Rame-Rame Jakarta - 2022

Design by Who?

Space Utilisation and Stakeholder Interactions
Fatmawati Indomaret MRT, South Jakarta

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Introduction

Jakarta's modern development and rapid growth into a sprawling metropolitan region has been defined by piecemeal state interventions in the urban environment to address the challenges of a 21st-century megacity, often leaving citizens and local stakeholders to develop their own solutions and strategies for daily life at a smaller scale. In recent years, a paradigm shift towards developing an integrated public transportation network has reflected a recognition by state and private sector actors that connectivity will be key to Jakarta's future.

Since 2019, the city's new MRT system has improved access to a range of strategic locations in South and Central Jakarta, to be supplemented by an additional LRT network in late 2022. The presence of new transit hubs across the city transforms the surrounding area, stimulating a range of highly variable responses by stakeholders at all levels. In order to better integrate these hubs into the urban environment, as well as into citizens' daily lives, this preliminary research examines Jakarta's unique response to transport-orientated development using Fatmawati Indomaret MRT station as a case study.

Fatmawati - Brief Overview

Fatmawati Indomaret MRT is located strategically at the Southern end of *Jalan Fatmawati Raya*, an important North-South corridor for transportation, and business. The station itself is situated alongside a major East-West toll road connecting South Jakarta with its numerous satellite cities, and its position near the Southern administrative boundary of Jakarta proper also makes it an important secondary link for major commuter populations in South Tangerang and Depok particularly.

Another two major roads, *Jalan R. A. Kartini* and *Jalan Tahi Bonar Simatupang Raya* run parallel to the station complex, creating a significant barrier between areas on the North and South sides of the station, with limited pedestrian access and significant vehicular journey times required to travel from one side to the other. The one-way traffic provisions for each of these two roads and their proximity to the elevated toll has significant implications for the specific patterns of space utilisation and station integration within the local environment.

The immediate vicinity of the station complex is a largely industrial/commercial area, with several medium-sized government and private sector offices and a range of smaller enterprises lining the major roads. Residential areas comprise a secondary zone of influence, including the leafy middle class neighbourhood of *Taman Cilandak* to the South, and the working class *Kampung Banjarsari* to the North. Fatmawati MRT is therefore primarily a transit node between different modes of transport, rather than a primary destination point for passengers.

Methodology

Observations of the Fatmawati Indomaret Station area were conducted over a three day period in March 2022 by a team of urban researchers with experience in Jakarta's urban landscape. Fixed observation schedules of key target areas (outlined in the next section) were conducted four times each day according to a fixed schedule to identify and catalogue salient dynamic phenomena with regards to space utilisation by a range of stakeholders, and their relationship to the station itself.

The fixed-rute observation schedule was as follows:

07:00 - 09:00 - 'Morning' session
12:00 - 13:00 - 'Midday' session
17:00 - 18:00 - 'Evening' session
20:00 - 21:00 - 'Night' session

These times were selected to reflect the periods of most intense passenger activity in the station area, as well as the diversity of other associated activities at less busy times.

In addition to the fixed observation sessions, the field time collected survey data and face-to-face interviews with a range of stakeholders, as follows:

15 passenger survey questionnaire respondents
14 interviews with local residents
4 interviews with online motorcycle taxi drivers (ojek online/ 'ojol')
9 interviews with informal entrepreneurs active in the station area

Survey questions focused on the direct experience of MRT passengers and their interaction with various aspects of the urban environment in and around the station area. Interviews consisted of casual discussions with indirect stakeholders, and followed a more flexible structure, allowing them to provide additional insight on related topics pertaining to their interests, motivations and behavioural patterns relating to the station area.

The results of the observations were used to construct a profile for 4 primary stakeholder utilisation zones as outlined below, with extracts from interviews added for context. The survey results are presented separately, and analysed to identify key themes and issues for respondents. Finally, a comprehensive analysis of all the data is carried out to offer conclusions and recommendations about the nature of space utilisation and future optimisation by all relevant stakeholders.

4 Primary Utilisation Zones around Fatmawati Station

As a significant focal point for the surrounding area, the immediate vicinity of Fatmawati Indomaret MRT is important for a range of stakeholders, most of which congregate around or adjacent to the station gates. However, due to nuances in the urban environment which will be discussed below, the utilisation of these spaces is highly heterogenous, informed by divergent interests and use-value considerations.

For the purposes of this preliminary research the Fatmawati Indomaret MRT area has been divided into 4 Primary Utilisation Zones, outlined below. Each zone is profiled according to its primary stakeholder interests, key transport-associated activities, and the presence of the urban informal economy. Brief supplementary observations are then provided for context.

Figure 1. Outlined 4 Primary Utilisation Zones around MRT Fatmawati station

Zone A: “Extended Access Route”

Primary Stakeholders: Pedestrians, Motorists
Transport-associated activities: Walking, major roadways
Informal Sector: N/A

Preliminary Observations: The extended footpath access to station gate A was the least utilised entrance/exit point and the most underutilised of the four primary zones. Predictably, it was busiest during the morning and afternoon observation sessions, but with limited transit points and access to surrounding areas it appeared an unattractive option for many commuters.

> ***"I Exit through Gate A because it's near my office,but it certainly is dark at night…”***
> *Passenger, Zone A, heading to Banjarsari*

Figure 4. Dynamic mapping, Zone A.

Pedestrians exiting the station via Zone A followed one of two potential routes. Route A1 corresponds to the allocated footpath and ends at the major interchange of *Jl. Fatmawati Raya*/ *Jl. TB Simatupang*. Given the long and "uncomfortable" journey on foot via station gate A, it can be surmised that the majority of these pedestrians were making their way towards Target Zone A1, encompassing the major recreation and commercial corridor of *Jl. Fatmawati Raya*, comprising a diverse range of culinary and service businesses accessible via a transit to the metropolitan bus network, or continuing on foot to the major shopping mall of *Cilandak Town Square*.

> ***"Crossing all the roads is a real hassle"***
> *Passenger, Zone A*

Figure 2. Passageway in and out of gate A with minimal lighting fixtures.

A large number of pedestrians approaching/leaving the station opted instead to use an informal 'shortcut' between sets of concrete barricades during the morning rush hours in particular, corresponding to a secondary route (A2). Route A2 involves pedestrians moving across the open area beneath the roll road, and crossing the primary roadway and toll road exit without adequate infrastructure, despite significant accident and traffic disruption potential. A majority of pedestrians opting for Route A2 are either hurrying to enter the station during the morning rush hour, or heading directly for the offices and university campus in Target Zone A2. This phenomena is explored in detail in the Key Dynamic Phenomena section below.

Figure 3. A group of women crossing the concrete barrier to reach gate A via route A2.

The lack of utilisation by all stakeholders of Zone A reflects the lack of forward transit options and difficulty of access. The limited pedestrian traffic is unattractive for informal entrepreneurs whose business models depend on convenience and maximum market exposure. Similarly, the lack of suitable gathering points for *ojol* means that they congregate at more accessible locations, providing a secondary market for informal enterprises proximate to those areas.

> ***"I didn't even realise there was a gate A, so I guess that means no one uses it, or it's not in a good location."***
> *Passenger, Zone C*

Zone B: “Kampung Banjarsari”

Primary Stakeholders: Local Residents, Route A1 Pedestrian commuters, Informal Enterprises
Transport-associated activities: Walking, major road, *ojol,* feeder bus route
Informal Sector: Vendor kiosk, PKL (vendor cart)

Figure 5. Dynamic Mapping, Zone B

Preliminary Observations: On the North side of the main roadway corridor from Fatmawati Indomaret Station is the residential neighbourhood of *Kampung Banjarsari*, comprising Utilisation Zone B. The residents of this lower-middle income neighbourhood fall largely into two main demographics, elderly long-term residents and younger early-career office workers, many of whom rent rooms on a temporary basis. Despite their proximity to the station, a significant number of older residents seldom or never take journeys on the MRT, preferring to remain largely within their neighbourhood, with many rarely leaving the house except for Friday prayers and the occasional social event. By contrast, younger residents are typically commuters, many of whom routinely use the MRT network, typically making use of the Route A2 shortcut in the mornings to reduce their journey time to the station, and returning in the late evening.

