

SPATIAL SEGREGATION AND FACADE MAINTENANCE ALONG THE MUSI RIVER CORRIDOR ON DEPATEN BARU STREET

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Received: March 2026; Accepted: May 2026; Published: June 2026

ABSTRACT

Riverfront areas in many cities in Indonesia have been developing based on water transportation activities that shape urban spatial patterns and activities. The development of land transportation modes has shifted the role of rivers as the main transportation routes of cities, causing riverfront areas such as Depaten Baru street to experience a decline in activity and building facade maintenance. This study aims to analyze how changes in urban spatial configuration due to the shift from water transportation to land transportation influence the level of spatial segregation and building facade maintenance along Depaten Baru street in Palembang. This study employed a descriptive quantitative approach using space syntax through DepthMapX analysis. Spatial configuration was examined using the 1945 and 2025 maps of Palembang City, while facade maintenance conditions were identified through field observation of 62 buildings along Depaten Baru street. The results indicate that integration and visibility values decreased, while Relative Asymmetry (RRA) increased, showing a higher level of spatial segregation within the corridor. Although most building facades remain in adequate condition, many exhibit physical deterioration such as faded paint, mold growth and weathering. These findings indicate that changes in spatial configuration affect activity intensity and indirectly influence building facade maintenance condition.

Keywords: *facade; maintenance; riverfront; space syntax; street corridor*

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INTRODUCTION

Cities are dynamic areas that continue to change in line with socio-cultural, economic, and political developments in society (Pahutar et al., 2021). These changes are also influenced by internal factors such as geographical location, topography, history, and culture (Branch, 1995). Indonesia's strategic position on historical trade routes gave rise to many port cities such as Palembang, Surabaya, and several other major cities that served as administrative and commercial centers during the colonial period (Ingleson, 2004). In this context, waterways (rivers and ports) were once the backbone of goods distribution and population mobility, thus forming waterfront settlement patterns and distinctive building typologies (Anwari, 2017; Sevenhoven, 1971). Therefore, the existence of waterways not only served as a means of transportation and trade, but also played an important role in shaping the urban spatial structure, settlement patterns, and architectural character that were developed in riverside areas.

These various cases demonstrate that the regeneration of waterfront areas is not merely a matter of land reclamation or economic development. Rather this process constitutes a comprehensive urban transformation that encompasses the redesign of public spaces, ecosystem restoration and the alignment of governance models (Chen et al., 2026). Generally, limited land on the coast encourages settlements to develop towards the water. The phenomenon in Palembang actually shows the opposite direction; Houses on the water are decreasing, being pulled ashore to become houses on stilts, or being demolished. This typology indicates that riverbanks are now more desirable, even though access to rivers has become more difficult. This growth is most clearly visible from changes in the physical elements of the building (shell), which reflect shifts in the relationship between society, activities and the balance of its environment (Wicaksono et al., 2022).

As the population grew, settlements developed, and land transportation advanced, the role of waterways as the city's main means of transportation declined. The colonial government and infrastructure development then prioritized land routes for distribution efficiency, resulting in the rapid development of road networks that replaced the transportation function of rivers in many cities (Farida, 2019). As a result of this shift in modes of transportation, the urban spatial structure, activity patterns, and the quality of accessibility and visibility of road sections have undergone significant changes; several areas that were once central are now experiencing a deterioration in the maintenance of building facades along roads that were once bustling with water activities.

To examine the impact of changes in transportation modes on urban structure, this study focuses its analysis on the variables of connectivity, integration, and visibility, which are important indicators in understanding urban space functions (Black, 1981; Yudhanta, 2018). Space syntax method using DepthMapX software was selected as the analytical tool due to its ability to quantitatively calculate and visualize the levels of connectivity, visibility and integration of road network. Previous studies on waterfront areas have generally focused on urban transformation, changes in transportation and the physical deterioration of riverfront environments, while other studies have utilized the Space Syntax method to analyze spatial configuration to understand movement patterns and accessibility in urban areas. However, limited studies have specifically examined the relationship

between spatial segregation and the condition of building facade maintenance in riverfront corridors affected by shifts in transportation systems. Therefore, this study attempts to fill this gap by analyzing the relationship between changes in spatial configuration and facade maintenance conditions along the Musi River corridor on Depaten Baru Street. The novelty of this study lies in its attempt to connect space syntax analysis with facade maintenance conditions in a historical riverfront corridor that still partially functions as a water transportation route.

