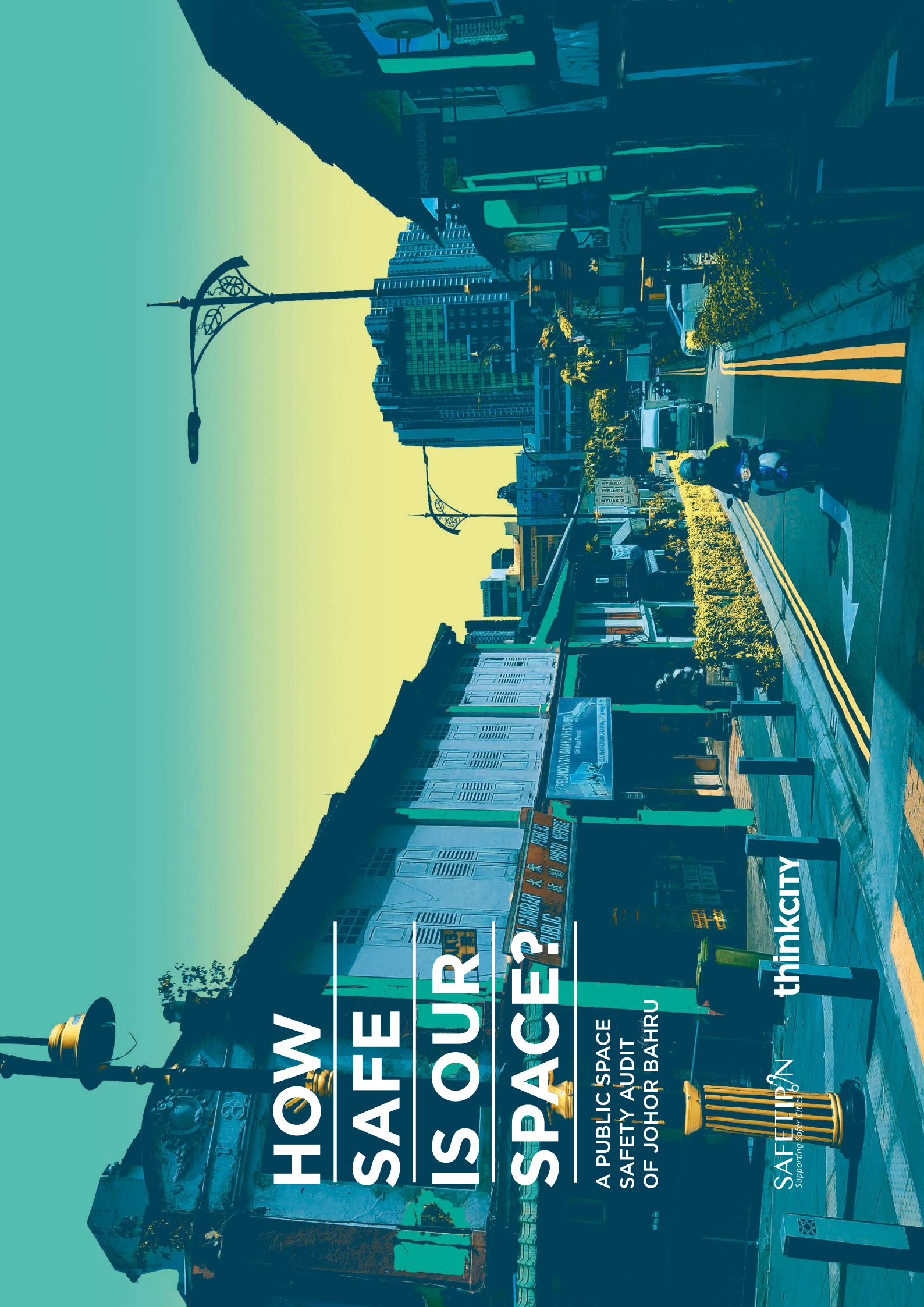


# HOW SAFE IS OUR SPACE?

A PUBLIC SPACE  
SAFETY AUDIT  
OF JOHOR BAHRU

SAFETYPLAN  
Supporting Safer Cities

thinkcity



**Think City**

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**First published in 2022.**

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**Published by**

Think City Sdn Bhd, Level 1 Bangunan UAB, No 21-35  
Gat Lebuh China, 10300 George Town, Penang, MALAYSIA.



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**thinkcity**

Making Cities Liveable, Together.

Think City is an impact organisation dedicated to making cities more liveable, resilient and sustainable. Think City is a consultancy, project delivery partner, institute and venture builder, providing urban policy thinking, management and implementation of urban solutions in Malaysia and beyond. Adopting a community-first, evidence-based approach, Think City focuses on four main areas: Placemaking, Resilience, Analytics and Conservation.

**SAFETIPIN**  
*Supporting Safer Cities*

Safetipin is a technology platform and a set of apps that collects data in order to make cities and public spaces safer and more inclusive for women. Safetipin works with city governments to use data for improvement, and specific initiatives to address women's safety in public spaces.

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## EXECUTIVE SUMMARY

Safetipin is a social organization that uses an innovative technological platform to collect data and measure the safety and inclusivity of public spaces for more resilient, liveable, and inclusive cities. In collaboration with Think City, an impact organisation based in Malaysia, Safetipin undertook a pilot project in Greater Johor Bahru (Greater JB).

For this project, two applications (apps), Safetipin Nite and Safetipin Site, were used to map the city's streets and key public spaces. These apps were used to carry out safety audits, which evaluated a city's physical infrastructure and social environment. The key parameters considered were *Lighting*, *Walk Path*, *Openness*, *Visibility*, *Access to Public Transport*, *Security*, *People*, and *Gender Usage*.

The study began in October 2020, starting with the use of Safetipin Nite to collect over 9,000 images to generate 974 safety audits. The images collected were analysed and visualised into maps that show the current status of each audited area's physical infrastructure. Broadly, most of the audited areas rated highly on the *Lighting* and *Walk path* parameters and peripheral areas away from the city centre were rated low for their *Visibility* and *Public Transport*. Additionally, most audits with high Safety Scores were given to areas near commercial zones

and near Johor Bahru Sentral (JB Sentral) - a central transportation hub.

A second part of the study entailed the use of the Safetipin Site to conduct more extensive and detailed audits around ten selected public spaces. In addition to the Safetipin Nite parameters, the Safetipin Site also evaluated *Vegetation*, *Emergency Services*, *Accessibility*, *Noise*, and *Cultural Balance* in its methodology.

Ten diverse public spaces were selected, including commercial spaces, transportation hubs, pedestrian walkways, and a park. A factsheet on each of the Safetipin Site audited public spaces was prepared to give an overall view of the space. The presence or absence of accessibility elements, such as a pedestrian crossing, tactile tiles, and ramps, was also recorded. The evidence and data collected provides insight on Johor Bahru's (JB's) audited public spaces and issues to be addressed.

This report outlines key recommendations for each type of public space and how they can contribute to a safer and people-friendly city. Additionally, the data is readily accessed and can be imported on any Geographical Information System (GIS) platform to view existing gaps in infrastructure. City governments and other stakeholders can integrate Safetipin data with other data sets for the planning, design and development of inclusive public spaces.



OVER  
9,000  
IMAGES

974  
SAFETY AUDITS

# 01 Introduction



Aerial view of Johor Bahru city from Johor Causeway (Source: Kokkai)

# 1.0 INTRODUCTION

Safetipin is a technology platform and set of applications that works to make communities and cities safer by collecting and providing safety-related data on a large scale. The data is made available to all users of the app as well as further analysed for use for city governments, urban planners, and other stakeholders. Safetipin in collaboration with Think City, an urban impact organisation, undertook a pilot project in Greater JB to collect and analyse data on the safety and inclusivity of the city's public spaces.

# 1.1 PROJECT SITE

JB is the capital city of the state of Johor, located along the Straits of Johor at the southern end of Peninsular Malaysia. JB is 220 km<sup>2</sup> in size and hosts Malaysia's third largest urban agglomeration – Iskandar Malaysia. JB's rapid urbanisation had resulted in the expansion of the centre to the periphery<sup>1</sup>. One such expansion is Greater JB area as seen in the Map 1. The key map shows the various townships within JB district which were in the Johor Bahru Transformation (JBT) area. With the total area of 4.6 km<sup>2</sup>, the estimated population density of Greater JB is 2,051 people per km<sup>2</sup> as per 2019.

<sup>1</sup> Abdulaziz, W., Shuaibu, A., Abdulaziz, MA. (2018). Sprawling growth and the environment: A case of Johor, Malaysia. International Journal of Science, Environment and Technology, 7(2), 382-396. <https://www.ijset.net/journal/2057.pdf>

Estimated population density of Greater JB is **2,051 people** per km<sup>2</sup> as per 2019.

**220 km<sup>2</sup>**  
in size and hosts Malaysia's  
third largest urban agglomeration  
– Iskandar Malaysia



Map 1: Area selected for the pilot study, Greater Johor Bahru

# 02

## Safety Audit Methodology

*A phone with the Safetipin Nite app installed was mounted on the screen of a car to collect safety data within Greater JB (Source: Humonia)*



## 2.0 SAFETY AUDIT METHODOLOGY

Safetipin uses mobile apps and technology platforms to collect data and measure the safety and inclusivity of public spaces in cities. For this project, two of the Safetipin applications were used, Safetipin Nite and Safetipin Site, to study a public space's safety through assessing its physical infrastructure and social usage.

At the core of Safetipin is its safety audits. A safety audit is a tool for collecting and assessing information about key parameters of a public space and its perceived safety. Eight key parameters were measured – *Lighting, Walk Path, Openness, Visibility, Access to Public Transportation, Security, People* and *Gender Usage*.

Each parameter is rated on a scale of 0 to 3, with 0 being a poor rating and 3 being good (parameter rubric can be seen in Annex 1). With this data, a Safety Score is calculated from the weighted aggregated ratings of the parameters. The *Lighting, Gender Usage* and *Visibility* parameters had been given high weightage in terms of their impact on perceived safety. The parameters were defined below.



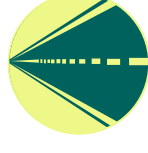
### Lighting

Availability of sufficient light to see all around you



### Public Transport

Availability of any form of public transport



### Walk Path

Either a pavement or road with space to walk



### Security

Presence of police and security guards



### Openness

Ability to see and move in all directions



### People

Number of people around you



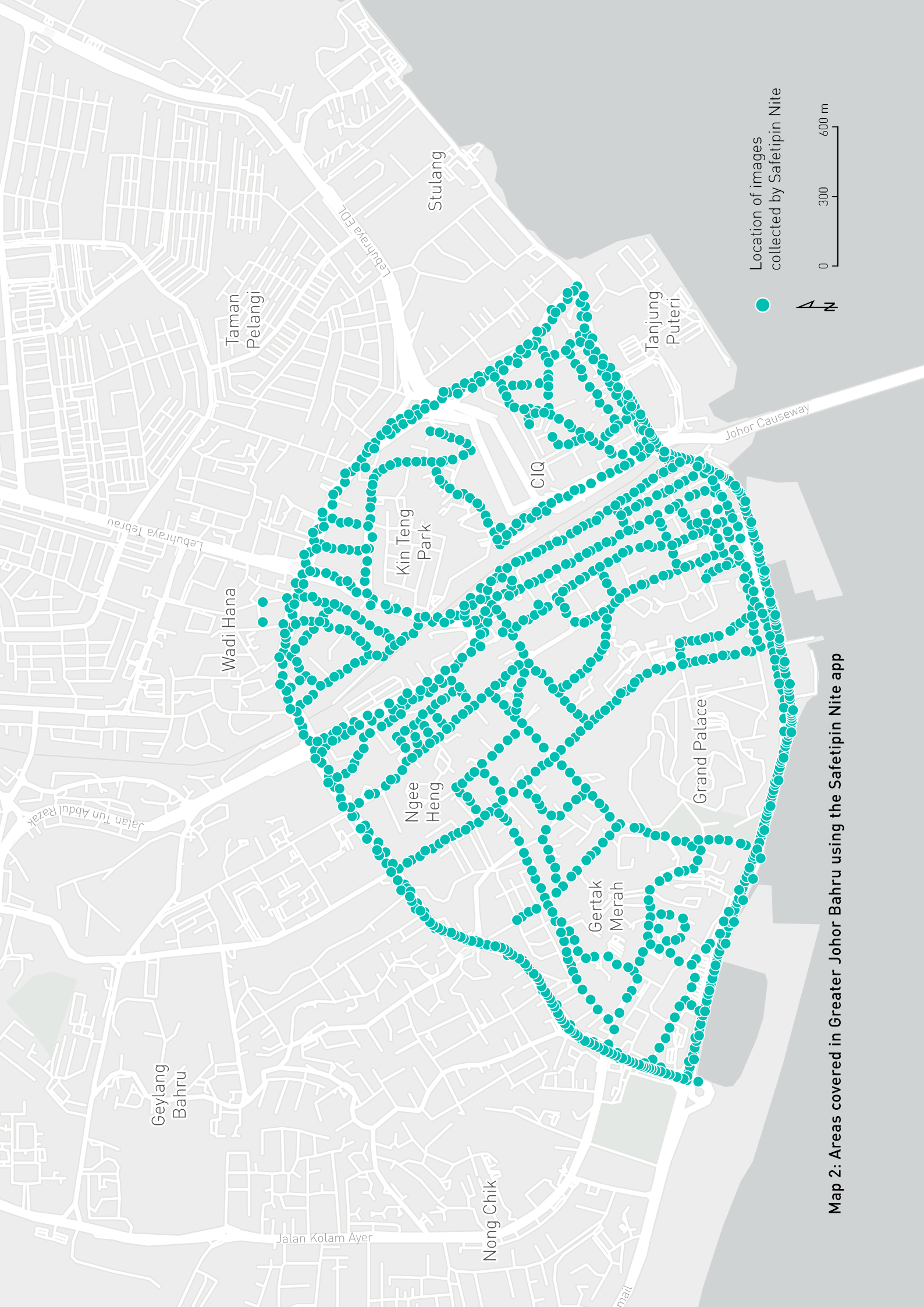
### Visibility

Vendors, shops or buildings from where you can be seen



### Gender Usage

Presence of women and children near you



Map 2: Areas covered in Greater Johor Bahru using the Safetipin Nite app



Night view of JB city streets (Source: APhototowed)

## 2.1 SAFETIPIN NITE

The Safetipin Nite app is used to collect images along the main streets of the city, as well as key public spaces. A phone with the Safetipin Nite app installed was mounted on the screen of a car. When the car is being driven, the app automatically takes photos of the street in landscape mode. These images were collected to capture a pedestrian's safety conditions at regular intervals. Using Safetipin Nite, the entire city road network is mapped with images that were then assessed on the Safetipin's backend technology platform.

**“THE SAFETIPIN NITE APP IS USED TO COLLECT IMAGES ALONG THE MAIN STREETS OF THE CITY, AS WELL AS KEY PUBLIC SPACES.”**

In Greater JB, approximately 9,000 images were collected through the Safetipin Nite app, both during the day and night-time by one driver. Night-time data was collected for the calculation of the Safety Scores. Night-time data prepared imperative to measure the amount of *Lighting*. Data in the day-time was also collected so that the physical infrastructure parameters, such as *Walk Path*, *Openness*, *Access to Public Transport*, and *Security*, could be seen clearly in the images taken. This method of data collection was adopted to overcome the challenges of low lighting in the night-time impairing the ability to identify and rate the conditions of the area's physical infrastructure.

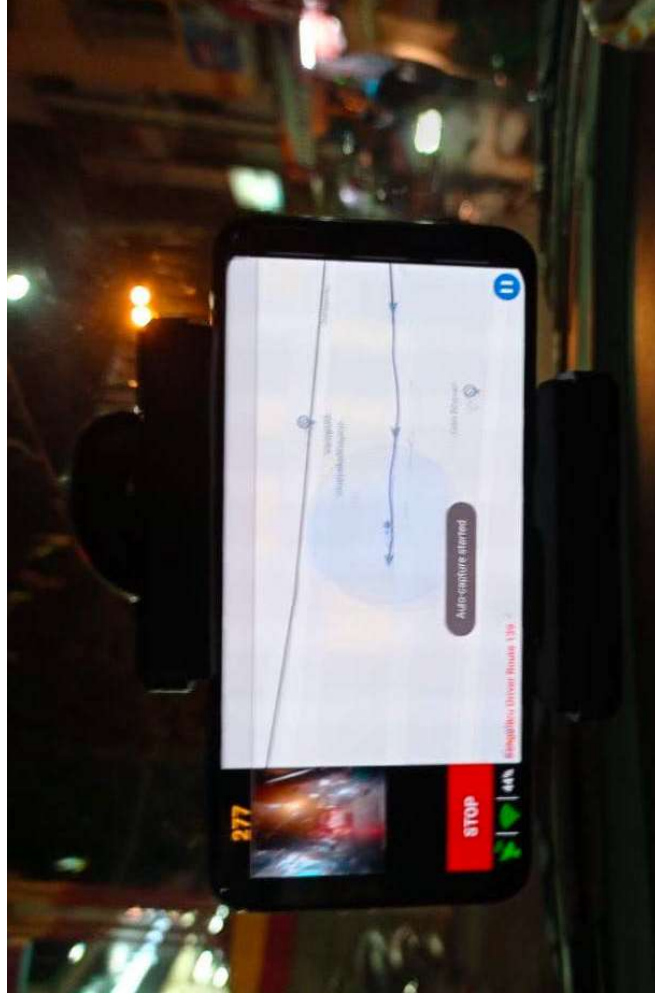


Image 1 : Phone mounted in car with the Safetipin Nite application

**Note:** The data collection was conducted (from 12<sup>th</sup> to the 23<sup>rd</sup> of October 2020) during Recovery Movement Control Order (RMC0) in JB. There was more flexible movement of people and businesses compared to other Malaysian states that were undergoing Conditional Movement Control Order (CMCO). Due to this, it was considered an appropriate time to conduct the safety audits, given the flexibility to move around in JB. Though movement between states was allowed, the border between JB and Singapore was closed. This may have had an impact on the data collected during the day-time as most day visitors in JB were typically Singaporeans. Additionally, the seasonal monsoon and heavy rains in October may have also affected the presence of people in JB's public spaces.

