built fabric, and other features.
4.City value/ city form	Peter Webber (Urban Design group 2011)	The process of molding the form of the city through time'.
	Doug Paterson (Urban Design group 2011)	'Merging civitas and the urbs: building the values and ideals of a civilized place into the structure of a city'.
	Cliff Moughtin, Rafael Cuesta, Christine Sarris & Paola Signoretta: (Moughtin, et al. 1999)Urban design methods and techniques	Urban design is the method of creating the built environment that fulfil social, spiritual, economic, and political values and requirements.
	Current University of Westminster MA Urban Design Course Documentation	Urban design is concerned with the physical form of the cities including buildings and spaces between them. It considers the relationship between the physical form and the social factors producing it and focuses as well on the interaction between public and private development.
	Peter Buchanan (Urban Design group 2011)	Urban design is about how to recapture certain qualities associated with the traditional city such as order, continuity, place, completeness and belonging, richness of the experience
5.Place making/ art	Carmona, Heath, Oc and Tiesdell it (M. Carmona, et al. 2010) Public places, urban spaces	The process of designing better places for people than what would otherwise be produced
	-David Prichard and Jonny Mc -Alex Krieger (Kreiger 2006)	The art of making places for people
	Jerry Spencer (Urban Design group 2011)	"creating the theatre of public life"
	By Design guide by DETR & CABE (DETR & CABE 2000)	"art of making places for people"
6.A way of design	Peter Batchelor and David Lewis (Urban Design group 2011)	The act of designing within the urban context
	Richard Marshall (Marshall 2009)	Urban Design is a way of thinking
	Some urban designers (Urban Design group 2011)	Designing the spaces between buildings, which differs from architecture that is designing buildings themselves. **This definition excludes urban design's proper concern with the structure of a place and its impact on the form of the buildings as well.**

Author based on (Urban Design group 2011, Moughtin, et al. 1999, Roberts and Greed 2001, Can 2010, Marshall 2009, Roberts and Greed 2001, Gosling and Maitland 1984, M. Carmona, et al. 2010, Kreiger 2006) (Cunningham 1972, Tibbalds 1988, Levy 2009, Prichard and Mc Kenna 2015, DETR & CABE 2000)

- **Definitions by classification**

The basis for problem solving in any design field is an understanding of types; building types for architecture (hospital, housing, etc...) Open space types for landscape architecture (plazas, squares,); city types for planning, how they are used, and their nature differs, and no single typology is correct. It goes for urban design categories, procedural types, project types and classifications. (Lang 2005) Urban design is concerned with multiple scales from city district to individual site or even urban elements on local scale. The form of the city can be viewed as whole or an urban form and activity on metropolitan scale. (Roberts and Greed 2001) It is almost impossible to devise an accurate categorization system in which the types do not overlap. They have many subcategories within encompassing planning, architecture, and landscape architecture (Lang 2005). A very basic classification to interpret different urban design categories, scopes, and territories, it is whether urban design is discussed as a process or as a product, and sometimes it is a mix of both.

- **Territories of Urban Design**

Alex Kreiger categorized urbanistic actions into ten spheres or territories, which urban designers assume to be their professional domain, and these territories are according to the changes, which faced urban design.
The Table (2 describes these ten categories in terms of urban design definition in that view, role of the urban designer, the expected output either a process or a product.

Table (2) Urban design territories of action

Perception	Definition	Role of urban design	Expected output	Orientation
Bridge between planning and architecture	Urban design occupies a hypothetical intersection between planning and architecture	Mediator between plans and projects by setting criteria for development, review, evaluation, approval and implementation	Translating plans into designs is meant to be an interactive process not a linear process	Process
A form-based Category of Public policy	Translates land use regulations into a form-based category of public policy	Urban Designer acting as a mediator and regulator (passive & administrative role) without involving in establishing guidelines	Maintains principles of urban design, while operating at the practical level of real estate industry for better development.	Process
The architecture of the city	The idea can be traced back to the city beautiful movement. It aims to regulate the shape of public areas in the city.	Develop methods to shape public space through authority and aesthetic design allowing the city to distribute itself.	It is a joint private/public project to stimulate an urban district. Characteristics that is expected to influence its future.	Process-Product
Restorative urbanism	Seen in the form of pre-industrial western city, clearly organized, humanely	Their responsibility to undo the change and resist unwanted newness, and	Designing walkable cities of public streets, public squares, low rise and high	Product

