

## POLICIES AND FACTS FOR MEGA-URBANIZATION: MIDDLE AND OUTER FRINGE BELT DEVELOPMENTS OF ISTANBUL

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### ABSTRACT

*Istanbul has been remaining on the agenda as being an over-capacity city among the other biggest developing world cities since last few decades. As a consequence of having a centuries-old historical background, the massive and uncontrolled urbanization and ongoing population movement, Istanbul becomes quite complex to plan sustainably. The morphological units, as main subjects of the city development, should be understood through elaborated analyses for managing and monitoring urban development and discussing planning methodologies for mega-cities. This research carried out to introduce inner, middle and outer fringe belt developments of Istanbul based on morphological periods of the city. The priority is given to middle and outer fringe belts of Istanbul to address the urban growth in terms of mega projects. The fringe belts of an industrial district, namely Kartal, is analyzed as a case of sub-center evolution in Istanbul. It is found that the city came to be in a dramatic transformation period due to the lack of morphological perception. The findings of the study reveal that fringe belts must be recognized within the processes of urban policy making and planning for the mega-cities with historical heritage and natural resources. The study concluded with further questions to complete the research.*

*Keywords: Fringe belts, fixation lines, urban development, urban policies, Istanbul*

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### INTRODUCTION

This research, as a part of an ongoing PhD thesis studying by the author, aims to analyze fringe belt development of the city of Istanbul and understand how urban policies effects fringe belts in İstanbul. Through the fringe belt analyses of Istanbul, it is expected to understand the urban growth dynamics of the mega-city. Regarding, the following questions are asked in terms of the research: Istanbul has a linear growth structure with metropolitan features, thus what are the points where the characteristics of Istanbul's fringe belts intersect and/or specialize with the existing fringe belt concept?

### BACKGROUND

Istanbul is a mega city with a population approaching to 16 million. The city became center for Roman, Byzantine and Ottoman empires. After 1930's, in Turkish Republic period, the city planned by European architects and urban planners as a result of a modernization movement. The rapid urbanization in Istanbul transform the city as a platform for urban policies. After 1980's the city has expanded in east and west direction. North of the city remained as forest areas until 2000's. With three Bosphorus bridges, the dense urbanization of the city accelerated. Istanbul has moth traditional and modern features of a city for a developing country. Today, as a mega city as being 1 in 3 of Turkey's economy and having 50% of imports and exports of Turkey, Istanbul becomes a complex city to read morphologically. Having many sub centers, the city requires a collective study in terms of urban morphology.

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## THEORY AND METHODOLOGY

Urban morphology is a field of study that examines the parts of the cities form and their relationship with the whole. Urban morphology studies, which started to develop through the concepts and research methods created by M. R. G. Conzen on the old English cities, continued with the orientation of the English, Italian and French schools in different fields and spreading to all over the world with new studies of new urban morphology networks.

The fringe belt theory is one of the leading areas of the studies that make up the urban morphology literature, with its structure descending from the large scale analysis to the parcel scale. It includes an inclusive theory, which, while gaining priority in the work of the British school, is not sharply separated with other schools. This theory first emerged with Louis's work on the city of Berlin in 1936. It has been studied by M. R. G. Conzen and has been a morphology study area developed by other researchers working in the field of urban morphology, especially Whitehand and M. P. Conzen. The concept has been developed with the research carried out by Conzen on the old English cities since the 1960s.

The fringe belt represents the areas that are seen on large and affordable parcels. After the saturation reached in the residential area of the city, especially with the deterioration of its economic conditions, the fringe belts forming the heterogeneous urban textures formed on the regions with low land value in the city walls are also the regions that reveal the historical development of the cities. Movements of private capital are limited during periods of economic stagnation or crisis. However, public investments are more advantageous in this period. Therefore, many public investments, which require large-scale land, find their place in these suitable areas in the city walls. The same applies to private sector investments seeking large land.

The fringe belts represent morphological units which occur slowly over empty areas in the outside of the city -on the periphery - The fringe belts, which occupy the highest rate of common use of the urban space, form a larger form and function union with a mixed use of land relative to other types of land and building uses. In terms of urban texture, a land cover containing larger spaces and wider property parcels can be seen.

The fringe belts may exhibit different features within an urban fabric. For example, they can be located at the existing boundaries of the fully structured area or rural openings, or it can be clearly embedded in the expanding urban tissue and in a state to lose its periphery. It is possible to see the fringe belts both in young developing cities and in the old cities. The first fringe belts that appeared before the industrial period matured for many years and continued their existence by showing long-term durability. In the cities established during and after the Industrial Revolution, younger, fewer and more dispersed fringe belts are seen.