## 2.1.1 DATA ANALYSIS AND REPRESENTATION

On completion of the data collection through the Safetipin Nite application, the Safetipin team analysed the data based on the eight parameters, and their sub-parameters to provide accurate recommendations within the city. The sub-parameters measured are shown in Table 1.

Table 1: Sub-parameter ratings that were analysed

Lighting	Visibility	Walk Path	Security	Public Transport
No Street Light	50% Boundary Wall	No Pavement	Private Guards	Rail
Off Street Light	100% Boundary Wall	Broken Pavement	Police	Bus / Mini Bus
Dim Street Light	Unused Land	Unpaved Pavement	Police Van / Bike	Auto / Shared Auto
High Street Light	Road Side Vendors	Car Blocking	Police Check	Taxi
Too Far Street Light	Temporary Stalls	Vendor Blocking	Police Booth	Bicycle
Leaves Cover Street Light	Shops	House Extending	Other Govt.	
Other Cover Street Light	Houses up to 4 Floors	Trees Blocking		
One Side Street Light	Houses → 4 Floors	Other Blocking		
		Walkable Road		
		On-Street Parking		

The images uploaded on the Safetipin server were analysed through the portal as shown in Image 2. Each image had its geo-coordinates and time assigned to it, based on which it was analysed. For each audit point, a minimum of two images were selected for clear photographic validation. In total, 464 safety audits were generated using the night-time data. This data was made available as a CSV or GIS layer (For CSV data, please refer Annex 2). In this report, maps were produced on parameters related to physical infrastructure supported with images.

total, 464 safety audits were generated using the night-time data. This data was made available as a CSV or GIS layer (For CSV data, please refer Annex 2). In this report, maps were produced on parameters related to physical infrastructure supported with images.

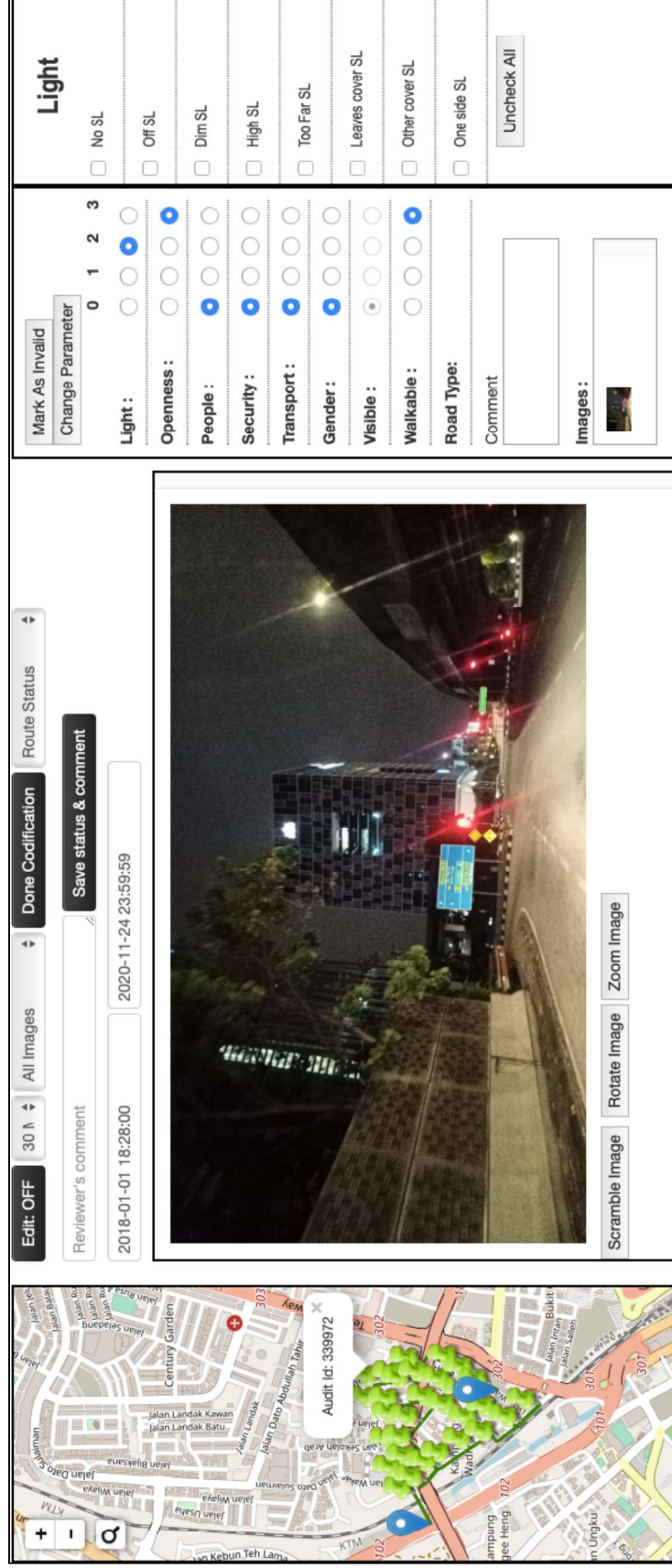


Image 2: Safetipin image analysis portal screen

## 2.2 SAFETIPIIN SITE

The Safetipin Site is a tool to gather qualitative spatial data of a public space. It is a web application designed to collect information on selected public places or public services through a detailed questionnaire, pictures, and spatial data. Prior to this study, the Safetipin Site application had been used to collect data about public parks and metro stations in India, as well as taxi ranks in Durban, South Africa. This type of data gathering process helps in making effective decisions to address citizens' concerns and experiences when using the public place. The first step when using this application was to identify the public spaces which should be assessed and then to create a rubric of questions. This was followed by the team on-ground going to each of the public spaces to gather the required data.

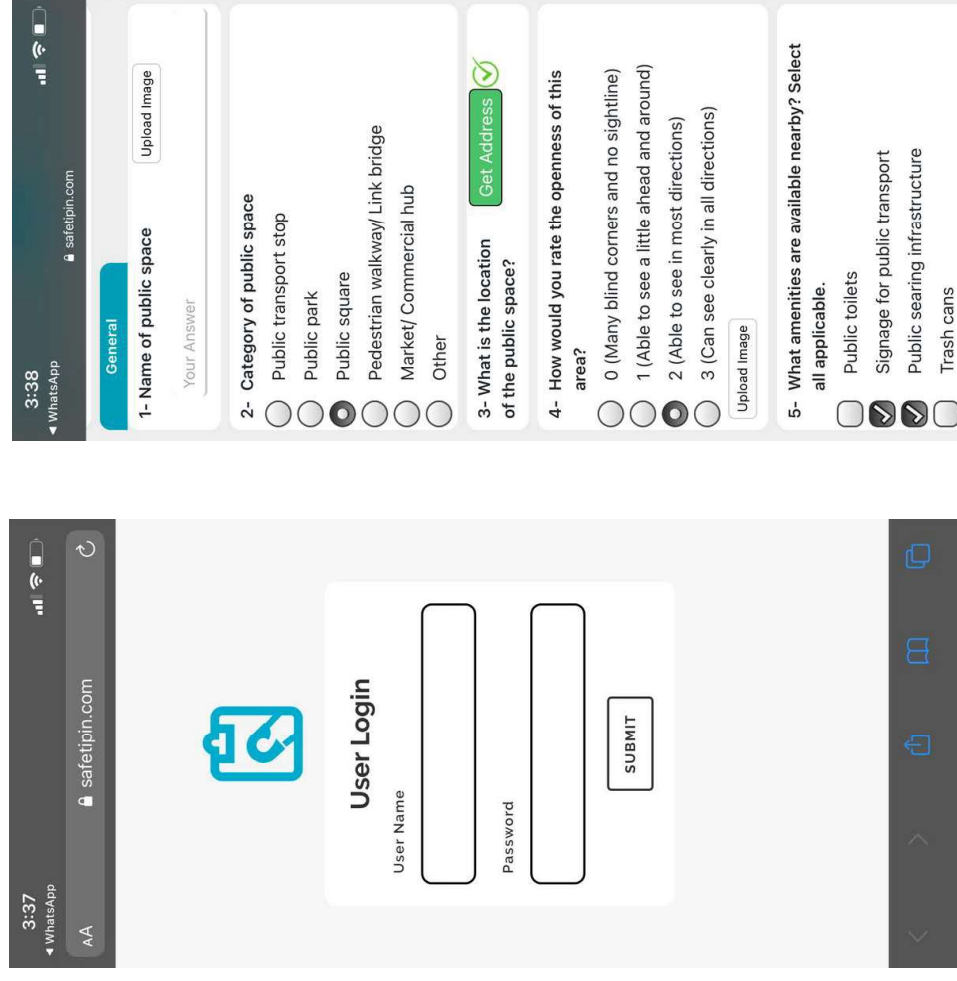


Image 3: Screens of the Safetipin Site app tool



Paved walkway along Jalan Tan Hiok Nee in old downtown JB [Source: Stuart C. Clarke]

For this project, in addition to the existing eight parameters in the Safetipin Nite's safety audit methodology, additional parameters were added for a more extensive assessment of the selected areas (refer Annex 3).



- Level of noise



- Presence of pedestrian crossing
- Signals and timing for pedestrian crossings
- Shading on footpath
- Surveillance



- Amount of vegetation, green landscape and foliage



- Signage for emergency assistance
- Presence of nearby safe haven<sup>2</sup>



- Gender-balanced space
- Representation of cultural element<sup>3</sup>
- Age-balanced space
- Presence of intimidating groups<sup>4</sup>

<sup>2</sup> A place where a person can seek refuge and get help in case of an emergency

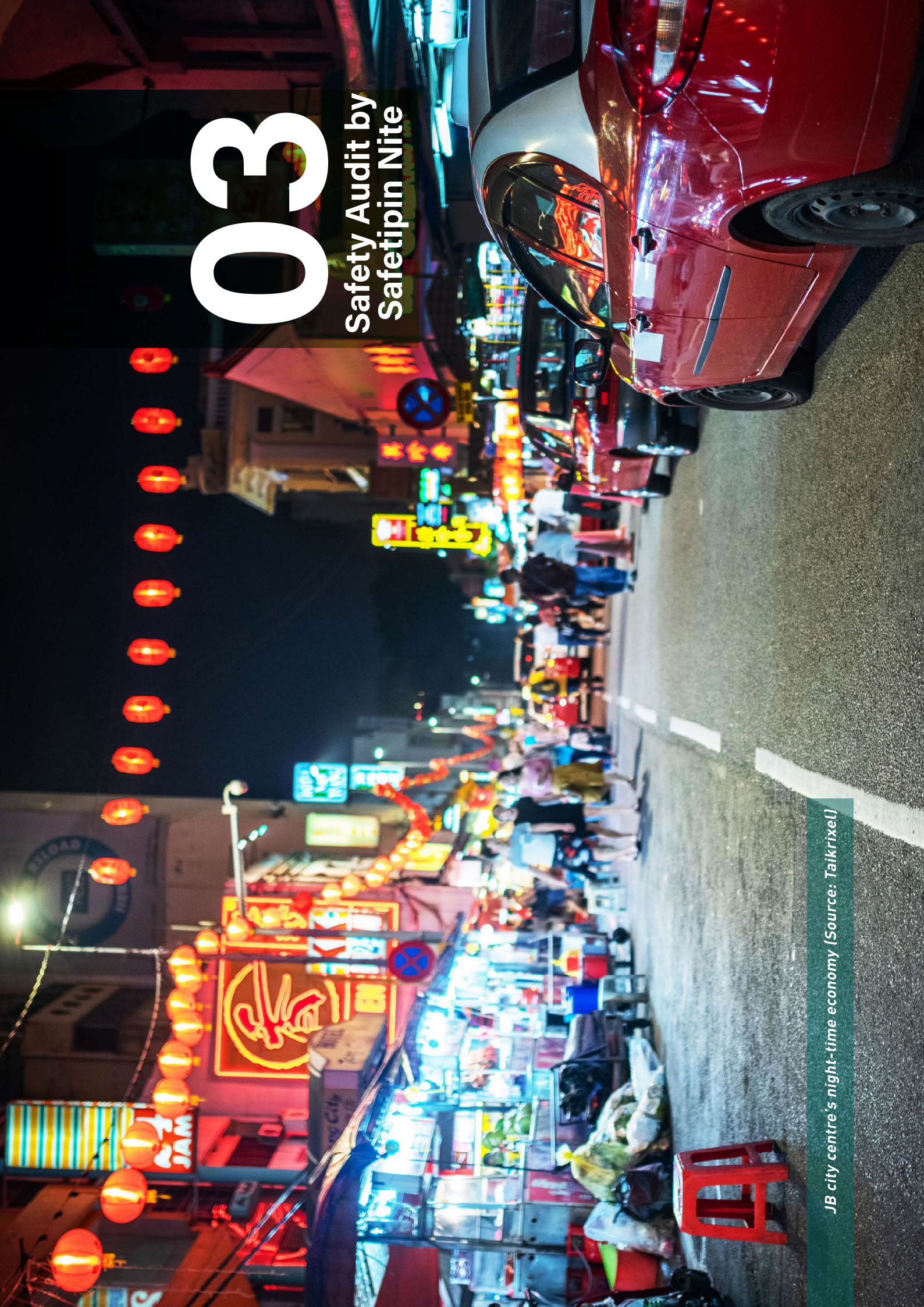
<sup>3</sup> An indication of diverse ethnicities or nationalities who use the space

<sup>4</sup> Presence of certain people is perceived to be intimidating by some such as gangsters, drug addicts, or the homeless



# 03

Safety Audit by  
Safetipin Nite



JB city centre's night-time economy (Source: Taikrixel)

## 3.0 SAFETY AUDIT BY SAFETIPIN NITE

The Safety Scores at an audit location reflects the aggregated rating of all the parameters. For each audit point, a numeric value between 0 and 5 is provided where 0 is poor or very unsafe and 5 is good in terms of overall safety. Map 3 shows the Safety Scores for all 464 audit points. Map 4 shows the overall safety scores density. Thirty-two percent (32%) of the audited points had a Safety Scores less than 2 out of 5 which is below average. Twenty-six percent (26%) of the points had an average rating of 3 and 42% of the points had a good rating which is 4 or above out of 5. Most audits with high Safety Scores were located around the commercial zone and near JB Sentral (transportation hub). The peripheral areas away from the city centre had lower score (below average and poor).

