

CHAPTER II

GENERAL OVERVIEW OF THE DEVELOPMENT OF MRT JAKARTA

2.1 General Overview of DKI Jakarta

Jakarta, the largest city in Indonesia, is located on the northwest coast of Java Island (Firman, 2017). The city covers approximately 664 square kilometers and serves as the political, economic, and cultural hub of Indonesia (BPS Jakarta, 2023). Jakarta is bordered by the Java Sea to the north, West Java province to the south and east, and Banten province to the west (Hudalah & Firman, 2012). The city has an average elevation of about 8 meters above sea level, making it highly vulnerable to flooding, especially during the monsoon season (Abidin et al., 2015).

As of 2020, Jakarta had an estimated population of 10.56 million people, with a density of around 15,900 people per square kilometer, making it one of the most densely populated cities in the world (BPS Jakarta, 2021). The city is part of the Jakarta metropolitan area, commonly known as Jabodetabek, which had a total population of over 31 million people in 2020 (Firman, 2020). The rapid growth of Jakarta's population has created various socio-economic challenges, including housing shortages, traffic congestion, and environmental degradation (Rukmana, 2020). Informal settlements, or "kampungs," house a significant portion of the urban population, highlighting stark disparities between affluent neighborhoods and underprivileged areas (Silver, 2008).

Transportation in Jakarta is characterized by a complex network of private and public transport modes, including buses, commuter trains, and the Mass Rapid Transit (MRT) system (Susilo et al., 2017). In 2018, approximately 23.4 million trips were made daily in Jakarta, with about 60% of residents relying on motorcycles for their commute (Joewono & Kubota, 2020). Despite the availability of public transport options such as the TransJakarta Bus Rapid Transit (BRT) system and commuter rail services, Jakarta experiences chronic traffic congestion due to the high volume of private vehicle ownership and insufficient road infrastructure (Utami et al., 2020). Studies indicate that Jakarta's traffic congestion costs the city around IDR 65 trillion annually in lost productivity and fuel consumption (Widyarini, 2019).

The central government plays a crucial role in Jakarta's urban development, particularly in major infrastructure projects and regulatory oversight. Through institutions such as the Ministry of Transportation and the National Development Planning Agency (Bappenas), the central government provides funding, policy direction, and strategic planning to address Jakarta's long-term urban challenges. National regulations and policies influence transportation planning, flood mitigation strategies, and economic development efforts in Jakarta.

Meanwhile, the DKI Jakarta provincial government is responsible for the day-to-day governance of the city, including urban planning, public transportation management, and local policy implementation. The Jakarta Transportation Agency (Dishub DKI Jakarta) oversees public transport operations, while PT MRT Jakarta and

TransJakarta manage rapid transit systems. The local government has introduced policies such as the odd-even traffic regulation and various infrastructure projects aimed at improving urban mobility. Additionally, it collaborates with the central government on national strategic projects, such as the expansion of the MRT and flood control initiatives.

In response to Jakarta's urban challenges, both levels of government must coordinate effectively to implement integrated transportation solutions, sustainable urban policies, and infrastructure development. While the central government provides overarching policy frameworks and funding, the DKI Jakarta government ensures that policies are adapted to local needs and implemented efficiently. However, challenges such as bureaucratic inefficiencies, overlapping regulations, and inconsistent policy execution continue to hinder Jakarta's sustainable urban development (Firman et al., 2021).

2.2 General Overview of MRT Jakarta

The Jakarta Mass Rapid Transit (MRT) system is one of the most ambitious and transformative transportation projects in Indonesia, designed to ease Jakarta's severe traffic congestion and improve urban mobility. The system was conceived to provide a sustainable alternative to the city's dependence on cars and motorcycles, offering a high-capacity public transit solution for commuters in the rapidly growing metropolis (Suryantini et al., 2020). The MRT project is expected to be a key part of Jakarta's

efforts to modernize its public transportation system and reduce pollution levels, aligning with broader goals of environmental sustainability (Iskandar et al., 2021).

The concept for an MRT system in Jakarta dates back to 1985, when then-Head of the Agency for the Assessment and Application of Technology (BPPT), B.J. Habibie, proposed a rapid transit system for the city. The idea was revisited in the 1990s as Jakarta's traffic problems worsened, leading to feasibility studies conducted in partnership with international consultants (Gani et al., 2019). However, the Asian financial crisis in 1997-1998 delayed the project's implementation due to funding constraints (Kusno, 2019). It wasn't until the early 2000s that the Indonesian government, under President Susilo Bambang Yudhoyono, revived the MRT project as a national priority, with financial backing from the Japanese government (Tarmidi, 2018). In 2005, the MRT project officially received the status of a national strategic infrastructure project, allowing for planning and early-phase funding to commence (Susilo et al., 2017).

