



# THE NEW LIFE IN OLD TOWN SURABAYA

Preserving the Urban Heritage through Space Revitalization



## **ABSTRACT**

Old Town Surabaya is deteriorating due to the decentralization policy in 1920, where it had shifted the center of Surabaya from Old Town. Thus the economic activities in areas were declining and it triggered peoples to move out from Old Town. In addition, the Industrial Zone Allotment Policy in mid of 70's had limited the industry expansion in area. Therefore Old Town has lost its attraction as a place for living. Moreover, this area has a very limited space for further development. On the other hand, Old town has a great historic value and as an identity for Surabaya that need to be preserved.

The aim of this graduation project is to study about what strategic program can be implemented in the Old Town Surabaya in order to preserve the historic value in term of its social economic life and built environment from deterioration. At the same time this should accommodate the future needs of the city of Surabaya, as well to create a better living condition and improve the living quality of Old Town Surabaya.



**AIM OF PROJECT**

To study about what strategic program can be implemented in the Old Town Surabaya in order to preserve the historic value in term of its social economic life and built environment from deterioration process. At the same time this should improve the living condition of the Old Town Surabaya.

**MOTIVATION**

Urban regeneration in the inner-city area and transformation strategy are a fascinate topics for me for the reason that these topics require more consideration of the urban context. Furthermore, the worldwide sustainability movement has created the new developments in a more compact way, which will more suitable to do an urban regeneration projects inside the cities in order to response the urbanization process.

**STUDIO AND FIELD OF STUDY**

Complex Cities' mission is to offer the best education and research in higher education in themes related to urban planning and design in a world that has become increasingly complex. This approach is suitable for my graduation project which handling the deterioration of Old Town Surabaya due to rapid urbanization process. The chair of spatial planning strategy have scope of study in which I need to deal with the project: planning strategy in the regional scale and later on narrowing down into the district design.

***The New Life of Old Town Surabaya***  
*Preserving the Urban Heritage through Space Revitalization*  
*Thesis Report*  
**Hangga Swandaru Hadi**  
**4051092**  
*H.S.Hadi@student.tudelft.nl*  
*hanggahadi@gmail.com*

*mentor team:*  
*Akkelies van Nes Dr. A. van*  
*Willem Hermans, Ir. W.J.A*

*Complex Cities Studio*  
*Department of Urbanism*  
*TU Delft*  
*24 June 2011*

*Front Cover:*  
*Warehouse area along Kalimas at Old Town Surabaya (2010)*





	1.01	Project Location	7
	1.02	Surabaya: Overview	7
<b>CHAPTER 1 - CITY OF SURABAYA</b>	1.03	Surabaya Historical Development	8
	1.04	Surabaya Current Condition	10
	1.05	Surabaya in Future Development	16
	1.06	Old Town Surabaya within City Context	18
	2.01	Problem Statements	21
	2.02	Research Question	21
<b>CHAPTER 2 - PROJECT FRAMEWORK</b>	2.03	Theory	22
	2.04	Methodology	26
	2.05	Scope of Research and Design	28
	2.06	Project Time Tables	29
	3.01	Old Town Boundary	31
	3.02	Accessibility	32
	3.03	Land Use	33
	3.04	Old Town Profiles	34
	3.05	Economic Forces Movement	36
<b>CHAPTER 3 - OLD TOWN SURABAYA: ANALYSIS</b>	3.06	Road Network	37
	3.07	Public Transportation	38
	3.08	Public Space	39
	3.09	Building Height	40
	3.10	District Characteristic	41
	3.11	Road Section	46
	3.12	Future Government Plan	52
	3.13	Space Syntax Analysis	55
	3.14	Summary	57
	4.01	Strategy	59
<b>CHAPTER 4 - STRATEGY</b>	4.02	Design Framework	61
	5.01	Project Location	67
	5.02	Project Location 1: The Heart of Old Town	68
<b>CHAPTER 5 - DESIGN</b>	5.03	Project Location 2: Kalimas Waterfront	77
	5.04	Project Location 3: Colonial Avenue	80
	5.05	Project Location 4: Chinatown Avenue	83
	5.06	Project Implementation	86
	6.01	Design Evaluation	89
<b>CHAPTER 6 - DESIGN EVALUATION</b>	6.02	Space Syntax Analysis	91
	7.01	Acknowledgement	93
<b>CHAPTER 7 - BIBLIOGRAPHY</b>	7.02	Bibliography	93



*p.*  
6 **chapter 1 - CITY OF SURABAYA**



A Dense Housing Area in Old Town





Figure 1.1. World Map



Figure 1.2. Indonesia Map



Figure 1.3. Surabaya Map

**SURABAYA AS IT WAS AND AS IT NOW**

Surabaya already known since Kingdom of Majapahit ruled Indonesia in 13th century. It was a small village (kampong) located along Kalimas river in north of East Java. For the reason that its location is adjacent to Sea of Java and Kalimas River, most of villagers worked as traders. In 17th century when Portuguese and Dutch occupied Indonesia, Surabaya played an important role as a one of busiest port in regional. Surabaya was a transit port and storage for natural crops that coming from hinterland. This port activity has presented diversity in culture, social and economic life for Surabaya and it appears in built environment of Old Inner City Surabaya.

During the Dutch occupation, the Indonesian development concentrated in Java Island. And it continued by national government so far. Thus Surabaya is remaining as one of main port in Indonesia, particularly for East Indonesia. This condition had give opportunity for Surabaya to expand their port and storage activity into industrial city. Manufacturing, assembling and packaging industries are most industrial type that occurs and these support Surabaya as the biggest industrial city in East Indonesia.

Its strategic location also generated Surabaya as the gateway for East Indonesia. Juanda International Airport and Tanjung Perak Port are the main access for peoples to travel in and out from East Indonesia. This also creates an opportunity for hotel, trading and financial business activities in Surabaya. On figure 1.2 shows the domestic flight route in Indonesia, where Jakarta is centralized to serve West Indonesia and Surabaya serves East Indonesia.

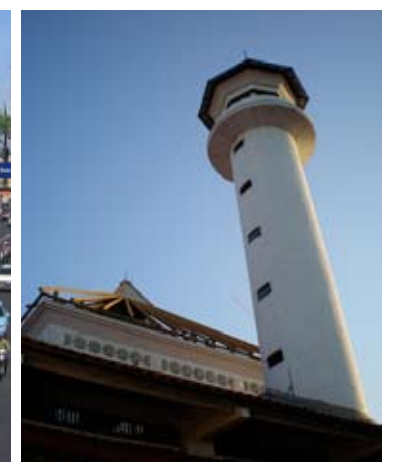


Figure 1.4. Surabaya in images

**SURABAYA IN NUMBERS**

Area : 326 km<sup>2</sup>  
 Population : 2.6 million inhabitants (BPS, 2006)  
 Density : 7,966 inhabitants/km<sup>2</sup> (BPS, 2006)

GDP : USD 3,043  
 Capital of East Java  
 2<sup>nd</sup> biggest city in Indonesia



**SURABAYA DEVELOPMENT IN 1905**

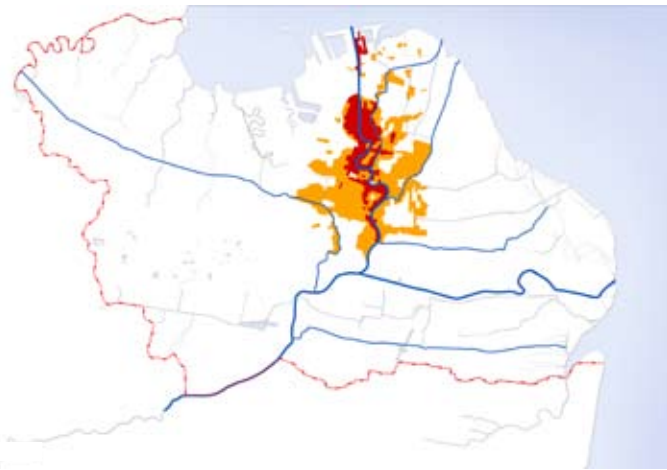


Figure 1.5. Built - Up Development Map: 1905



Figure 1.6. Infrastructure Development Map: 1905



**SURABAYA DEVELOPMENT IN 1940**

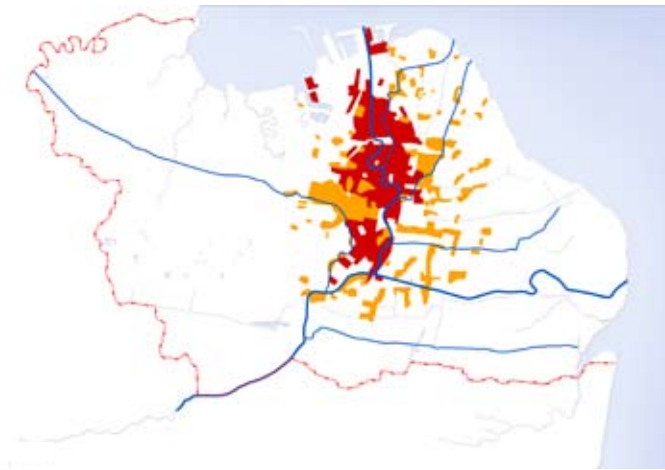


Figure 1.7. Built - Up Development Map: 1940



Figure 1.8. Infrastructure Development Map: 1940

- Permanent Building
- Kampong
- River
- Airport
- Seaport
- Train Station
- Highway
- Main Road
- Railway
- - - Surabaya Administrative Border

The Dutch Colonial government was continuing to develop the former seaport as they found Surabaya as a strategic location for another port city after Batavia. In sequence to support the port activities, they built the inner city which located 4 km on the south of the port. The inner city grown-ups in intersection of Kalimas River and Anyer-Panarukan road (a province road which connecting from East to West Java, it was built by Daendels in 18th century in purpose to boost the Dutch forces mobility).

The natural crops from hinterland gave a great contribution to the seaport as well Surabaya for becoming bigger and well-known. Many traders from other countries came in for trading and some of them starting to live here, which Chinese and Arabian peoples are most traders who decided to stay. As their communities became bigger, the Dutch colonial authority decided to segment the living area for each community. The Dutch and its mixture lived on the west of Kalimas River, Chinese stayed along and south of the main road and Arabian on the east of Kalimas River where Ampel mosque established since 15th century. The local peoples lived scatter outside the inner city, but in some cases they found a room in between other communities. And figure 1.5 and figure 1.7 show the development growth goes to the south following the Kalimas River path.

Seaport activities were getting bigger and it triggered industrial activities (medium and small industry) and warehouse along the Kalimas to the south and reaching the inner city. As a result on the growth of seaport and industrial area at Old Inner City as well the expansion plan of military area in purpose to strengthen the military base, The Dutch Colonial government issued a decentralization policy in 1920 in order to spread the Surabaya development. The policy had generated other industrial (heavy industry) area that established in Ngagel; Government area on the north east of Inner City (Gubeng); commercial area on the North West (Tunjungan) and Villas area for Dutch peoples were built in Darmo. Other than that, they also built the second main road that connected Inner City to Gresik (south of Anyer - Panarukan road) for maintaining and improving the existing goods and natural crops' transportation. In addition of military land expansion, they build military airport at Morokrembangan (southwest of seaport) in 1922.



**SURABAYA DEVELOPMENT IN 1980**

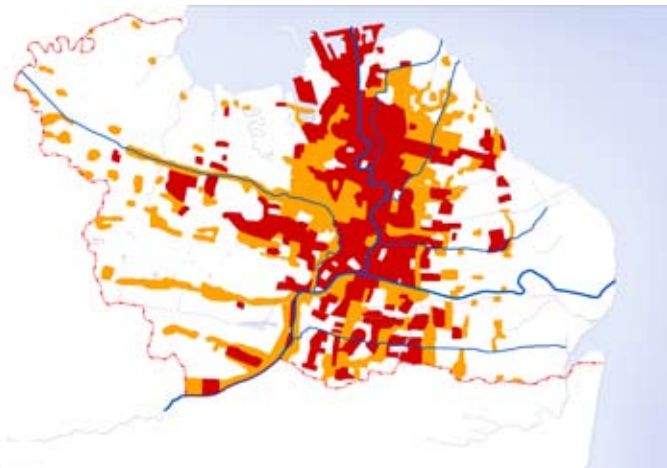


Figure 1.9. Built - Up Development Map: 1980



Figure 1.10. Infrastructure Development Map: 1980



**SURABAYA DEVELOPMENT IN 2006**

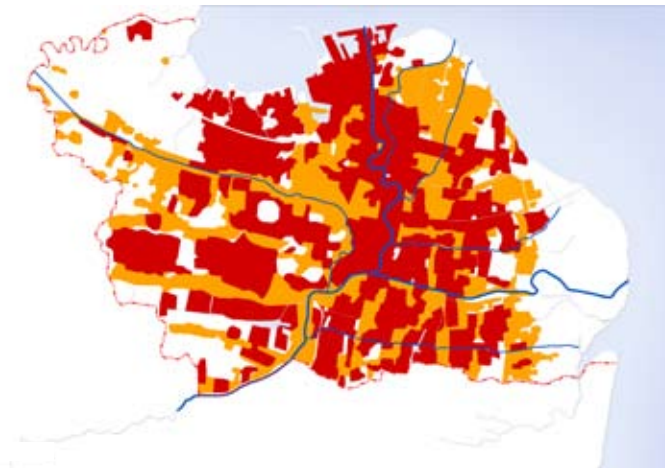


Figure 1.11. Built - Up Development Map: 2006

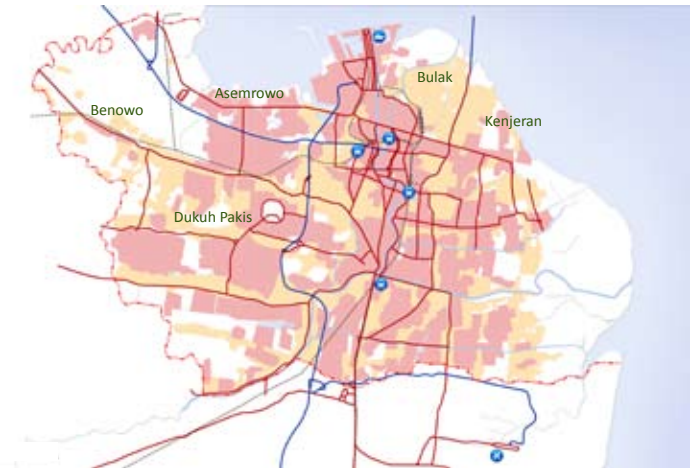


Figure 1.12. Infrastructure Development Map: 2006

- Permanent Building
- Kampong
- River
- ✈ Airport
- ⚓ Seaport
- 🚂 Train Station
- Highway
- Main Road
- Railway
- - - Surabaya Administrative Border

Since Indonesia seized their independence in 1945, many Dutch houses are left over and these had been replaced by local peoples, while Arabian peoples stay in their former location (near to Ampel area) as well for Chinese peoples in Chinatown.

To strengthen the Surabaya's position as a trade and industrial city, they were improving the city's infrastructures, particularly Tunjungan area where they planned as Surabaya's CBD. The rapid economic and population growth have forced the Surabaya local government to set up new living area for accommodating its demands. Two main universities (10th November Institute of Technology in Sukolilo and Airlangga University in Gubeng) were established in 50's as a generator for new urban area for East Surabaya. They also built new industrial area (Rungkut Industrial Estate) in mid of 70s at the south side of Surabaya. The city improvements had spurred new residential developments that spread on the west and east of Surabaya and most of them introducing gated residential typology as a new way of life. This had made some Chinese people in Old Town Surabaya started to leave and live in the new areas (Kertajaya and Darmo Selatan) for better living environment and they left the Chinatown only for working area.

The busier activities in seaport had required it to do a land extension for cargo terminal, thus the former military airport was shifted to the outside of Surabaya (Sidoarjo administrative area).

Highway infrastructures were introduced in the early of 90s to improve the connection to Gresik (west side) and Sidoarjo and Malang (south side) in order to strengthen the economy relationship between both cities. Tunjungan and Darmo area became the center (CBD) of Surabaya where these have a good accessibility and modern building function. Tunjungan and Damo turn into a reference point for other new development. Since commercial centers and a university in Dukuh Pakis and new sport facilities in Benowo were built, these had generate new centrality on West Surabaya and there are more residential area developments to the east and west of Surabaya. Which most of them are gated residential that only accommodates the mid-high income peoples.

Another industrial expansion that concentrates on large industry is planned in Asemrowo. And the latest main development in Surabaya is Suramadu Bridge that starts to operate in 2008 will give opportunity for further development on north side of Kenjeran and Bulak (previously dominated by fisherman village).

**ECONOMIC FORCES**

Surabaya as a port city is the central of industry, commerce and service business for Eastern Indonesia. Therefore, those three economic sectors have become the major economic forces for Surabaya. Distribution of the economic forces in Surabaya as depicted in figure 1.13.

**North Surabaya:**

Its economic forces are centered in Old Town, where the economic force is concentrated in wholesaler trading and warehouse business activities due to close relationship to the Tanjung Perak port. Other than those two sectors, industrial activity is another economic force in this area. However, at present condition, this industrial activity is experiencing stagnant situation due to relocation of big industrial to the periphery of Surabaya. Therefore there are a lot of abandoned industrial buildings at Old Town. In addition, the tourism activity also becomes the secondary economic force of Old Town. The existence of Sunan Ampel mosque site and its Arab Camp, Chinatown and colonial buildings had made this area as one of tourist destination in Surabaya.

**Central Surabaya:**

It is the Central Business District and the city center of Surabaya where the main trading and commerce business as well financial and banking business located. And in order to support these activities, there are many hotels and entertainment centers (hospitality and service business) have placed in this area.

**South Surabaya:**

Economic force in this area is concentrate at Wonokromo region which has been the commercial center for fresh foods trading that come from the hinterland (south of Surabaya).

**East Surabaya:**

This is an area of Surabaya city that designated as the central for education. The establishment of ITS (Sepuluh Nopember Institute of Technology) and the Airlangga University in the 50's has become the driving force of development in East Surabaya.

**West Surabaya:**

West Surabaya is a recent development area that began in the late 80s when the first toll road was built. Due to fast movement of the developers to make this area as a housing area for the upper middle class, then this area is dominated by the gated residential as well office park, shopping malls and golf courses as its amenities.

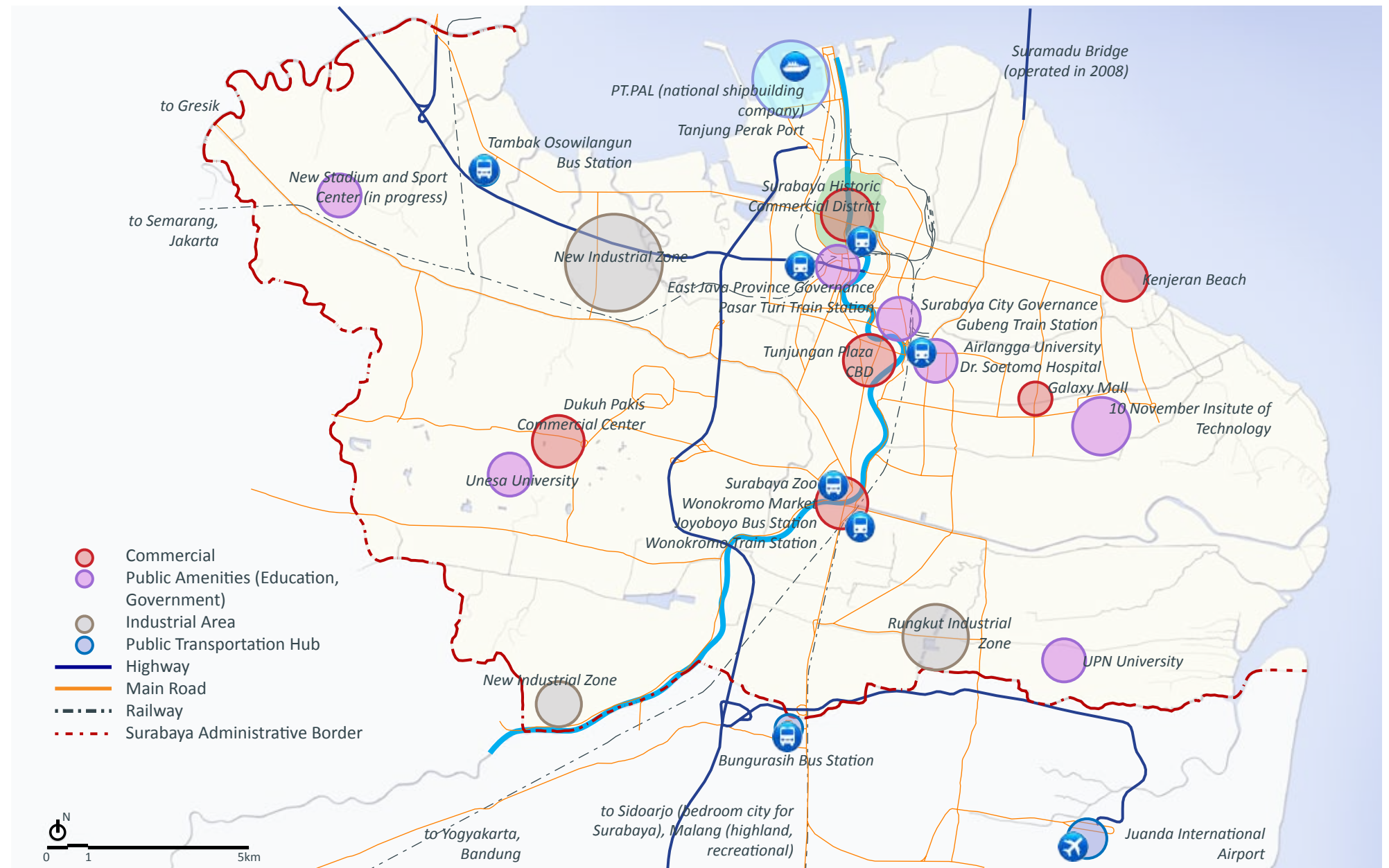


Figure 1.13. Surabaya Centrality Map: 2006

**HOUSING DEVELOPMENT**

There are four main housing typologies that have been built in Surabaya:

- (1). National Housing (Perumnas) is a government policy to provide housing for mid low income. But in reality most of these properties are bought by mid high income for their investment.
- (2). Private house is self-built houses following the land use that given by government.
- (3). Housing by developer (private sector), a new housing typology such as gated residential and apartment, and these dedicate for mid high income.

- (4). Kampong or informal settlement, most of this area is dwelled by mid low income and they have been there for a long time, thus they have a strong community in neighborhood. But the environment quality is bad since there is not enough green open space, low accessibility and public amenities.

Future housing development will appear on the west Surabaya (Benowo and Dukuh Pakis) since these locations have space availability and many modern functions are built to attract people to work and live. And gated residential as well apartment will be the favorable housing typology in the future (REI Surabaya, 2009).

p. 10



### SOCIAL CULTURE

Looking at Surabaya as a port and transit city and as the capital of East Java, Surabaya is always being an urbanization attraction in East Java. Immigrants from hinterland and foreigners (Chinese and Arabian who live in Old Town) had dominated the Surabaya's resident profile from the past; therefore diversity in social culture is appearing in this town. The strong Surabaya culture for instance its language has fused those different cultures to be proud as Surabaya people.

A strong community mainly happens in mid low neighborhood, where the streets are narrow, low rise building and it close to each other. In every kampong, they create their own society structure by selecting their leader (in volunteer, usually they pick a person that respected by others) to manage their social life.

### ROAD NETWORK

Derived from Surabaya historical development growth, the main road infrastructure lies from the north to the south of Surabaya in purpose to serve three main economic centralities (Old Town, CBD and Wonokromo). The fact that many new residential developments are built in the west and the east Surabaya where its road infrastructures are poor has caused traffic congestions in main road (the north – south connection, please see figure 1.15).

Highway infrastructures which introduced on the early 90s is purposed to strengthen the connection to Gresik (east) and Sidoarjo and Malang (south) thus economic relationship between each city is improved. Afterwards, the highway infrastructures are continued to the east side for reaching Rungkut Industrial Estate and Juanda International Airport in the mid of 2000s.

In 2008, The East Java Province Government establishes Suramadu Bridge that connecting Java Island and Madura Island. But in current situation, the internal city road network doesn't give sufficient support for the existence of the new bridge, as it seen on figure 1.14.



Figure 1.14. Surabaya Road Network Map

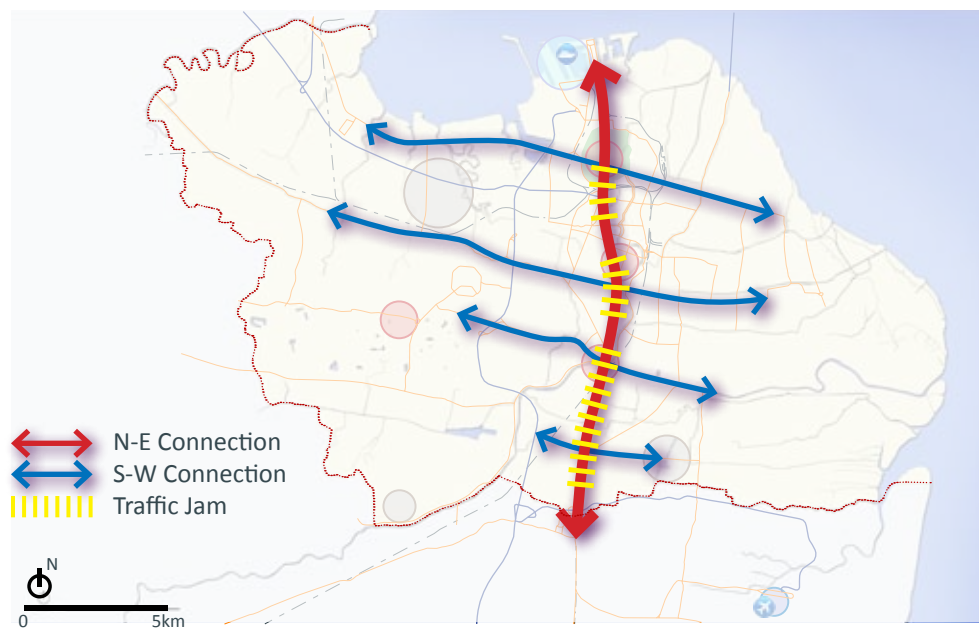


Figure 1.15. People Movement and Traffic Conflict Diagram



Figure 1.16 A typical traffic jam in N-E connection (Ahmad Yani rd.) during peak hour

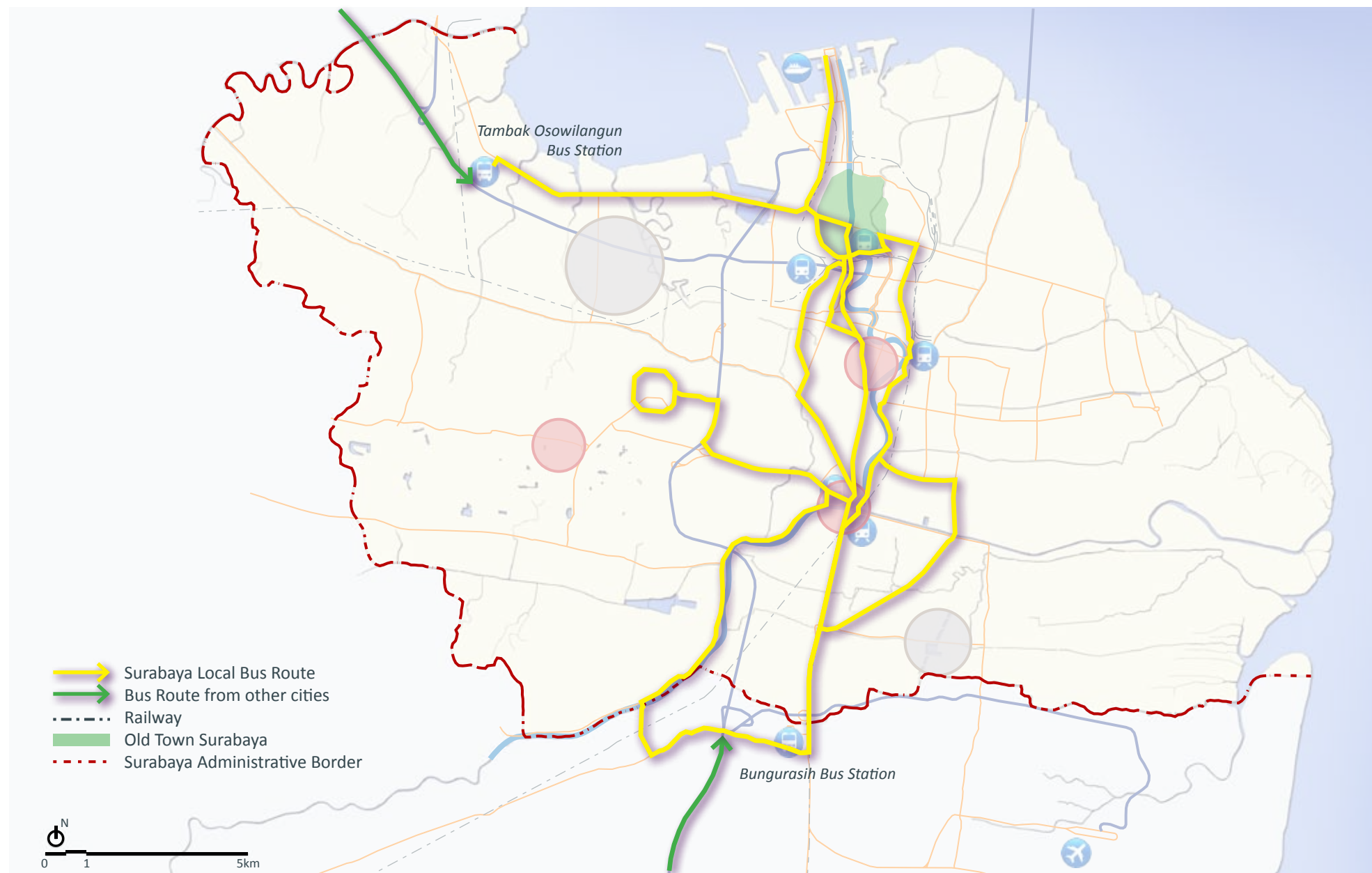


Figure 1.17. Surabaya Public Transportation Route Map

**PUBLIC TRANSPORTATION ROUTE**

Surabaya offer bus and “bemo” (minivan that can load 12-14 passengers) as their public transportation. As Shown in figure 1.17, bus has a comprehensive route in serving North-East connection. This has encouraged the private- vehicle usage for people to travel from West to East and this adds to the traffic problem in Surabaya. Meanwhile “bemo” is only accommodating passengers in the neighborhood scale.



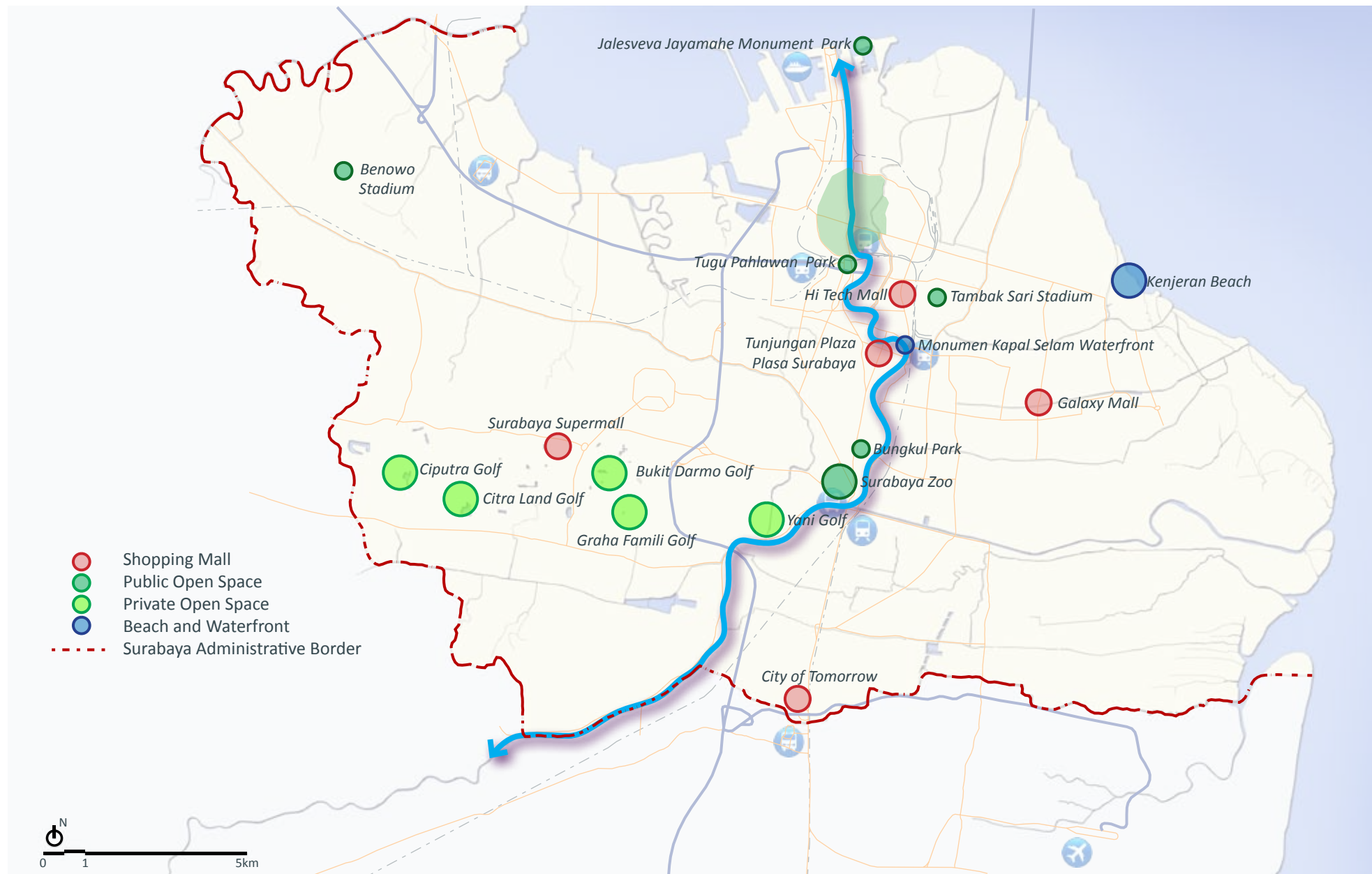


Figure 1.18. Surabaya Recreational and Public Open Space map

**RECREATIONAL AND PUBLIC OPEN SPACE**

The limited number of public open space in Surabaya are listed in the Details Spatial Plan of Surabaya Report (2010) which states that only 0.5% of the total land is allocated for public open space. Figure 1.18 shows how the lack of public open space in Surabaya. There are only five main parks that offer free access for public (Jalesveva Jayamahe Monument Park, the Heroes Monument Park, Monument Submarine Waterfront, Kenjeran Beach and Taman Bungkul Park). The rest places require an administration procedure to be able to enjoy (golf courts and zoo). In addition to parks, recreation place in Surabaya is filled by the presence of a large-scale shopping mall. Figure 1.18 also showing the distribution of big shopping mall locations are evenly distributed in Surabaya.

Surabaya is famous for its Kalimas River which divides the city from south to north. In fact, Kalimas River is not optimized in usage as public amenities. In current condition, the usage of Kalimas River as a recreational area is only occurred at Monumen Kapal Selam Waterfront (Surabaya Central). From the figure, it shows that Kalimas River directly connects CBD Surabaya to Old Town, thus this gives an opportunity to establish a new transportation and tourism routes (water bus transportation mode) in the future.