	sized, manageable, and beautiful	advocate for old-fashioned concepts.	density, defined neighborhoods.	
Place Making	An outcome to restorative urbanism of creating extraordinary places to serve human purpose.	Devoting their attention to making new places as good as their predecessors	Intimate scale, texture, the mixing of uses, connectivity, continuity, the privileging of what is shared.	Product
Smart Growth	Broadly viewed as multidisciplinary, exposed to natural sciences, ecology, energy management, land development economics and land use laws.	Operating at the periphery of existing urbanization and advocate for smarter planning and urban design to control urban sprawl	Suburban growth management and reinvesting strategies for the older rings around city centers to protect urbanism.	Process
The infra-structure of the city	Optimizing mobility as an independent variable away from overlapping urban systems.	To engage at both practical mobility demands and social needs, creating new techniques to integrate transportation systems with city form	Arranging streets, blocks, open and public Spaces distribution, transit and highway corridors, and providing municipal services	Product
Landscape Urbanism	It seeks to incorporate ecology, landscape architecture and infrastructure into urbanism	Overcome conflict between nature and human artifice, the intersection of ecology, design, engineering and social policy	It favors low densities, exhibits little formal sensibility, and contains large areas of open space.	Product
Visionary Urbanism	Providing insights by practitioners or theorists on new methods organize spatially in different communities	offering a universal or a singular idea of what a city is, and the expected product of urbanization	Exploring the nature of urban culture, and coming up with ideas through the vision to practice	Process
Community advocacy	Addresses communities' concerns, which is viewed as the profession concerned with tangible urban problem solving	Concerned with tangible urban problem solving but not the factor of urban transformations.	Linked with immediate concerns on local scale such as neighbourhood improvement traffic	Process

Source: Author based on (Kreiger 2006)

The above-mentioned territories discuss urban design as a process, and others discuss it as a product. The more detailed the scope is, the more urban design should be discussed as a product, and the broader of scope it includes, the more it is viewed as a process.

- **Project Typology (modes)**

Jon Lang has classified all urban design projects into four main categories, which vary in the procedure followed, and degree of control of the designer over the product as follows: (Lang 2005)

- **Total Urban Design:** in which the development team including the urban designer, carries through a complete design scheme from inception to completion.

  It can be described as a form of large-scale architecture, which produces a master plan in the form of a single large project on a piece of land designing both public spaces and surrounding buildings.

- **All of a piece:** in which the team designs a masterplan and sets regulations and parameters for developers to work within the overall project components.
  Such projects are often tackled within large development projects, which cannot be financed by a single developer, hence, a guidance for the development as a whole is needed, and then the pieces are parceled to different developers to follow through what the design team regulations indicate.
- **Piece by piece:** in which procedures and general policies are put to encourage development in specific directions in a precinct of the city. This typology leans more towards being "city planning." Its main target to create major objectives for the area, and then putting both incentives, and controls to achieve such objectives.
- **Plug in:** in which infrastructure is the goal to 'plug in' developments within it, enhancing a location's amenity level which acts as a catalyst for development. It mainly includes two types, one includes the designing of the infrastructure and selling site-by-site parcels, which follows certain regulations, or the second type where several infrastructure elements including public spaces, links, even buildings, are plugged into an existing city on the hope of drawing new developments. (Lang 2005)

- **Paradigm**

Paradigms are models regarded as exemplars of good practice. Some of which are city beautiful, the empiricist, the rationalist (branches of the modern movement, the garden city and the neighbourhood unit. Then post-modernist paradigms Neo-Rationalists and the Neo-Empiricists the neo-traditional approaches to urban design which evolved into the New Urbanist and Smart Growth models. (Lang 2005) One of the difficulties, which faced paradigms, is that it becomes frozen into a formula of patterns applied thoughtlessly since they are perceived as "best practice" and being "up to date" (Lang 2005)

2. Objectives

Objectives are most commonly embedded within any plan for new development in different terms (Lang 2005). Comparing some of the different writings on urban design objectives can lead to identification of the broad most common objectives of urban design. The content of most of these writing is the same and can be put under same category, only with different terminologies.

Kevin Lynch in his book "A theory of good city form" (Lynch 1981) defined five performance criteria for a good city form and adds other two meta criteria for their application; which can be understood as objectives for urban design. According to Lynch, a good city should be vital (safe, sustainable and consonant); should be sensible (in terms of identity, structure, legibility, transparency, and identification); it is well fitted (resilient and adaptable); should be accessible, and well controlled (in terms of the degree of inhabitants' control, responsibility, and certainty). The meta criteria crosscuts with all the previous dimensions, which is Performance, in terms of balancing the contradictions of criteria as well as the cost. Finally, Justice of benefit among users. (Lynch 1981, Patil and Patil 2016)

Jacobs and Appleyard propose that the goals of urban design and mostly directed towards the social aspect of the community. they can be summed up in seven goals; livability where the city should be a

place to live in comfort, identity and control in which people feel that a part of the environment belongs to them, Access to opportunity, imagination and joy where the city becomes a place to have a break from the traditional molds and enjoy new experiences, Authenticity and meaning where the city should symbolize the moral issues of the society and people should be capable of understanding their city, Community and public life in terms of encouraging citizens to participate in the community, urban self-resilience so that the city becomes more sustainable, and an environment for all which is accessible to everybody.

