

## **The effect of formation patterns in activating of the free zones (Towards sustainable formation)**

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### **Abstract**

The concept of free zones is an economic concept that has been employed in various formulas and forms to achieve goals Multiple, as many countries, whether developing or developed, resorted to adopting this concept in pursuit of openness and economic development and using it to address urban and planning problems and for the implementation of special strategies. With the increasing number and spread of the establishment of free zones globally, these zones are racing in ways to strengthen their competitiveness and how to attract investments and capital. Despite the involvement of the various forms of free zones in a set of basic operational factors and characteristics associated with the functional specificity of the zones', these characteristics represent a general framework common to the various types of zones and free economic cities. Therefore, the research dealt with the relationship and impact of building these areas based on the presence of a special formation pattern resulting from building relationships and spatial components and the influence of links to different levels in an effort to create an environment and an active vital space that enjoys efficiency, durability and balance between the requirements and capabilities of its creation. In addition, the pattern contributes to building identity and supportive privacy. The competitiveness of the place, which constitutes an important focus in activating the function of the place. As the research reached the effect of the presence of a number of formation types that participate in an integrative way in generating patterns and models that represent a framework for desired desires, it is possible through a number of determinants to compare between them and choose the best one to apply in terms of efficiency and appropriateness.

**Key words:** Free zones, Factors (Characteristics) of activating the free zone, Formation, Types of formation, Building formation patterns, the impact of the formation process on spatial sustainability trends and their activation

### **Introduction**

Free zones represent one of the pillars of the modern era in economic growth and development processes, and one of the most important The pillars that can be adopted planning in solving many problems of urban reality, especially in developing countries, in addition to adopting it as one of the lifestyles in many developed countries, given the multiple roles it plays in modern life. These zones witnessed a great development and complexity in their concept with the development of different areas of life over time in terms of the diversity of their goals, types, directions of residence and names, as well as the determinants and links of their basic establishment, as the free zone or the private economy zone has become used within a very wide framework to serve different goals due to its flexibility in

Taking multiple forms with the possibility of reaching global goals outside the national and local framework and addressing various problems with the possibility of contributing a major role in the process of urban development and achieving the principles of sustainability.

Therefore, activating its role and making it keep pace with modern requirements has become mandatory, especially with the development and complexity of lifestyle and the increase in competitiveness between these areas. In addition to giving it a visual and mental perception to define the privacy of the lifestyle of the place and its special privileges. Therefore, the research problem and its hypothesis were built by addressing in the first topic the types of the free zone and its residence requirements in order to determine the factors influencing the development of its work, then introducing the formation process and its mechanisms, and then linking the role of the formation style in Activating a contemporary free zone in which its objectives are achieved in accordance with the directions of a work environment for a sustainable formation.

### ***Research problem***

Directing attention to new operational aspects of free zones and building a framework for a sustainable free zone

### ***Search goal***

Clarifying the role of the formation process and patterns in activating the free zone in pursuit of its various objectives

### ***Research hypothesis***

Choosing specific formative styles and levels that have an impactful role in developing the concept of the region's work Free and directed towards the establishment of sustainable facilities

### ***Research Methodology***

Using the analytical approach by first defining and researching the concept of the free zone and its mechanisms And its types, then the clarification of the formation process and the generation of plastic patterns and its role in the process of establishing a sustainable free zone

### ***The concept of the free zone***

Free zones, special economic zones, or free economy cities with their various names are a global concept that has been launched and spread in different formats. It is one of the features and products of contemporary globalization . Solving a number of urban problems, as well as the role of these cities as urban centers and nuclei that enhance the growth and economic diversification of the host country, thus improving living conditions and raising the standard of living, especially in remote or poorly developed regions. The free zone is a structural space for a private economic structure that is built by the host country for the purpose of achieving elected goals

### ***The idea of establishing and developing free zones***

The idea of establishing free zones and the historical development of their emergence can be clarified by dividing them into three phases:

### ***The first stage - Emergence and emergence***

Despite the agreement and unanimity of researchers that the intellectual essence of the establishment of free zones is due to one reason, which is the activation of commercial operations and the exchange of goods and services, some of them may go to define the

intellectual time to the Sumerian, Babylonian and Assyrian civilizations (Al-Ta'ei, 2005, p. 3). While others believe that the first upbringing was in the era The Roman civilization through the establishment of the Roman Empire of free ports on international trade routes for trade, storage and export operations, and the first free zone in the world is the island of Delos in the Aegean Sea, dating back to 166 BC (UNITED NATIONS, 2005, P05) As the aim was first to reduce the dominance of the island of Rhodes on trade operations in the Mediterranean Sea, and secondly to expand trade and exchange operations through its enjoyment of a distinguished trading system that involves reducing fees and taxes that were imposed on merchants, ships and goods in transit in the region, which led to it being an important commercial center Especially since it enjoys a strategic location on the shipping lines (VERON, 1991, P01 & BARBIER)

### ***The second stage - Development and spread***

This stage was represented by the increasing spread of free zones in the Middle Ages, with the adoption of the Mediterranean basin countries on the economic system and trade using the concept of free zones. The stage of European colonies is the next phase that contributed to the spread of free zones to facilitate trade operations as well and to ensure supplies between its cities and colonies, including the Gibraltar region in a year (1704), the Singapore region (1819) and the Hong Kong region (1842) (Ausreer, 2003, p.40). At the end of the 19th century and the 20th century, the idea of free zones increased in Europe, and after World War II, international trade witnessed a remarkable growth, especially in strategic locations on international trade lines, as the concept of free zones spread as storage and re-export centers (Kellehar, 1976, P.01).