> ***“You have to walk a long way via the current route to gate A, so I think there should be a shorter access route, or some other choice.”***
> *Bowo, Banjarsari Resident, Zone D*

Figure 6. Informal stalls in front of the gate to *Jl. Banjarsari II*.

Due to the limited public life in this neighbourhood, the informal economy is not particularly prevalent, with some notable exceptions. Food vendors emerge following regular behavioural patterns, with a temporary kiosk set up each morning to provide breakfast on the go (nasi uduk), and a small group of cart vendors arriving in the early evening to provide hot snacks, primarily for commuters returning home (it is forbidden to eat on the train itself). These evening-focused informal enterprises also sell via online platforms, and attract a group of *ojol* drivers specialising in the food delivery economy. *Ojol* drivers are also important customers for these enterprises, particularly a local drivers' association established within *Kampung Banjarsari* itself, exclusively to service local residents, many of whom opt for online motorcycle taxi as a faster, more efficient mode of transportation despite their proximity to the MRT station. The focus of this informal, online and pedestrian economy is the multistakeholder area B1, where passengers for the North-heading feeder bus service also congregate on a large undeveloped sidewalk infront of the *kampung*.

> ***"In Banjarsari there's a gathering of ojek, but only for local residents who want to take short journeys. For those from outside they wouldn't gather here, they wait at the end of the road where there are warung they can sit and relax at."***
> *Bowo, Banjarsari Resident/RT, Zone D*

Zone C: "Primary Transit Area"

Primary Stakeholders: Pedestrians/passengers, *ojol* drivers, informal enterprises, local residents, public transportation, station staff/security
Transport-associated activities: *Ojol*, walking, private vehicles, public transportation
Informal Sector: Permanent warung, vendor kiosk, vendor tent, PKL (vendor cart) informal waiting/rest area, informal 'toilet,' informal parking facilities, motorbike services

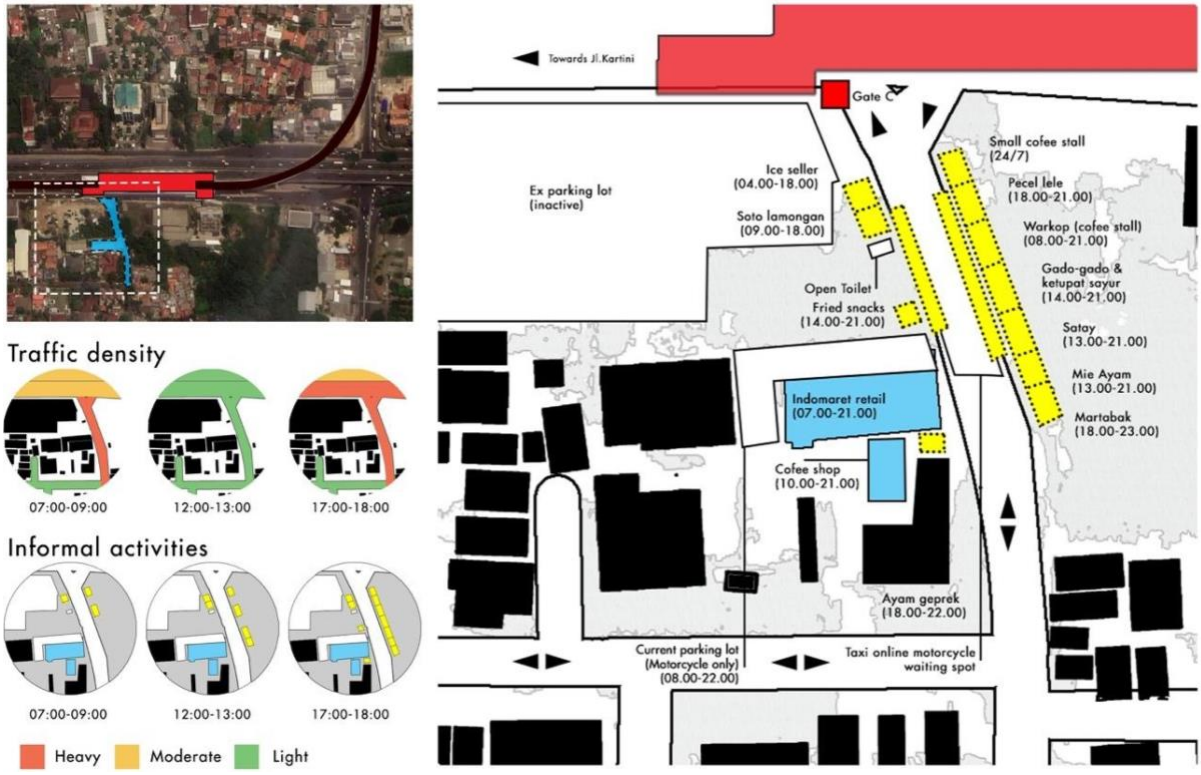


Figure 7. Dynamic Mapping, Zone C

Preliminary Observations: Zone C encompasses the area around station gate C & B, extending a short distance into the residential area of *Taman Cilandak* to the South. It is the busiest and most intensively utilised of the four study zones by a wide range of stakeholders, but functions primarily as a transit point for Jakarta's most common commuter journey profile, using a combination of online ojek and public transportation (online-public-online) [1]. Survey respondents confirmed that their primary reason for disembarking via gate C was the ease and convenience of locating their motorcycle taxi driver due to the large numbers congregating in the area. Other modes of transportation, including *angkot* minibuses and private vehicles also pick up and drop off passengers at this location, with some local residents walking the short distance to their homes or accommodation. A small number of cars, predominantly taxis/online taxis, gather to pick up passengers at the Indomaret store on Jl. Taman Cilandak.

> ***"It can get congested in the evenings, which can be annoying but I'm already used to it. I hope there will be a special parking area for ojol so they don't disrupt the local area."***
> *Bu Isrofah, Gado-gado Vendor, Zone C*

[1] *Desain Integrasi Stasiun Transjakarta, LRT dan MRT.* (2017). ITDP (Institute for Transportation and Development Policy)

During the course of a full day, *ojol* drivers constitute the primary stakeholder group in Zone C, gathering to pick up passengers, passing through after dropping off passengers, with many returning repeatedly to the area after each journey is complete. During this time they make extensive use of the goods and services available largely via the informal economy, including low-cost food and drink, snacks, and services including a mechanic and phone charging points.

> ***"There's everything a driver needs here, if you ask me. Plenty of passengers, and warung for while you wait."***
> *Rahmat, Ojol driver, Zone C*

Figure 8. Street corridor leading to Jl. Taman Cilandak Raya, close to gate C.

The reason why so many *ojol* drivers elect to gather at this gate is largely due to its strategic location, one of the few points around the station with access to both *Jl. R.A. Kartini* moving West via Route C1, and *Jl. Fatmawati Raya* heading North via Route C2, giving them maximum flexibility when it comes to selecting the best route for their passengers' journeys. Anyone disembarking at the nearby gate D would need to pass by gate C regardless of their eventual journey route.

> ***"I choose this station because you can always find a gojek driver (ojol) quickly, and it's not far from my house."***
> *Passenger, Zone C*

Being a residential area, it is also not patrolled by private security guards (*satpam*) who might hassle the drivers to move on, and is partially isolated from the main roadway to an extent which minimises the impact on nearby vehicular traffic. The few cars which pick-up/drop-off passengers at gate C cause considerable disruption to traffic on the main roadway, obstructing a single lane even for just a short time leading to congestion. By contrast, *ojol* manage to largely avoid fully obstructing the roadway, despite congestion during the evening peak

(explored in more detail below). Many of these factors are equally attractive for traditional informal street-vending enterprises, leading to a symbiotic and mutually beneficial relationship between these two stakeholder groups.

Figure 9. Semi-permanent informal kiosks & warung on *Jl. Taman Cilandak Raya.*

The near-constant presence of *ojol* drivers favours permanent and semi-permanent business typologies such as fixed *warung* and immobile tents, which are able to store more stock and thereby serve more customers than smaller, more mobile counterparts which would have to head home to restock much sooner. Despite this, there remain notable dynamic transformations within the informal sector's space utilisation profile throughout a typical 24-hour cycle, with the busiest time during the evening rush when many passengers pause to purchase informal goods and services during transit. Many of the informal enterprises in Zone C predate the MRT station itself, but have since adjusted their business model to accommodate the new market demand profile from the station and associated activities.

