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# COUNTRY REPORT AND OVERVIEW OF SMART CITY IN LAO P.D.R

METHODOLOGIES AND APPROACHES TO REALIZE SMART CITY

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## LAO P.D.R

**LAOS' AREA COVERS:** 236,800 KM<sup>2</sup>;  
**POPULATION:** 7.2 MILLION;  
**DENSITY:** 33 PERSON/KM<sup>2</sup>

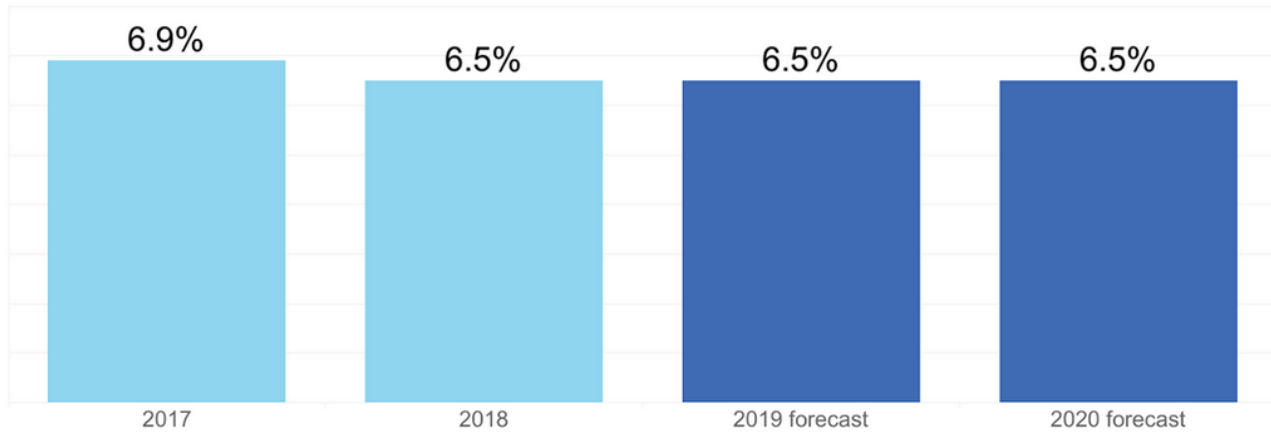
## VIENTIANE CAPITAL:

**POPULATION :** 1.589.000 INHABITANTS;  
**AREA:** 3.920 KM<sup>2</sup>;  
**DENSITY:** 246 PERSON/KM<sup>2</sup>;  
**ADMIN.:** 9 DISTRICTS;  
**MUNICIPALITY:** 4 DISTRICTS;  
**550.000 INHABITANTS**



