PHNOM PENH SMART CITY AND SUSTAINABLE DEVELOPMENT
I. HISTORY

• The city was created in King Ponhea Yaat era in 14th century.

• Phnom Penh has been an urban area since 1443 and built its infrastructure as a city during French Colonial Regime

• Phnom Penh locates on the southern of central area of Cambodia and on the junction of Tonle Sap River, Mekong River and Basak River. Theses Rivers provide the ecology system of fresh water and the river with potentials which is the main resources for sustainable environment.

• Before 1970, the city of Phnom Penh was acknowledged as the pearl of Indochina. Unfortunately, between 1970 and 1975, Phnom Penh fell into civil war, in the genocidal regime of 1975-1979, all the people living in the city were expelled to live in the remote areas and the city became a ghost city.

• Infrastructure was destroyed as a result of war, bombing and various covert wars strategies, giving more various disasters to the root.

• After the liberation on January 7th, 1979 people who survive returned to live in abandoned house in the city
1960’s: The city has grown under a planned urbanization with many new buildings, infrastructure, Architecture

DAMMAGED AND ABANDONED CITY : Ghost town between 1975-1979
II. PHNOM PENH TODAY

- Surface: 692.46 Km²
- Capital status: since 1865
- Population:
  - 2008 = 1,501,725
- Annual Growth rate: 3.2%
- Division Area: 14 districts, 105 Communes
- Density:
  - 2008 = 2,212/sq.km
  - 2019 = 3,136/sq.km
- Economy is based on commercial interests such as garments, trading, small/medium enterprises and tourism
- The property business has been booming, with rapidly increasing real estate prices in the past few years.
- GDP Cambodia: 1,205 USD/capita (2019)
- GDP Phnom Penh:
  - 2005 = 820 USD/capita
  - 2019 = 2,534 USD/capita
Densification of the city center
Constructions in Phnom Penh
Facts about PHNOM PENH:

Population in the day: up to 3M
Roads: 1883 Km long, Drainage System: 702 Km long
Compounds: 134, Buildings: 791 (<10 Floors: 474, >10 Floors: 309, >40 Floors: 8)
Markets: 337
Factories: 857
Manufactures: 3840
Entertainment places, Restaurant, Hotel, Guest House: 2105
Vehicle: more than 2M (Growth rate: 11%/year)
Waste: 2,700 tons/day in 2018, growth rate: 13%/year
III. CURRENT MAIN CHALLENGE

Public mobility problem

Causes:
- Rapid urban growth / Economic growth
- Rural exodus
- Lack of urban transportation network
- Lack of public spaces and urban green spaces
- Lack of detailed plan for districts for local development (Plans, laws and regulations)
- Lack of application of zoning plan
- Lack of civic education

Consequences:
- Urban sprawl in peripheral areas
- Insufficient public equipment, urban sanitation issues
- Traffic congestion due to increasing number of private vehicles
- Pedestrian unfriendly city
- Deterioration of urban environment due to traffic and waste
- Lack of coherence between existing city and new urban development projects (gated cities)
### IV. SOLUTION FOR PHNOM PENH SMART CITY INITIATIVE

<table>
<thead>
<tr>
<th>Vision</th>
<th>Focus areas</th>
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<tbody>
<tr>
<td>• To improve the urban environment to enhance citizen’s quality of life</td>
<td>• <strong>Built Infrastructure:</strong> Phnom Penh city needs Green resilience and efficient infrastructure serving current and future city growth.</td>
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<td>• To improve the public mobility</td>
<td>• <strong>Quality Environment:</strong> Our city needs a good public space design creating an healthy environment and boosting economic growth.</td>
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<td>• <strong>Civic and social involvement:</strong> Social media and network would be launch for public hearing on many issues specially on public space management and public transport service improvement.</td>
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<td>• <strong>Improve pedestrian mobility:</strong> by providing and attractive walk able paths</td>
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<td>• <strong>Redesigning public spaces:</strong> for greater public accessibility between people and businesses</td>
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<td>• <strong>Improve the efficiency of Phnom Penh Public Bus Services:</strong> to achieve 50% modal share</td>
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</tbody>
</table>
Building public infrastructures
Revitalization of Public Spaces
V. MAJOR ISSUE: Source of major urban problems

- Lack of regulations on public spaces usage and fund to rehabilitate the sidewalks for decades
- Private owners of the ground floor properties abuse the sidewalk
- Sidewalk has lost the function to serve pedestrians
- Lack of complying the law
- Lack of a reliable public transportation network
VI. PHNOM PENH SMART CITY FOR ASCN
PROJECT 1 : 11 SIDEWALKS REJUVENATION

- 3/11 important boulevards rehabilitation are undergoing (Monivong, Russian, Sisovath).
- Trees were newly planted and/or replaced along the 3 boulevards;
- Drainage system were recently installed along the boulevards;
- Streetscape and street supporting facilities such as smart lighting, bus shelters have been built;
- Real time and volume based smart traffic lighting and CCTV monitoring centre (for the benefit of traffic management and security purpose);
- A study and detail urban design for PP-Southern areas was fully completed with technical support from Paris (to address various concerns such as liveable streets, greening streets, flash floods control systems, setback for activities, modern street furniture and smart lighting...);
PROJECT 2:
A. IMPROVING PUBLIC TRANSPORT DEVELOPMENT EFFICIENCY

• PROJECT OVERVIEW:

OBJECTIVE:
• To broaden City Bus capacity and empower other forms of public transport such as river boat, AGT, taxis, ride-hailing service etc.

