



Building Facade Arrangement as City Image Optimization (Case Study : Kartini Street Corridor, Gresik)

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ABSTRACT

Facade is one of building mass elements which supports street users's perception [1]. Elements that affect the building facade, namely : harmonization, contrast, materials, textures and colors also support the visual aesthetics perception district into an unforgettable part to recognize a place [3]. The intensity of the building mass such as the Building Coverage Ratio (BCR), Open Space Ratio (OSR), Floor Area Ratio (FAR), Building Height, Scale and Skyline are some physical factors of the street corridor to optimize the image of the city [4]. Kartini Street is one of the main streets in Gresik city center which connects the East with the West region of Gresik. Complexity of existing land use and lack of decisiveness system in Building and Land Use Regulation affected the image of the city in variety of facade. Therefore, optimization of the facade and built environment is very important to support the image of the city [2]. Observations are made to provide data in existing facade, facade tendency and the historical background of the region. From the data analysis, it is found that there are building elements which can be a visual aesthetic element to unify and optimize harmonization of Kartini Gresik street corridor to support the image of Gresik.

Keywords: *Image of The City, Visual Aesthetics, Building Facade, Street Corridors*

Received	Revised	Published
April 11 th 2019	June 14 th 2019	September 30 th 2019

INTRODUCTION

Facade is one element of building mass which is important to support the perception of environmental observers or road users [1]. In the street picture that forms the image of the city, the observation of road users towards the edge of the corridor is strongly influenced by the building facade and the distance of the observation. Observation distance is influenced by the width of the road and sidewalk. D / H (Distance/height) determines the comfort of the observer in enjoying street pictures in the corridor. The elements that influence the building facade such as harmonization, contrast, material, texture and color which are manifested visually by the building style, support the perception of the visual aesthetics of the region into an unforgettable part to recognize the environment [3]. While the intensity of building mass such as Building Coverage Ratio (BCR), Open Space Ratio (OSR), Floor Area Ratio (FAR), Building Height, Scale and Skyline become physical factors in structuring road corridors to optimize the image of regional cities [4].

Kartini Street in Gresik City is one of the main streets in the city center that connects the East region with the West region of Gresik City. The length of Kartini street is 1.8 km. The macro land use of the Kartini Street Gresik corridor consists of offices, trade and services, government, education, housing and hospitals. The complex land use causes Kartini street corridor to experience visual aesthetic disorientation. All functions have different appearance styles and harmonizations. The government buildings and housing use more vernacular

style with gable, shield or a combination of both. The trade and service buildings and offices use a modern and minimalist style. Thus, the planned arrangement of buildings and the environment does not have a good connection to be implemented.

As a downtown area with complex land functions, with regard to RTBL corridor, Kartini Street - Dr. Soetomo Street, the Kartini Street Corridor experienced a change in street width. As a result, land and building pruning occurs. This is also intended to clean up the building facades in the street corridor, so that the optimization of the city image in this corridor can be optimized.