# I. BACKGROUND INFORMATION ABOUT LAO P.D.R

## LAO People's Democratic Republic GDP growth forecasts



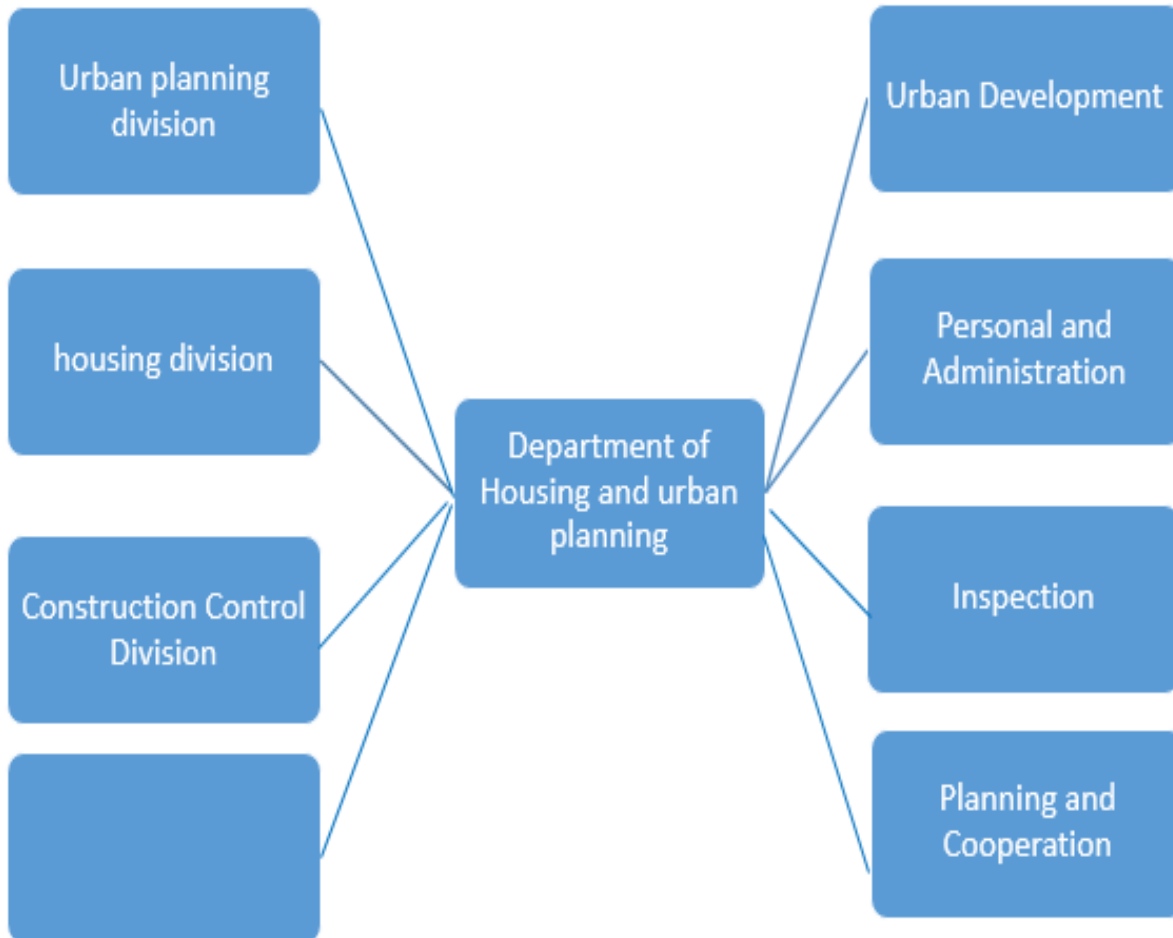
Source: Asian Development Bank. *Asian Development Outlook 2019*

#ADO2019



- **THE ECONOMIC GROWTH RATE IS 5,6 % PER ANNUM;**
- **GDP PER CAPITAT: 2,773 US\$;**
- **CURRENCY: 1 US\$= 15,430 KIPS, (APRIL 2021);**
- **THE MAJOR PRODUCTS: HYDROELECTRIC POWER, TIMBER, RICE, TABACO, COFFEE, TEE, TIN AND GYPSUM MINING AND ETC;**
- **THE MAIN EXPORT: ELECTRIC POWER, TIMBER, COFFEE, HANDICRAFT PRODUCTS AND ETC;**

## 2. ORGANIZATION AS MPWT/DHUP (REGARDING TO SMART CITY TASK)



The department identified smart and sustainable city development in its latest MPWT 2021-2025 (5 Years) plan with aims to keep a balance and effective use of land for urbanization. The specific purpose on housing and urban planning fields has been to set up comprehensive policy to apply appropriate strategy of smart city development through the procedures and perspectives of urban planning with the involvement of policymakers, financial experts and the local community. Moreover; Within the last decade, our department has been promoted and emphasized of smart city filed as: permit the concession of smart city projects, established the smart city strategy and regulation and training the principles and approaches of smart city trends in organization.

## 2.1 URBAN PLANNING DIVISION

### ❖ **Urban planning division and main tasks**

- 1) Outline of regulations, technical standards and instructions concerning urban planning ;
- 2) Outline and revise of strategic plan, town plans at national, regional levels;
- 3) Outline, revise and manage of town plans, protection of urban heritage, urban architecture and urban landscape;
- 4) Inspection, monitoring and technical assistance of town planning especially special and specific economic zone, smart city zone, and etc.