Palembang is one of the major cities in the Dutch East Indies that serves as a port city (Adi, 2019). It is located on both sides of the Musi River, which divides the city and has many tributaries that are important routes for community activities (Irwanto & Santun, 2011). The situation in Palembang is different because the Musi River is still used as a water transportation route, unlike the Kalimas River in Surabaya, which is no longer used for transportation. By comparing city maps from two different periods, the 1945 map representing the conditions when waterways were the primary transportation routes and the 2025 map representing the conditions when land routes have become the dominant transportation mode. The shift from river-based to land-based transportation in historical cities often triggers structural changes in urban morphology. The space syntax approach has been widely adopted in urban contexts in Indonesia as a systematic tool for analyzing the temporal evolution of spatial configuration. The effectiveness of this method is demonstrated by (Tutuko et al., 2021) who calculated the depth and connectivity ratios of historic colonial city, where the study's findings revealed a strong influence of spatial planning on long term spatial sustainability. Despite their focus on the macro scale of structured colonial centers, space syntax is also capable of unraveling the structure of organically growing environments. The research of (Kustianingrum & Haerdy, 2023) demonstrates the use of axial map analysis to evaluate spatial integration in informal settlements, showing that the provision of spontaneous infrastructure helps control local integration patterns as well as the direction of future urban growth. Despite the growing body of literature linking space syntax to urban sustainability (Tutuko et al., 2021) and the growth of informal areas (Kustianingrum & Haerdy, 2023), the interaction between changes in macro spatial integration and micro level physical degradation remains overlook. It remains unclear how these spatial dynamics affect the maintenance of building facades along historic waterfront corridor experiencing a decline in quality.

This study aims to analyze how changes in urban spatial configuration due to the shift from water transportation to land transportation influence the level of spatial segregation and building facade maintenance along Depaten Baru street in Palembang. Depaten Baru street located near the waterway which is Musi River. The results indicate that integration and visibility values decreased, while Relative Asymmetry (RRA) increased, showing a higher level of spatial segregation within the corridor. Although most building facades remain in adequate condition, many exhibit physical deterioration such as faded paint, mold growth and weathering. These findings indicate that changes in spatial configuration affect activity intensity and indirectly influence building facade maintenance condition.

METHODS

This study employed a descriptive quantitative approach using space syntax through DepthMapX analysis. Descriptive quantitative is an approach that answers research hypotheses through numerical data and exact sciences (Waruwu, 2023). This study focuses on examining the impact of the shifts in the main transportation route from waterway to land transportation route on spatial configuration and building facades maintenance conditions in Depaten Baru street. The research focuses on the riverfront corridor of Depaten Baru street which strategically sits in the basin of Musi River as shown in figure 1. Depaten Baru street is part of the old town area which has historical links to the development of waterway transportation route.

To develop a structured research framework, the methodology used in this study is divided into two sequential stages: spatial configuration analysis using Space Syntax through DepthMapX and assessment of maintenance building facade.



Figure 1. (a) The City Maps of Palembang from 1945 and (b) The City Maps and Location of Depaten Baru Street on the 2025 Map of Palembang City
(Source: Author, 2026)

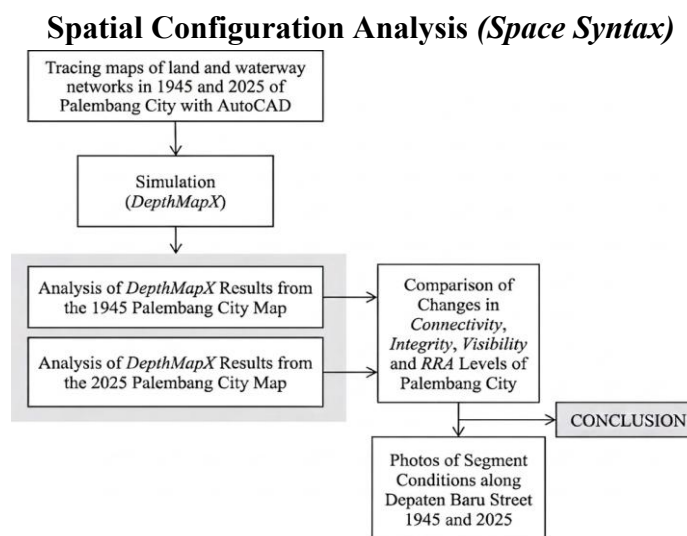


Figure 2. Analysis Process
(Source: Author, 2026)

The spatial configuration analysis was conducted using the space syntax method with the DepthMapX software. A schematic of the analysis process is shown in Figure 2. The analysis steps included:

1. The maps of Palembang City from 1945 and 2025 were collected through literature studies and institutional archives, then redrawn and digitized using AutoCAD to create an axial map and VGA.
2. Importing road network map data in dxf format into DepthMapX software to run spatial simulation for calculating the levels of connectivity, integration, visibility and RRA.
3. Tabulating the DepthMapX simulation results (connectivity, integration, visibility and RRA) of Depaten Baru street.

