



Overview of Urban Transport in Indonesia



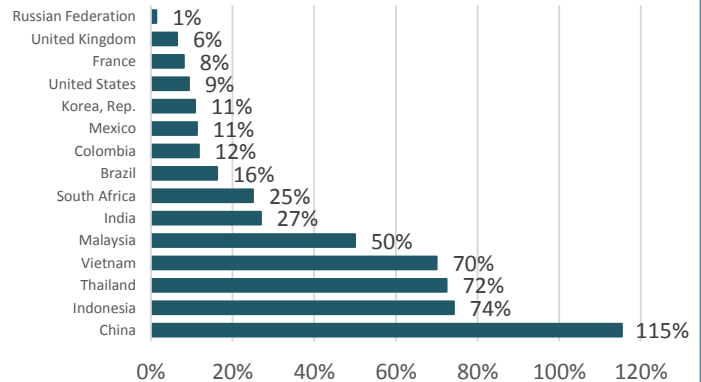
Phenomenon of Rising Urbanization in Indonesia and Across the World

Cities play a vital role in generating economic growth and prosperity. According to McKinsey's report on Urban World (2011), half of the world's population lives in cities and generating more than 80% of global GDP today. This fact corresponds to the phenomenon of urbanization which becomes the main issue and creates more challenges in future development of cities.

Urbanization occurs as countries switch sectoral composition away from agriculture to industry (Henderson, 2003). Thus, release labor from agriculture to migrate to cities. This migration spurs the urban population growth in megacities and nationwide. Among 15 countries depicted on the chart, Indonesia placed second after China, increasing by 74% between 1990 and 2015 in urbanization

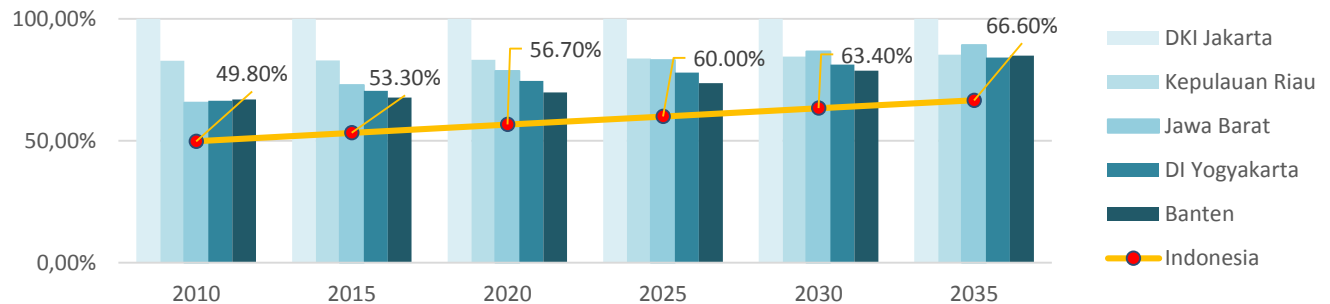
level. Indonesia is becoming one of the world's fastest-growing country in urbanization, like any other emerging markets perform in this regards, such as China, Thailand, Malaysia, India, South Africa, Brazil, Colombia, Mexico, Rep. of Korea and Russian Federation. It is predicted that the urbanization level in Indonesia will increase sharply between 2010 and 2035, from 49,8% to 66,6%. DKI Jakarta topped the chart as the most urbanized province in Indonesia, followed by Riau Islands, West Java, DI Yogyakarta and Banten.

Urban Population Growth Rate (1990-2015) (%)



Source: Urban Population, World Development Indicator (WDI), World Bank 2015

Indonesia's Urbanization Level 2010-2035 (%)

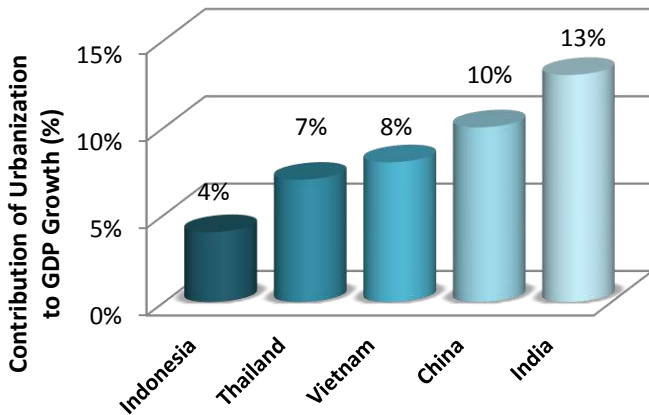


Sumber: Urban Population, World Development Indicator (WDI), World Bank (2015)
Indonesia Population Projection 2010-2035, BPS (2013)

This rapid urbanization phenomenon has occurred in tandem with economic growth, rising incomes and poverty reduction. As shown in the right graph, empirical evidence showing a cross-sectional performance of 187 countries (low, medium and high income countries), clearly shows that urbanization and economic development go hand-in-hand.

Although most of the countries are spatially concentrated on the left part of the graph, which indicates those countries have not fully leveraged the economic benefits of urbanization, yet the positive correlation between urbanization and income level is inevitable. While some countries could not perform well under the urbanization trend, some others are able to manage the rural to urban transition successfully and rapidly growing their economies, to increase incomes and to raise standard of living.

Effect of Urbanization to GDP Growth (%)

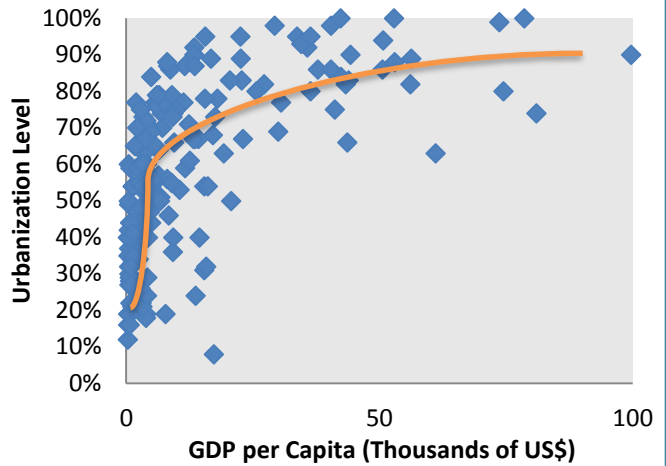


Source: Indonesia's Urban Story, World Bank (2016)

Further, the returns of rapid urbanization to economic growth of a country has divergence effect one country to another. For example, every 1% of urbanization, Indonesia achieved only 2% of GDP growth. In contrast, the gain for other countries is as higher as 7% for Thailand, while Vietnam, China and India gained 8%, 10% and 13% respectively (World Bank, 2016). Other countries have gained higher economic growth through formal employment and better labor productivity that result from urbanization.

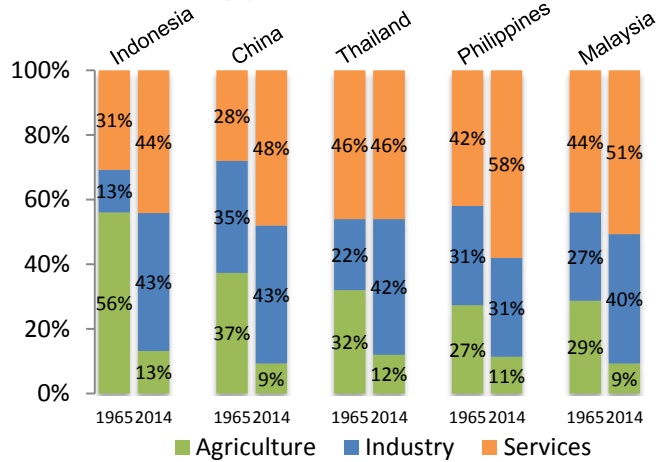
Such differentiation on the impact of urbanization to nation's economy is something that has to be dealt with the structure of the economy itself. It is uncontested that rapid urbanization and the effect to economic growth is highly correlated with structural change in a nation's

Relationship between Urbanization and Economic Development



Source: World Development Indicator (WDI), World Bank 2015

Economic Structure of Asian Emerging Markets in 1965 & 2014 (%)



Source: Indonesia's Urban Story, World Bank (2016)

economy. As the economy of a country develops, the economy shifts from agricultural sector to manufacturing and services sectors. Indonesia, for example, relied 56% of its economy in agricultural sector in 1965, which made Indonesia as one of the top agricultural producing countries in the world. In comparison, the economy has shifted to manufacturing sector (43%) and services sector (44%) in 2014.