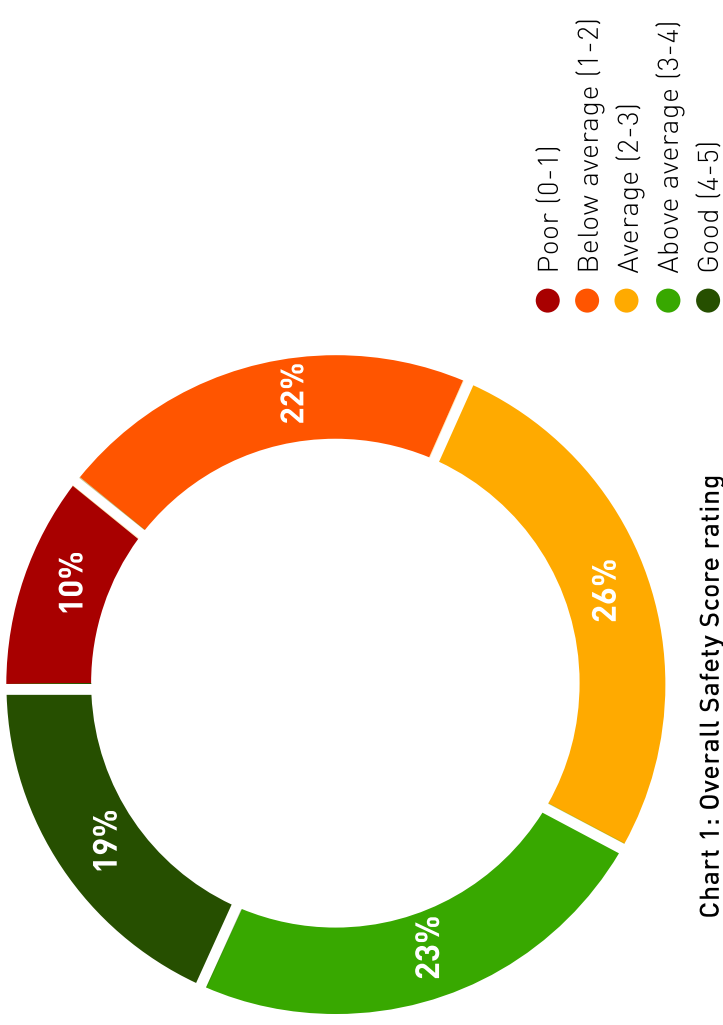


Chart 1: Overall Safety Score rating

42%

of the points had a  
**good rating which  
is 4 or above out of 5**

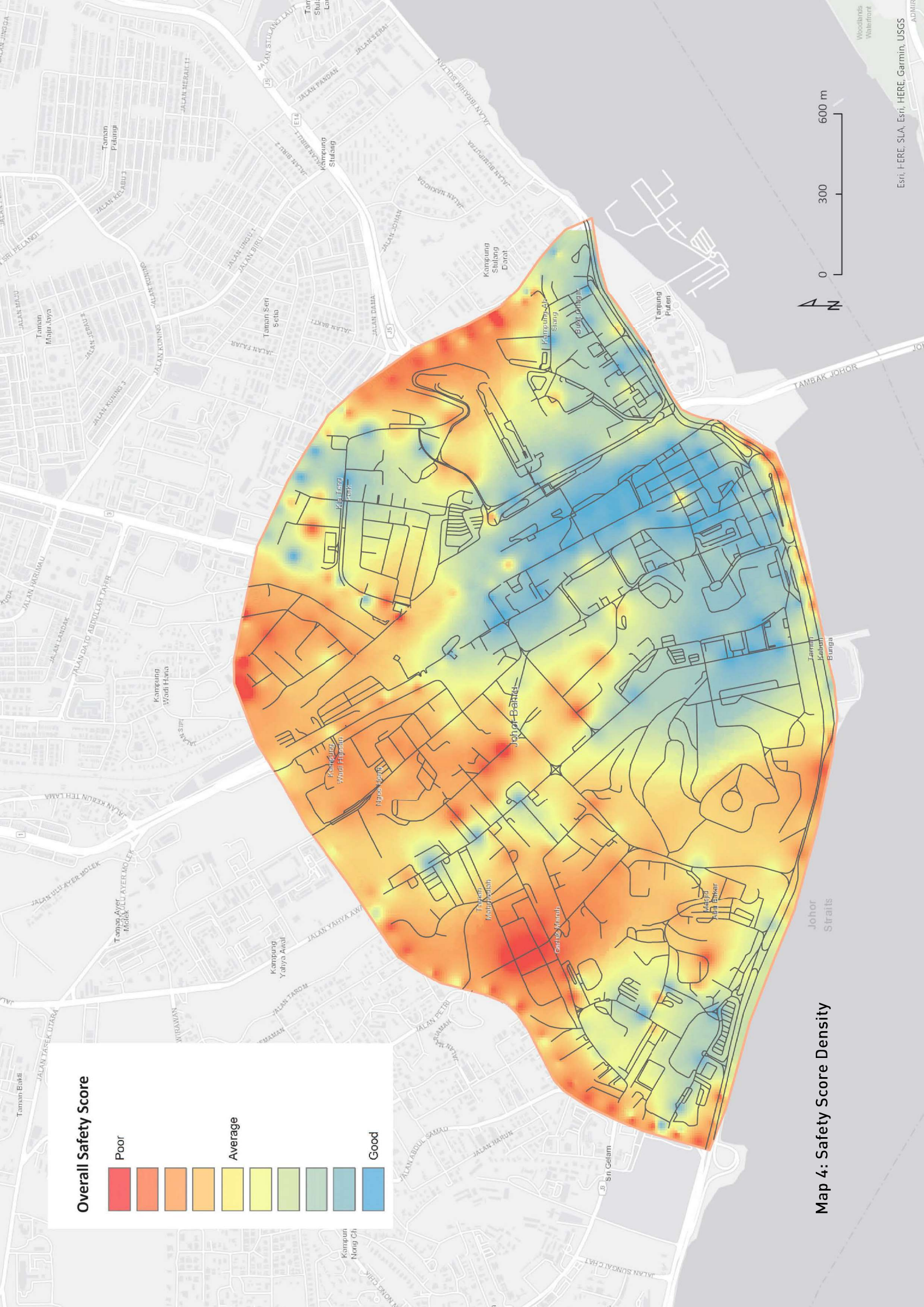
26%

of the points had  
**an average rating of 3**

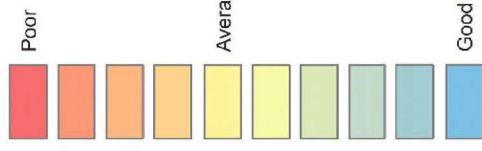
32%

of the points had a **below average  
rating (2 or below out of 5)**





**Overall Safety Score**



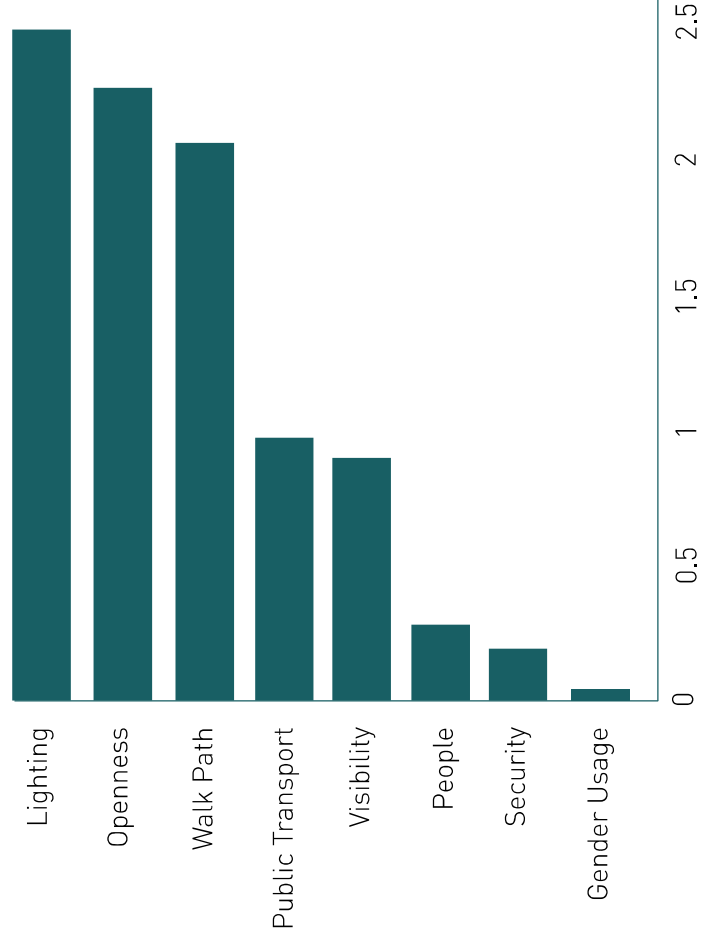
**Map 4: Safety Score Density**

### 3.1 PARAMETER FINDINGS

The graph in this section illustrates the average ratings provided to each of the parameters for the Greater JB. Each parameter was provided a rating out of 3 whereas the Safety Scores was calculated out of 5.

Graph 1 shows the average rating of all the parameters. The *Lighting* parameter had the highest rating of 2.5 out of 3 which indicates adequate lighting in the audited areas of the city. It is followed by *Openness* and *Walk Path* parameters which signify that the streets were wide enough to provide a clear line of sight, and presence of good walking infrastructure in the city respectively.

The *Security* parameter had only recorded the access to formal security (i.e. police stations) due to limited data on police patrolling routes. Also, due to Covid-19's restrictions on people's movement at the time of audit, data on *People* and *Gender Usage* may not have been captured completely. Therefore, these parameters could not have been analysed in detail.



Graph 1: Average rating of parameters



The Hindu Temple and decorative street lights provide illumination to the surrounding area during night-time (Source: Stephane Jaquemet)

### 3.1.1 LIGHTING

The *Lighting* parameter measures the amount of illumination at a place and ranges from dark to bright. For the rating of the *Lighting* parameter, the sources which were considered included street lights, light from houses, shops, and street vendors. Temporary sources of light like the light from cars were not considered when rating this parameter. Images collected in the day-time were also not considered for this parameter. Points which had a rating of 0 out of 3 were known as 'dark spots' – places where there was either no lighting infrastructure present or where the existing lighting infrastructure was not functional.

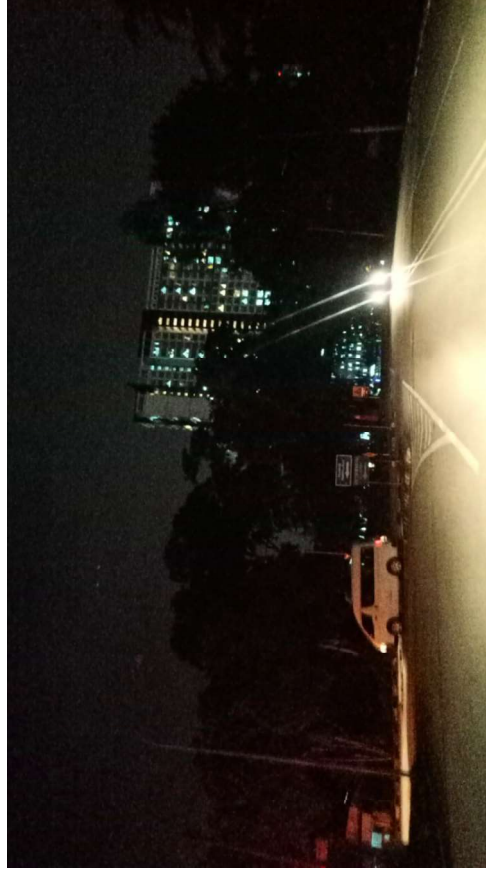


Image 4: Street with non-functional street lights, with only source of lighting coming from surrounding cars and buildings

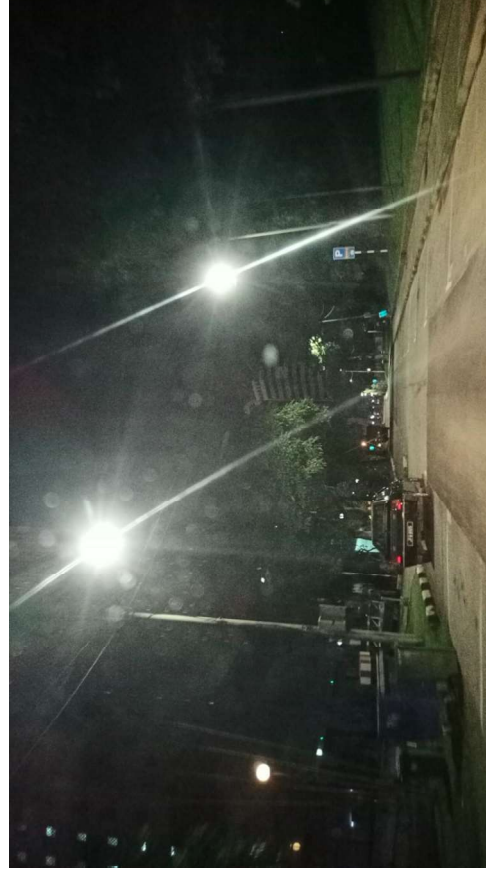
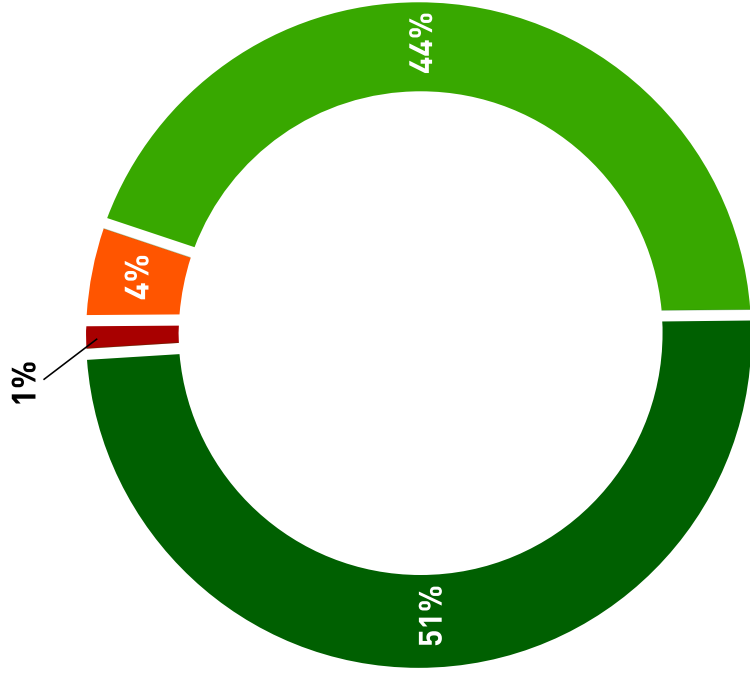


Image 5: Well-lit street with street lights illuminating the street from both sides



- Poor light (0)
- Some light (1)
- Enough light (2)
- Bright Light (3)

# 51% OF THE CITY HAD GOOD LIGHTING

The average rating for the *Lighting* parameter was 2.5 out of 3 within the audited area, which was good. The distribution of the points can be seen in Map 5.

Only 1% of audited points were identified as dark spots with poor light and 4% has some light. Forty-four percent (44%) of audited areas received a rating of 2 out of 3, indicating enough light (Chart 2).

44%

of audited areas received a rating of 2 out of 3, indicating enough light

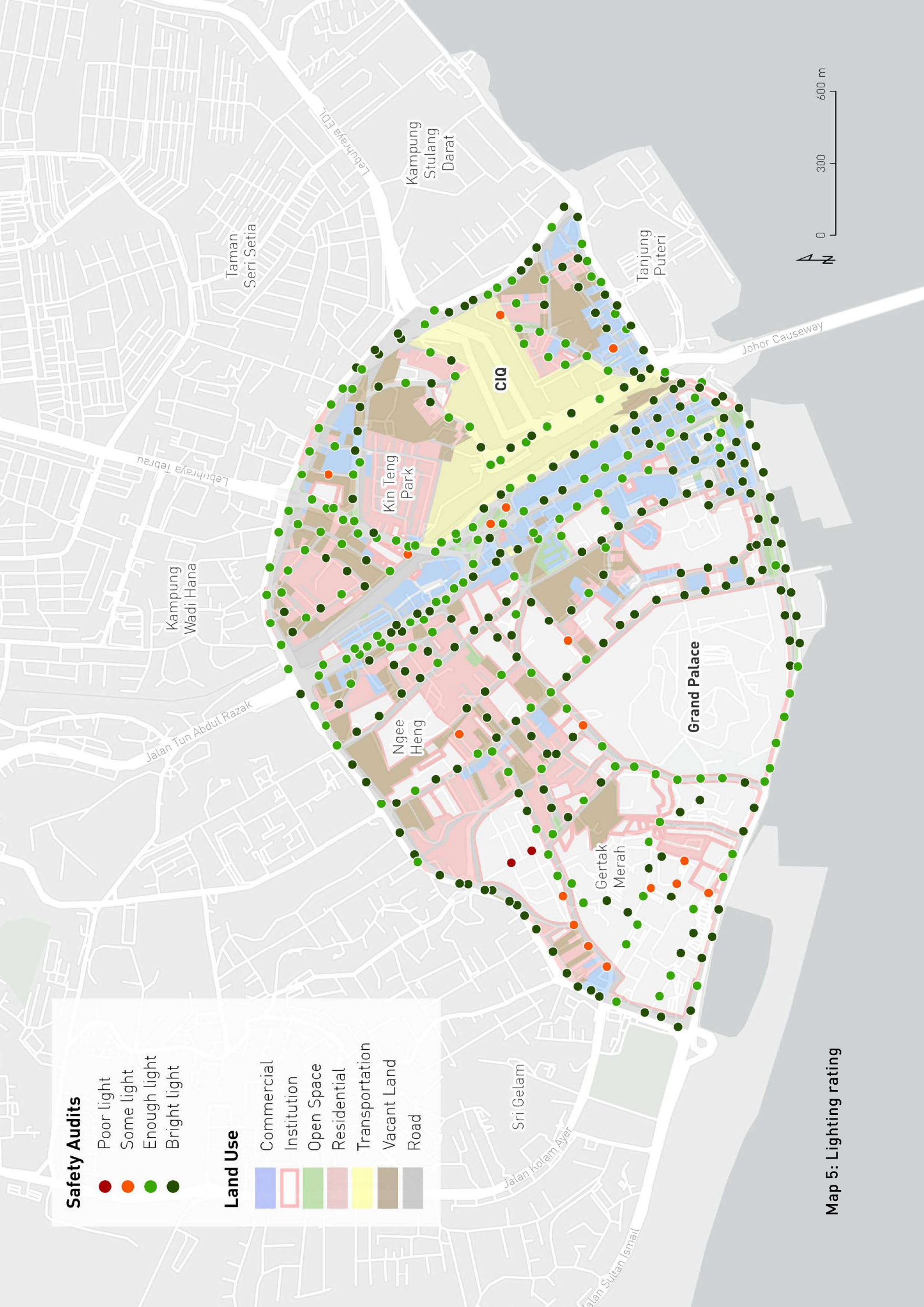
4%

has some light

1%

of audited points were identified as dark spots with poor light





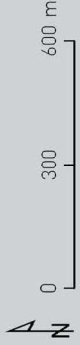
**Safety Audits**

- Poor light
- Some light
- Enough light
- Bright light

**Land Use**

- Commercial
- Institution
- Open Space
- Residential
- Transportation
- Vacant Land
- Road

Map 5: Lighting rating





Well-maintained pedestrian walk path with zebra crossing

### 3.1.2 WALK PATH

The *Walk Path* parameter indicated whether or not a person could comfortably walk in a place. This includes the quality of the pavement, or the space designated for walking along a road. If a pavement was present, its quality was assessed. If it was a residential lane, then the area for walking along with the condition of the road (broken or obstructed) was assessed. The walkability of an area or space is indicative of the activity on the street and the comfort people feel there. Streets with proper infrastructure for walking and crossings were essential for safe walking experiences for children and the elderly. Due to the varying angles of the images collected using the Safetipin Nite application, the width of the pavement could not be measured.

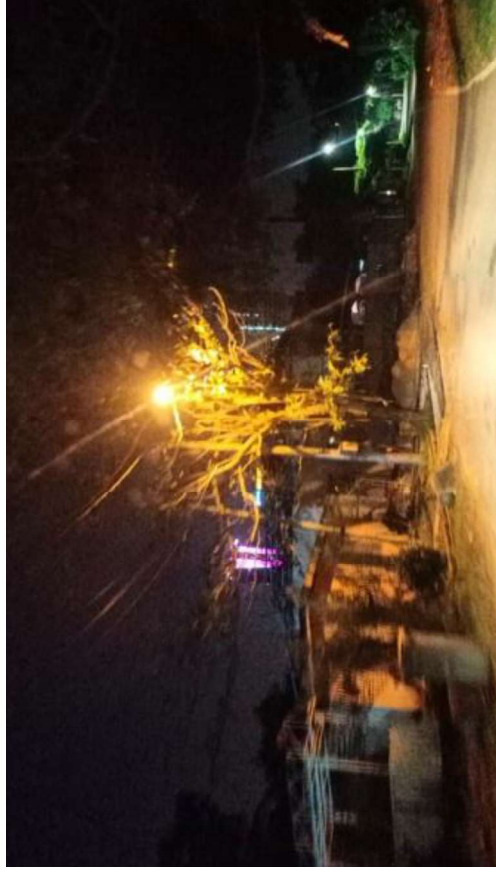


Image 6: Street with unpaved walk path

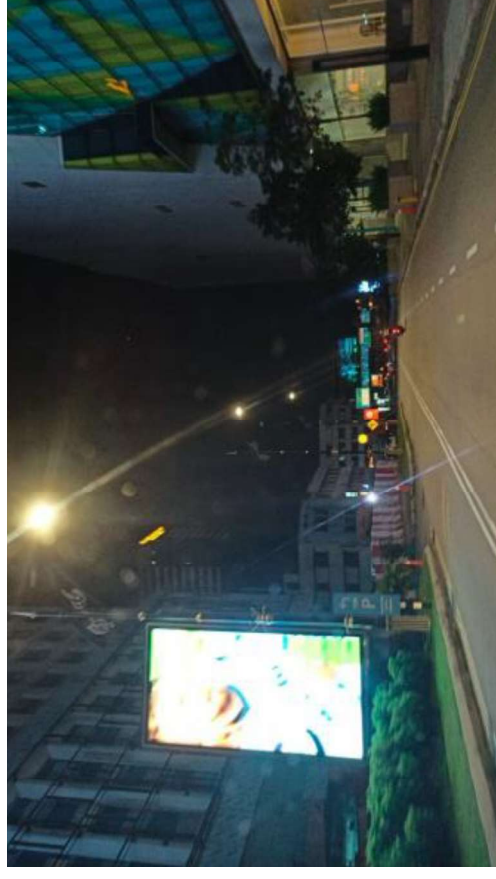


Image 7: Street with well defined pavement with no obstructions

# 60% OF THE CITY HAD GOOD WALK PATH

The average rating for the Walk Path parameter was 2.1 out of 3 within the audited area, which was above average. This distribution of points can be seen in Map 6.