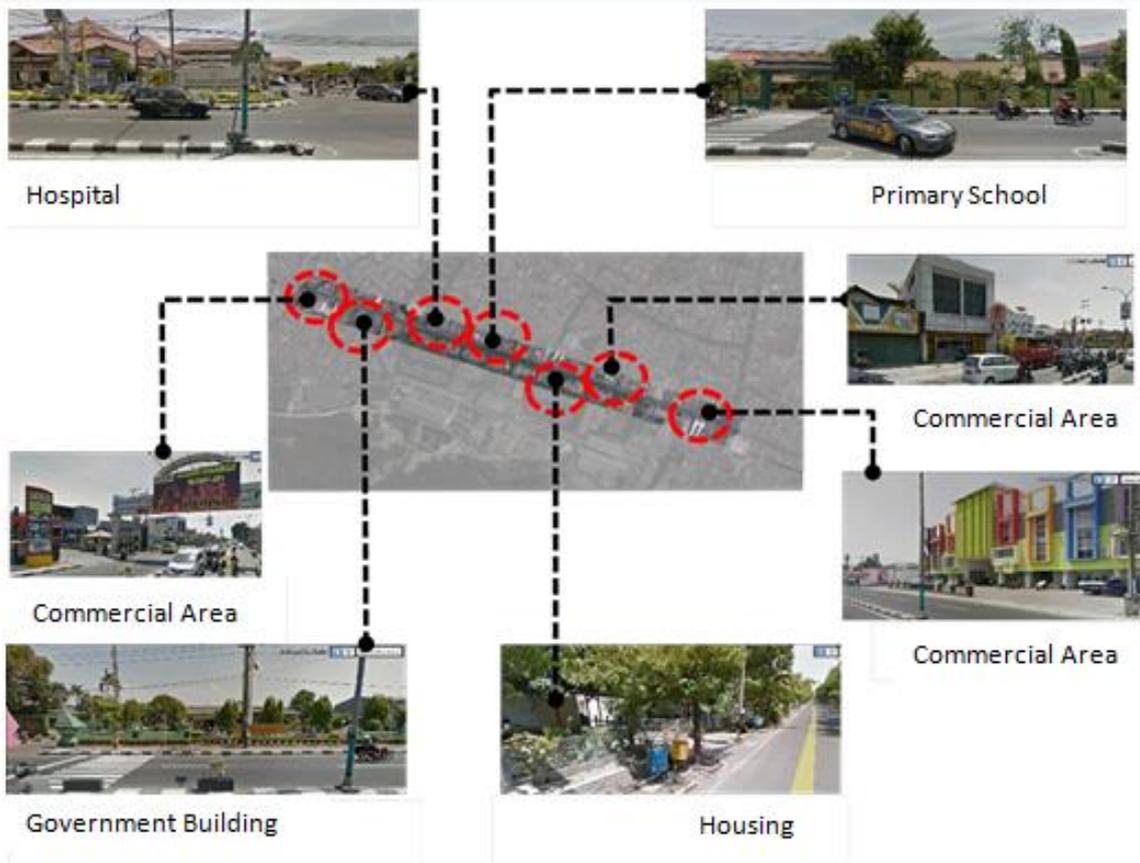


Figure 1. Overview of Land Use in the Gresik City Kartini Corridor

RESEARCH METHODS

This research employs descriptive qualitative method. The study uses primary and secondary data through direct observation. Data analysis was carried out after collecting and categorizing the types of building facade elements aimed at understanding the dominance of the characteristics of building elements used as supporting visualization of street imagery in city imagery. The dominant building elements are used as a unifying element of the building facade design in one corridor. As an illustration, the flow of research activities is as follows :

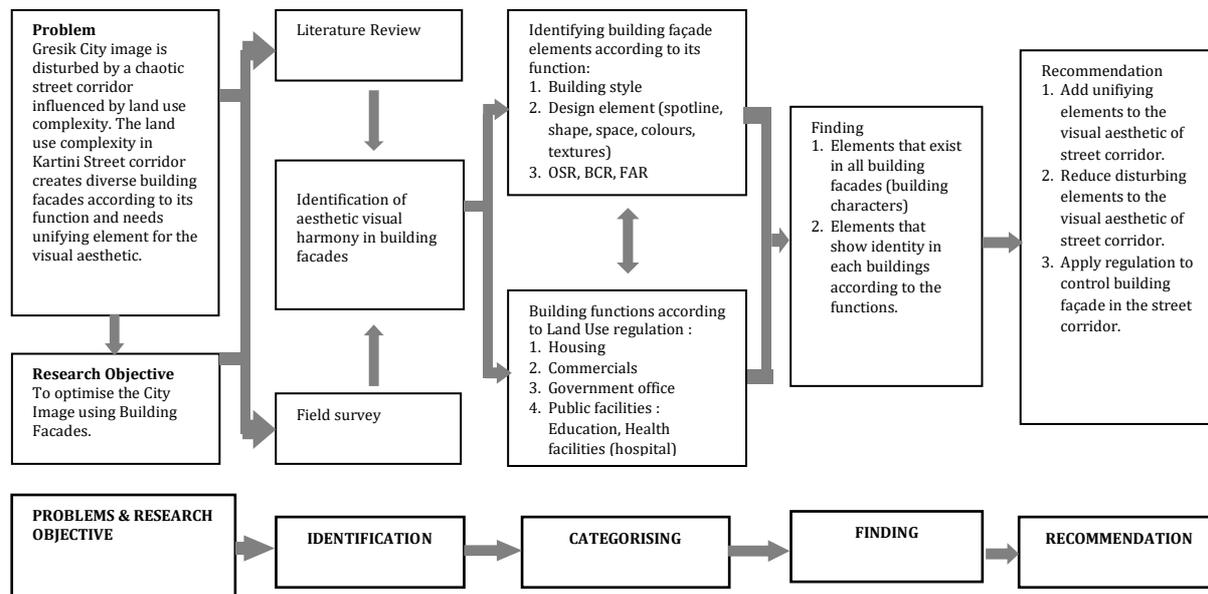


Figure 2. Research Flow

RESULTS AND DISCUSSION

Existing Kartini Street Gresik Corridor

Visual harmony in street furniture to support the image of the city are the style of the building [3] and the intensity of the building, namely, BCR, OSR, FAR and floor height per floor [4]. Field data regarding facade harmonization are as follows :