As the world experience the industrial revolution, more and more industries are developed. The manufacturing is not the only sector that is growing rapidly, the services sectors also play an important role in global economy. Both sectors, which tend to be based in urban locations, has driven the rate of urbanization. Thus, more people are coming to cities to search for jobs and a better life.



The Cost of Urbanization



Source: Photo by Peter Hershey (www.unsplash.com)

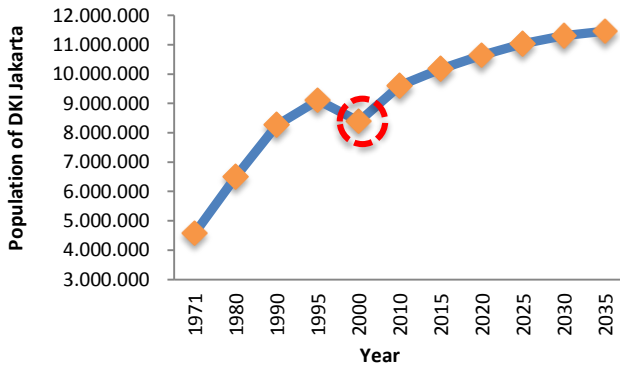
Despite the benefit of economic growth and raising incomes, urbanization could raise number of issues if it is not taken care properly. High population density, inadequate infrastructure, lack of affordable housing, air pollution, waste problems, flooding, slum creation, crime, and poverty, are a number of problems that might have arisen in the cities due to intensive urban growth. On top of that, traffic congestion is the most troublesome of all.

Traffic and Flow of Commuters in Jakarta

As in the case of Jakarta, the largest megapolitan in Southeast Asia, the overall population has grown 122% between 1971 and 2015 (BPS, 2012). However this trend did not continue as the population has fallen apart of about 853,386 people in the last 5 years before the 2nd millennium ended. The decrease of Jakarta's population in 1995-2000 was caused by the suburbanization.

The periphery of Jakarta, known as Bodetabek (Bogor-Depok-Tangerang-Bekasi), has experienced a significant increase in population and is heavily dependent on the central city where the government, corporate offices, commercial and entertainment business are located. With a total of 3,566,178 of commuters from Bodetabek to DKI Jakarta and vice versa, Jakarta has become the busiest city in Indonesia. In the daytime, total population in Jakarta has increased around 1,126,310 of people compared to its

population in the nighttime (BPS, 2015). The daily commuters use different types of transportation mode everyday to the city. Thus, overcrowding the routes, leading to slow and inefficient flow.



Source:
Penduduk Indonesia menurut Provinsi (BPS, 2012)
Proyeksi Penduduk Indonesia 2010-2035 (Bappenas, BPS, UNFPA, 2013)

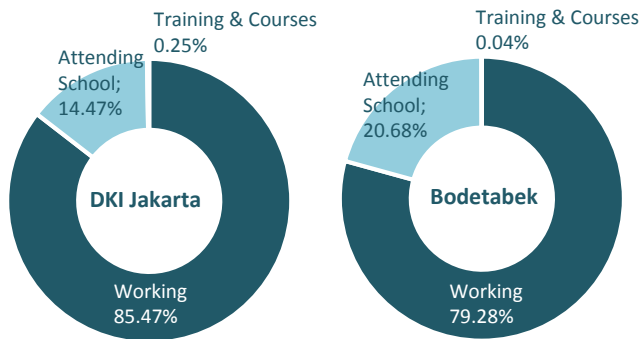
population in the nighttime (BPS, 2015). The daily commuters use different types of transportation mode everyday to the city. Thus, overcrowding the routes, leading to slow and inefficient flow.

Place of Residence	Commuters		Non-Commuters		Population	
	Total	%	Total	%	Total	%
DKI Jakarta	1,303,441	14.09%	7,945,172	85.91%	9,248,613	100.00%
Bodetabek	2,262,737	11.97%	16,635,882	88.03%	18,898,619	100.00%
Jabodetabek	3,566,178	12.67%	24,581,054	87.33%	28,147,232	100.00%

Place of Residence	Location of Commuter's Activities			Total
	DKI Jakarta	Bodetabek	Outside Jabodetabek	
DKI Jakarta	1,047,455	249,872	6,114	1,303,441
Bodetabek	1,382,296	817,890	62,551	2,262,737
Jabodetabek	2,429,751	1,067,762	68,665	3,566,178

Source: Commuters in DKI Jakarta in 2014 (BPS, 2015)

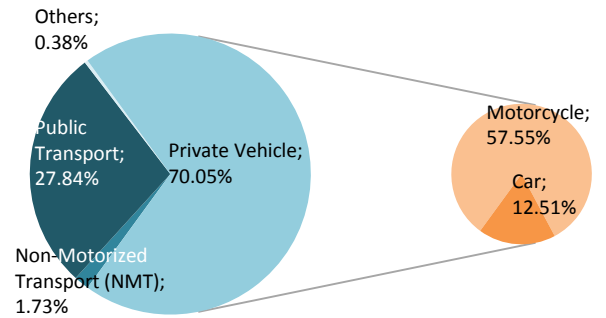
Type of Commuters based on Main Activity



Source: Commuters in DKI Jakarta in 2014 (BPS, 2015)

Various of activities are performed by the Jakartans and people who live in Bodetabek area. They commute everyday to work, school, or training & course places. The dynamism of the urban has created the vibrant atmosphere in the megapolitan city.

Type of Commuters based on Transportation Mode

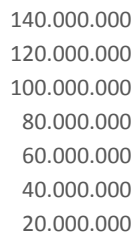


Source: Commuters in DKI Jakarta in 2014 (BPS, 2015)

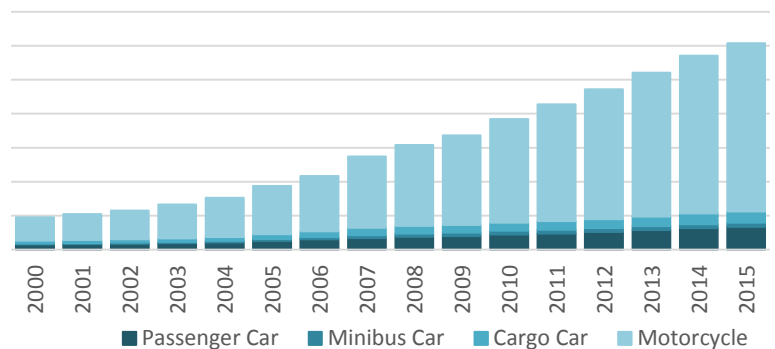
Around 70.05% of Jabodetabek commuters are going to their places of activity by private vehicles: motorcycle (57.55%) and car (12.51%), while only 27.84% of them are using public transport, NMT (1.73%) and others (0.38%). It turned out that the supply of public transport failed to fulfill the market demand. Moreover, the lack of convenient public transport system, has also driven people to collectively opt for private vehicles over public transport.

Rising Number of Motorized Vehicles Ownership

The rising number of motorized vehicles ownership in megacities in Indonesia is steady and progressive. This is partly due to the overall growth of the Indonesian economy, which has increased the number of middle-income population.