Building Facade Maintenance Assessment

Building facade observations were conducted through direct field surveys along both sides of Depaten Baru Street. A total of 62 sampled buildings were distributed into two major segments: the Southeast side (comprising segment A to V) and the Northwest side (comprising segment 1 to 19). The classification of facade maintenance conditions used in this study is presented in Table 1. The assessment framework was adapted from (Mutia, 2017) and modified to suit the characteristics of the study area. The classification framework was used to determine the maintenance level of each building facade observed along Depaten Baru Street. The results of facade observations and space syntax analysis were then interpreted comparatively to examine the relationship between spatial segregation and the condition of building facade maintenance within the riverfront corridor area.

Table 1. Facade Assessment Classification

Category	Poor	Fair	Adequate	Excellent
The Building Originality	0-24%	25-49%	50-74%	75-100%
The Building Materials	The condition of several building elements has deteriorated, as some components are damaged, missing or severely deteriorated	The Material assessment of the architectural structure reveals that several original components have been replaced, leading to less unified appearance	Some structural materials have undergone replacement, Their condition remains good and they continue to integrate harmoniously with existing elements	The materials of the structure are well preserved.
Condition of the building facade	Observation shows that the wall paint has lost its original color and brightness, mould growth while the frame exhibit signs of material deterioration	Wall paint is peeling, dull, and filled with mold	The paint color show signs of fading and reduce vibrancy but remains in a stable and overall good condition.	The facade paint remains fresh, with no visible fading, indicating that the surface is well maintained.

(Source: Mutia, 2017)

RESULT AND DISCUSSION

The analysis was conducted on road network maps from different years to determine the patterns of change that occurred as a result of Palembang City's shift from waterways to land routes as its main transportation routes. The 1945 map represents the condition of Palembang City when waterways and land routes were used as the main transportation routes. The 2025 map represents the condition of Palembang City where land routes have become the main transportation routes of Palembang City, but the water route, namely the Musi River, is still used as a transportation route.

Image 3(a) is an axial image of the connectivity level of the road network in Palembang City in 1945 and 2025. Axial Image 3(a) shows a dominance of dark blue in both 1945 and 2025, with no apparent change in color category. Image 3(b) shows a change in the color category for the level of integration, which was dominated by red and yellow in 1945, while the 2025 map is dominated by dark blue and light blue. Image 3(c) shows that there is no change in the visibility level when viewed based on color categories because both are dominated by dark blue. Based on Image 3, the integration level shows a significant decrease compared to connectivity and visibility. The following is a table detailing the color classification, connectivity level, integration, visibility, and RRA measurements of Depaten Baru Street in both 1945 and 2025.

Based on the analysis results in Table 2, the connectivity value in the Depaten Baru Street corridor shows the same figure between 1945 and 2025, which is 4 with a light blue color category. This indicates that the level of direct road connectivity with other road sections has remained relatively unchanged. The results of the data analysis show

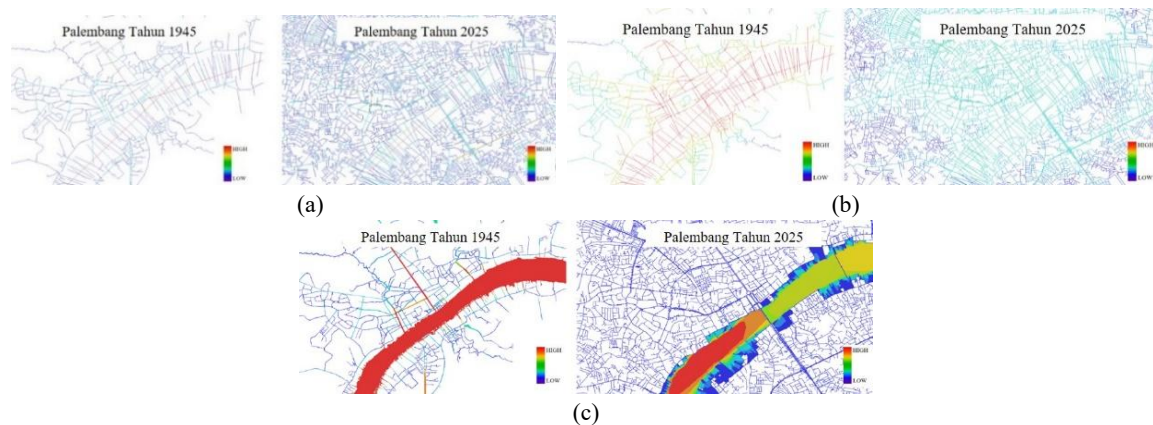


Figure 3. Levels of (a) Connectivity, (b) Integration and (c) Visibility of Palembang City in 1945 and 2025 based on DepthMapX Simulation Results
(Source: Author, 2026)