Table 1. Field Data of Visual Aesthetic Harmony Corridor Facade According to Building Function

Types and Categorizations	Vernacular	Modern	1 floor	2 floor	≥ 3 floor
Commercial and Services	188	14	187	12	3
Government Office	3	0	1	1	1
Educational Buildings	2	0	2	0	0
Hospital	3	0	1	1	1
Religious Buildings	3	0	3	0	0
Housing	109	0	104	5	0
Total		322	Total	322	

Source : survey data, 2014

Table 1 shows the vernacular style dominates, of which 95.7% of which 58% are used by buildings that serve as trade and services, 0.9% respectively as government buildings, hospitals and worship buildings, and 0.6% for educational buildings. The rest is 4.3% modern style and is used by buildings that serve as trading and service buildings. From the harmonization of the number of building floors, most of them are one-story buildings, which accounted for 92.5%, consisted of 58.1% buildings with trade and services

functions; 0.3% government buildings; 0.6 % education building; 0.3% hospital building; 0.9% religious buildings and 32.3% housing.

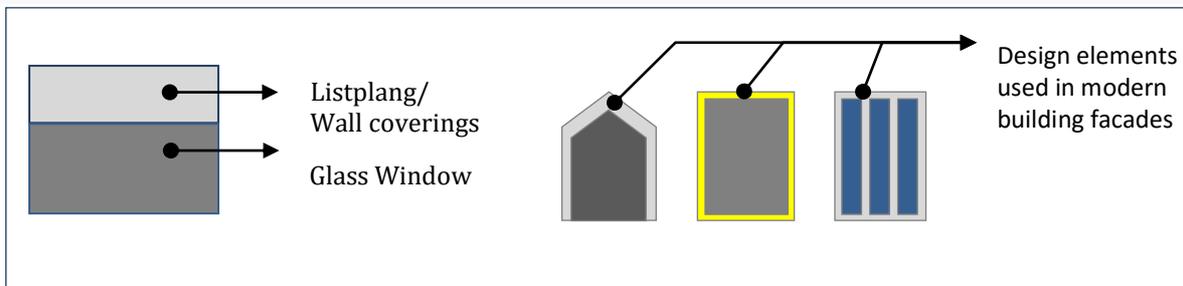
With the following typology description :

a. Modern Style



Figure 3. Modern Style Building on Kartini Street, Gresik.

The building elements used to support the modern style of the building facade are as follows:



Basic building elements

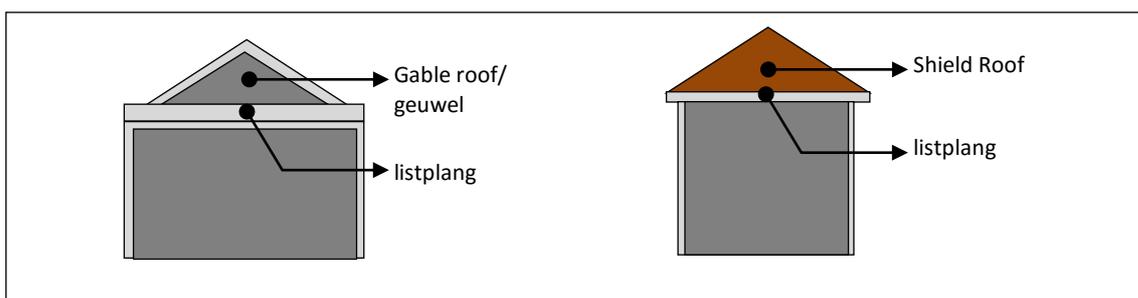
The supporting element of modern building style

Figure 4. Building Elements in Modern Style Buildings

b. Vernacular Style



Figure 5. Vernacular Style Building on Kartini Street, Gresik.