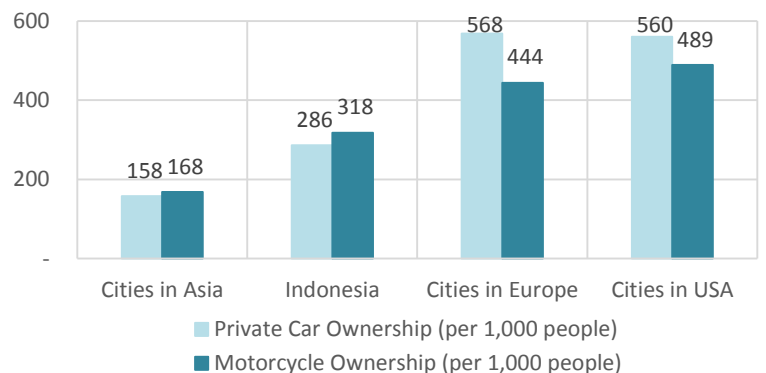
Total Number of Motor Vehicles in Indonesia (1990-2015)



Source: BPS, 2015

Among the motorized vehicles, motorcycle and passenger car are the two highest growth across the years. Particularly, motorcycle has grown with CAGR of 14.16% from 2000 to 2015 and reach 98.8 million units in 2015 out of the total of 121.3 million units of motorized vehicles in Indonesia.

Motor Vehicles Ownership in Cities across Region



Source: Background Paper RPJMN 2015-2019 in Transportation Sector (Bappenas, 2014)

Given the high growth rate of motorization in Indonesia, the nation surpass other cities in Asia in terms of number of motor vehicles ownership. However, this figure is still below that of cities in Europe and USA. This figure also tells us that car ownership is more affordable for people in developed countries with higher income per capita, supported by the data that car and motorcycle ownership has inverse pattern between developing and developed countries.



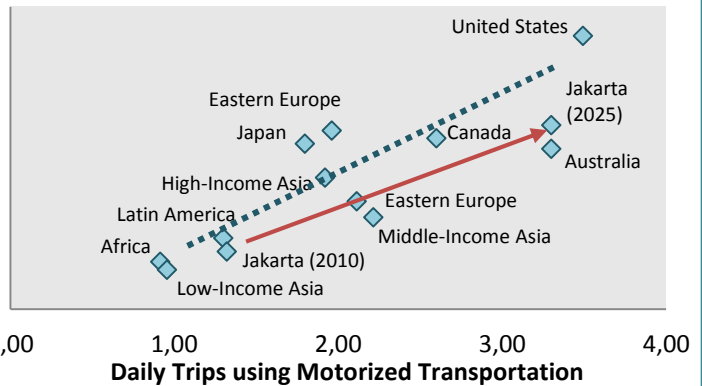
Urban Transportation Development as a Sustainable Solution to Megacities

Dynamism of the Urbans

The dynamism of the urbans has created a vibrant atmosphere in megacities with a growing number of people, motor vehicles, as well as business and economic expansion. This paradigm holds true as the empirical data on the right shows that the number of daily trips using motorized transportation is higher when income per capita is increasing.

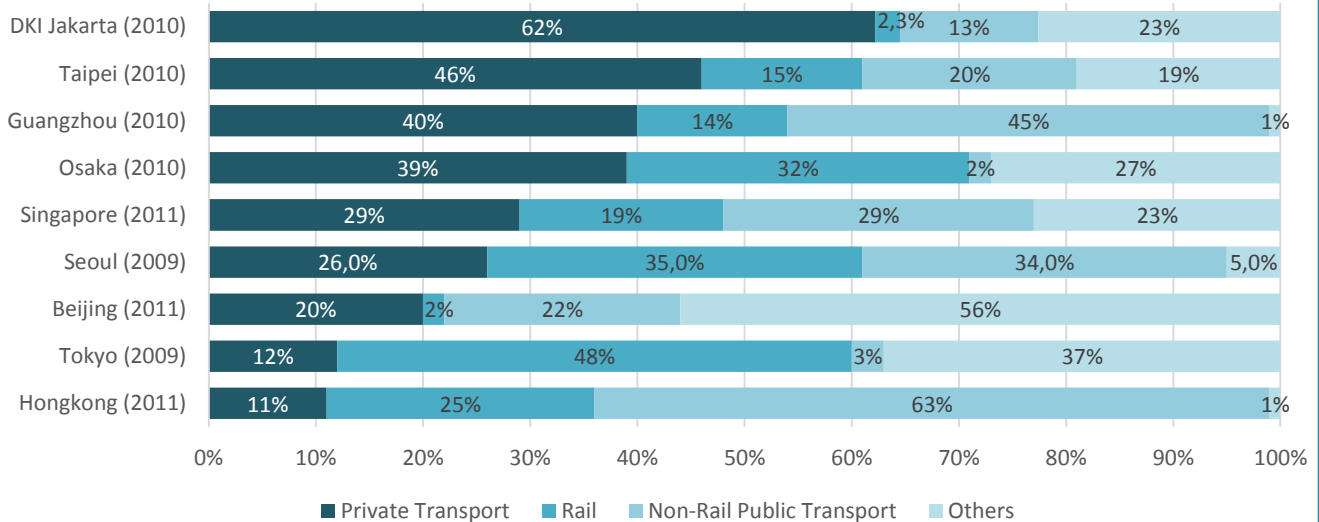
40.000
35.000
30.000
25.000
20.000
15.000
10.000
5.000
-

Relation between Income per Capita and Number of Daily Trips using Motorized Transportation



Source: Background Paper RPJMN 2015-2019 in Transportation Sector (Bappenas, 2014)

Mode Split of Transportation in Cities in Asia



Source: Background Paper RPJMN 2015-2019 in Transportation Sector (Bappenas, 2014)

The mode split of transportation across cities in Asia differs one to another. Cities in a more developed country tends to use public transport, either rail or non-rail public transport, rather than those in less developed country. In the case of Jakarta, the mode split of transportation is dominated by private transport (62%), whilst only 15,3% use the public transport and others (23%). Thus, with an average of 3.3 trips per day, while majority of the Jakartans and suburban people are highly dependent to private transport due to inadequate of urban transportation, this condition has led to traffic congestion. It is believed that governing such a

megacity is no longer about managing places, but flows which has created the traffic gridlock. The gridlock and inconvenient public transport systems are quite costly in terms of people productivity, health factors (stress level and high level of air pollution), as well as the conduct of business. Further, due to limited public transportation option and poor city planning, congestion has caused the megacity US\$ 3 billion annually (Metro TV News, 2016).

In order to tackle these problems, a sustainable urban transport development with comprehensive city planning and real action is necessary.