Sixty percent (60%) of the points had been rated good in terms of walkability. Thirty-two percent (32%) of the points (including points rated 0 and 1) had been given a poor rating (Chart 3). Few of the poorly rated points were along the highway or roads with six or more lanes. Highly used spaces, like the markets and JB Sentral, had good walking infrastructure.

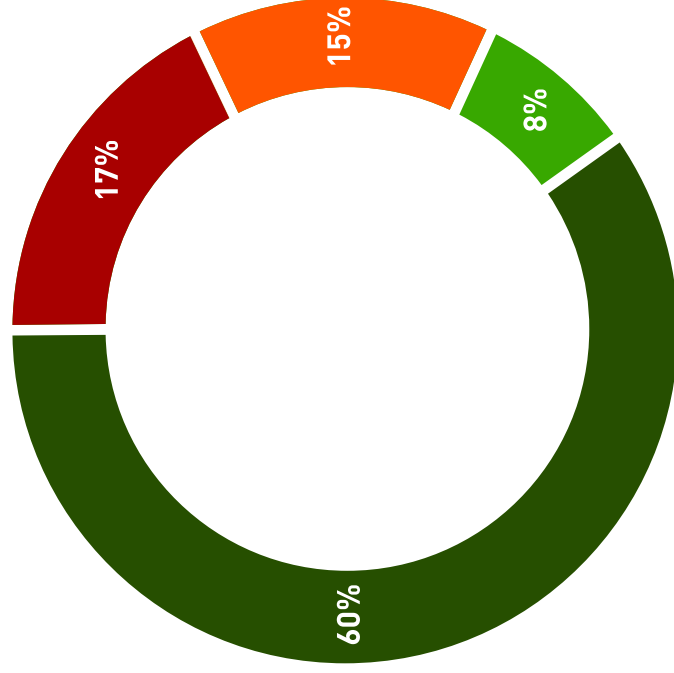
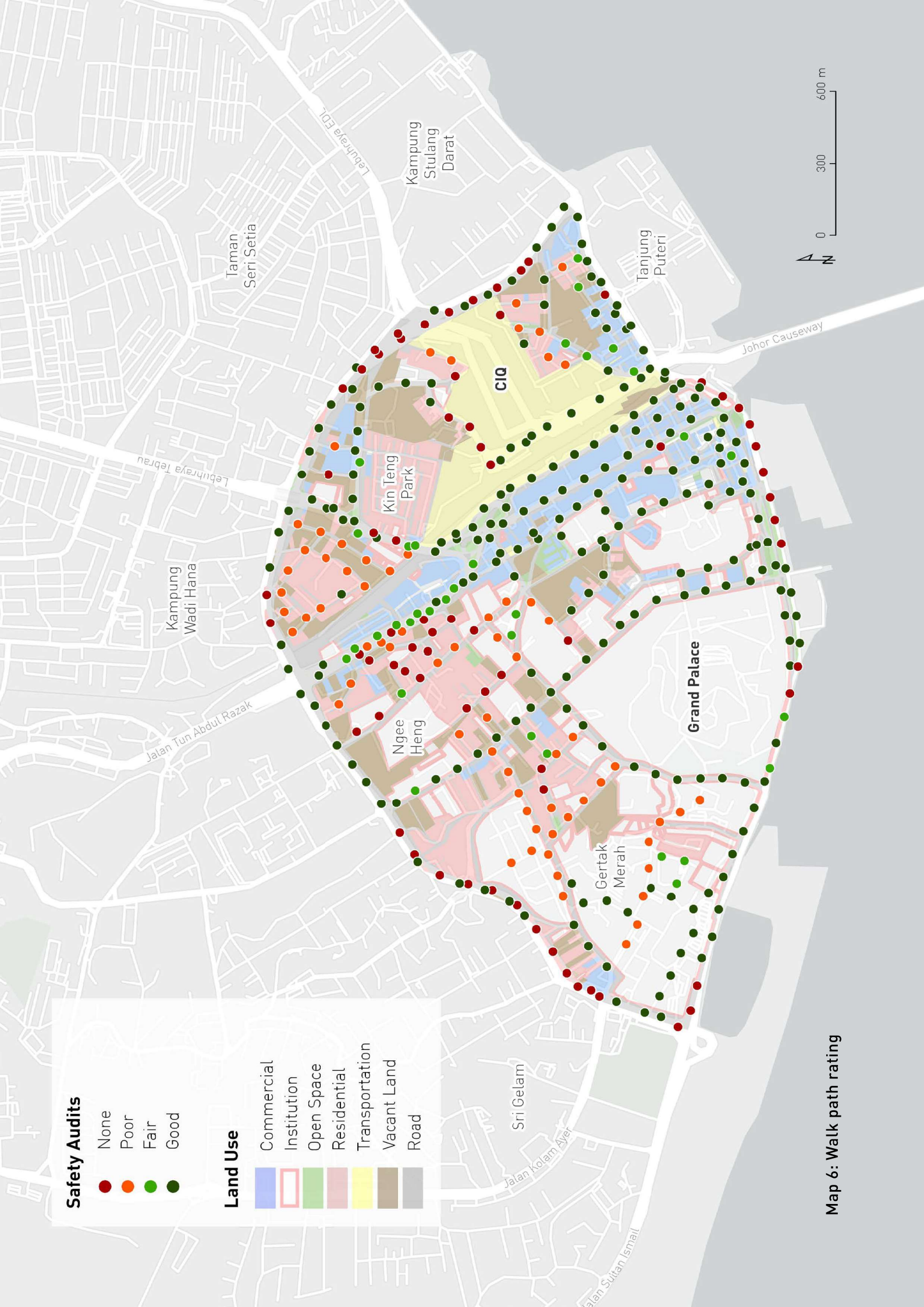


Chart 3: Walk path rating

- None (0)
- Poor (1)
- Fair (2)
- Good (3)

32%

of the points (including points rated 0 and 1) had been given a poor rating

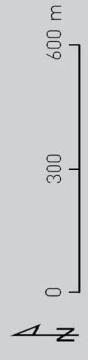


**Safety Audits**

- None
- Poor
- Fair
- Good

**Land Use**

- Commercial
- Institution
- Open Space
- Residential
- Transportation
- Vacant Land
- Road



Map 6: Walk path rating



Good visibility and visual connection between the streets and the built environment (Source: Stéphane Jaquemet)

### 3.1.3 VISIBILITY

The *Visibility* parameter is based on the “eyes on the street” principle, which refers to the elements of the street (i.e. windows, doors of shops, buildings) that ensure there is a visual connection between the street and the built environment to provide natural surveillance to the pedestrians using the space. This parameter includes temporary vendors as well, as they can contribute to a street’s activity. Pedestrians using the public spaces do not contribute to this parameter as they were temporary users of the space.



Image 8: Street with no natural surveillance and presence of 50% boundary walls



Image 9: Active street with good visibility attributed to shops on both sides of the street

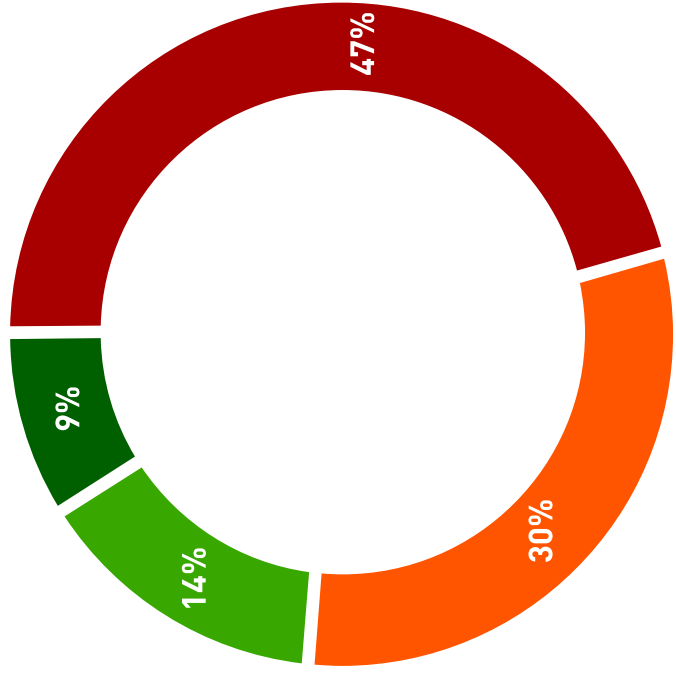


Chart 4: Visibility rating

- No eyes (0)
- Few eyes (1)
- More eyes (2)
- Highly visible (3)

# 23% OF THE CITY HAD GOOD VISIBILITY

The average rating for the *Visibility* parameter was 0.9 out of 3 within the audited area, which was poor. This distribution of points can be seen in Map 7.

Only 23% of the points (including areas rated 2 and 3) had been rated good or highly visible in terms of visibility. Out of the points rated below average, 47% had been given a rating of 0 or no eyes which could be indicative of a highway or lack of street activity in an area (Chart 4).

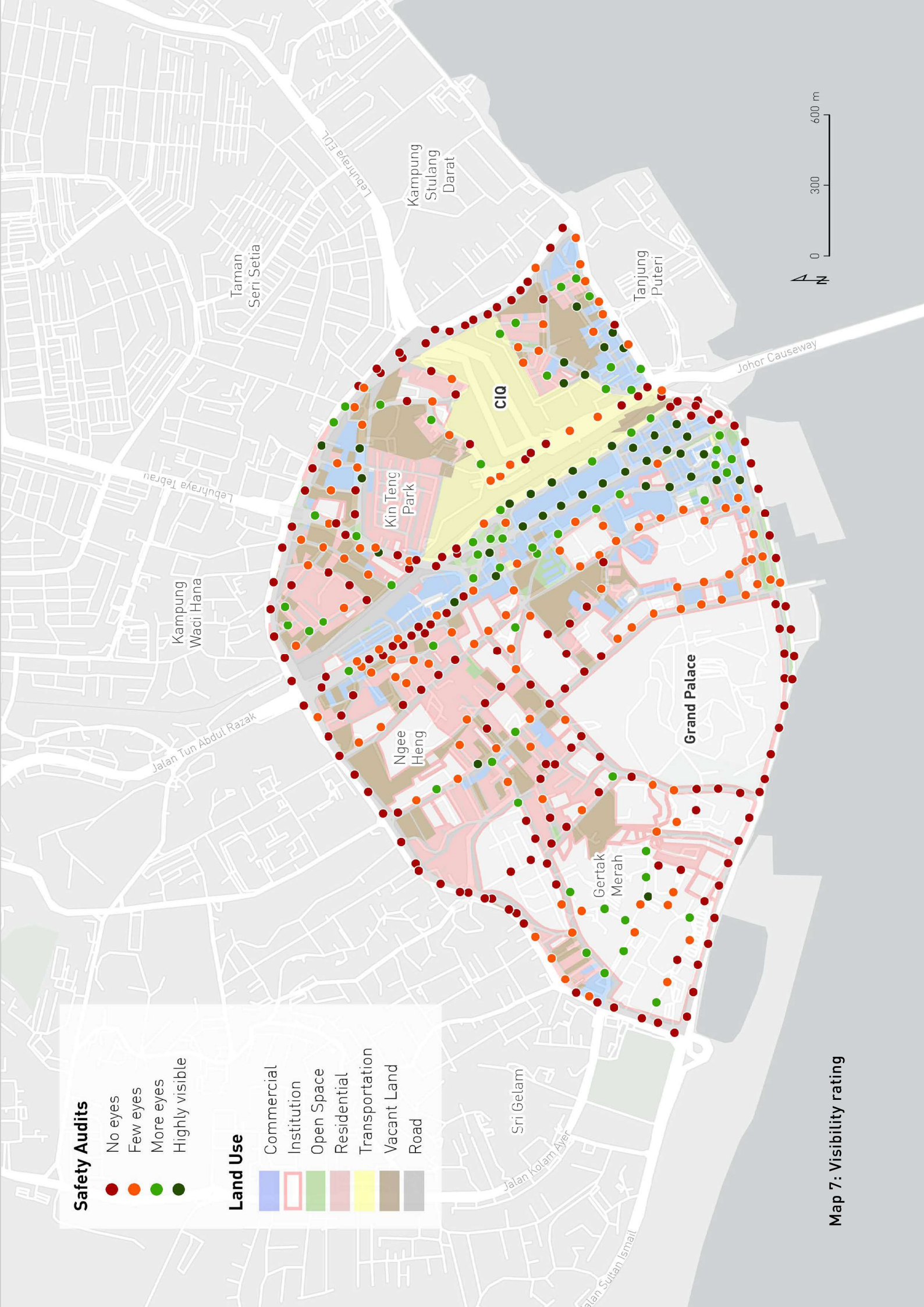
47%

had been given a rating of 0 or no eyes which could be indicative of a highway or lack of street activity in an area

30%

of the points had been rated 1 or few eyes which could indicate lack of human activities in an area





**Safety Audits**

- No eyes
- Few eyes
- More eyes
- Highly visible

**Land Use**

- Commercial
- Institution
- Open Space
- Residential
- Transportation
- Vacant Land
- Road



Map 7: Visibility rating

### 3.1.4 PUBLIC TRANSPORT

The *Public Transport* parameter measures the distance from the audit point to the nearest mode of public transportation to indicate accessibility. Public transport includes both formal and informal modes of transport such as metros, buses, trains and so on . The time taken and accessibility to any form of public transport adds to the ease of mobility in a city. The Safetipin Nite images did not enable an accurate measurement of the closeness of a public transport point from an audited area. As such, Google Maps and Street View were used to close this gap and assess the distances. A rating of 0 indicated that the nearest mode of public transportation was over a 10-minutes walking distance. Ratings 1, 2 and 3 respectively indicated between 5-10 minutes, between 2-5 minutes, and under 2-minutes walking distance.



Image 10: City bus seen near JB Sentral

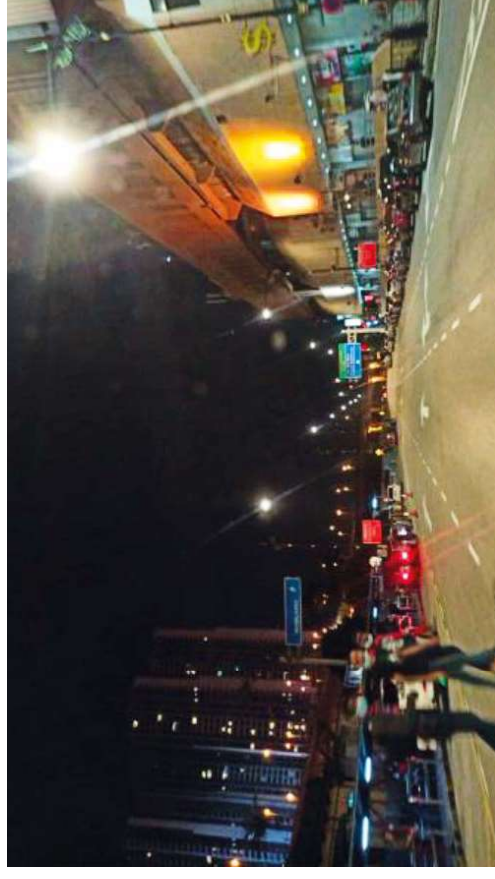
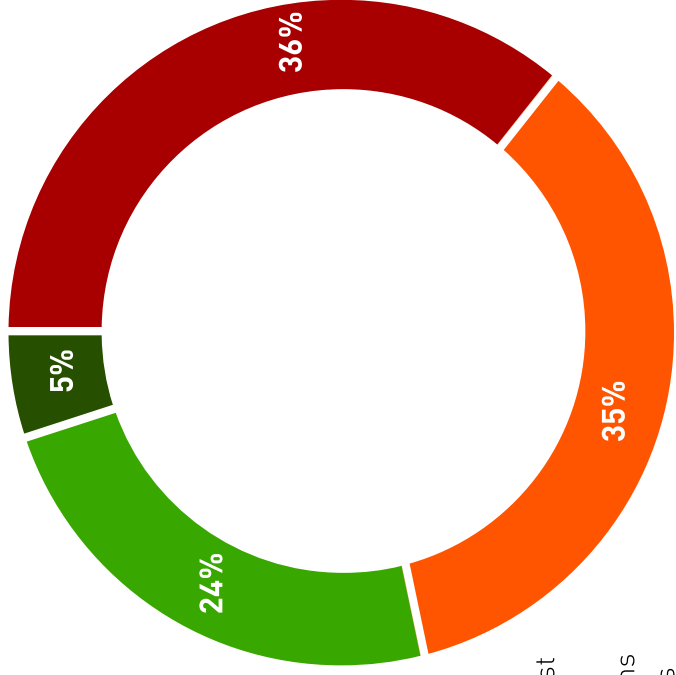


Image 11: Bus stop with people seen waiting

# 64% OF THE CITY HAD ACCESSIBLE PUBLIC TRANSPORT

The average rating for the *Public Transport* parameter was 1 out of 3 within the audited area, which was poor. This distribution of points can be seen in Map 8.

Thirty-six percent (36%) of the points were given a poor rating which indicates that there was no available or very limited access to any mode of public transport within a 10-minutes walking distance. Sixty-four percent (64%) of the points including distant, nearby and very close rating were within a 10-minutes walking distance of a public transport stop (Chart 5).