Jon Lang sums up most of the objectives of urban design mentioned in literature as follows:

1- **Efficiency of the built environment** in the way it handles variables in terms of: encouraging economic growth; providing a sense of historic continuity to enhance people's self-images; sustaining the moral and social order of a society; justice for all (Harvey 2003)

2- The broad goal of Urban Design is providing **accessible opportunities** behavioural and aesthetic for all visitors and cites of the city

3- The need for people to feel comfortable in engaging with different activities accepted by the society. Such comfort has psychological and physiological dimensions to apply and is mainly concerned with the provision of **safety and security**.

4- Enhancing the ambience of links in terms of streets, sidewalks, arcades and places such as squares, parks etc… **Ambience** is related to security as well as **aesthetic qualities**

5- Ensuring that the **environmental** niche formed by climate, flora and fauna is treated with a high level of concern to improve its quality. (Moughtin, et al. 1999, Lang 2005)

The following **Error! Reference source not found.** includes urban design objectives defined by different urban designer
in literature:

Table (3) Urban Design Objectives summed up as mentioned by various writers and organizations in Literatures

	Objectives and principles of urban Design (Author Concluding Objectives)	Kevin Lynch (Lynch 1981)		Allan Jacobs and Donald Appleyard (Jacobs & Appleyard 1987)	Jon Lang (Lang 2005)	Francis Tibbalds (Tibbalds 1992)	DETR/ CABE- By design guideline (Carmona et al. 2003)	New Urbanists (Krieger, Territories of Urban design 2006)
1	**Ensuring Safety & security**	vitality	safe	Livability	safety and security	places matter most	quality of the public realm	
2	**Creating a Liveable environment**		sustainable					
3	**Supporting the natural environment**		consonant (support natural environment)					
4	**Considering The place identity & form**	sensible	identity	identity	Aesthetic qualities		Character: the place identity	city form
5	**Urban structure, enclosure and continuity: how it all fits together**		structure (how the parts fit together, orientation	authenticity and meaning	Ambience	Join it all together	continuity and enclosure	texture
6	**Build with Legibility & authenticity**		legibility			Build legible environment	legibility	

#	Criterion	Category						
7	**Respecting the context through transparency of identification of the place**		identification of place by the form of buildings & transparency for users			learn the lessons of the past & respect the context		
8	**Providing a user-controlled environment**	Control	inhabitant control	having control over the built environment	User experience	control any sudden change		
9	**Community participation, access and control over public life**		responsibility & certainty in understanding the control system	community and public life				
10	**Improving Accessibility, Connectivity**	Access	improving accessibility	access to opportunity and joy	accessibility and enhancing links	encourage pedestrian freedom	Ease of movement	Connectivity and continuity
11	**Providing a Resilient and Adaptable Environment**	Fit	resilient	urban self-resilient	environmental quality (flora & fauna)	build lasting and adaptable environment		Privileging of what is shared
			adaptable				adaptability	
12	**Design with human scale considering dimensions.**		consider dimension			Design for human scale		Intimate scale
13		Performance	cost efficient					
	Efficiency of performance and cost of the built environment.		handle contradictions within different factors		efficiency of the built environment			
14	**justice through equal benefits for the community**	Justice	benefit users	an environment for all		Provide access for all		
15	**Diversity of activities and mixed use**				Diverse activities	mixing of use and activities	diversity	mixing of use

Author based on (Lynch 1981, Patil and Patil 2016, Jacobs and Appleyard 1987, Lang 2005, Kreiger 2006, Tibbalds 1992, M. Carmona, et al. 2010)

3. Stakeholders

The third element to identify the urban design process is through identifying those who are involved in the process; whether they are the decision makers, the users, or those who carry parts of the process by themselves.

