PHYSICAL AND FUNCTIONAL RESIDENTIAL CHANGES 
AT TEBET UTARA DALAM STREET CORRIDOR, 
SOUTH JAKARTA

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Abstract
The 1997-2000 economic crises have provoked the rise of a number of speculators alongside the corridor of Jalan Tebet Utara. The function of residential buildings on the left and right sides of the road was developed not only as a residential place but also as a commercial area with the target market of young people. These conditions had an effect on the phenomenon of architectural transformation on the absence of permission for a commercial building that was not in line with the General Spatial Plan of the Government of DKI Jakarta. As a result, the building faces that were originally identical appeared to be diverse, in which one side of the preferred look of the building could attract visitors. This article discusses the research emphasizing on the problem of building typology and architectural transformation by administering field observation, mapping of building typology and categorizing the transformation of architectural phenomenon. The findings of the study indicate that changes to the commercial-occupancy function are influenced by the increased accessibility which impacted changes on facade and building elements, on the use of building and road lines, and on the skyline environments.

Keywords: Residential Changes, Street Corridor, Tebet

INTRODUCTION
Jalan Tebet Utara Dalam is a one-way street that connects Jl. KH. Abdullah Syafei with the center of Tebet area. Whilst, Jalan KH. Abdullah Syafei itself is a road extension from Jl. Casablanca in Kuningan office and commercial area. Initially, alongside Jl. Tebet Utara Dalam, as part of Tebet areas was planned as a housing area. When there was an economic crisis between 1997 and 2000 some speculators tried to start some food and fashion businesses. In its development, this small-scale business has attracted public interest and became an alternative place for shopping and culinary recreation for young people. These conditions, have affected the change of building typology in which residential buildings began to transform into commercial buildings.

Research with the same topic was carried out by other researchers, focusing on changes in the function of occupancy and its effect on the quality of urban space (Santoni, 2014; Sinurat, 2015). Research on the building typology of street corridors at other locations with similar phenomenon was done by Santoni (2014) focusing on the changes pattern in buildings at the corridor of Jalan Braga which was originally Indo-Europeschen Architectuur Stijl in the colonial period which is currently changed. The change is due to the absence of regulations that determine the extent to which the level of changes in buildings may be done. In addition, a similar study was conducted by Anggraeni (2010) on Jalan Bintaro Utama, Sector 3 Bintaro Jaya, South Jakarta. The finding confirmed that the shift from residential to commercial functions was due to strategic location, high accessibility, and the rapid development of economic activity.
Sinurat (2015) in his research on Changes in Building Functions on Jalan Sirajudin-Banjarsari Corridor, found out that changes in the function of residential buildings to commercial areas was influenced by the development of educational area.

This paper discusses the results of the research emphasizing on the change in building typology on Jalan Tebet Utara Dalam in the absence of supporting regulations to control changes in building performance. At the end of the paper, research findings will be presented in the form of architectural aspects due to changes from residential to the commercial function. These findings can be used as input to develop guidelines or procedures for the arrangement of buildings and the environment along the corridor of Jalan Tebet Utara Dalam. Therefore, recommendations are also set forward on what needs to be considered when dealing with changes on the environment.

**THEORETICAL REVIEW**

Etymologically the word transformation is defined as change from one condition to a new situation. Transformation is one of the basic human instincts that can be defined as a series of transitions to society in its attempt to adapt to change in the world. Such changes may take place either in whole or in part in response to a situation. Architectural transformation is the evolution of form based on typological form (Santoni, 2014 quotes Koesariani, et.al., 2002).

Building typology is a combination of elements that a society agrees to have certain characteristics to obtain the classification of architectural organisms through naming type of building after meeting various requirements and standards to construct the shape. The process of development of building typology is closely related to the development of society (community). How a society constructs, interprets and finally agrees on the subject becomes a particular building typology.

DK. Ching (1994) states that according to its characteristics, residential buildings require to express the privacy needs of its residents, while commercial buildings require to look attractive, or accessible visually and physically. If a space region is inserted through the open side of the "U" shape, the space behind, or an object placed before it will limit our view of space. If the space area is inserted through an opening in one of the existing fields, the scene outside the open side will attract our attention and decide the sequence. If the openings are on the short side of a narrow and long space area, the space will strengthen motion and becomes the means of a progress or rhythm of states of great significance. If the spatial area is square or almost square, then the space created will be static and likely to have accessible characters to enter.