Construction for the MRT Jakarta began in 2013, with the first phase covering a 16-kilometer route from Lebak Bulus to Bundaran HI, with 13 stations and a depot (PT Jakarta MRT, 2020). Phase I of the project was inaugurated in 2019, marking the first modern rail-based public transport system in Jakarta (Bappenas, 2020). The MRT Jakarta system is designed to carry up to 400,000 passengers per day, significantly improving public transport capacity in the city (Tarmidi, 2018). The MRT is a part of the broader vision for an integrated urban transport system, which also includes the

TransJakarta Bus Rapid Transit (BRT) and the commuter rail network (Suryantini et al., 2020).

The objectives of the Jakarta MRT project are multifaceted, focusing not only on improving public transportation but also on addressing key environmental and socio-economic challenges faced by the city. The MRT aims to reduce reliance on private cars and motorcycles, which are major contributors to traffic congestion and air pollution (Iskandar et al., 2021). The project also seeks to enhance Jakarta's business environment by improving connectivity, making the city more attractive to investors and encouraging sustainable urban development (Gani et al., 2019). The MRT is integral to the city's long-term strategy of reducing its carbon footprint and promoting a more livable, efficient urban space (Susilo et al., 2017).

One of the key purposes of the MRT in Jakarta's urban transportation system is to reduce traffic congestion, which is a critical issue in the city. Jakarta ranks among the cities with the worst traffic jams in the world, with an average commuter spending over 60 minutes in traffic daily (Utami et al., 2020). The MRT provides an efficient alternative to the increasingly crowded streets, offering a high-speed, high-capacity mode of transport (Bappenas, 2020). The system is also intended to support transit-oriented development (TOD), encouraging the growth of residential, commercial, and mixed-use developments around MRT stations, which is expected to further alleviate congestion and promote economic development (Suryantini et al., 2020).

In addition to its role in reducing traffic and supporting urban development, the MRT plays a significant part in improving the quality of life for Jakarta's residents. By providing a reliable and affordable transportation option, the MRT helps to improve access to jobs, education, and healthcare, contributing to the overall socio-economic development of the city (Iskandar et al., 2021). The MRT also offers a safer, more comfortable alternative to crowded buses and motorcycles, which are often prone to accidents and pollution (Susilo et al., 2017).

The Jakarta MRT project is a critical step toward modernizing Jakarta's public transportation system, reducing traffic congestion, and improving the quality of life for its residents. With the first phase operational and subsequent expansions planned, the MRT is poised to become a cornerstone of Jakarta's urban mobility strategy, fostering a more sustainable and integrated transportation network (Kusno, 2019).

The development of the Jakarta MRT is ongoing, with continuous efforts to expand and improve the system to meet the growing needs of the city's population. As of 2023, the first phase of the MRT, which connects Lebak Bulus to Hotel Indonesia Roundabout, has been fully operational and serves as a major backbone of Jakarta's public transport network (PT Jakarta MRT, 2020). The system's success in Phase I has led to the accelerated development of subsequent phases aimed at further enhancing connectivity across the city.



Picture 2. MRT Jakarta Map

Currently, Phase II of the MRT Jakarta project is under construction, which will extend the line from Hotel Indonesia Roundabout to Kampung Bandan in the northern part of the city. This extension will add another 8 kilometers to the network and is expected to be completed by 2025 (Bappenas, 2023). Phase II will significantly improve the coverage of the MRT system, providing crucial access to northern Jakarta, which is an area historically underserved by public transportation. This phase is part of the broader plan to create an integrated multi-modal transport system in Jakarta, linking the MRT with TransJakarta buses, commuter rail services, and the planned Light Rail Transit (LRT) system.

In addition to expanding the network, the MRT Jakarta project is focused on improving infrastructure and service quality. The government has committed to enhancing facilities around MRT stations, including better pedestrian access, integrated ticketing systems, and the development of transit-oriented hubs to encourage sustainable urban growth (Gani et al., 2019). The government is also working on extending the MRT system's operating hours and increasing train frequency to accommodate the growing number of daily commuters (Iskandar et al., 2021). The overall goal is to make the MRT a competitive alternative to private vehicles, providing a reliable, fast, and comfortable option for Jakarta residents.

Despite these advancements, the MRT development has faced challenges, particularly with respect to funding, construction delays, and coordination among various stakeholders (Kusno, 2019). The project has required significant financial investments, with both the Indonesian government and international partners like Japan contributing to the funding (Susilo et al., 2017). Additionally, the integration of the MRT with other transportation systems, such as TransJakarta and commuter lines, has posed logistical challenges that have slowed the pace of development (Suryantini et al., 2020).