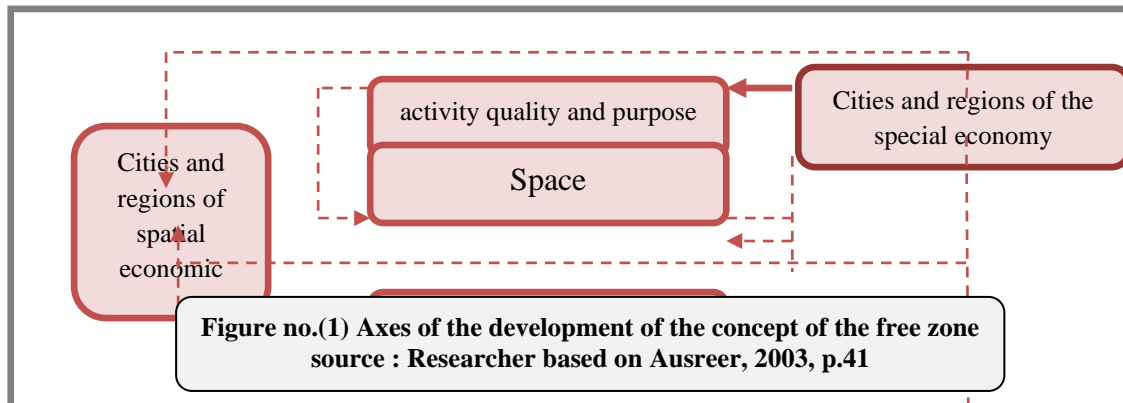
### ***The third stage - diversity***

Later, the free zones became known in another form represented in the establishment of zones designated for manufacturing and exporting purposes (export processing zones). Thus, the transformation of the free zone activities from commercial and warehousing to industrial zones began to change the traditional pattern of those zones, as its beginning was the free zone in Shannon, Ireland, to be published later at the end of the sixties. And the beginning of the seventies to Taiwan, Malaysia, the Philippines and South Korea with the aim of developing exports and absorbing large numbers of workers through the establishment of industrial projects (Suleiman, 2005, p.02). With the wide spread of this type, the export processing zones became a prominent feature of what is known as the neoliberal era, with names such as free zones, special economic zones, or foreign trade zones aimed at attracting manufacturing operations to places with high employment and low wages (NEVELING, 2017, P.24). Later, the establishment of these regions spread around the world with its multiplicity of functions and its contribution to manpower operations, in addition to the great development also in its spatial determinants and its exit from the inevitability of its presence near ports due to the possibility of taking different locations within the country and according to the causes of its establishment to increase their number is approximately 176 in the area between 1970-1980<sup>1</sup> and to 3000 regions in a year 2002, to indicate today more than 4500 regions according to UNCTAD (UNCTAD, 2019, p.129). On the other hand, the areas taken by the different types of free zones varied, so that some of them extend over an area that does not exceed several hectares, reaching areas that include hundreds of meters or thousands of square kilometers. Existence of customs duties and taxes on inputs and raw materials. Export is one of the main characteristics of free zones (Bost, 2019, p.145) .

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<sup>1</sup> Mazreq Ashour, The role of free zones as a form of foreign direct investment in achieving economic development Regionalism - Selected Experiences - A research submitted to the First National Forum, Prospects for Regional and Spatial Development in Algeria, 2013, pg. 4

It is noted that the development of the concept of free zones has included three main axes represented in Figure No. (1)



From this, we find that the free zones were launched from the point of unleashing trade and liberalizing it and developed with the development of trade operations, the methods of the global economy and the repercussions of global challenges to be a phenomenon that spread across the different parts of the world.

## **2-2 Defining the concept of the free zone**

There are many definitions that defined this concept, as the free zone was defined according to points of view that relied either on the definition of the goal or activity, or for the purpose of clarifying the legal and regulatory framework for it, because of the diversity of fields and roles in which this concept was crystallized it defined its general framework according to the angle that dealt with the concept according to:

### ***The concept of a free zone according to the Iraqi Ministry of Finance***

“Areas exempt from customs duties and import restrictions provide an environment for global investments, export promotion, technology transfer, job opportunities, etc., including Transit traffic, transit trade, shipping, storage and distribution, which is an effective tool to promote trade services, economic growth and revitalize ports, airports and border crossings (Iraqi Ministry of Finance, General Authority for Free Zones)

### ***The definition of free zone according to the United Nations Statistics Committee***

“A geographical area whose borders are fixed and whose entrance is controlled by the Customs Authority, where goods coming from abroad can cross the customs borders without being subject to rights or control, except for those whose entry is prohibited by law, and then you can later exit without being subject to rights or export control” .(L'ONU) United Nations Statistics Committee (Gombac, 1991, p32)

### ***The definition of the Kyoto organization for the free zone***

“A part of the state’s territory where the goods in the region are not subject to the customs duties applicable in the rest of the country, as well as the rights and fees for imports, as they are not subject to the control of customs interests” (KYOTO Convention, 2000, p.04)

### ***Definition of UNCTAD for the year 2019***

Special Economic Zones were defined as specific geographical areas within which governments facilitate industrial activities through regulatory and financial incentives and the provision of appropriate infrastructure support (UNCTAD, 2019, p.126)

***The world free zones organization (WEFZO) has determined***

A free zone is a specific area defined by one or more governments (as in the case of joint or cross-border free zones that aim to facilitate trade between two countries, such as the inter-Korean free zone) in which economic activities are carried out, whether productive or commercial, physical or hypothetical, and in connection with Goods or services or both in a manner permitted or exempted (in whole or in part) from customs duties, taxes and any other fees with a specific regulation of those requirements that fall otherwise.(WEFZO, 2015, p.194)

The European Union referred to the definition of the free zone from the perspective of defining the customs framework for it as:

"Free zones' are enclosed areas within the customs territory of the Union where non-Union goods can be introduced free of import duty, other charges (i.e. taxes) and commercial policy measures". So its consider special areas within the customs area of the community or the state. Goods within these areas are exempt from import duties, value-added tax, and other import fees, some goods in this areas may release after awhile for free circulation or its be stored or placed under of some special procedures. As the goods stored in the area considered are not been imported them into the state yet and the collective customs zone as not being sent or being already exported, while in the import process, the free zones are an area for storing non-state goods as they are liberated for free circulation .. Free zones are basically a service for merchants to facilitate trade procedures by allowing a smaller number of customs procedures <sup>2</sup>

The Federation of Gulf Chambers of Commerce referred to another perspective in defining the free zone as

a "closed space". Under guard, where goods are stored, whether that area is in a sea or air port, or whether it is inland or on the coast, where goods of foreign origin come to it with the intention of re-exporting, displaying, or introducing additional operations on them. (Union of Gulf Arab Chambers et al , 1981, p.01)

Through what was presented to the previous definitions, we see from this multiplicity of images in which the concept of the free zone appeared, but all points of view agreed on defining the main purpose of the essence of the free zone, which is to find a legal formula to move towards economic openness by allocating a specific area for the purpose of free trade and stimulating exports and focusing on Attracting investments, benefiting from the advantages of investment attraction in spatial development, both local and international

***2-3 Classification and types of free zones***

Due to the diversity of viewpoints and opinions that defined the concept of the free zone resulting from the diversity of its objectives, types, locations and areas, which resulted in accordance with the change and development of the concept in different stages of time, therefore, the free zones were subject to several classifications, including:

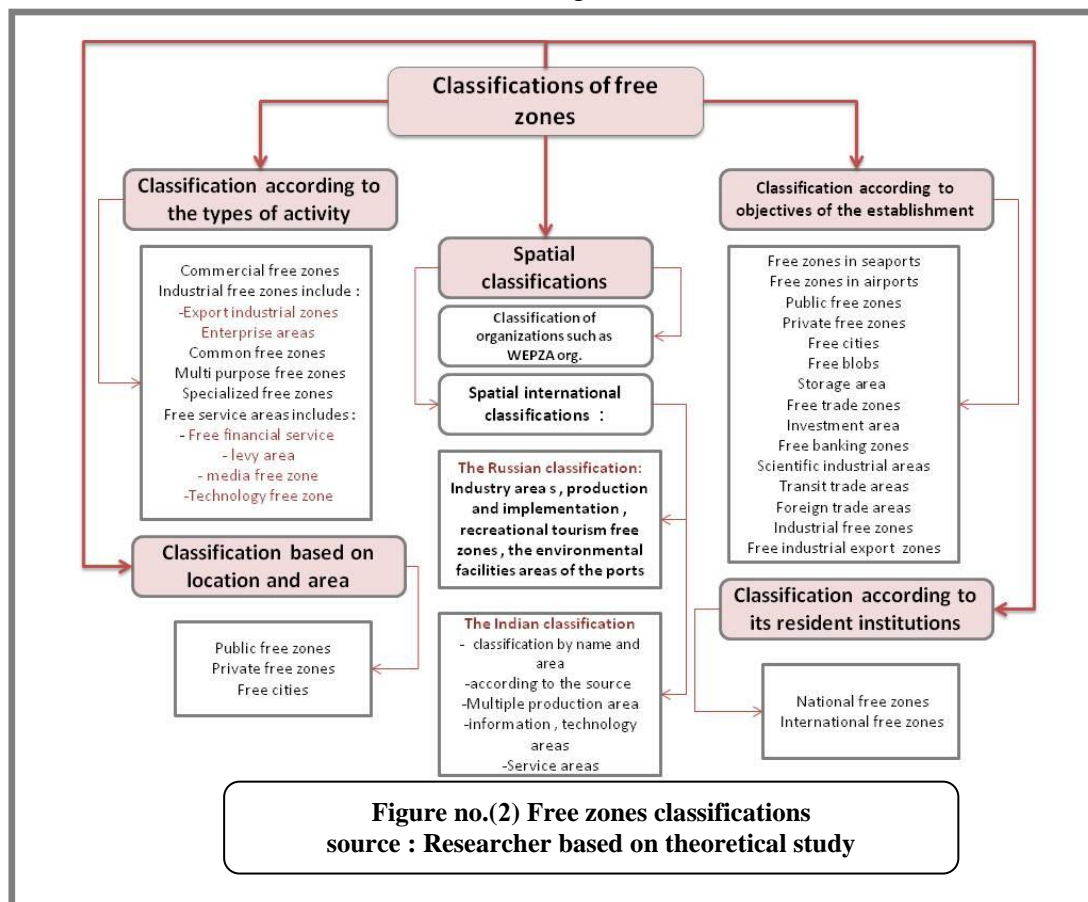
- 1- Regions based on the objectives of its establishment.
- 2- Regions based on the type of activity therein
- 3 Regions based on their location and the allocated area

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<sup>2</sup> [http://ec.europa.eu/taxation\\_customs/business/customs-procedures/what-is-importation/free-zones\\_en](http://ec.europa.eu/taxation_customs/business/customs-procedures/what-is-importation/free-zones_en)

- 4- Regions based on their resident institutions
- 5- Special classifications.