Rapoport (1969) states that the work of architecture is determined by cultural factors. Thus, the transformation in architecture and its process can be connected to one of the manifestation of certain cultural condition under completed or uncompleted agreement in arranging the layout. Puspitasari (2012) in his writing indirectly reveals that the influence of the absence of regulation is not only impacted on building typology but it is also changed the use of public space that develops naturally and organically.
METHODOLOGY
This paper is the result of visual research of the architectural aspects of the building as a form of data and information. The research focuses on the building typology problem, which is based on the observations, has changed from residential into commercial buildings alongside the corridor on Jalan Tebet Utara Dalam. Literature study was developed and conducted in parallel based on the information from Google Earth and field surveys. The literature study is used to direct the theoretical basis of what is meant by transformation and its elements. The result of the paper is about artistic aspects that indicate changes as the impact of residential become commercial function, and followed by a recommendation.

DISCUSSION
Accessibility factors
The area around Jalan Tebet Utara Dalam is allocated as a residential area. Jalan Tebet Utara Dalam is connecting the commercial and office road corridors alongside Jalan KH. Abdullah Syafei and Tebet Highway (Figure 1). Jalan KH. Abdullah Syafei is a continuation of Jalan Casablanca and Kuningan area, both of which are office and commercial areas. Despite Jalan Tebet Utara Dalam is a crossroad corridor, it is also functioned as a road towards housing area for the residents along the road corridor. Jalan Tebet Utara Dalam is in parallel with Jalan Tebet Utara I.

As the main residential road, the dimension of Jalan Tebet Utara Dalamis wider than Jalan Tebet Utara I, and access towards Jalan Tebet Utara I is from Jalan Tebet Utara Dalam. Jalan Tebet Utara I is a neighborhood road which is also functioned as a private car park for the residents. At some points in the corridor of Jalan Tebet Utara Dalam, there are non-occupant car parks especially those in the commercial buildings (shops, cafés, restaurants, car wash service, fashion shops, etc.).

High capacity and frequency of crossings on the corridor of Jalan Tebet Utara Dalam enforce the economic activities along the road corridor. The trend of economic growth has influenced to the change of function, building façade, and spatial allocation on the building lines and the roads. In order to understand the phenomenon of change in question, it is possible to use the situation of Jalan Tebet Utara I as a comparison (Figures 2 and 3). The condition of building facade on Jalan Tebet Utara I is relatively stable, in which green area are still being planted. Each house is...
enclosed by tight fenced gives the impression of high privacy and the building line is maintained according to the initial conditions of the housing area.

Research administered on the corridor of Jalan Tebet Utara Dalam was divided into 4 zones (Figure 4). Zones 1 and 2 are on the west side of Jalan Tebet Utara Dalam, whereas zones 3 and 4 are on the east side. The architectural transformation study was carried out in zones 1 and 2 (Figure 5) compared to zones 3 and 4 because the complexity of transformation was relatively more significant than the trend of change.

Building Functions and Facade Typology

The access opening of Jatinegara area to office and commercial areas through Jalan KH. Abdullah Syafei-Casablanca, has generated the development of commercial activities in the area of Tebet. Commercial activities, such as offices, apartments, hotels seem to flourish the corridor along the artery of KH. Abdullah. Based on the function and similarity of physical features of the building facade in the corridor of Jalan Tebet Utara Dalam, the change of building façade can be categorized as follows (Figure 6):

1) Type-1 Transformation (T1): the building function does not provide significant changes, it remains as a housing area. It is proved through the absence of any activity of commercial signs in which the façade represents residential façade as it is on Jalan Tebet Utara I.

2) Type-2 Transformation (T2): the building function has changed on the ground floor, whereas the floor above serves as a dwelling. The facade of the ground floor is designed so as to fit the needs of a commercial building. The opening component on the lower
floor facade is wider, transparent, or open. Whereas, the openings on the upper floors are in the form of windows.

3) Type-3 transformation (T3): the facade and layout of the building are adjusted to the type of commercial activity. The changes in function and layout occur on the lower floor and partly on the upper floor; so that on certain parts of the upper floors, the building façade represents occupancy and on the other parts the openings are wider and transparent in the form of glass walls.

