The annual publication supports local action for the implementation of the 2030 agenda.
The RECIPRO:CITY is created as an annual publication of the Urban SDG Knowledge Platform in order to support all readers in sharing best practices on urban policies, and to introduce the ongoing offline activities. This 2nd Issue is focusing on sharing the importance of understanding transportation policy priorities in accordance with the cities’ needs and the local urban development progress.
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02. DATABASE

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- Seoullo 7017 Pedestrian Friendly Development / Seoul, Republic of Korea
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- Monitoring Sustainable Development Goals (SDGs)
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INTRODUCTION
The Urban SDG Knowledge Platform was established in collaboration with the United Nations Economic and Social Commission for Asia and the Pacific (ESCAP), the Seoul Metropolitan Government (SMG) and CityNet to promote and support knowledge sharing and city-to-city cooperation for sustainable urban development.

The Urban SDG Knowledge Platform supports local action for the implementation of the 2030 Agenda for Sustainable Development, by: providing a repository of policies, initiatives and best practices at the city level from municipal governments and other stakeholders; facilitating north-south, south-south, and triangular cooperation by linking cities that have developed specific policies and strategies with other cities interested in learning from and replicating them; and, facilitating regional follow-up and review of the implementation of the 2030 Agenda for Sustainable Development by providing a platform for local governments to share progress and lessons learned.

The RECIPRO:CITY is the annual publication of the Urban SDG Knowledge Platform created in order to support the sharing of best practices on urban policies and introduce the on-going offline activities to all the readers. During 2018, the platform was provided with information about workshop activities from the CityNet Secretariat along with the Seoul Metropolitan Government and the World Bank. During those activities it was received development policies cases regarding transportation development in the local level from the activities’ participants. The RECIPRO:CITY 2nd issue is focusing on sharing these cases in order to highlight the importance of understanding transportation policy priorities in accordance with the cities’ needs and urban development progress.

The writing of this publication was led by the CityNet Secretariat staff and has benefited from the expert inputs of the Seoul Metropolitan Government, Bogor, Jakarta, Kuala Lumpur, Hanoi, Ho Chi Min City, and Da Nang cities. This publication has been reviewed by members of the CityNet Secretariat, although some details may differ with the cities’ current conditions.

CityNet is the largest association of urban stakeholders committed to sustainable development in the Asia Pacific region. Established in 1987 with the support of UNESCAP, UNDP and UN-Habitat, the Network of cities has grown to include 139 municipalities, NGOs, private companies and research centers. CityNet connect actors, exchange knowledge and build commitment to more sustainable and resilient cities. Through capacity building, city-to-city cooperation and tangible projects, we help our members respond to Climate Change, Disaster, the Sustainable Development Goals and rising Infrastructure demands.

In just five decades, Seoul has seen its population increase by 43.3 percent and income soaring by 1,389 percent. This explosive demographic and economic growth was accompanied by the rapid expansion of public infrastructure, the advancement of technology and its use in policymaking. Behind this speedy and tremendous transformation of Seoul were strenuous efforts to tackle urban challenges that followed. With all those efforts, Seoul is now one of the most prosperous cities in the world. But the success story of Seoul does not end there as cities in developing countries are keenly interested in Seoul’s development experience and achievements.

The United Nations Economic and Social Commission for Asia and the Pacific (ESCAP) is the regional development arm of the United Nations for the Asia-Pacific region. Made up of 53 Member States and 9 Associate Members, with a geographical scope that stretches from Turkey in the west to the Pacific island nation of Kiribati in the east, and from the Russian Federation in the north to New Zealand in the south, the region is home to 4.1 billion people, or two thirds of the world’s population. This makes ESCAP the most comprehensive of the United Nations five regional commissions, and the largest United Nations body serving the Asia-Pacific region with over 600 staff.
Transformation of Da Nang: Sustainable Urban Development Project (Da Nang, Vietnam)

Remarkably developed to be a Sustainable and Integrated City:
Da Nang’s Sustainable City Development Project is reaching its closure in 2019 and looking forward to beginning its next transformation to become the largest green & livable city in Vietnam by 2025. From 1998, Da Nang has embarked on several urban development projects under the umbrella of the World Bank partnership.

Author: CityNet

INTRODUCTION

Da Nang: the socio-economic hub of Central Vietnam

Da Nang is located in the central region of Vietnam and has been a major city since 1997. As the fourth largest city in Vietnam, following Ho Chi Minh, Hanoi, and Hai Phong, and the only city under the direct control of the central government in middle part of Vietnam, Da Nang acts as a critical gateway domestically and internationally. The city is 1,285.4 square kilometers, including six continental districts: Hai Chau, Thanh Khe, Lien Chieu, Ngui Hanh Son, Son Tra and Cam Le, and two island districts: Hoa Vang and Hoang Sa. The population is over 1 million with a population density of 828.0 inhabitants per square kilometer as of 2017. On average, the population of Da Nang has been consistently increasing with a growth rate of 1.2%, significantly exceeding the national average of 1%.

Taking advantage of being located at the South Central Coast in the middle of Vietnam, Da Nang is driven to be the most strategic economic city in the country. It serves as a key socio-economic city, a center of services, a transports hub in Central Vietnam and the Western Highlands, and a link to other countries. Through the East-West Economic Corridor (EWEC), Da Nang connects Vietnam to the Lao People’s Democratic Republic, Cambodia, Thailand and Republic of the Union of Myanmar. The route allows access from harbors in Vietnam to the Mawlamyine port in southeastern Myanmar. The route can be used for linking the EU to ASEAN countries as well. Along with the advantages of its geographical features, Da Nang has developed and expanded its international airport and harbor. Da Nang had indeed emerged as new economic hub for the East Asian economy. As the importance of the city increases, so does the urgency for sustainability development.

+ POLITICAL BACKGROUNDS

In 1997, Da Nang became a centrally governed city. The focal decision and policy-making processes are mostly done by the Vietnamese government and the Da Nang City People’s Committee. Based on the Department of Industry and Trade and the Department of Finance, Da Nang allotted the planning, development, and operation of energy-consuming sectors to external agencies.

The Department of Construction is responsible for the Da Nang Water Supply Company; the Department of Transportation is responsible for private bus operators; the Department of Science and Technology is responsible for the Center for Energy Conservation; the Department of Natural Resources and Environment is responsible for the Da Nang Urban Environment Company and the Da Nang Drainage and Wastewater Treatment company; Lastly, the Department of Planning and Investment is responsible for the Priority Infrastructure Investment Project (PIIP) Management Unit and the World Bank priority investment projects only.

AVGARE INCOME PER CAPITA AT CURRENT PRICES BY INCOME SOURCES (2016) *(2)

In 2013, Da Nang awarded as the most competitive city among 63 provinces in Vietnam in Province Competitive Index (PCI)*

*1. PCI, The Provincial Competitiveness Index measures the improvement in the Quality of Economic Governance. It evaluates the state of doing business, economic governance, and administrative reforms by the provincial and city governments to promote the private sector. This year, the report received responses from 10,245 private enterprises in 63 provinces and cities (including 1,205 enterprises, which were established in 2016 and 2017) and 1,785 FDI firms from 47 foreign countries and territories in 21 cities and provinces. – Source: http://www.vietnam-briefing.com/news/vietnams-provincial-competitiveness-index-2017-improvement-quality-economic-governance.html/ Please also refer to the website: http://eng.pcvietnam.org/provinces/da-nang/
ECONOMIC BACKGROUNDS

Rapid economic growth encouraged Da Nang to become the heart of Vietnam’s socio-economy as it has successfully expanded its economic development. From 2012 to 2016, the local gross regional domestic product (GRDP) growth rate was 8-9%. As of 2016, the total government revenues were 18,227, and current GRDP is 3,504 million U.S. dollar. Its gross domestic product (GDP) growth rate has been higher than the country's average rate. As a hub of international trade, Da Nang recorded import turnover of 1.3 billion U.S. dollar and a 1.115 billion U.S. dollar export turnover.