Table 2. Connectivity, Integration, Visibility and RRA Values on Depaten Baru Street

Variable	1945		2025		Level of Transformation
	Color	Rate	Color	Rate	
Connectivity	Light Blue	4	Light Blue	4	No Significant Change
Integration	Red	1.17	Light Blue	0.59	Gradual Decrease
Visibility	Deep Blue	346	Deep Blue	47	Marginal Decrease
RRA	-	0.85	-	1.66	Increasing Trend

(Source: Author, 2026)

a significant decline in the integration value, from 1.17 in 1945 to 0.59 in 2025. This decline indicates that within the city's road network structure, Depaten baru street is no longer as well-integrated as it once was. A drastic decline also occurred in the visibility value, which dropped from 346 in 1945 to 47 in 2025. This change doesn't result in a noticeable contrast in color on the analysis map. The RRA value, increased from 0.85 to 1.66, indicating a strengthening of the degree of spatial segregation within that road network system.

Segregation is a condition where a space or corridor becomes isolated due to low connectivity and integration with the surrounding network (Hillier et al., 1993). This pattern limits accessibility, visual connectivity, and the potential for movement within that space compared to other, more established urban areas. Based on this definition of segregation, Depaten Baru street has clearly shifted from its position as the center of Palembang's movement in 1945 to a marginal area with increasingly sparse level of resident activity. This low integration level reflects the corridor's diminished accessibility within the city's circulation network. Hillier's theory of natural movement explains that areas with low integration tend to trigger a decline in traffic flow and weaken economic activity centers. This decline in economic vitality affects property owners' ability to maintain building facades along the street. Thus, the increase in the RRA value underscores that Jalan Depaten Baru is increasingly being marginalized from the modern urban fabric of Palembang due to the structural impact of the shift from water-based to land-based transportation.

The spatial location of the building façade analysis on Jalan Depaten Baru is shown on key plan in Figure 4. This key plan serves to identify the study area and group the building segments under observation along Depaten Baru street corridor. As a basis for evaluation, the following table presents the results of an in-depth analysis of the condition of the facades along the Jalan Depaten Baru street corridor.

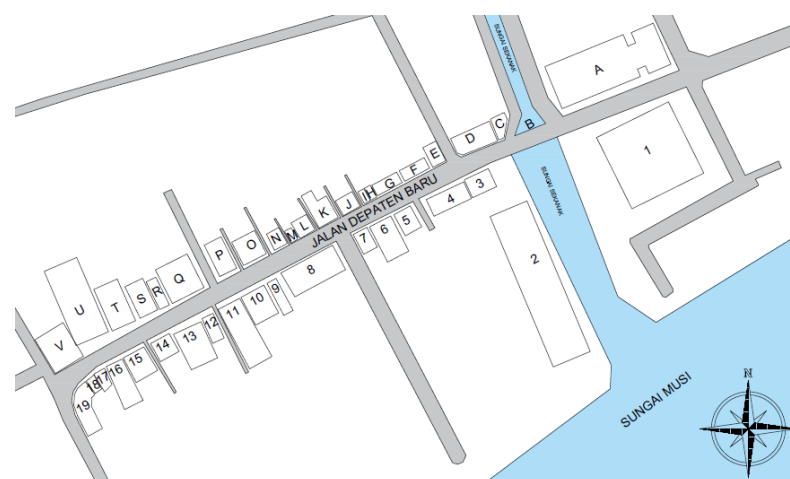





























Figure 4. Keyplan Facade Layout for Analysis The Building Facade on Depaten Baru Street.
(Source: Author, 2026)