Sustainable Urban Transport Planning

Before going any further to finance urban transport project, it is highly important to have a comprehensive city planning. All the aspects in the development of an urban transportation should be integrated and sustainable socially, economically and environmentally in a Transit-Oriented Development (TOD) concept. The 10 principles for sustainable urban transport as developed by Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ, 2015) are as follows:

- 1) **Planning dense and human scale cities** by integrating residential area with urban transportation in a developed mixed-use city
- 2) **Optimizing the road network and its use** by providing traffic information through Intelligent Transportation System (ITS), enforcing traffic rules and policy
- 3) **Developing transit-oriented cities** by creating high density apartments and adding shopping facilities around transit station, and providing park & ride facilities
- 4) **Implementing transit improvements** by setting up public transport associations integrated with timetable, fares and tickets, creating user friendly
- 5) **Encouraging walking and cycling** by having a high-quality design standards for sidewalks, cycle paths and complete streets, creating a complete urban cycle network and improve safety for pedestrians and cyclist
- 6) **Controlling vehicle-use** by providing incentives to commute by bike or public transport, implementing distance-based pricing (pay-as-you-drive), travel restrictions and telework / flexible working hours
- 7) **Managing parking** by establishing balance parking supply and implementing sound parking regulations (limit parking duration, set up parking fees, enforce parking rules)
- 8) **Promoting clean vehicles** by providing clean fuels and its infrastructure, feebates, enforcing vehicle scrapping / retrofit schemes
- 9) **Communicating solutions** by providing user-friendly website of public transport, marketing campaigns for cycling, ridesharing program, etc
- 10) **Approaching the challenges comprehensively** by monitoring implementation and performance measures and creating institutions responsible for sustainable urban transport



Source: Sustainable Urban Transport Project (SUTP), 2015

Challenges and Key Strategies in Urban Transport Development

Below are a number of issues in the development of Indonesian urban transport:

➤ Legal and Regulatory Framework

Land acquisition were seen as a major obstacle in carrying out an infrastructure project. In order to accelerate the infrastructure project development, Indonesia has issued Land Acquisition Laws through UU No.2/2012 and Perpres No.148/2015, and has also established State-Asset Management Agency (LMAN) with purpose to optimize and manage state assets, other than planning land utilization and financing / bridging land acquisition.

➤ Strategic and integrated land use planning

City development and investment plans often lack strategic direction, urgency and priority, while local government tends to misusing spatial function due

to the practice of bribery or as part of the political bargaining process.




➤ Financing Gap

The financing capacity of regional or city development is limited and depends on budget transfers from the central government. Yet, the risky nature of infrastructure projects with long term and large amount of investment scares off the investors. Thus, creative financing and such provisions of credit guarantee are necessary to make the project happen.

➤ Bottleneck of private participation

Private sectors are quite reluctant to participate in transportation infrastructure project because of the high risk nature of infrastructure project. These transport projects are driven into the subsidy trap.

Government Plans & Improvements in Mixed-Mode of Urban Transportation

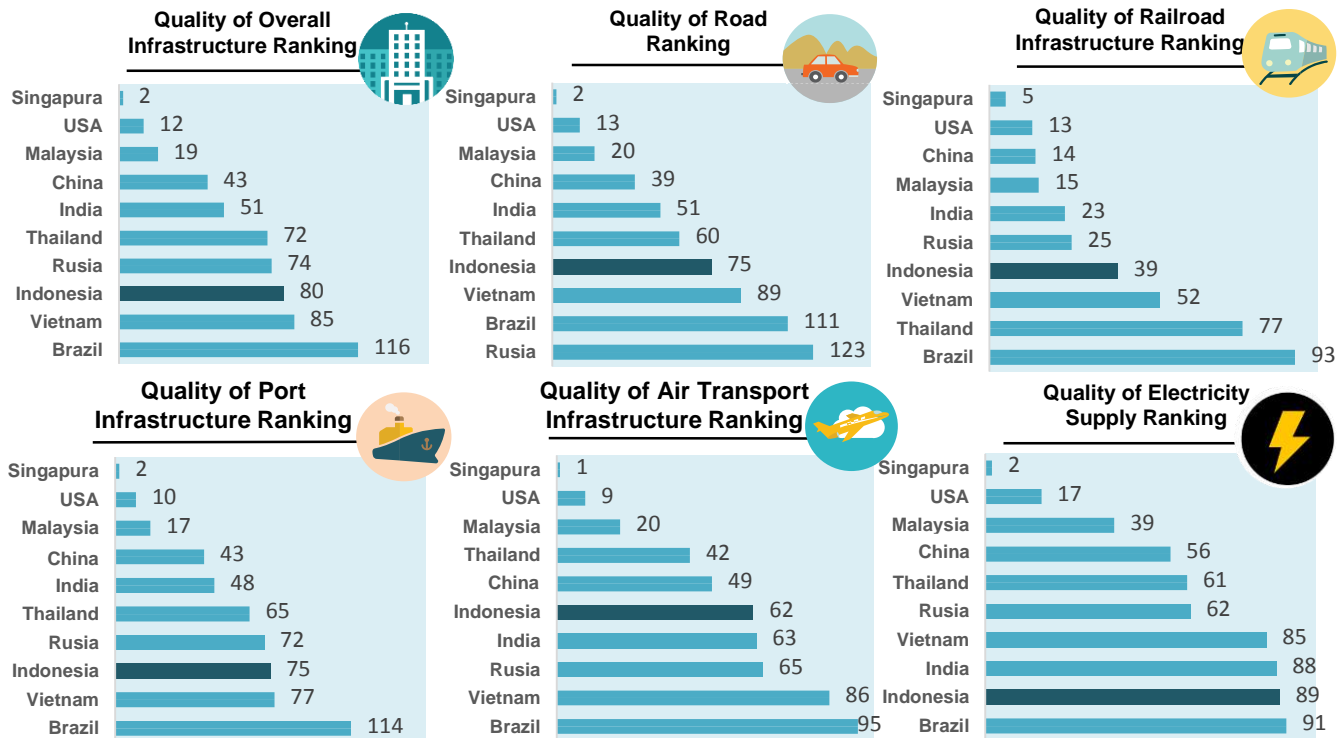
	Component	Information
 Bus-Based	<ul style="list-style-type: none"> • Bus BRT • PSO – BRT • Intermodal Facility • NMT (Non-Motorized Vehicle) • Park & Ride • ITS / ACTS • Road Pricing • Urban Traffic Management 	<p>Gas-fuelled bus (capacity of 40 people for metropolitan and 85 people for big city)</p> <p>Public Service Obligation to improve BRT performance by providing subsidies for BRT operations</p> <p>BRT infrastructure facilities integrated with other modes of transportation</p> <p>NMT facilities for pedestrians and cyclists</p> <p>Facilities for private vehicle users to easily switch to public transport with the provision of parking facilities</p> <p>Intelligent Transport Systems (ITS) and Area Traffic Control Systems (ATCS) to optimize public transport services and road network</p> <p>Traffic restrictions in certain areas / specific corridor-based levies to encourage the shift to public transport</p> <p>Urban traffic engineering focused on capacity and traffic flow management</p>
 Rail-Based	<ul style="list-style-type: none"> • MRT • Monorail • Airport Railway • Commuter Line 	<p>Urban mass public transport, elevated, on-grade or underground</p> <p>Elevated urban (mass) public transport for dedicated cities</p> <p>Railway line that serves the airport for employees and passengers</p> <p>Railway line on existing rail tracks, on grade</p>
 Road	<ul style="list-style-type: none"> • Toll Road • Flyover & Underpass • National road maintenance • River bridges 	<p>Urban freeway</p> <p>To avoid traffic congestion, overpassing railway crossing and to improve traffic safety and efficiency</p> <p>Maintenance of the national road network</p> <p>To create better connectivity and provide accessibility</p>

Source: Indonesia's Summary Transport Assessment, (ADB, 2016)

Transportation Infrastructure in Indonesia

The sustainable development of cities largely depends upon their physical, social and institutional infrastructure. However, according to Global Competitiveness Report 2016-2017, Indonesia ranked 80th out of 138 countries in the quality of overall infrastructure, behind other emerging markets such as Malaysia (19th), China (43rd), India (51st), Thailand (72nd), and Russia (74th).