GOALS:
• Increase city bus service capacity to cover a broader routes;
• Modernizing bus service efficiency with smart technology (cashless payment system, GPS tracking system, infrastructures, customer services etc).
• Execute PP City Master Plan of Public transportation 2035
• Reduce traffic congestion, traffic accidents and pollution in Phnom Penh
• Reduce the cost of personal use, save money and affecting the well-being of the people.
• Participate in reducing of people’s through the provision of available transport service convenient price, safe and comfortable.
B. IMPROVING PUBLIC TRANSPORT DEVELOPMENT EFFICIENCY

Introduced:

- 13 routes (with 235 buses as of June 1st 2019);
- Smart payment through NFC connectivity (Near Field Communication)
- Real time based bus traffic Smartphone application
- Recognizing roles of private hailing services provider for a better connectivity and mobility (such as PassApp, Grab, WeGo…) to enable traditional motor taxi and tuk tuk to connect public to bus station.

AGT feasibility study with Japan.

Complete Inception report for Supporting Sustainable Integrated Urban Public Transport Development (SSIUPTD) with support from ADB, Japan for poverty reduction and JICA.
C. IMPROVING PUBLIC TRANSPORT DEVELOPMENT EFFICIENCY
Traffic Management System

PROJECT OVERVIEW:
A. OBJECTIVE:
 To improve the traffic situation in Phnom Penh through the use of traffic management system, building a new traffic light and control center at 100 confluence points (revised to 115 at the time of implementation Project).

B. GOALS:
 109 traffic lights located in town center are connected to the fiber optic traffic control center to order from the center or run by remote control.
 Six more Traffic lights on National Highway 1 were launched Stand Alone not connected to the traffic control center.
1. Planning, Survey and Kick-off
2. Procurement of Equipment
3. Civil Works
4. Signal Installation and Removal Work
5. Intersection Improvement Work
6. Wiring Connection, Fiber Optic Cabling Work
7. Materials Testing and Handover Procedure
8. Interior Work of TCC and Training
A. Traffic Control Center

9F of New Building of Phnom Penh Capital Administration

Before

After

B. Fiber Optics Connection

Basic Structure of Traffic Control System

C. Intersection Improvement

Roadside Equipment: Signal Lantern and Cameras

Before

After
D. IMPROVING PUBLIC TRANSPORT DEVELOPMENT EFFICIENCYC

Supporting Sustainable Integrated Urban Public Transport Development.

The PP-SSIUPTD-2035

Key Outputs:

1. The policy guides & planning toolkit for relevant public transport authorities were developed.
2. The candidate integrated urban public transport improvement programs (PTIPs) were formulated, the issues mapping were completed and the pilot sites were already identified such as:
   - PTIP-1 Inner City Revitalization
   - PTIP-2 East West Bus Rapid Transit (BRT) Corridor
   - PTIP-3 Multi-modal transport interchanges/ Transit Oriented Development (TOD)
3. Next step is the improvement on urban public transport management capacity through:
   - Study tour to review and discuss good practice
   - Workshop/training to design urban public transport system using the policy guide and toolkit
   - Awareness raising to promote the use of urban public transport system in terms of safety, security and efficiency target such as women, men and children
PRIORITY PILOT PROJECT

Bus Priority Corridor

Purpose:

Improving accessibility, safety & connectivity in vicinity of bus stops, rail stations and transport interchanges

Goal:

integrating bus priority lane & related bus stop/shelter with pedestrian sidewalk & adjacent public space using ICT/CCTV, direction & information signage, street lighting, solar panels for energy.

Location: Monireth boulevard
**PROPOSE OF REQUESTING**

| Requirement | • Funding support for CBA to strengthen its operation capacity to become an authority of Urban transportation  
|             | • Data base collection of Public transport  
|             | • Technical assistance from private specialized companies  
|             | • Supporting for one way system design  
|             | • Urban Transport Master Plan  
|             | • Capacity building and enhance the traffic control system |

| Progressing: | • Introduce smart payment inside the bus through NFC connectivity  
|             | • Introduce smartphone application for real time information about bus routes and location.  
|             | • Set priority and improvement of efficiency of urban transport  
|             | • Introduce smart traffic lighting which could be adjustable base on real time traffic volume  
|             | • to ease traffic congestion and keep space for public bus.  
|             | • Supporting sustainable integrated urban public transport development with ADB to study future Bus Rapid Transit network (BRT) and Transit Development Oriented (TOD).  
|             | • This project also covers urban transport policy frame works and urban design along the BRT  
|             | • corridor and TOD areas by using smart technology such as: real-time traffic data, passenger  
|             | • and smart phone application.  
|             | • Assign technical officers to joint and sharing experience in smart city/smart nation workshop, training course and seminars. |
# EXISTING BUSINESS AND OPERATION PARTNERS

<table>
<thead>
<tr>
<th>No</th>
<th>Description</th>
<th>Project</th>
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<tbody>
<tr>
<td></td>
<td><strong>International Corporation</strong></td>
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<tr>
<td>1</td>
<td>AIMF</td>
<td>Public Space Design</td>
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<td>2</td>
<td>City of Paris</td>
<td>Detail development plan</td>
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<tr>
<td>3</td>
<td>Japan International Cooperation Agency</td>
<td>Master Plan of Urban Transport</td>
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<td><strong>Non government organization</strong></td>
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<td>5</td>
<td>United Nations Development Programme</td>
<td>Joint for introduction Grab</td>
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<td><strong>Local Company</strong></td>
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<tr>
<td>6</td>
<td>ACLED A bank</td>
<td>Smart Bus Payment system</td>
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<td>7</td>
<td>Grab</td>
<td>Shared Vehicles</td>
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<tr>
<td>8</td>
<td>PassApp</td>
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THANK YOU