- Unavailable (0), over 10 mins walking distance from nearest public transport
- Distant (1), between 5-10 mins
- Nearby (2), between 2-5 mins
- Very close (3), under 2 mins

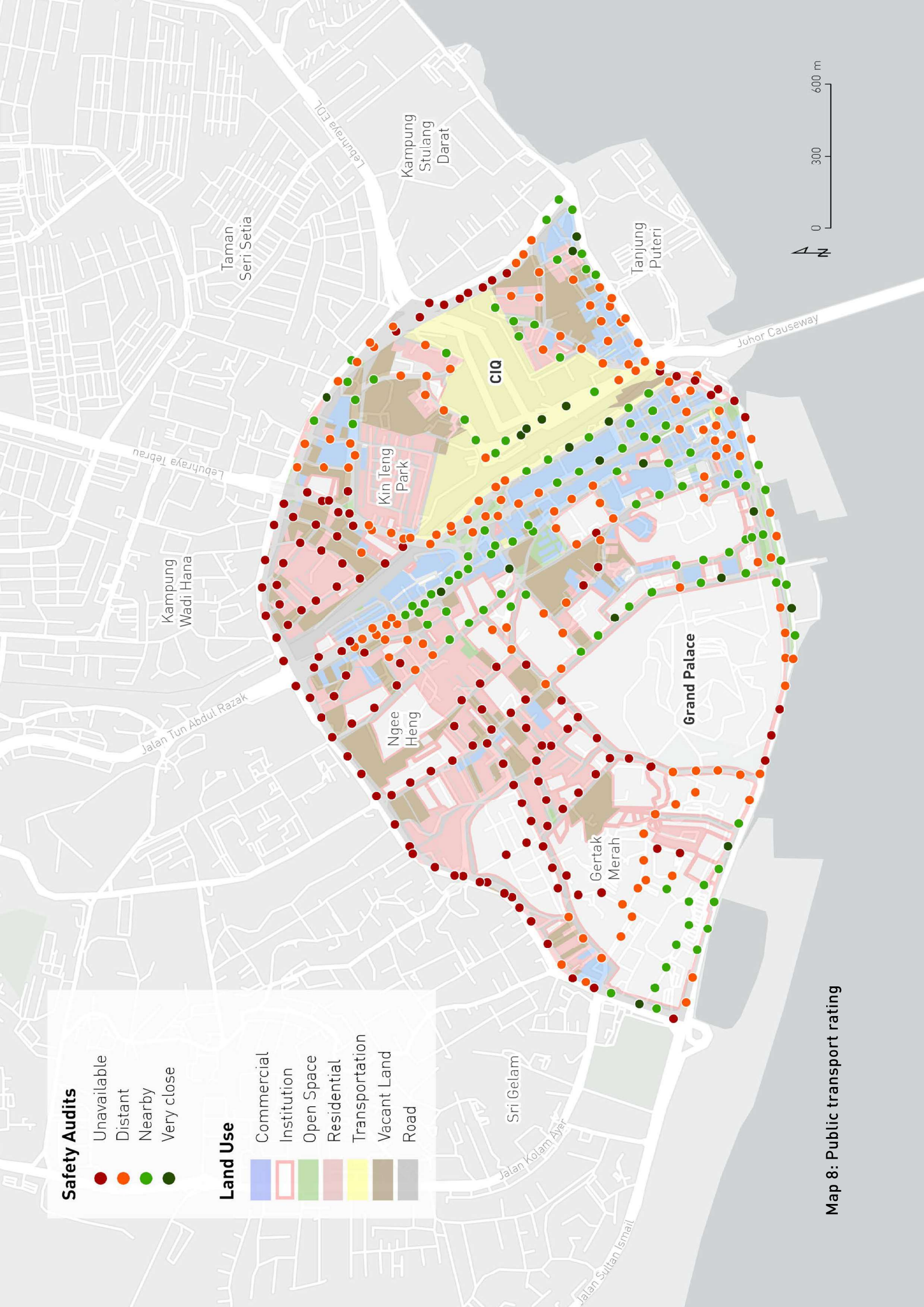
Chart 5: Public transport rating

64%

of the points including distant, nearby, very close rating were within a 10-minutes walking distance of a public transport

36%

of the points were given a poor rating which indicates that there was no available or very limited access to any mode of public transport within a 10-minutes walking distance



**Safety Audits**

- Unavailable
- Distant
- Nearby
- Very close

**Land Use**

- Commercial
- Institution
- Open Space
- Residential
- Transportation
- Vacant Land
- Road

Map 8: Public transport rating

# 04

## Public Space Assessment

Safe and easy crossing with pedestrian link bridge that connects JB City Square Mall, JB Sentral and CIQ (Source: Discoverjb)



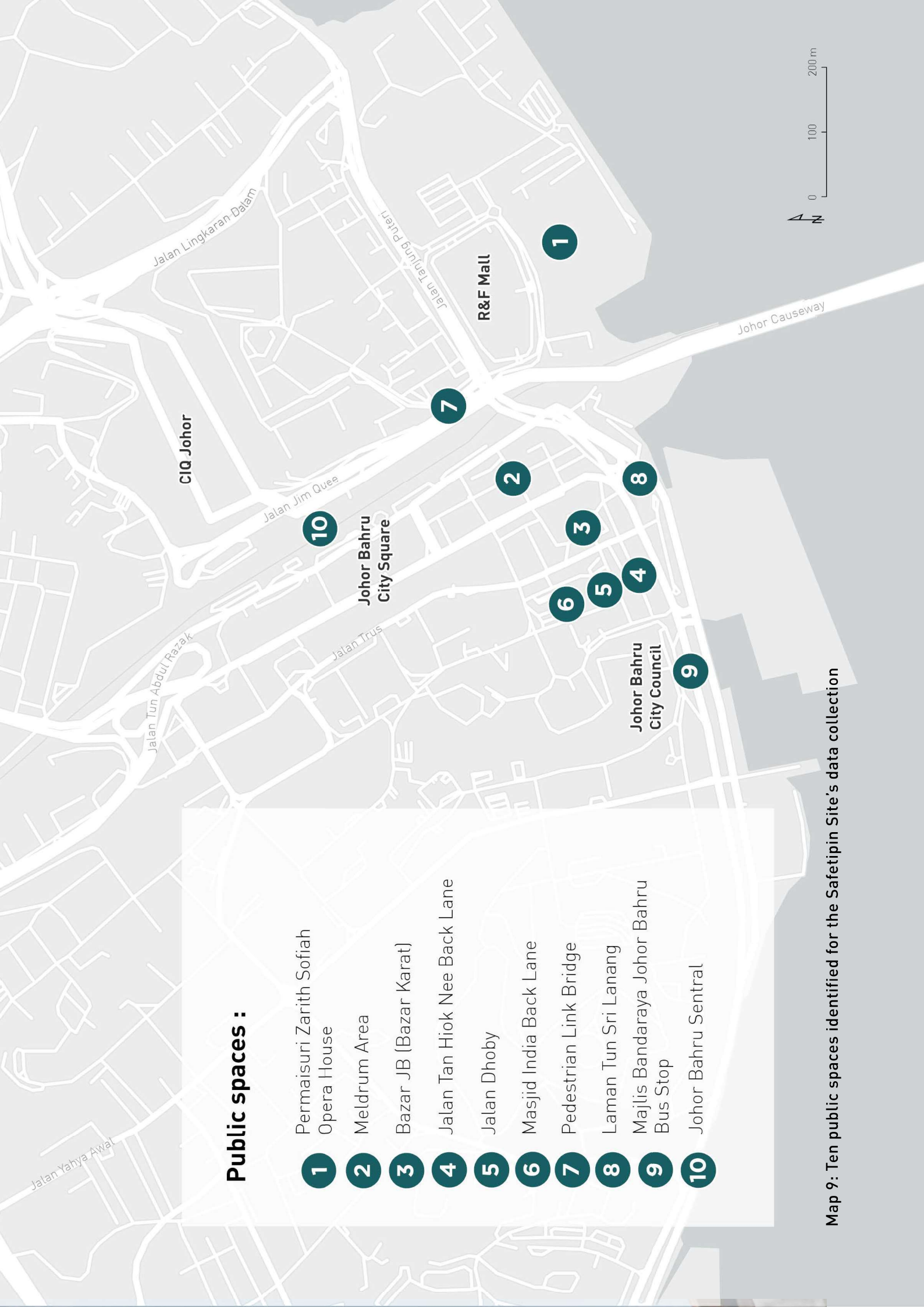
## 4.0 PUBLIC SPACE ASSESSMENT

Ten most popular public spaces in Greater JB were identified for the Safetipin Site's data collection, as shown in Map 9.

A detailed site assessment questionnaire was prepared (for complete form, see Annex 4). Three people were then trained to use the Safetipin Site's app to collect the information. Based on the data collected, fact sheets had been created for each of the ten public spaces. (see Annex 5)



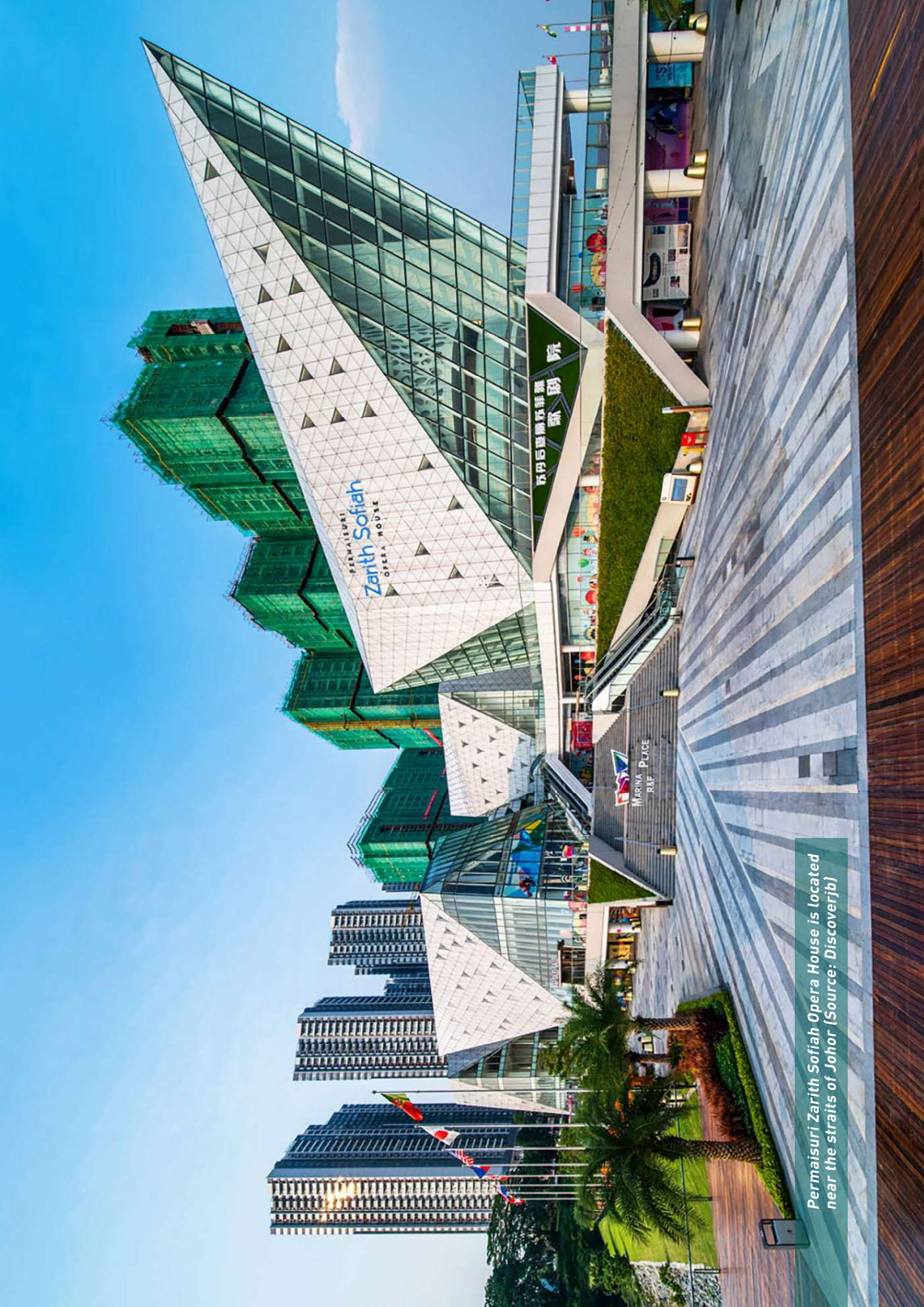
*Sultan Abu Bakar Mosque is the state mosque of Johor constructed between 1892 and 1900 (Source: Stephane Jaquemet)*



**Public spaces :**

- 1** Permaisuri Zarith Sofiah Opera House
- 2** Meldrum Area
- 3** Bazar JB (Bazar Karat)
- 4** Jalan Tan Hiock Nee Back Lane
- 5** Jalan Dhoby
- 6** Masjid India Back Lane
- 7** Pedestrian Link Bridge
- 8** Laman Tun Sri Lanang
- 9** Majlis Bandaraya Johor Bahru Bus Stop
- 10** Johor Bahru Sentral

Map 9: Ten public spaces identified for the Safetipin Site's data collection



Permaisuri Zarith Sofiah Opera House is located near the straits of Johor (Source: Discoverjb)



# 4.1 PERMAISURI ZARITH SOFIAH OPERA HOUSE

## PUBLIC SPACE CATEGORY: COMMERCIAL SPACE



Image 12: One of the walk path to the Opera House. It was found to be dimly lit during night



### Public Transport

The nearest bus stop was the R&F Mall bus stop which was 400m away and around a 5-minutes walk.



### Openness:

Being an open area, it offers good view all around with a long promenade along the Johor Strait. There was no path leading to areas without surveillance.



### Noise

The average sound levels were recorded as 63 dB. Owing to its design, the space was located away from the main road.



### Vegetation:

The area had an ample and well-maintained vegetative coverage. There were trees, shrubs, and bushes throughout the path around the Opera House.



### Lighting

Though the structure itself was lit, the surrounding area was not well-lit. The path to the Opera House was found to be dimly lit by shops and office buildings' lighting.



Image 13: In front of the Opera House was an open area

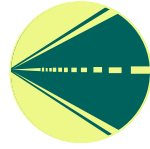


Image 14: The Opera House had an ample and well-maintained vegetation coverage

Poor	Below Average	Average	Good
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Image 15: The promenade along the Opera House was well-maintained and guarded by fences



### Walkability

The vehicular path leading to the Opera House had a continuous pavement along it. The promenade along the Opera House was newly constructed and well-maintained. It was surrounded by vegetation beds as well as fences along the Johor Strait. The path had benches and trash cans, clear from the pedestrian path.



### Visibility

Being a commercial area, it had cafes, shops, and offices, indicated high visibility in terms of natural surveillance for the pedestrians.



### People

Very few people were seen walking around the Opera House, with a maximum of ten people.

Gender balance was not good, with mostly men seen walking in the area.

The culture balance was average. Between 1-3 cultures were represented based on the people using the space.

No intimidating groups of people were seen at the opera house in the day or night-time. Similarly, no anecdotal evidence of intimidating groups in this area was mentioned.



### Security

There was one private guard who was positioned at the building. There was no signage or clear instruction to get help in case of an emergency. No police patrol was recorded in the area.



Hawker food trail stretching roughly 300m along Meldrum Walk area (Source: Cavin Teo)

# 4.2 MELDRUM AREA

## PUBLIC SPACE CATEGORY: COMMERCIAL SPACE

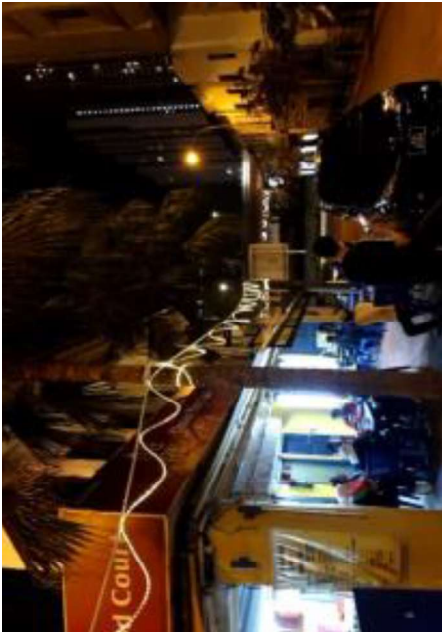


Image 16: The area was well-lit from the streets lights and lights from nearby shops

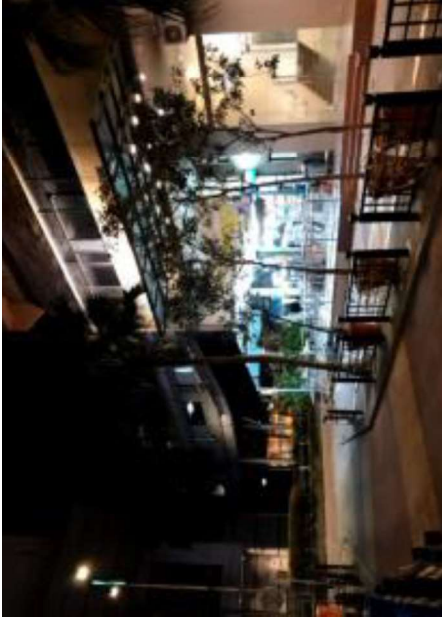


Image 17: A few planters and trees along the streets

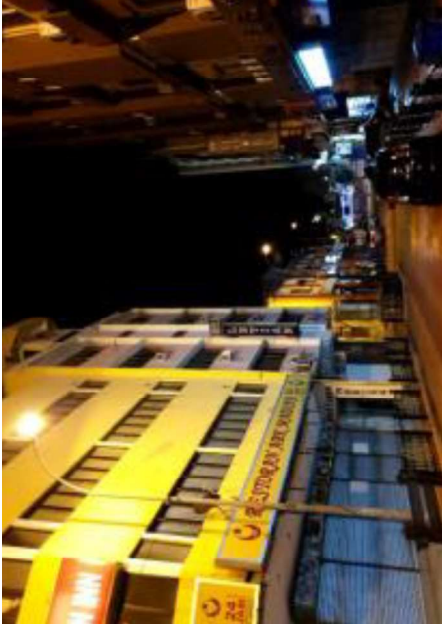


Image 18: The walk path was wide enough to offer clear sight of the area



### Public Transport

There was one bus stop within a 10-minutes walking distance. The bus stop had a shelter, seating infrastructure, and tactile paving.