Infrastructure Ranking in Global Competitiveness Report 2016-2017



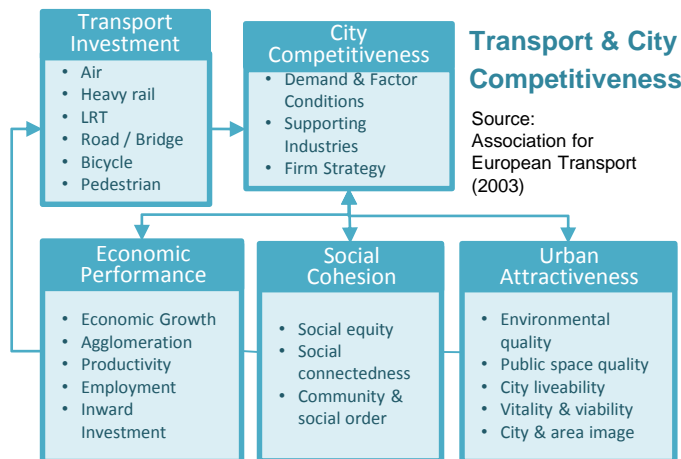
Source: World Economic Forum: Global Competitiveness Report 2016-2017

The quality of transport infrastructure in Indonesia is quite problematic with situation as follows:

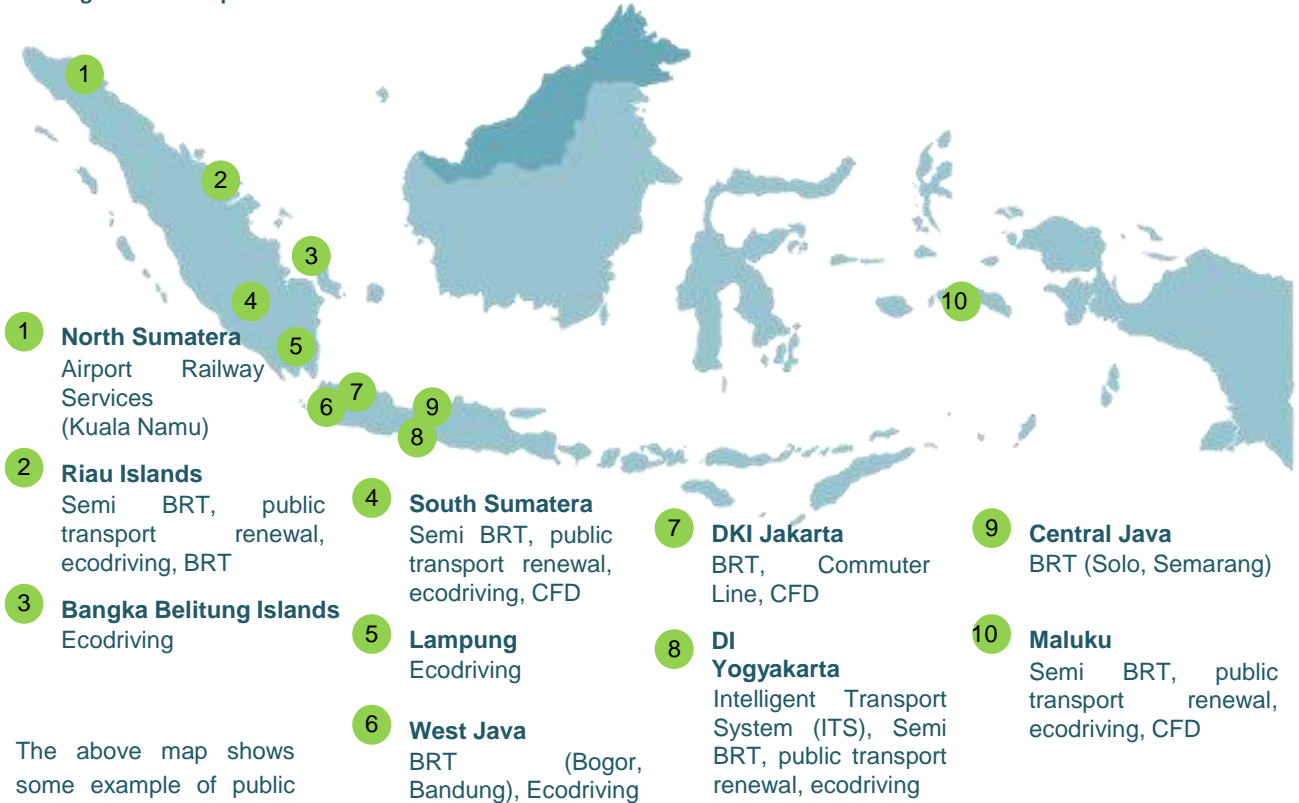
- Long-neglected policy and institutional reforms
- Insufficient road transport infrastructure (urban public transport: BRT, feeder-buses, walkability, cycling facilities and infrastructure)
- Under-utilized deployment of public transport modes in rail (limited and outdated network, rolling stock and headways, lack of urban rail)
- Severe bottlenecks in sea transport
- Bottlenecks in accessibility and aircraft movement; the airport overcapacity
- Low level investment in transportation infrastructure, both by public and private sectors

All of these critical issues are risen partly as a result of low investment in transportation sector over the past decade. Thus, the quality of infrastructure is reflected in the high transportation cost and an erosion of

Indonesia's competitiveness. This relation is captured in the study of Association of European Transport (2003) titled "Transport and City Competitiveness" as seen below, where city competitiveness is highly correlated to economic performance, social cohesion, urban attractiveness and transport investment.



Existing Urban Transportation and Local Initiatives across Indonesia

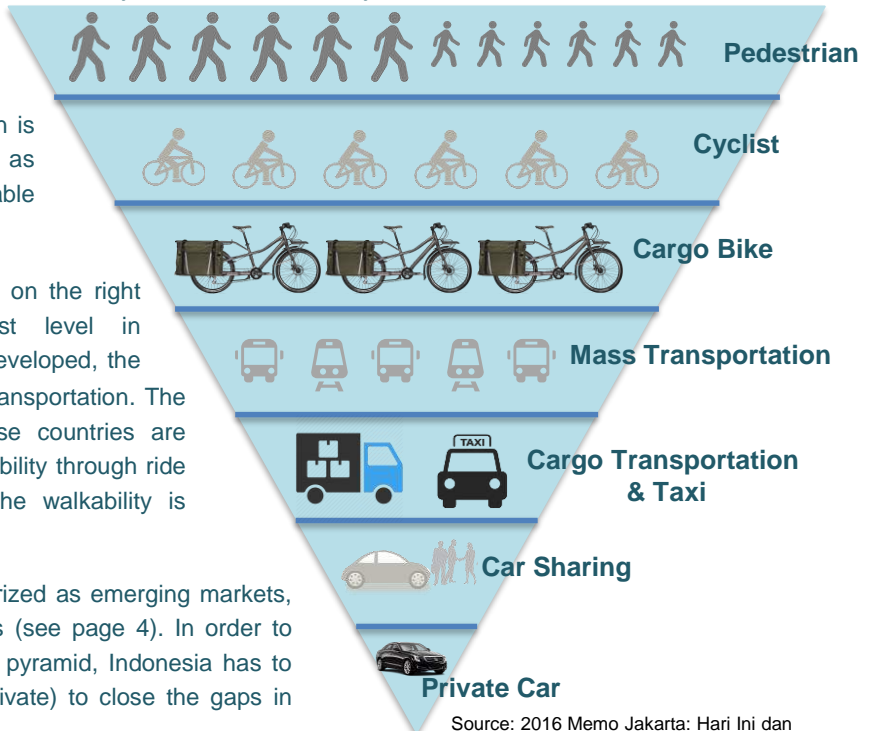


The above map shows some example of public transportation and local initiatives to handle traffic congestion in Indonesian cities. As for Indonesian major cities start to build their own public transport, such as BRT (Transjakarta in DKI Jakarta, Batik Solo Trans in Solo, etc), the nation is taking shape and set these initiatives as initial step to move forward in sustainable urban transportation.

The reversed pyramid of urban mobility on the right prioritizes pedestrian at the highest level in transportation system. As a country is developed, the higher is the is the utilization of urban transportation. The number of private car mobility in these countries are shrinking as the number of individual mobility through ride sharing, public transport, bikes, and the walkability is increasing.