There are generally 3 types of urban fringe belts in the cities. These are inner fringe belt (IFB), mid-fringe belt (MFB) and outer fringe belt (OFB).

The land uses that form the fringe belts are categorized as follows:

- Open Spaces: Cemeteries, public parks, nurseries / garden markets, empty plots
- Industrial Areas: Access facilities, warehouses / warehouses, factories, quarries
- Institutional Areas: Military areas / barracks, university campuses, hospital campuses, waste collection and recycling areas, religious facilities
- Residential Areas: Low density villa type formations, rural buildings, slum areas

- Recreation Areas: Sports fields, horse farms, golf courses etc (Conzen, 2009).

In this study, it has been tried to reach the historical and current maps and plans of the city of Istanbul. As a working method, analyzes were made in the context of urban morphology concepts and applications.

## FINDINGS

Istanbul, which was a port city in the 18th century, entered the pause period in the 19th century and the developments towards the center intensified. After the 1930s, the city started to grow continuously with the effect of the new regime and industrialization and modernization. In Istanbul, which has been globalizing since the 1980s, leaps from center to periphery began. Fringe belt areas have constantly changed, especially in Istanbul, which has turned into a city-region after 2000s. In these changes, especially the translation or alienation of industrial areas was analyzed.

It can be said that the fringe belt formations taken over the aerial image of 1946 are the last photograph in the inner circle belt class of Istanbul. After this period, the city starts to grow rapidly on both sides with the speed of increase in housing production, population growth and migration in the city, developments in planning and new policies. In this period when middle-fringe belt areas were formed, the first and second Bosphorus bridges and highways connected to them became the threshold line in the formation of fringe-belts. Especially sports fields, industrial areas, organized industrial zones, military areas, ports and airport (Atatürk Airport) are the land use types seen in this period. Some of the industrial land-use areas that enter the middle-fringe belt area are in Kartal district on the Anatolian side. On the Anatolian side, industrial formations on the e-5 highway, around İçerenköy, and military field formations between Maltepe and Kartal are also included in this field. In this period, while the slum formation is accelerating, the residential and commercial texture of the city continues to develop with the arrangements such as factor ownership law in the slums and the acceleration of the apartment building process. In this period, which lasted until the 1980s, outer fringe belt generations started to show their first traces.



**Figure 1. Mega projects pointed in the map of Istanbul**  
(Source: [en.megaprojeleristanbul.com](http://en.megaprojeleristanbul.com), Date: August 2020)

Organized industrial zones in large areas on the city's walls after 1980s, nature parks in forest areas (for example: Polonezköy Nature Park) or other parking areas, airport on the Anatolian Side after 1990s (Sabiha Gökçen Airport) and the surrounding industry and storage areas, the

third strait bridge and third airport (Istanbul Airport) in the north of the city after 2010 are among the prominent areas of the outer belt.

Today, many mega projects in various sizes on the agenda of within the scope of urban policies determined by the city administrators (Figure 1). These projects are mostly seen in fringe belt areas of the city as expected.