According to the source of income data, agriculture and forestry & fishery industries are declining, while non-agricultural, forestry industries are replacing the numbers lost. The manufacturing industry has been the largest of Vietnam’s industries, as seen from its rapid growth in wholesale trade, real estate sectors, and computer and electronics industries.

The city’s annual urban growth rate is 3.5%, and considering the future population growth, securing infrastructure will determine the quality of life of Da Nang residents.

AVERAGE POPULATION GROWTH

1999-2008
THREE CITIES SANITATION PROJECT

In 1999, Da Nang took its first action with the World Bank to develop the city. Within this period, Da Nang experienced huge changes in basic infrastructure. The project aimed to sustain improvements to public health and increase economic development in three cities, Hapkhong, Quang Ninh Province, and Da Nang. Considering the fact that the city of Da Nang is in a tropical monsoon zone with 2.5 millimeters of rainfall per year, reducing the incidence of flooding is directly related to the safety and public health of the inhabitants. By upgrading the urban environment and developing more efficient and financially sustainable drainage companies, Da Nang has increased public health, safety, and has improved lacking infrastructure. The project was a huge success, and many benefits were gained as a result. The three cities, including Da Nang, have successfully improved the drainage, sewerage and solid waste management throughout the city and have also provided institutional support. Over 738,000 citizens have benefited from the improved reliable drainage and sewage systems, solid waste management and on-plot sanitation. Reducing the vulnerability to flooding and other environmental risks, including diseases, eventually upgraded the quality of life in Da Nang. This first project provided the foundation for the two following projects with the World Bank.

2008-2013
PRIORITY INFRASTRUCTURE INVESTMENT PROJECT

During this period, the city government embarked on its first multi-sectoral urban development with the World Bank. The Da Nang Priority Infrastructure Investment Project (PIIP), aimed to improve the efficiency, effectiveness, and sustainability of municipal services under the control of Da Nang city through upgrading urban infrastructures. It included: (i) urban upgrading of low-income areas, construction of resettlement sites, and micro-finance for home improvement; (ii) environmental infrastructure improvement; (iii) new roads and bridges linking peri-urban regions to the city center; and (iv) capacity building and technical assistance.

The project successfully provided access to essential services, including on-pot piped water supply, drainage, and wastewater collection facilities and accessibility to all-season roads. With this successful results, PIIP scaled up to the Da Nang Sustainable City Development Project (SCDP) in 2013.

DA NANG AND THE WORLD BANK PARTNERSHIP FOR SUSTAINABLE URBAN DEVELOPMENT PROJECT

ABOUT THE PARTNERSHIP WITH DA NANG AND THE WORLD BANK

Over the last two decades, under the World Bank partnership, Da Nang has developed as the greenest city in Vietnam. The city has undergone a 3-step innovation revolution and adopted many sustainable approaches of urban development, such as the Three Cities Sanitation Project, the Da Nang Priority Infrastructure Investment Project (PIIP), and the Da Nang Sustainable City Development Project (SCDP).

1. GRDP Da Nang from 2012 to 6 months 2017 (Source: Da Nang Statistical Office)
2. The World Bank
4. The World Bank

Old Days in Da Nang

Transformation of Da Nang

(4) Old Days in Da Nang

(5) Da Nang Cooperates with the World Bank
> SCDP: IMPROVE DRAINAGE AND WASTEWATER SYSTEMS

Under its tropical monsoon climate, on average, the city receives 2.5 millimeters of rainfall per year. Hence pursuing sustainable and solid drainage and wastewater systems directly associated with residents’ life and well-being. According to the planning of Da Nang city, the project includes the following: (i) Improvement of drainage and wastewater systems; (ii) Development of a Bus Rapid Transit system; (iii) Improvement of urban strategic roads; (iv) Capacity building for city authorities on urban infrastructure management; and (v) Completion of some major infrastructure sub-projects initiated under the Da Nang Priority Infrastructure Investment Project.

Projects in Industrial Waste Management and Municipal Separated Drainage Management

> SCDP: PILOT BUS SYSTEM (BRT)

Compared to its population density, Da Nang has extremely small public transport systems. The number of buses in service in Da Nang’s urban area is only about 40, and the buses arrive every 20-30 minutes. Under this condition, people are highly dependent on motorcycles. The prevalent use of motorcycles and private vehicles as a mean of transport is an obstacle for the city to become sustainable and reach the master plan of 2025 for Greenest City. Therefore, the Da Nang city government put forth their best commitment to provide an integrated public transport system, comprised of local bus services and a Bus Rapid Transport (BRT) project. By increasing the number of available services, the City Government expects to cover all major arterial corridors by 2025. To increase accessibility, Da Nang initiated the following projects: (i) Full connection with existing infrastructures; (ii) Construction on route networks; (iii) Operational plans and bus services on all routes; (iv) Bus as a major mean of public transport; (v) A ticket system and price subsidy policy; (vi) Infrastructure for the Rapid Bus System (Depot, Top- Bottom, R & R transit points, terminal / stop for BRT bus systems, interchange on BRT #1, Bridge over walk, Road surface); (vii) Intelligent Transportation Systems for Buses (ITS system); and (viii) Operational model. Public infrastructure investments are one of the main tools local authorities can use to encourage compact development (including development around transit hubs), encourage alternative modes of transportation (walking, biking, public transportation), and decrease local energy inputs (transportation is one of the most energy-intensive sectors).

For a strategic urban transport route development, building a connection between the arterial cities is vital. As a part of the components for the Strategic Urban Transport Routes, Hoa Phuoc – Hoa Khung route is planned to be constructed. The route will start from southern ring road of Da Nang city to the Hoa Phuoc Commune. Currently, the Quan Gian Bridge, The North-South railway bridge, Western Pure Land Bridge and Yen River Bridge are in progress. As a second part of the plan, the Hoa Lien commune, Hoa Vang district, and extended Nguyen Tat Thanh project will be constructed. Each major intersection is planned to be equipped with at least one technical reinforced concrete culvert section and complete longitudinal sluice. The routes will have a lighting system to secure safety and convenience and will have signboards, orchids and road markers on the road signalling system. Construction of technical infrastructure of resettlement areas are the following: North City Ring Road North; Resettlement Area 1 DT 605; Hoa Phong – Hoa Phu Resettlement Area and access road to the area; Hoa Lien commune area; and Khe Can Resettlement area.

> SCDP: STRATEGIC URBAN TRANSPORT ROUTES

Da Nang settled the foundation with the previous PIIP project to further the SCDP project. The fifth component intended to cover the works implemented within the PIIP. Work items include the following: (i) Construction of a road to link Da Nang to Hoa Phuoc and Da Nang to Hoa Khung; (ii) Construct Hoa Xuan Water Supply Station (capacity 20,000 m3/day); (iii) Upgrading Son Tra Co-op Station; (iv) Construction of Phu Loc river bridge; and (v) Supervision safety and services.

> SCDP: TRANSFERRED FROM DA NANG PRIORITY INFRASTRUCTURE PROJECT

Da Nang Traffic Light and Public Transport Management Center (DATRAMAC) within the city’s Department of Transport. Through the capacity building, Da Nang provides technical assistance to DATRAMAC and the Da Nang Waste Water Treatment and Sewerage Company. It is a training center and contributes to the improvement of knowledge, skills and experiences for project related fields. It supports the implementation of the project and procure equipment and management of urban transport planning.
**BUDGET**

For the previous Three Cities Sanitation Project, it spent a total of 80.50 million USD, with a total project cost of 119.50 million USD. The first project mainly focused on renovation and the provision of water supply, sanitation and waste management. From 2008 to 2013, the Vietnam government embarked on the Priority Infrastructure Investment project and spent 152.44 million USD with budget project costs of 218.46 million USD. The project focused on various fields: urban transportation, sanitation, other water supply, sanitation and waste management, public administration, municipal institution building, urban infrastructure and service delivery, housing for poor, and overall environment health and pollution management.