At this stage, Indonesia which is categorized as emerging markets, has a high growth of motorized vehicles (see page 4). In order to move to the upper part of this reversed pyramid, Indonesia has to increase investment (both public and private) to close the gaps in transportation infrastructure.

Reversed Pyramid of Urban Mobility



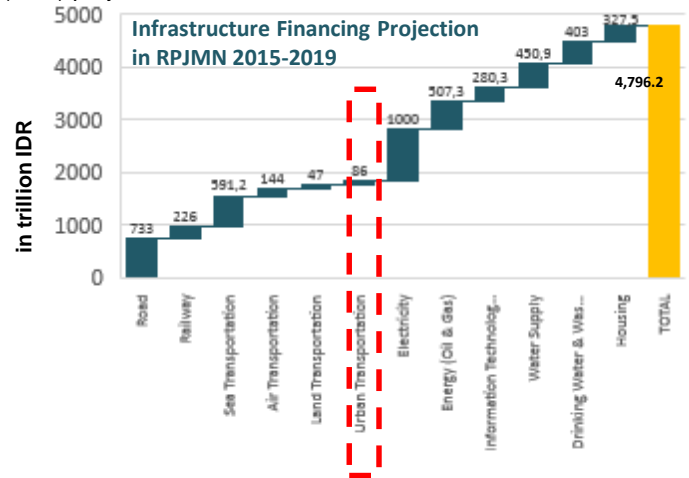
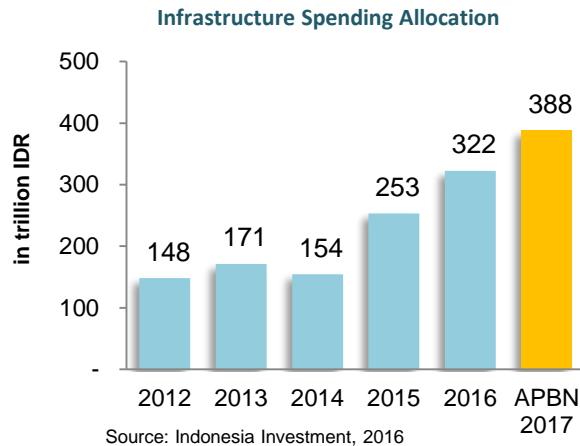
Source: 2016 Memo Jakarta: Hari Ini dan Perubahan yang Segera, IAI, 2016



Financing Support for Urban Transportation and Its Mechanism

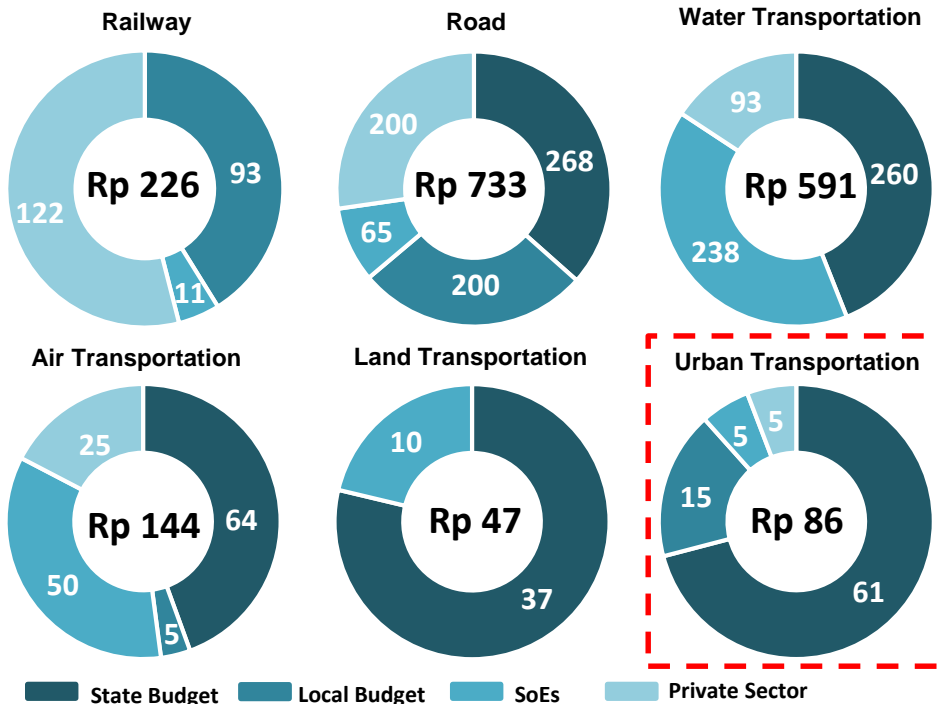
Budget Allocation for Financing in Transportation Sector

Albeit a progressive increase in infrastructure spending allocation, Indonesia set less than 1% of its national budget in 2015 for urban transportation. In order to close the gap of infrastructure supply, a sustained longer-term funding of transport infrastructure at 5% of GDP is highly necessary (IDB, 2015). With limited national budget, exclusive public funding is hard to attain. Thus, the government called for increased private infrastructure investment through private sector participation (PSP) and public-private partnership (PPP) projects.



According to National Medium-term Development Plan 2015-2019, the government estimated around IDR 1,827 trillion is needed in transportation infrastructure financing. This number accounts for various type of transportation

Infrastructure Financing in Transportation Sector for period 2015-2019 (in trillion IDR)



infrastructure, including railway, road, water transportation, air transportation, land transportation and urban transportation.

The source of funding could come from state budget, local budget, State-Owned Enterprises (SoEs) or private entities. In the case of urban transport, the government is very often retain a degree of authority due to its strategic role in public services as well as the heart of country's economic activity. Thus, the budget proportion from state and local government remains high.

Funding & Financing Urban Transportation

Urban transport infrastructure requires large up-front capital investments while its social and financial returns are generally accumulated slowly over a long period. However, with limited fiscal capacity of the central and local government, the up-front capitals for urban infrastructures could be raised from other parties through funding and financing mechanism.

To expedite the urban transportation development, there remains several ways including:



Increase Funding

With urban infra budget of IDR 86 trillion for period 2015-2019, Indonesia is spending only 0.15% of its GDP in urban infrastructure. Higher budget allocation in urban infrastructure is needed to reap the full potential of economic growth.



Finance more Infrastructure using Debt

Debt-financing allows cities to grow their urban infrastructure faster and give incentives to enhance project quality.



Empower the City

A better urban transportation can be obtained when the city-level government involve directly to the project in as project funder, legal authority, or have capacity to plan, design and build projects.



Improve Cities' Credit Rating

Cities should focus on improving their credit ratings in order to have better access to financing and to have lower cost of fund.

Source: "Best Practice in National Support for Urban Transportation", ITDP, 2015

Project Funding

Project funders refer to entity who pay the project's capital costs using its own money or debt from other parties. In the case of a project requires debt financing, the funders have the obligation to pay down the debts on loan-financed project over time. In exchange of the provided up-front capital, the funders have the right to collect user fees in the future. As for private sectors whose role as the funders, their source of revenue could come from user fees, government operating subsidies or related business (advertisement, property development on public land, etc).

Category of project funding:

- National government funding
- State or provincial funding
- Municipal funding
- Private sector funding
- Other funding including different levels of government and quasi-public government owned enterprises

Project Financing

Project financing refers to any debt finance that is used to pay for up-front capital costs of the project.