Table 3. Facade on the Southeast Side of Depaten Baru Street

No.	Building Facade Image	Building Originality (%)	The Building Materials	Condition of The Building Facade	Category
A		70%	The window and door elements remain in good working condition.	The exterior paint on the building looks relatively new. There is a small amount of mold and moss growing on it. The exterior of the building is in good condition.	Adequate
B		65%	Structure remains stable and functional.	The surface coating has started to look dull, and there are signs of mold on it.	Adequate
C		48%	The roof canopy shows a noticeable tilt, and the banner installation appears poorly arranged.	The surface coating has become dull, and signs of mold are visible on the wall surfaces.	Fair
D-1		65%	The facade is partially covered by banners. Doors and windows remain intact and properly maintained. The building remains in commercial use.	Paint layers peeling off are visible on several elements and walls, along with moss growth on parts of the wall surface.	Adequate
D-2		45%	Both the windows and doors are in good condition and function properly.	Fading and mold growth are visible, particularly around the balcony canopy area.	Fair
D-3		48%	Most elements are still in acceptable condition and the windows are still functioning properly.	The surface coating finish has become dull and signs of mold are visible on the wall surfaces.	Fair
D-4		60%	The structural framework of the building continues to appear strong and stable. The building elements in good condition remain fairly well preserved.	The surface coating looks loss of brightness with mold growth visible in several areas.	Adequate
D-5		70%	The building structure remains stable and reliable, while most building elements are still in adequate condition and function properly.	The coating surface appears to be well maintained overall, despite minor signs of mold growth on certain parts of the facade.	Adequate
E		70%	The structure is still stable and well maintained. Door and window elements function properly, and the building is still actively used for commercial purposes.	The painted surface appears slightly faded in several areas.	Adequate
F-1		70%	The structure continues to be solid and well maintained. The window and door elements function properly, while the building remains in active commercial use.	The paint condition is generally acceptable, although minor mold growth is visible in several areas.	Adequate
F-2		74%	The windows and doors remain in good condition and continue to operate properly.	Mold growth is visible on the facade area above the windows, while the paint condition in other sections remains fairly well maintained.	Adequate

No.	Building Facade Image	Building Originality (%)	The Building Materials	Condition of The Building Facade	Category
G		73%	The doors and windows are still in good condition and well maintained. The building continues to be used for commercial purposes.	The paint condition is generally acceptable, although several areas appear slightly faded.	Adequate
H		45%	Door and window elements remain functional and well maintained, the building structure continues to appear strong and reliable.	The facade exhibits signs of weathering, including faded paint and minor mold growth.	Fair
I		45%	Most building elements remain in fairly good condition, and the window continue to function properly.	The facade appears less vibrant, with mold growth and dark stains visible in several areas.	Fair
J-1		98%	The wooden doors and windows remain completely installed. The building is still used for business activities.	The facade appears well maintained, with no visible signs of mold or fading.	Excellent
J-2		45%	The doors and windows appear symmetrical.	The walls shows signs of damage, mold growth, faded paint, peeling finish in some areas, and moss in certain spots.	Fair
J-3		35%	Several window components are damaged or no longer in place. The building remains stable.	The facade is heavily deteriorated, with extensive peeling and noticeable mold growth.	Fair
J-4		35%	The windows and doors still appear original, but are less well maintained.	Several parts of the facade show fading and peeling paint, along with visible mold in certain spots.	Fair
J-5		85%	Window and opening elements are still well arranged and functional with the facade appearing relatively symmetrical.	The facade appears to be in good condition, although some areas show signs of poor maintenance.	Excellent
K		45%	The facade is partly obscured by banners, while the windows and doors remain in their original form but show signs of reduced maintenance.	The facade appears less bright, with visible mold growth and several areas of paint peeling.	Fair
L		65%	The decorative elements remain intact and in their original form. Both the windows and doors remain in good working condition.	The facade appears faded and slightly dull, while rust stains are visible on the ceramic tiles due to nearby iron elements.	Adequate
M		65%	The facade details remain well preserved. Windows and doors are still in good condition.	The facade appears less bright, with rust stains from iron elements visible on the ceramic surfaces.	Adequate
N-1		40%	Windows and doors remain well maintained and in good condition.	Rust originating from the iron grilles has left marks on the ceramic surface, giving the facade a less clean appearance.	Fair