The details of the classifications are shown in Figure No. (2)



**2-4 Characteristics of the establishment of free zones**

The free zone represents a special economic system applied to the land and the area of defining borders. The various types and patterns in which this concept emerged share the quality of the common characteristics that they bring them together, which can be divided into:

**A- Characteristics of the private (free) economic system**

It is the sum of the characteristics that characterize this style of work Regions from others areas , and its divided into:-

**1- Place characteristics: it includes three main indicators**

**- Geographical area index**

Existence of an area and geographical area isolated from the rest of the territories of the host country for the purpose of restricting movement and limiting it to the movement of materials (whose movement is controlled) and to the labor force whose residence is limited to within the area. Taking into account the need for activity for future growth spaces (Ben Ali, 2007, p.14) It should be noted that the specified area is proportional to the type of activity assumed for the area.

**- Cryptocurrency privacy index**

It is the customs isolation of the region and the distinction of its administrative area from the rest of the state's regions, whether by fencing it or defining it with natural borders, with defining its points of entry in order to customs control the movement of entry and exit of materials and customs control (customs isolation) of the region, as the region is outside the state's territories and is subject to (goods - activities) incoming or outgoing About these areas within the internal territories of the state by the method of external import (Al-Harazi, 2007, p.31)

#### ***-Infrastructure Index***

This indicator is based on what the country provides of an element of excellence and attractiveness in order to support competitiveness The region by establishing an operational level and capacity of basic and basic infrastructure, as well as an integrated service structure that contributes to providing a polarized and attractive investment environment.(Ali , Sabeih, 2014, p. 189)

#### ***2-Special political features***

It is a set of preferential policies for working within these regions and attracting investments And capital to be invested in projects in the region and include:

##### ***-Tax exemptions and facilities policy, especially***

This policy represents the essence of the basic idea of the free zone concept Through the establishment of a customs and tax system that enjoys flexibility for the operations that take place within the zone, as the activities in the free zone enjoy a privilege related to the customs and tax aspects and dealings for the movement of goods, individuals and funds, which constitutes a stimulating measure to attract foreign investors and their capital to work in the free zone (Ashour, 2013, p.05)

##### ***-Freedom policy and indicators***

It is the freedom granted by the free zone system and law of the free zone to liberate itself from the restrictions of transactions Commercial and domestic economic policy of the host country (local economy), freedom policy includes areas of services and movement of workers and administrative freedoms in addition to the freedoms of commodity and capital flows (Guangwen , 2003, p18)

#### ***3- Characteristics of administrative policies***

It is the pattern of administrative procedures for transactions in the region, which is distinguished by the quality of the procedures Which the region's administration offers to investors as a kind of increase in investment attractiveness and strengthening the region's competitiveness, as it includes:

##### ***Administrative facilitation style***

Completion of various administrative procedures within the free zone simply, quickly and flexibly

##### ***Equal way:***

Inclusion of all investors, local or foreign, with the same privileges and guarantees granted without discrimination

##### ***Comprehensive and fair approach***

In the sense of openness of the work of the region to attract various activities and areas of investment Without restriction or differentiation of the investment capital nationality

#### ***4- Characteristics of the economic style***

This aspect relates to two main axes:

Type of activities The type of event and activities that take place inside the free zone, such as whether they are commercial, industrial, service, specialized, innovative, or specialized technology.

- The economic objective of the region: It is represented by a set of economic and political goals and strategies from the establishment of free zones, such as regional economic development and structural reform, as well as the objectives of microeconomics and linking the local economy to the global one and protecting it. The free zone is a protected area isolated from political conflicts and national ideologies (Abdul Qadir, 2020, pp. 544-555).

#### ***B - General operational characteristics***

From another perspective, I defined a set of general associated properties to define The sites of special economic zones or cities for the purpose of applying their mechanisms and policies related to land and their activities are known as “the dynamics of the economic zone within the goals of regional development.” It included four axes:

##### ***1-Land use privatization factor***

It is the factor of allocating the land to establish the activity of the special economic zones The allocation shall not be opposed with another prior use of value such as agricultural, natural, production or residential use

##### ***2-Composite factor (economic-social)***

Societal acceptance to establish a private economic system that is based on Population data, decision makers and economists based on the population density demographic pattern

##### ***3- The compound factor (economic - spatial)***

:Total factors complementing the region's activity, including the nature and quality of the land The locational connection and the relationship of the industrial character with the rest of the existing land uses, as well as the factor of flexibility of growth and spatial expansion of private economic activity

##### ***4-The location factor***

The suitability of the site with the mechanism of activity specified for the region and its connection to the elements of demand and the need for resources and materials In order to achieve its economic feasibility, the locational suitability is determined based on spatial and non-spatial data proportional (Devedas, Gupta, 2012, p.55-56)

Thus, the concept of the free zone is a broad concept that includes in its general content a structure for an environment with a special economic system that can be its main goal in economic development, but the formulas in which it appeared made it a multi-potential development mechanism and a means towards implementing different urban and regional strategies. The free zone is a structural structure with a special economic formula for a tight geographical area and an area with known boundaries that is allocated to a group of certain economic activities and activities that operate according to a system that enjoys special advantages and exemptions, which makes it attractive to capital and various investments in employing its effectiveness and activities within the region, benefiting from freedoms, administrative facilities, and tax flexibility. And the locational and functional privilege associated with the quality of activities.