Sources of financing:

- Bonds
- National government and National Development Bank (NDB) loan
- Multilateral Development Bank (MDB) loan
- Private commercial loan
- Bilateral or export credit agency loan

Options for Financing Urban Infrastructure

In the case of Indonesia with a large amount of infrastructure financing needed, all the sources of financing above have already been explored. The national government, as allocated in state and local budget, can only contribute up to 41.25% of the total infrastructure financing. Whilst SoEs and private sectors are expected to have contribution up to 22.23% and 36.52% respectively. The SoEs, like PT SMI, PT KAI, PT Waskita Karya and others are encouraged to leverage the paid-up capital (PMN) from government to finance these infrastructure by issuing obligation or

debt. The debt-financing could be obtained by having a cooperation with other entities, such as MDBs, private commercial loans and bilateral or export credit agency as aforementioned. Yet, in order to have better access and the most efficient way to debt financing, a nation should consider several lending attributes of various type of debt-finance sources.

Lending Attributes of Various Debt-Finance Sources

Attributes	Bonds	Multilateral Development Bank (MDB)	National Government or Development Bank	Commercial Bank	Export Credit Financing
Cost of Capital	Low	Low	Low	High	Low
Credit Rating Required	High	Low	Low	High	Low
Length of Credit Term	Long	Medium/Mixed	Medium/Mixed	Medium/Mixed	Long
Conditionality	Low	Medium/Mixed	Medium/Mixed	Medium/Mixed	High
Transaction Costs	Low	High	Medium/Mixed	Low	Medium/Mixed

Source: "Best Practice in National Support for Urban Transportation", ITDP, 2015

According to the comparison table above, bonds and export credit agency are clearly outperformed other debt-finance sources to finance urban infrastructure with low cost of capital and long-term period of credit term. In addition, bonds financing requires no conditionality to the issuer and have low transaction costs compared to export credit agency.

Overall, bonds are seen as the most efficient way to finance urban infrastructures despite the need of bond issuer to be rated by credible rating agencies. It is often difficult for developing countries / provinces / municipalities to get bond ratings because they require transparent and easily auditable accounting procedures. Although this process can have a significant transaction cost, but is worthwhile in the long run for better access to capital market and improved financial transparency.

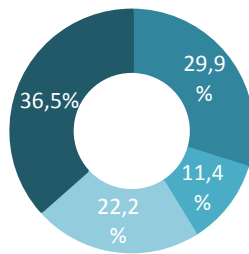
Furthermore, debt-financing from export credit agencies have high conditionality that a country is at least partially tie the borrower in terms of procurement of goods and services from corporation from the lending country. For example, the Jakarta MRT which is financed by JICA is tied to procurement from Japanese construction and rail companies for most of the key elements of the project. This monopoly supply relationship can increase the long-term cost of the supply of spare parts. Nevertheless, this source of financing could be seen as an alternative option to finance urban infrastructures since it offers a very low lending rate with 0.2% interest with highly subsidized loan of 10-year grace period and 40-year repayment period in the case of Jakarta MRT ("Best Practice in National Support for Urban Transportation", ITDP, 2015)

Another alternative financing to complement the national government in realizing the urban transportation project is

the private sector's participation. In order to increase their participation to build such infrastructures, we should come up with the new approach such as creative financing.

The Breakthrough of Creative Financing in Urban Transportation

Public-Private Partnership (PPP)



Infrastructure Financing Projection in RPJMN 2015-2019

- State Budget
- Local Budget
- SoEs
- Private Sector

According to RPJMN 2015-2019, the total of infrastructure financing until 2019 reach IDR 4,796.2 Trillion with state budget and local budget account for 41.3% in total. The left graph shows that private sector plays significant role in infrastructure financing since it has the highest contribution to the total financing projection.

Source: Megastruktur Indonesia (Katadata, 2015)

This fact holds true since the government has limited budget to fund all these infrastructure projects. Therefore, a new approach is used for attracting private sectors to participate in the so-called PPP project. There are some supports from the Government to PPP project in the form of:

Government Guarantee

- **Presidential Regulation No.78/2010:** Government Guarantee on PPP Infrastructure Project
- **Ministerial Regulation of Finance No. 8/2016:** Guideline on Government Guarantee

Government Support

- **Ministerial Regulation on Finance No. 223/2012:** Viability Gap Funding (VGF)

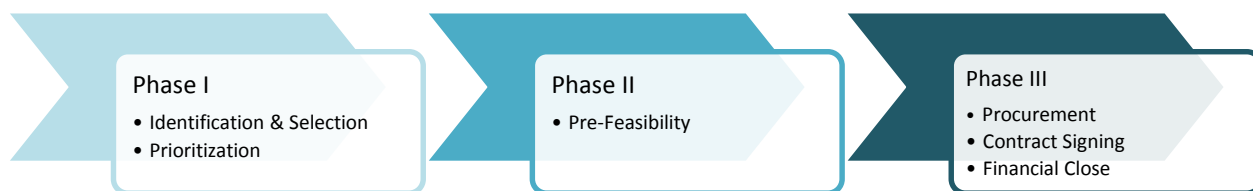
Viability Gap Funding (VGF)

Viability Gap Funding (VGF) is part of PPP tools which are given in the form of grant to a non-viable project in order to tackle demand risk problem and generate higher IRR. With a maximum of VGF equal to 49% of a project cost, the project will be more feasible to attract private participation.

The PPP project cycle consists of three phases: (1) Planning, (2) Project Preparation, and

(3) Transaction, as seen below. In order to be registered as PPP project, the Minister, Head of Institution or Head of Local Government has to submit project proposal to Bappenas along with supporting documentation whether the project is included as “Under Preparation Project” or “Ready to Offer Project”.

PPP Project Cycle



Source: Public Private Partnerships – Infrastructure Project Plan in Indonesia (Bappenas, 2016)

Availability Payment Scheme

In order to attract private sector participation in PPP project, the Government provides other form of investment return other than tariff from end customer, called Availability Payment (AP). This scheme works on a performance-based project where a periodic payment made by the authority-in-charge to the developer during the operational period of the project based on the availability and quality of the services. The AP will take into accounts the capital costs, operational costs and/or profit of the implementing business entity.

Regulation on Availability Payment

- **Ministerial Regulation of Finance No. 190/2015:** Availability Payment on PPP in Infrastructure Provision
- **Ministerial Regulation of Home Affairs No. 96/2016:** Availability Payment on Regional PPP in Infrastructure Provision

A successful implementation of PPP project in Indonesia could be found in Umbulan Project (VGF scheme) and Palapa Ring Project (AP scheme).

PPP Project with Availability Payment: Port of Miami Tunnel (Miami, USA)



Objective : to improve port access by diverting port traffic from city streets, thereby relieving congestion in downtown streets

Structure

Project Sponsor : Florida Department of Transportation (FDOT) & the Miami Access Tunnel Consortium (MAT)

Beneficiaries : People in the city of Miami

Role of Private : Design, Build, Finance, Operation & Maintenance (DBFOM)

Benefits:

- Providing a direct connection from the Port of Miami to Highways via Watson Island to I-395
- Keeping the Port Miami, the country's 2nd largest economic generator, more competitive
- Making downtown streets safer by reducing congestion on downtown streets

Financial Highlight

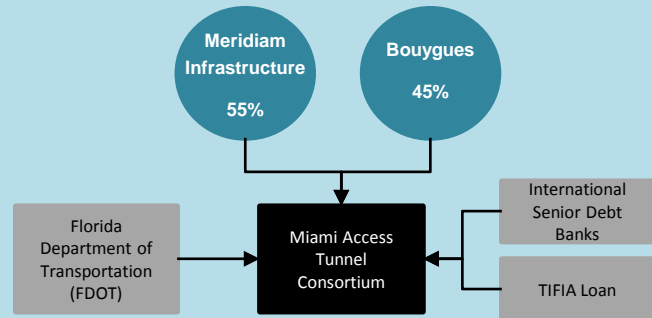
CAPEX	: US\$ 760 million
Financial Structure	: Equity (10%) TIFIA loan (45%) Senior Debt (45%)
Concession Period	: 35 years
Design & Construction	: 55 months
Financial Close	: October 15, 2009
Construction Date	: May 24, 2010 – May 6, 2013
Open for Traffic	: August 3, 2014

Project of Scope:

- 3 miles of Tunnel
- Roadway work on Dodge and Watson Islands
- MacArthur Causeway Bridge widening
- 43 foot diameter tunnel boring machine

Mechanism:

Once the construction is completed, the department will make availability payments upon actual lane availability and service quality to the concessionaire.