It is very important to analyse the actors and decision makers involved in development process such as developers, politicians, planners, policy makers, land-owners, financers, bureaucratic officials and others, all with different goals and motivations constituting the organizational framework for the evolution of built environment. Understanding the built environments mechanics also requires identification to the variety of agents mentioned all with their motivations, objectives, and resources along with their interconnections within the process (Knox and Ozolins 2000)
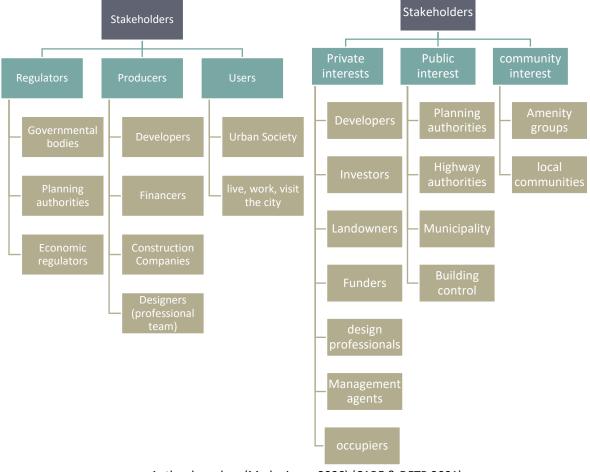
Figure (2) Stakeholders according to type / Stakeholders according to interest

Stakeholders

Regulators | Producers | Users

Governmental bodies

Planning authorities

Economic regulators

Developers

Financers

Construction Companies

Designers (professional team)

Urban Society

live, work, visit the city

Stakeholders

Private interests | Public interest | community interest

Developers

Investors

Landowners

Funders

design professionals

Management agents

occupiers

Planning authorities

Highway authorities

Municipality

Building control

Amenity groups

local communities

Author based on (Madanipour 2006) (CABE & DETR 2001)

There are two common definitions for stakeholders; the first defines them as individuals or groups with the power to affect the future of a project, which defines them according to their power to impact. In case they lack such power, they are not identified as stakeholders according to this definition. The second definition identifies stakeholders as the wider range of individuals or groups to whom certain responsibility is owed, including those who are powerless. Hence stakeholders can be defined as all the parties of groups or individuals who can affect or be affected by achieving the objectives of a given strategy, organization, project, or in that notion the urban design and development process. (Mathur, et al. 2007, Cooper, Boyko and Cadman 2007, Freeman 1984)

Although freeman's 1984 definition emphasizes organizations, it is widely used and can be understood from a conceptual perspective. Responsible decision-making should involve all stakeholders, and failure to identify some of them or their aspirations might lead to a negative impact on the urban design process and product. (Cooper, Boyko and Cadman 2007)

The Urban Design process stakeholders have been identified through various models. (Fernando, et al. 2009, Cooper, Boyko and Cadman 2007, Mathur, et al. 2007, Carmona, Magalhães and Magalha, Stakeholder Views on Value and Urban Design Stakeholder Views on Value and Urban Design 2002, CABE & DETR 2001, Waxenberger and Spence 2003, Madanipour 2006).

One of the models has been identified by Madanipour in which he categorized the stakeholders into three main groups according to the process; Regulators, Producers, and Users. As mentioned in Figure

Regulators: refer to those involved with the higher levels of decision-making than urban design itself. Producers: Refers to those responsible for the implementation of urban design. Users: Refers to the urban society. (Madanipour 2006)(Asaad 2017)

Carmona identified the stakeholders according to interest in the process. The three teams were public interest, private interest, and community interest. It can be considered very close to what Madanipour has suggested. Everyone involved in the public interest are mostly of governmental bodies, municipalities or those involved with building control. The private interest group are those directly concerned with the development phase, and the urban product such as investors, developers, landowners, and the designers. The community interest are the groups interacting with the urban product or organizations seeking community satisfaction.

In addition, Fernando and Mathur summarized the generic list of stakeholders into a categorical classification in terms of those who affect the project, those affected by it, and finally those who may be interested. The stakeholders affecting the project are sub-categorized into those involved in delivery of the project of private interest and can be called the developers according to Madanipour (developer, client, owner, investor, management team, insurers, contractors, and suppliers, professional consultants, engineers, architects etc.…). In addition, those who determine the context of public interest and can be called the regulators according to Madanipour's categorization (local authority, planning department, regional government department, central government, non-departmental public bodies such as environment agency, housing etc.) The other category of those affected by the project are further sub-categorized into directly affected, who are the users themselves, and others who are indirectly affected, in terms of the local community groups, general public, etc.… those can be described as the community interest and users according to Madanipour's classification.