Monumen Kapal Selam Waterfront



Bungkul Park



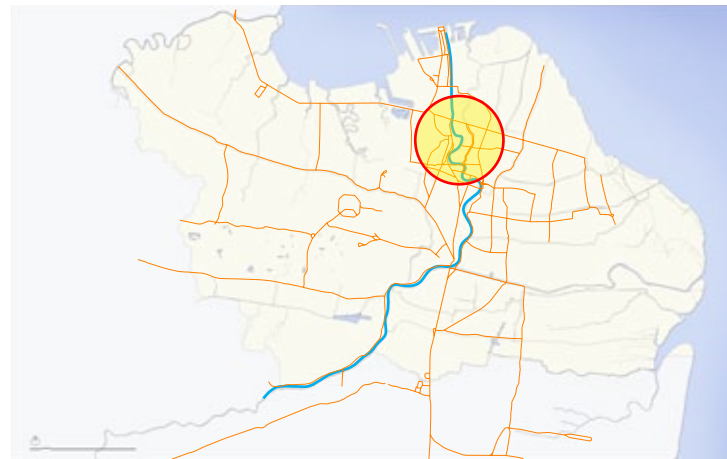
Jalesveva Jayamahe Monument Park



Tugu Pahlawan Park



OLD TOWN SURABAYA

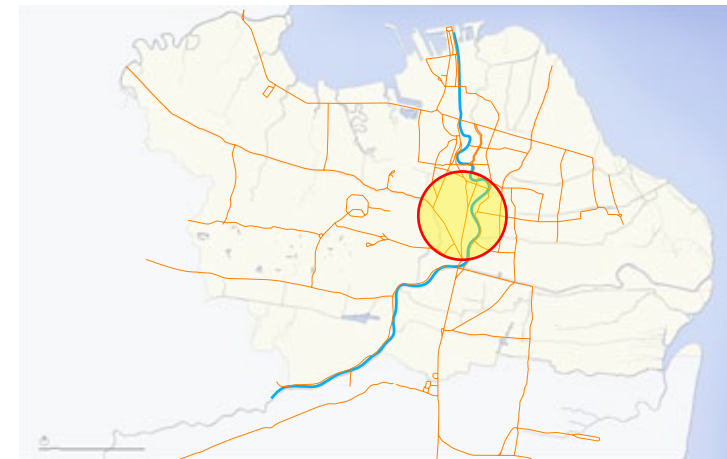


1. Queuing of *angkot* (an Indonesian public transportation using minivan) near to Atum market (one of biggest market in Surabaya).
2. Another queuing of *angkot* and *becak* (traditional public transportation for short distance) near to Jembatan Merah market.
3. Interior of Ampel market (Arabian community area) that similar to *souk* (traditional Arabian market) serves daily needs.
4. Jembatan Merah (Red bridge) bridging Old Town Surabaya from Kalimas River.
5. Entrance of Chinatown, the main street (Kembang Jepun) surrounded by mid rise building and its function as mix use. The ground floor using arcade system and it connects through building along the street.



Figure 1.19. Image series of Old Town Surabaya

TUNJUNGAN AND GENTENG: CBD OF SURABAYA



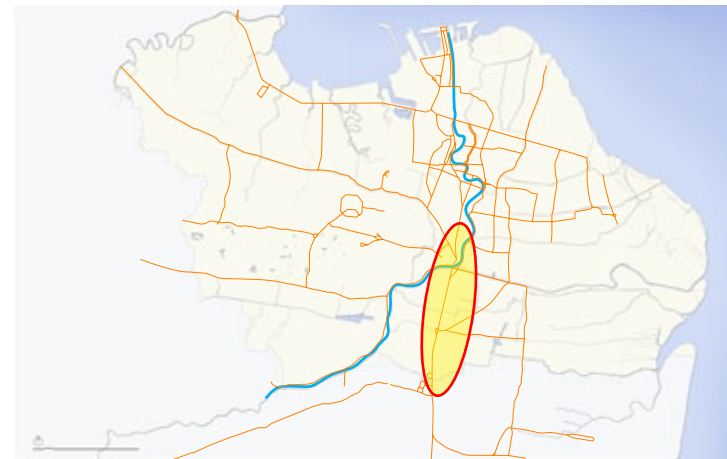
1. The governor house, one of heritage building located near to Surabaya CBD and other government buildings
- 2,3. A current situation on the main road in CBD area (Tunjungan rd) where dominated by cars and motorcycle. There were pedestrians on both sides of road had been rebuilt, but it was used rarely due to building distance's issue and building mono-functionality in area
4. Surabaya CBD skyline is looked from kampong Pandegiling. This chaotic scenery has shown the city's incapability in responding the globalization



Figure 1.20. Image series of Tunjungan and Genteng: CBD of Surabaya



**AHMAD YANI RD. AND DARMO: GATEWAY TO SURABAYA**

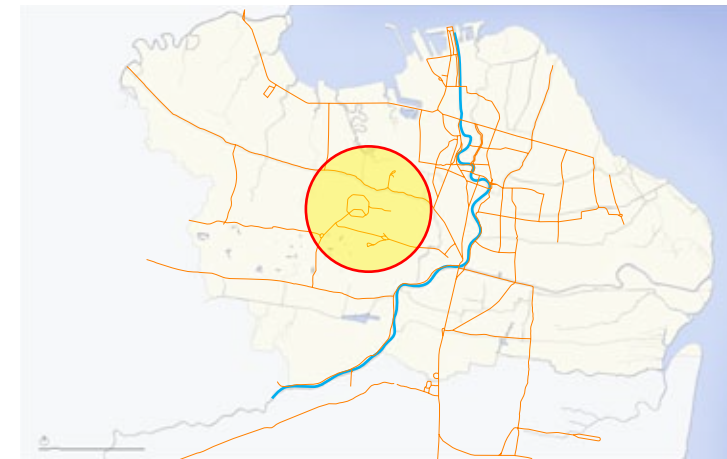


- 1,2. Mix Use (residential and commercial) buildings and shopping malls were built in mid of 2000 are become the gateway buildings to Surabaya
3. The main North – South connection of Surabaya is dominated by private cars and motorcycles. There is availability of Public transportation (bus and angkot), but this is not used in optimum way due to poor quality of public transportation
- 4,5. The Mpu Tantular museum in Darmo that previously as a villa for Dutch in colonial era and a hospital in Darmo is still functioned as it was.



Figure 1.21. Image series of Ahmad Yani rd. and Darmo: Gateway to Surabaya

**WEST SURABAYA: THE FUTURE CITY'S DEVELOPMENT**



- 1, 2,3. A gated residential typology which has a large land parcel, a high rise apartment for mid and high income people and huge shopping mall where very limited public transportation provided in area are appear in most new residential area of West Surabaya
- 4, 5. Another car base oriented development and building mono-functionality in area are shown on the main street of Dukuh Pakis. As shown on picture no 4 when it was in the weekend morning, a part of road is occupied by people to jog



Figure 1.22. Image series of West Surabaya: The Future City's Development



SURABAYA CURRENT NETWORK AND INFRASTRUCTURE

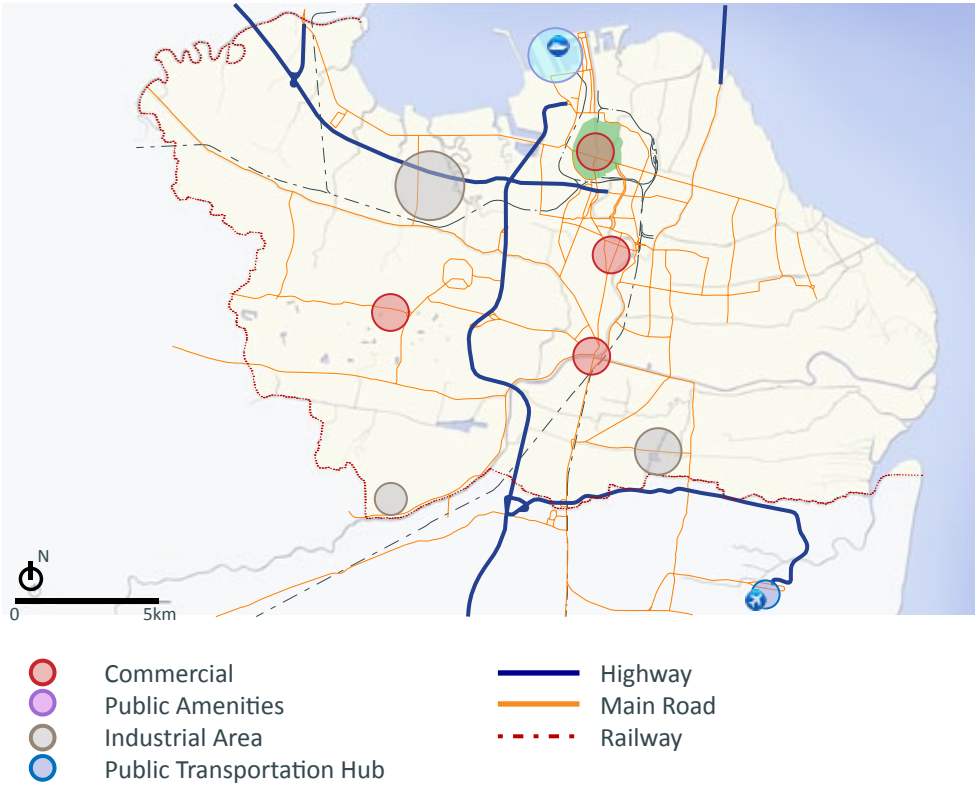


Figure 1.23. Surabaya Current Network and Infrastructure Condition



Figure 1.24 Space Syntax Analysis on Surabaya Current Condition



SURABAYA FUTURE NETWORK AND INFRASTRUCTURE

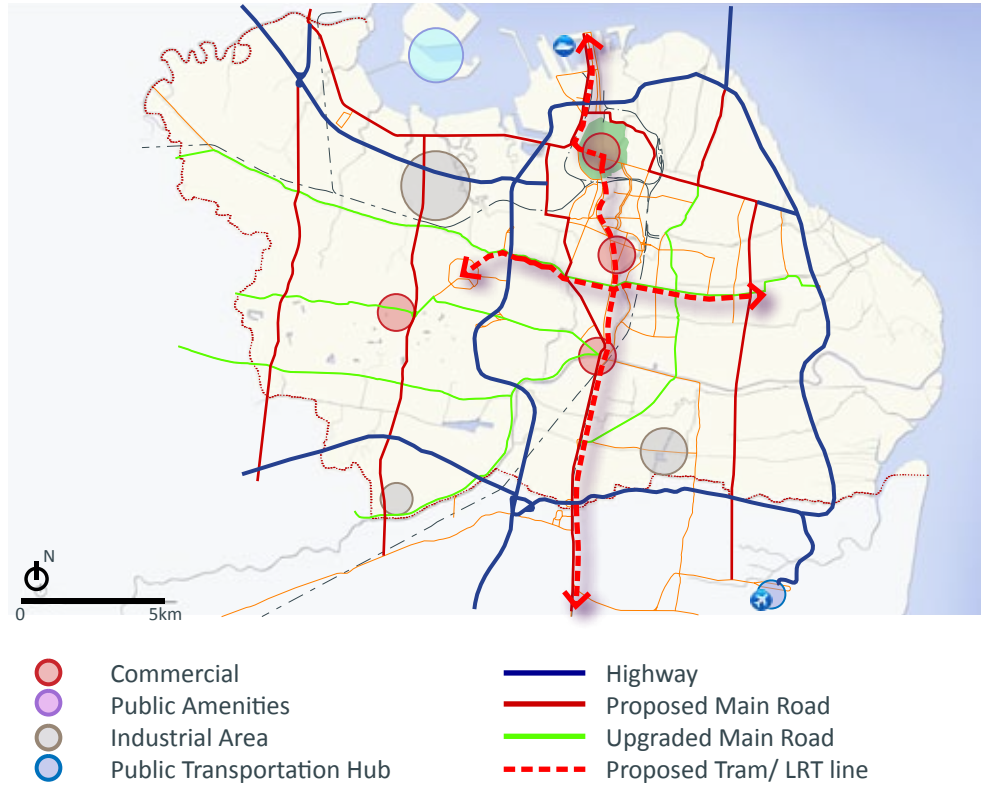


Figure 1.25. Surabaya Future Network and Infrastructure Condition

Future Condition

In order to respond to the future economic development, The Surabaya Local Government proposes a new infrastructure plan. As shown in figure 1.25, Surabaya will have a ring road (highway) that has better connection in serving the Rungkut Industrial Estate, Juanda International Airport, The Suramadu Bridge and Asemrowo industrial area as well a connection to other city. An additional main roads and upgrading the existing roads are expected to assist the ring road in solving the traffic jam issues that happen inside Surabaya.

The city train transportation also introduced in their proposal. The first two train lines will be located to serve the main North-South connection and West-East connection as shown in figure 1.25.

Other than that, The Surabaya Local Government also proposes a new seaport in Telok Lamong that concentrated in cargo terminal and the existing one (Tanjung Perak) will continue in providing water transportation for passenger.

When we compare the current road network with the future one by using space syntax analysis (global integration analysis) as shown in figure 1.24 and 1.26, it is clearly seen that the future ring road gives a great impact to the increment of Old Town's road network integration. The main street in Old Town (Rajawali road and Kembang Jepun road) will be one of the most important roads for Surabaya due to the addition of its connectivity with other roads in Surabaya. Therefore this will ease the road users to reach the Old Town's main road. From this reason it can be predicted that the main road in Old Town will be busier by the visitors and this gives an opportunity to the buildings along the main road to react for these changes.



Figure 1.26. Space Syntax Analysis on Surabaya Future Condition

OLD TOWN WITHIN HISTORIC AND SURABAYA CONTEXT

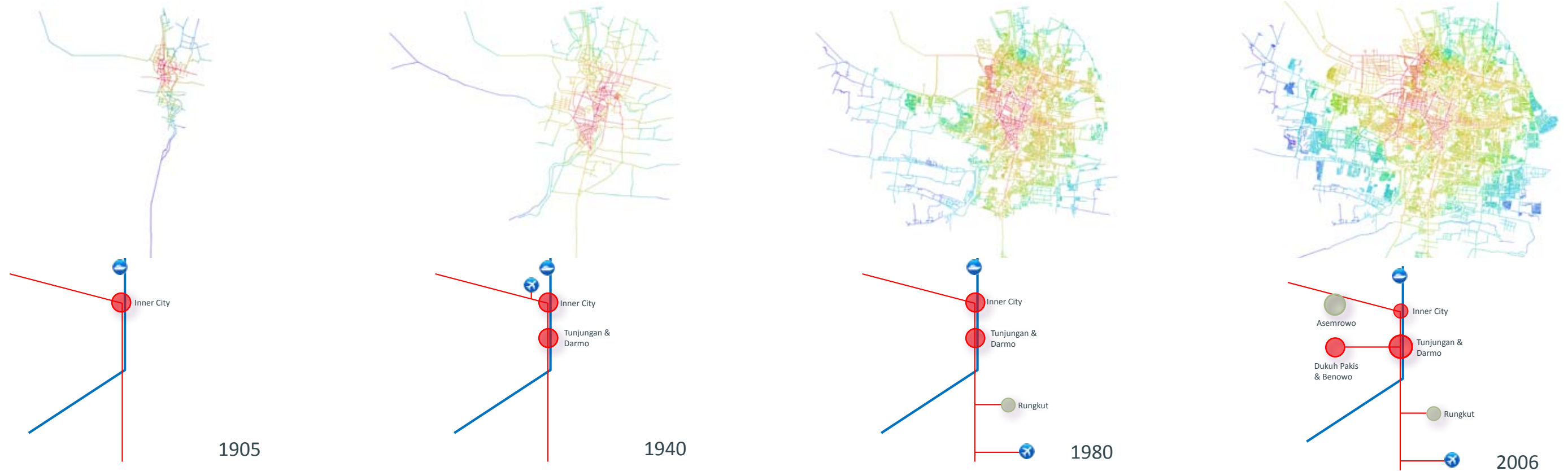


Figure 1.27. Surabaya Historic Development Diagram

**Kalimas River**

The Development growth in Surabaya is following the Kalimas river path where started from the north (Tanjung Perak Seaport) to the south. Thus Kalimas River has a great economic and social value for Surabaya as well for Old Town. But in current situation, Kalimas River does not well captured as a strong added value for the Surabaya's living environment.

**Centrality and Network Integration**

The fact that Tunjungan and Darmo become the CBD of Surabaya, most of the new developments in Surabaya put this CBD as their point of reference. This condition had make Old Town start to disappear from people attention as it shown on figure 1.27 that Old Town network is not well integrated to Surabaya network.

But in the future, when the proposed ring road applied, the Old Town network has a stronger integration to Surabaya network (please see figure 1.28).

**Government's policies**

There were two policies that gave massive impact to

the living environment on Old Town Surabaya. The first policy is decentralization policy that issued by Dutch Colonial Government in 1920 and the second policy is the industrial zone allotment policy that issued by Surabaya Local Government in the mid of 70s. The first policy had caused the city center shifted to Tunjungan, thus the city infrastructure development also shifted to the new city center. The second policy which stated that big industrial with waste management only can be occurred in the periphery of Surabaya. Therefore the former industrial activities in Old Town Surabaya experience a difficulty in expanding their industry and they decided to move to the new industrial area that have provided by government (Rungkut and Asemrowo).

**Economic**

Due to limitation on industrial expansion in Old Town Surabaya, the current main economic force in Old Town Surabaya is concentrated as wholesaler business that related to the people's daily need (clothes, packaging food, etc), office stationeries, basic material for industry and machinery. Therefore the direct connection to the seaport

is truly important in sustaining its economic forces. And it becomes a threat for Old Town when the former port is shifted to Telok Lamong (please see figure 1.28).

**Social Culture**

Old Town Surabaya famous for its culture diversity. There are four main ethnic groups who live mingled here, which are: Arabic, Chinese, Javanese and Maduranese. They are live in mutualism relationship in social economic life, where most of Arabic and Chinese people own the business and Javanese and Maduranese work as their employer.

**Housing**

Kampong as the traditional settlement of Surabaya's residents is still remaining in Old Town Surabaya. But the new typology (gated residential and high rise apartment) that introduced since 70s-80s had change people mindset in choosing their living environmental. Briefly, that new residential typologies have attracted more people and these enormous developments of gated residential and high rise apartment can marginalize the low income people to own a house.



OLD TOWN'S POSITION IN THE FUTURE OF SURABAYA

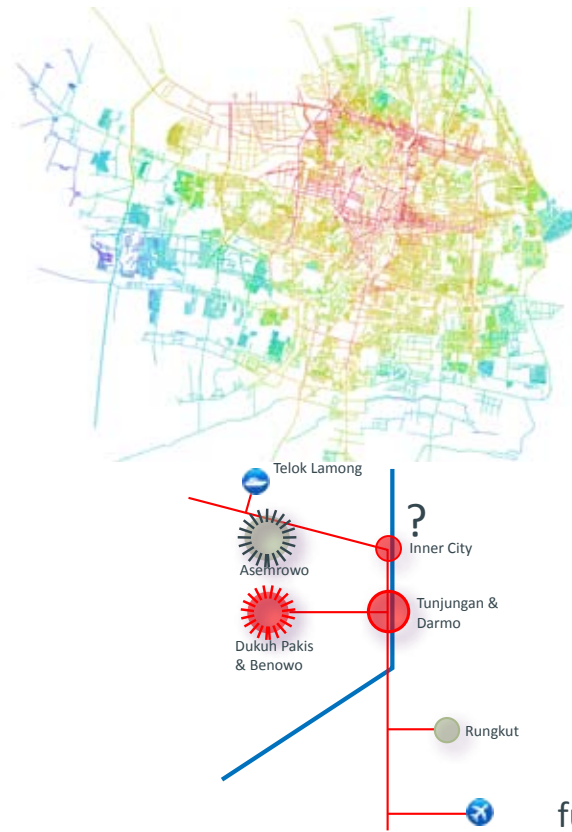


Figure 1.28. Surabaya Future Development Diagram

Summary

As described before, Old Town had lost its centrality for Surabaya since the decentralization policy was applied in 1920. Therefore the infrastructure developments of Surabaya were shifted to the new area. In addition, the Industrial Allotment Policy gave a limitation for industry activities to expand in Old Town. Those are several reasons that causing the deterioration of Old Town.

The Old Town is one of main economic center of Surabaya where the current economic forces at the Old Town are concentrate in trading and service business (wholesaler) that create an essential relationship to the seaport. While in the future, the seaport will move to the new area and it will bring impacts to the current economic activities at the Old Town Surabaya.

But on other hand, the Surabaya Local Government proposes new road network which consist of new ring road, new main roads and upgraded main roads in order to support the existence of Suramadu Bridge, Rungkut Industrial Estate, Asemrowo Industrial Zone and Telok Lamong Port. Based on space syntax analysis on future Surabaya network when the ring road is applied (figure 24), it shows that the Old Town's network turn into more integrate to Surabaya network.

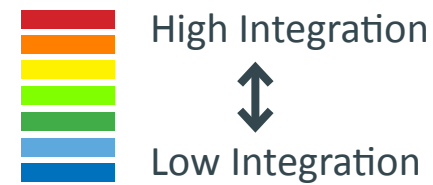


Figure 1.29. Image Series of Old Town Surabaya: Waterfront is occupied by temporary housings which causing no accessibility for public; one of abandoned building; temporary housings for immigrants; housing density in horizontal way has create a limitation for public open space.



Figure 1.30. Image Series of Old Town Surabaya: Traditional markets with a vibrant atmosphere; Chinatown in peak hours where private cars, motorcycles and container trucks are dominating the road; Ampel Mosque as the main socio - economic life for Arabic; Kampong atmosphere with a narrow alley and low building height creates an intimate social life.





*p.*  
20 **chapter 2 - PROJECT FRAMEWORKS**



Former warehouse along the Kalimas River in Old Town



The description from chapter 1 has indicated an obvious potentials and problems in the Old Town Surabaya. Therefore this thesis project will take this area as a focus of research and design. In relation to create a good thesis project, it requires a clear project framework in order to drive the research and design activities for achieving a desirable result.

**Problem:**

- Old Town Surabaya had lost a part of its main economic pillar (industry) since it lost its role as a center of Surabaya.
- Old Town could not offer a proper living environment condition (land density issue and lack of public amenities).
- The local government has not strong authority to preserved the heritage buildings and sites due to land ownership issue.
- The current economic activities which concentrated in trading, medium industry and service that has relation to the seaport will get a threat if the seaport move to Telok Lamong in future.

**Problem Statement**

Urban living quality in Old town Surabaya is deteriorating since it lost its attraction as a place to live. Moreover, this area has a very limited space for further development. On the other hand, Old town has a great historic value and as an identity for Surabaya that need to be preserved.

**Main Research Question:**

What is the urban condition of revitalized Old Town Surabaya that has a balance in conserving and developing towards Sustainable City?

**Sub Research Question:**

- How to take the cultural heritage into account of urban regeneration?
- What are the features of sustainable/ successful historical city center should be applied for its intervention?
- What should be the approaches towards heritage buildings and areas?
- How can the top-down and bottom-up approaches contribute each other and give value to the success of the conservation efforts?
- What is the proper positioning of Old Town for Surabaya?

## Theory Paper

**The decaying of Historical Inner City due to urbanization process**

The decaying of historical inner city is mainly the result of the urbanization process. The historical inner city, which had served as the center of trade for centuries, collapsed due to the more rapid urban growth in the peripheries than the centers (Steinberg, ADB, 2008). As the result, while most of these cores still stand with buildings, artifacts, and other features of historical and cultural value, these living museums fell into neglect during the 20th century, often as an unintended by-product of rapid urbanization.

The rapid-city development due to globalization has triggered the increment of new space demand in city area. The new towns and new CBD (central business district) emerged, and became the symbol of modern city. Their existence has changed the city's structure and appearance, as well as the inhabitant's behavior.

In Asian context, the structure and characteristics of historical (old) and new city are in contrast. Giovannoni (1998) described the historic area of city as a "vibrant, closely, interlinked component of its new, enlarged form, performing an essential and distinctive socio-economic role in daily life of its citizens". In contradictory, he characterized the modern city by "its possibilities of limitless expansion; its faster pace and dynamism related to non-pedestrian forms of movement; the larger scale of its urban layout, buildings and spaces; its lack of contextual values and hence its freedom from design constraints". Therefore, old and new city are distinct in spatial scale, infrastructure system, urban functions and identity.

The spatial scale of the new city is far larger than the historical center. The span between places in the new city is beyond the walk able distance. Therefore, the infrastructure shifts to concentrate in automobiles movements. This phenomenon changes the movement behavior of the inhabitants from pedestrian to car oriented. Once the people get accustomed to car-dependent, traffic problem arise in the inner city, since it could not accommodate the need of sufficient infrastructure.

The urban functions in the new city are often more diverse and attractive that the people prefer to live and work there instead of remain in the historical city. The movement leads to the change of economic concentration from the old to the new city. As the domino effect continues, the concentration of physical

development such as infrastructure, new building complexes, and maintenance also change to the new city. The case worsened as the government's interest switched to the more valuable new city development. Eventually, the local inhabitants gradually leave the historical inner city and it becomes deteriorated.

In the context of city identity, the new city development often offers a brand new identity, which is different from the historical contextual value. This makes the identity segregation between the historical and new city. On the other hand, the spatial segregation is also happened as the result of the shift of development focus to the new city. The identity and spatial segregation combined that occurs over generation could blur the identity of a city in a whole.

**The importance of conserving Historical Inner City**

According to Feilden (2003), the purpose of conservation is to prevent decay and manage changes dynamically and this is not limited to a building or a site only. Urban conservation is not merely to conserve the building but to preserve the whole ambience including cultural significance (Thorsby, 2002; Cohen, 2001). Urban conservation is also about how people live, work and play in an area, as described by Tan (2006): How they live are inextricably linked to (historical) buildings; buildings that house their abodes; buildings where they earn their living; buildings whose shape, size and locality form the essence of their lives and how they carry it out (Yusof 2007).

The need of conserving the historical inner city concerns about the threat of deterioration, which had been described in the previous section. While in the contrary the historical inner city has distinct values for the city.

Historical inner cities carry two essential qualities: first, the socio-cultural values that signify the role in defining sense of place, community belonging and social cohesion; second, the environmental capital that is represented by their buildings and urban infrastructure (Rodwell, 2007).

**1 The socio – cultural value of Historical Inner City**

The first and utmost importance of socio-cultural value of the historical inner city is the heritage time value. They represent the past, present and future. As The United Nations Educational, Scientific and Cultural Organization (UNESCO) also points out in the heritage definition: the

legacy from the past, what we live with today, and we pass on to future generations. It is the foundation of the present, the springboard for the future, with the present generation as its custodians and the creative link.

They are expressed in the architecture, the urban grain, and the socio-economic organization of cities. However, the physical and societal attributes of historic cities are inseparable. They embrace environmental issues, tangible and intangible cultural heritage, and equity both within and between generations (Rodwell, 2007).

In addition, Stripes (1983) argues in five reasons of the importance of the historical center preservation:

First, the historical center is bond to our past. Second, we have lived within it and become part of our lives. Third, there is a threat of cultural homogeneity due to modernization and emerging technologies. Fourth, the historical inner city relates to honor and understanding of the society. And fifth, the historical center holds the architecture and landscapes, which have the value of art.

**2 Environmental capital of Historical Inner City**

Porter (1995) in the discourse of the competitiveness of the Inner City explains the economic values of the historical inner city. He identifies four main advantages of inner city, which are: strategic location, local market demand, integration with regional clusters, and human resources.

Strategic location, inner cities are located in what should be economically valuables areas. They sit near congested high-rent areas, major business centers, and transportation and communications nodes.

Local market demands, the inner city market itself represents the most immediate opportunity for inner-city based entrepreneurs and businesses. At a time when most other markets are saturated, inner city markets remain poorly served-especially in retailing, financial services and personal services.

Integration with regional clusters, the economic clusters in proximity are argued to have stronger network, and the competitiveness boost the growth of the economy.

Human resources, although there is a pressing need to deal with inner city residents who are unprepared for work, most inner city residents are industrious and eager to work.



**Towards a sustainable city**

There are several approaches in doing the conservation of Historical Inner City. This section discusses the conservation towards a sustainable development, the topic that is in recent discussion in urbanism.

**1 Sustainable development definition**

The 1987 Bruntland Report defines the sustainable development as “the development that meets the needs of the present without compromising the ability of future generations to meet their own needs. It is a definition that emphasizes development and is underscored by a commitment to social equity between and within generations to meet their own needs”. However, this widely known definition has increasingly attracted criticism from a number of quarters. The critics subject that it is merely focused towards human needs and ignores the need of the natural world.

In this extent, Sir Paul Geddes and Dennis Rodwell revised the definition that sustainable development “seeks to conserve and enhance what exists in the natural, built and cultural environments. It views the city as a dynamic and complex ecosystem, one in which a core objective is the achievement of a balanced and self-regulating socio-economic and environmental organization based on functional, structural and social diversity.” (Rodwell, 2007, p.57)

Therefore, now the comprehension of the term sustainable development covers the human and environmental needs.

**2 Sustainable development in application**

When facing the competitive world, the ideal meaning of sustainability is adjusted into the optimum deal. In the context of economic competitiveness, development is often predicated mainly for financial reasons. For example, from the investors’ side, the focus of interest is the commercial property. In this sense, the sustainable development is subjected to achieve a level of economic growth that is attractive to maintain the capital investments into existing buildings, new developments, or other significant change-driven and money-oriented activities.

In the physical implementation, Rodwell (2007) describes that a sustainable cities are expressed as compact, dense, mixed-use and economical in the use of land; places where

proximity and pedestrian movement are prioritized and public transport is efficient and well integrated.

Therefore, The sustainable city vision is a place where the need for daily travel is reduced; walking and cycling are prioritized; public transport is efficient and viable; energy consumption, the emission of pollutants, and the production of wastes are substantially lowered; and economy in the use of land is assisted by the need for less roads. Also, they are well connected to their localities and to each other by public transport. As such, neither size nor shape is a key issue: the imperatives are proximity and accessibility (Rodwell, 2007).

**3 The relevance to conservation**

As described in section 2 and 3, the comparison between sustainable development and urban conservation’ goals is shown in table below.

Urban Conservation	Sustainable Development
...to prevent decay and manage changes dynamically and this is not limited to a building or a site only (Feilden 2003) ...to preserve the whole ambience including cultural significance (Thorsby, 2002; Cohen, 2001)	...seeks to conserve and enhance what exists in the natural, built and cultural environments(Geddes, 1968; Rodwell, 2007)
...is also about how people live, work and play in an area ( Tan 2006)	...is the development that meets the needs of the present without compromising the ability of future generations to meet their own needs (Bruntland Report, 1987)

Figure 2.1. Sustainable development and urban conservation’ goal (source: by author)

As indicated in the comparison table, sustainable development has similar meaning with the urban conservation to some extent. In the same way as Rodwell (2007) explained that in the wider, environmental sense, conservation and sustainability have parallel meanings and are frequently used interchangeably to express the need to manage the world’s natural resources and the biosphere in order: first, to secure long-term harmony between man and nature; and second, to achieve continuous enhancement in

the environment and in the conditions and quality of life for humans and other life forms.

Conservation, however, has narrower meaning when applied to the historical city. The principal roots are architectural conservation and townscape and morphological-aesthetic conservation. Neither architectural conservation nor townscape is founded upon a preoccupation with sustainability. Both, however, have the potential to make a significant contribution to it.

Generally, the urban conservation policies are subject to a wide-range community aspects of economic, social, cultural and environmental (Rypkema, 1994; Pickard and Pickerill, 2002; Leichenko et al., 2001). Some impacts do not automatically transform communities into high-income enclaves, but enhance the climate of the present situation or perhaps the future situation (ripple effect). The impacts from conservation can also be structured into direct or indirect. Whether the structure is direct or indirect, the linkages may bring different impacts to the development of a historic town. If the impacts retard the conservation efforts, it will be regarded as negative impacts. On the other hand, the impacts that contribute to the conservation efforts are seen as positive impacts.

Rodwell (2007) added that historic cities are considered in term of their functionality within communities, the natural resources of material and energy that have gone into their construction, and the financial means that have been invested in them often over several generations, then the relationship to the three core issues of sustainability (economic competitiveness, environmental sustainability and social cohesion) becomes more evidence.

**Approaches to conservation through the phenomenology of place and urban configuration**

Previous section had elaborated that urban conservation has similar definitions and goals, and also has two essential qualities, which have to be conserved. By optimizing these two qualities which are the socio-cultural values and the environmental capital, this section explains the possible strategies to approach the historical inner city conservation, towards a sustainable city.

### 1 The phenomenology of place

As stated before by Rodwell (2007), that the first essential quality is the socio-cultural values that they signify and the role that these perform in defining the sense of place, community belonging and social cohesion. In relation to the conservation and sustainable development, the challenge is how to sustain the sense of place, community belonging, and social cohesion that had existed in the historical inner city.

The description of place could start the understanding of the sense of place. Norberg-Schulz (1985) described "Place is a concrete term for environment. It is common usage to say that acts and occurrences take place. In fact it is meaningless to imagine any happening without reference to a locality. Place is evidently an integral part of existence. Place means something more than abstract location. We mean a totality made up of concrete things having material substance, shape, texture and color. Together these things determine an "environmental character", which is the essence of place. In general a place is given as such a character or 'atmosphere'. A place is therefore a qualitative, 'total' phenomenon, which we cannot reduce to any of its properties, such as spatial relationships, without losing its concrete nature out of sight."

There is no fix comprehension about the sense of place or genius loci. The definition is always various and in the debate through the time. Jackson (1994) argued, "We now use the current version to describe the atmosphere to a place, the quality of its environment. Nevertheless, we recognize that certain localities have an attraction which gives us a certain indefinable sense of well-being and which we want to return to, time and again."

From his explanation, the term 'atmosphere' indicates that the sense of place or genius loci relates to the concept of character of place, which described beforehand by Cullen (1961) in the concept of Townscape:" it was important to take all the elements that go to create the environment: buildings, trees, nature, water, traffic, advertisements and so on, and to weave them together in such a way that drama is released. For a city is a dramatic event in the environment". Furthermore, Norberg-Schulz summed up that the skyline

of the town and the horizontally expanded silhouette of the urban buildings as keys to the image of a place. He promotes the traditional form of towns and buildings, which he sees as the basis for bringing about a deeper symbolic understanding of places (Norberg-Schulz, 1985, pp. 33–35, 48). Here, the sense of place or genius loci represents the sense people of having a place (community belonging), and understood as the sum of all physical as well as symbolic values in nature and the human environment.

Two essential points to shape the image of the city that described by Norberg-Schulz was elaborated further by the Department of the Environment, Transport and the Regions UK (2000, p. 19): "Considerations of design and layout must be informed by the wider context, having regard not just to any immediate neighboring buildings but the townscape and landscape of the wider locality. The local pattern of streets and spaces, building traditions, materials and ecology should all help to determine the character and identity of a development ...".

The five features mentioned above become the important points for shaping the image of the place and have to be considered in the urban design and urban conservation activities; as it is also stressed by Ouf (2001) in his recent paper: "... it directs attention to an important concept in urban design, that of the 'sense of place'. It also refers to the concept of 'authenticity', hitherto more common in areas of heritage, artifacts and museums (Jones, 1990), but which is also becoming applied to conserved urban landscapes (Assi, 2000)".

### 2 Configuration approach: encouraging the natural movement

As elaborated in section 2.2, the second quality possessed by the historical inner city is the environmental capital, which is represented by their buildings and urban infrastructures. Giovannoni (1998) describes the characteristic of historical inner city as a vibrant, closely, interlinked component of its new, enlarged form, performing an essential and distinctive socio-economic role in daily life of its citizens. From the two statements mentioned above, a question arise, how could the historical inner city performing an essential and distinctive socio-economic role in daily life of its citizens

through the environmental capital, which is represented by their buildings and urban infrastructure?

There are relationships between the spatial configuration, attraction activities, and human movement. Giddens (1984) stated that the spatial form of the city, which is the system of locations, densities, and distances, produced the spatial output of economic and spatial process, rather than a substantive pattern of interest in itself. Tschumi (1996) added that the space is nothing without human activity to give it meaning, (one instance perhaps of the attempt to conceptualize our intuitions about space as an independent entity). This statement supports the theory of Pushkarev and Zupan (1975), which argued that, movement is seen as being to and from built form with differing degrees of attraction, and design is seen as coping with the local consequences of that attraction.

Based on the theories above, finally Billier (1993) claimed that logically, the presence of attractors can influence the presence of people, but it cannot influence the fixed configuration parameters, which describe its spatial location. Similarly, configuration may affect movement, but configuration parameters cannot affect by it. Thus, the relationships between the spatial configuration, attraction activities, and human movement are diagrammatically explained in the figure 1.