> ***"Basically all of our customers are coming to or from the MRT station, we don't have many customers from the local area. The ojol drivers also eat here sometimes, so since the MRT opened our profits have increased."***
> *Ida, Mie Ayam Vendor, Zone C*

Ojol drivers themselves have also contributed components of an informal transport infrastructure, including waiting areas (pangkalan), seating and shelter, a spatial planning and queueing policy, and allocated 'informal toilets,' out of direct view which flow directly into a nearby drain. Despite the informal infrastructure currently supporting the digital *ojol* economy, in order to promote increased use and utilisation of MRT stations and other ke transpit nodes, provisions to accommodate *ojol* drivers as a valid component of the transport network are essential, including safe, sheltered and clearly demarcated waiting areas, phone charging infrastructure and access to key goods and services necessary for their work. Further development of the online-public-online journey profile should be a key consideration for Jakarta's transport-orientated development policy moving forward.

Zone D: “Secondary Transit Area”

Primary Stakeholders: Pedestrians/passengers, *ojol* drivers, taxi/online taxis, public transportation, informal enterprises, traffic officers
Transport-associated activities: *Ojol* (drop-off), TransJakarta buses, taxis/online taxis, private vehicles, intercity buses, walking
Informal Sector: *PKL* (vendor cart), vendor bikes/motorbikes

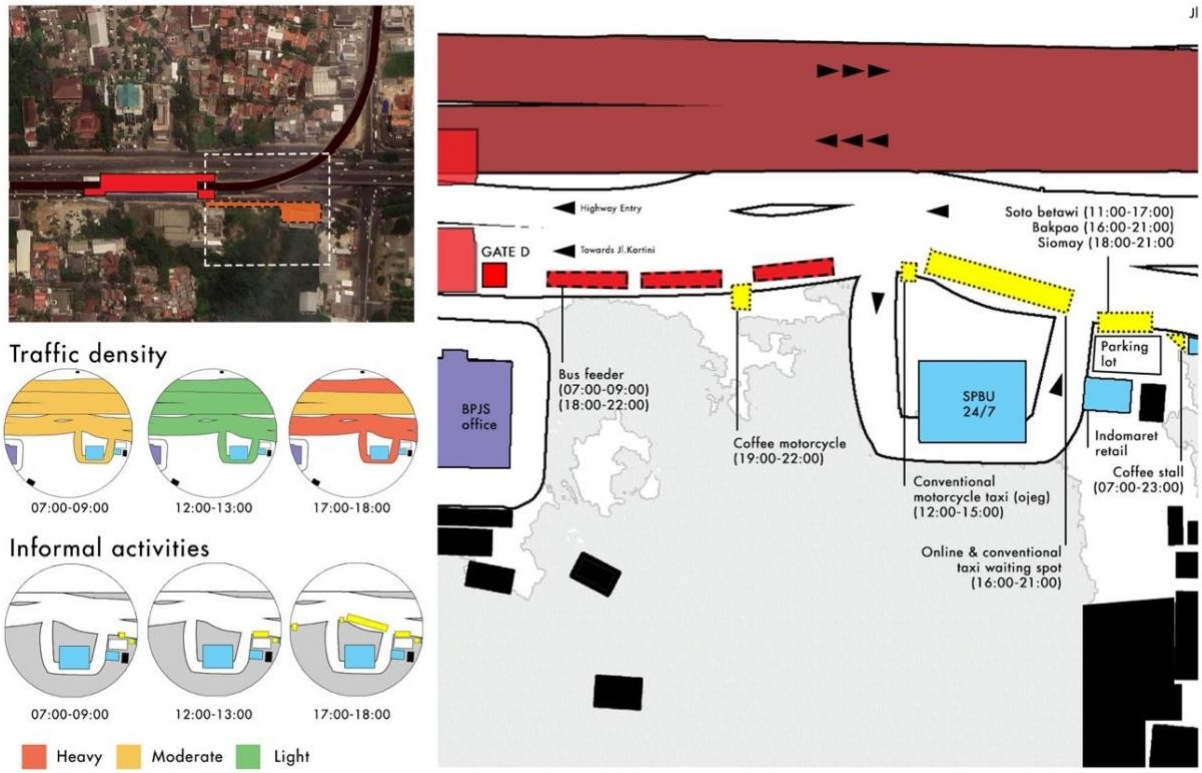


Figure 10. Dynamic Mapping, Zone D.

Preliminary Observations: Zone D is a roughly 250m stretch of roadside alongside the major roadway of Jl. R.A Kartini to the East of the MRT station which includes station gate D, some sections of which have been allocated pedestrian sidewalks while others remain unpaved forcing pedestrians to walk in the road with the flow of traffic coming from behind them. Similar to Zone C, Zone D represents a major transit point for passengers on their way to and from the MRT station, but with a distinct transit profile. As mentioned previously, any journeys beginning at Zone D will need to pass Zone C regardless of their ultimate destination, therefore drop-offs are more prevalent than pick-ups at Zone D for *ojol* in particular. However, there are some important exceptions.

> ***“I choose this entrance because it has a lift and an escalator from ground level.”***
> *Passenger, Zone D*

Figure 11. Passengers exiting gate D to be picked up or wait for bus services

Unlike Zone C, Zone D has sufficient capacity for larger vehicles such as cars to wait for passengers, particularly in the area around the large *Pertamina* petrol station (area D1), making this area the centre of most transportation and informal economic activity in Zone D. *Angkot* minibuses, intercity buses and taxis all drop off and pick up passengers around this area, and pedestrians frequently pass through as well, crossing the major *Jl. Fatmawati*/*Jl. R. A. Kartini* junction from Zone B to enter the station via gate D because of its faster, easier access and escalator facilities via Route D3. As a result of this activity, congestion around area D1 is a common problem, between those waiting for passengers and those queuing to purchase fuel, those dropping off passengers and informal enterprises also occupying the limited space. Traffic officers (DISHUB) occasionally attempt to manage the situation, but due to a lack of alternative locations most stakeholders quickly return to area D1 after being moved on.

> ***"The traffic is moving in the right direction to take me straight home, so I just exit at gate D and order an ojol from there."***
> *Passenger, Zone D*

The large number of stakeholders in area D1 is attractive for informal entrepreneurs seeking maximum market exposure, with a dynamic informal economy operating in the vicinity of the petrol station. Unlike Zone C, where most enterprises are sedentary, Zone D's informal economy consists of almost exclusively mobile business typologies, including carts, bicycles, motorcycles and traditional *pikulan* (shoulder-bar carrying traders). This is likely because of the exposed nature of the location, the intervention by traffic officers to clear the area, and also a response to their market profile. Unlike motorcycle users such as *ojol*, who typically opt to park their vehicle and sit somewhere to eat, or drink, motorists using cars are able to sit comfortably in their vehicle while they consume their purchase. The Zone C informal-transportation linkage of permanent informal enterprises providing space and shelter to more exposed customers is thus mirrored in the Zone D linkage profile.

> ***"Basically the rules are that if you want to trade, you need to keep at least 200m from the station gate, which means we set up here."***
> *Bowo, Bakpao Vendor, Zone D*

By contrast, zone D2 on the Western side of gate D is located in front of a Social Health Insurance Administration Body (*BPJS*) branch office, and is comparatively sterile. Located directly on the main roadway and beneath the MRT rail, there is limited room for waiting vehicles at the roadside, and it remains 'invisible' to disembarking passengers who exit the station from gate D facing the opposite direction. The presence of security guards for the government institution further deters motorists from waiting for pickups, as well as informal entrepreneurs from gathering in this area.

Key Dynamic Phenomena in the Fatmawati Indomaret MRT Utilization Zones

1. The Informal Flyover 'Shortcut' - Route A2

Figure 12. A passenger exiting the MRT via route A2, about to cross traffic on *Jl. R.A. Kartini*.

As previously mentioned, a significant number of pedestrians entering/exiting the station via gate A opt to use an informal 'shortcut' identified as Route A2. Using this route is potentially hazardous because it involves crossing the toll road exit ramp and several lanes of traffic on Jl. R. A. Kartini without any associated infrastructure or signage. The popularity of this informal route therefore indicates the extent of dissatisfaction with the official pedestrian infrastructure allocated for gate A, identified as Route A1. Situated between the two main carriageways of *Jl. R.A. Kartini* and beneath the elevated toll road, gate A is relatively isolated from the surrounding urban environment, and offers no immediate access to forward transit options such as *ojol*, taxis, or bus routes, all of which are more readily accessible by exiting from gate D and using the pedestrian crossing at the main intersection.