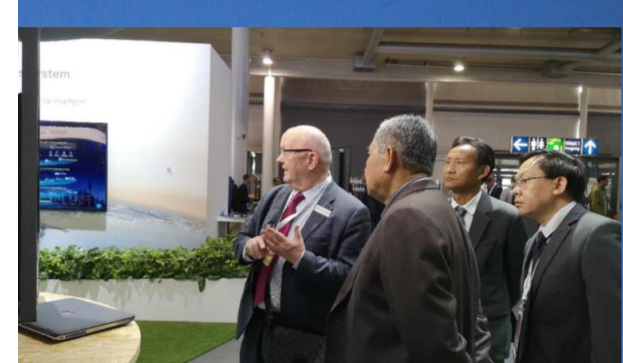
### ❖ **Brief description of our assignments**

- 1) Assist Head division in outlining, managing, implementing and inspecting of urban planning;
- 2) Follow all of activities in urban planning division;
- 3) Adequate, manage of organization and activities of persons;
- 4) Outline of strategic plan of short, middle and long term concerning urban planning for city, remote area, special and specific economic zone, smart city zone, and etc.



## ❖ Authorities and duties

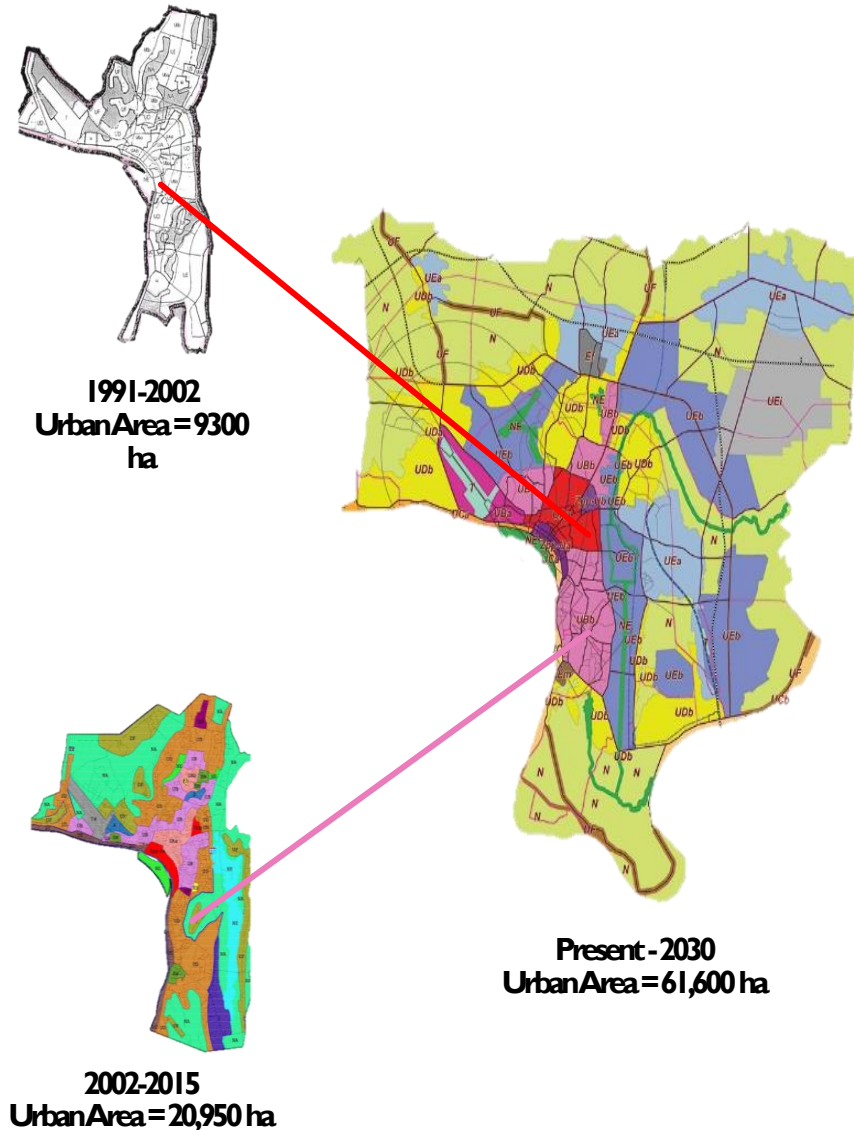
- 1) Outline of regulation, technical standards and instruction, concerning urban planning smart city, specific and special economic management;
- 2) Obey of administration system and duties delegation in division
- 3) Follow directly of urban planning, smart city and environment section duties;
- 4) Inspection, monitoring, solving issues and regularly reporting on tasks and duties execution to the department.



