

Advancing Open Loop Transit System in High Volume Emerging Market



Note: Figure and scale are illustrative and may vary across industry



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Division Head of Operation Quality	(2025 – Now)
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Head of Railway Maintenance	(2021 – 2022)

A Transportation practitioner who designed the integration strategy with experiences in precision of daily operations and Quality safety of the system.



The Future of Urban Mobility in Jakarta

Jakarta is one of the largest metropolitan areas in the world, with over 42 million people in the greater metropolitan region as UN report in 2025. As the city grows, the need for integrated, accessible, and frictionless public transport becomes increasingly critical. Public transport is not only about moving people – it is about building a connected urban ecosystem.

Rank	City	Country	Estimated Population
1	Jakarta	Indonesia	± 41.9 - 42 Million
2	Dhaka	Bangladesh	± 36.6 - 40 Million
3	Tokyo	Japan	± 33 - 33.4 Million
4	Delhi	India	± 33.1 Million
5	Guangzhou	China	± 27.2 Million
6	Mumbai	India	± 26.0 Million
7	Manila	Philippines	± 24.1 Million
8	Shanghai	China	± 23.8 Million
9	Sao Paulo	Brazil	± 22.8 Million
10	Seoul	South Korea	± 22.7 Million

Jakarta overtakes Tokyo as world's most populous city, according to UN

The rankings were changed after the UN used new criteria to give a more accurate picture of the rapid urbanisation driving the growth of megacities



Indonesia's capital city Jakarta has overtaken Tokyo as the world's most populous city, according to the UN. Photograph: Pacific Press/Alamy

<https://www.theguardian.com/world/2025/nov/27/jakarta-overtakes-tokyo-most-populous-city-world>

Moving Millions: Daily Ridership Breakdown



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Jakarta already moves millions of passengers every day, but the systems still operate independently rather than as one integrated ecosystem. The challenge lies in integration.

1.1M

KCI Commuter Line

Daily ridership on Jakarta's commuter rail network

1.4M

Transjakarta BRT

Bus Rapid Transit system serving the metro area

500K

Others Micro trans

Small medium feeder for BRT and MRT LRT KCI

100K

LRT Jabodebek

Light rail connecting Greater Jakarta

130K

MRT Jakarta

Modern metro rail system

5K

LRT Jakarta

Local light rail services



The Jakarta Paradox

World's Most Densely Populated Region vs Annual Public Transportation ridership**

42M

Jakarta Metro

1.5 billion annual
ridership

33M

Tokyo

15 billion annual
ridership

9M

London

3.7 billion annual
ridership

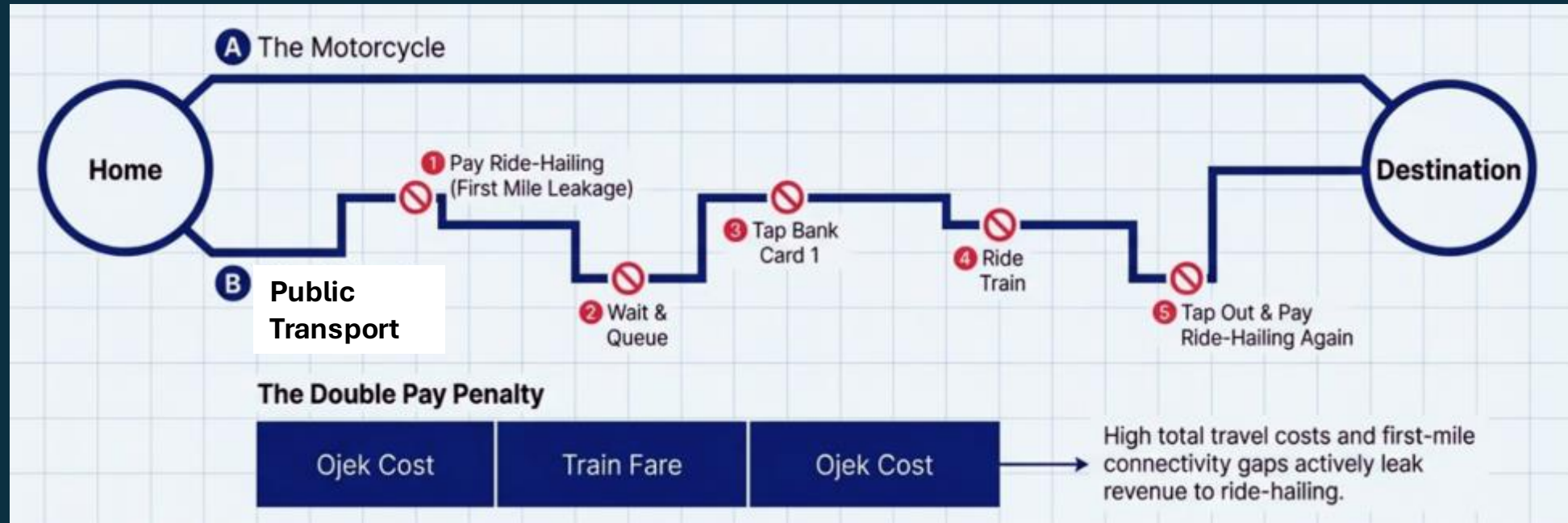
Jakarta has the population density, but public transport usage is still far below its potential. This means Jakarta holds a huge untapped ridership opportunity waiting to be unlocked.