### 3- The concept and levels of the formation process

The general formation of the place represents one of the most important foundations for creating a lively, interactive place that combines the relationship between human need and the elements of the natural environment of the place, thus creating a balanced and attractive environment that fulfills the requirements of life while giving an image to the recipient to define privacy and a description of the type of life in that place

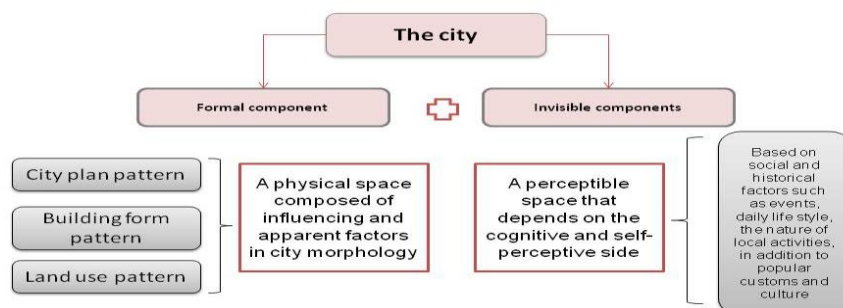
#### 3-1 Define the concept of formation

The formation of a place is known as the reflection of the existing relationship of man with the place and its crystallization in multiple spatial forms, and this is what he referred to Nigel Thrift In his book (special formation) through a theoretical examination of the human relationship, place and things and his review to analyze how space is socially created and rebuilt based on theories of sociology and geography to understand spatial forms and practices and how to make them spatial and temporal permanence (Thrift, 1996, p51-62)

The product of the formation of place and spaces was apparently reflected in the structure of the city. The city does not form buildings and human activities, but rather it is an integral phenomenon between the structure and the urban and spatial formation, built according to social, economic and cultural interdependencies, as well as being distinguished by multiple lifestyles. The creative formation led to the emergence of distinct patterns of human settlements and areas with specialized privileges. . Formation is defined linguistically as the act that gives shape or forms something or takes a certain form, as it represents the behavior that things take to form. different (Webster)<sup>3</sup>. The word (formation) refers to the process of forming a shape based on linking or assembling a group of its constituent elements according to an organizational relationship that governs the existence of those The elements relative to each other based on specific standards and rules, it is a broader process than the form that indicates the external form, while the formation indicates the control of the external form of things through organization and guidance (Dabour, 2021, p. 882).

#### 3-2 The formation's relationship with the city

It is noteworthy that the city is an apparent product and a mixture between the natural geography and the artificial environment and its development through continuous dynamic processes, while the growth of the city and its internal physical form is determined based on intangible aspects and components (natural, social and cultural) and external material components (Shen , Dong, 2022, p.2) It can be illustrated in the figure no. (3):



**Figure no. (3) City components**

<sup>3</sup> Merriam Webster dictionary , <https://www.merriam-webster.com>

Source: Danjie Shen ,Shujing Dong : Transition of Urban Morphology in the Mountainous Areas Since Early-Modern Times from the Perspective of Urban Historic Landscape—A GIS Tools and Historical Map Translation Approach ,2022,p.3 Over time, cities have become complex, multi-level structures with apparent features. The urban formation of them is generally linked to the aesthetics of the urban planning structure and the spatial structure, with the different sizes of cities and their separate parts, as well as the means .The city represents (Grunskis, 2010, p.138) and laws of formation applied in different ways the sum of social relations developed by its inhabitants, in addition to being distinguished by a wide variety of categories and levels for different lifestyles. complete, thus resolving the contradictions that arise when the requirements and conditions of the project are multiple(Almusaed & Almssad, 2020, p.1) Planning grids represent the basis for the formation of cities, as they are defined as "the principle and basis that can control and control the shape of the built mass or contribute directly or indirectly to influencing the patterns of construction and development and thus efficiency."(Abu Saada, 1997, p.2) The Creating urban networks is one of the ways to shape cities. Urban networks are an organizational means towards forming and designing sustainable cities (Busquets & others, 2019, p.32) Formation consists of several levels , these levels contribute to showing the nature of its formation through a three-dimensional perspective or form through which it is possible to understand The important parts and elements in the formation of the city, and these levels determine the nature of the relationship and coordination between traffic networks, crossings, building networks and blocks, in addition to defining the typical dimensions of spatial distribution in order to achieve greater efficiency for the planning process, architectural design decisions and coordination of urban areas (Hasan, Abaas, 2021, p.7).

It is concluded from this that formation is an integrated organizational process that aims to form an integrated structure formally, functionally, and expressively, as the process relies on establishing efficient and effective relationships between spatial elements and components with the desires and characteristics of the site, social and functional environment. Levels of requirements, which makes that environment more dynamic and interactive space with the requirements related to its formation

### ***3-3 Formation relationship in the generation of schematic patterns***

A pattern is defined as the specific and proposed method of implementing a specific organization that can be used as a pattern (Cambridge dictionary) Thus, it is the design of the system or the way in which the elements or components are organized to achieve a specific configuration. He knew Lynch The pattern of the city is the way in which the different functions and elements of the settlement form are distributed and spatially grouped together (Lynch, 1981, p.265). The formation pattern represents the new method in defining the frame image of the model that is desired to be designed and applied within the urban area and the city through a set of elements of importance in selecting and determining the type of model and the nature of the formation or the elected organization, with the necessity of taking into account several types of determinants in choosing the most appropriate and efficient pattern for application (Al-Ta'i, 2021, p.76). As the pattern is a formal concept and reflects a model of the formal body that it expresses and generates several models, as one pattern results in a number of models for which the pattern is the formal base, thus the pattern is defined as "a system of interconnected customs in a form that becomes familiar to the recipient through circulation and learning and is linked to the inherited stock In the collective memory of the recipient, the pattern acts as a base for the model and a foundation for new forms.BThis pattern contributes to the generation of new forms that are common in their formal characteristics, which at the same time contribute to being a solution to urban problems

functionally and formally. The base that includes the foundation that generates the forms, while remaining unchanged despite the multiplicity of models resulting from it. He also indicated that the pattern is considered as the formal nucleus or the simple initial form, which is the basis from which the creation of transformations begins, producing local architecture of different types (Salman , Rashid, 2018, p.27) Thus, the relationships of the plastic process produce patterns A proposed organizational framework based on which to submit a proposal for a formative framework that can be applied within the spatial dimension, as the proposed model based on the formative pattern provides a solution to planning and design problems with the possibility of choosing the model that most meets the requirements and is appropriate in application.