A breakdown of pedestrian Zone A route choices per observation session 30/03/2022:

Table 1. A breakdown of pedestrian Zone A route choices

Passenger Route Choices to/from Gate A, Fatmawati MRT				
Time	Observation Session	Total Pedestrians	Route A1	Route A2
07.00-09.00	Morning	78	32	46
12.00-13.00	Midday	15	15	0
17.00-18.00	Evening	67	55	12
19.00-20.00	Night	5	5	0

Use of Route A2 was not uniform across all observation sessions. It was most actively utilised during the morning rush hour, followed by the evening rush hour. During the midday and night observations usage was minimal. During the morning rush hour a majority of pedestrians opt to utilise Route A2. Survey results and visual documentation indicate that these are mostly commuters in a hurry to reach the station and catch an MRT train to work each morning from a nearby residence in or around Utilisation Zone B, close enough to make walking the most effective 'first mile' journey option. By contrast, older/retired Zone B residents reported a preference for gate D because of its escalator access and more bustling atmosphere, bypassing gate A entirely via the pedestrian crossings at the main roadway intersection.

> ***"It's closer and more comfortable to be picked up from gate D, because gate A is basically deserted and it's a very long walk. I also can't be bothered to do three separate road crossings to reach a pick-up point."***
> *Passenger, Zone D*

Figure 13. A woman passing through one of the gaps in the barrier to get reach gate A from route A2.

During the evening the pattern of route selectivity is reversed, with a majority of pedestrians opting for the formal footpath of Route A1. This is also when more pedestrians exit the station compared to those who enter, and are likely in less of a hurry since the working day is over, although a significant minority continue to opt for Route A2. After dark, during the night observation session Route A2 utilisation drops to almost zero. It is considered an unattractive option at this time by survey and interview respondents because of a lack of lighting, making it difficult to identify a clear route or any potential obstacles in a pedestrian's path, and because of the dark, deserted atmosphere is intimidating. These considerations are particularly salient for female pedestrians, several of whom opted to turn back and re-enter the station and exit via a different gate upon seeing the conditions of Zone A (including both Route A1 & A2).

> ***"Because there are many elderly residents in the Banjarsari neighbourhood, gate A needs an escalator. It's difficult for them to climb the stairs."***
> *Bowo, Banjarsari Resident, Zone D*

Observation and survey/interview results indicate that, despite the poor condition and potential risks associated with Route A2, pedestrians are likely to continue utilising the informal 'shortcut' because of its time-saving benefits unless significantly more preventative infrastructure is installed. However, this is also likely to further reduce utilisation of Zone A more generally, and the provision of more effective pedestrian infrastructure such as a pedestrian footbridge, or forward transit infrastructure such as an *ojol* gathering point should be considered as alternative options to increase the overall functional value of this underutilised area.

2. Informal *Ojol* Infrastructure and Spatial Planning

Figure 14. Rows of *ojol* drivers on Jl. Taman Cilandak Raya waiting for passengers to get off the gate C.

Despite limited formal provisions for their operation around the MRT station area, *ojol* represent a primary stakeholder profile and also a vital link in Jakarta's modern transportation network. The rapid expansion of the online ride-hailing economy has exceeded the capacity of urban planners to accommodate new patterns of demand and supply, leaving the private sector, station management and drivers themselves to develop new patterns of managing limited space in and around key transit hubs. *Ojol* drivers are acutely aware that the potential for conflict between the large numbers of drivers which regularly congregate in the vicinity of a station and other stakeholders constitutes a significant threat to their livelihood. This includes traditional offline *ojek,* other motorists, road-based public transport operators and, in particular, station management, who might decide to disperse, displace or prevent *ojol* from operating in key strategic locations.

> ***"There are 3 typical 'types' of ojol: Those who serve train stations, those who serve food orders, and those who serve MRT passengers. The MRT routes are nice because they're usually not far, so we can quickly return to the waiting area without getting stuck in traffic. The train stations are often a long way from residential areas, and you have to wait a long time for your food order to be prepared."***
> *Ambon,* Ojol *Driver, Zone C*

"I just hope they'll give us a proper waiting area, we don't like having to leave our bikes by the roadside."
Rudy, Ojol Driver, Zone C

As a result, the phenomena of *ojol* self-organisation (sometimes with the support of corporate platform providers) is clearly visible across Jakarta, including around Fatmawati Indomaret MRT. This organisation takes a diverse range of forms, from the posting of signage to the formation of *ojol* 'union' organisations and the establishment of unwritten codes of conduct. A particularly visible form of informal management regimen can be seen in the allocation of dedicated pick-up/drop-off zones around the MRT station, with passengers dropped almost exclusively at Zone D, and *ojol* drivers waiting for pick-ups at Zone C, corresponding the concentration of supporting informal economic infrastructure.

"There are always orders here, all day, so everyone gets an equal share."
Indah, Ojol driver, Zone C

Figure 15. A woman exiting gate C to catch a passing *Mikrolet (minivan)*.

"It's the fastest route home, and it's the easiest place to get an ojol. Sometimes I might use gate D, but only occasionally as an alternative."
Passenger, Zone C

Zone C is further subdivided according to the different onward route of specific drivers who have already received a customer booking. Waiting drivers divide themselves into two separate groups, one serving the major West-heading route along *Jl. R. A. Kartini* (the dominant route for morning passengers heading to the South Quarter building complex, Pondok Indah residential Neighbourhoods or Mayapada Hospital), the other heading South along *Jl. Taman Cilandak* to double-back and service other routes via the main *Jl. R. A. Kartini*/ *Jl. Fatmawati Raya* intersection (the dominant route for evening passengers heading home).

The location of these parking/waiting zones is constantly shifting, according to the operating hours of both formal and informal businesses, to keep them as accessible as possible for customers. This route management system serves the double purpose of reducing congestion in the limited waiting area, and making it easier for passengers to locate their driver, particularly for regular customers already familiar with the system layout.

Waiting area selection at Zone D is also dynamic, with adjustments made according to the utilisation of space by other stakeholders, primarily formal public transport operators. During the morning rush hour, most *ojol* drop their passengers immediately in the vicinity of gate D, where they have fastest access to the train platforms above, however in the evening rush hour this space is frequently occupied by metropolitan or inter-city bus services waiting to pick up passengers, and in response the *ojol* drop-off/waiting area is relocated to the vicinity of the petrol station (area D1).

Figure 16. Rows of *ojol* drivers on Jl. R.A. Kartini waiting to pick-up passengers exiting from gate D.

Despite this level of informal coordination between *ojol* drivers themselves and also with a range of other stakeholders, the lack of adequate facilities, infrastructure and recognition in the vicinity of Fatmawati Indomaret MRT remains a cause for concern. The concentration of so many drivers at strategic pick-up/drop-off locations while large areas of space around the station remain underutilised decreases the efficiency of the public-online transport model, increases congestion and could potentially pose a danger to members of the public. In particular, the lack of toilet facilities has resulted in the use of an open drain being used as a substitute, with clear hygiene and public health implications for the local area.

> ***"I wait here for the intercity buses, because at gate C any potential passengers will immediately get an online driver, so there's no chance I would get any passengers. I used to use the online applications too, but after I lost my phone two years ago I went back to the traditional method."***
> *Wilkof, Offline ojek, Zone D*

Ojol are increasingly integrated into almost every aspect of life in Jakarta, and they will undoubtedly remain a persistent and vital component of the city's transportation infrastructure for years to come. At the same time, their work remains precarious as long as spaces are not provided to facilitate this integration. As such, it is important that their basic biological needs, as well as the specific demands of their platform-based informal employment, be recognised as a critical nexus of human-digital infrastructure in transport development planning and policy, and facilities provided accordingly. The underutilised Zone A, particularly the extensive brownfield beneath the elevated toll, could potentially be used to provide for many of these needs, and reduce overcrowding in Zones C and D by providing an alternative transit route to *Jl. Fatmawati Raya.*

3. Fatmawati MRT's Informal Economy

At present, a majority of supporting services for ojol drivers in the Fatmawati MRT station are provided by the informal sector. This includes both basic needs such as food, drink and shelter (from heat or rain), as well as occupation-specific needs including places to charge cell phones, park motorbikes for extended periods, and mechanic services for basic repairs and maintenance. This informal infrastructure is largely concentrated in Zone C, with less significant clusters located in Zones B and D. Of course, informal goods and services are not exclusively relied upon by *ojol* drivers, but are part of a complex and multifaceted network of formal-informal and informal-informal interactions which define large areas of public space in Jakarta, and around key transit hubs in particular.