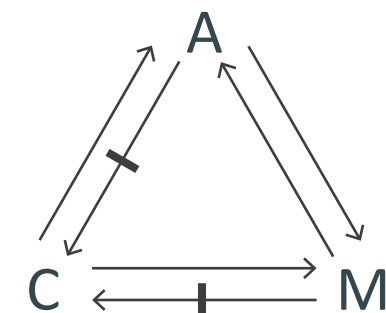


Figure 2.2. A is attraction, C is configuration, M is movement. Attractors and movement may influence each other, but the other two relations are asymmetric. Configuration may influence the location of attractors, but location of attractors cannot influence configuration. Likewise, configuration may influence movement but movement cannot influence configuration (source: Hillier B, Natural movement: or, configuration and attraction in urban pedestrian movement, 1993)



The theories above are the foundation of the natural movement theory, which then proposed by Hillier (1993). The natural movement theory argued that in urban systems, configuration is the primary generator of pedestrian movement patterns, and, in general, attractors are either equalisable or work as multipliers on the basic pattern established by configuration. Further, the natural movement in a grid is the proportion of urban pedestrian movement determined by the grid configuration itself; and it is fundamentally a morphological issue in urbanism, a functional product of the intrinsic nature of the grid, not a specialized aspect of it.

In relation of the natural movement in the historical inner city, Karimi (1997) stated that a fundamental results of organic cities is urban elements endeavor to locate themselves in the most appropriate occupations which suit their functional, social and symbolic character inside the spatial structure of the city; simultaneously; the spatial structure evolves in response to the formation of urban elements, creating the most appropriate spatial configuration for the established urban entities. In this sense, organic cities develop some general similarities, which are created by the common logic of traditional cities, as well as some difference, which are created by the diversity of socio- economic and environmental forces.

In conclusion, the urban elements (attractors) had been placing themselves to the most appropriate occupation in the configuration of a historical inner city. Therefore, in order to respond the deterioration of the historical inner city, the natural movement encouragement could be the appropriate solution in the conservation strategy towards sustainable development. Moreover, the effort to encourage the natural movement means re-optimizing the existing configuration and attractors. By doing that, conservation through usage could have its way. Finally, the natural movement will strengthen the built and natural environment and socio-economic life.

### Conclusion

Urban conservation and Sustainable development share similar goals: searching for the balance between economic competitiveness, environmental sustainability and social cohesion. From the approaches described in section 4, the theory of phenomenology of place and configuration approach could be used in search of the strength and weaknesses in the attempts to answer the conservation problems.

The phenomenology approach is able to show a very distinct view of place identity, which enables us to analyze and answer the social cohesion problems and part of environmental side, but has limitation to response economic problems. On the contrary, using the configuration approach could give a clear spatial character of a place, and thus enable us to identify the economical and environmental values of a place, but not to observe the place identity (social life and environment ambient).

Therefore, the optimization of these two approaches should be done in the attempts of urban conservation towards a sustainable city.

## PROJECT DEVELOPMENT SCHEME

### Starting Point, Process and Result

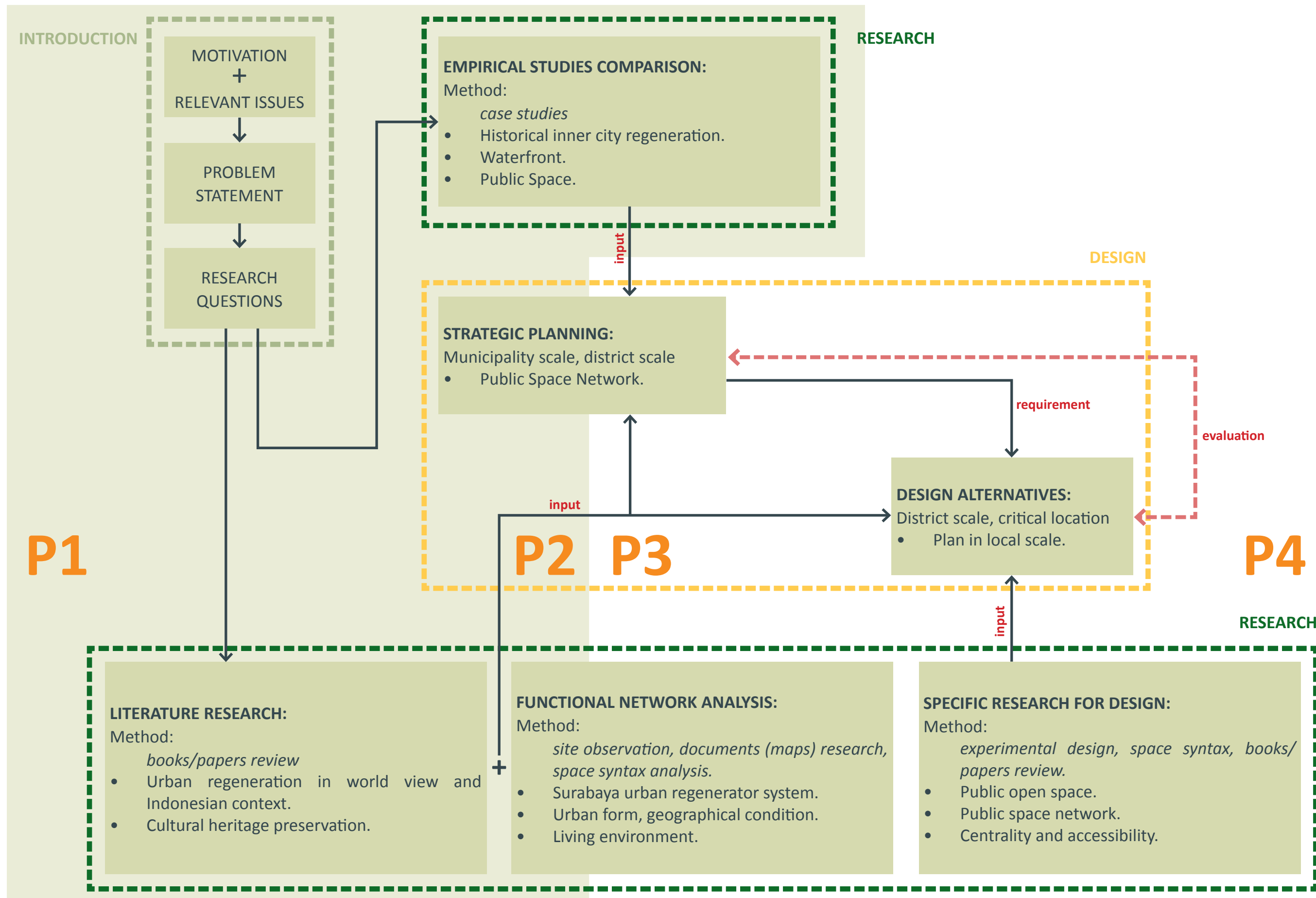
The project has been started with the sets of proposal, which contains motivation statement, context/relevant issues, problem statement, and research questions. Several methods will be used as described and showed in the project development scheme (please see page 27).

The project will be monitored and assessed by 5 times of presentation (P1-P5). Basically, P1 and P3 are progress presentations, while P2 and P4 are the GO/ NO GO judgments'. P5 will be the final graduation moment after overall evaluation. Therefore, the project scheme indicates the combination of P1 - P2 and P3 - P4 periods.

For P2, the literature research, and functional network analysis will be done, followed by preliminary case studies and preliminary strategic planning in regional and municipality scale. The input from P2 presentation will be considered for the final strategies and move on to programming and design alternatives part. P3 and P4 period will be dedicated mainly for design and several specific researches which supporting the design.

The expected results are the strategic planning scheme and urban design/guidelines, ranged inner city level, and district level (further refer to table on page 28).





LEVEL OF ANALYSIS AND INTERVENTION

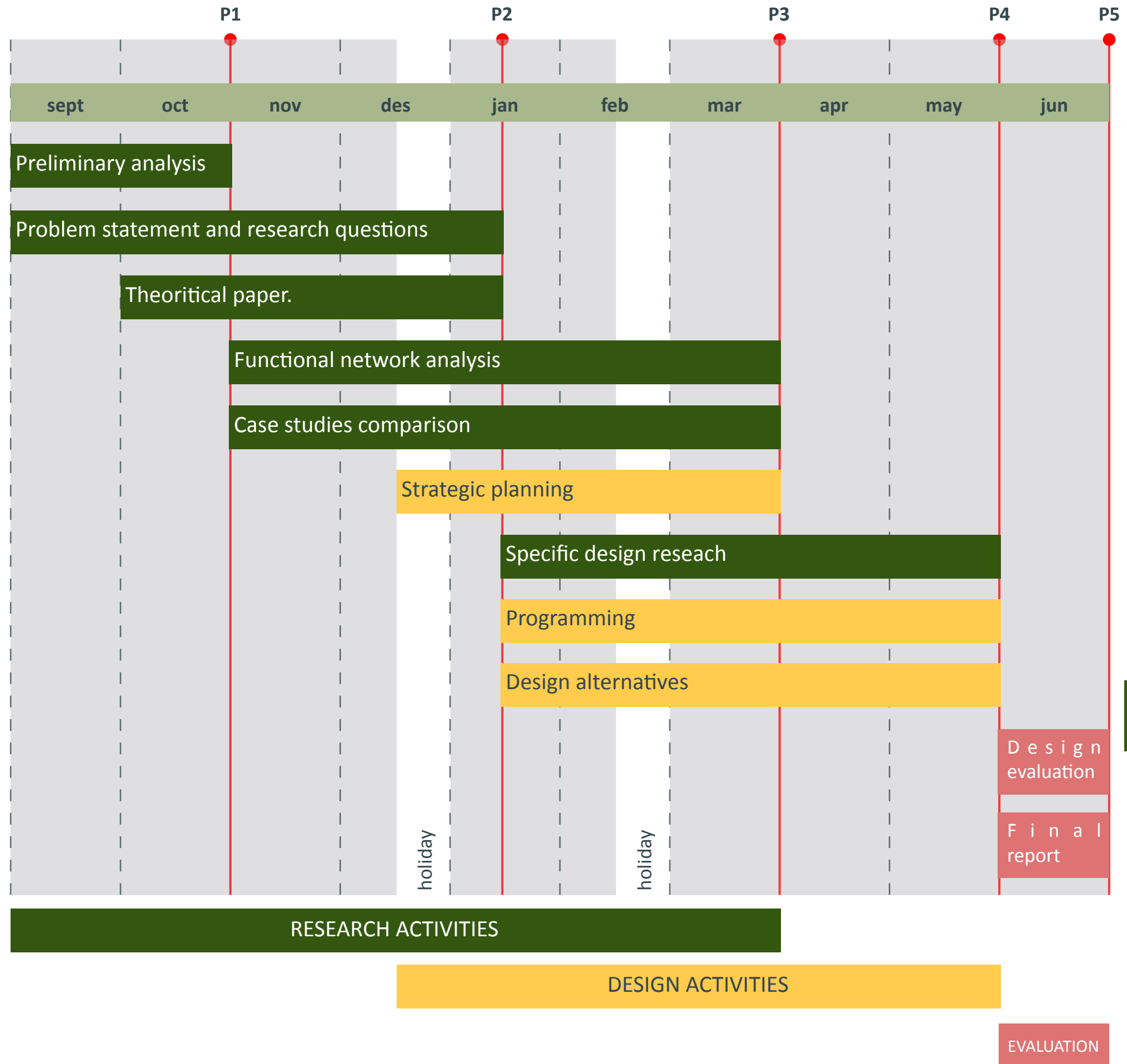
On the bigger scale, the emphasis of the research is to get the understanding of how the economic - social - built environment forces relationship of Old Town to Surabaya municipality and vice versa, thus it gives an illustration on improving the Old Town' living quality.

Level \ Approach	ANALYSIS	STRATEGY	DESIGN
<b>SURABAYA CONTEXT</b>	How is the city grows? What are the main forces of Economic - Social - Built Environment within Surabaya?	How to improve the accessibility and connectivity to and from the Old Town?	n/a
<p>The Old Town Context and Neighborhood Context analysis will concentrate in spatial condition. The output of the Research Paper <i>“Historical Inner City Conservation towards Sustainable City: Through The Phenomenology of Place and Configuration Approach”</i> will be the assessment criteria of proposing better living environment in Old Town.</p>			
<b>OLD TOWN CONTEXT</b>	What are the forces of Economic - Social - Culture - Built Environment within Old Town? What is the spatial condition existed in Old Town? Which are the spatial conditions of Old Town that needs to be preserved and improved?	How to sustain and improve the existing economic forces? How to preserve the heritage culture? How to create Old town become a vibrant place?	Design Guidelines for Old Town
<b>NEIGHBORHOOD CONTEXT</b>	What are the characteristic of neighborhood in Old Town? Which neighborhood location that has an important role on Old Town regeneration?		Detailed Master Plan on critical area



### Research and Design Interwoven

As indicated in the timeline diagram, the process of research (green bars) will start the project development until P2 presentation. Later on, the interwoven between Research and design (yellow bars) will be occurred to achieve the expected result in P4. The time left before P5 will be for evaluation and the finishing of the final report.







p. 30 **chapter 3 - OLD TOWN SURABAYA - ANALYSIS**



Main entrance of Sunan Ampel



This chapter will discuss the Old Town area in more detail in order to obtain solid information about all the problems and potential that owned by the Old Town. Then from the analysis of those two things (problems and potential) will be used as a basis for making a proper strategy in creating the new life in Old Town Surabaya.

OLD TOWN SURABAYA BOUNDARY



Figure 3.1. Surabaya's map in 1897

The Surabaya city wall is illustrated on Surabaya map that produced by Dutch Colonial Government at 1897 (figure 5.1). And at the present, this former city wall line is turned out to be the boundary of Old Town by the Surabaya Local Government.



Due to 'one lane direction' system that has been used in Old Town, the main entrance to this area is only through the Rajawali road (green star symbol). Thus Rajawali road and Kembang Jepun road becomes the main route in the Old Town. Accessibility to the Old Town Surabaya can be reached by using private vehicles and public transportation (buses and bemo) as shown in figure 3.2. The use of 'one lane direction' system also resulting a low accessibility of people to find this area due to a large number of street turning and a low flexibility to travel in and out. Although Kalimas River which divides the city of Surabaya provides a direct connections from city center to Old Town, but no public transportation use this river as a transportation route.

Traffic congestions in Old Town are happen in weekdays within working hour in the weekdays. In Rajawali road, it is caused because its position is intersecting with bemo's exit point, while in Kembang Jepun road and Veteran road, traffic congestion are caused due to these roads are functioned as an main exit point from Old Town.

When we view it from the Surabaya context, Rajawali road and Kembang Jepun road are one of the Surabaya corridor that connecting East and West. Therefore this road' capacity is often become an issue because it must accommodate the distribution of the Old Town daily activities as well as a corridor to connect Surabaya East and West (please see figure 3.3).



Figure 3.2 Old Town Accessibility map

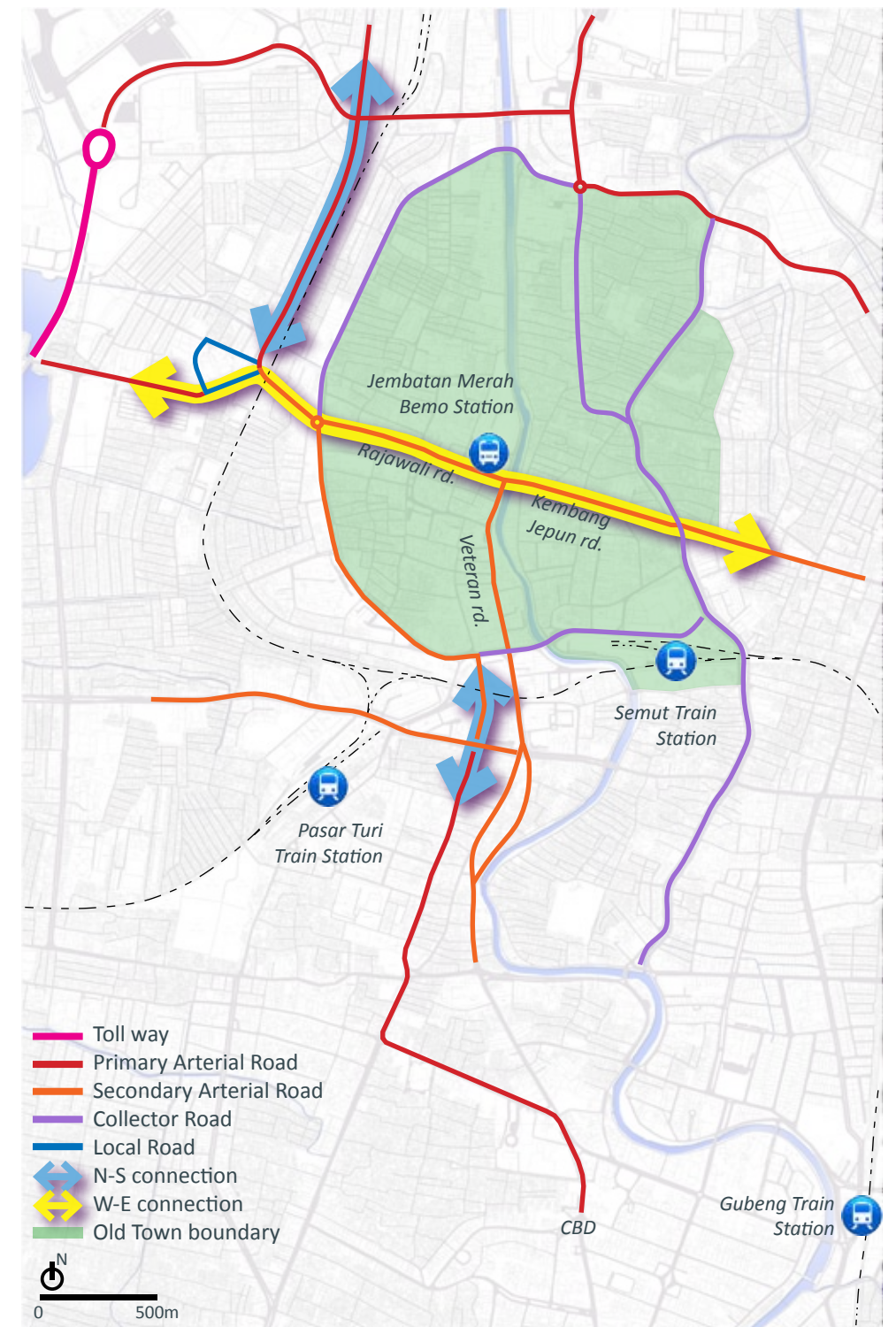


Figure 3.3. Old Town Road Network and Hierarchy map



The land use diagram (figure 3.4) shows that Old Town is dominated by commercial area (18.5%) and residential area (20%). Commercial area lies along the main street Old Town (Rajawali road and Kembang Jepun road); the south east of Old Town (Chinatown – Pabean Cantikan district); along KH Mas Mansyur road which is the main corridor in the Arab Camp; and along the Kebalen Timur road which is the main corridor of Dutch Kampong Area.

Industrial and warehouse area is located along the northern part of Kalimas River, which formerly used this river as the main transportation medium. And it had replaced by land transportation.

Residential areas are located at the North West part (Dutch Kampong); at the South West part (Surabaya Kampong) and the South East part (Chinatown). Those three residential locations are formed during the Dutch Colonial period. While residential in the North East part (Arabic Camp) has been formed earlier due to the establishment Ampel Mosque in the 15th century.

There is insufficient number of green open space in this area. There are only two public open spaces available, which are Jayengrono park which located in intersection of Rajawali road and Kalimas River and Batu Puteh graveyard which located in Simokerto district.

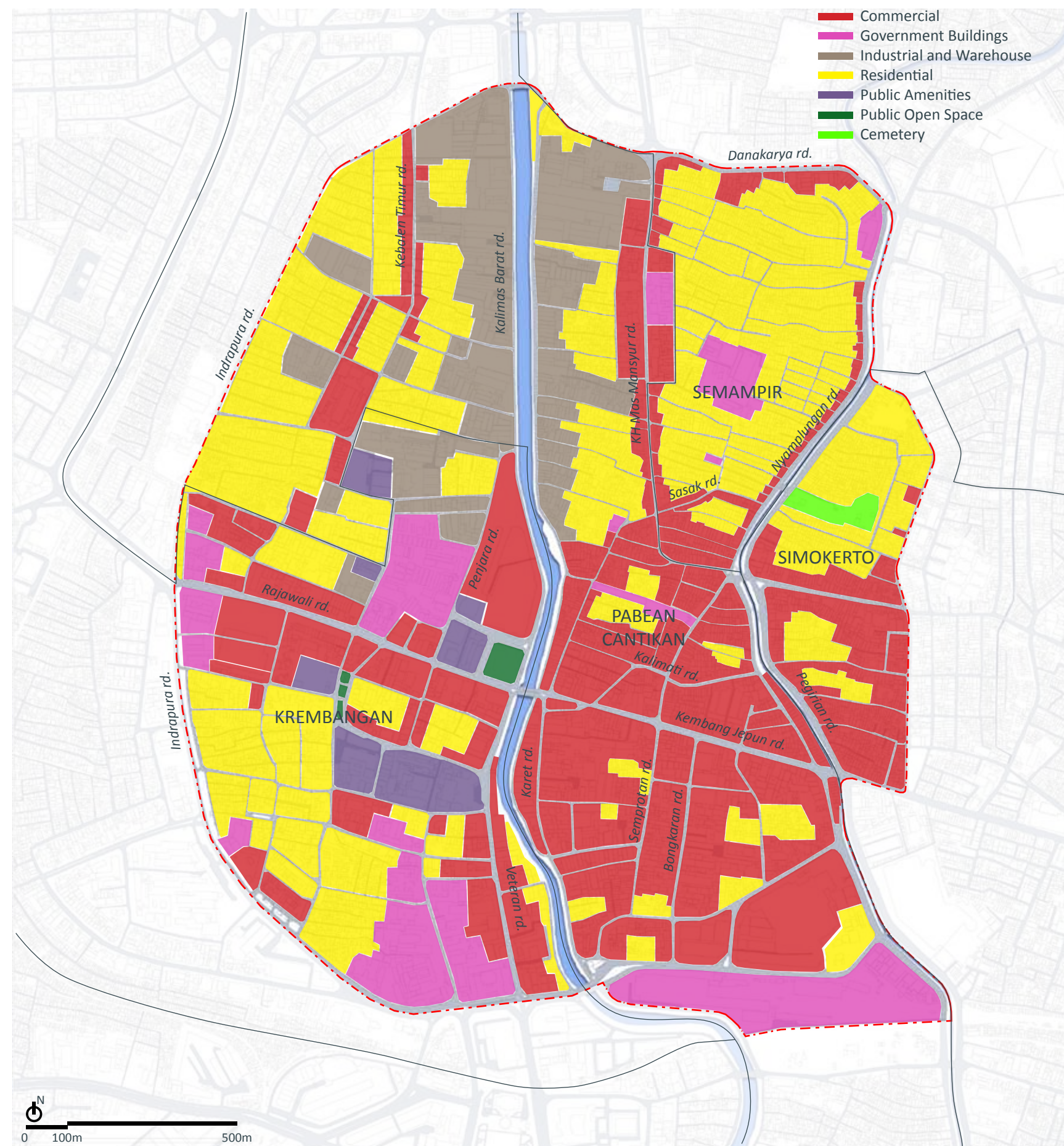


Figure 3.4. Land Use Diagram of Old Town Surabaya, source: Dinas Tata Kota Surabaya, 2008, redrawn by author



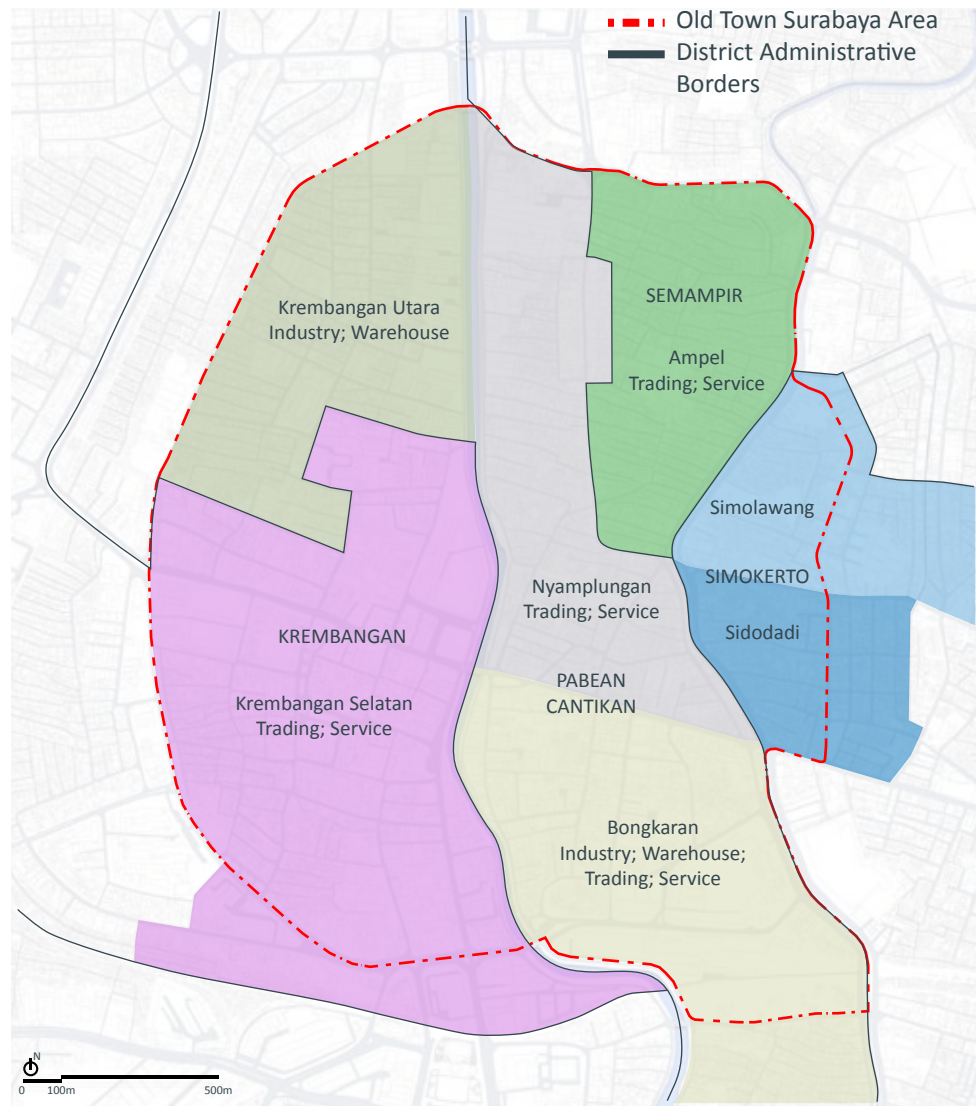


Figure 3.5. Sub District Administrative Borders, source Dinas Tata Kota Surabaya

The Old Town Surabaya is consisting of four administrative districts, which are Simokerto, Pabean Cantikan, Semampir and Krembangan as shown on figure 3.5. Old Town is one of the densest areas in Surabaya with a density rate of 21.354 inhabitants/km<sup>2</sup> (Surabaya in overalls is 7.996 inhabitants/km<sup>2</sup>). This area was a center of commerce and industry since the past, and this has continued until today. As shown in figure 3.5, trading, industrial and warehouse activities dominate this area. The majority of local residents are working in the field of trade and services as shown in figure 3.9.

District	Sub District	Population			
		age 0-24	age 25-59	age >60	Total Population
SEMAMPIR	Ampel	5,573	6,277	1,153	13,003
PABEAN CANTIKAN	Bongkaran	3,673	4,607	936	9,216
	Nyamplungan	3,391	4,117	705	8,213
	Krembangan Utara	7,003	8,010	1,448	16,461
KREMBANGAN	Krembangan Selatan	5,877	6,878	1,008	13,763
SIMOKERTO	Simolawang	9,157	9,099	1,329	19,585
	Sidodadi	6,220	6,753	1,170	14,143

Figure 3.6 Population, source: BPS Surabaya, 2006

District	Sub District	Density	Poor Population	
			No. of Poor Population	% to Total Population
SEMAMPIR	Ampel	30,240	1,660	12.77%
PABEAN CANTIKAN	Bongkaran	11,520	1,298	14.08%
	Nyamplungan	15,496	3,481	42.38%
	Krembangan Utara	32,276	1,022	6.21%
KREMBANGAN	Krembangan Selatan	11,664	1,112	8.08%
SIMOKERTO	Simolawang	51,539	6,930	35.38%
	Sidodadi	23,971	1,396	9.87%

Figure 3.7. Number of Poor Population, source: BPS Surabaya, 2006

District	Sub District	Total Labor Force	% to Total Population	No. of Unemployment	% to Total Labor Force
SEMAMPIR	Ampel	5,066	38.96%	309	6.10%
PABEAN CANTIKAN	Bongkaran	3,872	42.01%	82	2.12%
	Nyamplungan	3,258	39.67%	212	6.51%
	Krembangan Utara	8,006	48.64%	524	6.55%
KREMBANGAN	Krembangan Selatan	6,917	50.26%	305	4.41%
SIMOKERTO	Simolawang	8,688	44.36%	715	8.23%
	Sidodadi	6,628	46.86%	221	3.33%

Figure 3.8. Labor Force, source: BPS Surabaya, 2006



BUILDING FUNCTION

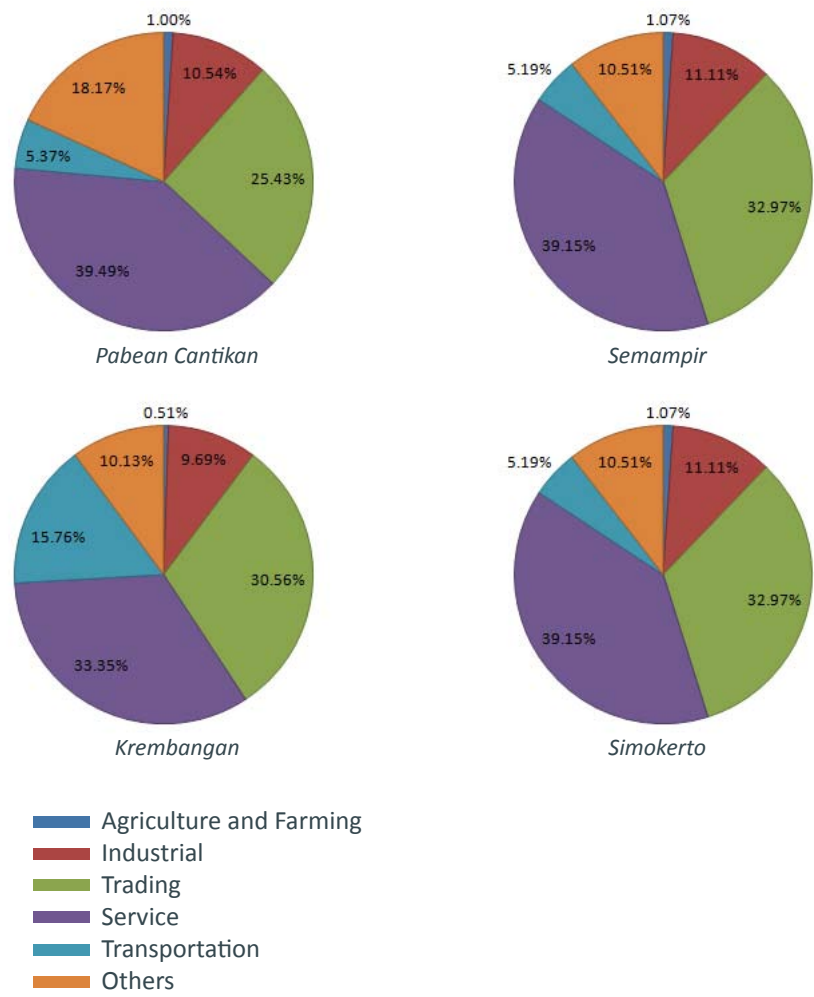


Figure 3.9. Labor Force, source: BPS Surabaya, 2006

Building Function	Ground Floor Area (Ha)	Percentage
Commercial	50.41	15.21%
Government Office	4.46	1.35%
Public Amenities	12.62	3.81%
Mixed Use	10.90	3.29%
Residential	66.70	20.13%
Industrial Area	21.28	6.42%
River	1.36	0.41%
Road	44.30	13.37%
Green Open Space	2.03	0.61%
Others	117.30	35.40%
<b>TOTAL AREA</b>	<b>331.38</b>	<b>100.00%</b>