No.	Building Facade Image	Building Originality (%)	The Building Materials	Condition of The Building Facade	Category
N-2		45%	The roof is in a less satisfactory condition. The openings and windows are arranged symmetrically.	The wooden elements look somewhat faded and exhibit indications of mold growth.	Fair
N-3		65%	The doors and windows are still intact, and the majority of structural elements remain complete and properly positioned.	Mold is visible on the upper rear wall, whereas the front facade's painted surface remains in good condition and well maintained.	Adequate
O		45%	The roof covering has been replaced, so it is no longer original, while the doors and windows are still in complete condition.	The side walls appear dull and are covered with visible mold.	Fair
P-1		60%	Windows and openings remain neat and functional, while the facade maintains a fairly symmetrical appearance.	In some parts, the paint has worn away, exposing the wall layer beneath.	Adequate
P-2		60%	The doors and windows are still intact and fully preserved.	The facade finish has worn off, exposing the original wall color underneath.	Adequate
P-3		90%	The building looks new, all building elements function properly with complete doors and windows.	The facade is still in a bright and well-maintained condition with no signs of fading or dullness visible.	Excellent
Q-1		90%	The openings appear contemporary and operate properly with balanced proportions that look harmonious.	The facade is still in good condition and shows no evidence of color fading.	Excellent
Q-2		85%	Ornamental details and doors remain well preserved and in good condition.	The exterior appears tidy with only slight fading in the paint.	Excellent
Q-3		70%	The building's doors and windows remain intact and show no signs of damage.	The facade finish appears duller, with visible mold developing in several areas.	Adequate
Q-4		60%	Windows and openings remain functional while the facade appears fairly symmetrical.	The facade coating looks worn and less bright, with some section starting to peel. Small patches of mold are also visible on the surface.	Adequate
R		45%	The doors and windows are still intact. The roof and facade walls are still in perfect condition. Banners have been hung along the building's facade and cover part of its surface.	The facade looks duller, with multiple areas showing signs of mold growth.	Poor
S		65%	The building components still appear to be in their original condition. The doors and windows are still intact and fully preserved.	The facade color appears to be fading and becoming less vibrant, yet the overall condition remains relatively well maintained.	Adequate

No.	Building Façade Image	Building Originality (%)	The Building Materials	Condition of The Building Façade	Category
T		40%	The windows and doors remain intact and operational, although the building components are starting to show signs of deterioration.	The facade finish appears faded and partly peeling with the walls looking unclean and showing clear signs of mold growth.	Poor
U		20%	A large portion of the building has deteriorated, with some doors and windows damaged and many structural elements missing and incomplete. The building is currently unused.	The roofing exhibits rusting, while the wall paint is starting to flake off.	Poor
V		20%	The doors and windows are incomplete. The wooden components appear rotten, and the roofing materials look disorganized and poorly maintained.	The roof is rusted and the paint on the wall is peeling.	Poor



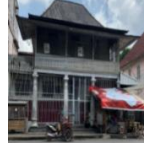


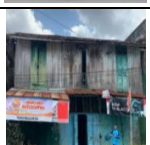





(Source: Author, 2026)

Table 3 presents an analysis of the findings from a visual assessment of 38 building facades located on the southeast side of the Jalan Depaten Baru corridor. The results of the facade quality analysis indicate that the physical condition of the buildings is predominantly in the adequate category, with 17 facades, followed by 12 facades in fair condition, while the remaining buildings fall into 5 facades of the excellent category and 4 facades of the poor category. Physical deterioration observed on lower rated buildings is primarily characterized by surface defects, including dull or peeling paint, extensive mold and mildew growth on exposed wall surfaces, and structural decay on doors and windows. In contrast, facades categorized as excellent still retain a high degree of architectural integrity with well-maintained building materials and clean surfaces.

Table 4. Façade on the Northwest Side of Depaten Baru Street

No.	Building Façade Image	The Building Originality (%)	The Building Materials	Condition of The Building Façade	Category
1		74%	The doors and windows remain in a sturdy condition, however part of the roof has deteriorated.	The facade coating looks less bright, with several areas showing mold, dirt build up, overgrown vegetation and signs of decay.	Adequate
2		73%	The doors and windows remain in good condition, although parts of the ceiling have partially fallen in.	The facade finish looks aged, with visible discoloration and dirt accumulation in multiple areas.	Adequate
3-1		82%	The building is still in a relatively new condition, with strong doors and windows, while the front section is being used for commercial purposes.	The facade finish looks faded and aged in certain parts, with various stains and dirt patches, including area affected by mold growth.	Excellent