## Land Use Conditions and Land Distribution

The conditions of land use are rapidly changing in Lao PDR determined by population growth, internal migration, the substitution of forest use by farming, the destruction of farm land and forests as well as a loss in soil quality due to the War, as well as the build-up of new market production structures in the former subsistence-oriented, indeed autarkic agriculture.

Central stages, objectives and instruments of the land transformation process in Laotian society and economy since the beginning of the 80s can be demonstrated pin-pointedly in the formation and securing of land access and land use rights. Many properties owned by Laotians who fled the country were nationalized and placed under state management.



## 3. CURRENT CIRCUMSTANCE OF LAOS URBAN DEVELOPMENT



## 3.1 POLICY AND VISION: SMART CITY AND INFRASTRUCTURE FOR SUSTAINABILITY

### Policy as a Component of Smart City Development

Lao Government is committed towards sustainable development. Incorporating and implementing SDGs under the 8<sup>th</sup> National Socio-economic Development Plan (NSEDP) and setting out Green Growth policy demonstrates the government's substantial efforts to achieve that goal. Among others, Green Growth promotes the development and planning of cities so that they are green, sustainable, integrated, and smart. It also promotes ecologically/environmentally friendly, energy efficiency and saving in the design and construction of infrastructure.

Smart city is a term that has been raised not so many years ago in Lao PDR. There still seem to be no clear and harmonized official policy and vision towards this concept. However, Lao PDR has some progress in promoting smart city initiatives by participating in the ASEAN smart cities network, which is initiated by Singapore. Under this initiative, 2 cities in Laos, Vientiane Capital and Luang Prabang, are selected among 26 pilot cities in ASEAN.

Other developments that are circulating around the smart city concept include: high speed railways, promotion of electricity taxi in Luang Prabang, the ongoing BRT project, BCELOne and other services initiated by the private sector and SMEs.

# WHY SMART CITIES AND INFRASTRUCTURE?

Cities are the backbone of socio-economic development with continuous urbanization, cities are becoming larger and larger in terms of physical size and population.

The expansion and population growth of cities have brought about challenges for government to efficiently manage public infrastructure and maintain/improve the cities livability. Common urban problems that are difficult to deal with include: traffic congestion, environmental pollution, affordable housing, water and sanitation, safety and security, climate changes and so on.



## 4. CHALLENGING

- Mostly of land in the planned area are belongs to the individual, once developed will affect the landowner, then local authorities have to negotiating with land owners to voluntarily cede a portion of their plots for a road or infrastructure corridor.
- Mobilization local authorities promulgate in public awareness for citizens, private sectors and organizations to understand and participate in the implementation of urban development.
- How to adopt and use new technologies and build future System?
  - What will be the future shape of the Transportation Systems?
  - System Transformation from old system to the new emerging transportation systems
  - What are the key strategies for the transformation?
- In Transportation area, we proposed new concepts of AI based Traffic Management Center and Digital Urban Infrastructure for Smart City.

## 5. THE EXPECTATION TO ACQUIRE THROUGH THIS COURSE

The dilation of infrastructure and public facilities is the main ways to enhance the quality of country to be a smart nation as a smart city; So, I hopefully to explore the methodologies and approaches which relate to these kinds from this course such as:

- Sustainable socio-economic urban development for all;
- Implementation of actual Smart City plan along with urban development;
- Difficulties of planning and implementing Smart City development;
- Internet of things, AI, Technologies for solutions in Smart City development;
- Financial resource and budget for projects;
- Learning the other's Political, Business, Regulation Policy of Smart City;
- Motivating participation of private sectors in Smart City.