Table (4) Stakeholders' identification for urban design process

Broad category	Sub-category	Group role in the process	Interest	Types of individuals/ groups
Those who affect the project	Determining the context	Regulators	Public	Local Authority Planning Department Central government Regional government Non-departmental public bodies
	Involved in the project delivery	Developers	Private	Developers Clients Land owner Investor Project manager/ management Insurers Contractors, suppliers Design Professionals and consultants
Those who are affected by the project	Directly affected	Users	Community	Users and occupiers of the buildings, spaces, facilities.
	May be directly or indirectly affected			Local community, surrounding community members Amenity groups Specific groups (social, ethnic, gender, age…)
Others who may be interested			Private/ public interest	Researchers/ academia Media Social organizations Potential user's/ future projects clients

Author based on (CABE & DETR 2001, Carmona, Magalhães and Magalha 2002, Madanipour 2006, Fernando, et al. 2009, Mathur, et al. 2007, Cooper, Boyko and Cadman 2007, M. Carmona, et al. 2010)

The above stakeholders are considered a primary element contributing to the urban design process throughout different phases of such process, one of the key stakeholders to be viewed in more depth is the urban designers themselves. Understanding the urban designer's role helps put into perspective the appropriate expectations of how the process works. What is frequently offered as an answer to what is urban designer's role is that "they mediate between plans and projects" and this role translates planning objectives regarding space and allocation of resources into physical strategies. (Kreiger 2006) One of the "ambiguities" of urban design is the role of the urban designer, where it is not specified in depth, but what is agreed upon by many agencies, which use urban designers:

- Establish development criteria beyond basic zoning
- Help review, evaluate, and approve the project proponents' work through design and construction phase
- Recognize the urbanistic potentials in new architectural designs
- Give direction and guidance in translating policy or program objectives into concepts of architecture through insights of what is good and appropriate urban forms (Kreiger 2006)

Although urban designers should be aware of urban form capacities to support certain economic and social goals, it is not their role to set social or economic policy, but to respond to such policies (Macdonald 2016). Urban designers should visualize planning and convey its desired effects to others, in order to convert goals and policies into effective design guidelines. (Kreiger 2006)

Marshal identifies the role of urban designer in: the ability to seek connections, ask questions no one else is asking, understand needs, integrate and communicate across different disciplines and interests (Marshall 2009)

To answer the question 'who are urban designers?' Tibbalds stated that there is no single answer for that question, but we can identify some general aspects, which they are involved in, such as understanding economic, and social change dynamics, seizing opportunities, management of places. They have a background of many disciplines, architecture, and town planning, engineering, and landscape design. In addition, since urban design is mostly a team activity, it still requires the dedication and leadership of a devoted individual. He did not identify the specific role for urban designers; instead, he identified an array of attributes expected from those leaders;

- They must operate on high level and be concerned passionately with achievability
- Must be outwards looking and seeking co-operation with other disciplines and the community
- Must be able to argue for financial issues, land and labor, have the awareness of public finance, and private developers' motivation, and have the ability to use the means needed to achieve the end product. (Means in terms of plans, reports, models, advocacy…etc.)
- Must be idealistic and realistic, with both imagination and commitment to quality and finishing the job. (Tibbalds 1988)

Urban design's holistic view to the city, which is concerned with larger scales, makes the role of urban designer more problematic causing his responsibilities to overlap with urban planner's operations at the larger scale. Urban design cannot be limited to elements of the public realm only, since it is connected to the elements of the private realm and cannot either be limited to a certain physical area of the city, since it would not be effective in the shaping of the physical form, the skyline and spatial structure of the city. Therefore, urban design responsibilities overlap with the concerns of urban and

regional planning and architecture. (Frey 1999)

4. Process flow

Having explored the different definitions in urban design theory, and the roles provided by the urban designer as well as the expected stakeholders, the process flow, which results in the creative problem-solving process and its relationship with all the given factors, should be defined. The process should include different variables, actors, objectives and assumptions that should be injected in the design process and addresses these different factors and expectations as well as defining roles in each part of the process. (Punter 1996)

Urban design is expected to follow a systematic process which connects knowledge to action, and adapts to the project 's specific circumstances, where the urban designer brings knowledge from previous analysis and experience, and generates new ideas guiding the process into realization (Palazzo and Steiner 2011)

The process of urban design has been under development for many years; there have been many efforts to model the urban design process. The following are a few examples of models suggested by different architects, urban designers and planners, where a sequence is theoretically the means to implement successful urban design.