### ***3-4 Types and levels of the formation process***

Due to the fact that the molding process deals with building relationships between different elements and components, whether they are material, physical, or formal, apparent or non-apparent components, thus molding is a broad process due to the capacity of the components it deals with and the pattern of relationships that it assumes. and the components it deals with. The spatial formation process consists of:

#### ***Basic formation***

It is the level associated with the process of organizing and shaping the relationships of the basic components of the infrastructure Spatial, the level works in establishing a service network that can be invisible or visible with a service function for the city base (Al-Ta'i,2021, p. 73) As this structure constitutes the basic systems, events, and practical service organizations related to the smooth and dynamic operation of the city system. Finding this level refers to the relationship between the establishment of cities and regions and the infrastructure network of the type of a two-way interconnected participatory relationship (from - to) through interaction between the two sides of the relationship based on the concept associated with the development of functions and spatial activities in the city that leads to development in the infrastructure sector and the need for that The sector is to support the process of growth and development, The infrastructure is a group of interacting components, whether in harmony or dissonance, that work according to the type of activity they do to provide the on-site structure with life (Alwan et al., 2017, p. 1989). Infrastructure is defined as networks and structures of interconnected and complex organizational elements and compounds (physical, social, economic, environmental and technological) with a function that supports the pattern of human activities.(Flumer, 2009, p.30) In a special case, infrastructure services projects represent the main axis in enhancing the efficiency of economic functions, supporting the pace of growth, and a measure of development levels, as well as supporting them towards improving and sustaining the general social lifestyle.(Oyedele, 2012, p.2). The main components of this level are:

- A- Economic infrastructure: various service facilities and structures, water and electricity networks... and others
- B- Social infrastructure: functional service institutions structures such as educational and health... and others.
- C- Digital Infrastructure: A network of supporting infrastructures such as communications, the Internet and computing.

The importance of basic formation can be determined based on the role of the level of the infrastructure network in supporting the functional sustainability of the place, expressing the developmental level and determining growth trends, its importance in enhancing economic functions, which enhances the growth - efficiency - and competitiveness of the

place. It should be noted that the importance of this type of process is growing. Formation according to the quality (functional style) of the positions and the degree of dependence on it.

### *spatial formation*

A Formative level that produces various patterns and forms of spaces through the formation of relationships between The building blocks and spaces, as the organized design and planning work of the space reflects the purpose, desire and values of the groups And individuals in creating space while achieving congruence between the physical and social aspects of it. (Rapport, 1977, p.10) The spatial installation process is interpreted by referring to the basic variables in the urban form, and then analyzing them according to the spatial installation pattern based on spatial standards and the method of linking spaces and attractions according to the changes that occur to form the urban and spatial form. In establishing a structure that reflects the spatial nature of society and expresses the social dimension of space (Salim , Basil, 2016, p43). Therefore, the level of this type of formation is related to the spatial and mass distribution of space and the mechanism of movement, movement and access to the sites of activities, structural structures and spaces such as movement axes, crossings and points of contact, with reference to the fact that the realization of this level takes place either according to the level of space itself or according to the relationship of space and its connection to the mass surroundings (Al-Ta'i, 2021, p.86). It should be noted in clarifying the importance of spatial formation through its role in understanding the built structure and through the operational method for analyzing the type of spatial relations, which thus led to knowing the relationship of space and society to this (Yamu.2021, p.1,2) As the process of analyzing the space structure helps in studying the distribution of activities, movement, and behavior pattern within the system, as well as this, the space formation is a functional tool in the process of designing and building the urban environment and the reflection of that environment on the pattern of human behavior in it. and engineering networks established by these elements<sup>4</sup>. It is also possible through the spatial organization to express the specificity and the locational functional pattern of the urban structure. Thus, it is a mechanical relationship that indicates the direction of the city's growth and function (Al-Hankawi, 2002, p.241). The spatial formation expresses the organizational privacy of the blocks and their surrounding space, the method of linking and movement between them, by the influence of the forces affecting the pattern of that relationship.

### *Urban formation*

A formative level whose general concept is related to defining the correlation between needs and capabilities Within the framework of a rational and conscious process that aims to achieve compatibility and greater compatibility between the urban forms and the environment or the surrounding urban space, as the urban formation consists of a set of elements that are governed by spatial interrelationships with future aspirations and needs (Abu Saada, 1997, p.1) Urban formation is defined as "the ultimate purpose of The design process represents the turning point and the transition from the theoretical field to the applied reality, and it bears the burden of forming the void (Abu Saada, 1997, p. 3). This type of formation produces a realistic reflection of the societal lifestyle and its impact on multiple periods of time, as this type is considered one of the most affected and changed types according to economic, cultural, political and social influences, in addition to the influence of the forces of space and time, all of which contribute to giving urban space the uniqueness and distinction from others

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<sup>4</sup> Space Syntax: Urban Network & Spatial Relations , <https://medium.com/data-mining-the-city-2022/space-syntax-urban-network-spatial-relations-7679de91beb>

(Abo El-Enyen et al, 2008, p.550)The importance of this type appears through the importance of the components of the elements and the characteristics of the formation process, which is one of the main influences on the trends of sustainability and the nature of the behavior of individuals, in addition to its association with the levels of development (Sharma, 2014, p12).