### Openness:

The entire Meldrum Area was open with no blind corners. The walk path was wide enough to offer clear sight and sense of the area.



### Noise

The average sound levels were recorded as 73 dB, indicating a moderately high value. Most of the noise was from vehicular movement.



### Vegetation:

A few planters and trees along the walk path – the only form of vegetation in the area.



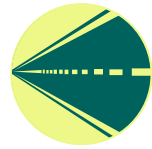
### Lighting

The sources of light were street lights and lights from the shops. Lighting was rated good as most of the area was well-lit.





Image 19: The walk path was wide, paved and elevated from the main road



### Walkability

The walk path was paved and elevated from the main road as a divider for pedestrians. Bollards and fences were fitted at some stretches to avoid vehicular parking on the pedestrian path. The pavement was wide enough for wheelchair users but does not have curb ramps at the corner for smooth transitions. At a few points, the path was broken. Additionally, no pedestrian crossings were identified.



### Visibility

Being a commercial area, it had cafes, shops, and offices, which indicated high visibility in terms of natural surveillance for the pedestrians.



### People

On average, up to 10 people were seen at the different locations along Meldrum Area.

There was some amount of gender diversity with the presence of women and children seen using this space.

In terms of age and cultural balance, this place had been rated average with multiple cultures represented.

At least one group of people were identified as intimidating or suspicious of creating a brawl.



### Security

No private guards or police personnel were seen patrolling the area. Signage with directions to the nearest police station was installed. The 'Balai Polis Sentral' (central police station) was located within a 5-10 minutes walk from Meldrum Area.



Bazar Karat or Bazar JB is Johor's famous night flea market that located near to Jalan Segget (Source: Andythyro)

# 4.3 BAZAR JB (BAZAR KARAT)

## PUBLIC SPACE CATEGORY: COMMERCIAL SPACE

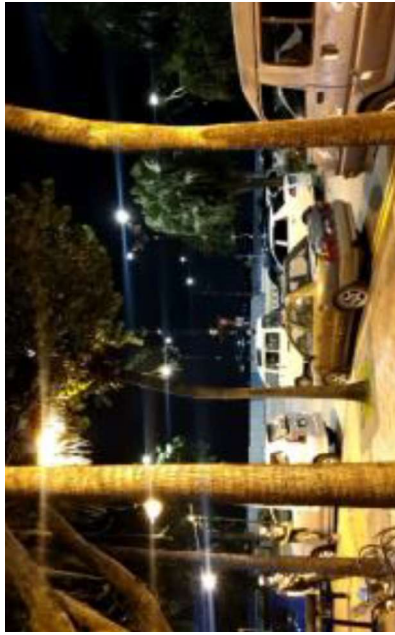


Image 20: The openness of the area was very good and clear from all directions



Image 21: The area was occupied by vendors and stalls and well-lit at night



Image 22: Vegetation were mostly spotted outside the area



### Public Transport

There was a bus stop within a 5-minutes walking distance from Bazar JB. The bus stop had proper seating infrastructure, tactile paving, and ramps.



### Openness:

Clear views in all directions.



### Noise

The noise in the bazaar area was identified from two main sources: Vehicles moving to and from the bazaar, and music being played at the market. Average sound levels were recorded at 74 dB.



### Vegetation:

There were some trees and bushes outside the market area, near the parking. However, inside the bazaar, there was poor to little vegetation.



### Lighting

This area was uniformly well-lit. The sources of light in the bazaar were street lights, lights from surrounding shops and vendors.



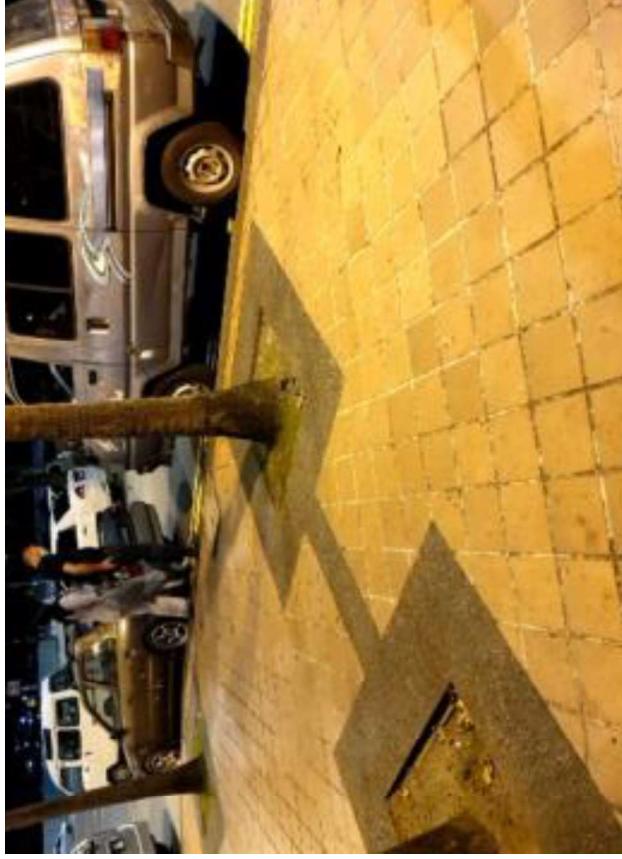
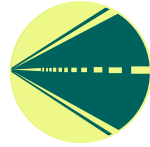


Image 23: Properly constructed pavement around the area for pedestrian walkways



### Walkability

There was a properly constructed pavement in and around the bazaar area. The pavement was elevated, which acted as a divider from the main road. There were no obstructions on the footpath, however some patches were broken and required regular maintenance.



### Visibility

Being an open market, the visibility was very good. The area was surrounded by shops and vendors that act as natural surveillance.



### People

Many people were seen in Bazar JB and it was very often, crowded.

Gender balance was good in this area and a good number of women and children were seen using the space.

The culture balance was good. Many different cultures appeared to be represented.

No intimidating groups of people were seen in the bazaar.



### Security

The security was rated good as police personnel can be seen in and around the bazaar.



# 4.4 JALAN TAN HIOK NEE BACK LANE

## PUBLIC SPACE CATEGORY: COMMERCIAL SPACE



Image 24: The lighting sources were street lights and shop lights but not sufficient to cover the whole area



Image 25: The lane was narrow for vehicles but not for pedestrian



Image 26: Limited vegetation was recorded in the form of planters and pots



### Public Transport

The nearest bus stop was located more than 400m distance.



### Openness:

Being a narrow lane, there were some stretches with reduced line of sight.



### Noise

The average level of sound was recorded to be 70 dB. The noise was mostly due to moving traffic and air compressors located in the area. People talking in loud voices also contributed to the sound levels.



### Vegetation:

There was no groundcover in the area. Limited vegetation was recorded in the form of planters and pots.



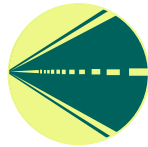
### Lighting

The lighting sources were street lights, as well as shop lights. At places with only shop lights, the overall lighting was not adequate.





Image 27: The path was paved and had tactile paving



**Walkability**

There was a well-maintained elevated pavement with proper demarcation between path and road. The path had tactile paving throughout, and trash cans were provided at regular intervals. There was a newly constructed pedestrian crossing with curb ramps.



**Visibility**

A lively heritage street with many cafes and restaurants. There are many traditional architecture and activities.



**People**

There were some people in this area, but not many.

The gender diversity had been rated fairly diverse in the area.

A good cultural balance was recorded in this area owing to the various types of cafes and restaurants that attract people of all cultures.

There were no intimidating groups of people seen or recorded at the time of this audit but there were anecdotal instances of homeless people being in the area.



**Security**

There was no regular police patrol recorded in this area. In case of an emergency, one can reach out to the shopkeepers and their staff.



Comforting view of Jalan Dhoby with great amount of greens along the streets and side walks (Source: Mohd Hafizee)

# 4.5 JALAN DHOBY

## PUBLIC SPACE CATEGORY: COMMERCIAL SPACE



Image 28: The openness of the area was good with a clear line of sight



### Public Transport

The nearest bus stop was located more than 400m away. People predominantly used their private vehicles to reach this place.



### Noise

This area's average sound levels recorded at 49.5 dB. Due to limited vehicle movement, the area provided a quiet environment to shop and walk around.



### Lighting

This area was well-lit. There were various sources of lighting, street lights, shops, vendors, and advertisement boards.



Image 29: The area was well lit at night with adequate amount of street lights



### Openness:

This was an open walkway with a clear line of sight.



### Vegetation:

The walkway had well-maintained trees, shrubs, and bushes.



Image 30: The walkway had well-maintained vegetation bed



Poor

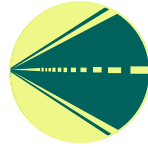
Below Average

Average

Good



Image 31: The pavement had tactile paving, curb ramps, and at-grade pedestrian crossing



### Walkability

The pavement had been recently upgraded with using a human-centred and universal design approach. The pavement had tactile paving, curb ramps, and at-grade pedestrian crossing, making it an inclusive space. The elevated pavement was separated from the vehicular passageway with shrubs and bollards.



### Visibility

Once pre-dominantly used by laundrymen, it was now a public place with many cafes and boutiques. The street was active with many restaurants and cafe with outdoor seating facilities. However, some of the shops were found to be closed at night.

Being a newly upgraded and well-maintained street, it was also used for pre-wedding shoots.



### People

On average, 10-20 people were seen walking around this street. More people were present in the day-time as compared to the night-time.

Gender diversity was rated good with many children and women using the space.

Cultural balance in this area had been rated above average with more than three cultures represented both by people and establishments.

There were no intimidating groups of people seen in the area and no stories from prior experiences.



### Security

Barricades and check points were set up in the night-time with the police personnel patrolling the area. During the day, the security was minimal.



One of Think City's laneway improvement project together with Majlis Bandaraya Johor Bahru that has successfully attracting local and foreign visitors

# 4.6 MASJID INDIA BACK LANE

## PUBLIC SPACE CATEGORY: PEDESTRIAN WALKWAY



Image 32: The lane was well-lit at night with various source of lightings



Image 33: The lane was narrow but it extends into an open space so the line of sight was clear



Image 34: Planters were placed along the lane



### Public Transport

There was a bus stop on the main road, less than 10-minutes by foot. The bus stop had a shelter, signage, and seating infrastructure.



### Openness:

The lane was narrow but it extends into an open space so the line of sight was clear.



### Noise

Being a narrow lane with limited traffic, the sound levels were low. The average sound level was recorded to be 49.25 dB. During prayer time at the mosque, there was sound from the speakers. However, it was not continuous throughout the day.



### Vegetation:

There was a small amount of vegetative cover in this area. This includes plants and shrubs.



### Lighting

This lane was well-lit. There were various sources of lighting including street lamps, vendors, and advertisement boards.





Image 35: The laneway was paved and well-constructed to be used by pedestrian



**Walkability**

The laneway was dedicated for pedestrians and was constructed well. In some places, obstructions were found, including debris. There is vegetation around the pavement and there were handrails as well as ramps. It was observed that there was tactile paving and curb ramps to enhance accessibility.



**Visibility**

There were shops and restaurants that acted as natural surveillance and made the street active. No street activities were seen in the back lane.



**People**

Few people (up to 10 people) were seen in this area during the audit.

The gender diversity was rated poor with no women or children here. Mostly men were seen around the mosque.

Due to the presence of a mosque, it was frequented by one culture. There were no intimidating groups of people seen in the area.



**Security**

There was no private security or police personnel recorded at the site. There were restaurants where people could seek help if needed.



# 4.7 PEDESTRIAN LINK BRIDGE

## PUBLIC SPACE CATEGORY: PEDESTRIAN WALKWAY



Image 36: The major source of lighting on the bridge were the advertisements boards and the ceiling lights



Image 37: The line of sight was obstructed by the advertisement boards at some stretches



Image 38: No vegetation was spotted around the bridge



### Public Transport

This bridge connected to JB Sentral from R&F Mall, the biggest public transportation hub in the JB area.



### Openness:

Since it was an elevated walkway, they was a fixed path to follow with limited entry and exit points. At a few stretches, the line of sight was obstructed due to advertisement boards.



### Noise

As this link bridge was above a main road, there was a lot of noise due to the traffic. The average level of sound was recorded to be 76.25 dB.



### Vegetation:

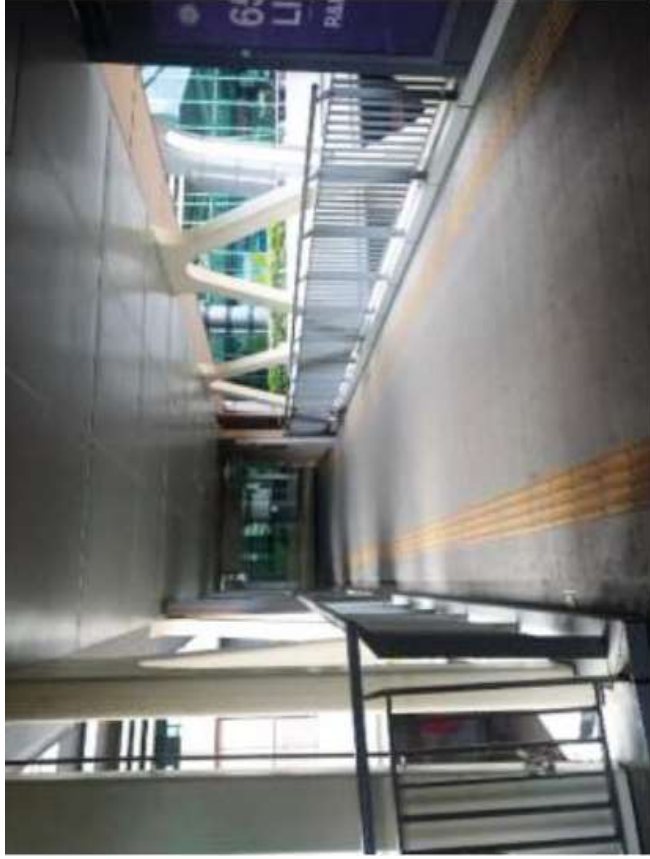
No vegetation was recorded along this path.



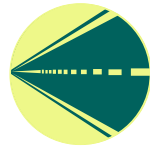
### Lighting

The major source of lighting on the bridge were the advertisements boards that were set up as accent lighting. There were minimal ceiling lights to illuminate the area at few stretches.





**Image 39:** The entire path had tactile paving and the bridge were secured with metal fence for safety



**Walkability**

This 650m fully sheltered pedestrian bridge connected JB Sentral and the R&F Mall. The entire path had tactile paving. Being an elevated walkway, the edges were secured with an iron grill fence for safety.



**Visibility**

There was no natural surveillance in the form of shops or vendors along the bridge.



**People**

On average 10 commuters were seen using the bridge at the time of the audit.

Few children and women were seen using the bridge; hence gender diversity had been rated somewhat diverse.

In terms of cultural balance, it was rated average as people of various cultures were seen using the bridge.

There were no intimidating groups of people seen in the area at the time of audit. However, there were anecdotal instances of suspicious people being there during different times of the day.



**Security**

There was no private security or police personnel at the bridge, however there were CCTV cameras for the purpose of surveillance.



Laman Tun Sri Lanang is located at Jalan Sawmill and Jalan Ismail Sultan overseeing the Johor Causeway

# 4.8 LAMAN TUN SRI LANANG

## PUBLIC SPACE CATEGORY: PUBLIC PARK



Image 40: The area were dimly lit during night due to non-functional street lights



Image 41: There were trees, bushes and shrubs all around the park



Image 42: The trees shaded some of the footpath acted as natural cover at some stretches



### Public Transport

The nearest bus stop is located at a 10-minutes walking distance. The bus stop was equipped with a proper shelter, tactile paving, and seating infrastructure.



### Openness:

The park acted like a traffic island as it was flanked by three major roads. Ample space had been allocated for seating infrastructure all around.



### Noise

The average sound level was recorded as 76.5 dB, moderately high. Sound from the vehicles on the main road adjacent to the park was the biggest contributor to the noise rating.



### Vegetation:

There were trees and bushes all around the park as well as shrubs that provided ample green cover. The trees also shaded the footpath for a few stretches.



### Lighting

The light sources during the night were street lights and shop lights. Lighting had been rated average as some of the spots were dimly lit due to non-functional street lights.



Poor

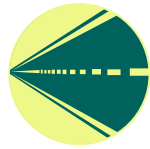
Below Average

Average

Good



Image 42: The trees shaded some of the footpath acted as natural cover at some stretches



**Walkability**

The pavement along the park was lined with shrubs and trees that also acted as a divider between the pedestrian path and main road. Trash cans were provided at proper distance, clear of the pavement.



**Visibility**

The park does not had temporary shops or vendors, but street performers could be seen at certain times. Across the road from the park, there were many high-rise office buildings. The path from the park led to shops and cafes that had outdoor seating and open space for street vending activities.



**People**

On average, up to 10 people were seen in and around park. Mostly men were seen so the gender diversity had been rated not diverse.

With people belonging to different cultures seen using the space, cultural balance had been rated average.

More than one intimidating group of people had been seen in and around the park who behaving oddly (visible / audible). These were identified as homeless and drunk people.



**Security**

No patrols or CCTV cameras were identified at or around the park. Some private guards were seen at the office and shops across the road. There was a police station (South Johor Bahru District Police Headquarters) at a 10-15 minutes walking distance, which people could access in case of emergency.