Figure 3.10. Labor Force, source: BPS Surabaya, 2006

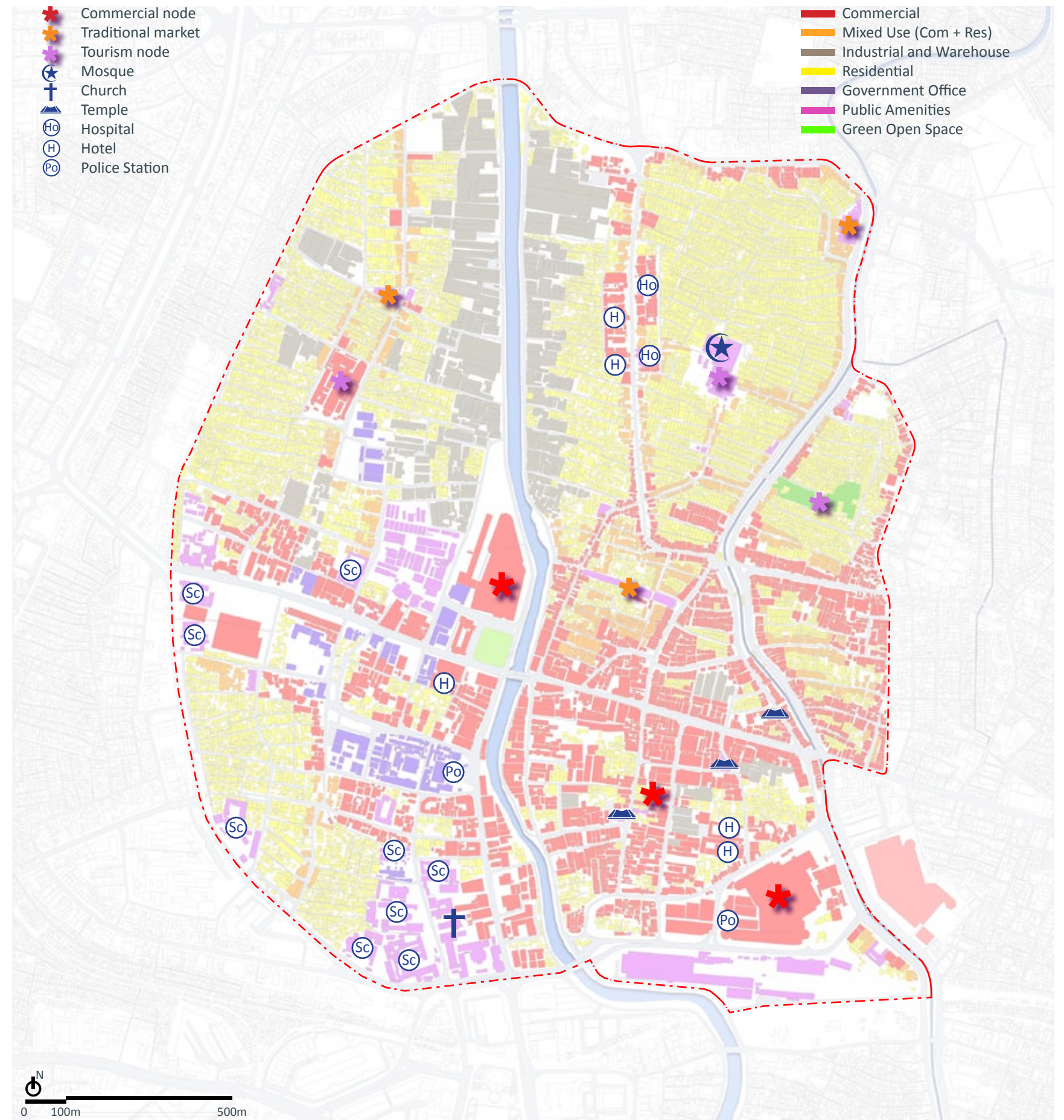


Figure 3.11 Building Function Diagram of Old Town Surabaya



LOCAL ECONOMIC FORCES MOVEMENT

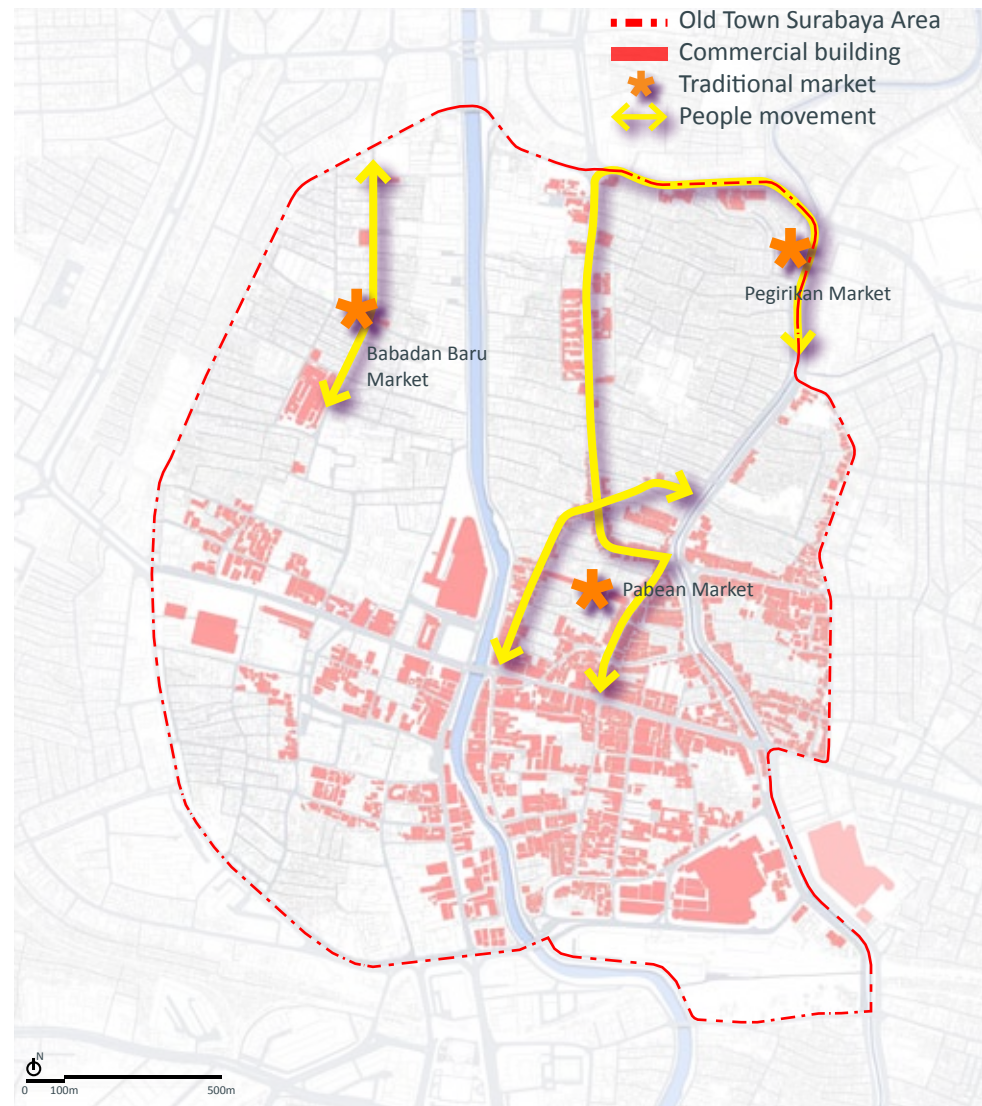


Figure 3.12. Local scale trading and business movement

CITY AND REGIONAL ECONOMIC FORCES MOVEMENT

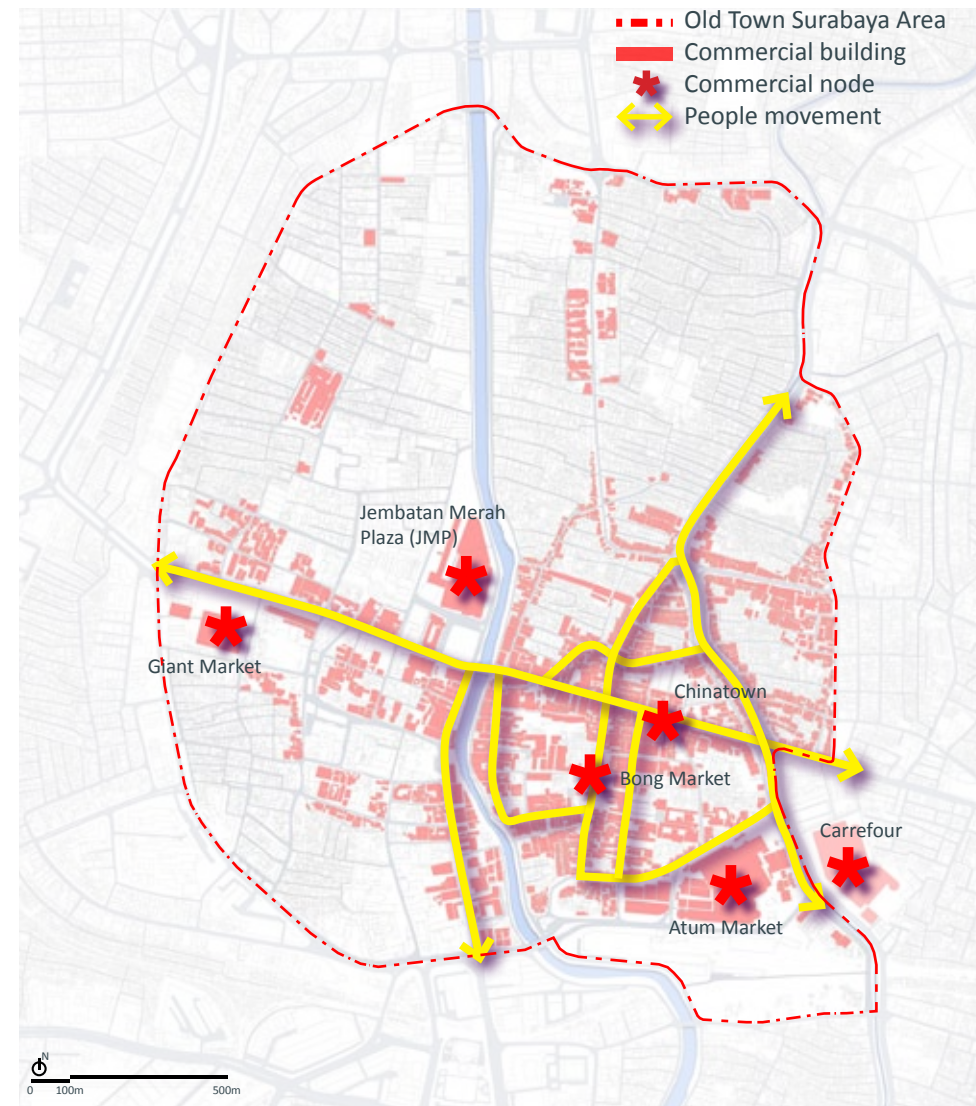


Figure 3.13. City and regional scale trading and business movement

TOURISM ACTIVITIES FORCES MOVEMENT

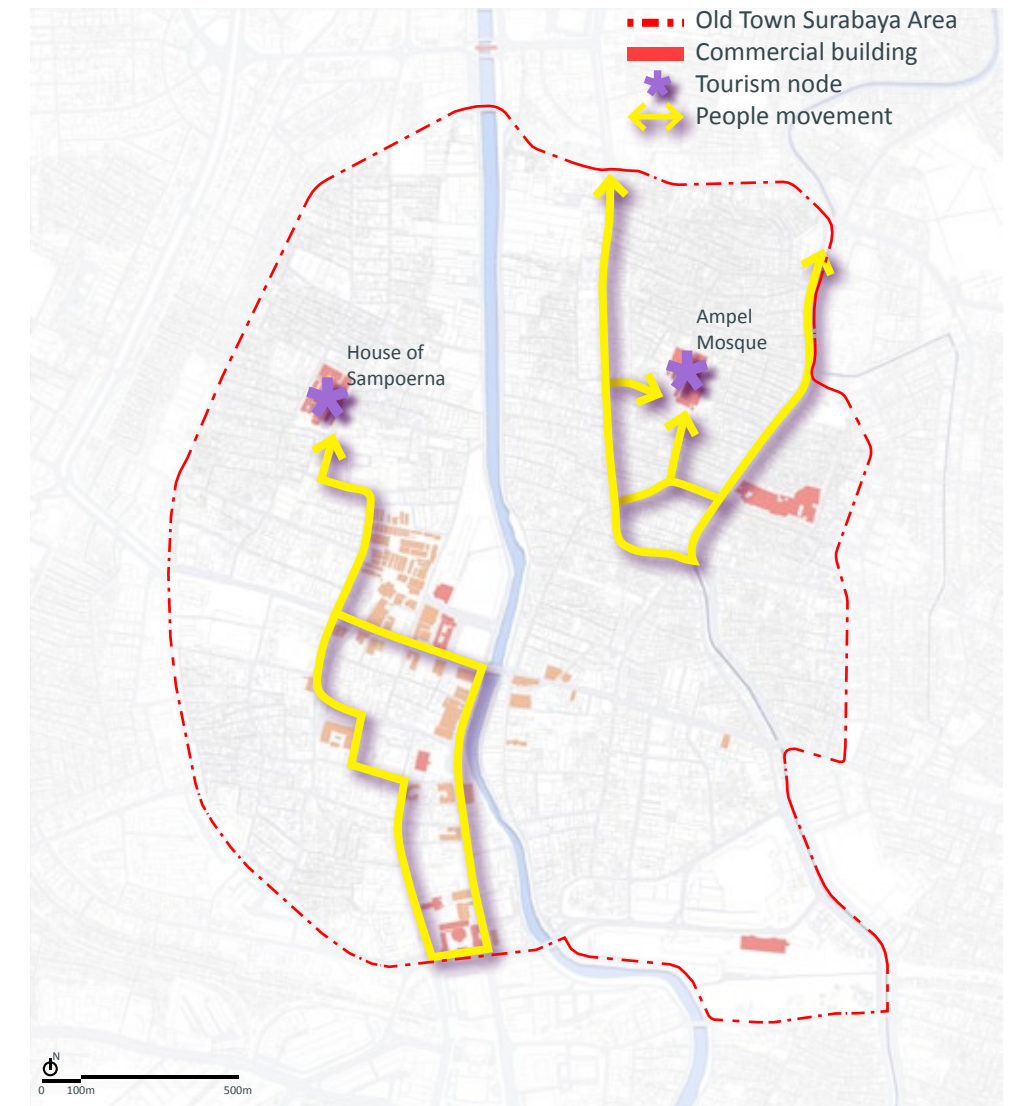


Figure 3.14. Tourism activities movement

p. 36

Local economic force that occurred in Old Town is located on three traditional markets, which are Babadan Baru Market at Kebalen Timur road, Pabean Market at Songoyudan road and Pegirikan market at Nyamplungan road. Babadan Baru and Pegirikan are a traditional market that sells people daily needs, and both these markets serve the peoples of Old Town and surrounding. While the Pabean market is concentrated to sell fresh seafood and it serving in a wider scale compare to Babadan Baru and Pegirikan market. Pabean market's activity only begins at dusk that create Kalimas Timur road as an access point to the Pabean market became crowded at that time.

In the city and regional scale, the economic force that occurred in Old Town is centered in Chinatown (Kembang Jepun road, Veteran road and Nyamplungan road) and 'Business and Service' area (Rajawali Road and Veterans Road). Due to a close relationship with the Tanjung Perak port, Chinatown becomes the center of wholesaler business in office equipment (stationary), cloth materials and industrial equipment. In addition, there is also some business warehouses located in the north of Chinatown. In Business and Service Area (Rajawali road and Veterans road) is one of the office parks in Surabaya. Many banking and financial offices as well government buildings are located here.

Tourism sector in the Old Town is concentrated in two locations, which are House of Sampoerna and Ampel mosque. House of Sampoerna became a meeting point of Surabaya's colonial architecture tourism by offering photography tour and as well merchandise shop and café. Meanwhile, Ampel mosque which is the proliferation center of Islam since the 15th century offers religious tours for Muslim. Each year, thousands of Muslims from all over Indonesia came here to do a pilgrimage (religious tourism). As a result, the peoples around the mosque Ampel alter their house's function to be a mixed use with commercial activity on its ground floor and sell goods that related to the religious tourism.



## HERITAGE BUILDINGS AND ROAD NETWORKS

As discussed on previous sub chapter (Accessibility), the main roads (secondary arterial road) in Old Town consist of: Indrapura road (entrance road, one direction with 4 lanes road); Rajawali road (distribution road, one direction with 4 lanes road); Kembang Jepun road (distribution and exit road, one direction with 3 lanes road) and Veteran road (exit road, one direction with 3 lanes road). The main secondary and thirdly level roads (collector road and local road) in Old Town which consist Karet road, Slompretan road and Bongkaran road (serving Chinatown); Panggung road, Sasak road and KH Mas Mansyur road (serving Chinatown and Arab Camp) are one direction with 2 lanes road. This one direction rules that applied in most Old Town's main roads indicates 'car oriented movement' in area. Further explanation regarding 'car oriented movement' will be added on the next subchapter.



Rajawali road



Kembang Jepun road

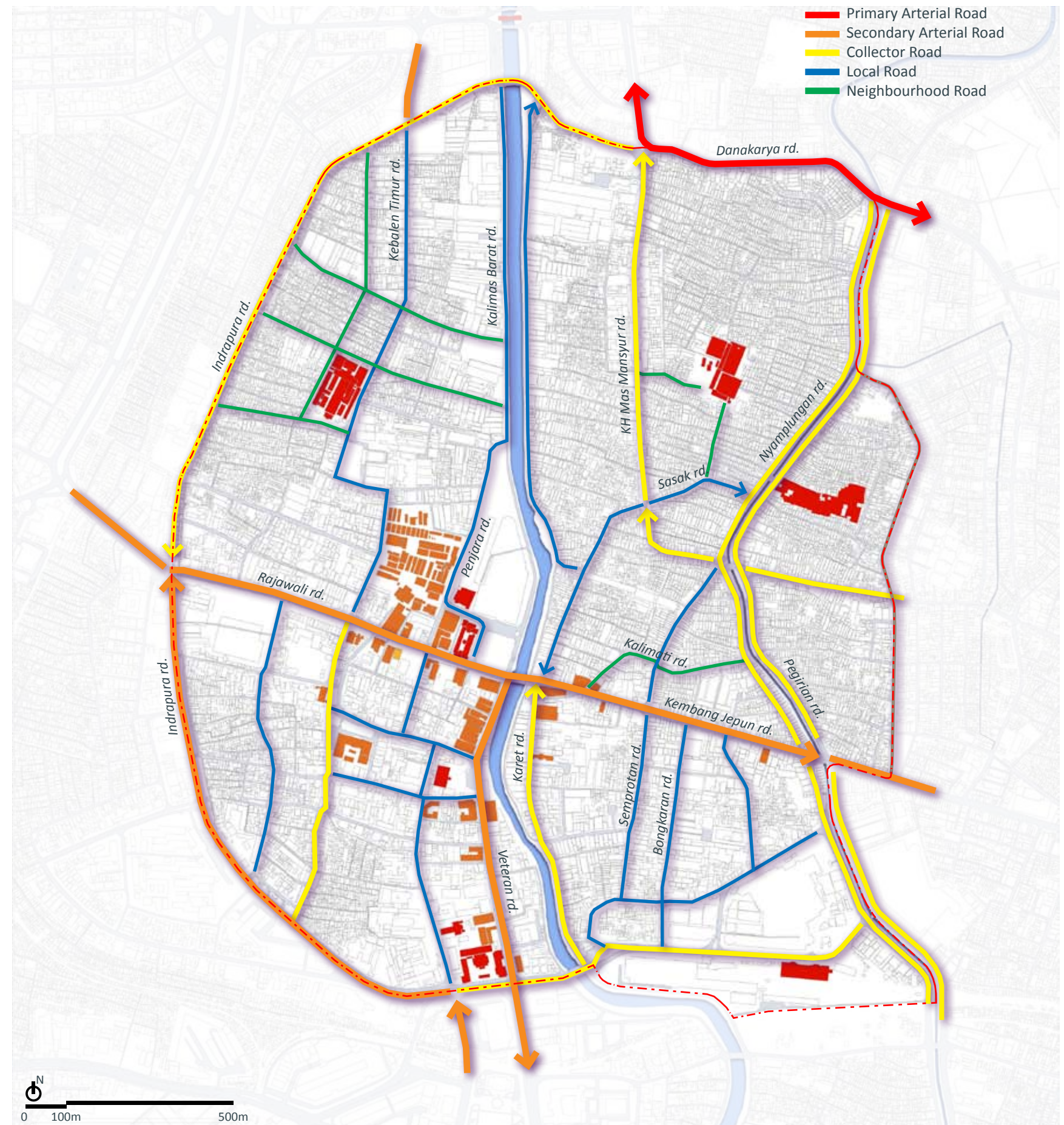


Figure 3.15. Heritage Buildings Location and Road Networks Diagram



HERITAGE BUILDINGS AND PUBLIC TRANSPORTATION ROUTES

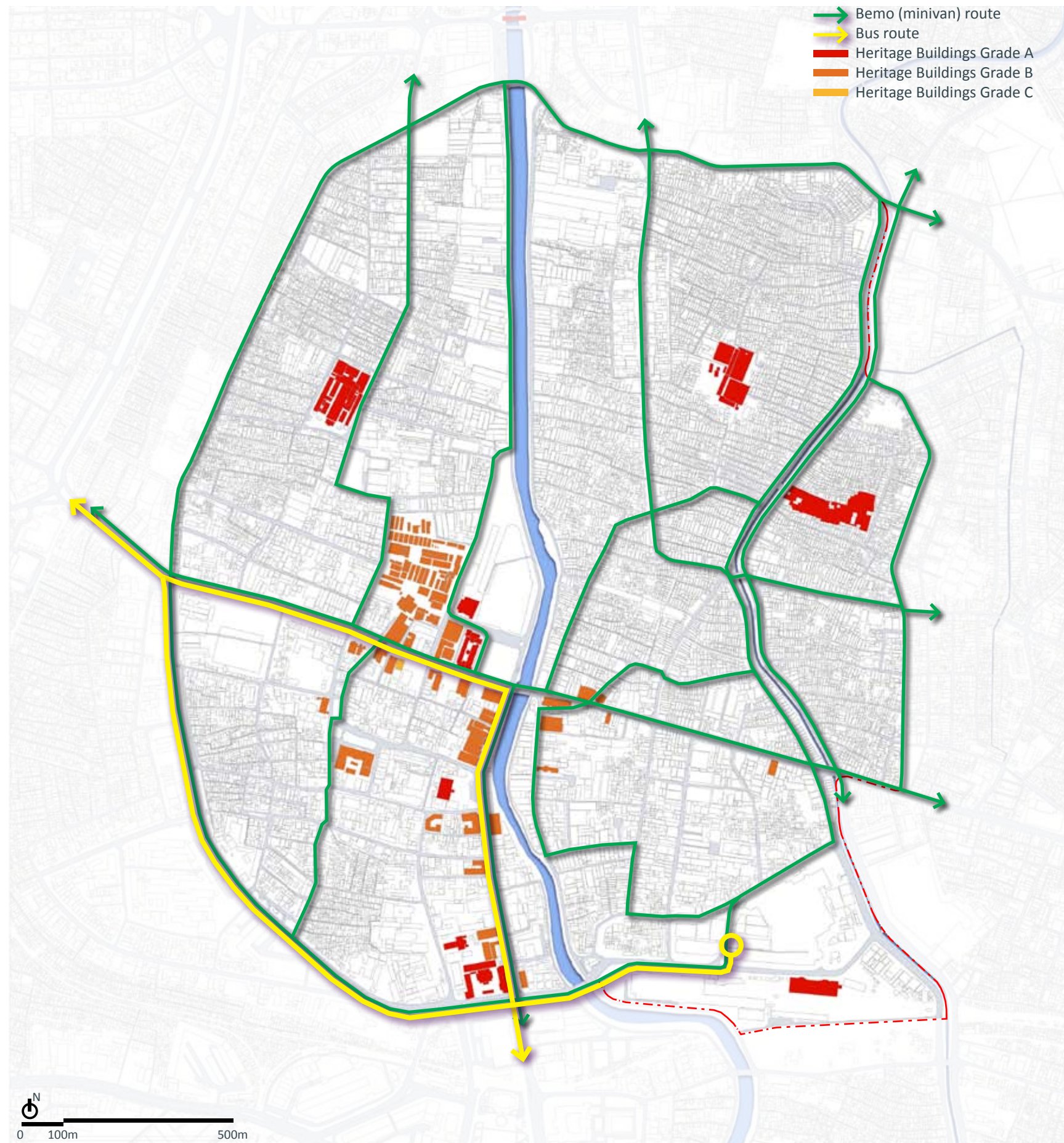


Figure 3.16. Heritage Buildings Location and Public Transportation Route Diagram

In general, the public transportation's routes have covered the whole Old Town area. Bus routes as indicated in yellow line serve only the quarter of the area and the remains areas are served by bemo. No implementation on bemo shelter system caused a chaotic traffic on the road, because they can stop to drop-off and pick-up the passengers at anytime and anywhere. In addition, unavailability of public transportation schedule resulting a poor service for the passengers. Therefore they prefer to use private vehicles (cars and motorcycles) to support their activities. Road become fuller by private vehicles and it reduces the area for pedestrian. Beside buses and bemo, there are many becak (trishaw) in Old Town that serve passenger in the neighborhood scale.



'Bemo' picks up passenger at anytime and anywhere.



'Becak' (trishaw) serving foreign tourist in Old Town.







BUILDING HEIGHT

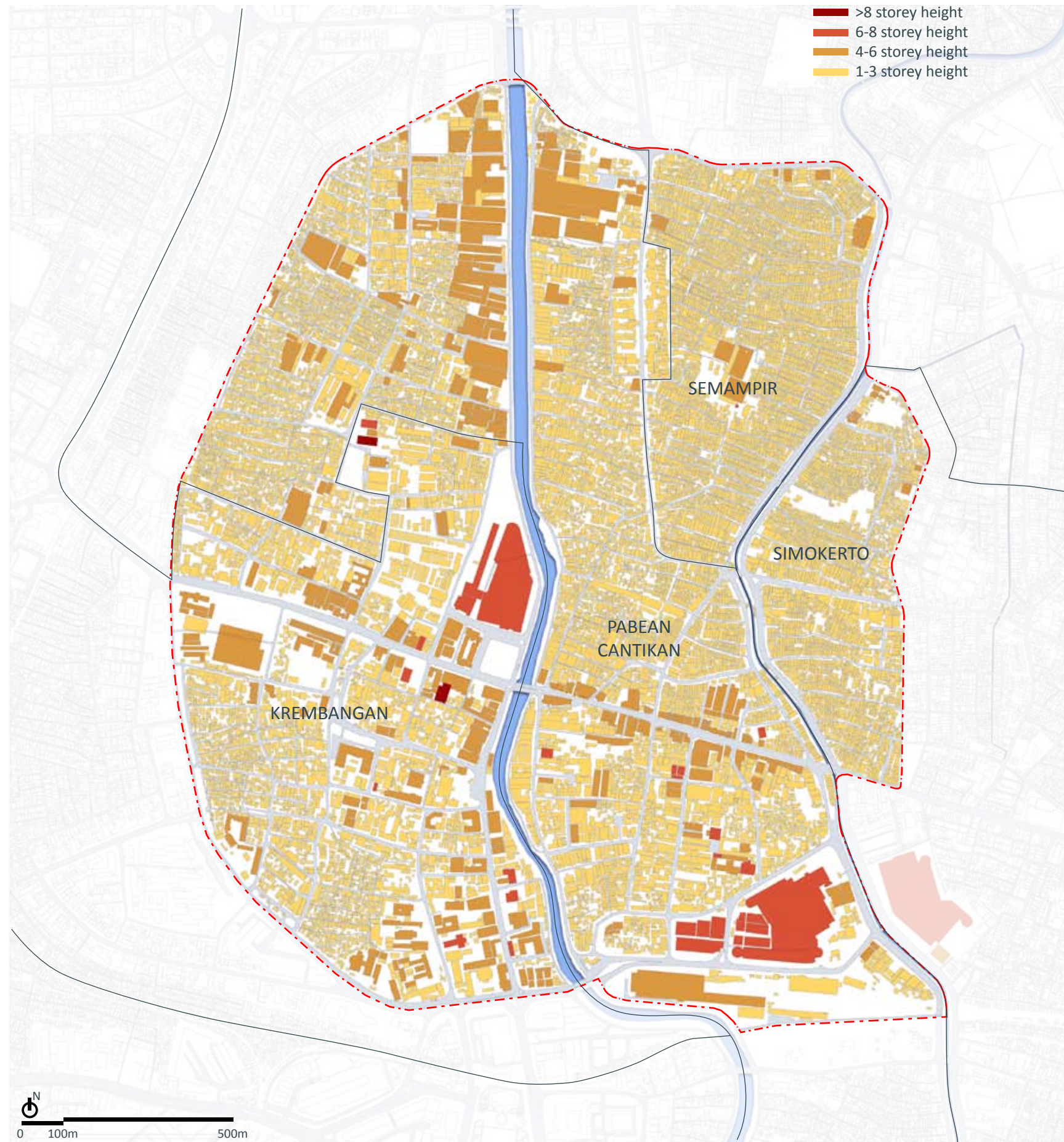
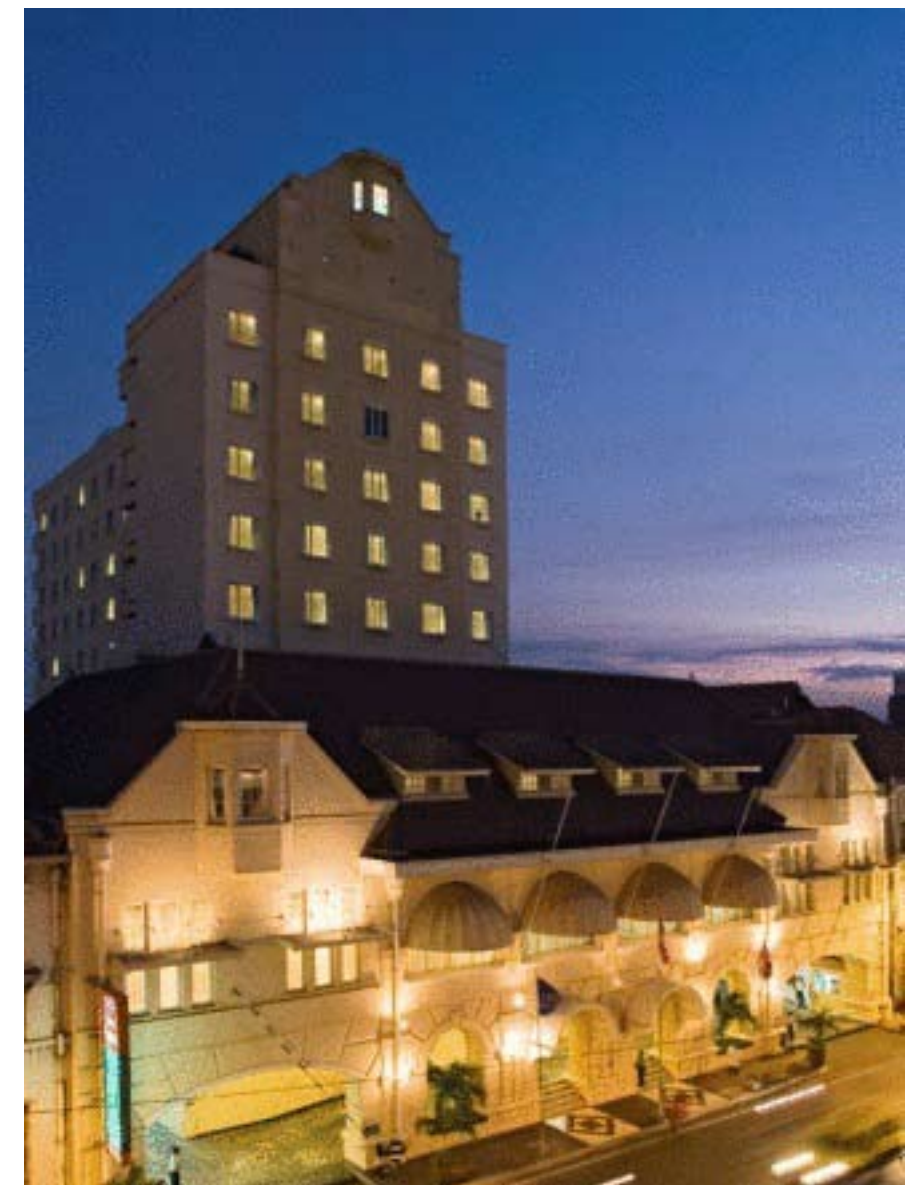


Figure 3.18. Building Height Diagram of Old Town Surabaya

The building height in Old Town is dominated by 1 to 3 stories building that functioned as a residential. Building with 4 to 6 stories were located along the Rajawali road, Kembang Jepun road and Veteran road where these are functioned as commercial and office. Other 4 to 6 stories buildings are also found in the northern part of Old Town (along Kalimas River) which is an industry area. An industrial building normally has 1 story, due to accommodate its activities, this building need higher ceiling height, which equals to residential building with 4 to 6 stories height. The 6 to 8 stories height buildings are appear in the middle and southeast part of Old Town, which both of them is a big shopping mall. And the tallest building in Old Town is located in the middle area, which functioned as a hotel.



Ibis hotel, the tallest building in Old Town (12 stories height).



DISTRICT CHARACTERISTIC



Figure 3.19. Urban Morphology of 6 Districts

Old Town is the first inner city of Surabaya. This area has been known as a port city and trading center since the kingdom of Majapahit kingdom ruled. Thus, many foreign traders such as the Arabs and the Chinese came here to do trading. And some of them decided to stay and settle in Surabaya. And from there comes the Arab Camp and Chinatown. As the time goes by, the inner city grows and it attracts more people to stay. When the Dutch Colonial government ruled this area, they began to organize its residence area based on ethnicity and building function. Of that reason, there are 6 districts with a different characteristic appear in Old Town as shown on figure 3.23. They are: Arab Camp; Chinese Town; Industrial Area; Dutch Kampong; Business and Service Area and Surabaya Kampong.

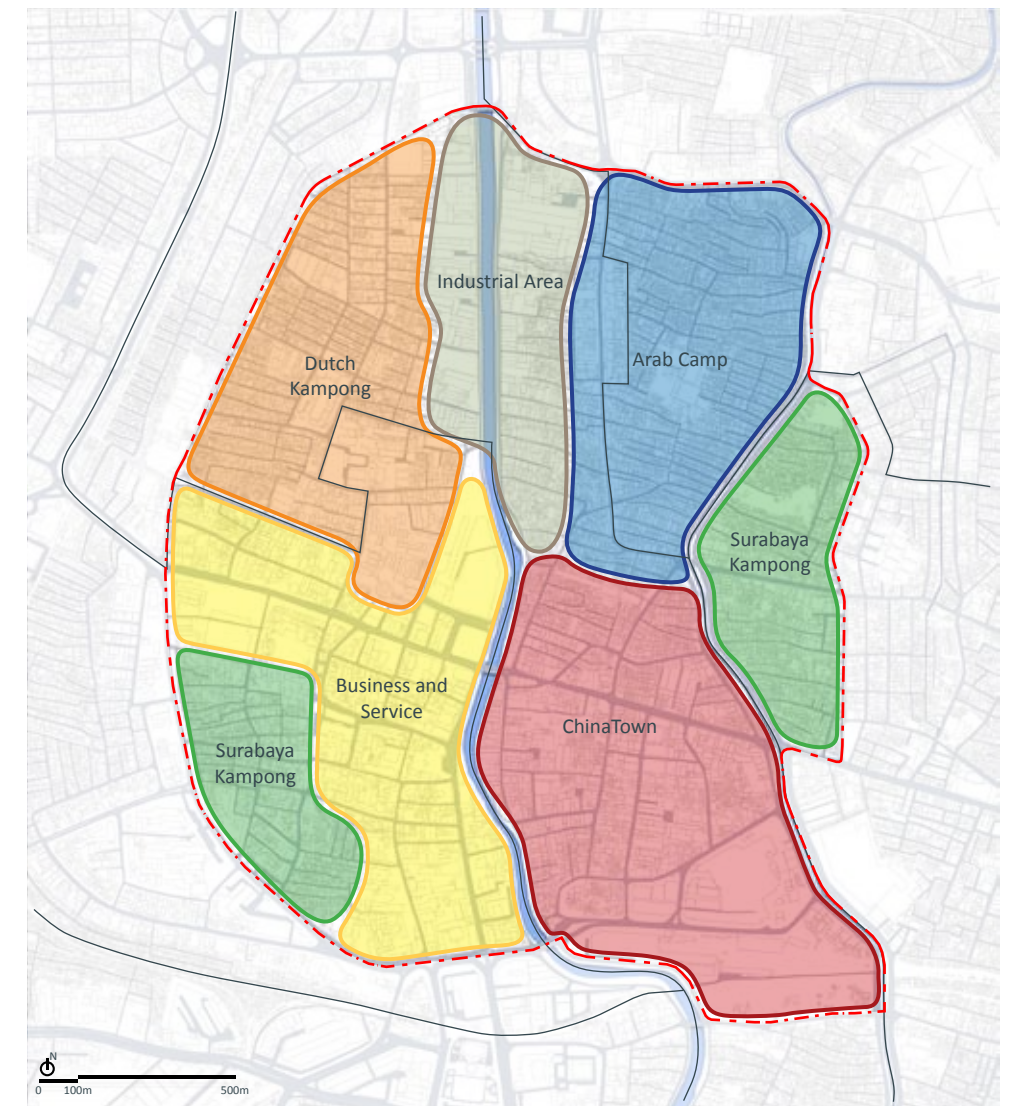


Figure 3.20. District characteristic of Old Town



**ARAB CAMP**

The Ampel Mosque that founded in 1421 was the proliferation center of Islam in East Java. It had attracted many people to settle in, including the Arab traders who have been trading here since the 16th century. Thus social and cultural assimilation with native inhabitants had occurred and it has result a strong community and sustain until now.

In the present situation, Ampel area is inhabited by Arabs and its descendants. Most of them work as traders, shop owners and work in local service business. Similar to other Arab region, Ampel Mosque as their main mosque became the economic and cultural center for the communities. The Ampel mosque as the proliferation center of Islam attracts visitors from outside Surabaya and even from outside Java to do a pilgrimage (religious tourism). It has causing the emergence of shop houses around the mosque, which means it is very encouraging the local economic activities and support the Ampel religious tourism.

The Arab Camp is centralized in the Ampel mosque which surrounded by two-story houses. Circulation in the Arab Camp is an alley system that can only be passed by pedestrians, bicycles and motorcycles. Therefore an intimate atmosphere is felt strong in this area. From this alley system, there are 5 main alleys that represent the five pillars of Islam as entrance point to the Ampel mosque. Along the 5 main alleys, there are a lot of shop-houses that support religious tourism in the Arab Camp.

Kalimati rd.



K.H Mas Mansyur rd.



Panggung rd.



Nyamplungan rd.



Figure 3.21. Image series of Arab Camp



**CHINATOWN**

Chinatown was begun from Hok An Kiong temple which built about two centuries ago in a lawn (now is known as Slompretan road). The lawn around the temple was originally used as a place to stay for barge boat crews that came from China. Starting from these temporary settlements, it generates a community and they start to build their permanent settlement which now is known as Chinatown. Chinese is the native resident who has been occupying this area since the Chinatown established. A very strong trading culture of Chinese has influenced the socio-cultural environment and their living environment. Chinatown's building typology is a shop-house with 3 to 4 storey height. These shop-houses circling an urban parcel and create an open area in the middle. This open area was allocated for green open space or parking area, but in current condition, this becomes a housing area for the worker who worked in Chinatown.

Economic forces in Chinatown are concentrated in wholesaler businesses because of a close relationship to Tanjung Perak port. Due to a rapid growth of trading business in Chinatown, it forced the building's owners to increase its commercial's floor area. And this makes the residential floor area had been pressed. Therefore the majority of Chinese inhabitant (business and building owner) had left from Chinatown to find a better home condition outside the area. And Chinatown become a mono-function area which only active in daytime and weekdays.

The building transformations in Chinatown are occurred without any architecture guidelines. Building façade was damaged, particularly occurred in the building that located in four main roads in Chinatown, which are: Kembang Jepun rd; Karet rd; Slompretan rd and Bongkaran rd. There are no proper pedestrians and public open spaces in Chinatown. Four main roads in Chinatown have to accommodate people movement; goods loading and unloading activities; commercial activities; vehicles movement, and these lead to traffic jam in working hour' weekdays.