SCDP is a scaled up project of the PIIP with US$ 272.20 million from IDA, including additional financial funding received in 2017. This investment will contribute to Da Nang’s urban environment and increase urban mobility in a clean, safe, inclusive, and energy efficient manner. The goal is to establish Da Nang as the first city in the country that has a separate municipal wastewater collection and treatment and sewer systems.

**Financing Plan (US$) in 2013**

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<thead>
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<th>FINANCIER</th>
<th>COMMITMENTS</th>
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<tbody>
<tr>
<td>International Development Association (Ida)</td>
<td>202,500,000</td>
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<tr>
<td>Borrower</td>
<td>69,700,000</td>
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In May 2017, the World Bank approved additional financing that aims to support the scaling up of the project by helping develop a separate sewer/house connection system and minimize pollution risks – for the coastal tourism area of My An-My Khe. Including the additional financing approval, the total project cost is 272.20 million U.S. dollars.

**Additional Financing approved in May 2017**

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<tr>
<td>International Development Association (Ida)</td>
<td>72,500,000</td>
</tr>
<tr>
<td>Borrower</td>
<td>13,600,000</td>
</tr>
</tbody>
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*10. Da Nang Sustainable Development Project (SCDP). The World Bank: http://projects.worldbank.org/PP123394/danang-sustainable-city-development-project/ | SCDP is a project made to give new life to the city of Da Nang, The challenges the city faced were not simply resolved by policy implementation. Urban development is a multi-layered project with various stakeholders involved, including the central government of Vietnam, the city government and residents. To be proactive with sustainable development strategies, there is a need to take an approach with various components from residents’ purview to the government’s aim. It is indeed complicated to reach an agreement within different objectives. The interaction between the Da Nang city government and the Vietnam central government directly affect the decision-making and policy implementation procedures. There cannot be zero-conflict through pursuing different goals. It is time to think about the future of the city and to think about the priorities between green growth and economic development and to discuss what the most efficient and effective policies are.

**IMPLEMENTATION CHALLENGES:**

In the midst of rapid urbanization and economic growth, Da Nang faced multiple challenges including the increase of private vehicles and lack of public transport which hinder environmentally friendly development, risk of congestion, and limited sanitation services and drainage. The city is working on removing these issues to re-enter the next step of the city’s master plan, planned for 2025.

SCDP is a project made to give new life to the city of Da Nang. The challenges the city faced were not simply resolved by policy implementation. Urban development is a multi-layered project with various stakeholders involved, including the central government of Vietnam, the city government and residents. To be proactive with sustainable development strategies, there is a need to take an approach with various components from residents’ purview to the government’s aim. It is indeed complicated to reach an agreement within different objectives. The interaction between the Da Nang city government and the Vietnam central government directly affect the decision-making and policy implementation procedures. There cannot be zero-conflict through pursuing different goals. It is time to think about the future of the city and to think about the priorities between green growth and economic development and to discuss what the most efficient and effective policies are.

However, Vietnam’s top-down decision-making procedures prolong this process. It needs to be considered whether it will delay the day of Da Nang city becoming the Greenest City in Vietnam. Priority setting and planning must take place before projects continued without results.

**APPLICABILITY TO OTHER CITY**

“Other Vietnamese cities are trying to emulate Da Nang’s model.”

Regardless of the challenges, Da Nang faced, the city successfully evolved into a more sustainable and livable city. Rapid urbanization and an increase in population are almost always associated with future issues, which could have a significant impact on the municipal infrastructure. Hence the reason why Da Nang’s projects under the partnership with the World Bank would give inspiration to other cities in the midst of rapid growth without sustainability.

“We hope that this project will provide a model “green city” for sustainable urban development, which will inspire the development of other cities,” Victoria Kwakwa, the World Bank Country Director for Vietnam

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DATABASE
- CASE STUDIES ON TRANSPORT SYSTEM
Seoullo 7017
Pedestrian-Friendly Development
(Seoul, Republic of Korea)

Rejuvenating an old Overpass in the center of Seoul into a green pedestrian walkway

Author: Seoul Metropolitan Government

It not only served as main linkage within the city, but also as a symbolic part of Seoul Station. The overpass was the first thing people would encounter when they arrived at Seoul Station. The Seoul Station Overpass has left countless memories for the Seoul residents who had passed by it for the last 45 years.

The original Seoul Station Overpass safety has been a chronic issue since the late 1990s. The Seoul Metropolitan Government (SMG) has performed regular safety inspections, precision safety diagnoses, and necessary maintenance work on an annual basis. However, in December 2006, the precision safety diagnosed the Seoul Station Overpass’ structure with Grade D, which means unsafe level based on Korean Safety Assessment Standard. The overpass was rated to have serious safety problems; accordingly, vehicle traffic was completely prohibited.

Eight years passed for the SMG to review the overpass, and to make a decision whether to demolish it or not. With the policy of prioritizing safety of the people to traffic, SMG’s final decision was almost made to demolish the overpass. However, SMG redirected the project to turn the old structure into a pedestrian path open to the public. It was a solution by both the SMG and the citizens to revitalize the area near the Seoul Station.

+ CHALLENGES

The Seoul Station has been a hub for all types of transportation systems which connect the inside and outside areas of the city such as the Bus Transfer Terminal, City Airport Terminal, subway stations, and also private vehicles. Dismantling the old overpass will disconnect the east and west parts of the city and possibly hinder the local economy. Subsequently, the biggest concern is that the Seoullo 7017 regeneration project would prohibit traffic which would cause chaos in the areas surrounding Seoul Station. In the case of closing the Seoul Station Overpass, where 46,000 vehicles passed through every day, it was estimated that the traffic of the neighboring Chilpae-ro would increase by around 27%, and the Seosomun-ro traffic by 6%.

To cope with the traffic situation, the SMG made short and long range of detour routes and added public transportation routes.

+ BACKGROUND

In 2006, the 45-year-old Seoul Station Overpass was announced to be removed from city.

Just like other developing countries around the world, Korea underwent rapid economic growth and urbanization in the 1950s. The Seoul Station Overpass was built in 1970 to accommodate the growing population and traffic congestion in Seoul. It was originally designed to cross east and west of the Seoul Station. It served as a main passage and distribution channel to Namdaemun Market, supporting local economic growth.

*15. For more information of history of Seoul Metropolitan Development : https://seoulsolution.kr/en/content/3323
The Urban SDG Knowledge Platform Publication
ISSUE NO.02
RECIPRO:CITY

The Origins behind the name Seoullo 7017
Historical: built in 1970, reborn in 2017
Reborn into 17-pedestrian way from the overpass road since 1970
17m height road, built in 1970

+ OBJECTIVES

The SMG held an open competition to turn the Seoul Station Overpass into a new public open space that simultaneously preserves the previous structure. The Seoullo 7017 project was carried out to promote the regeneration of the Seoul Station area. The objective of the project was to regenerate the overpass as (i) a place for people-oriented pedestrian paths; (ii) green space; (iii) culture and communication centre by connecting it closely with the neighboring areas, which would ultimately bring positive impacts to the community.

The project contains three major ideas: Urban reservation, economic revitalization and people-centered city.

(12) Plan for Seoullo 7017 Pedestrian and Overview of Seoullo’s pedestrian paths in different forms

(13) SEOULLO 7017 SKYVIEW [PAST]

(14) SEOULLO 7017 SKYVIEW [PRESENT]
Seoullo 7017, Korea’s first high overpass, stretching for 1,024 meters, is a symbol of the SMG’s commitment to sustainable urban renovation. The SMG is committed to creating a pedestrian-friendly city and to making the areas surrounding the Seoul Station an international hub for tourism and culture.