- Smart City policy is not clearly formulated yet;
- Seeking support from abroad for Technical Assistance (TA) in Using the High-Technologies;
- Lack of finance resources;
- Lack of human resources in terms of urban development in smart city sector;
- Lack of legislation for control on urban development in smart city sector;

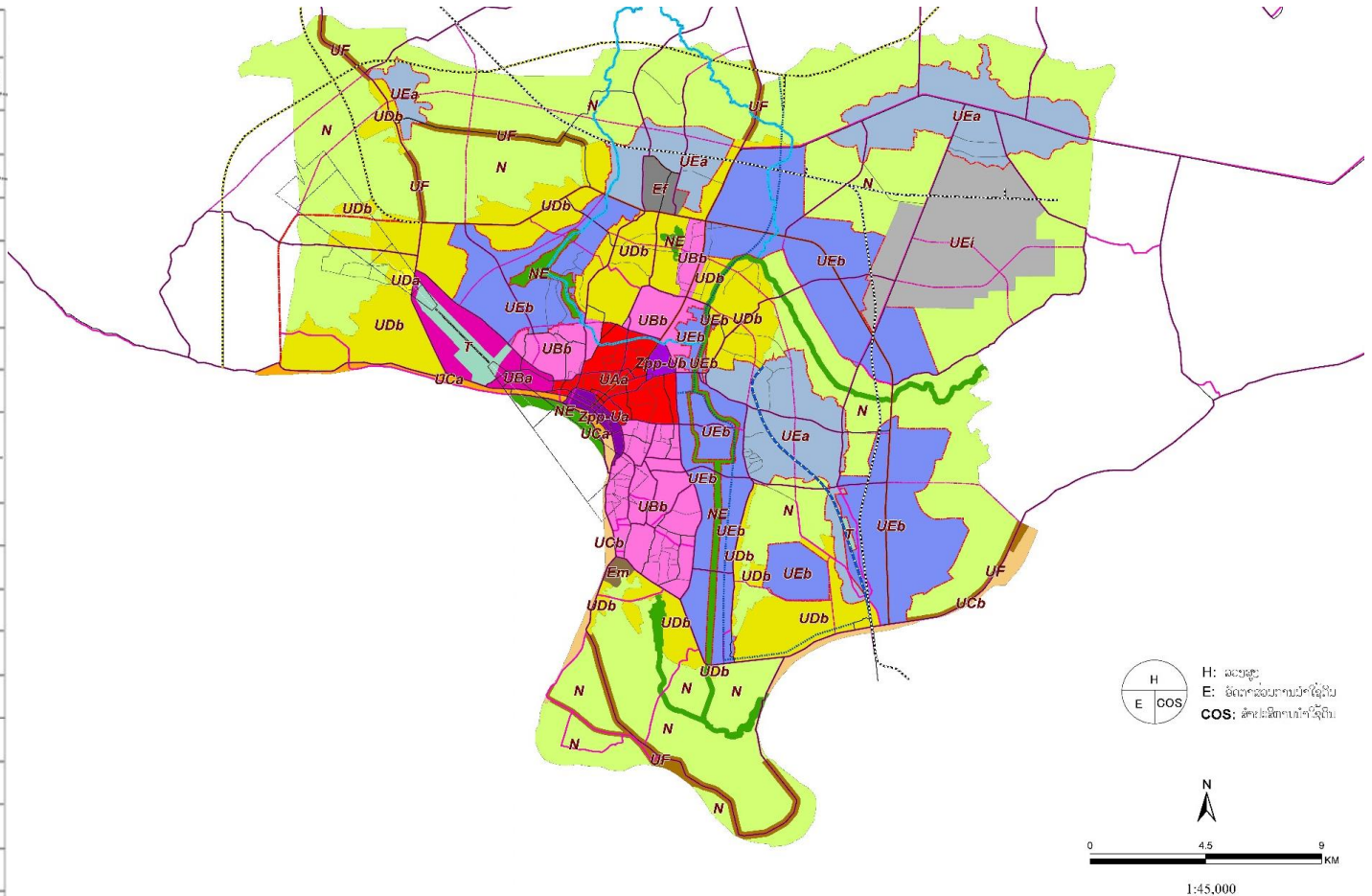
- 4.1 To organize the pilot project as Vientiane Urban Development to be an example for the urban hierarchy provincial wide: city, downtowns, innerzone, outskirts and expansion area;
- 4.2 To maintain and construct the urban infrastructure across the nation to be a complete system, to have good urban service system and sufficient and appropriate with each level of socio-economic growth of towns;
- 4.3 The citizen's living will be environmentally friendly by the concept Developing on environmentally sustainable transportation as “BRT”.