No.	Building Façade Image	The Building Originality (%)	The Building Materials	Condition of The Building Façade	Category
3-2		82%	The facade components are well organized, while the windows and doors are still in strong condition.	In several areas, the paint appears faded and less vibrant with visible stains and signs of mold growth.	Excellent
4-1		83%	The facade elements are neatly arranged, and the windows and doors remain structurally sound.	In certain areas, the paint has become faded and less vibrant, showing various stains and signs of mold growth.	Excellent
4-2		85%	The windows and doors remain solid and well maintained.	The facade finish appears dull and worn, with peeling sections in some areas, as well as visible stains and mold development.	Excellent
4-3		80%	The facade components are well organized, while the windows and doors are still in solid structural condition.	The facade finish appears dull and worn in multiple areas, with visible stains and indications of mold growth.	Excellent
5		15%	The roof has been entirely lost due to heavy damage, while the windows and doors are still intact however the building is currently unoccupied.	The facade finish appears dull in certain parts with visible dirt build up and indications of mold growth.	Poor
6		63%	The structure still appears generally stable, although some window frames show slight rot and the roof is sagging and nearly collapsing.	The facade coating is less bright in some areas, with several dirty spots some of which show signs of mold.	Adequate
7-1		95%	The building appears to be in a new, solid, and clean condition with windows and doors remaining sturdy and undamaged.	The facade wall are finished with ceramic material.	Excellent
7-2		73%	The structure appears generally strong, although parts at the front show signs of rust and material corrosion.	The facade finish appears dull in various sections, with several dirty patches including areas affected by mold growth.	Adequate
8-1		23%	A portion of the roof is damaged and some ceiling sections are severely deteriorated and near collapse. The building is no longer occupied, while the front area is being used for informal vending (tent stalls).	The facade finish appears dull in multiple areas with various stains and mold growth, while some wooden wall section are deteriorating and affected by rot.	Poor
8-2		23%	Several sections of the roof have been replaced with new materials, while other parts are still damaged.	The facade coating is less bright and the wooden walls are rotten and affected.	Poor

No.	Building Façade Image	The Building Originality (%)	The Building Materials	Condition of The Building Façade	Category
9		23%	The doors and windows are still in good condition, although some window frames need repair or maintenance.	The facade finish appears dull and the wooden wall surfaces show signs of rot and deterioration.	Poor
10		72%	The facades, windows and doors maintain their original design and appear well balanced and harmonious.	The paint appears unclean, with several areas peeling and flaking.	Adequate
11		88%	The condition is sturdy and strong with the doors and windows in good condition and unaffected.	The facade coating is less bright in several areas, with unclean spots, some of which show signs of mold on the front fence and roof.	Excellent
12		80%	The windows and doors remain intact and in good condition without any damage.	The exterior appears tidy with only slight paint fading in some area.	Excellent
13		20%	The opening for doors and windows are still present and functional. Several parts of the roof have been replaced and different from the original.	Paint is peeling and the surface appears dirty and poorly maintained.	Poor
14		24%	The door and window openings remain in place, although parts of the roof have been replaced using different materials from the original.	The paint looks aged and worn, and most of the wooden wall sections are nearing a state of decay.	Poor
15		83%	The doors and windows remain well preserved and show no visible signs of damage.	There are also some dirty spots and small areas affected by mold on the surface.	Excellent
16		95%	The facade components are well organized and arranged in a tidy manner.	The surface appears clean and even finished with fresh paint.	Excellent
17		72%	One window is not fully intact due to missing parts and some sections of the roof have been replaced using alternative materials.	Paint appears faded and slightly affected by mold growth.	Adequate
18		72%	The doors and windows remain in good condition, although parts of the roof have been replaced with non-original materials.	The paint looks worn and somewhat faded with slight signs of mold growth.	Adequate
19		73%	The doors and windows are still well maintained and appear free from any visible damage.	The lower sections of the wall show faded and dull paint, with peeling spots noticeable in several areas.	Adequate

(Source: Author, 2026)

Table 5. Percentage Distribution of Facades By Maintenance Level on Depaten Baru Street

Segmen	Excellent	Adequate	Fair	Poor	Number Facades of Segment
A – V	5	17	12	4	38
1 – 19	10	8	-	6	24
Total	15	25	12	10	62

(Source: Author, 2026)

Table 4 presents the results of a visual assessment of 24 building facades located on the northwest side of the Jalan Depaten Baru corridor. Analysis of facade quality reveals varying building conditions along this segment, with 10 facades in very good condition, 8 in fair condition, and 6 classified as poor. Buildings in excellent and adequate categories are currently still actively used as residential spaces or for commercial activities. This indicates that any building still in active use will be evident from the well-maintained quality of its facade. Buildings in the poor category exhibit a significant decline in facade quality, typically evident in severely faded paint, structurally damaged elements, and prolonged vacancy. These physical differences illustrate how the contemporary use of buildings and their functional sustainability shape the visual character and physical maintenance along this specific street corridor.

Based on the results of the physical condition identification of the buildings, Table 5 and figure 5 shows the level of maintenance of the building facades along the Depaten Baru street corridor based on maintenance categories. The adequate façade category dominates with 24 buildings or around 40% of the total sample observed. This indicates that most of the buildings on Depaten Baru street are still actively used. The facades of buildings along Depaten Baru Street are generally in adequate level. This condition is influenced by the presence of The Musi River, which is still used as a water transportation route in the city of Palembang. The ongoing activity along the riverbank means that this corridor continues to be used by the community.