Figure 17. Semi-permanent informal kiosks warung on Jl. Taman Cilandak Raya at night.

The primary informal cluster of Zone C is dominated by permanent vendors supplying a range of low-price food and drink to a range of other stakeholders. Preliminary observations identified their customers as being primarily *ojol* drivers waiting between passenger orders, but MRT station security staff, passengers and local residents were all observed patronising several different vendors, spending additional time socialising after consuming their purchases before heading into the station complex or continuing their journey on foot. *Ojol* drivers are most likely to congregate in the *warkop* (*warung* specialising in coffee and hot drinks),

particularly during midday hours when there are few passenger orders, although many will temporarily relocate to other areas because of insufficient space.

> ***"Basically all of our customers are coming to or from the MRT station, we don't have many customers from the local area. The ojol drivers also eat here sometimes, so since the MRT opened our profits have increased."***
> *Ida, Mie Ayam Vendor, Zone C*

Each enterprise in this area operates according to regular schedule corresponding to common trends in daily consumption, with the longest-established *warung* specialising in cigarettes, sachet drinks and other packaged goods is the first to open each morning, followed by the *warkop*, with meal-orientated *warung* selling *soto,* chicken noodles, *gado-gado*, and chicken *sate* each opening consecutively between morning and early afternoon. By the time of the evening rush hour, as many of the *ojol* drivers accept orders and depart with their passengers, MRT passengers become the primary customers, in addition to residents from the *Taman Cilandak* neighbourhood, and this continues for several hours into the night.

Other than food and drink vendors, additional informal enterprises operating in Zone C include the aforementioned mechanic specialising in basic repairs for motorcycle, and an informal motorcycle parking area established following the opening of the MRT station when the previously expansive parking area was closed down (indicated top-left on the map above). There is also an ice vendor servicing a range of informal enterprises selling cold drinks and businesses in other areas, including a local mortuary.

> ***"For me, the station opening hasn't really changed anything, but I know that the warung are all busier than before."***
> *Eko, Ice Vendor, Zone C*

> ***"We started operating this parking area after the station opened, I can't remember exactly when but at least since 2021. At first there were only a few motorcycles, not like now, because there was a large parking area near the station which is now closed. We've got capacity for 230 bikes in total."***
> *Gondrong, Informal Parking Attendant, Zone C*

The informal economy in Zone D is less heterogeneous, but more dynamic than in Zone C. This is largely a result of the limited space available to establish semi-permanent business typologies and the threat of regular dispersal by station authorities, petrol station staff or security from nearby government offices. As such, fully mobile typologies service this area using a range of vehicles including pushcarts, bicycles (including modified models) and motorcycles. Most operate for only a few hours per day, relying on short periods of high intensity during the morning or evening rush hour to turn a profit, or operating at night when alternative options are unavailable.

> ***"I sell here because it's not possible at gate C. There are a lot of kiosks and warung already there, so no space for a cart. If it's quiet then I'll move around to look for customers, and by 2PM I'll relocate to Jl. Lebak Bulus 2, around 1 KM away."***
> *Sukardi, Soto Betawi Vendor, Zone D*

Figure 18. Mobile traders around Zone D (in front of the main petrol station).

The majority of informal activity in Zone D takes place in area D1, directly in front of the main petrol station, where a succession of vendors come and go throughout the day, capitalising on waiting populations of drivers, bus passengers, and station staff. The morning rush is serviced by wheeled pushcarts selling chicken porridge and motorcycle vendors selling grilled rice wrapped in banana leaves to passing pedestrians, but who quickly move on as the pedestrian traffic starts to dwindle. By midday they have been replaced by different pushcarts selling *batagor* (fried fish dumplings), *soto* (Indonesian chicken soup) and *bakpao* (steamed buns) who sell primarily to waiting drivers for both online and regular taxis, as well as station staff. Given their limited stock carrying capacity, several of these traders have sold out by the evening rush hour, and are replaced or supplemented by a new 'shift' different traders selling largely the same products. During the night observation sessions one of Jakarta's familiar 'starling' (bicycle coffee and sachet drinks vendor) arrived in Zone D, catering largely for intercity bus service drivers, and others needing to remain in a fixed location therefore unable to visit the permanent coffee vendors in zone C.

> ***"Even though it's just the roadside, I still pay a fee of Rp. 10,000 to the Indomaret so that if [public order officers] arrive I can go into the parking area and not get moved on."***
> *Sukardi, Soto Betawi Vendor, Zone D*

A traditional offline motorcycle taxi (opang) also often operates in the vicinity of Zone D, targeting two specific demographics; namely those whose motorcycles have broken down, or those seeking intercity transportation, which is offered at a cheaper price than via the online platforms. Faced with competition (and occasionally confrontation) from online ojek, this niche transportation market is highly precarious, and drivers often relocate frequently in the hopes of finding potential customers.

"I've got two target markets - passengers making intercity journeys, which are more expensive using the applications, or people whose motorcycles have broken down and need a push. I don't get many customers, but they pay quite well."
Wilkof, Offline ojek, Zone D

While a majority of these actors have spent many years in the informal sector, there are also many who have only recently begun operating in the Fatmawati area, or are new market entrants entirely. Of these, a majority identified the covid-w9 pandemic and associated changes in economic and behavioural patterns as the stimulus for their new livelihood strategy, with some travelling significant differences to Fatmawati Indomaret MRT in order to secure a high level of market exposure at a busy station.

Figure 19. Several pushcart vendors around Zone B at night.

Compared to Zone C and D, the informal economy around Zone B is far less active. This is largely because of limited pedestrian traffic in the area and a lack of strategic access to the MRT station. However, there are some notable exceptions. Catering for local residents opting to enter the MRT station via gate D each morning, a temporary kiosk is set up at the main entrance to the *kampung* neighbourhood selling coconut rice, an Indonesian breakfast staple, and a mobile pushcart selling fruit salad (rujak) also sometimes waiting nearby. Operating only for this limited window of time, by midday the kiosk has been dismantled and the pushcart has moved on.

"I've lived in Banjarsari for a long time, and it's only local residents who sell here. I start around 9-10 am until 4 pm, then swap places with a ketoprak seller. There's a porridge vendor in the morning too, so there's three different traders who use this spot."
Yusuf, Rujak (fruit salad) Vendor, Zone B

In the late afternoon, just prior to the evening rush, several pushcart vendors assemble in the same area, servicing online orders as well as returning commuters. A small number of *ojol* drivers also gather nearby in anticipation of these online orders, and a single permanent kiosk selling sachet drinks, snacks and cigarettes operates throughout the day, primarily as a secondary informal actor servicing *ojol* and other vendors, as well as chilled bottled drinks for occasional commuters and other pedestrians.

Of all the stakeholder utilisation zones identified in this research, only Zone A was observed to be entirely devoid of informal activity, largely attributed to the lack of pedestrian traffic as well as difficulty of access for common informal typologies including pushcarts and bicycles. Given the reasons identified by pedestrians for largely bypassing Zone A, facilitating informal economic activities in this area could potentially increase pedestrian utilisation, particularly by those with time to spare during their transit, and simultaneously reduce crowding around Zone C and D.

Figure 20. Gate A approach, entirely devoid of informal activity.

Survey Data Results and Key Interview Themes

1: MRT Passengers

a) Passenger respondent profiles

15 commuters/pedestrians using Fatmawati MRT station were surveyed across all utilisation zones to gather information regarding their preferences and space utilisation profiles. The characteristics of the respondents were categorised by age, observation session survey time and intensity of MRT usage. Surveys were conducted during each observation session, with respondents concentrated during the morning and evening rush hours when the station was at its busiest

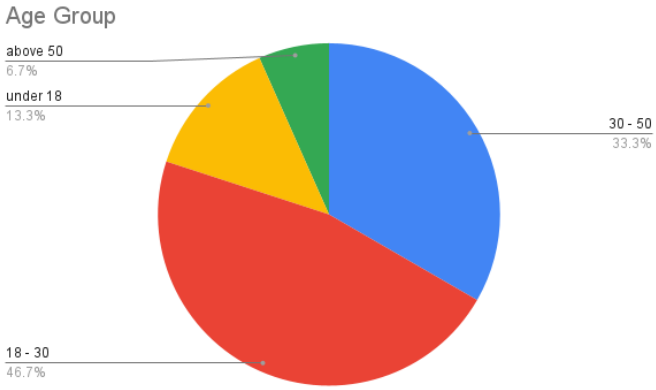


Figure 21. Age group of MRT Passengers (%).