In 1980 The RIBA practice and management handbook suggested four phases for the design process which Moughtini identifies in his book the urban design method and techniques as a method of urban design process (Palazzo and Steiner 2011). The 4 phases include:

Figure 3 RIBA Urban Design Process model

| 1- Assimilation (Data collection) | 2-General Study (Problem investigation) | 3- Development (Develop options) | 4- Communication (presenting chosen option/s) |

Author based on (Palazzo and Steiner 2011)

In 1985, **Hamid Shirvani** categorized Design methods into six groups and accordingly developed a process for each method. The methods are internalized, synoptic, incremental, fragmental, pluralistic, and radical. (Palazzo and Steiner 2011, Shirvani 1985) (Sahlan, et al. n.d.)
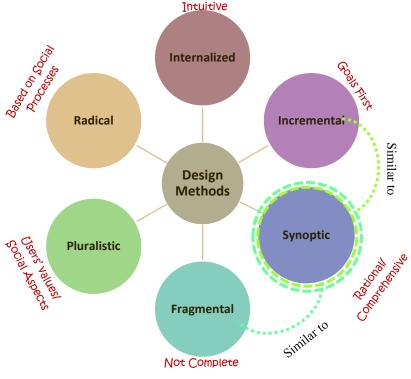
Figure (4) Hamid Shirvani's Urban Design Process Methods

Author Based on (Shirvani 1985)

Synoptic is a rational, comprehensive with systematic design steps and its process. It consists of seven stages.

Figure (5) Hamid Shirvani's Synoptic urban design process model

Author based on (Shirvani 1985)

The incremental method is similar to the synoptic, but it is starts with building specific goals and objectives and follows incremental steps to achieve it instead of decisions based on collected data. (ibid)

Figure (6) Hamid Shirvani's Incremental Urban Design Process model

Author based on (Shirvani 1985)

Fragmental method is also similar to Synoptic, yet it is more brief and incomplete, following only four steps out of the seven of synoptic method.

Figure (7) Hamid Shirvani's Fragmental Urban Design Process model

Author based on (Shirvani 1985)

The internalized method is intuitive where the urban designer uses an intuitive method to develop a design for the project through experience and training, reaching a certain concept based on this

intuition, and then begins sketching until the design reaches a state of maturity, and so it mainly depends on the vision of the designer. (ibid)

The pluralistic method attempts to avoid generalization, and it recognizes users' values and perception of the city as well as the functional/ social structure of the deigned area. (ibid)

Finally, the Radical method depends mostly on social processes, it can adequately accommodate based mainly on theoretical and academic methods. It is difficult to characterize the process in term of application to design. (ibid)

Another Model of Urban design process was suggested by Levy; the process consists of four levels; Analysis, synthesis, Evaluation, and implementation. Levy's model is one of the most detailed for urban design process, and it is further explained in the following sequence. (Levy 2009)

Figure (8) Levy's Urban Design Process model

1- Analysis (Data collection) → 2- Synthesis (Problem investigation & develop options) → 3- Evaluation (determine criteria & chose best options) → 4- Implementation (Details for application)

Author based on (Levy 2009)

Barry young suggested five stages for the urban design process, which is mostly similar to any normal design process from the analysis and criteria, then design options and evaluation until implementation.

Figure (9) Barry Young's Urban Design Process model

1- Define physical design principles → 2- Identify performance criteria. → 3- Develop design options → 4- Evaluation → 5- Develop the preferred option

Author based on (Urban Design group 2011)

Clara Greed and Marion Roberts also suggested a five-step process for successful urban design; where the stages include analysis and concept generation then different phases of urban design detailing starting city level, to particular site level of details.

Figure (10) Calare Greed & Marion Roberts Urban Design Process Model

1- Analysis → 2- Vision ,goals & objectives → 3- Strategies (Develop options) → 4-Guidelines (Translate to plans) → 5- Briefs (Detailed UD for sites)

Author based on (Greed and Roberts 2014)

Tony Lloyd Jones discussed the urban design process and identified three approaches for the process; artistic inspiration, geddesian analysis and a cyclic approach. The first is barely a process, in which designers are considered artists for beutifying the city in terms of landscaping and other elements; the second views the design as a problem solving activity, it is more functionalist and views the design as a linear process which follows a set of steps to lead to an optimum solution. The final suggested approach is cyclical, more informed with the users' needs, context factors and planning policies and regulations; the third approach suggested by Lloyd Jones follows four steps:

Figure (11) Lloyd Jones Urban Design Process model

1- Problem Definition → 2- Rationale development (Analysis) → 3-Suumerize opportunities and constrains → 4-Conceptuali-zation and evaluation

Author based on (Palazzo and Steiner 2011)

Carmona categorizes the urban design processes at macro scale into two forms; the first is 'Unknowing

design' by which many towns have been developed. It is the result of accumulation of small scale, try and error, decisions and interventions slowly and incrementally, and never designed as a whole. The second form is 'knowing design' by which different problems and concerns are shaped, and controlled through different design proposals, plans and policies. This second form follows four main phases:

1- Brief setting
2- Design
3- Implementation
4- Post-Implementation review

Through these phases, the urban designer is expecting to go through a few stages as follows:

1- Setting goals: with different stakeholders, with regard to economic and political realities.
2- Analysis: gathering and analysing data to inform the design solutions phase
3- Visioning: generation several solutions and possibilities through previous experience and different design theories
4- Synthesis: testing the proposed solutions to recognize workable solutions
5- Decision-making: refining proper solutions
6- Evaluation: review the product against the initial goals
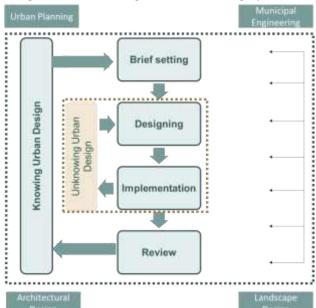   (M. Carmona, et al. 2010)

Figure (12) The integrated urban design process

Source: (M. Carmona, et al. 2010)

The urban design process has been described in practice as a series of decisions following a certain sequence starting analysis, then synthesis and appraisal and finally a decision, and the process is repeated with more details for more detailed levels of design as described in

Figure (Moughtin, et al. 1999) From the above-described processes, these four stages of the design

process can be each described in what meaning it holds.

- Analysis: It is the basic gathering of information through local planning scope, functional analysis (goals and objectives definition, and information patterns), Visual survey,

- Synthesis: It is the analysis of Potentials, constrains and problems leading to the idea generation, and appraisal.

- Appraisal: It is the evaluation of the offered idea proposals, and solutions against the initial goals and objectives of the process, as well as the cost efficiency and other constrains.

- Implementation: It is the final phase after many return loops of evaluation. (Moughtin, et al. 1999)

The Above literature offered concerning the urban design process could be summarized in the following Table

Table (5) Urban Design Process according to various writers and theorists

	1	2	3	4	5	6	7
RIBA practice (Palazzo and Steiner 2011)	Data collection	Problem Analysis		Develop Options			Present Options
Hamid Shirvani (synoptic) (Shirvani 1985)	Data collection	Data Analysis	Goals and Objectives	Concept Generation	Elaborate Concepts to solutions	Evaluate	Transfer to Plans
Hamid Shirvani (Incremental) (Shirvani 1985)	Decisions and Objectives	Data Analysis	Goals & objectives	Concept Generation	Elaborate Concepts to solutions	Evaluate	Transfer to Plans
Hamid Shirvani Fragmental (Shirvani 1985)	Data Collection	Data Analysis	Goals & objectives	Concept Generation	--------------Translate to plans--------------		
John M. Levy (Levy 2009)	Data Collection & analysis		Synthesis (Problem analysis and develop options)			Evaluate	Details to Implement
Matthew Carmona (M. Carmona, S. Tiesdell, et al. 2010)	Setting Goals	Analysis	Visioning	Synthesis (testing)	Decision making (refining final solutions)	Evaluation	
Barry Young (Urban Design group 2011)			Define Physical design principals	Performance criteria	Design options		
Clara Greed & Martin Roberts (Greed & Roberts 2014)		Data Analysis	Vision, goals and objectives	Strategies			Guidelines Briefs
Tony Lloyd Jones (Palazzo and Steiner 2011)	Problem Definition	Rationale development (Analysis)	Potentials & constrains	Conceptualization & Evaluation			
Resulting process (Author's Conclusion)	**1. Data Collection**	**2. Data analysis**	**3. Setting Vision, goals & objectives**	**4. Concept generation and strategies**	**5. Develop options (from concepts to solutions)**	**Evaluation**	**7. Transfer to plans/ implementation**

Author based on (Palazzo and Steiner 2011, Shirvani 1985, Levy 2009, Urban Design group 2011, Greed and Roberts 2014, M. Carmona, et al. 2010)

The table shows a collective concluding process flow from all what was offered by various theorists and writers on the urban design process. Which goes from data collection, analysis to setting vision, objectives and concept generation, then developing options and evaluating them and finally implementation.

Comparing the urban design process models with the design process maps offered for other disciplines
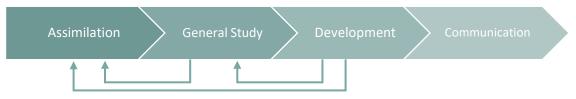
such as industrial practices, town planning, architecture, and engineering, shows a high similarity in terms of the expected process flow in all fields. The Process maps mostly include similar steps of the basic traditional problem-solving technique (Lawson 2005) which means that most of the literature offered on the urban design process flow, merely defines the basic problem solving process flow for any other discipline as well.