The variation in the façade maintenance condition along Depaten Baru Street indicates that the physical quality of buildings is closely related to the continuity of urban activities within the corridor. Buildings that remain actively used for commercial or residential purposes generally show better maintenance conditions compared to abandoned or partially unused buildings. In the context of space syntax theory, declining spatial integration may reduce movement intensity and economic activities within urban corridors. Lower activity intensity may eventually weaken the motivation and financial capacity for maintaining building facades. Therefore, spatial segregation does not only affect accessibility but may also indirectly influence the visual quality and physical maintenance of urban environments.

This finding differs from previous studies conducted along the Kalimas River corridor in Surabaya, where many building facades were found in poorly maintained conditions due to the disappearance of river transportation activities and declining urban functions (Agustianti & Dharmatanna, 2025; Tjia et al., 2025). In contrast, the Musi River in Palembang still functions as an active transportation corridor and tourism route. River-based activities along the waterfront continue to support social and economic activities within the area, which helps maintain the utilization of buildings and prevents severe facade

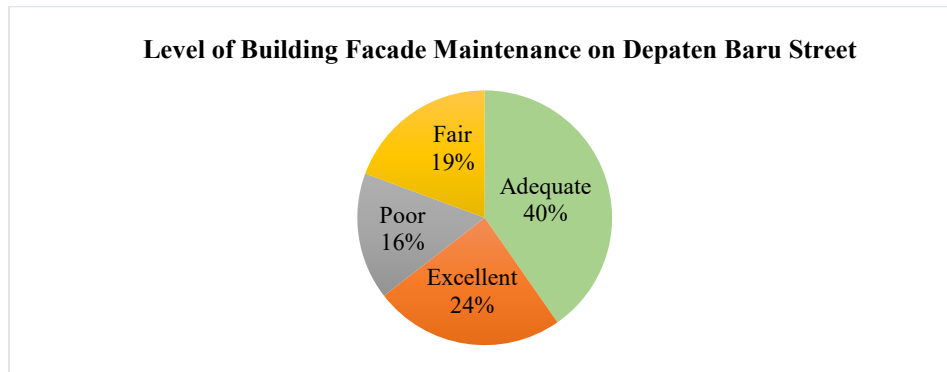


Figure 5. Level of Building Facade Maintenance on Depaten Baru Street
(Source: Author, 2026)

deterioration. These findings suggest that the relationship between spatial segregation and facade maintenance conditions is influenced not only by spatial accessibility but also by the continuity of functional activities within waterfront areas. The persistence of river transportation activities in the Musi River corridor appears to reduce the negative impact of spatial segregation on the condition of building facades. This study contributes to waterfront conservation studies by demonstrating that active waterfront functions may help maintain facade conditions despite increasing spatial segregation within the urban network. The findings also highlight the importance of sustaining river-based activities as part of conservation and revitalization strategies for historical riverfront corridors.

CONCLUSION

This study shows that the conversion of Palembang's transportation system from waterways to a land-based network has increased the degree of spatial segregation of Jalan Depaten Baru within the urban structure. Through space syntax calculations, the decline in integration and visibility parameters, as well as the increase in Relative Asymmetry (RRA) values, provide empirical evidence that this corridor is becoming increasingly isolated from the macro-configuration of Palembang City. This spatial phenomenon reflects a shift in the orientation of public activities away from water-based transportation systems toward land-based networks. The impact of this deepening spatial segregation tends to limit the volume of circulation and the concentration of urban activities, a condition that has the potential to trigger a decline in the quality of building facades. Along Jalan Depaten Baru, visual degradation in the form of fading paint, mold growth, structural decay, and damage to architectural elements has indeed begun to appear on some buildings. In fact, the majority of buildings in this corridor are still maintained adequately because their domestic (residential) and commercial functions continue to operate. This relationship demonstrates that the sustainability of spatial functions plays a key role in the management of building facade maintenance.

The Musi River's enduring role as a public transportation route and active waterfront corridor serves as a catalyst that sustains the area's socioeconomic vitality, thereby preventing extreme physical deterioration of buildings. This finding presents a new perspective that differs from previous literature, in which the decline of river transportation

functions is generally directly correlated with severe façade deterioration. Therefore, this study emphasizes the importance of preserving functional waterfront activities in maintaining the visual aesthetics of historic corridors. The practical contribution of this research enriches the discourse on urban design and waterfront conservation by demonstrating that dynamic riverfront functions can mitigate the negative impacts of spatial segregation on the physical resilience of buildings.

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