Kembang Jepun rd.



Bongkaran rd.



Karet rd.



Slompretan rd.



Figure 3.22. Image series of Chinatown



**INDUSTRIAL AREA**

The existence of the Tanjung Perak port and the strategic location of Surabaya in Indonesian context had made industry activities in this area experiencing a rapid expansion. Since 1920, many industrial buildings were established along the Kalimas River to sustain up Surabaya as an industry city for the Eastern Indonesia. However, as described in chapter 1, the current industrial activities experienced a stagnant situation due to the government policy on setting up the industrial zones in Surabaya. It stated that new industrial park will located in Rungkut and Asemrowo. Therefore many industrial players left this area, and as a result, many abandoned buildings were popping up. This provides an opportunity for the Immigrants who do not have a place to stay to build their temporary house and started to settle here. As a result along Kalimas River, particularly in the east side, there are many temporary houses of the Immigrant. Because of a weak government’s regulation in dealing with this problem, it increases the number of temporary houses in the area.

Kalimas Timur rd.



Kalimas Barat rd.



Figure 3.23. Image series of Industrial Area

**DUTCH KAMPONG**

The Dutch kampong is a residential area that built by the Dutch Colonial government in order to provide housing for the Dutch workers who worked in the Industrial Area; Tanjung Perak port and ‘Business and Service Area’ at that time. After Indonesia achieved its independence in 1945, the Dutch residents who lived in this area were expelled, and then replaced by native residents who has still occupied until today. Thus the residents who now live in this area are a strong community. The majority of current residents are work in trading, local service business, worked as government officer and army. Kebalen Timur road and Kebalen Barat road are the two main parallel roads in Dutch Kampong. These two roads divide the Dutch Kampong into three major parts and these roads are connected by alleys where the residential area placed. There is House of Sampoerna in Dutch Kampong. It was a cigarette factory and it turn into a cigarettes museum which equipped with a café at current condition. This building becomes an important part for a tourist activity, because it is the central point (meeting point) of colonial architecture tourism in Surabaya.



**BUSINESS AND SERVICE AREA**

Business and Service Area is the office and the government area which established by the Dutch colonial government in order to support the industry and commerce activities in the inner city, as well as port activities at the Tanjung Perak. Buildings along the main roads (Rajawali road and Veteran road) were dominated by office and commercial buildings. While residential area located behind those buildings. This kind of building arrangement raises the impression of a mono-function area as we go through the main streets on a weekend. Many office and government buildings are being maintained in term of shape and function. And the nuance of colonial architecture in 'Business and Service Area' is still being felt. Therefore this area becomes another tourism destination which offers colonial architecture tourism (sightseeing and photography activities).

Kebalen Timur rd.

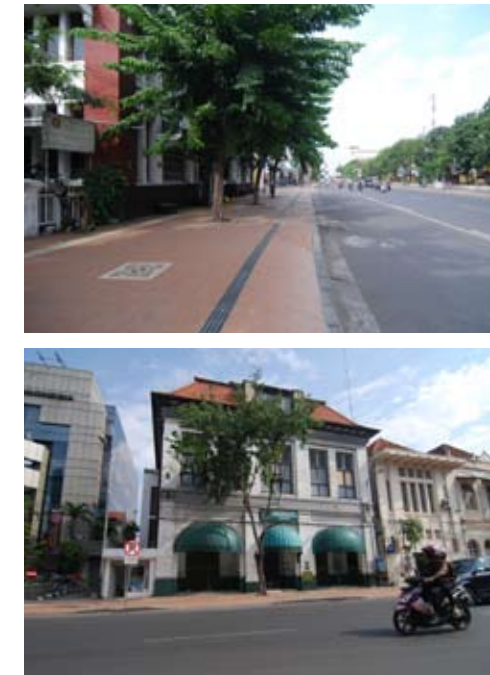


Kebalen Barat rd.

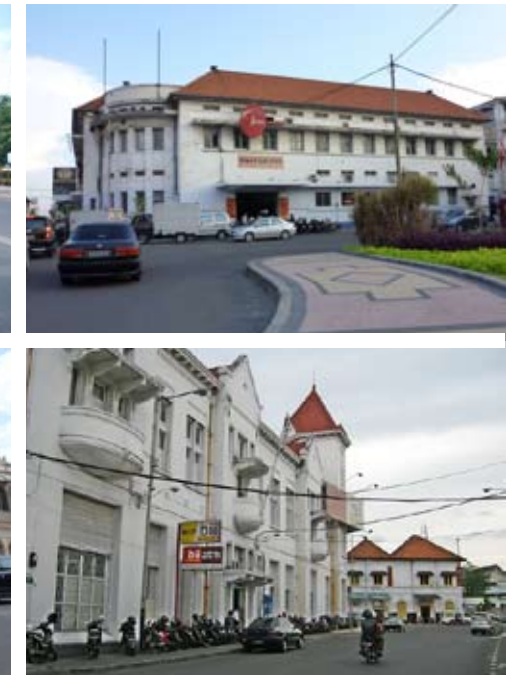


Figure 3.24. Image series of Dutch Kampong

Rajawali rd.



Veteran rd.



Krembangan Barat rd.



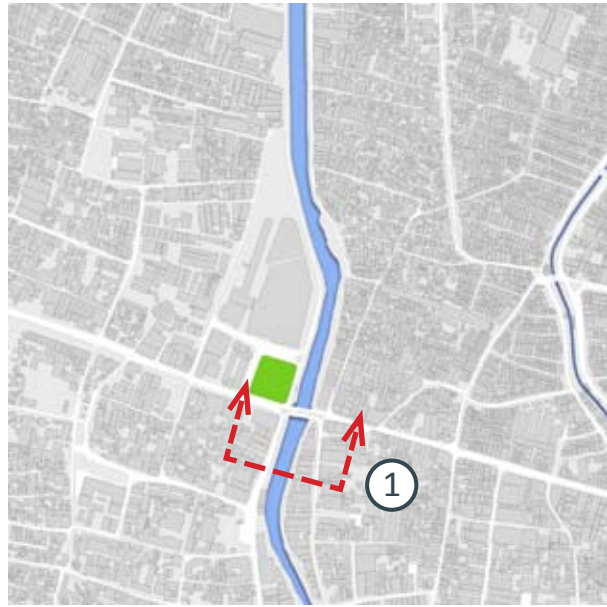
Belakang Penjara rd.



Figure 3.25. Image series of Business and Service Area



SECTION 1



- ① Well preserved heritage building and pedestrian.
- ② Abandoned bus shelter has blocked the connection to the river.
- ③ Kalimas River as a public amenities.
- ④ Private land has blocked the connection to the river.
- ⑤ There is no proper pedestrian path available, in addition this road is dominated by cars.

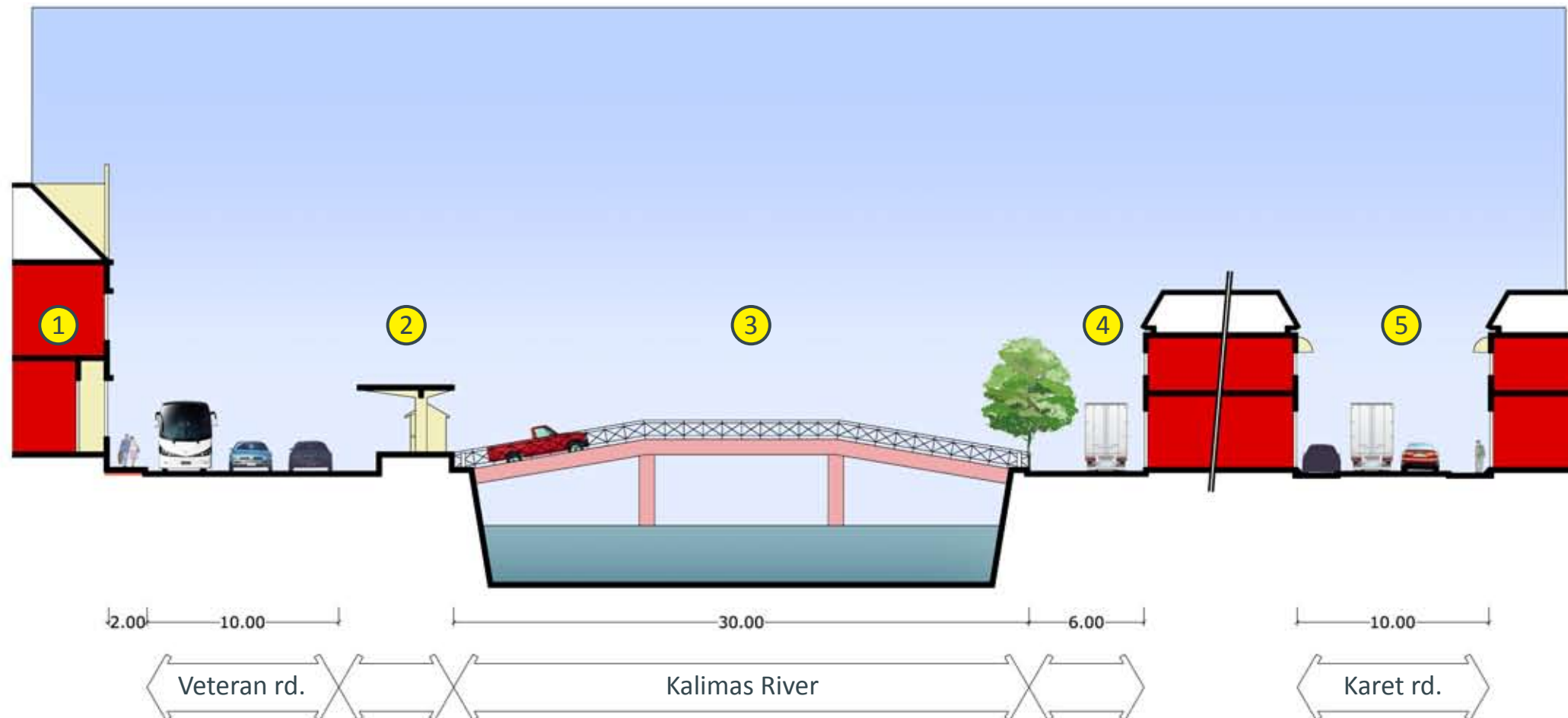
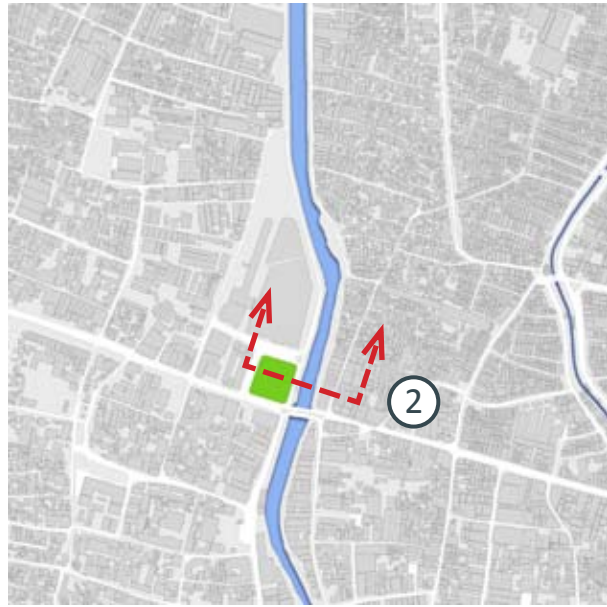


Figure 3.26. Section 1 diagram



SECTION 2



- ① Jayengrono Park as public amenities.
- ② The private entrance road to JMP has blocked the connection from Jayengrono Park to the river.
- ③ Kalimas River as public amenities.
- ④ Temporary house by illegal immigrants has blocked the connection to the river. And this road is the back side of commercial buildings.
- ⑤ There is no proper pedestrian path available, in addition this road is dominated by cars.

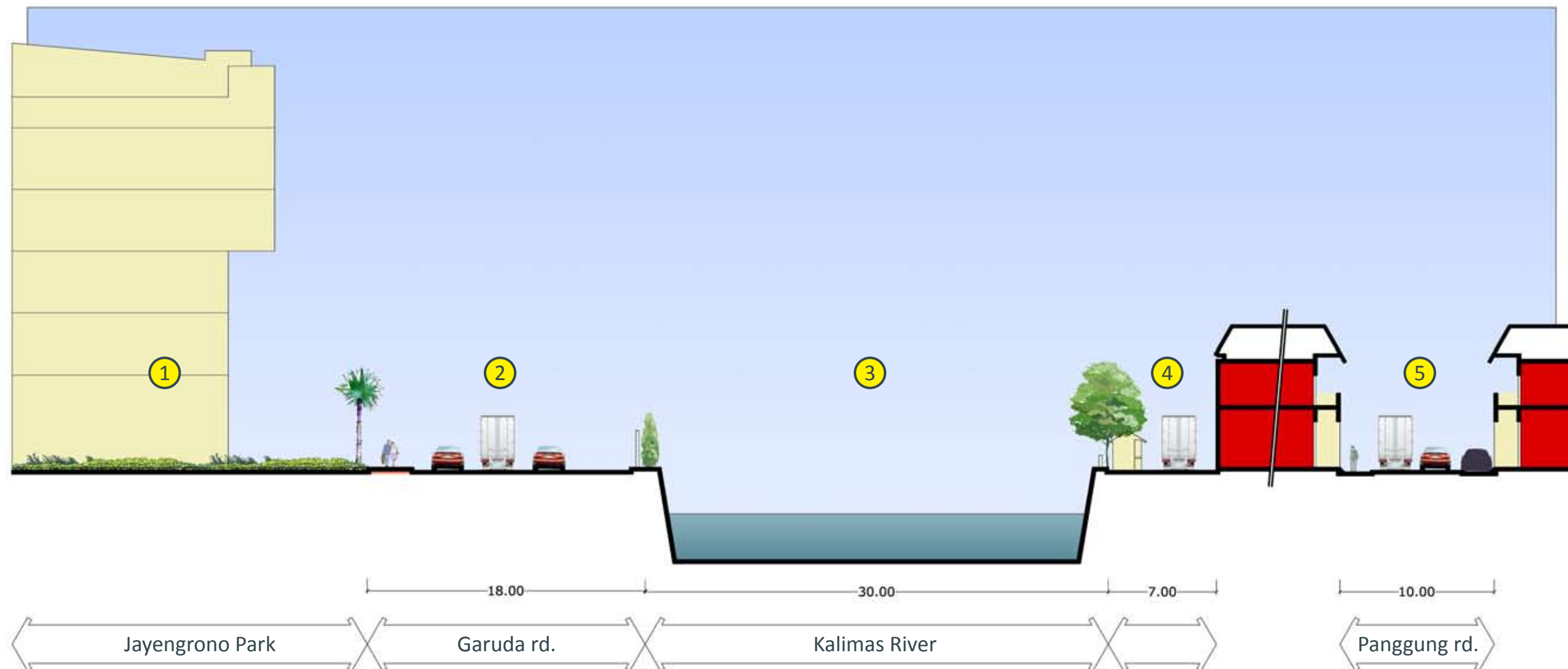
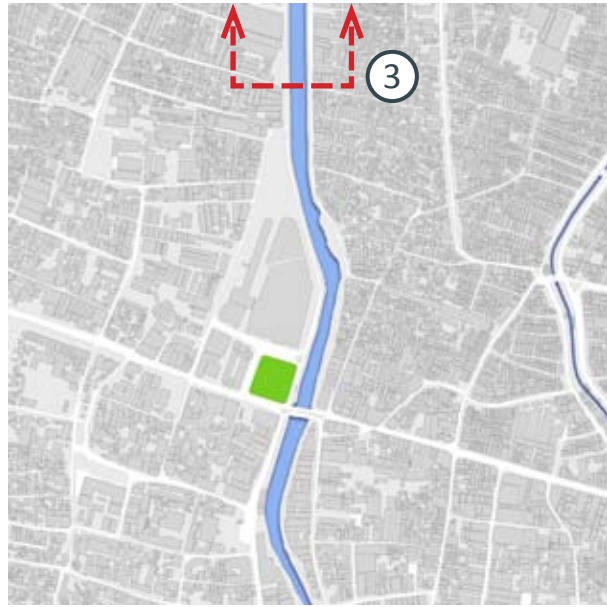


Figure 3.27. Section 2 diagram



SECTION 3



- ① Temporary house by illegal immigrants has give no room for pedestrian path.
- ② Kalimas River as a public amenities.
- ③ Temporary house by illegal immigrants has blocked the connection to the river.

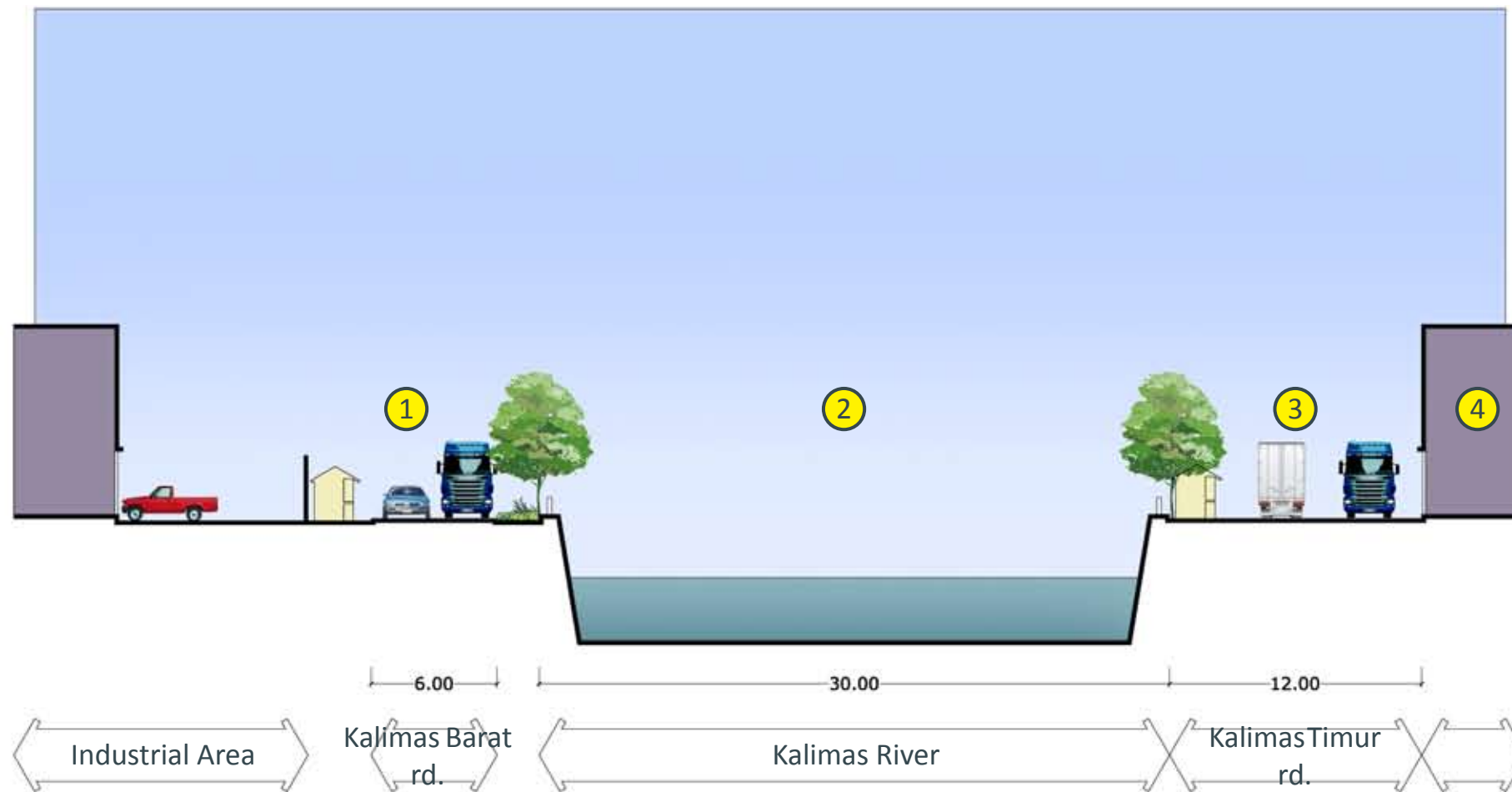


Figure 3.28. Section 3 diagram



SECTION 4



- ① Well preserved heritage building and pedestrian.
- ② Car domination on Rajawali rd. has caused a difficulty for people to cross.
- ③ Jayengrono Park as public amenities.
- ④ The private entrance road to JMP has blocked the connection from Jayengrono Park to itself.

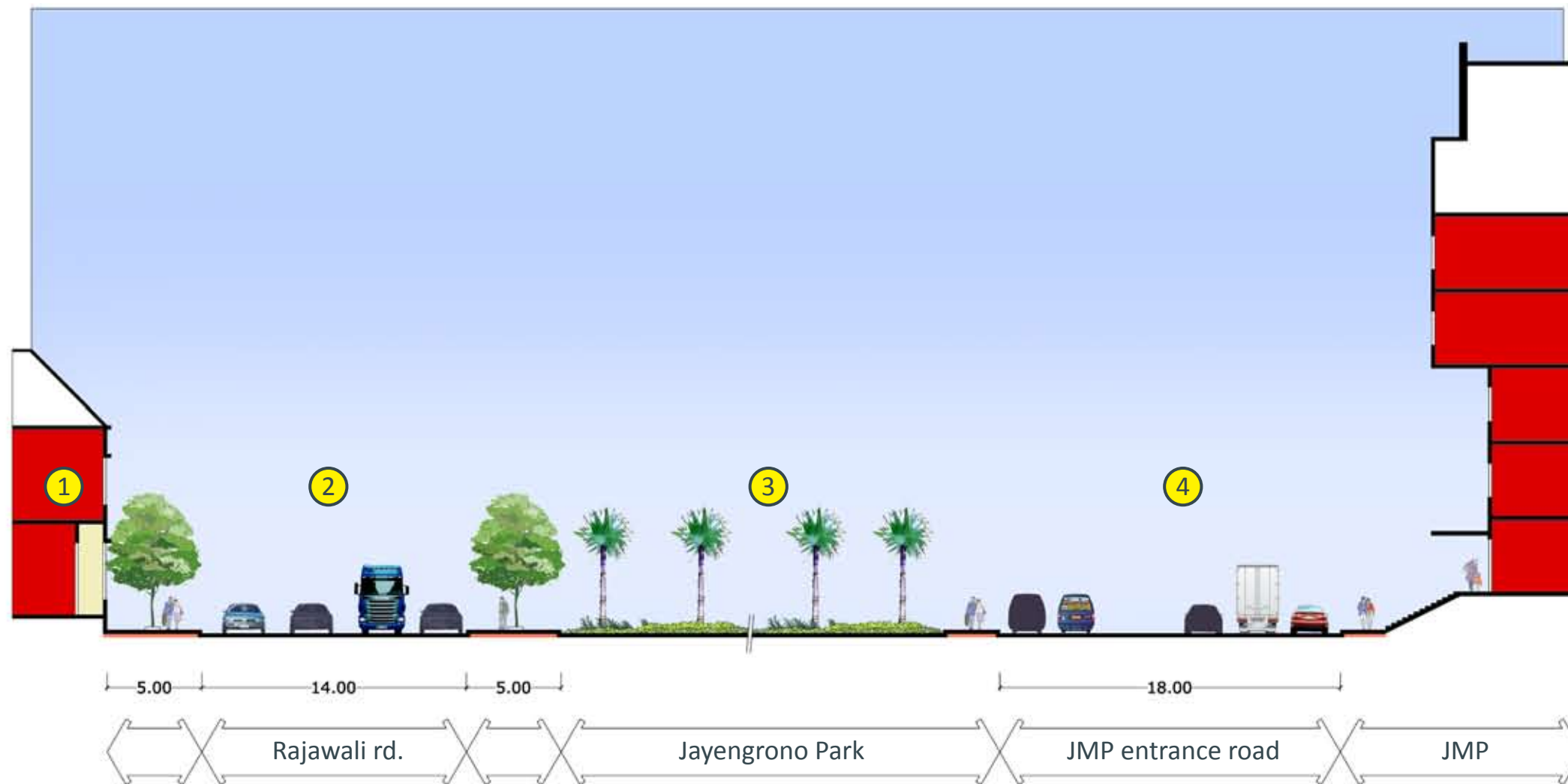
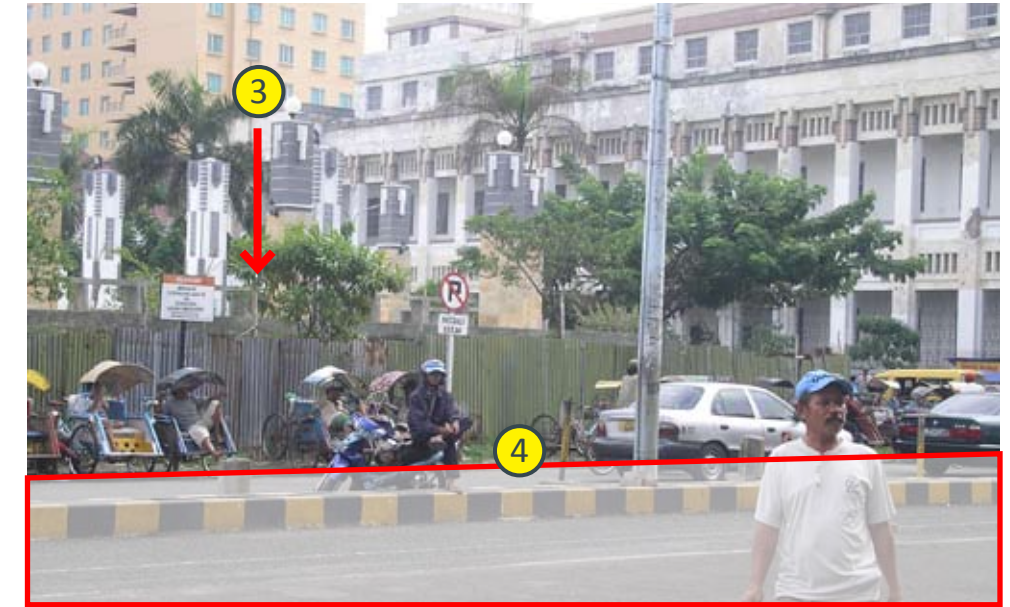


Figure 3.29. Section 4 diagram



SECTION 5

- ① Well preserved heritage building and pedestrian.
- ② Car domination on Rajawali rd. has caused a difficulty for people to cross.

SECTION 6

- ③ Different building setback has ruined 'Business and Service Area' district characteristic.

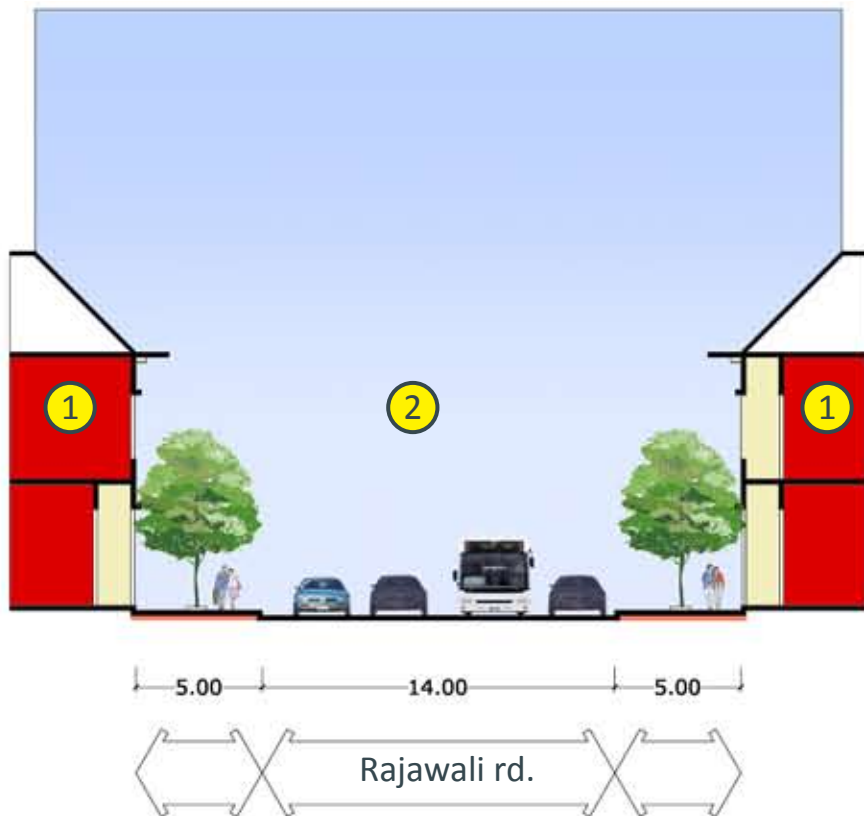
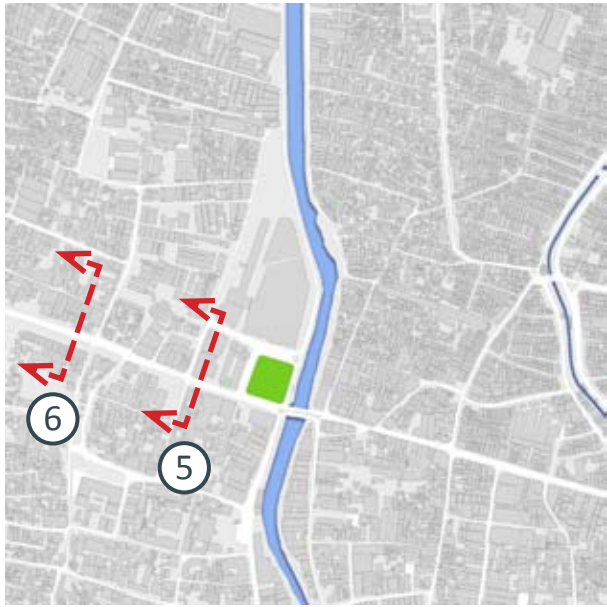


Figure 3.30. Section 5 diagram

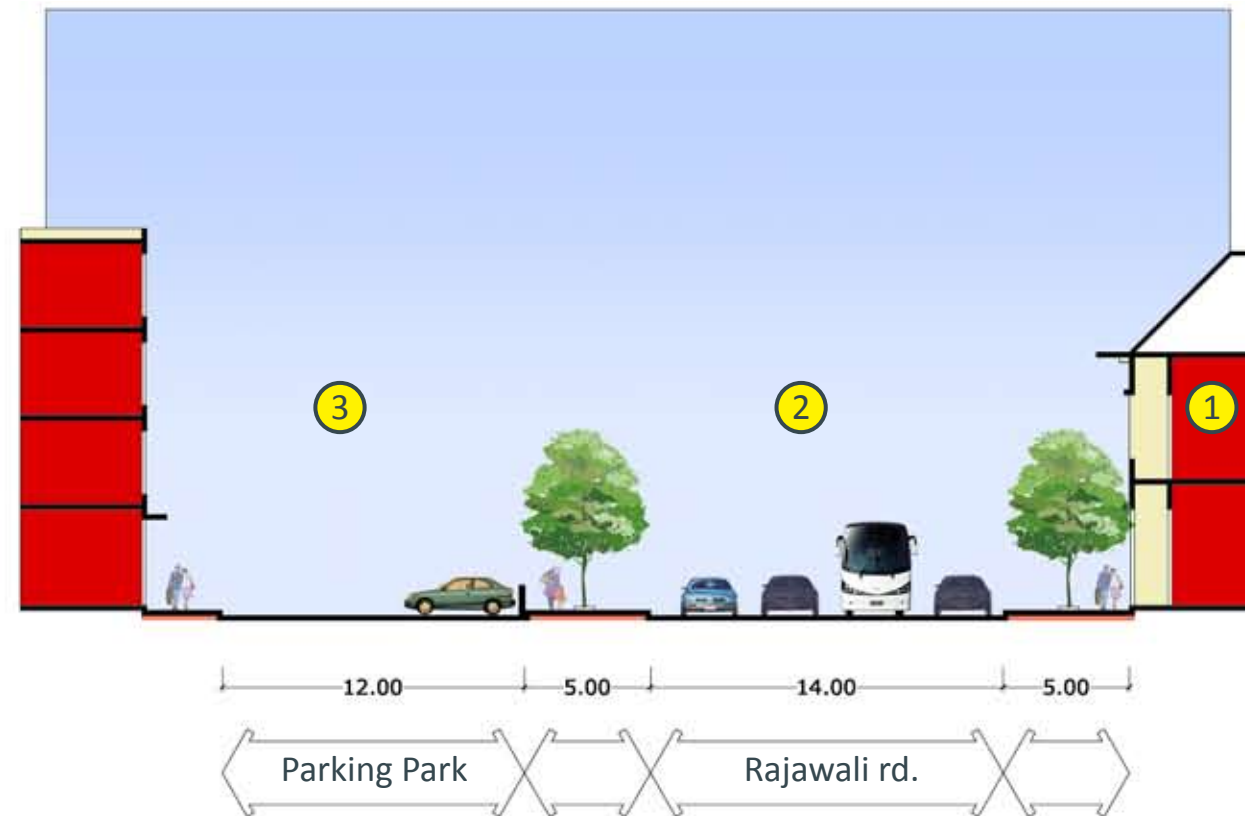


Figure 3.31. Section 6 diagram



## SECTION 7



- ① Chinatown building typology with arcade on ground floor has no good connection to the road because it is blocked by parking space.
- ② Car domination on Kembang Jepun rd. has caused a difficulty for people to cross.