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** Numbers based on speaker personal research

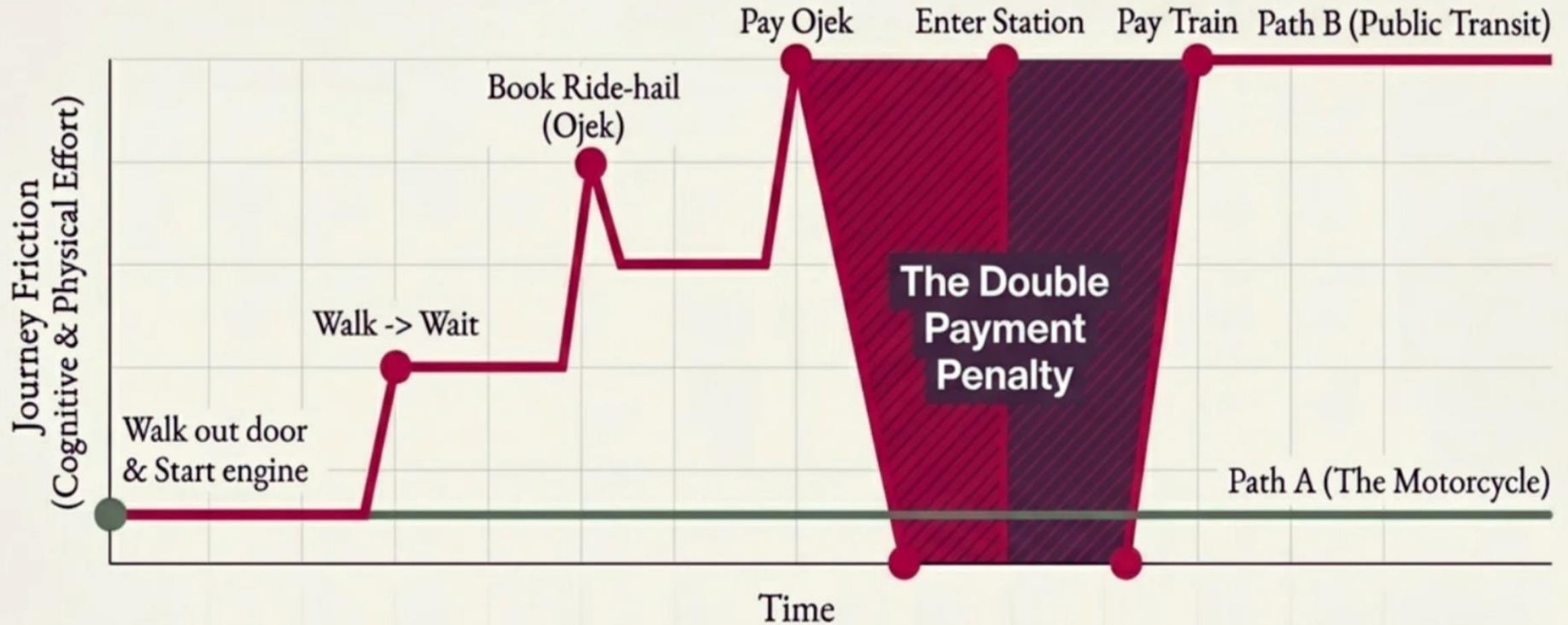
First & Last Mile Leakage

Revenue Lost to Ride-Hailing Services



Passengers often need additional transport to reach stations, paying for two transport systems instead of one. This creates extra cost, longer travel time, and reduces overall system attractiveness. First and last mile connectivity remains a critical challenge.