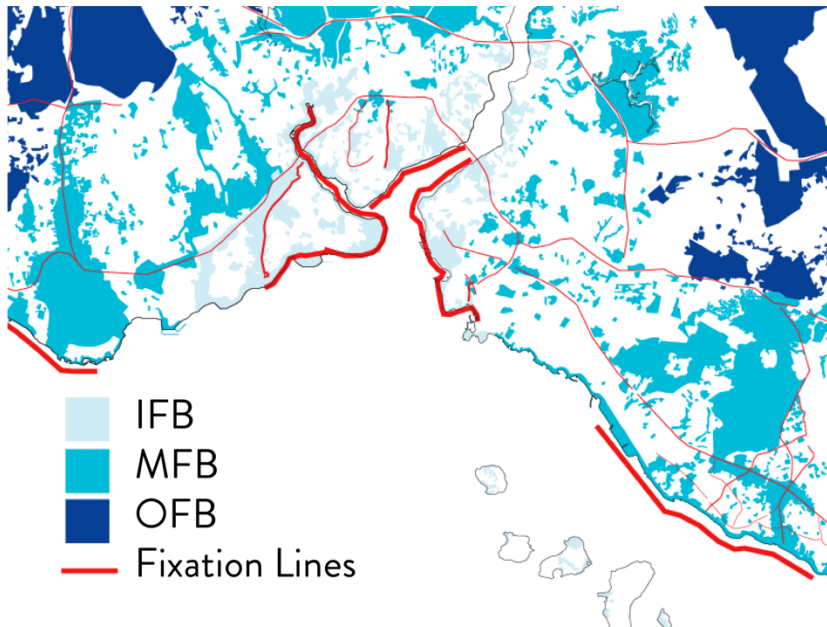
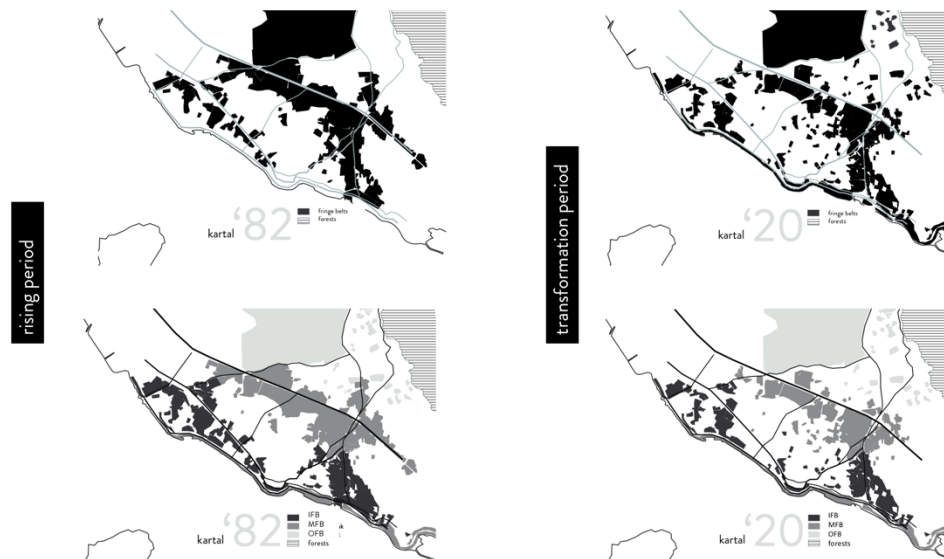


Figure 2. A section from fringe belt analyses of Istanbul with fixation lines (2020)

In Figure 2, the effect of man-made fixation lines, especially city walls and highways, can be seen. In addition to these fixation lines, which are also effective in the formation of inner and middle fringe belts, natural fixation lines also played a role in the formation of outer fringe belts and inner fringe belts.

One of the examples of transformation in the industrial areas is Kartal district, which is located on the east side of Istanbul. Kartal, developed after 1940 will take place in mid-fringe belt area of Istanbul. This area developed as an industrial zone with surrounding housing settlements. In 1990's as a result of decentralization of industry, the area became a potential for alienation in terms of fringe belts. Various plans, projects and urban transformation competitions have been organized in order to transform the industrial area into Istanbul's new financial center since the 2000s. Although the competition project won by Zaha Hadid Architects cannot be implemented as a result of various legal objections, this region is still seen as a commercial area in the current plan decisions.



**Figure 3. Fringe belt development of Kartal district of Istanbul (between 1982-2020)**

## CONCLUSIONS AND FURTHER QUESTIONS

Many large-scale projects have been effective in the transformation of the Istanbul's fringe belt areas, from the bridge projects connecting the two sides to Istanbul to the airport projects that claim to be largest in the world, from mass housing and luxury housing projects to other transportation projects. However in the first phase of this study, the main conclusions are listed as following:

- Transformations in Istanbul mostly occur in both ways based on urban policies: Alienation or modification.
- IFB seems to more open to transformation (alienation and modification).
- Also in MFB transformations are seen (alienation and modification).
- Mega projects are usually built in industrial areas and in countries have a –late industrial development, have these transformations in MFB.
- OFB close to forests or agricultural lands create a force for these areas to change land use type (modification).
- In mega cities, districts may have their own fringe belt development: in Istanbul, Kartal district case proves.

Further questions to develop the study:

- (i) Can fixation lines as natural and man-made ones say significant facts about urban development and fringe belt development?
- (ii) New fringe belt areas, which occurred in forests and agricultural areas and north of the city, should be taken in OFB or another fringe belt group with specific features?
- (iii) Do fringe belts become best urban areas for mega projects of rent oriented policies?

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