Figure 3.32. Section 7 diagram



**OLD TOWN SURABAYA: FUTURE GOVERNMENT'S PLAN TOWARDS 2030**

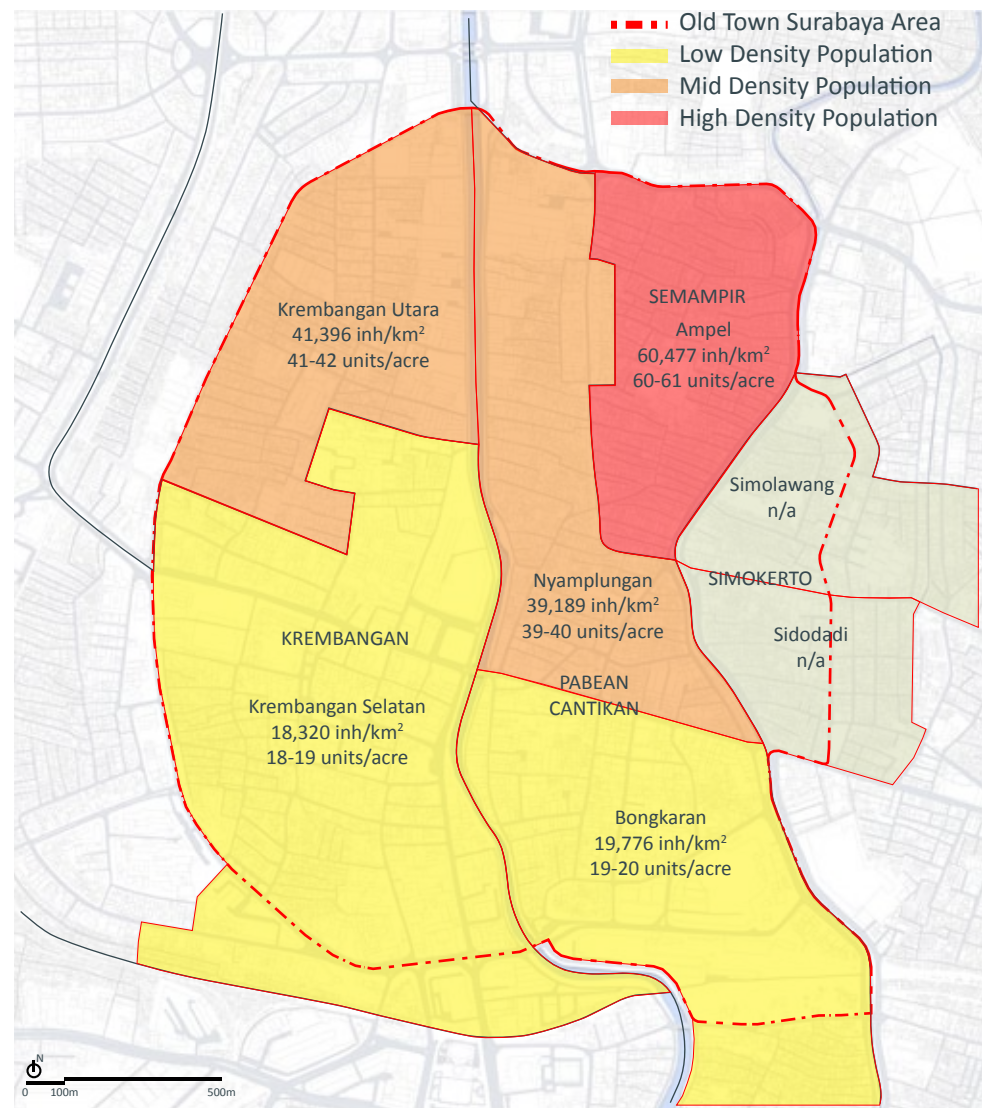


Figure 3.33. Population Density in 2030 per Sub District, source: Lapkir Surabaya 2010

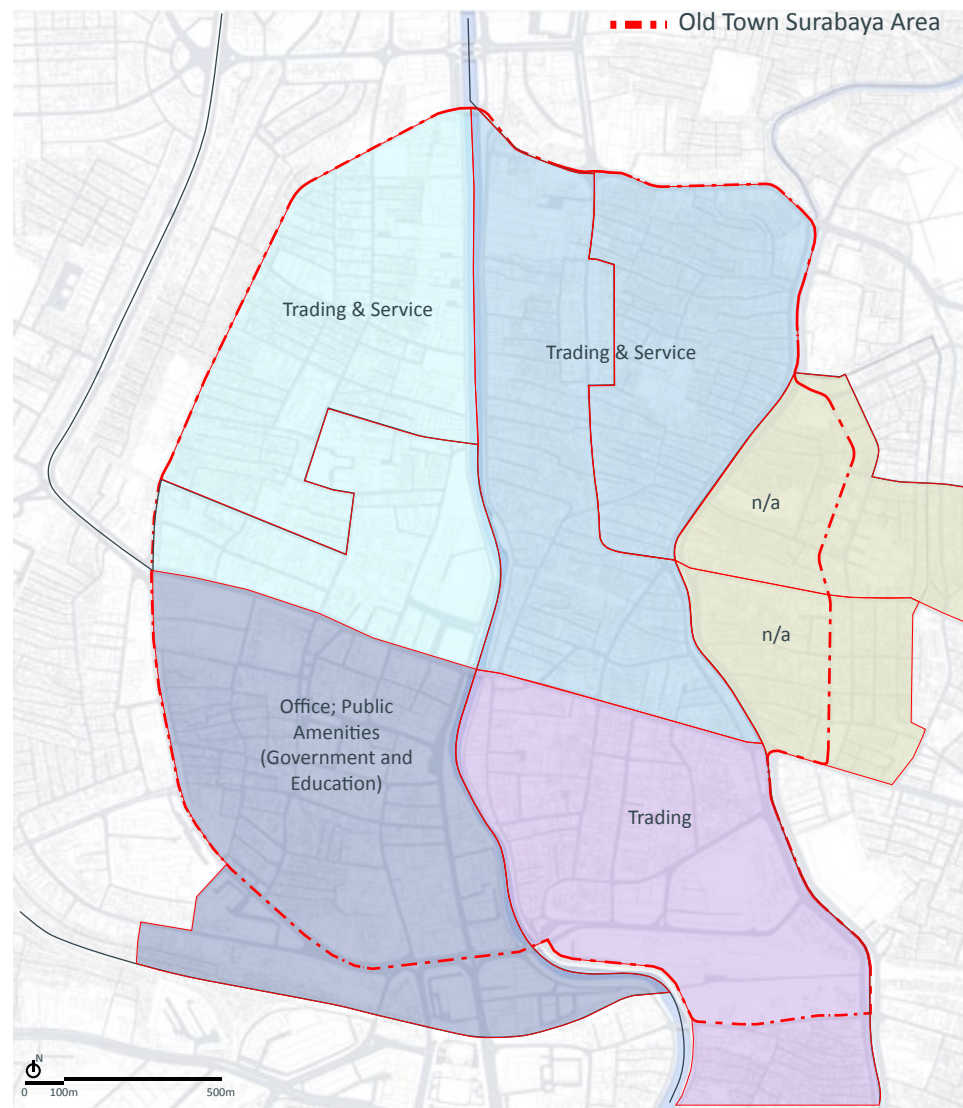


Figure 3.35. Economic forces concentration in 2030, source: Lapkir Surabaya 2010

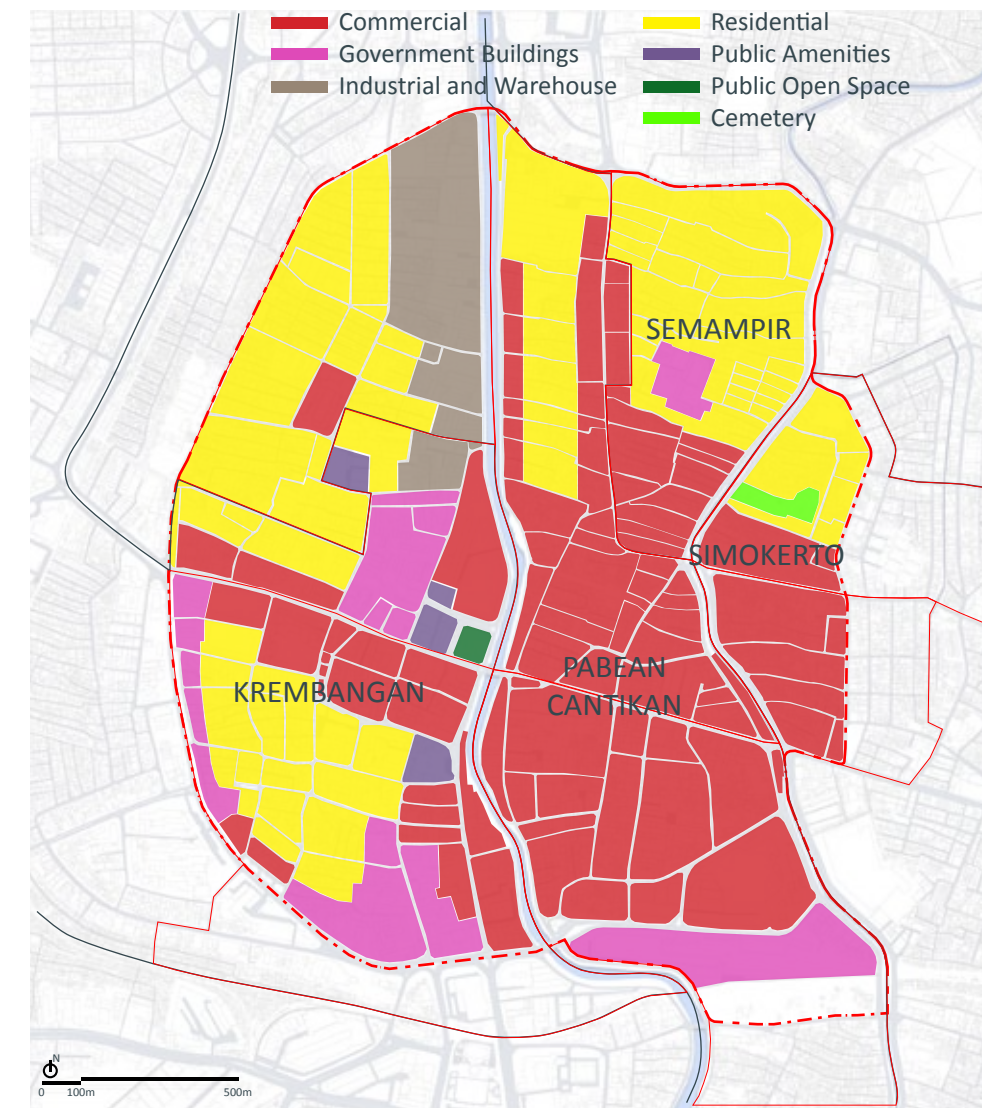


Figure 3.36. Future Land Use Diagram, source: Dinas Tata Kota Surabaya, 2008

District	Sub District	Population			Average Growth
		2006	2015	2030	
SEMAMPIR	Ampel	13,003	23,027	26,005	4.17%
PABEAN CANTIKAN	Bongkaran	9,216	14,009	15,821	2.99%
	Nyamplungan	8,213	18,391	20,770	6.37%
	Krembangan Utara	16,461	18,694	21,112	1.18%
KREMBANGAN	Krembangan Selatan	13,763	19,142	21,618	2.38%
SIMOKERTO	Sidolawang	19,585	n/a	n/a	n/a
	Sidodadi	14,143	n/a	n/a	n/a

Figure 3.34. Population Growth Projection, source: Laporan Akhir Rencana Detail Tata Ruang Kota Surabaya 2010 - Unit Pengembangan Tanjung Perak (Final Report for Surabaya Detailed Master Plan 2010 - Tanjung Perak Development Unit)



Local Surabaya Government has projected population growth in Old Town as seen in figure 3.34. This population growth will increase the density of the area. And as shown in figure 3:33, Semampir district (Ampel sub district) and northern part of the Pabean Cantikan district (Nyamplungan sun district) are the two areas that experience a significant increment in the population. To maintain the urban living of local inhabitants, Local Surabaya Government also established the concentration of economic forces in each district (please see figure 3.35). This establishment is based on the existing economic forces that have been taken place. There was several differences land use allocation when it compares to existing one. The industrial area in the east side of Kalimas River will be replaced by residential area and commercial strip in order to accommodate future housing demand. Chinatown and southern part of Arab Camp will completely become commercial area (please see figure 3.36).

As discussed in chapter 1, The Local Surabaya Government has planned to construct a Surabaya ring road to improve the connectivity of industrial and trading routes inside the city. And it also improve the connectivity with surrounding cities (Gresik, Sidoarjo and Madura Island via Suramadu Bridge). In addition, Local Surabaya Government plans to build a LRT (Light Rapid Transit) line in order to improve public transportation services in Surabaya (please see figure 3.37). Both of Local Surabaya Government’s plans will provide a great impact for the Old Town. Future Surabaya ring road will improve Old Town’s connectivity with other areas within Surabaya. The Surabaya ring road as a primary arterial road will replace the function of Old Town’s main roads (Rajawali and Kembang Jepun road) as the new West - East connection. This will mean a reduction in the number of vehicles that passing through the Old Town’s main roads. But the construction of the LRT line that passes through the Old Town will ease people to go to this area.

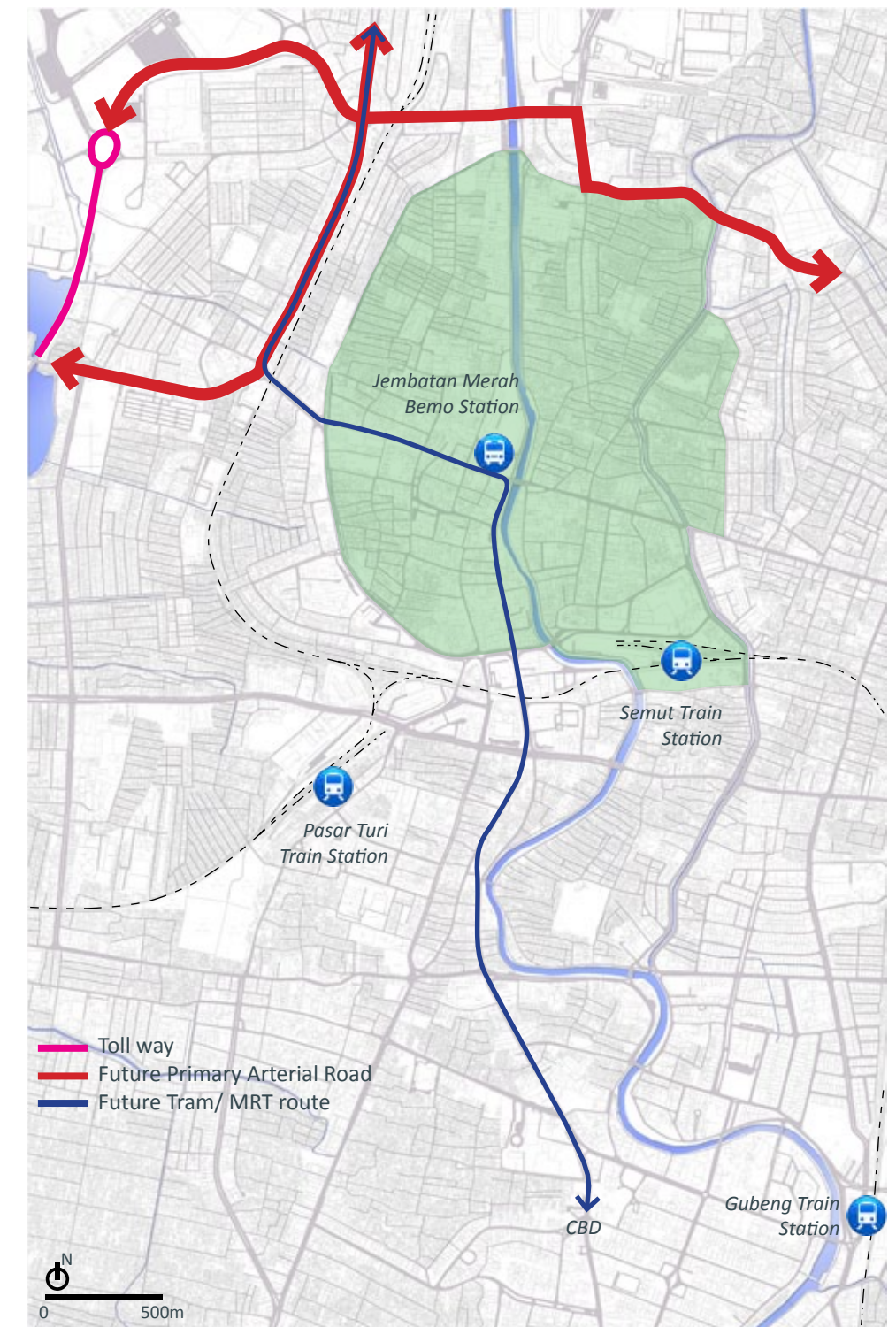


Figure 3.37 Future Infrastructure Diagram, source: Lapkir Surabaya 2010







Herewith is the result of the Old Town road network using Space Syntax Analysis program (Global Analysis Integration). By using the global integration analysis, it can see how a road is integrated to others in the city scale. The higher integration value of a road (indicated as red color) means that it has the most connectivity to others road and it is easiest road to reach. This kind of road is a very vital road in the city, where many visitors and commercial center located.

The comparison between the current Old Town's road network condition (figure 3.39) with future condition (figure 3.40) where Surabaya's ring road is applied has shown that the Old Town's main road improve its integration in the future. This means that Old Town's main roads have an opportunity for being vital roads in Surabaya, which can give a positive impact for socio-economic life in Old Town

**GLOBAL INTEGRATION: Current Condition**



Figure 3.39. Space syntax analysis : Global Integration on current condition of Old Town Surabaya

**GLOBAL INTEGRATION: Future Condition**

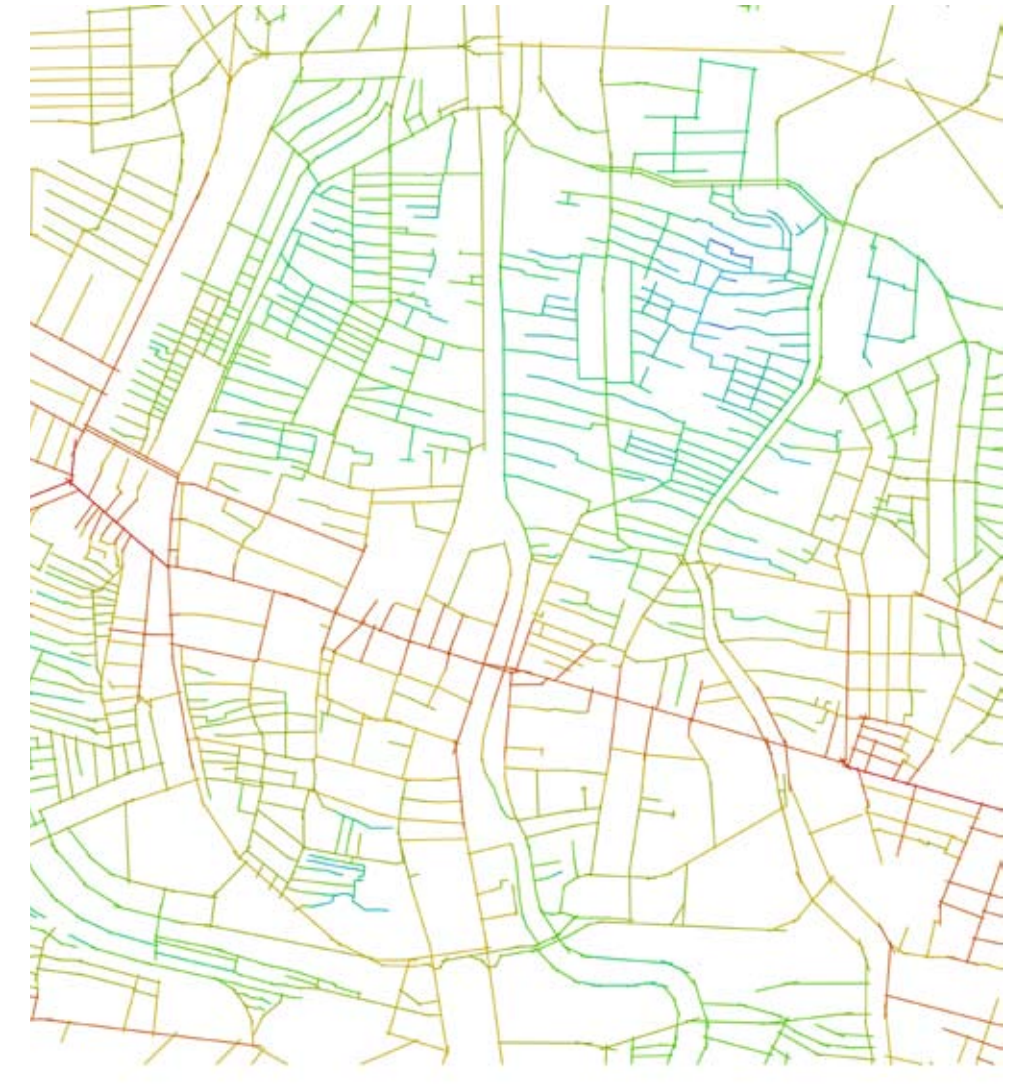


Figure 3.40. Space syntax analysis : Global Integration on future condition of Old Town Surabaya





TOPOLOGICAL METRIC R10: Current Condition



Figure 3.41. Space syntax analysis : Topological Metric R10 on current condition of Old Town Surabaya

TOPOLOGICAL METRIC R10: Future Condition



Figure 3.42. Space syntax analysis : Topological Metric R10 on future condition of Old Town Surabaya

Similar to the way of thinking of Global Integration Analysis, the Topological Metric R10 gives a road integration value in local/ neighborhood scale. From the comparison, there is no difference integration value between the current Old Town's road network conditions (figure 3.41) with the future one in local scale. Kebalen Timur road (Dutch Kampong) and KH Mas Mansyur rd, Panggung rd, Songgoyudon rd and Nyamplungan rd (Arab Camp) where many commercial buildings located are remain as the vital road in a local scale of Old Town.

Regarding to the Local Surabaya Government's plan to revitalize the Kalimas Waterfront has raised a design challenge of how to increase the integration value in roads along the Kalimas River.





The Old Town's economic forces in trading, business and service sector are working well. These are still becoming as the one of main economic forces in Surabaya. Government's plan to strengthen the economic forces at Old Town can be seen from their future plans in 2030 for becoming the leading port city in Indonesia. Surabaya new ring road's plan is expected to increase accessibility to the Old Town, where it has been proven in space syntax analysis. The plan to strengthening Rajawali-Kembang Jepun corridor as a wholesaler center by the government will also improve the position of Old Town in the context of Surabaya. In addition, the plan of LRT line that crosses the Old Town will facilitate the accessibility of people to go to Old Town. And the future Surabaya ring road that located in northern part of Old Town will replace the Old Town's main roads' function as West – East connection. It means there will be a reduction in the number of vehicles that passing through the Old Town's main roads, but there will be an increment number of visitors using LRT line. This condition gives the Old Town an opportunity to change its circulation orientation from 'private vehicles oriented' to become 'pedestrian oriented'.

Meanwhile, the tourism sector is not working well if we look it from the 'environmental capital' point of view. Kalimas River as an environmental capital has not been fully utilized as public space. Insufficient number of bridge along River has caused disintegration between Colonial Architecture and the Religious Tourism.

Public space network which oriented to the pedestrian is rare existed in Old Town. It can be seen from the number of pedestrian paths that are available in Old Town. In addition, a proper public open space only exists at Jayengrono Park. This makes people uncomfortable to walk in this area, thus they prefer to use private vehicles. And it has made the Old Town as the 'car-orientated' area.

Mono-function in main areas such as Chinatown and the Business and Service Area has resulting in a lack of attraction for people to visit those places on the weekend or after-hour time.





p. 58 **chapter 4 - STRATEGY**



Entrance to Chinatown



Derived from the analysis in the previous chapter, it found that there is a basic problem in urban area of Old Town. Lack the number of public open space and unavailable of integrated public space network in the Old Town Surabaya has led in discomfort for people to walk in the Old Town. In addition it increases the domination of private vehicles' usage. The quality of public space declined due to lack of people to utilize it, and gives effects in deteriorating the quality of urban living in Old Town. Therefore, the chosen main strategy is to create a 'pedestrian oriented' street and re-establish public space network in Old Town.

### REDESIGNING THE MAIN STREET BY ADOPTING PUBLIC TRANSPORTATION NETWORK PROPOSAL TO DRIVE THE OLD TOWN'S SPACE REVITALIZATION

The Local Surabaya Government's plan to establish the LRT (Light Rail Transit) line is a proper decision in order to solve the traffic and public transportation problems in this city. The application of the LRT line in the Old Town's main roads will give an impact on reducing the number of lanes on the road. This is an opportunity to redesign the Old Town's main roads into a 'pedestrian-oriented' road.

The ability of LRT to accommodate more passengers which supported by a reliable schedule systems will be able to attract more people to use this public transportation. When the passenger is comfortable in using public transportation, it will change people's attitudes travelling. They will start using public transportation and leave the usage of private vehicles. In addition, the Surabaya's ring road where located on northern part will replace the Old Town's main roads function as West-East connection. From those reasons, it is expected that the number of cars circulating in the Old Town streets will be reduce thus open up more space for pedestrians. And the pattern of 'pedestrian-oriented' will be easier to apply in the Old Town.

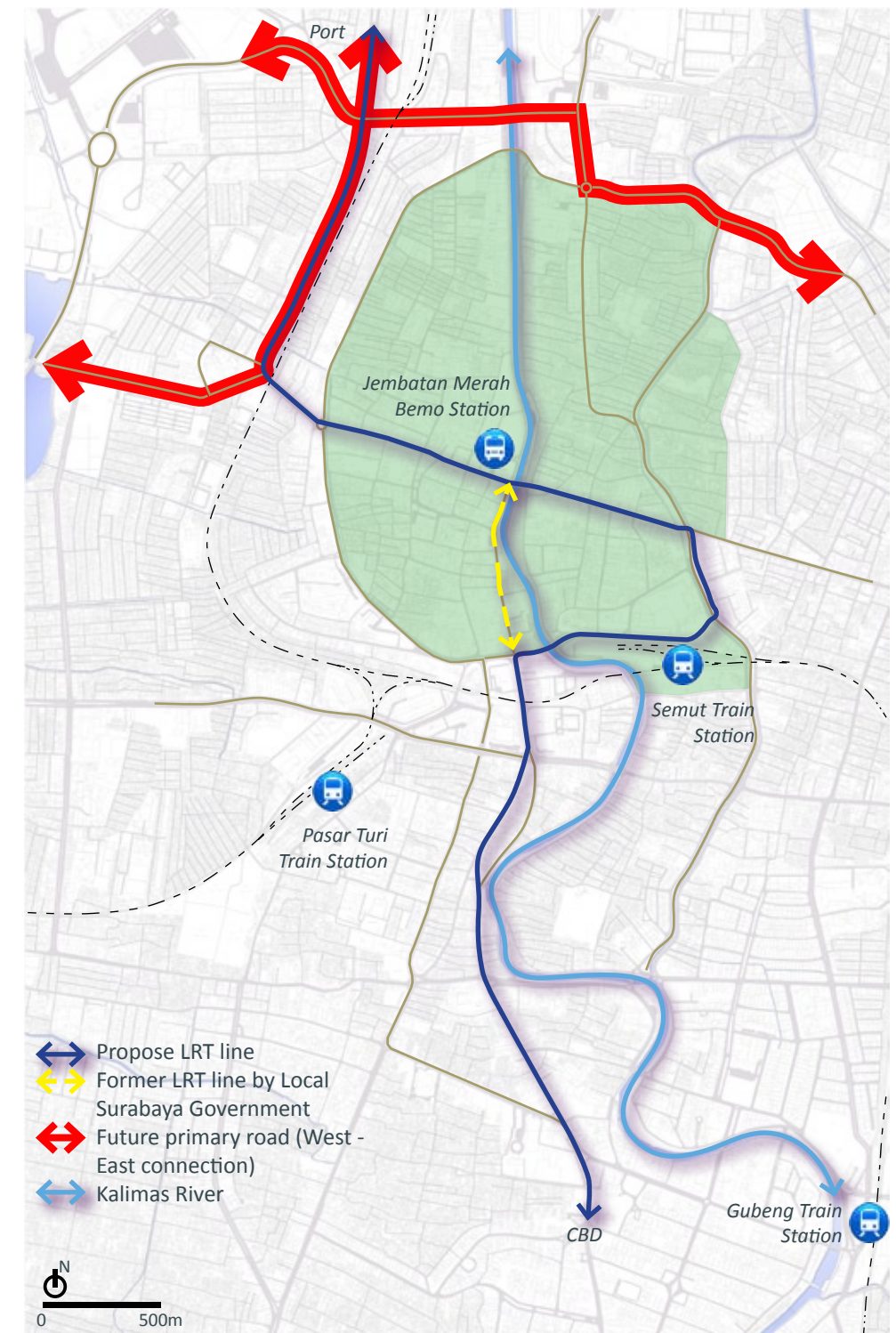


Figure 4.1. Propose LRT line and new Surabaya ring road diagram



## RE-ESTABLISHING PUBLIC SPACE NETWORK

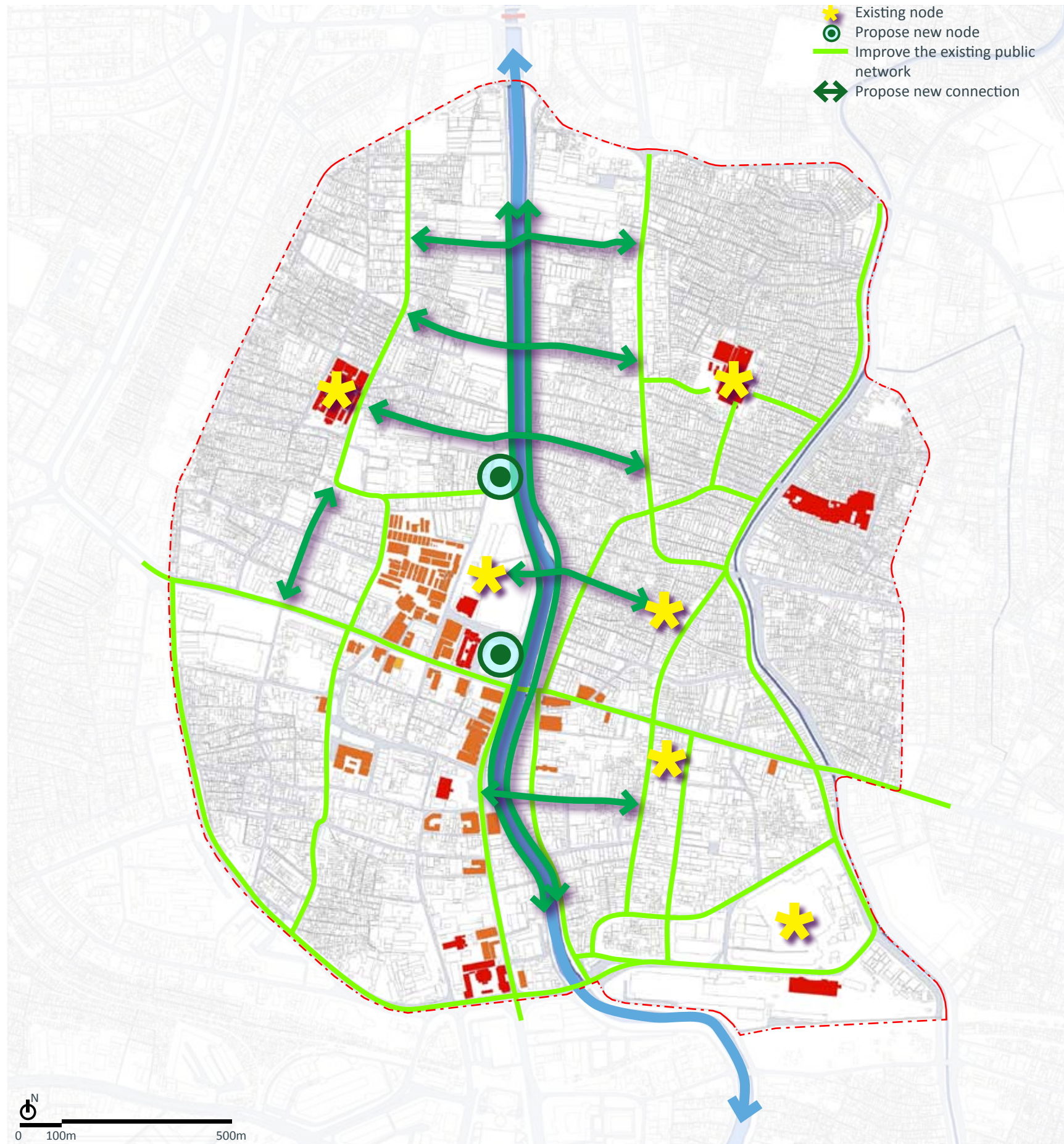


Figure 4.2. Strategy for Public Space Network

In supporting the implementation of 'pedestrian-oriented' street, it would require to establish a public space network in Old Town. As illustrated in figure 4.2, there are two main steps to generate this, which are: Improving the existing public network and propose new connection. Improve existing public network means upgrading the public space's elements, such as: street furniture, pedestrian path, bike path, green open space, hardscape and softscape. New public space connection aims to connect the existing one in order to be more integrated. This integration will increase the comfort and coverage area pedestrian.

Due to the Kalimas River is divided Old Town into two parts and there are only three major bridges that connects the Western Old Town to the Eastern Old Town, most new public space connection occur along the Kalimas River as shown on figure 4.2. The determination of proposed bridge location is placed on urban points that able to connect urban nodes in the Western and Eastern Old Town.



**PUBLIC TRANSPORTATION**

There is a route change of LRT line when entering the Old Town area. Based on the proposed route by the government, the LRT line enters the Old Town through the Veteran road and then Rajawali road. This led to Chinatown would not gain a benefit from this LRT line. Chinatown is a vital area for the Old Town and Surabaya, therefore, the LRT line route is altered as shown in figure 4.3. This proposed LRT line will have more coverage area in reach out and serve Old Town.

LRT Stop Shelter locations are based on the urban points which have an optimum range to the vital locations in Old Town. There are 5 LRT Stop Shelter will be located in Old Town, which are:

1. Veteran road: to reach out and serve the office area at Veteran road
2. Atom Market: to reach out and serve the Atom market, Carrefour and Semut Train Station
3. Chinatown: to reach out and serve the Chinatown and the Arab Camp
4. JMP: JMP to reach, Kalimas waterfront and the office area in Rajawali road.
5. Rajawali road: to reach out the House of Sampoerna, Giant Market and the office area at Rajawali road.

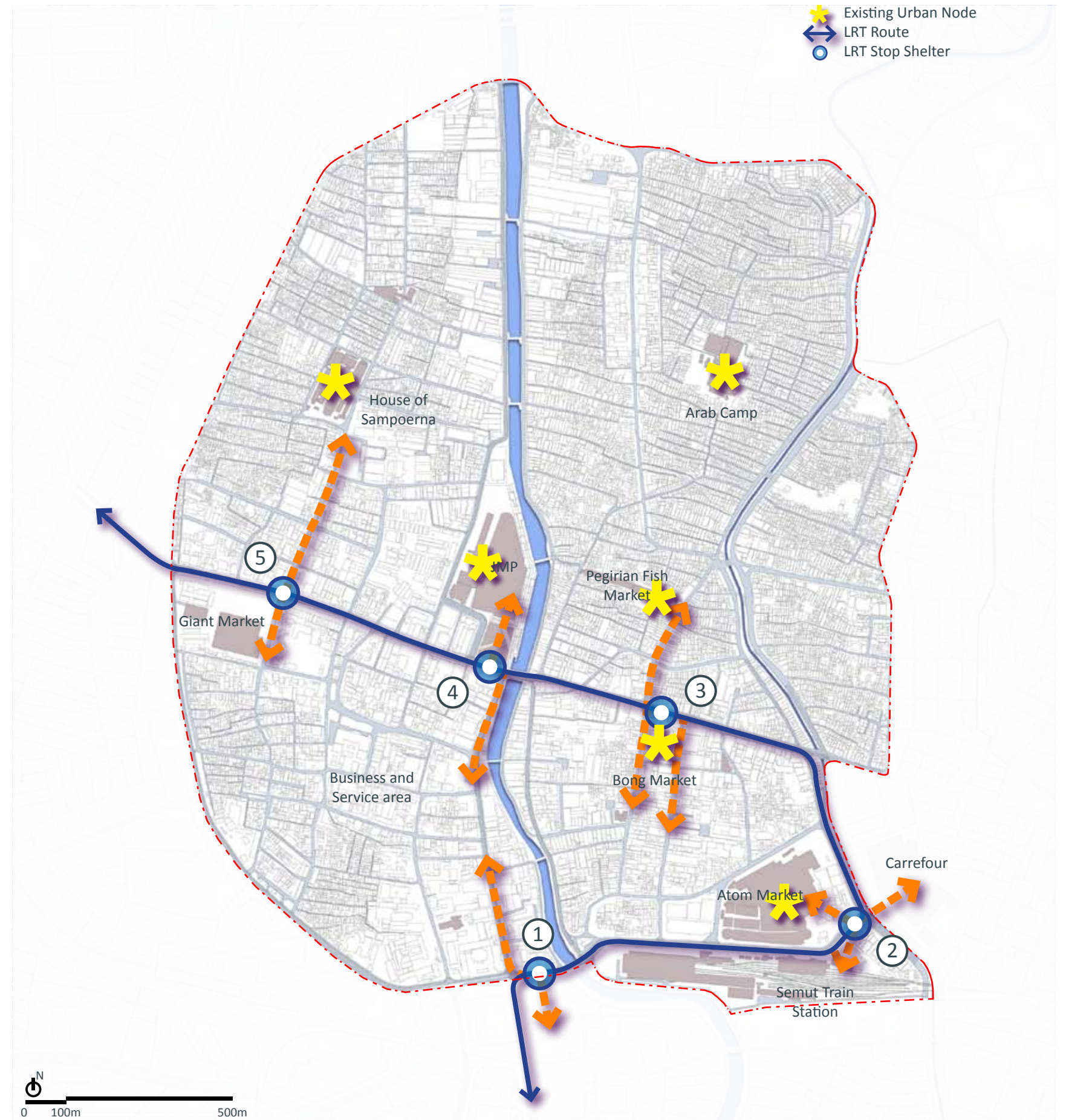


Figure 4.3. LRT line proposal diagram



CIRCULATION NETWORK

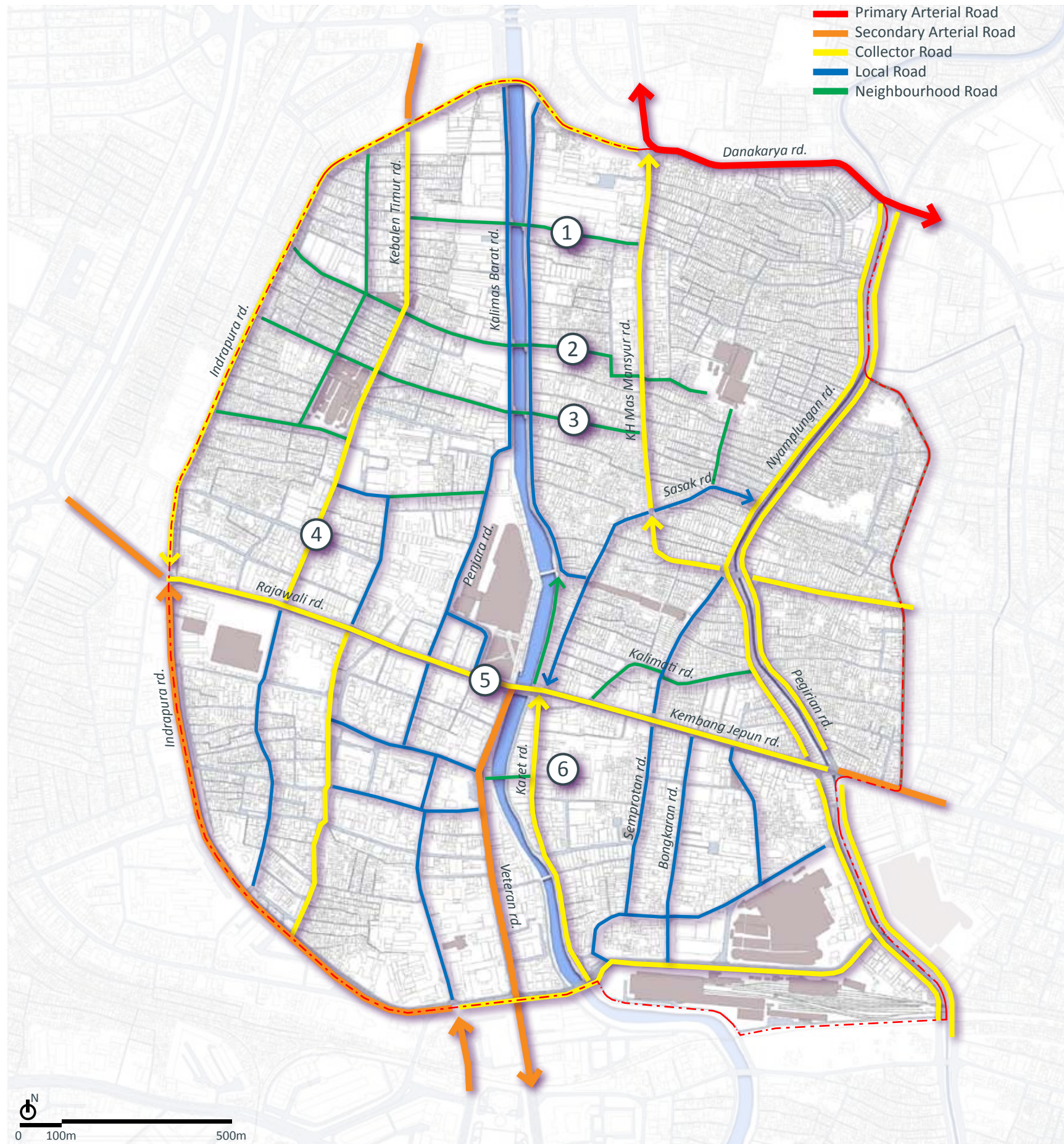


Figure 4.4. Circulation Network Framework Diagram

Connectivity is an important part in an urban area. It has a great influence to the quality of economic and social conditions in an area. To improve connectivity in the Old Town, this project proposes 6 new connections as illustrated in figure 4.4.