# 4.9 MAJLIS BANDARAYA JOHOR BAHRU BUS STOP

## PUBLIC SPACE CATEGORY: PUBLIC TRANSPORT STOP



Image 44: The bus stop was well-equipped with proper amenities



Image 45: The bus stop was located in an open area providing a clear line of sight

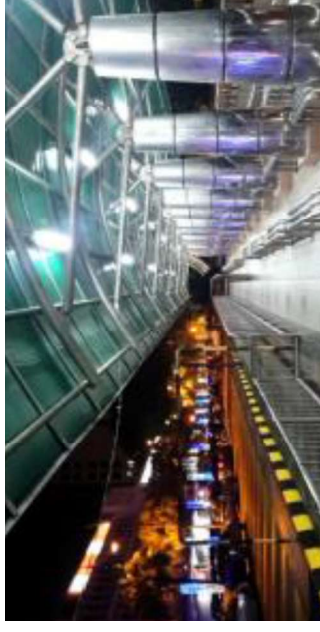


Image 46: The bus stop was well-lit with ceiling lights and street lights nearby



### Public Transport

This bus stop was equipped with infrastructure including a shelter, seating space, and ramps for accessibility. There was signage and other markings on the road to identify the stop. There was emergency information present at the stop as well. The two sides of this stop had different functions where the main road side (Jalan Ismail Sultan) is a bus stop and the other side (Jalan Dato Onn) was a taxi stand.



### Noise

Since the bus stop was on a main road, moving traffic contributes to high sound levels. The average sound level was measured to be 73.5 dB.



### Lighting

The bus stop was well-lit with street lights, lamp posts, and advertisement boards. It was noted that not all lamp posts were functional.



### Openness:

The bus stop was located in an open area providing a clear line of sight for the pedestrians.



### Vegetation:

There were some overhanging trees and bushes present on the opposite side of the bus stop. There was no ground cover or vegetation at the bus stop.



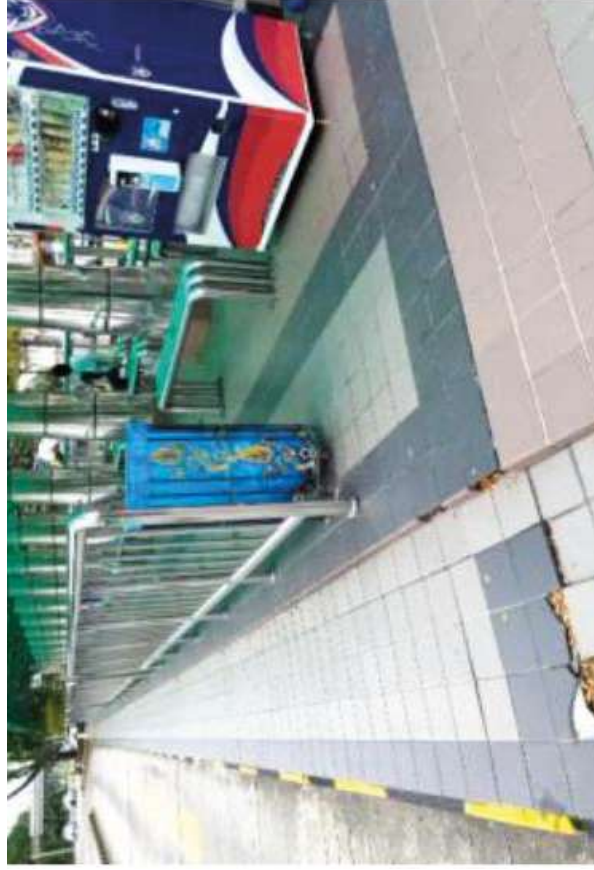
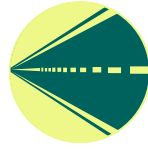


Image 47: There was a trash can and vending machine that leaves minimal clearing space for wheelchair users



**Walkability**

The pavement leading to the bus stop was elevated from the road and a ramp was provided. A fence was also present to demarcate the waiting area of this stop. As seen in the image, while there was a trash can and vending machine, it leaves minimal clearing space in between for wheelchair users.



**Visibility**

The bus stop was surrounded by office buildings which provide natural surveillance for this area.



**People**

On average 10 people were seen at the bus stop at the time of audit.

The gender diversity here was rated somewhat diverse. Few women and children were seen using the space.

People of different cultures were seen at the bus stop; hence cultural balance was rated above average.

There were no intimidating groups of people seen in this area at the time of audit. However, there were anecdotal instances of oddly behaving groups of people visible.



**Security**

There were private security guards for the buildings located behind the bus stop. The bus stop also had signage indicating numbers for emergency assistance.



Johor Bahru Sentral is planned to be the main hub for rail and bus transportation in Johor-Bahru (Source: Joshua)



# 4.10 JOHOR BAHRU SENTRAL

## PUBLIC SPACE CATEGORY: PUBLIC TRANSPORT STOP



Image 48: JB Sentral was located opposite to a mall hence the area were quite open to move and see around



Image 49: The terminal was well-lit with sufficient lightings from the building as well as the street lights



Image 50: There were a proper buses zone with surveillance system



### Public Transport

JB Sentral is an integrated public transport hub with rail and bus transportation. For the buses, there were proper shelters, markings on the road to indicate distance to the stop, accurate signage for identifying the stop, as well as seating infrastructure and proper surveillance system.



### Noise

There was prevalent noise due to the moving traffic and vehicular sound. The average sound level was recorded to be 77dB – the highest among the public spaces audited in Greater JB.



### Lighting

The terminal space, as well as the walk path, outside the terminal was well-lit owing to the street lights and lamp posts. There were also shops within JB Sentral terminal that provided illumination to the area.



### Openness:

The JB Sentral was an open area with ample space for a pedestrian to move and see around.



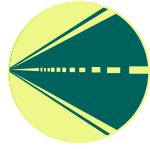
### Vegetation:

There was a small amount of vegetative cover in this area. This included plants and shrubs.

Poor	Below Average	Average	Good
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**Image 51:** The pavement leading to the terminal was elevated, had shade, fences, and vegetation beds at some stretches



### Walkability

The pavement leading to the terminal was elevated, had shade, fences, and vegetation beds at some stretches. There were bollards and signage present to indicate the direction of walking for pedestrians.



### Visibility

Owing to the presence of restaurants, shops, cafes and office buildings, the visibility was high.



### People

At the time of audit, on average, 10 people were seen during the night. During the course of the day, many people were seen using the bus and rail.

The gender diversity was rated fairly diverse. Women and children were seen at the time of audits.

People of all cultures were seen using this space, hence cultural balance was rated above average.

There were no intimidating groups of people seen in JB Sentral.



### Security

Police personnel, along with private guards and CCTV cameras for surveillance, were recorded. At JB Sentral, female security personnel were present as well.

# 05

## Safe and Inclusive Street Design Recommendation

Natural vegetation bed covering some of the shops at Jalan Tan Hiook Nee back lane



## 5.0 SAFE AND INCLUSIVE STREET DESIGN RECOMMENDATION

The Safetipin Nite and Site audits revealed new insights and issues to be addressed in JB's public spaces. Below were some general areas for attention to make the streets feel safer and more inclusive.

Gender Inclusive Street Design Recommendations for **Safe, Accessible, Comfortable Streets** must include:

1. **Street lights** which uniformly light up the streets without leaving any dark patches so that the entire surrounding area is clearly visible.
2. **Footpath and Medians** (i.e., proper curb cut or curb drop, tactile tiles, and guard rails) which improve accessibility and mobility. Clear usable routes without any disruption or encroachments.

3. **Informal shopping / eating** to be allowed and given proper space to enable people to engage in street activity, hence making it feel safer.
4. **Public Amenities** at transportation hubs to include bus shelters, toilets, and police assistance booths.
5. **At-Grade Pedestrian Crossings** to allow all users to cross the streets easily and safely. Pedestrian bridges and underpasses include difficulties in climbing up and down, and exposing pedestrians to greater vehicular danger.
6. **Traffic Signals, Street Signage and Road Markings** which assist vulnerable groups in making quicker and safer decisions while using the streets.
7. **Traffic Calming** measures to be taken at major junctions to increase road safety and pedestrian accessibility.
8. **Drainage and Slopes** to be well-engineered and maintained to avoid water logging which makes the streets inaccessible, especially for vulnerable groups.
9. **Street Furniture** to be provided depending on the user groups (commuters / visitors) of the space.
10. **Non-Motorized Para-Transit** options should be developed and provided for designated parking spaces near markets, parks and bus stops. These spaces should be organized, adequate and safe.

## 5.1 OBSERVATIONS AND RECOMMENDATIONS

### 5.1.1 COMMERCIAL SPACE

Commercial spaces are important assets to a city as they provide a space for people to come together and engage with the community. Of the five commercial spaces that were audited, Jalan Dhoby was rated good on most of the parameters. Apart from Permaisuri Zarith Sofiah House, all the commercial spaces were well-lit, active with shops and cafes, and flanked with a wide pavement and seating infrastructure. In terms of accessibility, only Jalan Dhoby had tactile paving throughout its footpath, at-grade pedestrian crossing with curb ramps and enough space between bollards for wheelchair users. The remaining commercial spaces need to be upgraded to include these elements of inclusive design. Additionally, public convenience facilities, proper signage to the nearest bus stop, and police stations should also be provided.

Owing to its location, Permaisuri Zarith Sofiah House was not easily-accessible for public transport users or pedestrians. While the promenade was well-developed along the Johor Strait, it was poorly lit and not active, hence creating an unsafe perception at night-time. A cycle path could be developed around this area which would help the visitors avoid private transport and increase the activity along the promenade.

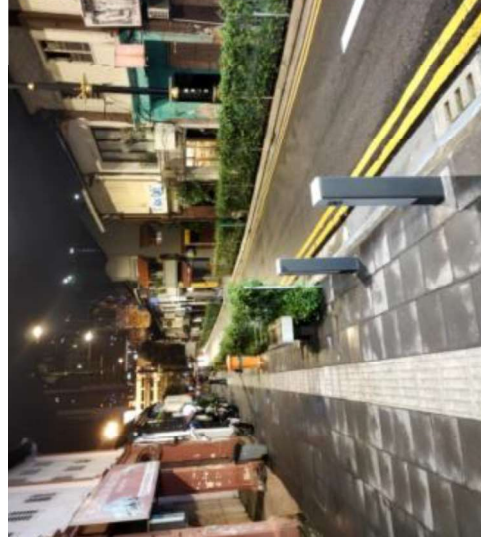


Image 52: A street in Jalan Dhoby

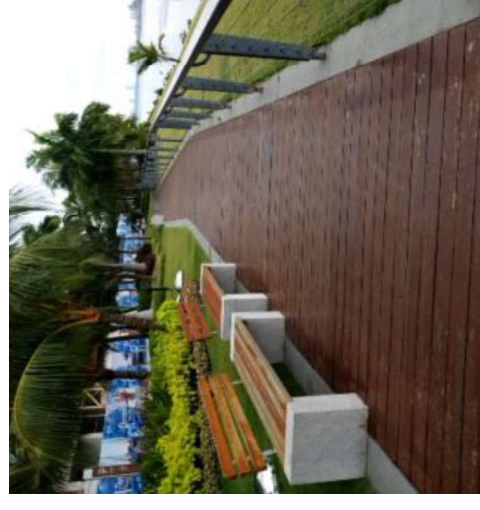


Image 53: The promenade at Permaisuri Zarith Sofiah Opera House

## 5.1.2 PEDESTRIAN WALKWAY

The first pedestrian walkway audited was a back lane of Masjid India that could be accessed through stairs or a ramp, as seen in Image 14. Despite being a back lane, it was well-lit and maintained, providing an obstruction-free space for the pedestrians. The second pedestrian walkway was a crucial link bridge built over the Jalan Jim Quee highway, connecting R&F mall to JB Sentral. The major source of lighting over the bridge was from advertisement boards.

When placed on both side of the bridge, the boards act as a barrier between the pedestrians and the surroundings below. At times when the lighting fixtures were not functional or poorly lit, as seen during the audit, the space becomes unsafe with no clear line of sight. Therefore, should be uniformly lit using ceiling lights and advertisement boards spread around the area so that there is some visual connection with the built environment.

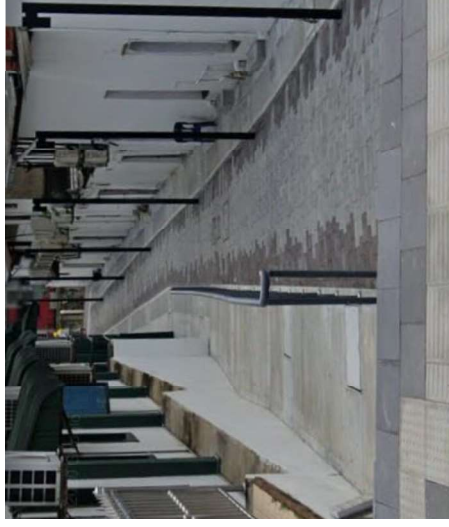


Image 54: Street view of the Masjid India back lane

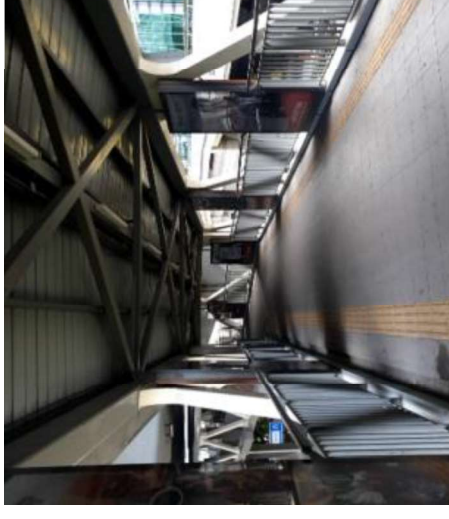


Image 55: Day-time view of Pedestrian Link Bridge



Image 56: Night-time view of Masjid India back lane

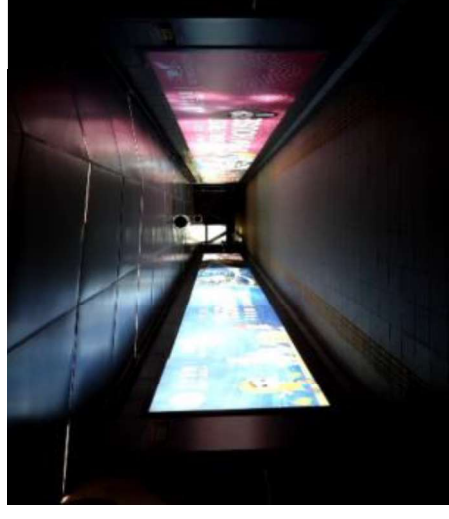


Image 57: Lighting on the Pedestrian Link Bridge

### 5.1.3 PUBLIC PARK

A good park attracts a wide range of people, thus enhancing the livability of a city. Laman Tun Sri Lanang Park was brightly lit at most of the audited points, but at a few locations, the lighting was not uniform, leading to poorly lit spaces. The park audited was rated good in terms of lighting and walk path for an able-bodied person. The crossing has to be developed with proper signage and timed traffic signals as the park is situated at a junction with high-speed traffic. There is a need to provide public convenience facilities (including public toilets) that are universally accessible.



Image 58: Main street outside the park

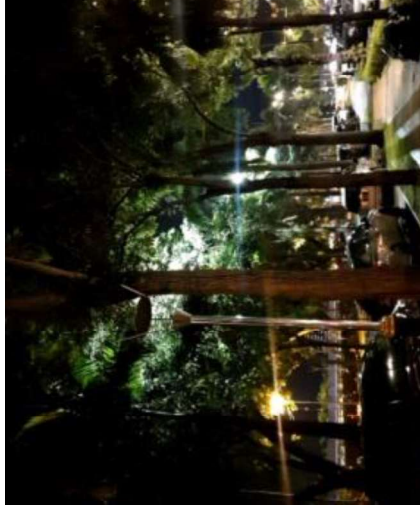


Image 59: Non-uniform illumination at the park



Image 60: Walk path in Laman Tun Sri Lanang Park

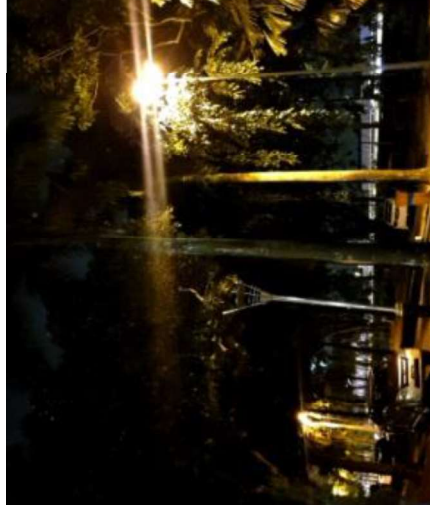


Image 61: Street lights at the park

## 5.1.4 PUBLIC TRANSPORT STOP

Every city is dependent on mobility. To encourage more people to use public transport, it is important to ensure that their travel needs and concerns were understood and incorporated in the planning process. The two transport stops (JB Sentral and MJB Bus Stop) audited differ in scale and design but a common parameter that needed to be improved were their walk paths. In addition to repairing broken edges at a few points, the walk path should be equipped with tactile paving and curb ramps with clear space for wheelchair users. While Johor Bahru Sentral had tactile paving near the boarding points, it needs to be uniformly provided to ensure smooth movement for the differently abled. The paving should be provided till the nearest bus / taxi stop outside the station. In terms of security, an assistance booth should be set-up by the police for Johor Bahru Sentral and signage should be provided at different spots within the complex.



Image 62: Walk path at JB Sentral in the day

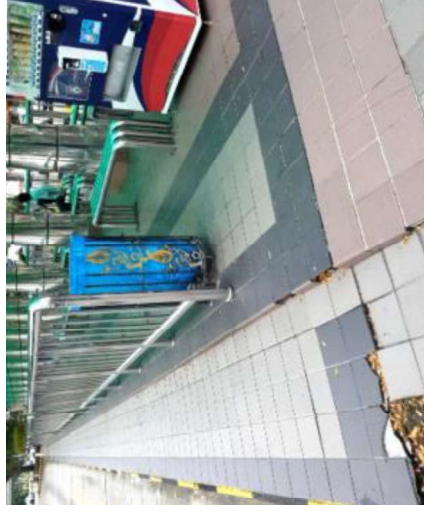


Image 63: Walk path at MJB bus stop



Image 64: Walk path at JB Sentral at nighttime

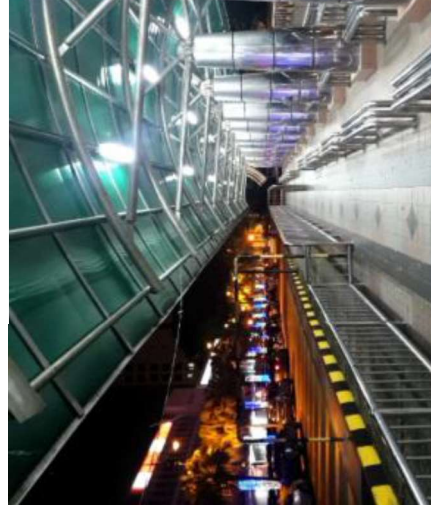


Image 65: Night-time view of MJB bus stop



# 06

## Annexes

*A good park attracts a wide range of people, thus enhancing the liveability of a city (Source: Jayson\_lys)*



# 6.0 ANNEXES

## ANNEX 1

Safetipin Nite parameter rubric.