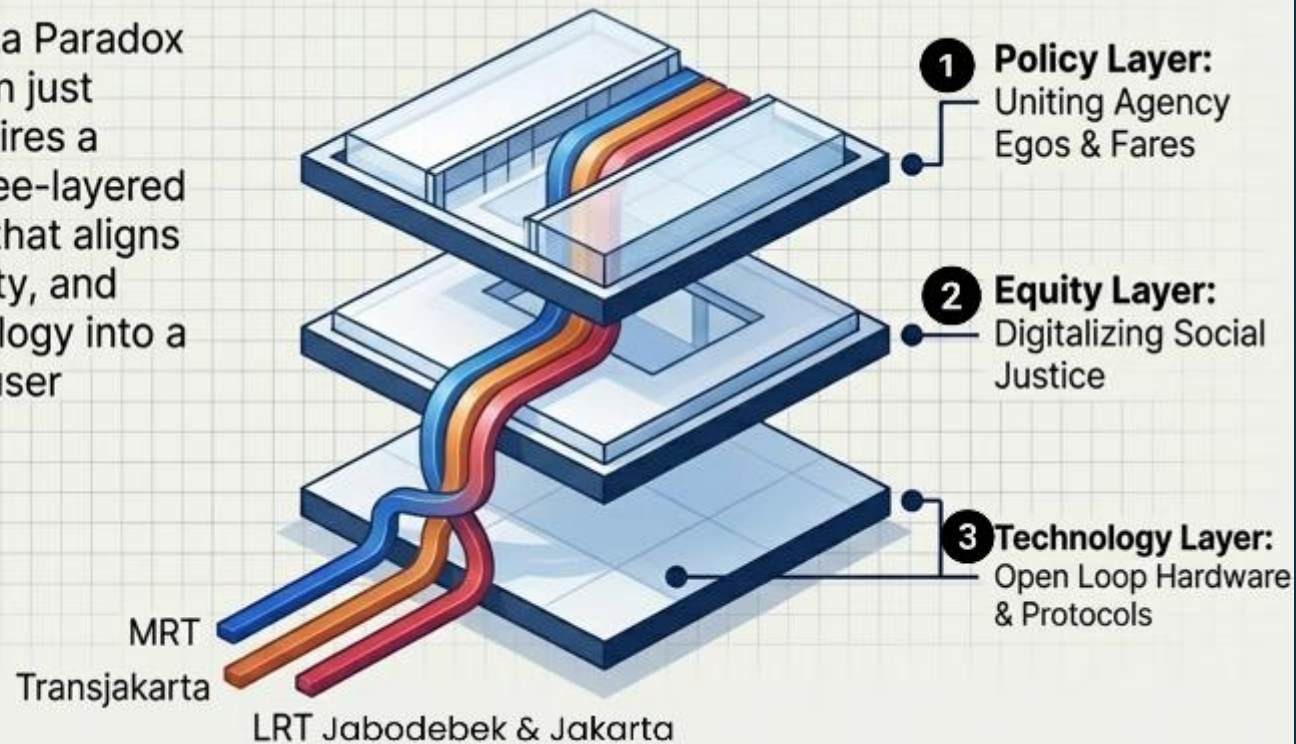
The Financial Losses Connectivity



High total door-to-door travel costs and connectivity gaps actively drive passengers away from the transit network and back to private vehicles.

The Transit Integration Layering

Solving the Jakarta Paradox requires more than just new trains. It requires a synchronized, three-layered integration stack that aligns policy, social equity, and open-loop technology into a single, seamless user experience.



Uniting the Giants: JakLingko: One Fare for All

Integrated Fare Cap

Rp 10,000 (~\$0.65) for 3 hours of travel across multiple modes

Modes Included

- **MRT**
- **LRT**
- **Transjakarta**
- **Feeder buses**

Modes Not Included

- **KCI**
- **National Railway**

This is one of Jakarta's a big milestone in transport integration. Integration is not about technology – it is about aligning multiple institutions for passenger benefit.