Building type 1: Gable Roof

Building type 2: Shield Roof

Figure 6. Building Elements in Modern-Style Buildings

The height influenced by the number of floors and the distance between floors (FAR)
The disharmony caused by the diversity of the number of floors and the distance between floors, occurs as follows :

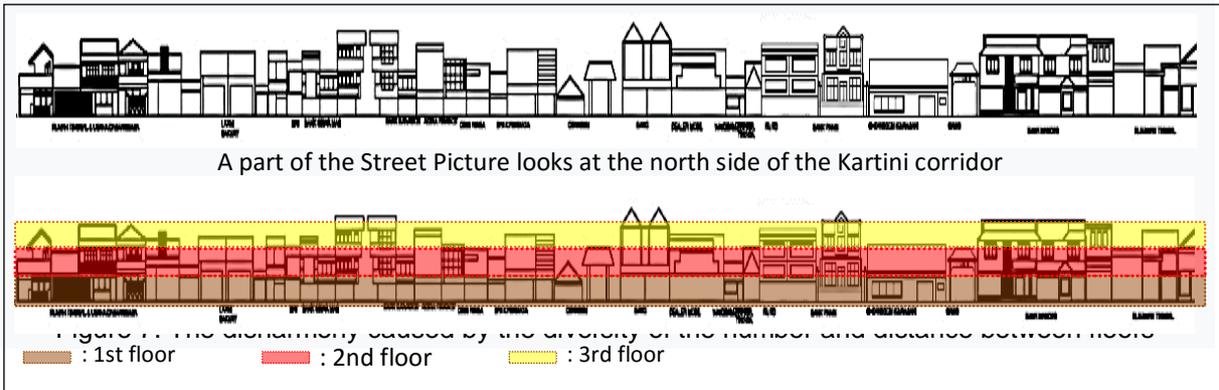


Figure 7 explains the disharmony of the number and distance between floors in a row of buildings in the north side of Kartini Street corridor. The distance between the first floor is not the same, as well as from the 2nd floor to the 3rd floor. Listplang which marks the 2nd floor and the 3rd floor does not have the same height from the ground and result in a broken line and gives the display that is not a unity.

Open Space Ratio (OSR)

The Open Space Ratio (OSR) in the Kartini Street corridor varies, depending on the building needs of the parking area. Some buildings do not even have a distance between the street and the building (OSR = 0). As seen in the picture below :

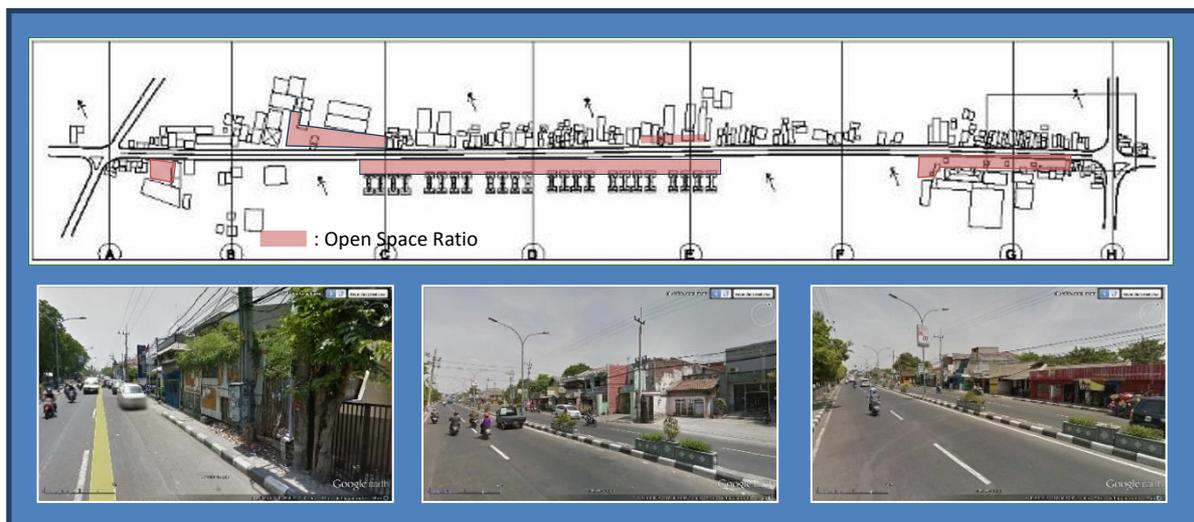


Figure 8. Disharmony Caused by Open Space Ratio (OSR)

The observer is too close to the building, so the aesthetics of the building cannot be observed. It is not possible to see buildings across the street due to median and plant obstacles.