Seoullo attracts more pedestrians, revitalizes the surrounding commercial area, and overcame the initial disconnection problems caused by the changing of the traffic route. Also, it creates more green space and connects the open public parks nearby.

Seoullo’s life as a highway is over, yet now it dreams to bring an engaging cultural space, attract tourism, revitalize the commercial shops, and improve walkability within the city.

**IMPACTS AND EXPECTATIONS**

Seoullo 7017, Korea’s first high overpass, stretching for 1,024 meters, is a symbol of the SMG’s commitment to sustainable urban renovation. The SMG is committed to creating a pedestrian-friendly city and to making the areas surrounding the Seoul Station an international hub for tourism and culture.

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**REPLICABILITY AND SCALABILITY**

Urban regeneration projects physically upgrade spatially and environmentally declining areas of urban infrastructure existing in the region. They are a means of cultural and tourism development, but more importantly, they increase the convenience for residents and promote sustainable development in the city. The Seoullo 7017 project in Seoul was inspired by the Highline Park regeneration project in New York. Originally an abandoned 2.33km-long urban railroad highway, flowers and trees were planted to rebuild the railroad into today’s Highline Park, which now attracts tourists and residents.

Urban regeneration is vital to improve cities and to provide appropriate social infrastructure. The cases can inspire other cities. By rejuvenating the characteristics of each city and their existing infrastructure, the city can be reborn and bring vitality. Cities grow and fade along us; we only can revive them.

**ANY AND ALL CITIES CAN BE REGENERATED URBAN REGENERATION CASES AROUND THE WORLD**

Urban regeneration projects physically upgrade spatially and environmentally declining areas of urban infrastructure existing in the region. They are a means of cultural and tourism development, but more importantly, they increase the convenience for residents and promote sustainable development in the city. The Seoullo 7017 project in Seoul was inspired by the Highline Park regeneration project in New York. Originally an abandoned 2.33km-long urban railroad highway, flowers and trees were planted to rebuild the railroad into today’s Highline Park, which now attracts tourists and residents.

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**REFERENCE:**


**Winy Maas**

*The Seoul Station Overpass is unique. It is often compared to the Highline in New York, but the two are different in many ways. - The size is different, and the height and context are different. I think the Seoul project is more interesting. I like the idea of reusing the overpass.**

**EXTRAS**

Seoullo connects the area

“The Seoul Station Overpass is unique. It is often compared to the Highline in New York, but the two are different in many ways. - The size is different, and the height and context are different. I think the Seoul project is more interesting. I like the idea of reusing the overpass.”

-Winy Maas

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Seoullo 7017
Reform of Conventional Public Transport into Mass System
(Bogor, Indonesia)

The development of mass transit in Bogor City is shifting towards Bus Rapid Transit (BRT) through substituting conventional public transport into medium-size bus and rearrangement of overlapping transportation routes.

Author: Bogor City

**+ BACKGROUND: TACKLE THE PROBLEMS OF TRANSPORTATION IN BOGOR CITY**

Private cars and conventional public transport, such as Ankots, or other small minivan buses clutter the road and cause air pollution.

In the City of Bogor, the prevalence of private vehicles congests traffic and delays the city to growing environmental friendly. Though owner-driven cars only worsen the traffic issue, public transportation was limited and leave no options for users. The city’s current public transport routes are overlapped, and quality of the public transit fail to satisfy the passengers’ need, which leads to a decrease in public transportation usage. Resolution for this issue highly depended on the reformation of conventional public transport.

Bogor City declared traffic congestion as the most urgent matter to resolve to develop the city. The number of inner city transport service routes was 30 (3,412 vehicles), and the suburban transport service had ten routes (4,644 vehicles). Before the reformation project, Bogor City’s small size bus had a 10-seat capacity. Regarding the road condition, it is still undergoing its development. Almost 90.69% of roads in the area of Bogor City have been paved, 2.10% are concrete, and others are still gravel and soil. The number of roads in good condition reached 47.79%, moderate conditions 40.4%, and the remaining 11.81% are in mild to severely damaged conditions.

Bogor City’s aim to develop its mass transit system through the use of BRT. City substituted the conventional public transport into one medium size bus and rearranged overlapping transportation routes.

The project was done in cooperation with the Local Government, Bogor Regional House or Representative, City Public Works Department of Bogor City, Department of Transportation of Bogor City, and the Organization of Local Public Transportations.

Bogor City is taking action in a gradual step-by-step transitional process. One of the action was implemented in 2007 with the TransPakuan development, which is a more formalized bus system in Bogor. This system attempt to solve traffic problem through the use of newer, bigger buses and the implementation of real bus stations. TransPakuan is considered as a “BRT-Lite” bus system that operates in mixed traffic with the curbside station and at-level boarding.

**+ ACTION AND IMPACTS**

In 2015, the Bogor City stressed on the public transportation issue and public transportation reform. It is done by restructuring the management of public transport from the individual business to legal entity. The local government had set up a direction network of public transport routes and road, branch line (feeder), and main line (trunk line) in 2016. The implementation of public transport reform began in 2017, with the strategy of changing public transportation routes and the conversion of conventional public transport methods into one mass transit system.

By the year 2020, Bogor city promised to reduce traffic congestion in the city center. The city promoted a healthier lifestyle in the city to induce the public to use more bicycles over private cars. Bicycle routes take people to all corners of the city and are encouraged for the city to promote the idea of lowering carbon footprints.

To tackle the traffic congestion, the city needs to understand the current status of the road. Hence the Bogor City firstly established the research on the direction and width of the road. After the street width measurements the city began to its plan on implementation of BRT. After the planning and implementation, the city started work on the communication and negotiation process with relevant stakeholders, particularly with the current operator of Ankots and minivan bus operators.

The project can be defined as followings:

- **Lesson implemented**: alternative solutions to Bogor City’s Transitional Process
- **Strength**: reduced road volume and increased capacity of mass transit
- **Weakness**: drivers’ loss of employment and increase of traffic congestion
- **Opportunity**: search for alternative solutions to Bogor City’s transitional process from a conventional system to an ideal mass rapid transit that is suitable to the city

As the plan focused on transport, related to the sustainable development goal 08 (Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all), Decent Work and Economic Growth, reform of Conventional Public Transport into Mass Transit in the City of Bogor is a manifestation of the local government’s responsibility for the delivery of safe, convenient, and affordable public transport. Reliable transportation plays a vital role in promoting sustainable economic growth through the distribution function between regions. Distribution of goods, people, etc. will become easier and faster when the existing means of transportation work properly.

To overcome these problems, the implementation of public transportation reform is done gradually, in accordance with the ability and social conditions of the community.
The City Government of Bogor has allocated a budget of approximately USD 300,000 for the planning, implementation, and ongoing maintenance of this initiative as well as for the construction of supporting and operational facilities.

**Budget**

The City Government of Bogor has allocated a budget of approximately USD 300,000 for the planning, implementation, and ongoing maintenance of this initiative as well as for the construction of supporting and operational facilities.

**On Going Effort**

At the planning level, implementation began in 2017; completion is scheduled for 2018. Currently, this initiative is still running slow in implementation. Therefore the results and impacts are still to be measured. As of saying that, however, the city has been achieved availability, safety, and affordability of mass transit.

In 2018, the Seoul Human Resource Development Center (SHRDC) held the Transportation Strategy Workshop for Asian Cities. Bogor city participated in the workshop to gain a BRT business plan formulation and to understand the reformation of conventional bus systems, network design and modernization through knowledge transfer on technology and transportation system particularly on the Bus Rapid System (BRT).