Looking ahead, the completion of Phase II will provide further momentum for the continued development of Jakarta's MRT system. The long-term plan includes the development of additional MRT lines that will further extend the network throughout the city and metropolitan area, with a total of six lines proposed to be built by 2030

(Bappenas, 2023). These expansions are expected to address the city's growing transportation needs and contribute to Jakarta's goal of becoming a more sustainable, liveable urban center.

2.3. Types of Policies of MRT Jakarta

The development of the Jakarta Mass Rapid Transit (MRT) system is guided by a comprehensive set of policies aimed at improving urban mobility, reducing traffic congestion, and promoting sustainable city growth. At the national level, the National Medium-Term Development Plan (RPJMN) 2020-2024 highlights the importance of mass transportation systems in urban areas, with the Jakarta MRT being a flagship project reflecting the government's commitment to modernizing transit infrastructure. Similarly, at the regional level, the Jakarta Regional Medium-Term Development Plan (RPJMD) 2017-2022 aligns with national objectives by outlining strategies to develop an integrated public transportation network, in which the MRT plays a central role in providing reliable and efficient transit options for residents. These strategic plans demonstrate the importance of the MRT in shaping Jakarta's long-term urban development goals.

The legal and regulatory framework supporting the MRT project further facilitates its development and implementation. Presidential Regulation No. 98 of 2015 designates the Jakarta MRT as a National Strategic Project, expediting its progress through streamlined procedures and prioritized resource allocation. Meanwhile, at the local level, Jakarta Governor Regulation No. 55 of 2020 provides urban design

guidelines for Transit-Oriented Development (TOD) in key areas such as Blok M and Sisingamangaraja. These policies promote the development of mixed-use spaces that integrate residential, commercial, and recreational facilities with MRT stations, contributing to the creation of more accessible and sustainable urban environments (Antaranews, 2024).

A key element of the MRT Jakarta project is the implementation of Transit-Oriented Development (TOD) policies, which aim to optimize land use around MRT stations and encourage mixed-use development to reduce reliance on private vehicles. The TOD Master Plan outlines strategies to create integrated urban spaces that promote walkability and accessibility. Collaborations between PT MRT Jakarta and international agencies, such as the Agence Française de Développement (AFD), further support TOD initiatives, with significant funding allocated to projects along the North-South MRT corridor (Antaranews, 2024). These efforts are expected to enhance connectivity and foster economic growth by creating vibrant transit hubs across the city.

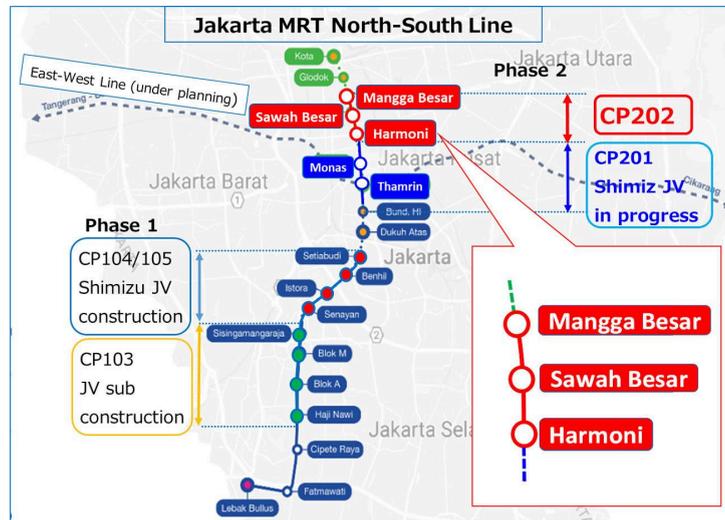
Environmental and social policies have also been integral to the MRT Jakarta's development. Comprehensive Environmental Impact Assessments (EIA) are conducted to ensure compliance with national environmental regulations and mitigate potential adverse effects arising from construction and operations. Additionally, community engagement initiatives play a crucial role in involving local stakeholders in the planning process, ensuring that the MRT system meets the needs of Jakarta's diverse population and fosters public support. These policies are crucial in promoting the sustainability and

long-term success of the MRT project by balancing economic development with environmental responsibility and social inclusion.

Overall, the policies guiding the Jakarta MRT development reflect a multidimensional approach that addresses the city's urgent transportation challenges while supporting broader goals of sustainable urban development. By integrating strategic national and regional planning, regulatory support, TOD principles, and environmental and social considerations, the MRT Jakarta aims to transform the city's transportation landscape and contribute to its long-term growth and livability.