4) Type-4 transformation (T4): the function and facade of the building that originally indicate occupancy, undergoes a thorough transformation into a commercial building. The types of commercial activities affect the completion of building facade.

a. In buildings with commercial activities such as restaurants or cafes (Figure 7), the openings are made without boundary walls or it is bounded by glass walls in order to facilitate physical or visual access so that the activities inside can attract passers by’s attention. Visual views are not only accessible to passersby but also accessible to consumers. Therefore, to optimize the consumer’s visual access to the surrounding scenery, the top floor (if it is more than two floors) is functioned as a commercial space with non-boundary wall-openings.
b. In buildings with fashion business activities (Figure 8), on the lower floor there are transparent openings with glass barriers, while on the upper floors there are massive walls. The walls that tend to be closed and massively made are generally associated with the function of space as a warehouse. Spatial arrangement that relies on the outer massive wall is used as the back or as a show case of selling goods.

**Building functions and environment sky-line**

In Zone 1, six of the eight residential units have been transformed into commercial buildings (Figure 9). Based on its shape (coding B1, B2, B3, B4, B5, B6, B7, B8), the building units B6 and B7 are remained as residential buildings. Whereas, in zone 2, out of 10 units, three of them are still remained as residential buildings, namely units 5, 7, and 9 (Figure 10).
Based on Figure 10, the change of building function affects the building facade and the skyline of the building. The facades of residential buildings are characterized by a tapered roof shape with window relatively narrow opening dimensions and a more repetitive rhythm. Housing which are united or fully transformed into commercial buildings are dominated by flat roof with wider window dimensions dominate the building facades. Public and private impression in this case arises from the selection of openings and window forms. Road patterns and path classes have an influence on the transformation shape (Figure 11). Buildings that are at the road junction (hook) tend to use both sides facing the road, and tend to increase the height of the floor, especially those at the intersection angle with the higher road class. Buildings in this location tend to change completely, as can be seen in Zone 1. As a termination building, buildings located on both ends tend to take the view of both directions of the road by making continuous openings from one side to the other based on the shape of the road junction.
Building functions and demarcation lines

Changes in the function of buildings from residential houses to commercial buildings have an effect on how to make use of demarcation lines and road building lines. Figure 12 shows that in a building that still retains its function as a residence, the fence is used as a barrier between the building demarcation line and the road building line. The building plot line is clear as the pedestrian is also available and safe. Buildings whose function has been changed partly or entirely into a commercial building, have maintained the space building lines and green spaces entirely for parking for and walking to the building. The plot of the building unit is enclosed by a closed riool line with pavement. There is no strict border line on the pedestrian path, it even tends to be used for parking lots which becomes insecure for pedestrian. If a building preserves its border line, the owner will use fences which can be opened in the areas that are considered accessible.

Lesson Learned and Recommendations:
Indicators that foster changes in the function of residential buildings into commercial buildings and their impact in the corridor on Jalan Tebet Utara Dalam:
1) Accessibility prospects arise from the function of the road as a crossing (high capacity and frequency) by connecting the centers of economic activities on the region. Elements of building facades that tend to change are: the height and shape of the building mass and the width of the window openings. Alteration of building height tends to occur in buildings at crossroads with the aim of utilizing physical and visual access that can be captured from all directions. Changes in residential-commercial functions affect the emergence of the building mass with a flat field, which is different from the shape of a dwelling house with a sky tapered roof. The ratios of transparent area on buildings tend to change its function to become commercial, the proportion is more widely compare to the entire facade. The lower floor and top floor as well as the front orientation

2) Accessibility prospects marked by road class and road dimension. The higher the road class and the dimension of the road, the higher the chances in changing from residential into commercial functions.

3) Aspects that change due to opportunity on (1) and (2) are occurred in the building's function and facade as well as spatial allocation to the building and road border space.

4) Changes in residential-commercial functions have an impact on changing facade and skyline of the building. The
of the road can be optimized for physical and visual access.

5) Changes in residential-commercial functions affect the use of building lines and roads so that there is a tendency to remove the lines and the plot limits of pedestrian path and green space.

If Jalan Tebet Utara Dalam will be regulated and developed into a commercial zone, there are some things need to be considered in regard to the tendency of building typology.

1) The environment's skyline needs to pay attention to the dwelling behind the row of commercial buildings, so the occupancy is not isolated. In the hook area, a maximum of 2 floors is recommended.

2) The building still has side building line and limited borderso it has green open space.

3) The carrying capacity of the environment on the accessibility of vehicles and parking is not sufficient as a commercial environment, it is therefore, necessary to consider traffic management, among others, car free-day arrangements at certain times, or centralized parking areas outside the corridor.

REFERENCES