Connection 1 is prepared to connect the residential areas of Arabic and Dutch Kampong Camp. Connection 2 aims to connect Babadan Baru Market to Ampel Mosque. Connection 4 is aimed at connecting the Arab Camp's main road to the House of Sampoerna and also to integrate these two types of tourism in the Old Town. Connection 6 aims to connect Chinatown with 'Business and Service area'. Those four connections are a residential road's type and need a pedestrian bridge for crossing Kalimas River. Connection 4 is intended to connect directly the new LRT stop shelters to the House of Sampoerna. And the connection 5 is a downgraded Old Town's main road from secondary arterial road type into collector road due to construction of the LRT line on this road.



**STREET CHARACTER**

Street Character is intended to provide a reference to every street, to be easily recognized by pedestrians. And it can provide a safety for pedestrians. A safety aspect for pedestrians is very important in determining the character of a street. Therefore in there are 4 types of street character the Old Town, namely:

1. **Vehicle Dominant**  
This street type situated outside the Old Town area. This has a clear boundary between the pedestrian path, bike path and the car line. Due to the dominance of cars on this road, it would require a traffic light or upper-pass for pedestrians and bike users to cross the street.
2. **Pedestrian and Vehicle (normal traffic)**  
This type is a street which has a clear boundary between the pedestrian path, bike path and the car line. There is no car domination due to space limitations in this street. Therefore it only needs traffic light or zebra-cross line for the pedestrians and bike users crossing.
3. **Pedestrian and Vehicle (slow traffic)**  
This type of street only gives a difference between a pedestrian path and car line. There is no designated path for bikes, thus bike path and car line is mixed.
4. **Pedestrian dominant**  
This street can only be passed by pedestrians and bikes. It is located in almost kampong area, where the majority of its circulatory system is alley.

To maintain the intimate characteristic of Old Town, there only 3 type of street (type 2, 3 and 4) are applied in this area as illustrated in figure 4.5.

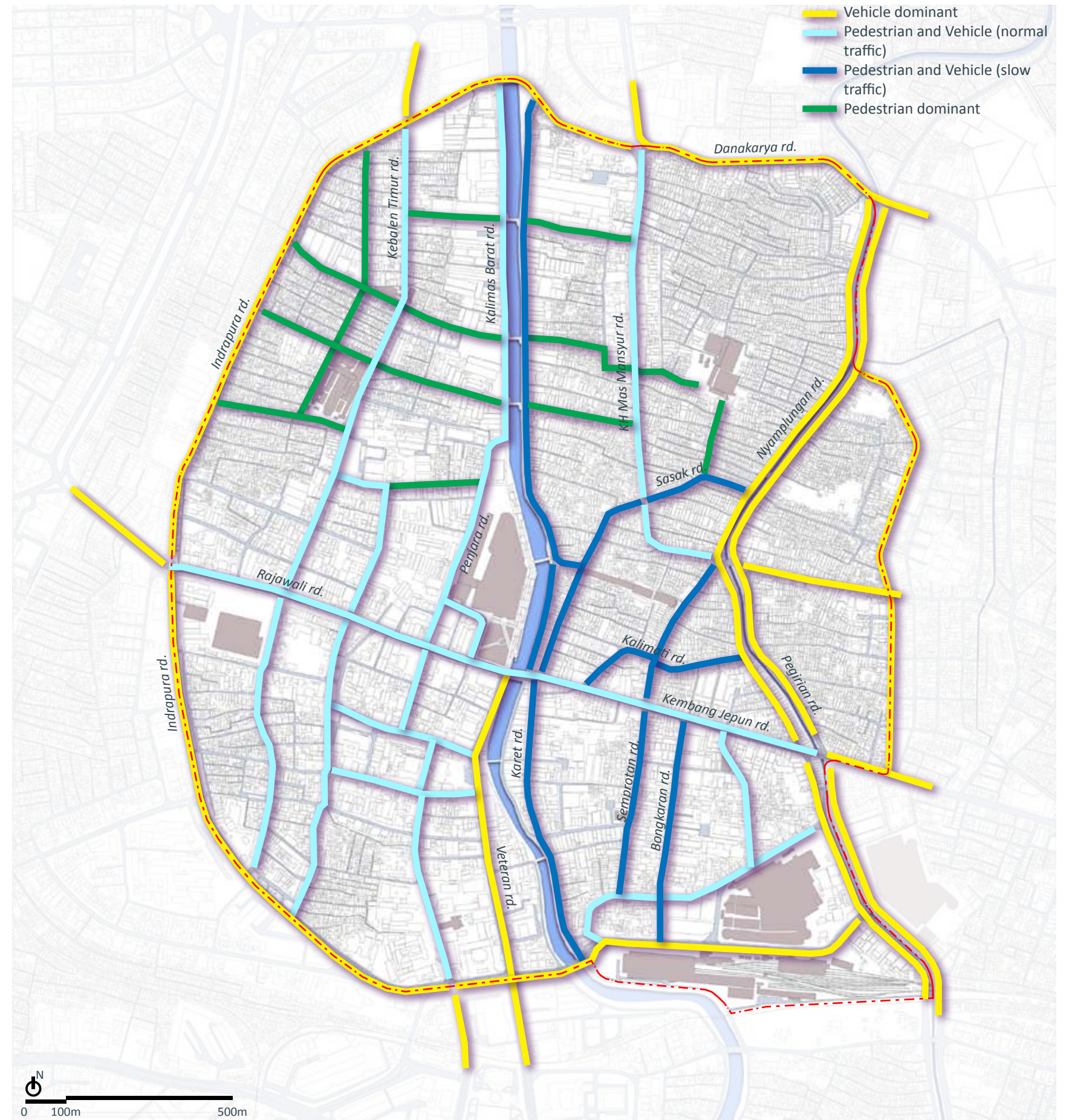
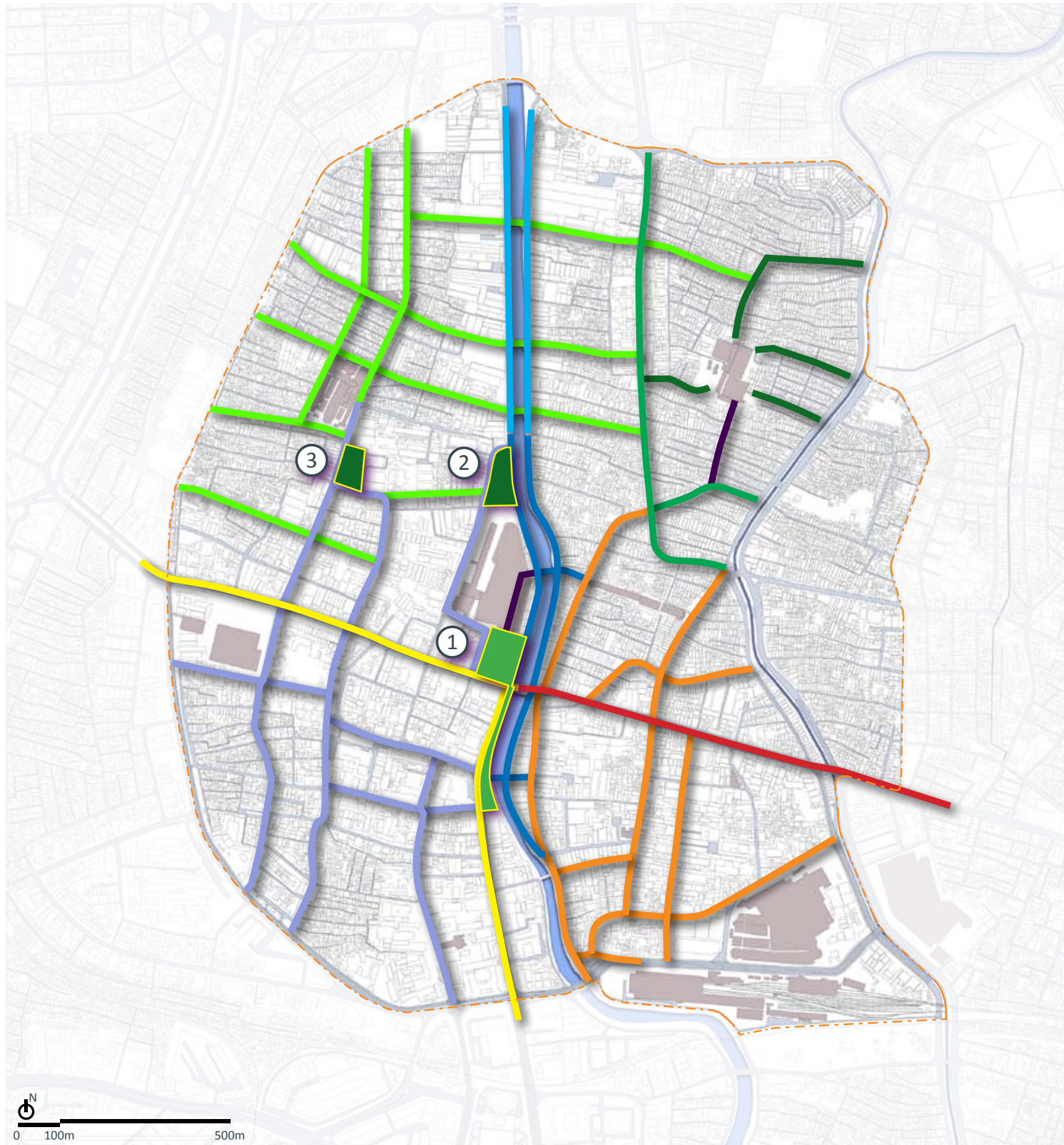


Figure 4.5. Street Character Diagram



PUBLIC OPEN SPACE AND PEDESTRIAN LINKAGE



The Old Town has a diverse district characteristic due to the influence of socio-culture that has occurred here for a long time. Therefore, the proposed pedestrian linkage in Old Town is designed to maintain the existing atmosphere. For Further description, please see figure 4.6. The character provision on the pedestrian linkage also aims to ease the pedestrians to identify the district where they are stand.

Pedestrian linkage network also features three green open spaces, namely: Jayengrono Park (1) which is the central of public space network in Old Town. This is a passive park where people can gather and relax to enjoy Kalimas waterfront and commercial functions in surrounding. While the park no 2 and 3 are an active park that dedicated for local residents. This park offers futsal court and children’s playground.

- Chinatown avenue
- Local commercial of Chinatown
- Colonial avenue
- Colonial residential
- Ampel mosque alley
- Arab Camp commercial strip
- Surabaya kampong
- Active Kalimas waterfront
- Calm Kalimas waterfront
- Public interior path
- Active park
- Passive park

Figure 4.6. Public Space Network Diagram

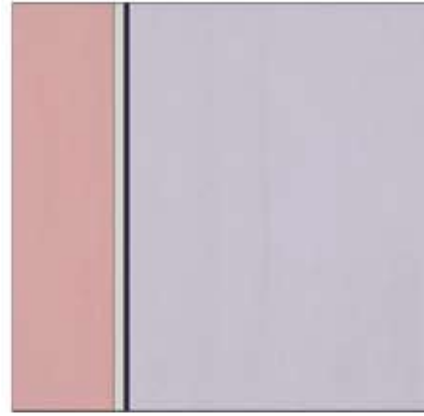


**HARDSCAPE AND SOFTSCAPE MATERIALS**

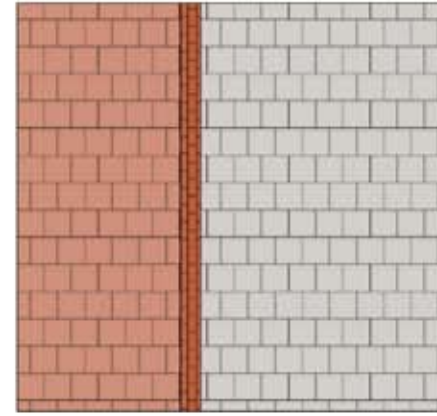
For the tropical city such as Surabaya, being comfort in the outdoor is highly necessary to attract more people to be outside. Being outside is important to improve social condition in the Old Town and it can be economically benefited for the inhabitants. Outdoor comfort in the tropical city related to the heat comfort from the sunlight. The material should not reflex heat from the sunlight and should be still cool enough to walk or sit on. By taking Surabaya tropical condition and street character (as explained before) into consideration, the material used is dominate by brick paving, concrete block, wood and grass. Asphalt material only is used in a street which dominated by car and has a normal traffic. For further material combination can be seen in figure 4.7.

**STREET MATERIAL**

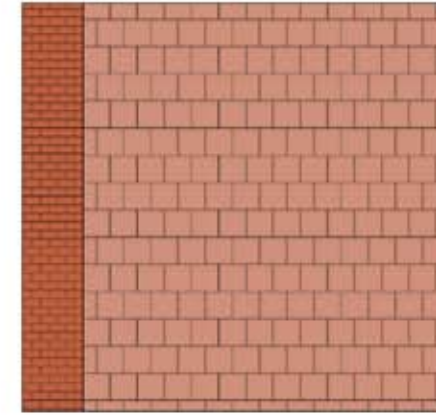
Pedestrian and Vehicle (normal traffic)



Pedestrian and Vehicle (slow traffic)

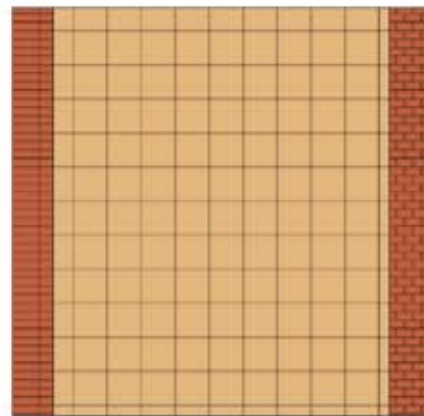


Pedestrian dominant

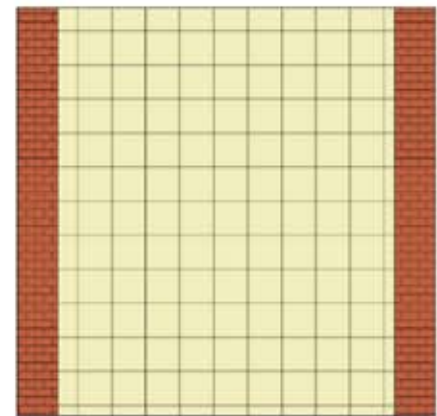


**PEDESTRIAN PATH MATERIAL**

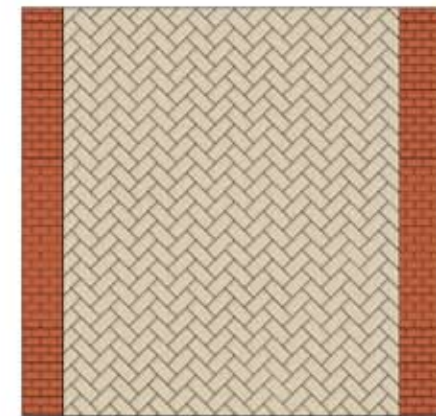
Pedestrian and Vehicle (normal traffic) - Colonial Avenue + Active Waterfront



Pedestrian and Vehicle (normal traffic) - Chinatown Avenue



Pedestrian and Vehicle (slow traffic) + Pedestrian dominant



Local Park

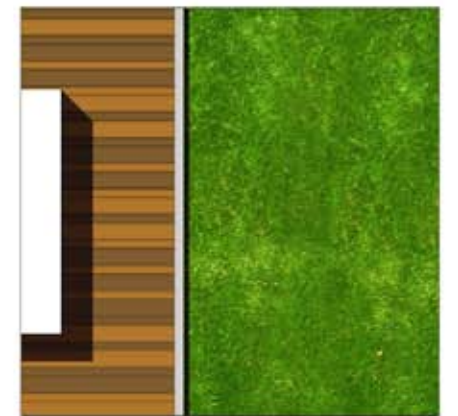


Figure 4.7. Hardscape and Softscape Materials Diagram





p. 66 **chapter 5 - DESIGN**



Krembangan traditional market in the night



**POSSIBLE PROJECT LOCATION**

The selection of project location is based on the importance of the site to contribute and as a trigger for the successful space revitalization in Old Town Surabaya. There are 4 locations had been chosen for this project as shown in figure 5.1, namely:

1. The Heart of Old Town
2. Kalimas waterfront
3. Colonial Avenue (Rajawali rd.)
4. Chinatown Avenue (Kembang Jepun rd.)



Figure 5.1. Project Intervention Location



CURRENT CONDITION



Figure 5.2. Project Location 1: Current Condition Diagram

PROPOSED CONDITION

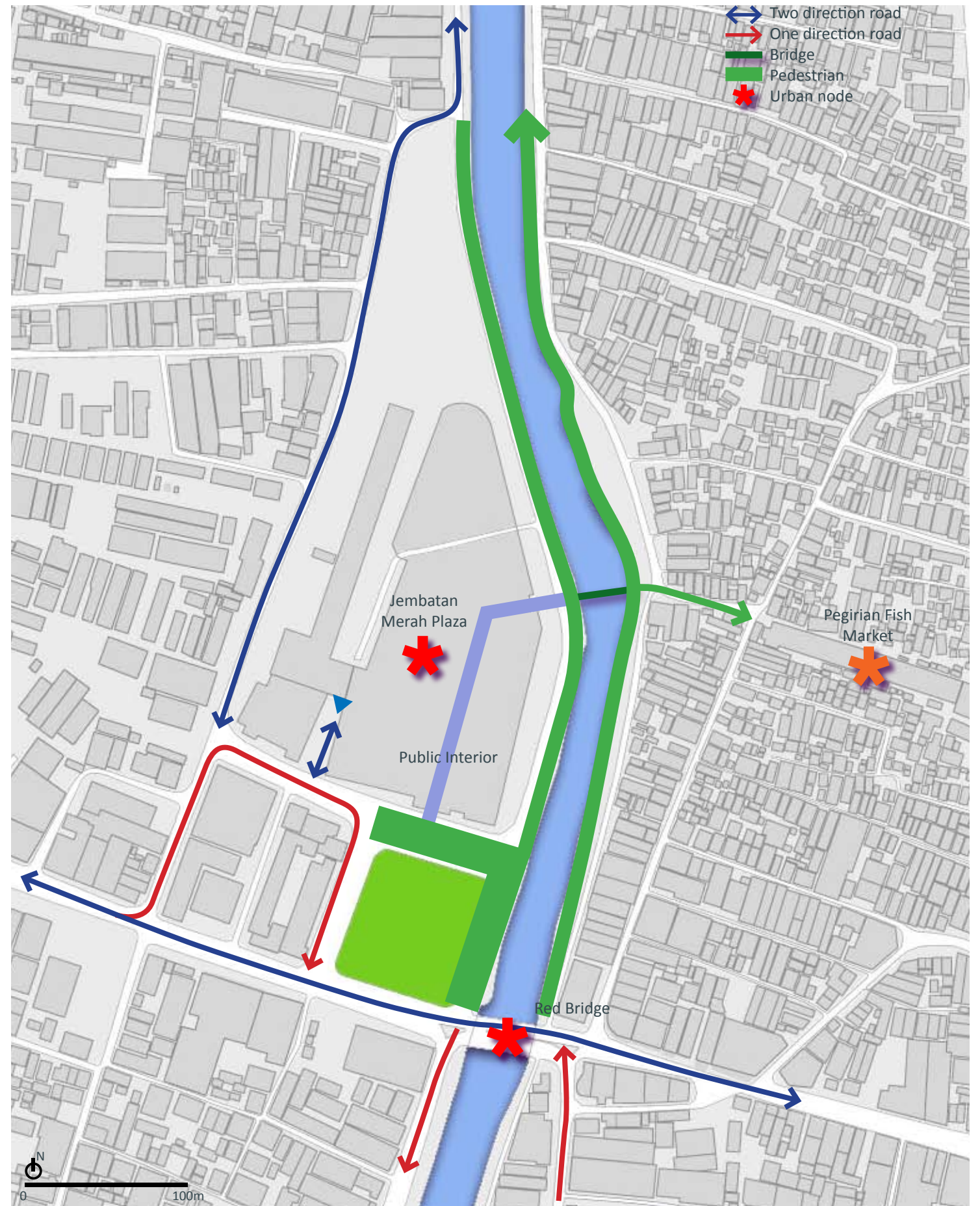


Figure 5.3. Project Location 1: Propose Condition Diagram





Figure 5.4. Project Location 1 Design Plan

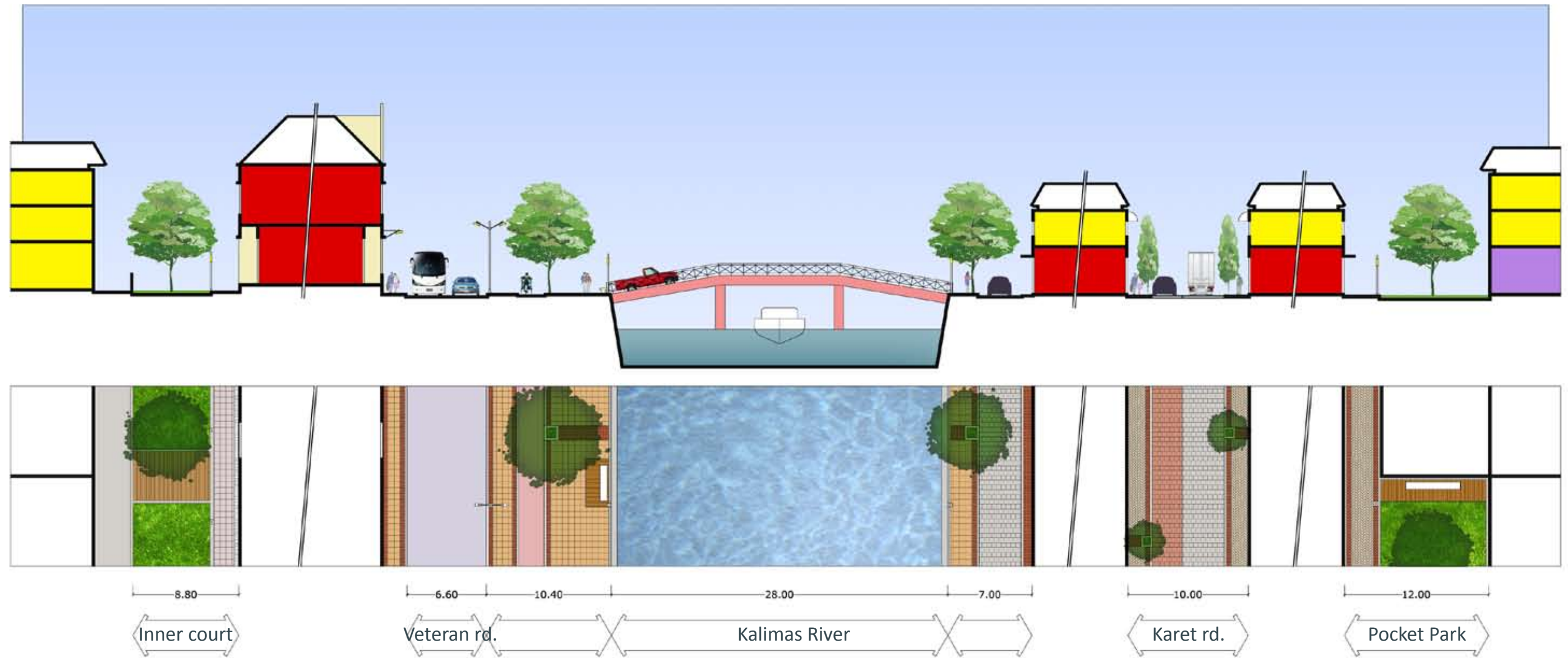
The Heart of Old Town is located on the crossing of Rajawali road and Kalimas River. It will be the central of public space network in Old Town. Here lie urban capitals that are not fully utilized as public amenities, which are Jayengrono Park and Kalimas River. The Jembatan Merah Plaza (JMP) entrance has blocked the connection between these two urban capitals. The intervention made in this project location is to reconnect with Jayengrono Park to Kalimas River. Therefore it creates a new waterfront which can be a new public amenity for local residents and citizens of Surabaya.

Jayengrono Park is allocated as a passive park where people can gather and relax to enjoy Kalimas waterfront and commercial functions in Surrounding. The relationship between Jayengrono Park and Kalimas River is created by changing the JMP entrance into a pedestrian path. Stairs along the pedestrian path was made to bring people to be closer to the water.

Accessibility to Jayengrono Park and Kalimas Waterfront will become more easily with the future LRT stop shelter that located in front of the park. And boat dock will offer water bus transportation which has a direct connection to the CBD. Pedestrian bridge (5) is built in order to connect the Pabean Market with JMP and Kalimas Waterfront.

- ① Jayengrono Park
- ② JMP Tram stop shelter
- ③ Boat dock
- ④ Kalimas Waterfront
- ⑤ Pedestrian Bridge to Pabean Market (Fish market)
- ⑥ Pabean Market
- ⑦ JMP public interior