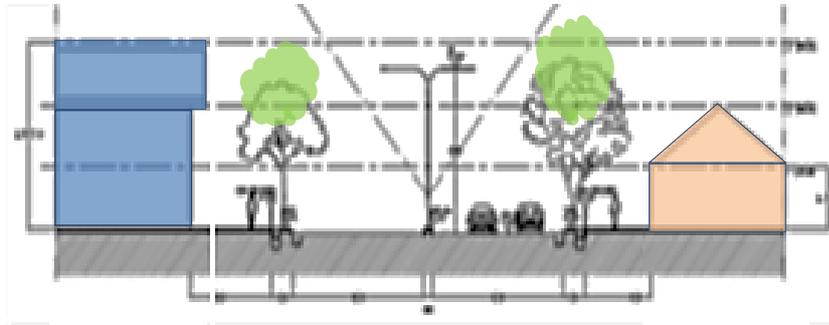


Figure 9. Illustration of GSB by Observers on Building Height

Direction for Kartini Gresik Street Corridor Development

Kartini Street Gresik corridor functions as a link between East Gresik and West Gresik and connecting South Gresik with North Gresik. It is an important role in the city that supports the City of Gresik Image [2]. For this reason, the Kartini Street corridor was developed as a corridor with the main function of trade and services in the category of primary arterial streets, as well as optimizing the intensity of buildings leading to the harmonization of the building facades.

To support this goal and from the previous existing condition study, the Kartini Street Gresik Corridor requires the following arrangements :

a. From previous studies, the dominance of the elements representing the two styles used, namely vernacular and modern, are : rectangles and triangles. So these two elements should be used in one building with the following division :

- 1) Legs and body building can be realized using a square element.
- 2) The building head can be realized using triangular and or rectangular shape elements with ornaments or small canopy covers using triangular shape elements.

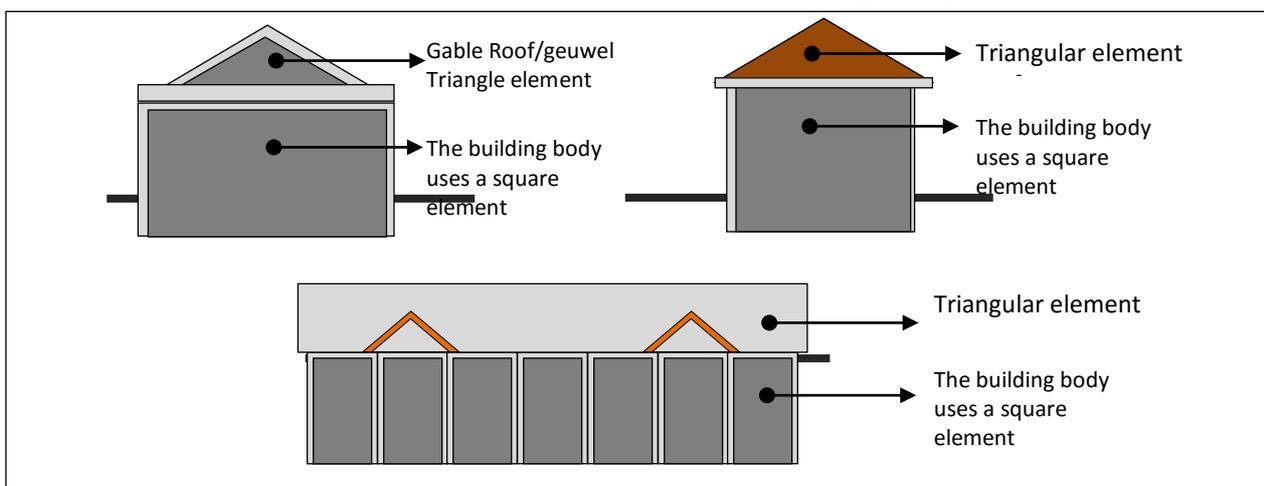


Figure 10. The use of triangle shape on the roof as unifying element for building facades.