**Challenges**

Challenges on this project can be explained in three parts. First, the biggest challenge of public transport reform is the declining role of public transportation in most Indonesian cities from 40-50 percent to 20-25 percent over the past 15 years. The decline is accompanied by relatively poor travel controls on the use of private vehicles, high urbanization, and the uncontrolled development of urban area size, causing more complicated transportation problems.

Secondly, since the public transportation reform in Bogor City is implemented by involving the community and other stakeholders, starting from planning, implementation, and supervision, this project has not run as expected. There is still rejection from some groups who feel disadvantaged by this policy and local governments have not been able to provide sufficient subsidies for this mass transit.

Lastly, is the time consuming caused by the development of mass transit, by gradually reducing the number of small public buses on the main route and transforming three conventional public transport methods into one medium-size bus? To tackle the issue, the Bogor City government needs to resolve problems with their budget and insufficient knowledge of implementation policy regarding the mass transit. Arrangements and the provisions of mass transportation subsidies is the most difficult problem and also the most serious problem within their insufficient urban infra.

**Replicated Across the World**

Bogor city’s challenge can be another city’s challenge where there is a high use of private cars and a need for public transportation quality increase. Implemented concepts from this public transportation reform can be reapplied to other cities in Indonesia or even cities in other countries who are undergoing similar issues.

In the city, adopting a better public transportation system is to reduce traffic congestion which caused by high dependency on private transportation. Quality of public transportation services determines the quality of residents’ life. Public transportation is important because not only it determines the quality of life but also it affects city growth into the sustainable green city. Bogor’s case brings great insight into other cities undergoing a heavy traffic load and difficulties of public transportation management. In Bogor, implementation processes are well organized and soundly prioritized by the city’s needs. In replication, the budget and size of the city must be considered.
**OK OTrip Project (Jakarta, Indonesia)**

**OK! Jakarta tackles traffic congestion. This project is the newly implemented integrated BRT system. OK OTRIP saves public transport costs and time to travel across the city.**

**+ BACKGROUND**

The city’s potential business opportunities and living standards invite migrants from all over the Indonesian archipelago, which makes Jakarta city expands with its size of population and complexity. The biggest challenge Jakarta facing is to manage the population growth with the city’s limited area and infrastructure. To be more specific, the demand of the public transportation increase while the supply of transportation service does not meet the demand. The National Development Planning Minister/National Development Planning Board (Bappernas) quoted that the traffic congestion cost the capital US$5 billion annually.

Currently, the city highly depends on private vehicle usage, which causes high congestion and it is the main obstacle for the city to grow sustainable and eco-friendly. In Jabodetabek, which includes Bogor, Depok, Bekasi, Tangerang and South Tangerang city, there are 25.7 million trips per day. Among them, 74.7% use private vehicles and only 25.3% use public transportation. Moreover, city’s lack of discipline on the road and massive number of illegal parking and street vendors aggravated the traffic issues.17

Public transportation serves as a means of increasing the mobility of residents. In Jakarta, major public transportation includes the private operator the TransJakarta, taxi, Ojek, motorcycle taxi, shuttle bus, Mikrolet & Angkot. These transportation operates separately, which makes extra cost when users transfer. The highest cost of transportation now reaches 30% of the minimum monthly average income. The low percentage share mode of public transport use is only ± 25%. This burden the residents with high cost of public transportation and low efficiency of using the public transportation. Consequently, public tend to use private vehicle which are the main cause of the traffic congestion.

The total loss of congestion charges estimated 45.2 trillion Rp. per year (3,013,981,200 USD).

**Tackling traffic congestion and management of public transportation has been Jakarta’s mission for a long time.18**

**OK! Jakarta tackles traffic congestion. This project is the newly implemented integrated BRT system. OK OTRIP saves public transport costs and time to travel across the city.**

**DEMAND - NUMBER OF VEHICLES**

- **9.9 MILLION UNIT**
  - **PUBLIC TRANSPORT**
    - 98.9%
  - **PRIVATE VEHICLE**
    - 1.1%

**AVERAGE GROWTH ±8.1% per-year**

**DEMAND - MODAL SHARE /per day**

- 23.9% CAR
- 25.3% PUBLIC TRANSPORTATION
- 50.8% MOTORCYCLE
- 75% PRIVATE VEHICLE
- 25.7 MIL TRIPS/DAY

**DEMAND - TRAVEL NEEDS**

- 23.9% CAR
- 25.3% PUBLIC TRANSPORTATION
- 50.8% MOTORCYCLE
- 75% PRIVATE VEHICLE
- 25.7 MIL TRIPS/DAY

- **PUBLIC TRANSPORT**
  - 98.9%
  - OK OTRIP saves public transport costs and time to travel across the city.

- **PRIVATE VEHICLE**
  - 1.1%
  - OK OTRIP saves public transport costs and time to travel across the city.

- **AVG GROWTH ±8.1% per-year**
  - OK OTRIP saves public transport costs and time to travel across the city.

- **DEMAND - MODAL SHARE /per day**
  - OK OTRIP saves public transport costs and time to travel across the city.

- **DEMAND - TRAVEL NEEDS**
  - OK OTRIP saves public transport costs and time to travel across the city.

- **OK! Jakarta tackles traffic congestion. This project is the newly implemented integrated BRT system. OK OTRIP saves public transport costs and time to travel across the city.**

**Author: Jakarta Department of Transport**


*18. Kompas.com


**CASE STUDY. 3**

**The Jakarta city implemented connected single-fare public transportation transfer system. OK OTRIP is integrated public transport system, which means different types of public transports are sharing same OK OTRIP operation system. The main object of the OK OTRIP is to cut down the price of the transfer and to improve infrastructures. Jakarta city aimed to revitalize and to co-operate the popular transportations, such as Transjakarta’s Bus Rapid Transit (BRT), and two non-BRT transportations, water transport vehicle and Light Rail Transit. As a part of the implementation, the Jakarta Public Transport Development department limited the number of motorcycle riders by adopting the Electronic Road pricing (ERP). It enhances parking and traffic control, and related regulations. Upon listed technological improvement, the city also implemented Intelligent Transport System (ITS), transit-oriented development (TOD), motorized vehicles development, and port development.**

The project is ultimately expected to reduce the daily transfer costs of residents and, to further encourage mass public transportation use. In OK-Otrip, customers only need to pay a maximum of Rp 5,000 for one trip, even if they transfer from a city, Kopaja, to the city of Transjakarta.

The implementation prudently implemented by step-by-step process. December 2017, Jakarta announced the OK, OTRIP trial. The trial route was operated until the end of April of 2018. For selecting the trial route main stakeholders such as Onganda, Public Transport Operators and related parties joined at discussion. OK OTRIP’s trial route aimed to improve area where has been lacking in public transportation services. Thus, the criteria for trial routes asks following; i) whether the area has been lacking in public transportation services; ii) connectivity to public services; iii) road size over 5m; iv) overlapping public transportation route size under 20%; v) population density of the area and; vi) connection to Transjakarta’s feeder road.

**IMPACTS**

OK Otrip is a response to the city’s interest on sustainable development and improvement of the life quality of residents. As a result, Jakarta successfully reduced their public transportation’s transfer costs and increased the number of options people have for public transport and shorten the travel time.

As the OK OTRIP integrated different transports, passengers can easily hop and tap, tap and get off when transferring. The OK OTRIP card can be purchased at all TransJakarta Shelters with the price of Rp40,000,- / Rp20,000,-.

There is a total of 11 small bus public transport operators in Jakarta; as of June 2018, only Koperasi Budi Luhur and Koperasi Wahana Kajipika have joined the trial OK OTRIP program. Jakarta expects more companies to join OK OTRIP.

All of the small buses will be integrated with Transjakarta Buses in OK OTRIP’s program until 2020 with 8187 units. The target of this integration is to have 2687 unit buses in 2018.