Source: Infrastructure PPP Case Studies of APEC Member Economies (APEC, 2014)

Crowdfunding

Nowadays, the banking sector becomes more risk averse in disbursing the credit, especially to a long-term and a typically high risk infrastructure project. The Loan to Deposit Ratio (LDR) of the commercial banks jumped to the highest level in the end of 2016 and reached 91.7% nationwide (*“Banking Industry Remains Challenging in 2017”*, Jakarta Post, 2016). Seeking for alternative funding that do not depend on government (state and local) budget or commercial bank is highly necessary. Creative financing such as crowdfunding which has gained momentum in the past few years is worth exploring further.

Crowdfunding is a form of alternative finance to collect large numbers of small donations directly from citizens to enable specific project to happen. In general, the crowdfunding utilizes the internet to disseminate the project proposal as well as to collect the money from people. Platform like Kickstarter and Indiegogo service a broad range of small business ventures in order to make the project happens and to make their products are readily available in the market.

The case of crowdfunding helps to address several problems

in infrastructure financing, such as:

1) Reducing demand risk

Through this scheme, the project owner or potential investor could make a confirmation about the demand projection and reducing the demand risk. Individuals who backed the project are voting with their money as how traditional consumer support a product.

2) Increase political will

Crowdfunding is highly depend on community engagement during the early stage of infrastructure development. Thus, it has the potential to increase political will to support infrastructure development and/or specific political views as a viable political engagement tool.

3) Better civic decision making

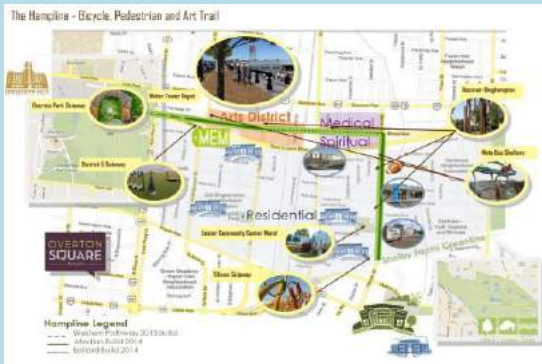
Crowdfunding can be used as a media to showcase an infrastructure project to citizen, whilst taking the local knowledge and experience in building the project. Substantial inputs from public are highly encouraged to have a good project design and sound supporting policies.

In the case of the expansion urban transport development by Transport for London (TfL), the project owner has to determine the Benefit-Cost Ratio (BCR) of the project beforehand. For example, a IDR 100 billion project would require 1:1.4 BCR. It means that the project would deliver IDR 140 billion value out of a IDR 100 billion project cost. Apparently, the simulation produced 1:1.3 BCR. In order to shift BCR from 1:1.3 to 1:1.4, the

gap has to be filled for example through public subscription.

The crowdfunding scheme can be found in the form of donations, pre-sales, traditional lending, social lending (lending without interest), peer-to-peer lending (lower interest rate), peer-to-business lending, or equity crowdfunding. In the case of urban transportation financing, the pre-sales tickets of the urban transport can be purchased by the citizen in advanced and are bundled into a great deal package so that people can realize the benefits.

The Hampline – Bike Line Construction Project



Project Profile

Location	: Memphis, Tennessee
Project Cost	: US\$ 67,150.12
Crowdfunding raised	: US\$ 68,642.79
Timeframe	: Oct 28, 2014 – Dec 12, 2014
Sponsoring Organization	: Livable Memphis
Champion	: Pat Brown
Procurement Strategy	: Traditional BBB, public owned
Platform	: loby
Total Crowdfunders	: Approximately 500

The Hampline is a bike infrastructure project in Memphis, included two-way bike lanes protected with planted medians, bike signals and green paint. The project was planned to connect Binghampton, a low income neighborhood, to the downtown area and the current network of bike lanes. It also provides safe access to five schools within the neighborhood.

The total budget is expected to cover the construction and engineering/design fees. Here are the conditions if the project is successfully funded through crowdfunding:

- Donor names will be put on a plaque
- If the target amount exceeded by US\$ 1,000, a bike rack will be installed at Lester Community Center
- If the target exceeded by US\$ 3,500, the bike rack will be accompanied by a bike repair station with self-service tools and air.

The project total costs reached US\$ 4.5 million, and when the project reached its last US\$ 75,000 to be fundraised, it turned to the crowd.

Source: Kate Gasparro in "Funding Municipal Infrastructure: Integrating Project Finance and Crowdfunding"

Corporate Social Responsibility (CSR) to Build Urban Infrastructure

One of the breakthrough actions from the Local Government of DKI Jakarta is the urban infrastructure development funded by private company through CSR. This mechanism has been implemented since 2013 (Media Indonesia, 26 January 2017) with the lead from President Joko Widodo, the Governor of DKI Jakarta at that time. This alternative financing was taken to enhance the local government's capacity in building the city's infrastructure with a minimum or none of the local budget.

Several municipal projects in DKI Jakarta which were successfully developed using CSR fund are Integrated Child-Friendly Public Space (RPTRA) in Kalijodo, Street Food Designated Location in Monumen National, procurement of Jakarta City Tour Buses, Pluit & Ria Rio Reservoir, Semanggi Interchanges, etc.

Despite a number of urban infrastructure projects in DKI Jakarta have been funded by private companies via CSR fund, there is no specific regulation to carry out the project so far. The Government of DKI Jakarta has begun the effort to make it legal as the draft of local regulation about CSR Fund Management and its usage in infrastructure development has been submitted to Regional Legislation Program (Prolegda) in 2017 (Media Indonesia, 2 February 2017). This draft consists of the

scope of CSR, financing, implementation, also the rights and obligation of the corporate.

The ratification of this local regulation needs to be consulted and approved by Ministry of Home Affairs. In regards with the administration, the CSR fund will be recorded as "Other Income" and the asset itself will be included in state budget. Therefore, the mechanism should be legally regulated in order to maintain the transparency and easily audited.

The Development of Municipal Projects using CSR Funds

Semanggi Interchanges



Source: Kompas, 22 February 2017
<http://megapolitan.kompas.com/read/2017/02/22/10065561/kehebatan.dan.cerita.di.balik.simpang.susun.semanggi>

Integrated Child-Friendly Public Space (RPTRA) in Kalijodo



Source: Kompas, 16 February 2017
<http://megapolitan.kompas.com/read/2017/02/16/10472911/ahok.berencana.resmikan.rptra.kalijodo.pekan.depan>

Street Food Designated Location in Monumen National



Source: Detik, 30 July 2016
<http://news.detik.com/berita/d-3264940/bersih-dan-tak-ada-pkl-bikin-monas-makin-ramai-dikunjungi-wisatawan>

Jakarta City Tour Bus



Source: Jakarta Panduan Wisata, 1 March 2014
<http://jakarta.panduanwisata.id/jakarta-selatan/transportasi/menjelajahi-ibukota-dengan-bus-city-tour-jakarta/>

Pluit Reservoir



Source: Kompas, 16 May 2015
<http://megapolitan.kompas.com/read/2015/05/16/06570001/Taman.Waduk.Pluit.Si.Cantik.yang.Bau.Idola.Warga.P.enjaringan>

Ria Rio Reservoir



Source: Tempo, 30 April 2015
<https://m.tempo.co/read/news/2015/04/30/108662433/begini-asrinya-keindahan-taman-kota-waduk-ria-rio>

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Email : corporatesecretary@ptsmi.co.id

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