OBSTACLES OF URBAN DEVELOPMENT

ACTION PLAN

# 4.1 Strategy of Vientiane Urban Development

Zoning Map			Land Use Plan		
Symbolic	Zone	Area	H	E	FAR
Zpp-Ua	Conservative Areas	190	20	75	2.0
Zpp-Ub	Historic Area	109	7	50	0.7
UAa	Commercial and Political Zone	512	26	60	4.0
UBa	Inner Areas 1	735	20	60	1.5
UBb	Inner Areas 2	3,253	20	60	1.5
UCa	Kong Riverside Areas 1	295	10	50	1.0
UCb	Kong Riverside Areas 2	582	10	50	1.0
UDa	Sub-Urban among Aviation Areas	55	7	40	0.7
UDb	Out Skirts with Agricultural Areas	8,319	15	50	2.0
UF	Out Skirts with Potential	1,110	10	40	1.0
UEa	Urban Expansion Areas	5,864	23	50	3.0
UEb	Special Development Zone	10,092	-	-	-
UEi	Industry Zone	3,128	15	40	1.5
T	Logistic Route	432	-	-	-
Ef	Education Areas	292	-	-	-
Em	Military Areas	82	-	-	-
N	Agriculture Areas	24,746	10	-	-
NE	Restricted Areas	1,804	-	-	-
Total Urban Areas		61,600	-	-	-



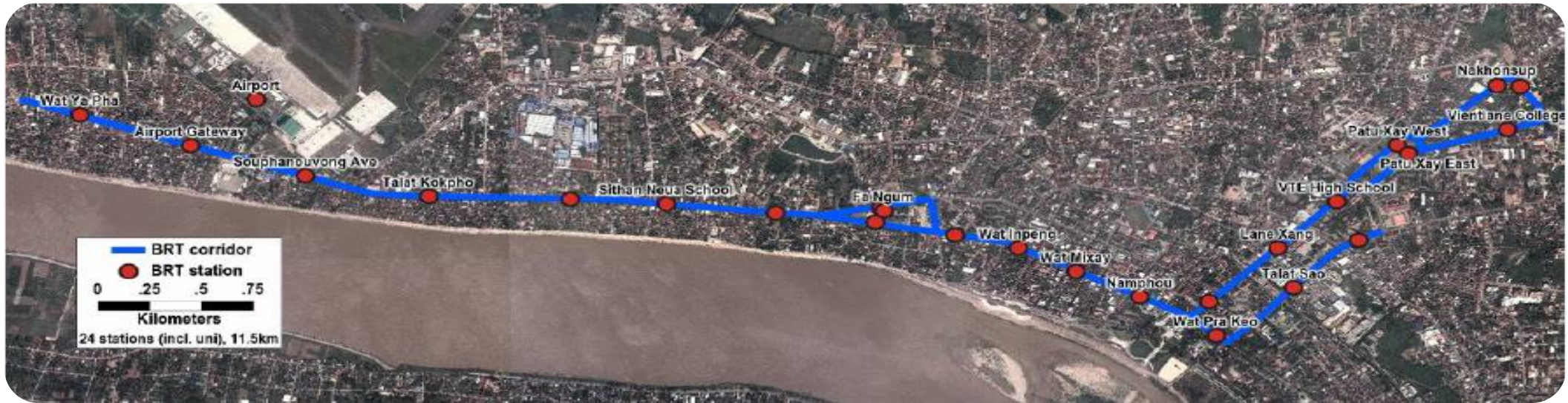
## 4.2 High Speed Railways



- Landlock to land-link.
- There are 33 stations, the 1<sup>st</sup> period is 18 stations will be open early.
- The railway route will pass through 4 provinces and 1 capital, namely: LuangNamTha, OuDom-Xay, Luang-PraBang, Vientiane Province and Vientiane Capital.
- Travel price 350Kip (0.28Yuan)/person/km.
- Freight price 600kip (0.47Yuan) /ton.km



# 4.3 Bus Rapid Transit



- 22 terminals
- Electric power
- Expand Transport Project
- Electronic parking charges
- The project's impact will be a new frontier in the main area of Vientiane that is environmentally friendly and pedestrian friendly.







**THANK YOU**