**BUDGET**

The project costs 228 million dollars. It has only received public service obligation with all internal resources, such as human resources/staff, technical expertise, and other data and technology resources being utilized.

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Availability to public transportation is vital in developing cities. As cities grow, the transportation business also grows together, and which it makes to join both private and public transportation business operators. Reformation of public transportation system cannot be entirely free from the conflict between co-operators of public transportations. In Jakarta, the small bus operators do not welcome the implementation of the OK OTRIP system.

Jakarta’s OK OTRIP integrated public transportation system has lowered the burden of high flat-fare transfer costs, yet it has not met the other transport operator’s satisfaction. The public transportation operators view the price of Pp/km as being too low to manage the system. Cheap public transportation fares are a good way to attract more passengers and they can reduce the number of private cars and motorcycles. However, coordination between the government and the private sector managers of public transportation is urgently required.

Also, installment of a new card reader and incorporating OK OTRIP with the existing payment system was not easy.

In large cities where there are lots of economic activities are taking place, traffic congestion could be a waste of time, resources, and money. Thus, resolving traffic congestion can be seen as priority issue. Many cities take different methods to solve their traffic woes, and Jakarta DKI decided to implement integrated transportation system. It is too early to judge the success and failure of the system, yet OK OTRIP successfully cut down the cost of the public transportation transfer fee. The project could be replicated or adapted in cities that are undergoing similar traffic problems and there is a need to integrate long distance transport system. Notably, the conflicts of interest between stakeholders and policymakers need to be resolved by strategic approach.

After the completion of the project, Jak Lingko has introduced to replace the OK Otrip (One Karcis One Trip) in October 2018. The re-branded and expanded new integrated public transportation system was officially launched at the end of October 2018.
Pedestrian Linkages for a Livable Kuala Lumpur City
(Kuala Lumpur, Malaysia)

The City, Kuala Lumpur, started an initiative to encourage the citizens to use public transport by building pedestrian linkages as walkways and others. By developing and providing pedestrian friendly walkways, Kuala Lumpur city became more safe and comfortable to travel between places.

Author: Kuala Lumpur City Hall

BACKGROUND AND CHALLENGES

The global city of Malaysia, Kuala Lumpur (KL), grew into a big urban habitat. With the urbanisation growth, the city is challenged by degrading urban environment and the needs for pedestrian infrastructure were highlighted by the government. The increasing of car traffic congestion, worsening of climate conditions, and increasing of urban sprawl are the main obstacles to the citizens to access public transportation and safety walkways. Also, since Kuala Lumpur city is expanding with its business opportunities and extending its residential areas, the distance between city centers and the residential areas became greater. Therefore, citizens sought out alternative ways to make travel more efficient and safe. The public transportation, such as train and bus station within the City Centre, thus, play a significant role. However, the extension of the city and change in the city layout only gave rise to a car-centric environment. In order to Kuala Lumpur to induce more public transportation and increase connectivity between cities, the safe walkways within the City Centre and its accessibility became an essential area to the developed.

The major issue in Kuala Lumpur is the lack of pedestrian linkages and it limited infrastructure was highlighted by the Kuala Lumpur government. Unlicensed hawkers and vendors are encroaching into the pedestrian walkways while some buildings do not permit public access across their property. This leads city to rely on private vehicles and enhances traffic congestions.

The maps above show the local landmarks and city landmarks are located center of the City Centre from Kuala Lumpur. However, the visual corridors and roads are not sufficient to supply the public transport demand. Upon the local conditions, the Kuala Lumpur urban design and landscape plan introduced the preservation and conservation program development which covers prevention of historic buildings through the policies and guidelines. Each categorized zone involves different developers, owners, agencies and conservation works, which affect to development of the public transportation.
+ OBJECTIVES

The Pedestrian Linkages for a Livable Kuala Lumpur City Project aims to upgrade the deteriorated and unconnected pedestrian facilities. For the development of physical linkages is important to allow people to walk or transfer within the city. The project mainly focused on two sectors including accessible to safe walkways and connectivity with public transportation and buildings in the city.

Creating safe walkways improves the connection from origin to the destination area, and has a beneficial effect on the pedestrian route choices. Therefore, this projects is directly connected to how pedestrians travel in the city.

+ ACTIONS AND IMPACT

The projects explained below were implemented by Kuala Lumpur City Hall, PRASARANA and KLCID; while the project is involved with the stakeholders of following partners, Economic Planning Unit (EPU), Prime’s Minister Department, PETRONAS, and Kuala Lumpur City Hall.

The Kuala Lumpur City chose to implement the pedestrian-friendly linkages, which connect between landscape buildings and public transport stations. The Urban Design and Landscape Project proposed the pedestrian linkages in the City Centre. The project introduces Primary and Secondary Urban Pedestrian Linkages, along with the existed Major Pedestrian Networks. The Primary network connects to all the Secondary Pedestrian Linkages and reaching the Heritage Site, landmarks, buildings with high activity and transport stations.

From observation of the recent studies, the Kuala Lumpur Pedestrian Friendly Walkways are receiving positive feedback from public users. There was an increase in the number of people using the walkways on a daily basis. According to the study held by Zakara, “the respondents agreed that the pedestrian linkages were safer to use than the alternative of walking through car traffic.” Moreover, the public satisfied with the comfort level of the walkways’ air conditioning system. It implies the safety, comfort, and accessibility are critical to improve the urban public transportation system.

“Planning for pedestrians should be incorporated at every stage of the planning and development process from planning, design, implementation, management, and maintenance.”

+ REPLICABILITY

Walkable cities facilitate the pedestrian’s comfort and allows the city to growth sustainable not depending in on the automobile. This project can be replicable in any city which considers the pedestrian’s sense of comfort and enhancing modes of transportation since high walkability provides connectivity between different modes of public transportation.

In addition, since providing comfortable pedestrian environment in the city is a challenge due to the city infrastructure, traffic congestion and limited spaces for pedestrian movements, further studies on walkable cities shall continue to provide a sustainable development.

REFERENCE:

The City of Hanoi established a BRT system to reduce traffic problems.

Author: Hanoi Transport Department

Bus Rapid Transit Project (Hanoi, Vietnam)

+ BACKGROUND

“The City Between Two Rivers,” Hanoi, is located in the middle of the northern part of Vietnam, near Laos and the center of the Red River Delta. The city experiences hot and humid summers and relatively dry and cool winters. It is the capital city and the second largest city in Vietnam. Along with 7.82 million residents, Hanoi attracts about 23 million visitors a year, including tourists and investors (2018)[26]. Considering the total population of Vietnam, it was estimated to reach 96,491,146 in 2018. Population growth in Hanoi has nearly tripled over the past two decades, making urban infrastructure supply an important issue since it increases the traffic problems from Hanoi city.

With the urbanization and the fast population growth, mode of public transportation infrastructure emerged as the top priority to sustainable economic growth of the city. Compared to 2005, the number of motor vehicles increased from 2 million to 5.7 million in 2016. Traffic jams increased, and the city required a preemptive action to tackle problems. Hanoi Urban Transport Improvement Project has two major objectives; one was to improve Hanoi’s transport system and the second was to promote environmentally sustainable urban transport systems.

The project’s objectives were to (i) increase urban mobility in targeted areas of the City of Hanoi through increased use of public transport in selected traffic corridors and reduce travel time between the center and the west and northwest sections of Hanoi; and to (ii) promote environmentally sustainable transport modes and urban development plans for Hanoi.[27] With the World Bank partnership, the City of Hanoi embarked on the project by promoting the Global Environmental Facility (GEF) strategic objectives. The specific GEF Objective for the project was to lower Hanoi’s transport-related greenhouse gas (GHG) emissions. The objectives were detailed by four components including (i) Increase urban mobility in targeted areas of the City of Hanoi through increased use of public transport in selected traffic corridors; (ii) Increase urban mobility in targeted areas of the City of Hanoi through reduced travel time between the center and the west and northwest sections of Hanoi; (iii) Promote environmentally sustainable transport modes; and (iv) Promote environmentally sustainable urban development plans for Hanoi.