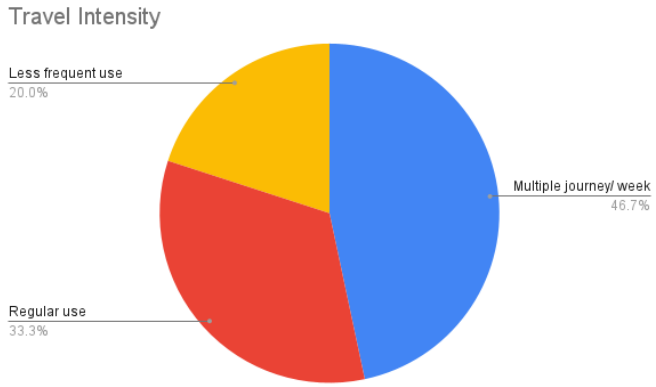


Figure 22. Travel intensity of MRT passengers (%).

Respondents are divided into four age group categories. A clear majority of passengers are of working age, equally divided between young and old adults, with a minority of elderly passengers. Minors were largely students who have recently returned to offline learning after the lifting of pandemic restrictions. A majority of respondents reported regular use of the MRT station, with more than 75% reporting multiple journeys per week, and a third reporting less frequent usage. Despite limited numbers of respondents, this sample group can be considered largely representative of the station user population.

b) Fatmawati MRT Station User Preferences

User preferences are identified in terms of main reasons for choosing Fatmawati Indomaret MRT Station as a transit point and additional preferences in entrance and exit selection.

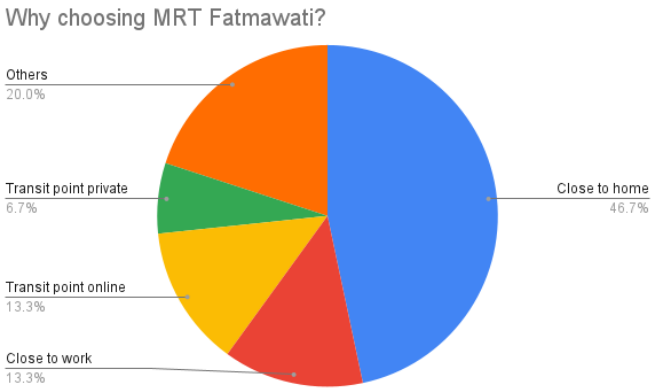


Figure 23. Reasons for choosing Fatmawati Indomaret MRT Station as a transit point and additional preferences (%).

Of the 5 major categories identified prior to fieldwork for using Fatmawati MRT station, a majority of users identified proximity to their home as the primary reason, supported by additional supplementary interviews. A large portion of respondents reported choosing the station as a convenient transit point for onward journeys using either online or personal transportation, with a smaller number reporting working nearby. The second largest group of respondents fell into none of the major categories, suggesting additional reframing of research questions may be necessary to better understand station user choices.

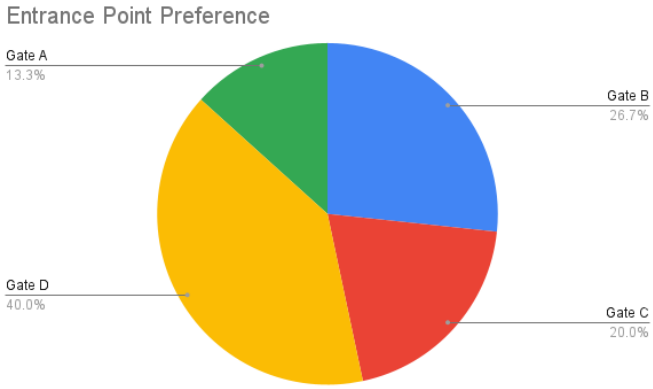


Figure 24. Entrance point preferences of MRT passengers (%).

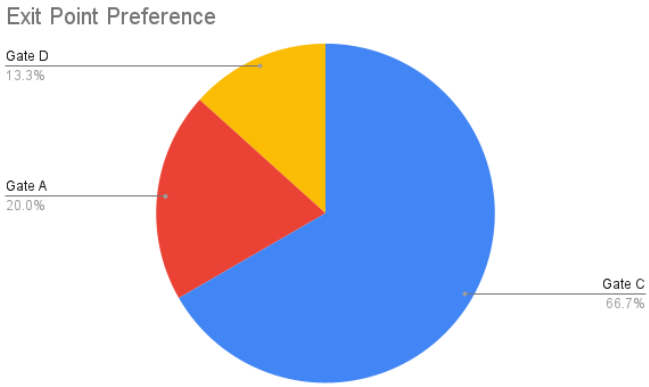


Figure 25. Exit point preference for MRT passengers (%).

The most common entrance point was gate D, followed by gate B, both of which have escalator facilities for arriving passengers. The limited use of gate D as an exit point likely reflects the aforementioned traffic conditions and informal *ojol* management system, where customers are more frequently dropped-off. The close proximity of gate B & C, both of which are located in utilisation Zone C, if combined would constitute the most utilised station access for both entering and leaving. Each of gate B & C serve an individual function within the transit system, with passengers entering the station more often via gate B's escalator (where it is not possible to exit), and exiting via gate C to transit to and *ojol.* Gate A was the least popular choice, however this also reflects the fact that people using the informal 'shortcut' Route A2 were often in a rush, with no time to answer survey questions.

> ***"It's easy to get an ojol here, and because it's always busy I feel safe waiting by the roadside."***
> *Passenger (female), Zone C*

c) Qualitative Interview Responses Regarding Condition of the Station Area

Survey respondents were additionally asked to give their opinions regarding the condition of the Fatmawati Indomaret MRT station area as users, and their recommendations for how it might be improved.

Table 2. Summary of Key Station User Interview Themes

No.	Question	Summary of Answers
1	What do you like about the Fatmawati Indomaret MRT station area?	Easy access to everywhere via onward transit Many vendors Easy to get an *ojol*, Clean, neat and comfortable, The layout and facilities
2	What do you not like about the Fatmawati Indomaret MRT station area?	Difficult road crossing Confusing, needs more signage No seats in waiting areas Not shaded (exposed to heat and rain) Gates without escalators are difficult for the elderly Traffic jams during rush hour Gate A is dark at night
3	Advice for the future of Fatmawati Indomaret MRT station area	Improve safety A transit waiting area with a roof and seats Need an online transportation pick-up point Add a pedestrian bridge for gate A [*Route A2*] Signage and regulations for all stakeholders Lighting facilities, adding lights at several points Parking in the station area
4	Specific advice for the unused brownfield site beneath the elevated toll	Because it is quite and large, a guard or station officer can be added, plus lights and a bypass/shortcut. Adding lighting and activities (Example: a marketplace to make it more lively and crowded) A photo spot area, to increase the level of activity Improved shortcut access, lighting Facilities for seniors/elderly A garden, seats and lighting Parking / *ojol* transit facilities because of the large size

2: Local Residents

a) Local Resident Respondent Profiles

14 residents from the local area were interviewed to collect information about the station area, how it is used by a variety of stakeholders. This included 7 residents from *Jl. Taman Cilandak Raya*, and 7 residents from *Kampung Banjarsari*.

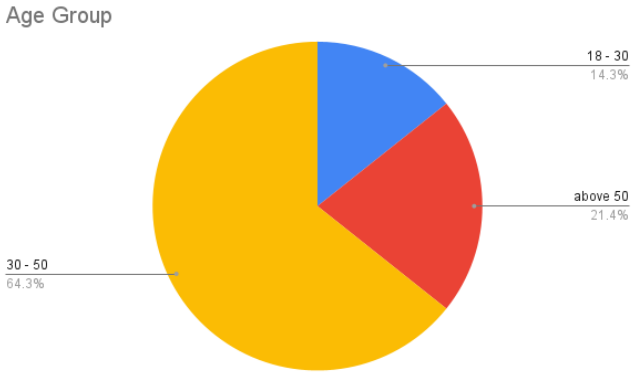


Figure 26. Age group of residents, Taman Cilandak Raya and Kampung Banjarsari (%).