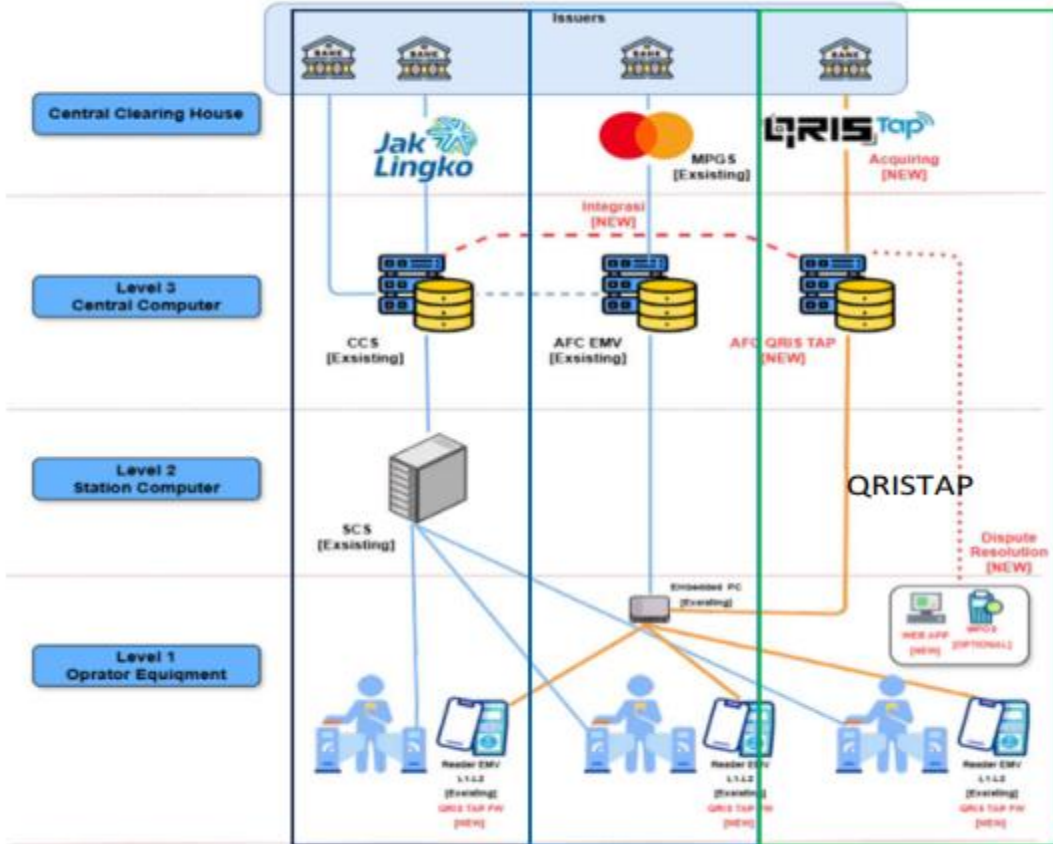
Even though only under Jakarta Government Companies that already joined this program.



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Open Loop & Account-Based Ticketing

Pay with Whatever is in Your Pocket



Flexible Payment Options but silo readers

- QRIS codes
- Mobile apps
- Contactless bank cards
- Digital wallets

Multi-Payment Systems Are Already Widely Implemented Across Jakarta Transit BRT, LRT, MRT, KCI and Micro Trans



Bank Cards	KMT	E-Wallet	Credit Card	Debit Card	Digital Banking	QRIS	Paylater	Cash
✓	✓	✓	✓	✓	✓	✓	✓	✓

Digitalizing Social Justice

Automated Subsidies for 15 Social Categories

1. DKI Jakarta Provincial Government Civil Servants and Retired Civil Servants
2. DKI Jakarta Provincial Government contract workers
3. Students who receive the Jakarta Smart Card (KJP) Plus
4. Employees earn UMP salaries through Bank DKI
5. Residents of Rusunawa
6. PKK Mobilization Team
7. Residents with Thousand Islands Region ID cards
8. Recipients of Subsidized Rice domiciled in Jabodetabek
9. Members of the TNI and Polri (army and police)
10. Army Veteran
11. People with disabilities
12. Elderly people over 60 years old
13. Administrator of a house of worship
14. Preschool Educator
15. Larval Monitoring Officer



Current Focus: Offline/Card Based

Web-Based Registration & KYC

Users register via the KLG TJ web portal to begin the identity verification process.



Centralized Database Validation

KYC data is cross-referenced against the Government/Dukcapil Database for eligibility approval.



Government/Dukcapil Database

Physical Card Issuance

Successful validation grants a physical card programmed with special or free fare rates.



Future Vision: Online/App Based



Mobile App Registration

Customers register directly through the MRT Jakarta mobile application.

Seamless Government Data Sync

Real-time validation against the Dukcapil Database ensures rapid eligibility confirmation.