Rubric	0	1	2	3
<b>Light (Night)</b>	<b>None:</b> No street lights or other lights	<b>Little:</b> Can see lights, but there is low visibility in the area	<b>Enough:</b> Lighting is enough for clear visibility	<b>Bright:</b> Whole area is brightly lit
<b>Walk path</b>	<b>None:</b> No walking path available	<b>Poor:</b> Path exists but in very bad condition	<b>Fair:</b> Can walk but not run	<b>Good:</b> Easy to walk fast or run
<b>Openness</b>	<b>Not Open:</b> Many blind corners and no clear sightline	<b>Partly Open:</b> Able to see a little ahead and around	<b>Mostly Open:</b> Able to see in most directions	<b>Completely Open:</b> Can see in most directions
<b>Visibility</b>	<b>No Eyes:</b> No windows entrances of shops or residences overlook this point	<b>Few Eyes:</b> Less than 5 windows or entrances overlook this point	<b>More Eyes:</b> Between 5 to 10 windows or entrances overlook this point	<b>Highly Visible:</b> More than 10 windows or entrances overlook this point
<b>Public Transport</b>	<b>Unavailable:</b> No metro, bus stop or auto / rickshaw within 10-minutes walking distance	<b>Distant:</b> Metro, bus stop or auto / rickshaw within 5 to 10-minutes walking distance	<b>Nearby:</b> Metro, bus stop or auto / rickshaw within a 2 to 5-minutes walking distance	<b>Very Close:</b> Metro, bus stop or auto / rickshaw within a 2 minute walking distance
<b>Security</b>	<b>None:</b> No guards or police visible in the surrounding area	<b>Minimal:</b> Some private security visible in the surrounding area but not nearby	<b>Moderate:</b> Private security within hailing distance	<b>High:</b> Police / reliable security within hailing distance
<b>People</b>	<b>Deserted:</b> No one in sight	<b>Few People:</b> Less than 10 people in sight	<b>Some Crowd:</b> Between 10-20 people in sight	<b>Crowded:</b> Many people within touching distance
<b>Gender Usage</b>	<b>Not Diverse:</b> No one in sight or only men	<b>Somewhat Diverse:</b> Mostly men and very few women or children	<b>Fairly Diverse:</b> Some women and children	<b>Diverse:</b> Balance of all genders or more women and children

## ANNEX 2

CSV file of the raw data collected through the Safetipin Nite application.

S No	ID	Latitude	Longitude	Lighting	Openness	Visibility	People	Security	Walkpath	Public Transport	Gender Usage	Feeling	Safety Score	Image
648	703987	1.4574571	103.7630421	3	2	2	0	1	3	1	0		4	http://safetipinimag
663	704002	1.463012832	103.7617493	2	3	2	0	0	3	1	0		3.5	http://safetipinimag
653	703992	1.461446932	103.7609553	3	2	1	1	0	3	0	3		2.6	http://safetipinimag
655	703994	1.462937754	103.7611216	2	2	1	0	0	3	1	0		2.6	http://safetipinimag
672	704011	1.457489276	103.7647748	3	3	3	1	1	3	1	0		4.5	http://safetipinimag
671	704010	1.458368755	103.7648016	3	3	3	1	0	2	1	0		4.2	http://safetipinimag
670	704009	1.459237509	103.7644207	2	3	1	0	0	0	2	0		4	http://safetipinimag
646	703985	1.456588845	103.7628919	3	3	1	0	1	3	2	0		4.2	http://safetipinimag
645	703984	1.457006634	103.7649357	2	2	2	0	1	3	1	0		3.5	http://safetipinimag
644	703983	1.456620521	103.7640828	3	2	2	1	0	2	1	0		3.5	http://safetipinimag
643	703982	1.456196869	103.7631387	3	2	1	1	0	3	2	0		4	http://safetipinimag
443	703782	1.456432827	103.7645978	3	3	2	0	0	0	1	0		4	http://safetipinimag
449	703788	1.455006352	103.7617117	3	2	0	0	0	3	1	0		1.3	http://safetipinimag
461	703800	1.455639149	103.7506074	2	2	0	0	0	3	1	0		2	http://safetipinimag
462	703801	1.456025263	103.7497813	2	2	0	0	0	3	2	0		2.6	http://safetipinimag
470	703809	1.458513548	103.7412786	3	2	0	0	0	3	0	0		2	http://safetipinimag
471	703810	1.458754868	103.7404364	2	2	0	0	0	3	0	0		1.6	http://safetipinimag
472	703811	1.459028365	103.7395728	3	2	0	0	0	3	0	0		2	http://safetipinimag
473	703812	1.459242872	103.738693	3	2	0	1	0	3	0	0		2.6	http://safetipinimag
474	703813	1.45947883	103.737824	3	2	0	0	0	3	0	0		2	http://safetipinimag
649	703988	1.458266864	103.7626934	3	2	0	0	0	3	2	0		3.5	http://safetipinimag
622	703961	1.46256773	103.7583804	3	2	0	0	0	3	1	0		2.6	http://safetipinimag
625	703964	1.464058552	103.7586701	3	2	1	0	0	1	2	0		2.6	http://safetipinimag
634	703973	1.465758517	103.755371	3	2	0	0	0	0	0	0		0.9	http://safetipinimag
635	703974	1.466444938	103.7547541	3	2	0	1	0	0	0	0		1.6	http://safetipinimag
612	703951	1.464616269	103.7542766	3	3	0	1	0	3	0	0		4	http://safetipinimag
674	704013	1.466890038	103.7569964	3	3	1	0	0	1	2	0		2.6	http://safetipinimag

# ANNEX 3

Safetipin Site parameter rubric

	Poor	Below Average	Average	Good
<b>Sound / Noise</b>	Very Noisy. Noise levels over 85 dB	Noisy. Noise levels between 70 - 85 dB	Fair. Noise levels between 60 - 70 dB	Quiet. Noise levels under 60 dB
<b>Vegetation</b>	None. No greenery, exposed earth, only bare concrete	Poor. Only ground cover, or poorly managed green area	Overhanging foliage, bush and ground cover	Well managed, good amount of foliage for entire segment and beyond
<b>Emergency Assistance</b>	No	Yes, but it is too far away and not helpful	Yes but it is not clear	Yes. It gives clear and concise directions on who to call or where to get help
<b>Safe Havens</b>	No	Too far away	Yes, but not quite sure how safe it is	Yes
<b>Pedestrian Crossings</b>	None. Pedestrian crossing signals are not visible, audible, or tactile	Poor. Pedestrian crossing signals available only meet one criteria	Fair. Pedestrian crossing signals are available, but only meet 2 criteria	Good. Pedestrian crossing signals are visible, audible, and tactile
<b>Shaded Footpaths</b>	None. No paths are shaded	Poor. Some paths are shaded, but not continuously	Moderate. Most paths are shaded, but not continuously	High. All paths are shaded
<b>Surveillance on Footpath</b>	Poor. A significant length of the footpath deviates to areas without surveillance	Moderate. More than 50% of the footpath deviates to areas with no surveillance	Fair. More than 30% of the path deviates to areas without surveillance	Good. The footpath doesn't deviate to areas without surveillance
<b>Cultural Balance</b>	Not diverse. Only one culture represented	Somewhat diverse. One of three cultures represented	Fairly diverse. Many cultures represented, some integration	Diverse. Many cultures represented, well integrated
<b>Age Balance</b>	Not diverse. Only people of working age	Somewhat diverse. Very few children and / or old people	Fairly diverse. Some children and older people present	Diverse. Balanced cross all ages
<b>Presence of Intimidating Groups</b>	Several groups of people fighting or drunk / on drugs or behaving oddly visible / audible	At least one group / person fighting or drunk / on drugs, or behaving oddly	No group / person fighting or drunk / on drugs, or behaving oddly but anecdotal evidence from other times available	No group / person fighting or drunk / on drugs, or behaving oddly

# ANNEX 4

The Safetipin Site questionnaire.



## Site Assessment in Johor Bahru

### General

1- Name of public space \*

Your Answer

Upload

2- Category of public space \*

- Public transport stop
- Public park
- Public square
- Pedestrian walkway/ Link bridge
- Market/ Commercial hub
- Other

3- What is the location of the public space? \*

Get Address

4- How would you rate the openness of this area? \*

- 0 (Many blind corners and no sightline)
- 1 (Able to see a little ahead and around)
- 2 (Able to see in most directions)
- 3 (Can see clearly in all directions)

- 0 (Many blind corners and no sightline)
- 1 (Able to see a little ahead and around)
- 2 (Able to see in most directions)
- 3 (Can see clearly in all directions)

Upload

5- What amenities are available nearby? Select all applicable. \*

- Public toilets
- Signage for public transport
- Public seating infrastructure
- Trash cans
- None of the above

Upload

6- What is the amount of vegetation? This includes green landscape and foliage. \*

- None. No greenery, exposed earth, only bare concrete
- Poor. Only ground cover, or poorly managed green area
- Overhanging foliage, bush and ground cover
- Well managed, good amount of foliage for entire segment and beyond

Upload

7- Enter the reading of the noise as calculated.

Your Answer

8- Any comment on the smell or sound in the area?

Your Answer

### Lighting

9- How is the lighting at your location? \*

- 0 (No street lighting)
- 1 (None or less than 30 of street lit and a number of dark spots observed)
- 2 (More than 50 of street lit, with some street lamps not functioning and some dark spots observed)
- 3 (Both side of street equally lit, all street lamps functioning)

Upload

10- What are the light sources present? Select all applicable. \*

- Streetlights
- Street Vendors
- Houses
- Other
- Shops
- Ad boards/ signage
- Lamp post
- None of the above

Upload

# ANNEX 4

The Safetipin Site questionnaire (cont.)

Your Answer

## Visibility

12- How would you rate the visibility of the area? (Natural surveillance of a space) \*

- 0 (No windows or entrances of shops or residences overlooking the point)
- 1 (Less than 5 windows or entrances overlooking the point)
- 2 (Between 5 and 10 windows or entrances overlooking the point)
- 3 (More than 10 windows or entrances overlooking the point)

Upload

13- Which of the following can be seen? \*

- Houses
- Cafe/ Restaurant
- Offices/ Commercial complex
- Shops
- Street vendors
- Open/ vacant land
- Boundary wall
- None of the above

Upload

14- What all activities are there at this point?

Select all applicable. \*

Street performer

Exercising

Open market

None of the above

Upload

Recreation

Event or exhibition

Outdoor seating for restaurant

Other

15- Add any other comment about the visibility or activity of the area here.

Your Answer

## People and Diversity

16- How many people are using the public space (walking or seated, not including shopkeepers or vendors)? \*

- 0
- 1-10
- 10-20
- 20+

Upload

17- Are there any intimidating groups present? \*

- No group/person fighting or drunk/on drugs, or behaving oddly

No group/person fighting or drunk/on drugs, or behaving oddly

No group/person fighting or drunk/on drugs, or behaving oddly but anecdotal evidence from other times available

At least one group/person fighting or drunk/on drugs, or behaving oddly

Several groups of people fighting or drunk/on drugs or behaving oddly visible/audible

18- How is the gender diversity in the area? \*

- Not diverse. No one in sight or only men
- Somewhat diverse. Mostly men, very few women and children
- Fairly diverse. Some women and children
- Diverse. Balance of all genders or more women and children

19- How is the culture diversity in the area? \*

- Not diverse. Only one culture represented
- Somewhat diverse. One to three cultures represented
- Fairly diverse. Many cultures represented, some integration
- Diverse. Many cultures represented, well integrated

20-How is the age-balance in the area? \*

- Not diverse. Eg: Only people of working age
- Somewhat diverse. Eg: Very few children and/or old people

# ANNEX 4

The Safetipin Site questionnaire (cont'.)

- Somewhat diverse. Eg: Very few children and/or old people
- Fairly diverse. Eg: Some children and older people present
- Diverse. Balanced across all ages

**21- Any comment on the people in the area?**

Your Answer

Upload

## Security

**22- How would you rate the security in the area? Are there police personnel and private security guards present? \***

- 0 (No guards or police visible in the area)
- 1 (Some private security visible in the area but not nearby)
- 2 (Private security within hailing distance)
- 3 (Police/ reliable security within hailing distance)

Upload

**23- Which of the following are present? Select all applicable. \***

- Police station
- Police personnel
- Police barricade/ checkpoint
- Police car/ van

- Police station
- Police barricade/ checkpoint
- Signage (emergency/ police assistance)
- None of the above
- Police personnel
- Police car/ van
- Private guards
- Female security personnel
- CCTV cameras
- Other

Upload

**24- Is there a place close by where you can get help in an emergency? \***

- No
- Too far away
- Yes, but not quite sure how safe it is
- Yes

**25- Add any other comment about the security here.**

Your Answer

## Walkability and Accessibility

**26- How would you rate the footpath? \***

- 0 (There is no footpath available)
- 1 (Path exists but it is in bad condition)
- 2 (Fair conditions with more than 50% surface

- 0 (There is no footpath available)
- 1 (Path exists but it is in bad condition)
- 2 (Fair conditions with more than 50% surface and with minimal or no obstacles)
- 3 (Proper and level footpath with enough space to walk)

Upload

**27- What is the condition of the footpath? \***

- Unpaved
- Broken
- Obstructed
- Narrow
- None of the above
- Other

Upload

**28- Select all that exist as a separator between the footpath and road. \***

- No level difference
- Elevated footpath
- Vegetation bed (shrubs, bushes or flowers)
- Marking on the roads
- Heightened divider (bollard, etc.)
- Fence/ Gate
- Other

Upload

# ANNEX 4

The Safetipin Site questionnaire (cont'.)

Shops  
 Vendors/  
     Temporary stalls  
 Advertisement  
     Construction debris  
     boards  
 Vehicles  
     Electrical box  
 Trash cans/ Bins  
     Open garbage  
     dumps  
 Other  
     None of the above

**30-Are the footpaths shaded to protect people from the weather- sun or rain? \***

No. No paths are shaded  
 Not really. Some paths are shaded but not continuously  
 Somewhat. Most paths are shaded, but not continuously  
 Yes. All paths are shaded

**31- Does the footpath lead to areas without surveillance? Such as underpasses or segregated paths. Please comment. \***

Your Answer

Your Answer

**33- Which of the following accessibility elements are available on the footpath? \***

Ramps  
 Hand rails  
 Tactile paving  
 Curb ramp  
 None of the above  
 Other

**34- Which of the following are present at the nearest pedestrian crossing? \***

Curb ramp  
 Traffic signal for pedestrian crossing  
 Traffic signal with timer for pedestrian crossing  
 Median cut  
 None of the above  
 Other

**35- Any comments about the pedestrian crossings?**

Your Answer

**Local Public Transport**

**36- How far is the nearest public transport stop? (Bus/ train/ para-transit) \***

Unavailable. No stop within a 10 minute walk  
 Distant. There is a stop between 5-10 minutes away by walk  
 Nearby. There is a stop between 2-5 minutes away by walk  
 Very close. There is a stop within a 2 minute walk

**37- Which of the following public transport options are around you? \***

Bus stop  
 Taxi stand  
 Para-transit hub  
 Train station  
 None of the above  
 Other

**38- Add any other comment about public transport connectivity at this point?**



## ANNEX 4

The Safetipin Site questionnaire (cont'.)

transport connectivity at this point?

Your Answer

39- Which of the following are present at the nearest bus stop? \*

- |   |   |
|---|---|
| <input type="checkbox"/> Bus shelter                              | <input type="checkbox"/> Markings on the road/ Signage identifying the stop |
| <input type="checkbox"/> Seating infrastructure                   | <input type="checkbox"/> Map/ schedule of buses                             |
| <input type="checkbox"/> Realtime information about buses timings | <input type="checkbox"/> Tactile paving                                     |
| <input type="checkbox"/> Surveillance system                      | <input type="checkbox"/> Ramp   |
| <input type="checkbox"/> None of the above                        | <input type="checkbox"/> Curb Ramp  |
|   | <input type="checkbox"/> Emergency information                              |
|   | <input type="checkbox"/> Other  |

Upload

40-Any other comments about this bus stop?

Your Answer

\* - Required Field

Submit

# ANNEX 5

Excel file of the sorted data collected through the Safetipin Site application.

Name	Category	What is the location of the public space?	Openness	Amenities	Vegetation	Noise	Any comment on the smell or sound in the area?	Lighting	Light Sources	Lighting Comment	Visibility	Which of the following can be seen?	Street Activities
Zarith Sofa Opera House A	Market / Commercial hub		3	Public seating infrastructure, Trash cans	3	67	No bad smell and no loud sound	0		It's day time	3	None of the above	

Visibility Comment	People	Intimidating Groups	Gender	Culture	Age-Balance	People Comment	Security	Which of the following are present? Select all applicable.	Is there a place close by where you can get help in an emergency?	Add any other comment about the security here.	Walk Path	What is the condition of the footpath?
The visibility here is 100% due to open space area	1	0	1	1	1	Not so many people come to this place	1		Yes, but not quite sure how safe it is	There are only one private guard that take care of this area	3	

Select all that exist as a separator between the footpath and road.	Obstructions on footpath	Shaded Walkpath	Surveillance walkpath	Walkpath Comment	Which of the following accessibility elements are available on the footpath?	Which of the following are present at the nearest pedestrian crossing?	Pedestrian Crossing Comment	Public Transport	PT around you	PT comment	Which of the following are present at the nearest bus stop?	Bus Stop Comment
Vegetation bed (shrubs, bushes or flowers), Fence / Gate	None of the above	1	Nope	The walkability here is proper and newly added	None of the above			0	None of the above			

Poor Below Average Average Good