The age profile of local residents trended higher than the average for station users, with a large majority over the age of 30 years and a significant minority over the age of 50, corresponding to supplementary reports by the local village association head (*RW*) of *Kampung Banjarsari* that the population is mostly of advanced age. This might explain why the local residents who were surveyed rarely, if ever, use the MRT network itself.

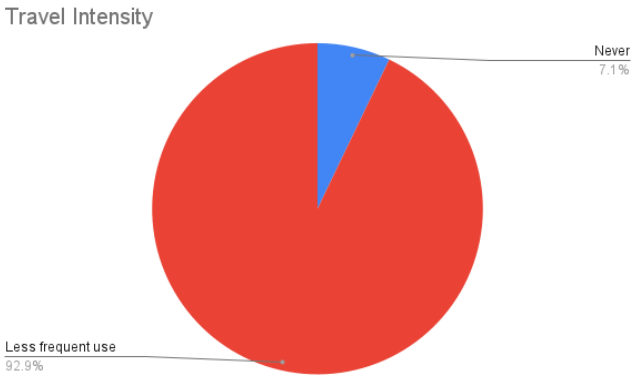


Figure 27. Travel intensity for residents, Taman Cilandak Raya and Kampung Banjarsari (%).

"On the weekends I don't even open, because it's so quiet around the station. Most of the passengers are office workers, I think, so the commuter lifestyle helps our business a lot."
Isrofah, Gado-gado Vendor, Zone C

b) Qualitative Interview Responses Regarding Condition of the Station Area

Survey respondents were asked to give their opinions regarding the condition of the Fatmawati Indomaret MRT station area, its impact on their neighbourhood, and their recommendations for how it might be improved or have a positive impact on their daily lives.

Table 3. Summary of Key Local Resident Interview Themes

No.	Question	Summary of Answers
1	What are the positive impacts of the MRT station on the local neighbourhood?	Improved transport access, better destination choices Fast, time efficient Easy to reach the city centre in particular It has made the local area more crowded, helping support local businesses
2	What are the negative impacts of the MRT station on the local neighbourhood?	None Some deserted, underutilised areas The streets are busier (but used to it by now) Drainage problems, flooding since the station opened (*Jl. Taman Cilandak Raya*) Traffic jams, congestion Difficult to cross the main road because of fencing
3	What advice do you have for improving the station area?	Additional security or station officer post CCTV, especially in the dark underside of the bridge Escalator for gate A Clear signage to prevent confusion Special parking/waiting zones for motorcycles, motorbikes, cars A meeting point with seats Improved access to gate A Vending space around the station area, not yet allocated
4	Specific advice for the unused brownfield site beneath the elevated toll.	Security post and guard Added lights and lighting to make it more secure Alternative access because the current route is too far Canteen, market or other activities to make it more crowded and not intimidating

In general, local residents perceived the station as having a positive impact on their lives, including as a strategic transport option and because it draws increased pedestrian traffic to local businesses in the area, particularly during construction/early operation when there were many construction workers. At the same time, respondents reported increased congestion from *ojol,* online taxis and other transit options waiting in key strategic locations, while other areas remained largely deserted. Respondents from the *Taman Cilandak* neighbourhood reported that station construction had damaged the local drainage infrastructure and caused increasingly frequent and severe flood events.

> ***"It floods here sometimes after heavy rain, because the drainage system doesn't flow properly and the water has nowhere to go, and floods our houses. Congestion in the evenings used to bother me, but I'm used to it now."***
> *Ida, Mie Ayam Vendor, Zone C*

Local residents had largely come to terms with these new circumstances, and had adjusted their lives accordingly, however many had recommendations for improving the station area. For residents of *Kampung Banjarsari* in particular, residents identified improved station access, including escalator facilities, lighting, and security for gate A as making it a more attractive option for them, shortening their pedestrian journeys which primarily utilise gate D. Residents of *Taman Cilandak* were more preoccupied with the congestion in their local area, and would prioritise effective signage and management for onward transit options and street vendors, including allocated spaces for them to establish informal enterprises and benefit from the presence of the station.

> ***"It can get congested in the evenings, which can be annoying but I'm already used to it. I hope there will be a special parking area for ojol so they don't disrupt the local area."***
> *Bu Isrofah, Gado-gado Vendor, Zone C*

Optimising Stakeholder Utilisation at Fatmawati Indomaret MRT

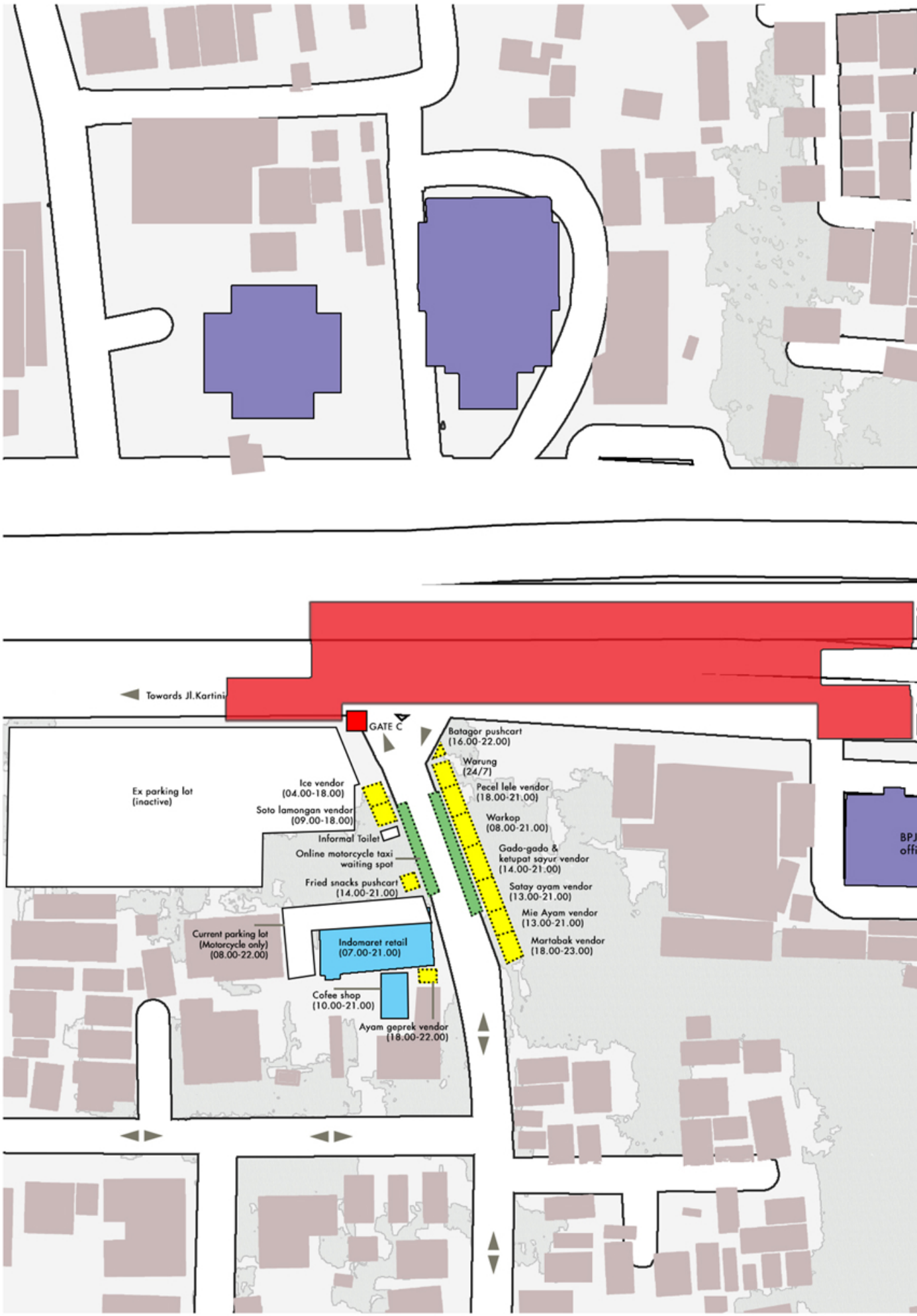
It is clear from the results of qualitative interviews that respondents are generally satisfied with the layout and functionality of the Fatmawati Indomaret MRT station area, particularly in terms of its strategic location and clean, modern facilities. At the same time, it also indicates significant potential for improving the experience of pedestrian journeys to, from and around the station. The significance of Fatmawati Indomaret MRT as a major transit point means that improvements to the ojol-transit experience are a high priority for many respondents, which include dedicated waiting facilities/shelters for both drivers and passengers.