- **The Multi- Disciplinary Nature (other relations):**

Urban Design process is multi-disciplinary in nature as mentioned in its definition and through defining its stakeholders. A key element to defining the urban design process is to understand its relationship with other disciplines especially where it fits between architecture and planning -since it is considered the bridge between those 2 disciplines-

The RIBA Architectural design process is found very similar in process to the urban design process models offered previously.

Figure (13) A map of the design process according to RIBA Architectural practices

Source: (Moughtin, et al. 1999)

Such process very similar to what is offered in the urban design process analysis leads to questioning how it links to urban design as well as planning.

Figure shows the entire process of the urban development and how it links with higher and lower scales of design.

Figure (14) The Design Process for Urban Development

Source: (Moughtin, et al. 1999)

The decision taken throughout the design process on all levels is not linear in nature, but iterative as shown in

Figure and not only within the same level of the process, but different levels of urban design, planning, and building design, where each process feeds back on what follows and precedes it. (Moughtin, et al. 1999)

The Process of translating visions and goals into designs and implemented urban product should be interactive rather than linear (Kreiger 2006). The urban design should inform both architecture and planning. The linear presentation of urban design process models never meant for it to actually act this way, but within the process flow, there should be many iterative loops the more it gets informed. This might lead to updating goals and objectives in the first place or affecting the evaluation criteria and so on. Higher scales of design should inform lower scales, for example; the regional planning implementation phase should inform the town planning analysis phase, and similarly the town planning to urban design, and urban design to architecture design, which fits all the components together within the framework of the higher order. (Moughtin, et al. 1999)

In a more elaborative manner, buildings are designed to fit within the urban design scheme of the higher order, yet it should not be a one-way process from a larger to smaller scale. An individual building might have the ability to affect the entire urban context, so it should be able to feedback on the larger urban design scheme, which could also inform the city plan as a whole.

A successful process of design ought to include iterative loops between different scales of planning, urban design, and architectural design.

Aspects of design process:

- Cyclic and open-ended
- Proposing design solutions leads to redefining the problem
- There is no right or wrong solution due to conflicting criteria, but the solution is more or less for the better
- It requires to be inventive in solutions and always testing them against design criteria
- Analysis is the most curtail phase where the right questions are asked to provide right answers. (Roberts and Greed 2001, M. Carmona, et al. 2010)

Another aspect which urban design should consider is the country's policy and politics. Any significant change in the city must come with an alignment of politics, finance and design. Politics is the greatest force which could determine what gets built in the city, since it decides how to use public resources and who benefits or who pays from them (Washburn 2013). Urban designers need to understand the context in which urban design process operates and forces acting upon the process, how policies, proposals and projects originate and get implemented (Sternberg 2000).

5. Relationship with urban planning:

The Final element and most important is understanding where urban design starts and urban planning ends. This should be explained through the relationship between urban planning and urban design. Urban design is physical in nature like architecture, but similar in scale to planning, which addresses the issues of neighbourhood, contexts and cities(Cunningham 1972). Although urban design and planning nature differs in purpose and scope, their practices cannot be separated since they take place in the same realm of public planning of the city. (Can 2010, Steino 2004)

urban design practice from planning point of view may include secondary or even irrelevant objectives from those of urban design point of view, yet urban design has to first be informed by planning theory, otherwise the purpose is not unified which could reduce the outcome quality. In order for the urban design theory to be effective towards practice, it has to relate to the urban planning theory. (Steino 2004)

6. How to work from here (conclusion)

Understanding the urban design process requires categorizing its defining elements. The elements which define the process can be categorized into six basic elements; the term definition, objectives of the process, the process flow, involved stakeholders, relationship with other disciplines, and with the preceding process which is urban planning.

Definitions to Urban Design are endless that may hold many disciplines and scales. in order to understand it, a literature and theoretical review is conducted on how it was described, categorized, its nature. The definitions as perceived determines the scale, and the project, and whether it is considered a process or a product.

Stakeholders are also another changing variable according to scale, but they usually involve all those who are connected to planning, and policy making, as well as users, producers and developers with different interests.

In terms of the process flow and how to connect urban planning to urban design, there is no clear connection to be analysed, where the process described is mostly the model of any problem solving, theories are not informative of how it should connect to planning, it doesn't give tactics to how to understand actions taken according to decisions, it doesn't define clear roles within this process.

Consequently, in order to understand what happens in the urban design process in practice, an investigation to the same questions needs to be applied on the practice level, what is urban design in practice, and what is the criticism directed to such definitions.

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