### *visual formation*

The appearance resulting from urban and architectural uses and patterns," which includes each of the blocks The spaces produce a feeling of pleasure and contentment, or boredom and discomfort for the user or the viewer (Ali, 2019, p18) The visual formation process is the result of the visual relationship between the mass vehicles and the movement network, and through the way it is perceived by the moving viewer within the movement paths, as well as the relationship of the structural structures to the spaces and their apparent visual sequence within the main axes of movement (Awwad, 2020, p.06)In this axis, Kevin Lynch's proposals are considered for understanding and analyzing the principles of this formation and knowing its elements, as he indicated in his books, the image of the city, the ability of the city to form mental images resulting from the components of building the visual landscape, which he referred to as corridors, nodes, neighborhoods, borders and signs, with the importance of urban space and its role in Organization of formation The visual image of lynch consists of the overlay of several elements in the production of a mental image. It should be noted that the visual formation overlaps with the urban and architectural formation to build the visual landscape and build a mental image memory of the place (Amer , Jaber, 2018, p.09).The importance of visual formation is centered through its role in preparing a level and a visual image resulting from the realization of architectural connotations in the urban environment. Each building structure has a specific functional purpose, but at the same time, with repeated use and time, it plays another role represented in building a symbol and a carrier of a specific visual image and message.(Awad, 2020, p. 3)

### *kinetic formation*

A formative process associated with the main and secondary movement paths and the paths linking parts and components of the city (Al-Ta'i, 2021, p. 74). The term paths and passages is not limited to a group of axes of transport roads, but also includes elements of functional linkage between parts of the city, which are employed in extending the infrastructure network in addition to the material and moral components of those axes. Forms thus grant a special identity and morphology to the city and the place (Awwad, 2020, p. 3)While these axes constitute a special functional importance through their support for a number of urban operations and activities and their influential role as a space for human activities and behavior and a field for creating different social and economic interactions (Marshall et al, 2018, p737-738).The importance of kinetic formation is based on its role in organizing space and signing the elements of formation. Communication is a function of the organizing process through which activities can derive its importance based on transportation systems and specific movement with flow rates and absorptive capacity in addition to its ability to meet the actual need for means of transportation within the network (Abu Saada1997, p.07).The importance of movement networks appears in its role that combines the elements and their relationships, and it is a network of linear elements with a permanent presence in space. (Marshall & others, 2018, p737)It should be noted that this network takes different morphological patterns, such as the retinal and axial formation, in addition to the organic and radial, with the presence of other composite types (Al-Maghari, 2015, p.15) .

### *Architectural Formation*

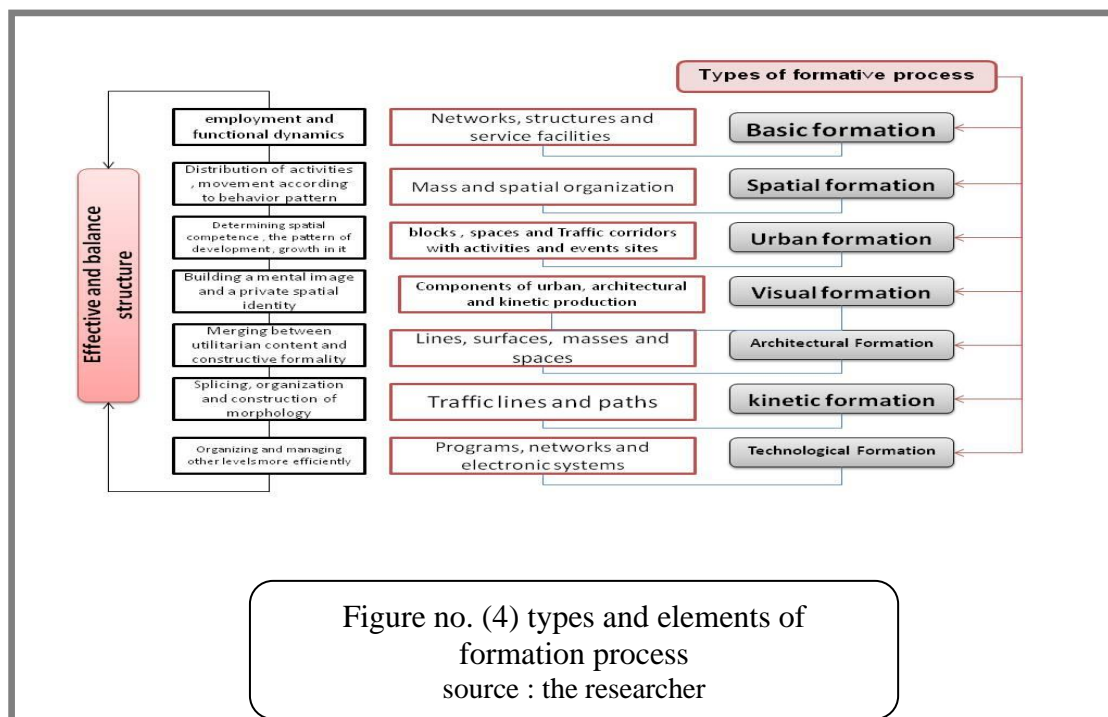
This formative process is illustrated through the designer's use of visual vocabulary and compounds And plastic according to design principles and standards in an effort to

transform it into blocks and spaces with a specific system. The architectural formation is defined as “the external sensory body of materials, which is composed of a system of characteristics of the plastic elements and the sensory relationships between them, whether in the horizontal level or in the volumetric or spatial formation.”(Abdul Hadi et al , 2012, p. 3).The most important elements of this composition are defined by lines, surfaces, objects, and alignments, with reference to the fact that each element has geometric properties and distinctive features that have suggestive meanings for the recipient or viewer. (Hamoudeh, 1998, p19). The importance of the level of architectural formation appears in being a measure of the level of urbanization of the urban formation of the city and the creation of a visual imprint in the place.