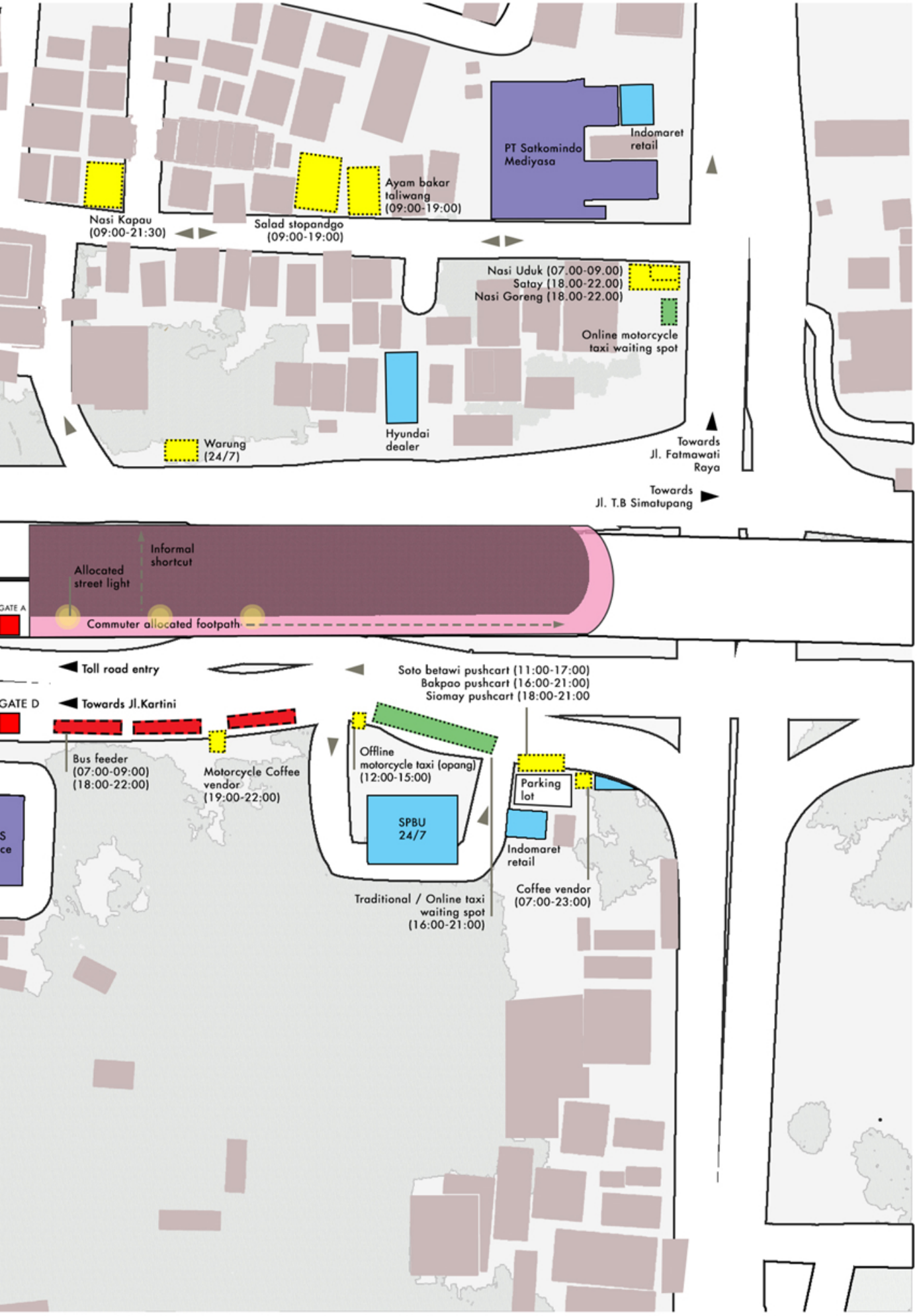
Furthermore, clear, formal regulations regarding appropriate utilisation of strategic spaces by different stakeholders could help reduce congestion and contestation of space while assisting each stakeholder group in fulfilling their specific needs. These regulations should mirror as closely as possible extant informal utilisation regimen in order to secure cooperation and facilitate adoption by different stakeholder groups, in particular *ojol* drivers, taxis, and informal enterprises, each of which prioritises space in their interaction with customers.

> ***"I haven't really felt the (positive) impacts of the MRT station. It's not that much busier than before really, especially since the pandemic, so it's difficult to say what's changed."***
> *Mumu, Banjarsari Resident*

In particular, the underutilised Zone A has enormous potential to be better integrated within the station itself and the wider urban environment, especially the nearby residential neighbourhoods. Corresponding to the divergent passenger/pedestrian profiles outlined previously, the unused brownfield site could be developed into a functional piece of transit-oriented or social-recreational infrastructure, or a combination of these. The most urgent need is to review pedestrian access via the informal shortcut Route A2, which at the current time poses a significant risk of danger and disruption to a range of stakeholders in the station area. Survey respondents identified the need for formalised infrastructure in the form of a dedicated pedestrian crossing or footbridge for those in a hurry to reach the station, and the provision of lighting to improve accessibility and comfort for users.

The extent to which this brownfield site can be transformed into a valuable piece of station infrastructure depends on complex negotiations between a broad range of stakeholders, including government institutions, private sector partners and locals. Its effective integration as a secondary transit point for *ojol* and other transportation options, a marketplace for informal traders, or a recreation area for local residents and other station users needs to be considered in the context of the wider urban environment, but should be a key priority for the ongoing development of Jakarta's transport-oriented development in the medium-long term.


Towards Jl.Kartini
GATE C
Ex parking lot
(inactive)
Ice vendor
(04.00-18.00)
Soto lamongan vendor
(09.00-18.00)
Informal Toilet
Online motorcycle taxi
waiting spot
Fried snacks pushcart
(14.00-21.00)
Current parking lot
(Motorcycle only)
(08.00-22.00)
Indomaret retail
(07.00-21.00)
Cofee shop
(10.00-21.00)
Ayam geprek vendor
(18.00-22.00)
Batagor pushcart
(16.00-22.00)
Warung
(24/7)
Pecel lele vendor
(18.00-21.00)
Warkop
(08.00-21.00)
Gado-gado &
ketupat sayur vendor
(14.00-21.00)
Satay ayam vendor
(13.00-21.00)
Mie Ayam vendor
(13.00-21.00)
Martabak vendor
(18.00-23.00)


PT Satkomindo Mediyasa
Indomaret retail
Ayam bakar taliwang (09:00-19:00)
Salad stopandgo (09:00-19:00)
Nasi Kapau (09:00-21:30)
Nasi Uduk (07.00-09.00)
Satay (18.00-22.00)
Nasi Goreng (18.00-22.00)
Online motorcycle taxi waiting spot
Hyundai dealer
Warung (24/7)
Towards Jl. Fatmawati Raya
Towards Jl. T.B Simatupang
Informal shortcut
Allocated street light
Commuter allocated footpath
Toll road entry
Towards Jl.Kartini
Soto betawi pushcart (11:00-17:00)
Bakpao pushcart (16:00-21:00)
Siomay pushcart (18:00-21:00
Offline motorcycle taxi (opang) (12:00-15:00)
Bus feeder (07:00-09:00) (18:00-22:00)
Motorcycle Coffee vendor (19:00-22:00)
SPBU 24/7
Parking lot
Indomaret retail
Coffee vendor (07:00-23:00)
Traditional / Online taxi waiting spot (16:00-21:00)

Rame Rame Jakarta
Jalan Tebet Timur Dalam Raya No.6a
South - Jakarta, Indonesia