2.4. Development of MRT Jakarta Phase II

The development of MRT Jakarta continues to progress as the city strives to enhance its public transportation infrastructure to meet growing demand and urbanization challenges. The first phase of the MRT, which covers the North-South corridor from Lebak Bulus to Bundaran HI, became fully operational in 2019 and has since served as a vital backbone of Jakarta's public transit network. Currently, efforts are focused on the construction of the second phase, which aims to extend the existing line northward to Kota, connecting key areas and improving accessibility across the city. This expansion is divided into two sub-phases: Phase 2A, which will extend the line from Bundaran HI to Kota, and Phase 2B, which will push further to Ancol. Construction for Phase 2A is underway, with stations being built at strategic locations such as Thamrin, Monas, and Harmoni.



Picture 3. Jakarta MRT North-South Line Construction Plan

According to PT MRT Jakarta, the development of Phase 2 of the MRT Jakarta has begun since 2021. The project spans 11.8 kilometers from the Bundaran HI area to Ancol Barat. Phase 2 is a national strategic project based on Presidential Regulation Number 56 of 2018, which amends Presidential Regulation Number 3 of 2016 regarding the acceleration of the implementation of national strategic projects. Additionally, the Governor of the Special Capital Region of Jakarta's Decree Number 1713 of 2019 on the Amendment of Governor's Decree Number 1728 of 2018 concerning the Determination of Locations for the Construction of the Mass Rapid Transit (MRT) Corridor Bundaran HI—Kota serves as the foundation for the establishment of routes and stations for Phase 2A. Phase 2 consists of two stages: Phase 2A and Phase 2B. Phase 2A includes seven underground stations (Thamrin, Monas, Harmoni, Sawah

Besar, Mangga Besar, Glodok, and Kota) with a total track length of about 5.8 kilometers. Meanwhile, Phase 2B consists of two underground stations (Mangga Dua and Ancol) and a depot at Ancol Marina, with a total track length of approximately six kilometers. Phase 2B is currently in the feasibility study stage. As of December 2024, the progress for CP 201 (Thamrin - Monas) is 84.45%, CP 202 (Harmoni, Sawah Besar, and Mangga Besar) is 43.98%, and CP 203 (Glodok - Kota) is 66.23%. The target for operational readiness for Phase 2A is 2027, while Phase 2B is expected to be ready by 2029 (PT MRT Jakarta, 2024).

PT MRT Jakarta, the state-owned enterprise responsible for overseeing the project's construction, operation, and maintenance, plays a pivotal role in ensuring the long-term sustainability of the MRT system. Established in 2008, PT MRT Jakarta operates under the authority of the Jakarta provincial government and has been tasked with developing Jakarta's modern rail-based transportation system. The company works closely with national and international partners to secure funding, manage project execution, and ensure operational efficiency. Given the complexity of the MRT project, PT MRT Jakarta coordinates with various stakeholders, including the central government, provincial government, and private sector entities, to streamline project development and address financial, technical, and regulatory challenges.

The MRT project is primarily financed through an Official Development Assistance (ODA) loan from the Japan International Cooperation Agency (JICA), a governmental agency that provides financial and technical support for infrastructure

development in developing countries. The ODA loan, facilitated through JICA, has been a key enabler of Jakarta's MRT expansion, ensuring that the project receives the necessary capital investment for construction and technology transfer. The financial structure of the MRT project follows a 51%-49% cost-sharing model, where 51% of the funding is covered by the Jakarta provincial government through an on-granting system, while 49% is financed by the central government through an on-lending mechanism.

The involvement of JICA has also introduced high technical standards and expertise into the MRT's construction, ensuring that the system meets international best practices for urban rail infrastructure. However, the reliance on ODA funding has introduced certain bureaucratic and regulatory constraints, as all procurement processes must align with Japan's parliamentary approval system. This has led to delays in fund disbursement and project execution, as approvals from Japanese authorities must be secured before loan installments can be released. Additionally, ODA financing comes with specific requirements, such as the use of Japanese contractors and technology, which influences the procurement and implementation strategies of the MRT project.

Beyond Phase 2, the government has laid out plans for an East-West corridor to further enhance connectivity. This proposed expansion, known as Phase 3, is designed to link Jakarta's eastern and western regions, offering a comprehensive network that aligns with the city's broader transportation master plan. Feasibility studies and land acquisition processes are currently ongoing, with financial backing being sought from international institutions such as JICA and other potential investors (Jakarta Post, 2024).

fares for passengers. PT MRT Jakarta and the Jakarta provincial government are actively working to address these challenges through strategic partnerships and policy interventions, ensuring the long-term viability of the project (Kompas, 2024).

Overall, the current development of MRT Jakarta represents a critical step in transforming the city's transportation infrastructure. With continued government support, collaboration with international partners such as JICA, and strategic urban planning efforts, the MRT is poised to play a central role in Jakarta's efforts to become a more sustainable and connected metropolis.