The Hanoi Urban Transport Development Project consists of three major components of building a BRT system, road infrastructure, and institutional development. The implementation initiative first started with organizing BRT by building stations, depots, and bus routes. The BRT stations are designed to access for both motor transport and non-motor transport including also pedestrians. It aimed to guarantee civil access to BRT and promote public transportation use. The local government received consultation within this stage and also prepared a plan for BRT promotion strategy. Then the city, as a part of sustainable city planning, enhanced road infrastructure by constructing Second Ring Road (RR2) from Nhat Tan and Cau Giay. Along with the infrastructure development, the city government was conducting studies supporting the integration of urban planning and transport. Lastly, the Hanoi local government focused on institutional development to support the project management program.

The Hanoi Urban Transport Development Project was the first mass public transport system, it had undergone difficulties within the implementation. The difficulties include financial arrangements and policies related to the infrastructure, adopting new technology, and inter-agency coordination. Considering the Hanoi Urban Transport Development Project can be addressed with its ambitious components targeting policy reforms, the World Bank partnership supported the project to the success, yet the project still faces with many other challenges, such as mixed traffic incursion into the BRT lanes, lack of wheelchair access to the station and inconvenient entrance walkway to the station. The Hanoi Urban Transport Development Project is still challenging with the 2030 Agenda for Sustainable Development Goal 11, which aims to make cities inclusive, safe, resilient and sustainable.

Developing BRT as a new public transportation system involves divergent interests from many stakeholders and citizens. In addition to the infrastructural aspect, the project met with the challenge of institutional management and continuous commitment are required to maintain the implemented system.

+ IMPLEMENTATION

The project’s strategic objectives were to promote environmentally sustainable transport modes and urban development plans for Hanoi. As the Hanoi Urban Transport Development Project, the City of Hanoi embarked on the project by promoting the Global Environmental Facility (GEF) strategic objectives. The specific GEF Objective for the project was to lower Hanoi’s transport-related greenhouse gas (GHG) emissions. The objectives were detailed by four components including (i) Increase urban mobility in targeted areas of the City of Hanoi through increased use of public transport in selected traffic corridors; (ii) Increase urban mobility in targeted areas of the City of Hanoi through reduced travel time between the center and the west and northwest sections of Hanoi; (iii) Promote environmentally sustainable transport modes; and (iv) Promote environmentally sustainable urban development plans for Hanoi.

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**+ BUDGET**

The total cost was planned USD 294.89 million, and within the total cost, the World Bank’s investment portion was USD 107.39 million. As of 2013, development of the Bus Rapid Transit (BRT) System cost USD 32.78 million; Road Infrastructure and Sustainable Urban Planning cost USD 258.14 million; and Institutional Development cost USD 10.49 million.\(^{(28)}\)


**+ IMPACTS**

The primary output from this project was the construction of a BRT route, which includes a 14.7 km long BRT bus-way (one bus lane per direction), 21 BRT stations, 2 BRT terminals, one depot at Yen Nghia, 10 pedestrian overpasses (bridges), 35 BRT vehicles, and various BRT traffic signals. The BRT line began operating from January 1st, 2017. The Hanoi Urban Transport Management and Operation Center (TRAMOC) reported after ten months of operation that BRT ridership had been stable at 13,000 to 14,000 trips per day. Also, a passenger satisfaction survey conducted by TRAMOC in March 2017 showed that 97 percent of passengers were satisfied with the BRT services. The implementation of the BRT system reduced traffic jams, as expected in the planning stage. Travel time between Nhat Tan and Cau Giay was reduced by about 30% among different transportation means.

**+ REPLICABILITY**

To find more efficient and sustainable modes of public transportation, it is essential to develop an urban development plan which included the municipal role in policy implementation. Therefore, it is important to carefully consider each city’s characteristics, stakeholders, and method of development planning. Hanoi is a big city with a booming population and already has the experience of constructing essential transport infrastructures in past decades. The project could be replicated or adapted in cities that are undergoing operational and management difficulties in terms of public transportation since rapid urban growth, high population density, and motorcycle domination are not only seen in Hanoi, but rather can be found in most urban areas from Vietnam, and notably in South East Asian cities.
Metro Line 2 (Stage 1) is a priority urban railway (about 11.3 km long), playing an important role in the MRT system as well as public transportation system in Ho Chi Minh City. The construction of the metro system in general and metro line 2 in particular for the use of safety, convenience and mass rapid transit means of transport is very necessary and urgent.

+ BACKGROUND

Ho Chi Minh City (HCMC), as the biggest city and economic center of Vietnam has a population of 8.9 million that is expected to grow to 13.8 million by 2025.

The growing population and the increasing number of a two-wheeled vehicles impede the region to growth economically and environmentally sustainability. In the past decade, the government of Vietnam was planning and constructing major public transport infrastructures to induce a substantive shift from private to public transport modes. In order to continue prioritizing investment in developing transportation infrastructure in disadvantaged areas, the government of Vietnam is accelerating its development plan. In compliance with the demand, Ho Chi Minh City is developing public transport plans.

Subway Metro Line 2 Project was guided and implemented with stakeholders and responsible agencies, such as the Central Government Department of Transportation, Ho Chi Minh City People’s Committee Office, The Management Authority for Urban Railways (MAUR) and; 3 Donors including Asian Development Bank (ADB), German government-owned development bank (KfW) and European Investment Bank International Consultant (EIB).

+ CHALLENGES

Building a new resilient infrastructure in the city center can pose challenges. Especially if city builds new mass public transportation like the subway, it will require resettlement of the laws and complex legislative processes, which require more time and cost to implement the project. Furthermore, delay and greater capital needs may increase the risk of technical and legal issues.

Delayed projects and continuous changes, in turn, may lead to conflict with donors and international practices. Moreover, poor capacities of planning, zoning and designing cause complaints and litigation about site clearance (boundary and price), as well as technical problems to ensure effectiveness and safety. Challenges regarding the expenditure for this project also exist, as price fluctuations and wage increases, changing interest rates, capital structure between donors, exchange rate fluctuations (among USD, EUR, VND) hamper the reliability of the project progress. Increasing the public’s usage of the metro line is also difficult as there are prejudices about the bus service being delayed and causing inconvenience.

Therefore, connection to other traffic means rises as an important solution to address this problem.
**Implementation and Actions**

Ho Chi Minh City Line 2 is a part of the city's rapid transit network development which includes the development and integration of several subway lines. Plans for this line were submitted in November 2008 and approved in December 2008. This line is the longest metro line connecting the city from North East to South East. The total length is 11.3 km, covering the section line from Ben Thanh Luong with an underground path of 9.6 km.

The Metro Line 2 project includes capacity-building of the Client (The Management Authority for Urban Railways - MAUR), focusing on experience-enhancing, providing technical knowledge and improving long-term human resources and welfare. Furthermore, working in close coordination with donors and consultants for changing the basic design, schedule and capital period, alongside preparing more capital source for provision are crucial pillars of this project, especially to handle the legal problems related to constructing the subway line 2. Finally, frequent campaigns to raise positive awareness of the public about transportation is an important advocacy work with improving other public transportation systems (bus, BRT, river bus, etc.) and building more parking places to ensure the citizens’ convenience and quality of life.

**Budget**

Project budget from year 2010 is 1,374.5 million USD. Currently, in 2018, 3 Donors (ADB, KfW, EIB) committed to supplement the capital up to 2,134 million USD (increased 759.5 million USD) and extension up to the year 2024 for the intended construction completion (Stage 1 of Metro Line 2).