**Technological Formation**

The technical and technological revolution influenced the production of new technologies, according to which the possibilities changed The materialization of cities in addition to a change in the pattern of relations, whether social, economic, cultural and political, for the urban daily life, and these technologies have become a necessary and integrated part of the life of individuals and the sustainability of the urban area. They also constitute support for the growth of regions and a role in the general formation of cities (Kim et al, 2009, p.63-64).The level of the city and its development are linked to technology systems in a direct relationship, as the higher the level and the technical potential, this leads to the growth of the city and the modernization of its composition, as well as the possibility of creating new possibilities in it. Note that there is a discrepancy in the transfer and possibility of generating or employing these technologies based on the ability of the authorities and departments to use them (Bolay, Kern, 2011, p26-27).The level of technological formation is an innovative level that shows the distinction of this type of formation by its association and overlap with all levels and other types of plastic through organizational digital control over those levels (Al-Ta’i, 2021, p.74).

The elements and effect of each type of molding process can be illustrated in figure no.(4 )



#### ***4- The relationship of plastic processes in enhancing the effectiveness of the place***

By reviewing the types of formation and the elements that each level deals with, with an explanation of the role it plays within the overall system of the formation process, the importance of the relationships produced by each plastic type and its impact on the formation of the special spatial pattern becomes clear. In the case of cities or in the case of the creation of sites, they are considered the result of the interaction of a number of active elements within the spatial space that are governed by a set of functional relationships and express at the same time the style of social behavior in it as well as being defined by the quality of the cultural and ideological needs and requirements of the society itself, the method of association and the quality of the relationship between Activities, as the process aims to reach the level of the most appropriate organization of the space, which balances between the need and the possibility, in order to reach the highest functional-urban efficiency and the best economic-social efficiency (Abu Saada, 1997, p.2).

As the networks can organize by defining the main points of each element with the methods of linking between the elements and networks of other levels, the optimal formation of the site structure, the connection of the site formation is associated with the presence of the networks, as each of them represents an integrated system that works directly in the formation of the general formation within a specific level as well as its connection Direct interaction with other systems and networks, as it constitutes an integrated and sequential system, all of which work in harmony, harmony and smoothness. The presence of several different systems reflects the degree of flexibility in the formation process, and shows the choice of the appropriate system for the city pattern and the possibility of merging between several systems for the level of flexibility of formation and advanced distribution, which results in raising the level of luxury The environment of the place and meet the requirements more efficiently and move towards the formation of contemporary and sustainable cities. (Busquets, 2019, P30-33) Thus, the outcome of the formation process is the construction of patterns aimed at addressing problems, whether planning and design, or presenting a model proposal for a structure that enjoys functional efficiency and meets multiple needs, whether social, economic, developmental or organizational, through which it supports the application of contemporary trends and meets the requirements for establishing an effective structure consistent with the capabilities needs in the best possible way.

### **5- Conclusions and recommendations**

- 1- The free zone represents a broad concept that has spread globally and has taken various forms and forms, but it is based in its general objective and foundation on the pursuit of openness and economic development by liberating trade operations and activities of economic forms associated with them from their restrictions by providing a flexible geographical area with special legal and legislative formulas.
- 2- With the multiplicity of forms in which the concept of free zones or private economy cities appeared, the functions and purposes performed by those zones multiplied, making them one of the development mechanisms and a means to achieve different strategies
- 3- Free zones have undergone developments in their concepts and activities, as well as their residence sites and areas. This has led to the multiplicity of their classifications and names.

- 4- Despite the vastness of the forms in which the free zone formula emerged, the common characteristics between the various formulas are unified, represented in the spatial, administrative and economic characteristics, as well as the complex characteristics and links of the site and the nature of the activity.
- 5- The private economy areas represent cities with a special functional classification. Therefore, the urban and planning structure for them depends on finding a structural composition that enhances the functional character and reflects the privacy and distinctive identity of it.
- 6- The process of creating a spatial urban structure in which a balance between needs and capabilities is achieved can be achieved through a formative network that results in an integrated structure of an urban and spatial structure and formation built according to special interdependencies
- 7- Formation contributes to the production of a spatial organization with a specific pattern built according to relationships that combine components and elements at different levels
- 8- The formative process consists of integrated levels, each level deals with a group of elements to create a specific effect within the space
- 9- The interaction between the types of formation processes, according to which a structural structure is produced that supports the functional purpose and meets the needs, as well as achieving identity and spatial privacy, which makes it a more effective and efficient structure
- 10- Creating a special spatial pattern based on the relationships produced by each type of formation contributes to enhancing the effectiveness of the place through the work of formation networks in harmony and smoothness, which raises the well-being of the spatial environment and supports its better and sustainable performance of its function
- 11- The general characteristics of the concept of free zones, along with the creation of a degree of formative levels within the spatial space, contribute to the creation of a special privileged location that helps in raising the competitiveness of the place, which supports its attraction for investments and thus contributes to the activation and revitalization of the function of the region
- 12- Interactive integration between several formative levels achieves solutions to a number of problems within the planning dimension of the spatial structure and the formation of an organized and efficient structure that meets the needs and components of the natural environment of the spatial component
- 13- The formative level of space gives the element of spatial and temporal permanence through the process of forming space depending on the human relationship with it and according to social, economic and cultural ties
- 14- In order to activate the role of the free zone in a pioneering manner, it must have an attractive privacy that raises the privilege and competitiveness of its location, which makes it more effective. The formation networks provide the generation of a pattern with privacy and a special identity for the site structure and create an organization between several components that support its function and give it privacy and uniqueness
- 15- Investments and capital seek to be attracted to integration zones in support of their activities. Therefore, free zones compete in providing integration rates in order to attract a greater number of such investments.

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