Virtual Fare Access

Special fares are activated immediately within the app for use on trains and buses.

Technology ensures government support reaches the right people instantly.

Payment Fragmentation (Current Reality)



Bank Cards

Multiple banks issue separate cards with incompatible systems and separate balance tracking

QRIS & E-Wallets

Different apps with varying acceptance, not fully interoperable across all transport modes

Legacy Systems

Old transport cards with limited compatibility and declining acceptance

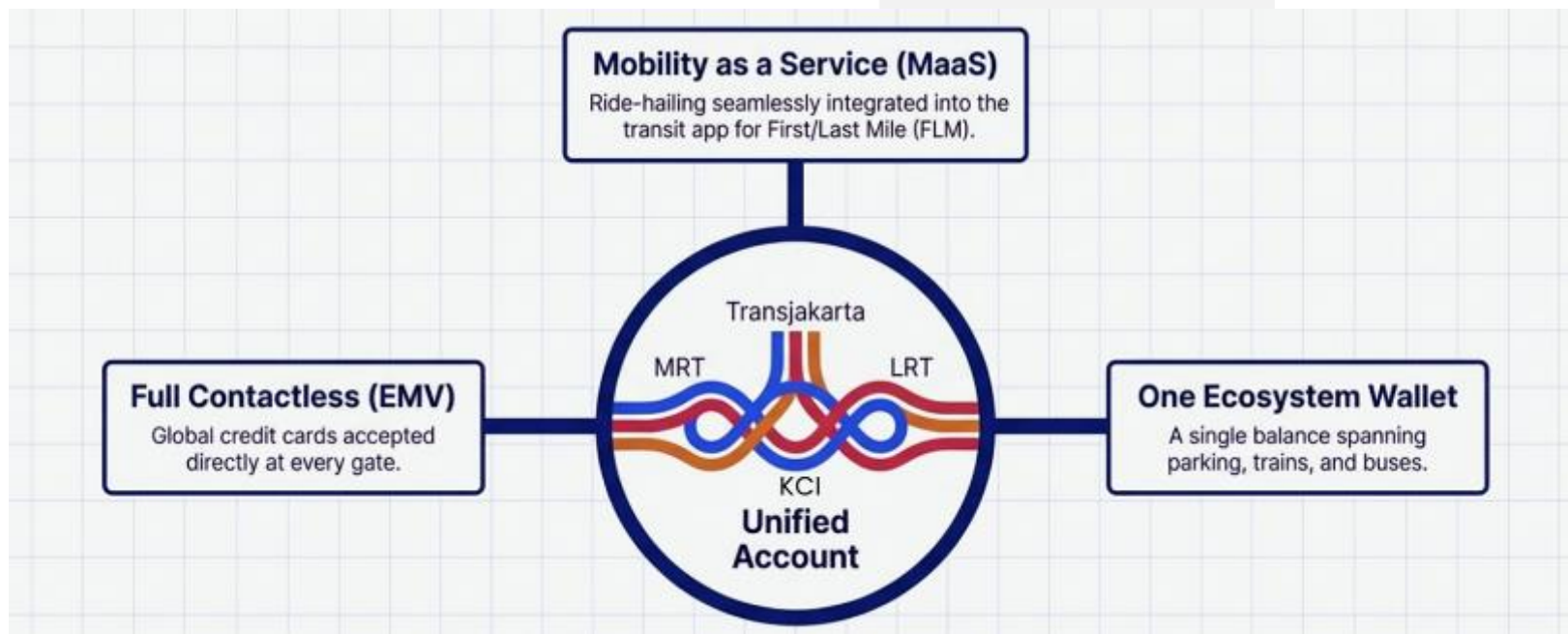
Despite our progress, the current architecture remains too complex for the casual rider. The system is still tangled




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The Future Ideas

Increasing Jakarta Mobility and Global City Index



An aerial photograph of a city, likely Jakarta, showing a dense urban environment with numerous high-rise buildings and a complex network of roads. Overlaid on the city is a stylized transit network consisting of several thick, colored lines (red, blue, yellow, and orange) that represent different transit routes. The lines are interconnected, forming a web-like structure that covers the city and extends beyond its boundaries. The background is a grayscale image of the city, which makes the colorful lines stand out prominently.

If we can unify 42 million people in the world's most complex, rapidly evolving urban environment...

...this model can scale to any transit system in the world.

Indonesia is not just catching up. We are forging the masterclass in integrated, frictionless global mobility.

Terima Kasih

Thank You

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