**Impacts**

Metro Line 2, Stage 1 covers the section of the line from Ben Thanh to Tham Luong. It is 11.3 km long with an underground section of 9.2 km from near Ben Thanh to Tham Luong Bridge (Truong Chinh Street). This also includes 10 underground stations, of which four stations provide interchanges with five other metro lines. Ba Queo is one of these four stations and facilitates an additional track connection between Line 2 and 6 in order to share depot and OCC facilities. The passenger capacity in 2035 is expected to be 30,200 (p/h/d), in terms of design capacity, and 40,000 (p/h/d), in terms of maximum capacity.

Metro line 2 in Ho Chi Minh City will contribute to resilient infrastructure, promote inclusive and sustainable industrialization, and foster innovation. Metro Line 2 is a priority urban railway in the 2016-2035 period and plays an important role in the system. However, the traffic load along this major route has been increasing significantly. Even though the road has been widened as planned, the traffic capacity of the roads along the metro line 2 still cannot meet the traveling demand of the people. The bus routes along the metro route have small capacity, the congestion and traffic accident increases seriously, especially on Cach Mang Thang Tam Street, while most of roads are now 11m-13m wide which are not enough for the increasing demand in the urban area.

**Replicability**

In 2018 Ho Chi Minh City is being considered as a mega metropolitan with overcrowded people, obsolete traffic systems and inadequate budget to build sustainable infrastructure. In Vietnam, only Hanoi and Ho Chi Minh City have metro projects, but still not complete to implement. If Ho Chi Minh City succeeds on building metro line number 2, there are many cities in Vietnam and Asia who could replicate or scale-up this initiative.

**Technical Design of Metro 2 Trains**

**Train Configuration for the Initial Stage is Proposed As:**

*(3car)*

**Train Configuration for the Initial Stage is Proposed As:**

*(4car)*

- Outgoing direction: Ben Thanh - Tham Luong, defined as Lane 1
- Returning direction: Tham Luong - Ben Thanh, defined as Lane 2

**BEN THANH**

- Trains run on the right
- Odd-direction-odd trains

**THAM LUONG**

- Even direction - even trains

**References:**

1/ Ho Chi Minh City People’s Committee office website  

2/ Ho Chi Minh City Statistics Office website  
http://vpub.hochiminhcity.gov.vn/  
3/ The Management Authority for Urban Railways (MAUR) website  
http://maur.hochiminhcity.gov.vn/
Monitoring Sustainable Development Goals (SDGs) through Urban SDG Knowledge Platform

Since October of 2017, through the cases reported on the Urban SDG Knowledge Platform, it was possible to collect more than 130 urban development policies mostly from the South East Asia region. Those cases are relevant to support monitoring SDGs related projects on the local level.

In the monitoring system, the cases from the database were separated according to their development areas and the 17 Sustainable Development Goals. Many important policies on transportation, health, gender equality, education, sustainable cities, and others cut across different goals and are separated under their development areas.

For the Asia Pacific region it is notable for policies to be concentrated on the SDG 11: Sustainable Cities and Communities for making cities and human settlements inclusive, safe, resilient and sustainable. SDG 11 is focused on cities, with targets to ensure access to safe and affordable housing and basic services, upgrade slums, expand public transport, promote inclusive and sustainable urbanization, protect cultural and natural heritage, reduce the number of casualties due to disaster, and increase resilience.

For the cases uploaded in the Urban SDG Knowledge Platform, social inclusion and well-being are the most focused areas. The World Bank defines social inclusion as the process of improving terms on which individuals and groups take part in society, and the process of improving the ability, opportunity, and dignity of those disadvantaged on the basis of their identity to take part in society.

Following it is also notable a higher percentage on transportation, general planning and environmental and resilience development areas. It is possible to see that cities are developing their basic infrastructure while taking care of environmental as the same time.

For the cases uploaded in the Urban SDG Knowledge Platform, social inclusion and well-being are the most focused areas. The World Bank defines social inclusion as the process of improving terms on which individuals and groups take part in society, and the process of improving the ability, opportunity, and dignity of those disadvantaged on the basis of their identity to take part in society. Following it is also notable a higher percentage on transportation, general planning and environmental and resilience development areas. It is possible to see that cities are developing their basic infrastructure while taking care of environmental as the same time.

Monitoring cases of the Urban SDG Knowledge Platform is a crucial tool to build a strong global evidence base about how cities contribute to achieving the SDGs with their urban planning policies. The Urban SDG Knowledge Platform will keep tracking progress towards the SDGs and related development areas across the uploaded policies, with the purpose of helping provide valuable data for further analysis.
Since 2017, the Urban SDG Knowledge Platform received more than 130 cases from cities of all sizes. Considering that each city has its own development priority and policy demand to support local action in implementing the Sustainable Development Goals (SDGs), in 2018, with the collaboration of the CityNet members, it created the Knowledge Platform Database Matrix Evaluation project. This project aims to improve the credibility and the quality of online platform contents by understanding the cities’ development priorities on policy implementation and urban challenges on achieving the SDGs.

During 2018, the Database Evaluation Matrix was conducted with one of CityNet’s members, the “Urban Development Research Institute (URDI)” located in Jakarta, Indonesia. During the project, it received an analysis result of 30 cases from the Urban SDG Knowledge Platform database. The analysis was focused on how to implement the 30 cases in Indonesia considering the central and local governments’ goals and challenges. The cases which were analyzed were from Seoul Metropolitan Government, Quezon, Ho Chi Minh City, Ulsanbaatar, Tan Jung, Jakarta, Malang, Kuala Lumpur, and London. The results from this project can be found directly on the online platform under each analyzed case. The results are essential to understand the cities’ needs and we believe that it will also be important to engage with offline activities on city-to-city (C2C) cooperation.

Currently we are expanding this project to other institutions located in Thailand, Vietnam and others, and we are also receiving application from research institutions which are interested in participating on this project. For those interested and for more information, please contact the CityNet Secretariat and we will provide all the details you will need.

If you have any further questions or interest in uploading cases on urban SDG Knowledge platforms, please contact us at: sdgplatform@citynet-ap.org
The Urban SDG Knowledge Platform project is a follow up of the 2016 Urban SDG Forum, and the Asia Pacific region’s resolve to answer the APUF-6 Jakarta Call for Action, which asserted the dire need for collaborative efforts and city-to-city cooperation to further enable cities to develop and adopt innovative solutions to shared urban challenges in the region. The Urban SDG Knowledge Platform website, made public on September 2017 is an online database co-managed by CityNet, UN ESCAP and Seoul Metropolitan Government. As a centrepiece of the Urban SDG Knowledge Platform project, the website will support the follow up and review the implementation of SDGs in the Asia Pacific region through fostering city-to-city cooperation and providing a repository of good urban practices contributing to SDGs.

Through the Urban SDG Knowledge Platform project, CityNet, Seoul Metropolitan Government and UNESCAP will significantly scale up its efforts to foster sustainable urban development of the Asia Pacific region. Working together among various stakeholders and partners, the Urban SDG Knowledge Platform will connect resources to the Asia Pacific urban community to further scale up and enhance its good practices through city-to-city and city- to-multilateral organisation cooperation. The Urban SDG Knowledge Platform project will connect opportunities in capacity building, city-to-city cooperation schemes as well as opportunities to organise technical advice and expert mentorship to its member communities. By connecting urban stakeholders together, the Knowledge Platform will ensure that no cities are left behind.
The Urban SDG Knowledge Platform project is a follow-up of the 2016 Urban SDG Forum and the Asia Pacific region’s resolve to answer the APUF-6 Jakarta Call for Action. The project, through exchange of exemplary sustainable urban development cases, fosters collaborative efforts and city-to-city cooperation to further enable cities to develop and adopt innovative solutions to shared urban challenges in the Asia Pacific region. Through its implementation, the Urban SDG Knowledge Platform project will work together for a more sustainable future for all.