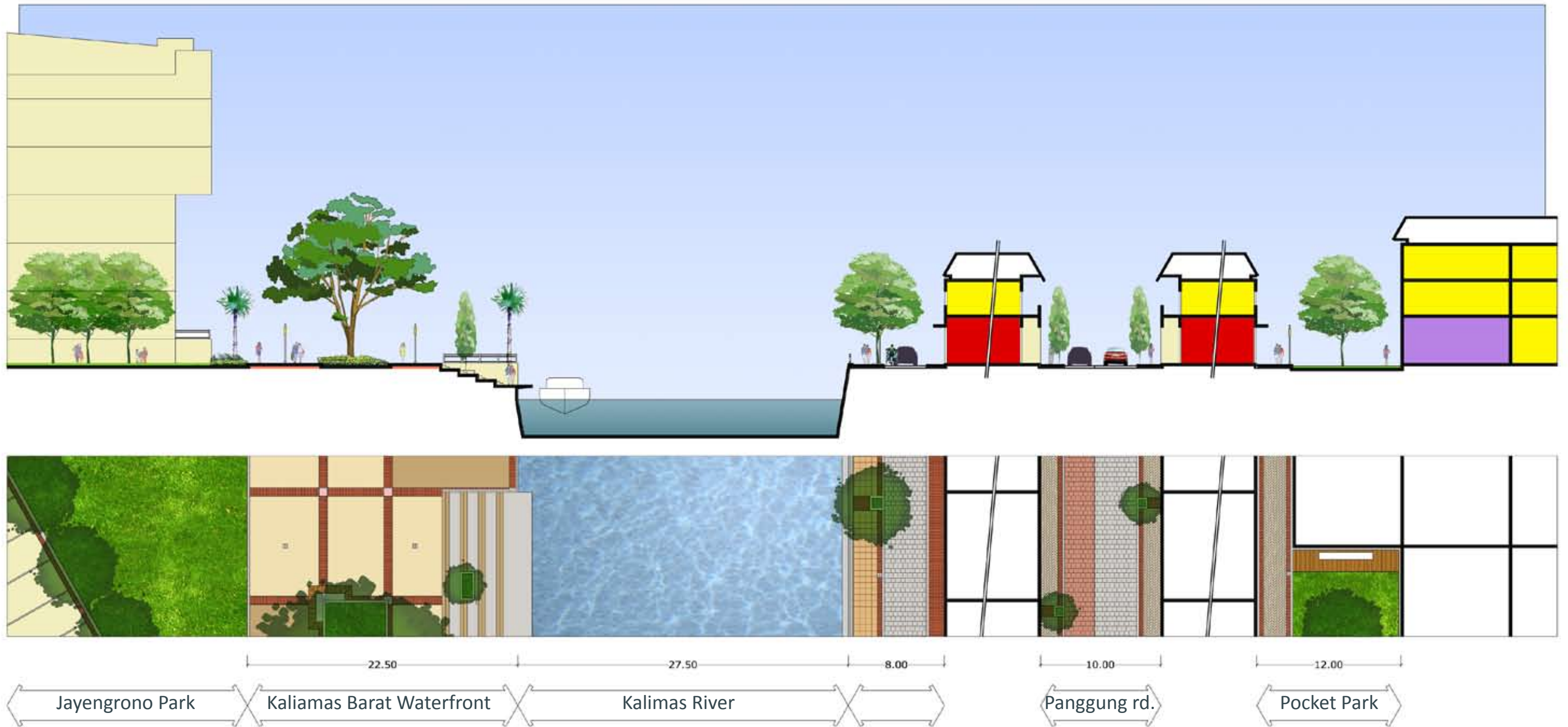




p.  
70

Figure 5.5. Section 1 diagram

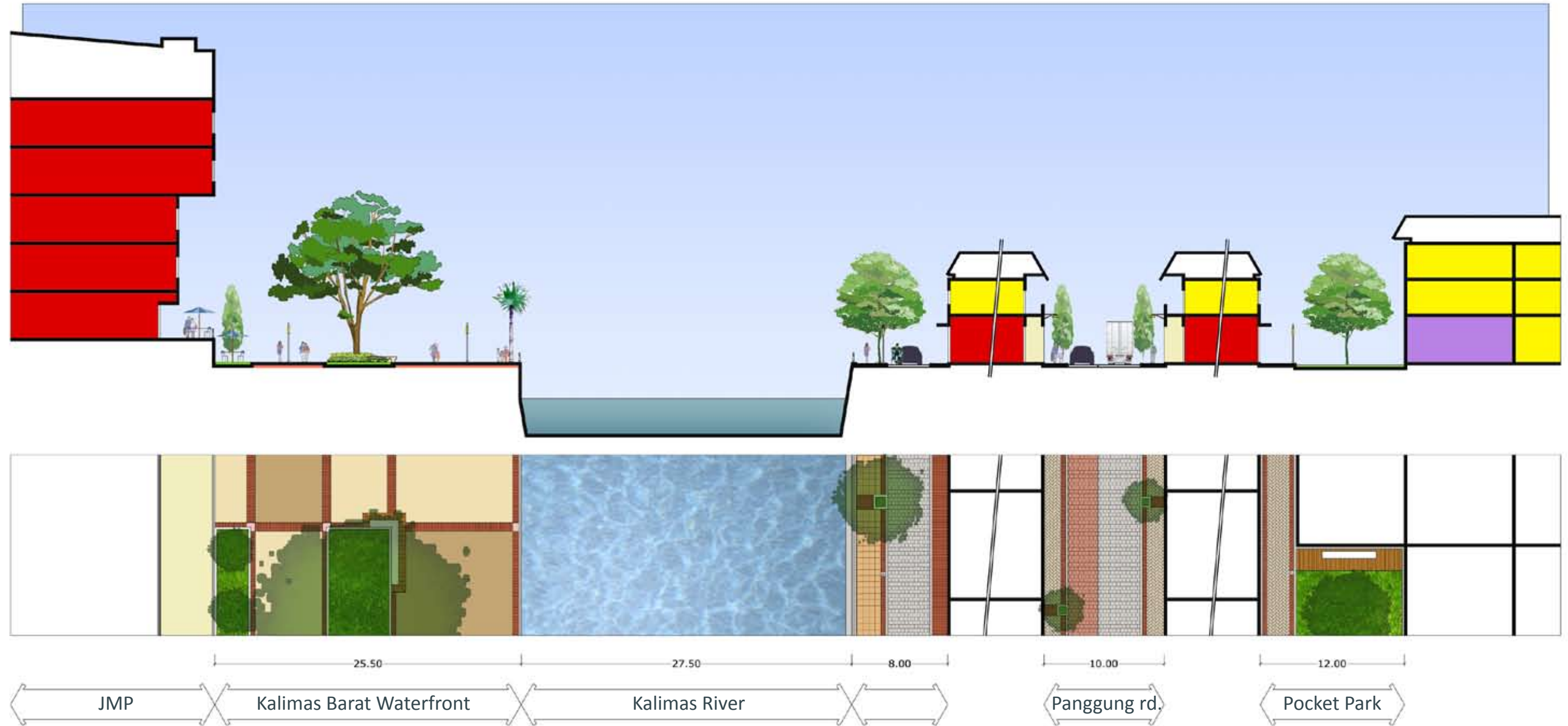




p.  
71

Figure 5.6. Section 2 diagram





p.  
72

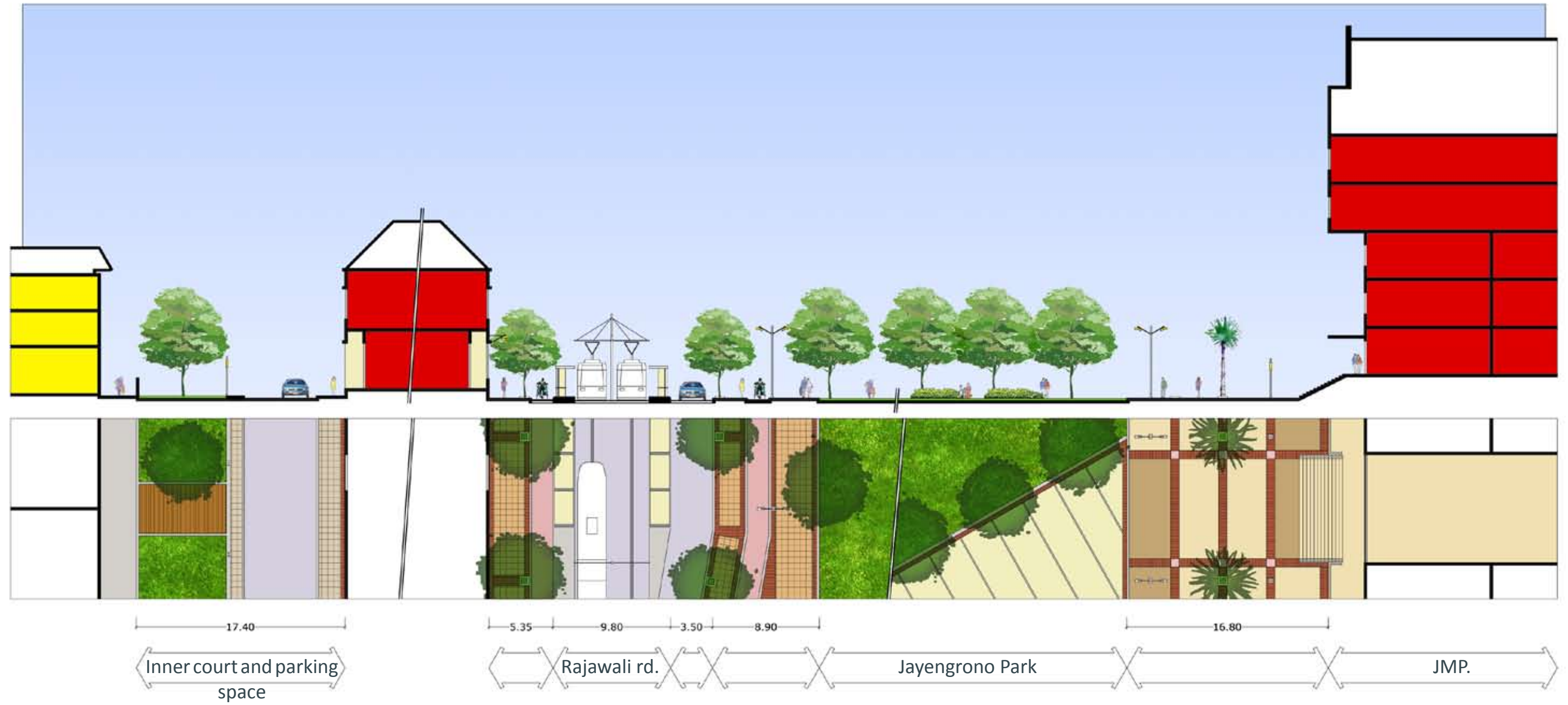
Figure 5.7. Section 3 diagram





Figure 5.8. Section 4 diagram





p.  
74

Figure 5.9. Section 5 diagram



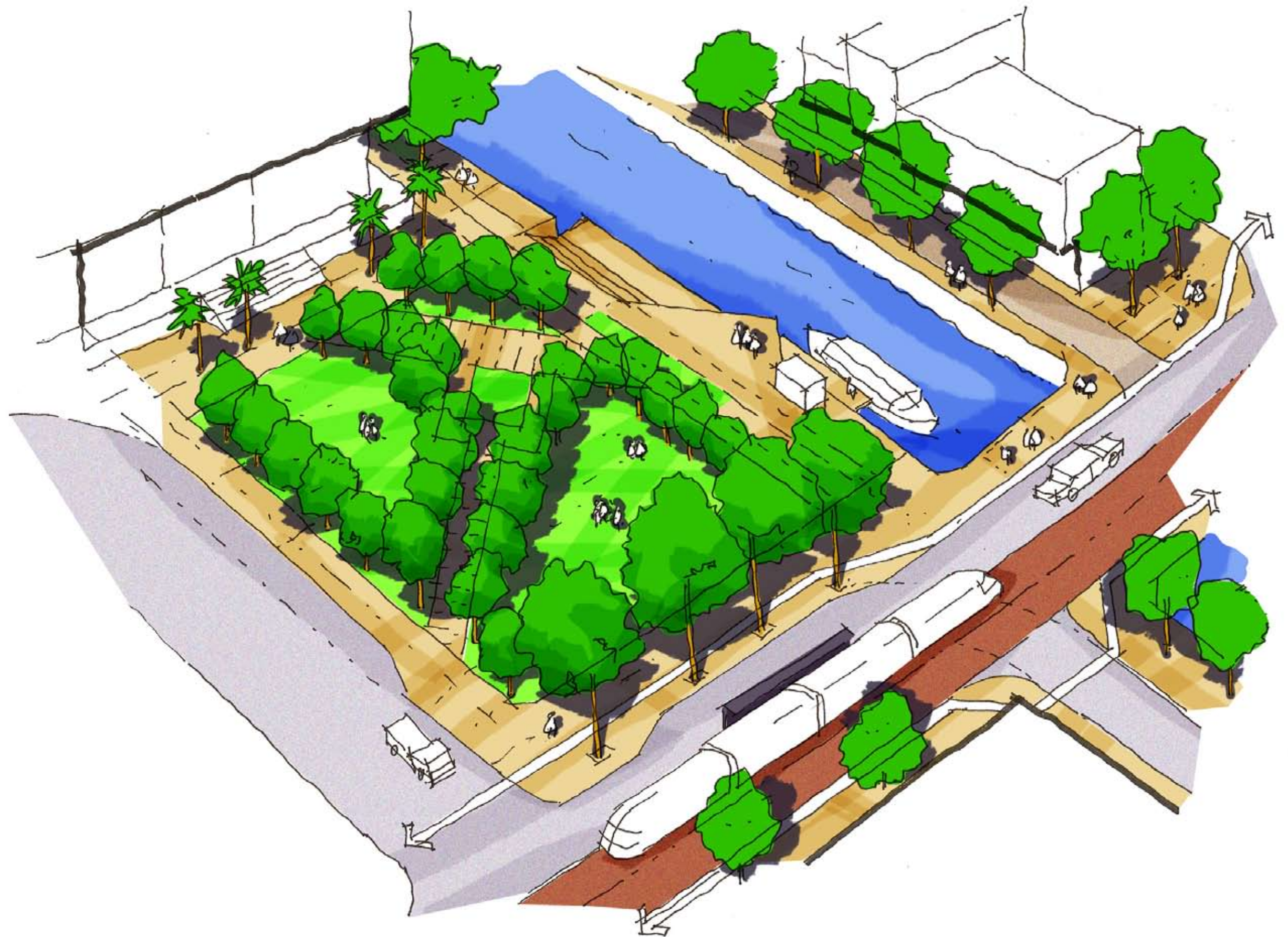


Figure 5.10. Image impression of Jayengrono Park and Kalimas Barat Waterfront





p.  
76

Figure 5.11. Image impression of Kalimas Barat Waterfront



Kalimas Waterfront Project aims to improve the quality of public space along the Kalimas Barat and Kalimas Timur road. Based on the street character framework, Kalimas Timur road is a road with Pedestrian and Vehicle type (slow traffic). This means there is only a clear boundary between the pedestrian path with the car line, and the bike uses the same line with the car. Meanwhile, because the Kalimas Barat road serves the industrial areas, then this road type is Pedestrian and Vehicle (normal traffic). This road has a clear boundary between the pedestrian path, bike path and the car line.

Waterfront Kalimas is functioned as a public space for local residents; it is also a meeting point between Western and Eastern parts of Old Town. Therefore, there are 3 pedestrian bridges is proposed to accommodate those needs.

To strengthen the Waterfront Kalimas as a public space, it planned an active park in the northern part of the JMP. This park accommodates the kids and teenagers' activities, thus this park consist of a futsal court and playground. For further illustration, please see figure 5.13.



- ① Kalimas Waterfront
- ② JMP park
- ③ Pedestrian bridge

Figure 5.12. Project Location 2 Design Plan





Figure 5.13. Section 1 diagram



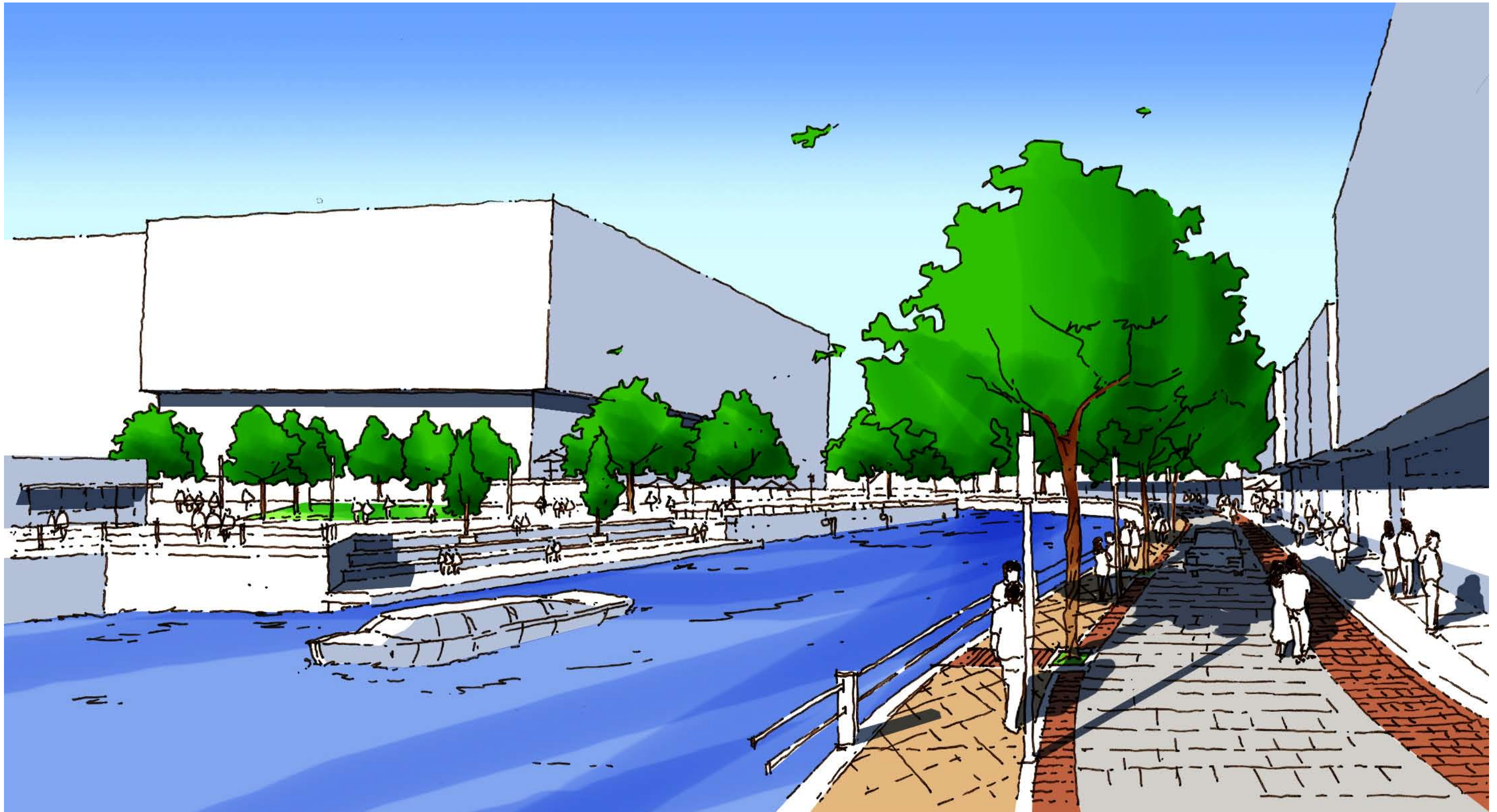


Figure 5.14. Image impression of Kalimas Timur Waterfront





Figure 5.15. Project Location 3 Design Plan

Colonial Avenue project aims to re-design its street structure in order to respond the LRT development that passes through this road. The current situation of Rajawali road is a road with 4 lane capacity and 1 lane for on-street parking. A proper pedestrian (4-5 m wide) has established along this road. The construction of the LRT line causes a reduction of road capacity into 1 lane. And there is space left to put bike path on both sides of street. The reduction of car lanes has caused in reducing the number of cars that pass this road and has made it as a pedestrian oriented street. Despite a reduction in the number of cars, the accessibility to Rajawali road is still maintained by the LRT line. For further illustration, please see figure 5.16 to 5.17.

① Rajawali road LRT stop shelter





Figure 5.16. Section 1 diagram

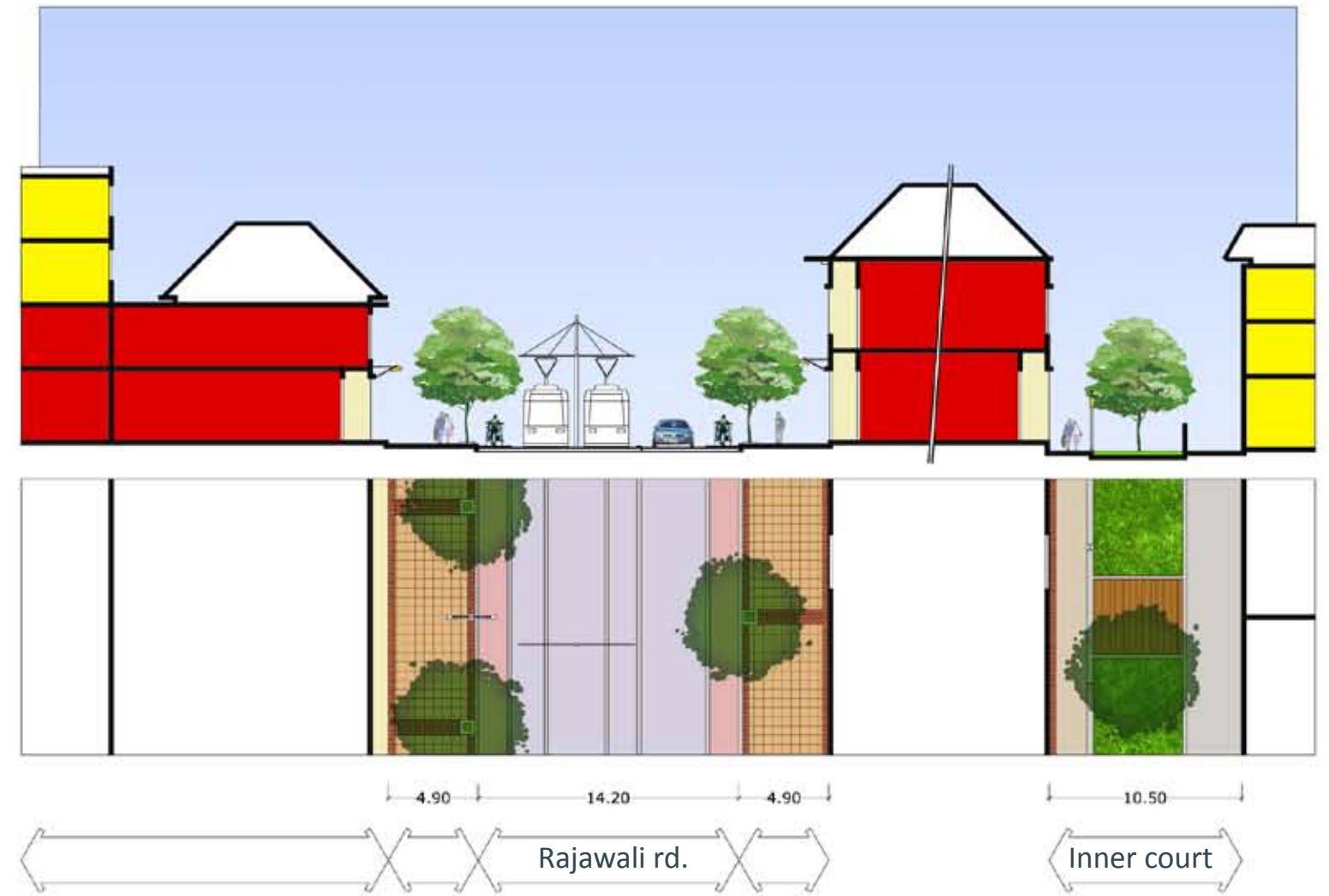
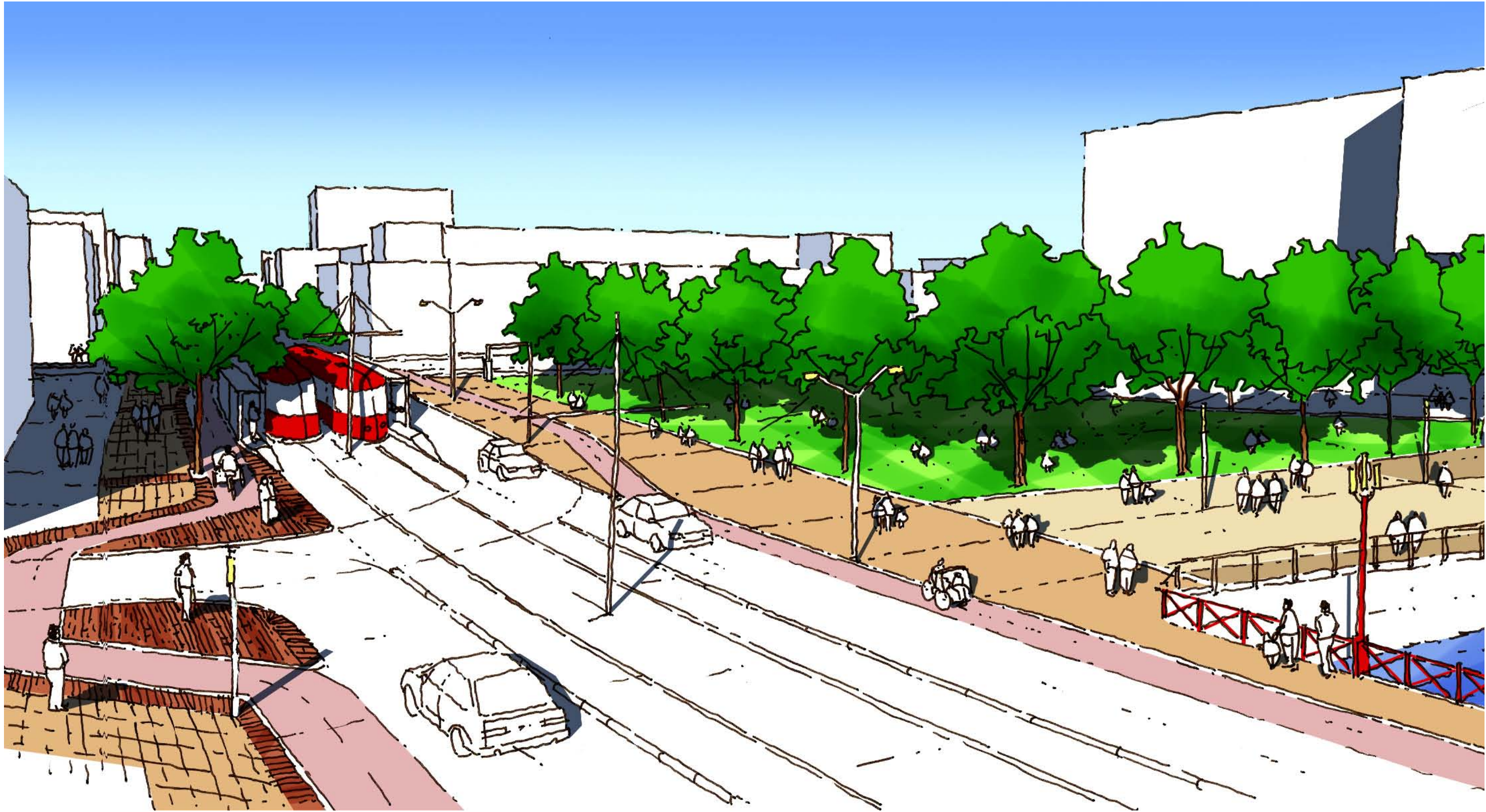


Figure 5.17. Section 2 diagram





p.  
82

Figure 5.18. Image impression of Jayengrono Park and Colonial Avenue



Chinatown Avenue project is similar to Colonia Avenue project which is to re-design its street structure. The similarity of street structure with Rajawali road made the design intervention in Kembang Jepun road also the same. The difference between these two roads is that Kembang Jepun road doesn't have a proper pedestrian path as Rajawali road, but it has an arcade path along this road. Therefore, this path is intended to be the pedestrian path in Chinatown Avenue. For further illustration, please see figure 5.20 to 5.22.



Figure 5.19. Project Location 4 Design Plan



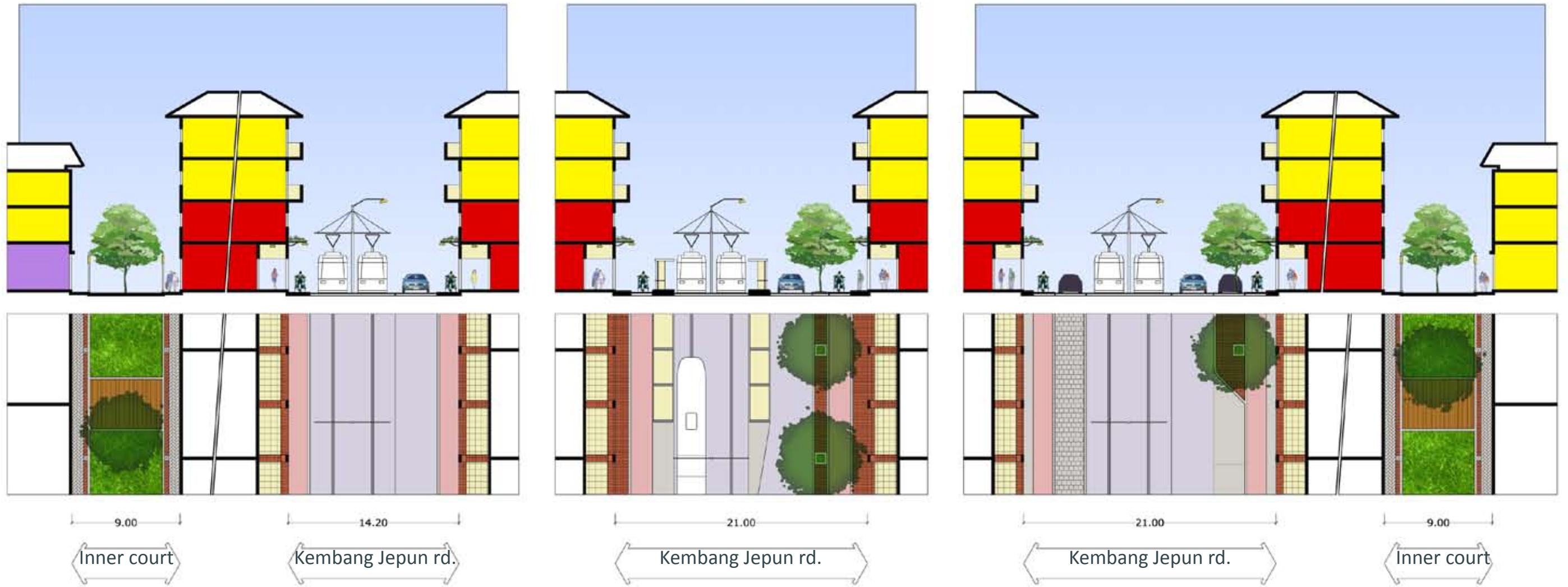


Figure 5.20. Section 1 diagram

Figure 5.21. Section 2 diagram

Figure 5.22. Section 3 diagram





Figure 5.23. Image impression of Chinatown Avenue



## DEVELOPMENT PHASING PLAN

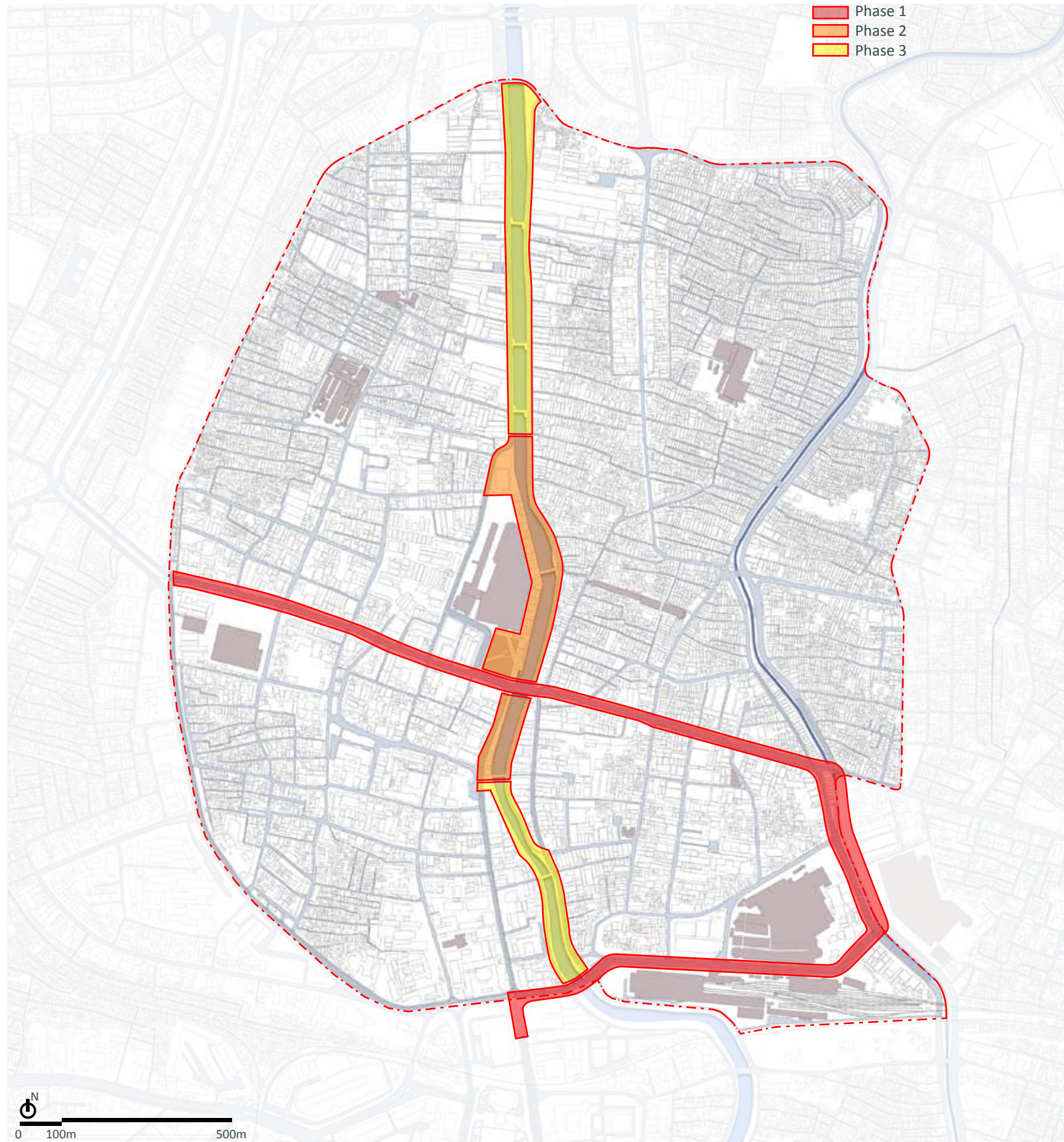


Figure 5.24. Development Phasing Plan Diagram

**PHASE 1**

Although the construction of the LRT line is a long-term development by Surabaya Local Government, this development will have a huge impact for the success of space revitalization in Old Town. Since the construction of the LRT line will be the driving development in Old Town, therefore the construction of the LRT line become into the first phase of development.

**STAKEHOLDER'S INVOLVEMENT**

The construction of LRT line is a big work that needs to be handled directly by the Local Surabaya Government (as project owner). Through the agencies under the Local Surabaya Government, namely: Department of Public Works can be acted as project executor; Department of Transportation Service and Department of City Planning can be acted as the planning consultant. For funding issue, JICA (Japan International Cooperation Agency) already has an agreement with the Indonesian government for the grants of infrastructure networks in Indonesia cities.

**IMPACTS**

LRT line will improve connectivity with other areas of Old Town in Surabaya thus will give a great influence to the economic growth of Old Town. In addition to the LRT line will change the people's attitude to travel. This development will also change the structure of the main street of Old Town (Rajawali road and Kembang Jepun road). Current roads have 4 lanes road and will change into one lane due to the space used by the LRT line. It causes the traffic flow will be slower and makes it more convenient for pedestrians.



**PHASE 2**

The development of the Heart of Old Town can be done in parallel with LRT line construction by taking a reference these would be have the same time completion. This is intended that the Heart of Old Town can immediately provide the benefits to the city of Surabaya and local residents. The Heart of Old Town will be a city-scale public open space. The uniqueness of this public open space (consist of park, waterfront, river boat) as compared to others will become a new attraction in the city of Surabaya.

**STAKEHOLDER'S INVOLVEMENT**

Government as the owner of the public space is the project owner. Due to this phase needs to take over some lands from the private sector (JMP owner), thus the JMP parties should be engaged in this development process. The land takeover procedure can be done by paying compensation to the former owner. This procedure should run smoothly because of the future effects of this development will give a great benefits to the JMP owner. Surabaya Local Government may conduct a project tender for private contractors to perform the construction. And the construction funding can come from the income of the city of Surabaya.

**IMPACTS**

With many number visitors in this area will provide a positive effect on the economy of the JMP in particular and shop-houses in the surrounding. And this will also cause a reaction for the local residents to start a service business in order to support the recreational activities at the Heart of Old Town. This development also shows the strong willingness of Surabaya Local Government to increase the amount of public open space in Surabaya.

**PHASE 3**

The last phase is the completion of Kalimas Waterfront project. This remain part of Kalimas Waterfront is intended for local use. The Project aims to create a continuous waterfront and as the main local connection for two main parts of Old Town. Therefore there are 4 bridges being proposed to improve the connection residential area in the western and eastern part of Old Town.

**STAKEHOLDER'S INVOLVEMENT**

Similar to the second phase, the owner of project and funding is the Surabaya Local Government. The project contractor can come from the private parties. Because there will be some eviction to immigrant's temporary houses, the Department of Population and Civil Registration and the Department of Public Housing should be involved in this procedure.

**IMPACTS**

As stated the Kalimas Waterfront is intended for local use and to improve the connection of the Western and Eastern part, thus the local residents will gain the benefit. They will have more public space and it can improve their social and living environment.





p. 88 **chapter 6 - DESIGN EVALUATION & CONCLUSION**



Sasak road in the day!



Questions arise about how the infrastructure intervention will effect on the daily life of the inhabitants? How the new street structure and public space network influence on the social life?

To answer those questions, it is good to see the design intervention's background. The design intervention that has been done in Old Town is based on the effect that given by the Surabaya Local Government in order to improve the road and transportation network in Surabaya.

### OLD TOWN CONNECTIVITY IN SURABAYA CONTEXT

Surabaya's ring road and LRT line increases the connectivity of the Old Town to other areas in Surabaya. This connectivity gives an impact for easier accessibility and more people visiting to the Old Town. In view of this area is one of the trading and tourism center in Surabaya, the connectivity increment is an opportunity that can be responded by local residents to improve their economic lives. They will be able to expand their service business by taking those advantages.

### RE-DESIGN THE STREET STRUCTURE

Old Town is an area with an intimate characteristic, where the narrow streets flanked by buildings that majority of them had 0m setback. But in the current conditions, the streets are filled with cars and create traffic congestion due to the inability of roads to accommodate the large number of cars. This makes pedestrians feel uncomfortable because there is no designated space for them. Due to the large number of cars and less number of pedestrians has made the Old Town's roads as car-oriented road.

The construction of the LRT line through the Old Town's main roads provides an opportunity for re-designing the road into a 'pedestrian-oriented' street. A 'pedestrian-oriented' road will provide a comfort and safety for pedestrians. The large number of pedestrians will increase the street vitality and it will attract other peoples to do the same. This will lead to a social interaction between them and appearing a social control. A Social control can improve the urban security and urban maintenance in the area. And as a result, the quality of its environment can be maintained and even enhanced. In addition the number of pedestrians can improve the urban health.



Figure 6.1. Old Town's Illustrative Plan



**ESTABLISH PUBLIC SPACE NETWORK**

Public Space network that designed in Old Town will increase the connectivity and the amount of public space. The increment of the connectivity provides an advantage for creating a new social and economic relationship. Taking an example, the construction of pedestrian bridge that linking the House of Sampoerna with Ampel Mosque, which are the tourism center in Old Town, will enhance the vitality along that corridor. The large number of tourists who pass through this corridor will lead to the local residents' reaction to take this opportunity by selling souvenirs as an example. And this will increase the economic life of local residents in that corridor.

The addition amount of public space will bring up the social interaction between local residents, because they have a decent place to gather and interact. As previously explained, the social interaction will rise a social control where it led to a sense of belonging. Therefore, they will volunteer to maintain this area.



**TOPOLOGICAL METRIC R10: Current Condition**


Figure 6.2. Space syntax analysis : Topological Metric R10 on current condition of Old Town Surabaya

**TOPOLOGICAL METRIC R10: Future Condition (Government's Plan)**


Figure 6.3. Space syntax analysis : Topological Metric R10 on future condition of Old Town Surabaya (Government's Plan)

**TOPOLOGICAL METRIC R10: Future Condition (Author's Plan)**


Figure 6.4. Space syntax analysis : Topological Metric R10 on future condition of Old Town Surabaya (Author's Plan)

From the comparison of the three space syntax analysis, as illustrated in figure 6.2; 6.3 and 6.4, has shown that the application of public space network (figure 6.4), has increase the integration value of the roads that are considered essential to improve the vitality Old Town at the neighborhood level.





*p.*  
92 **chapter 7 - ACKNOWLEDGEMENT & BIBLIOGRAPHY**



I wish to praise God for such a wonderful opportunity to study at TU Delft University and also for my family who gives huge support and keeps me in a good spirit to finish this thesis project. It has been a bulk of effort from the teachers of TU Delft feeding me with input and comments for the benefit of my research and design. Special thanks to my mentors Akkie and Willem for sharing their time and knowledge for me, and also Mr. Frank Koopman as my external committee. Also thanks to Roberto, Diego and Remon, and all other great teachers in Department of Urbanism at TU Delft. Thanks to all parties who have been helping me while I was collecting data in Surabaya, especially to Rully Pratiwi from ITS Surabaya and Esti Nayadiah from BAPPEKO Surabaya. It has been a wonderful journey in the Netherlands, and is also because of joyful Indonesian colleagues at PPI Delft, especially for Mia Jessica and mas Dwi Hartono for their help.

1. SURABAYA LOCAL GOVERNMENT (2010), "Laporan Akhir Rencana Detail Tata Ruang Kota Surabaya 2010 - Unit Pengembangan Tanjung Perak (Final Report for Surabaya Spatial Detailed Plan 2010 - Tanjung Perak Development Unit)", Surabaya.
2. SURABAYA LOCAL GOVERNMENT (2008), "Laporan Akhir Rencana Tata Ruang Wilayah Surabaya 2013 (Final Report for Surabaya Master Plan 2013)", Surabaya Local Government, Surabaya.
3. BADAN PUSAT STATISTIK (BPS) KOTA SURABAYA (2006), "Kecamatan dalam Angka 2006 (District in Numbers 2006) – Kecamatan Semampir; Kecamatan Simokerto; Kecamatan Pabean Cantikan; Kecamatan Krembangan", BPS Kota Surabaya, Surabaya.
4. ELLEN F. van, SPIJKERMAN SC (1991), "Urban Heritage of Kota Lama in Surabaya Indonesia", TU Delft – Faculty of Architecture Housing, Urban Design and Planning, Delft.
5. EDAW HK Pte. Ltd (2005), "Surabaya Vision Plan 2005-2025 Final Report", Hong Kong.
6. NES A van (2010), "Introduction to the Space Syntax Method in Urban Studies", TU Delft, Delft.
7. HILLIER B, PENN A, HANSON J, GRAJEWSKI T, XU J. (1992) "Natural movement: or, configuration and attraction in urban pedestrian movement", UCL, London.
8. RODWELL D. (2007) "Conservation and Sustainability in Historic Cities", Blackwell Publishing, Oxford, UK.
9. STEINBERG F. (2008) "Revitalization of Historic Inner-City Areas in Asia, Urban Development Series", ADB, Manila
10. GEHL J (1989), "A Changing Street Life in a Changing Society", Places UC Berkeley, California USA.
11. GEHL J (2008), "Life between building: Using public space", Danish Architectural Press, Copenhagen.
12. STEINBERG F. (1996) Conservation and Rehabilitation of Urban Heritage in Developing Countries, Pergamon, UK.
13. PUSHKAREV B, ZUPAN J (1975) Urban Space for Pedestrians, MIT Press, Cambridge, Massachusetts.