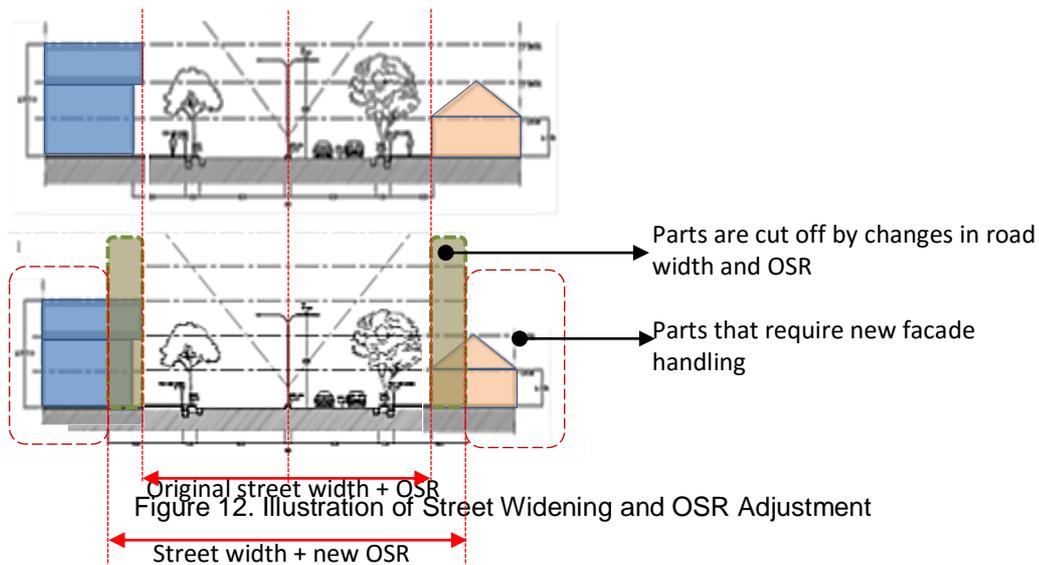
With the development of vertical forms as follows :



b. The change in the function of the road to a primary artery causes the width of the road to increase by three meters on each side of the corridor. The trade OSR becomes 8-15 meters, while for housing it is 3-6 meters [2]. This causes the building to be cut to adjust to the new RTBL. Adjustments to road widening and OSR adjustments according to building functions is directed by the following guidelines :

- 1) If it is completely trimmed, then the owner will get compensation according to the agreement of both parties.
- 2) If a small part is cut (only the facade/ the front part of the building), the owner gets compensation to return the facade according to the recommended façade.
- 3) If most of the cuts will eliminate the main structure, and if the building cannot be maintained, the owner will be subject to full replacement. If the main structure can

still be maintained, then the building will be renovated or restored to be the original size with reduced area.



c. Number of Floors and Building Spacing

Three-dimensional shapes and aesthetics consist of horizontal and vertical positions. After the building style elements, as well as the horizontal elements have been tidied up so that there is unity, the three-dimensional forming elements of the observer or road user perception are carried out vertically by giving a line that visually links the same height from one floor to the other. This can be done by :

- 1) When building a new height between floors is in accordance with the unifying direction of the visual aesthetic facade of the building.
- 2) For old buildings that have already had a certain building height, it is expected to provide a unifying horizontal elements in the form of lisplang or markers or the

building signage as high and in accordance with the unifying direction of the visual aesthetic of the building.

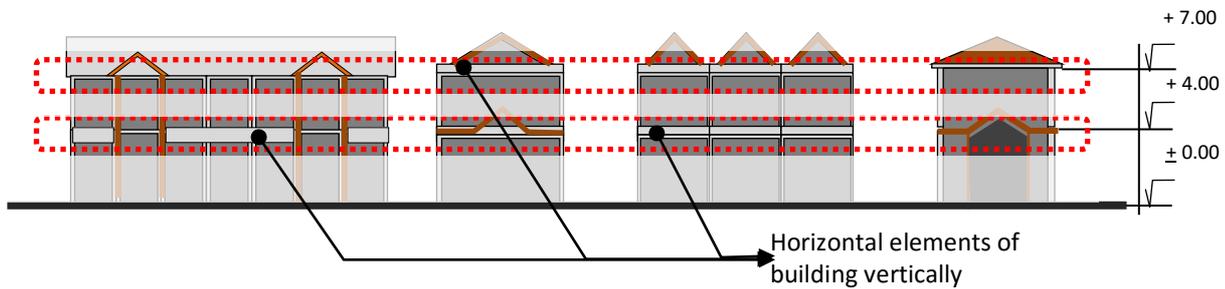


Figure 13. Illustration of Spacing between Floors

CONCLUSION

Kartini Street corridor in Gresik City is a corridor in the city center that has a role in providing certainty about the image of the city. By providing harmonization of the building facade which is one of the elements forming the image of the city, it is expected that the Image of Gresik City can be improved. By adjusting the design elements of the building style, uniting the building borders and providing unifying horizontal elements for vertical buildings, building facades along the Kartini street corridor can be comfortably and pleasantly noticed and observed by observers and road users in this corridor. However, any changes will have a physical and psychological impacts on the users. For this reason, good regulations are needed to accommodate the interests of both parties.

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