URBAN PLANNING ON THE EAST – WEST AVENUE IN HO CHI MINH CITY VIET NAM
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Vietnam began to change from a centrally planned economy to a market economy from the mid-80s. Since opening up the economy, GDP growth has constantly been at around 8% per year. Economic policy shift has contributed to the promotion of economic development, attracting workers from other provinces and rural areas to major cities. The urban population increased from 19.8% in 1989 to 30.4% in 2010. Ho Chi Minh City is the city with the most attractive and fastest growing in the country, therefore that is the most populous city as well as a center of economic, cultural and educational importance of Vietnam.

Due to favorable natural conditions, Ho Chi Minh City became an important traffic hub for Vietnam and Southeast Asia, including road, railway, waterway and airway. In 2007, the city welcomed about 3 million international tourists, accounting for 70% of all visitors to Vietnam. Ho Chi Minh City also plays a most important role in the education sector, and in media, sports and entertainment.

Ho Chi Minh City is located in the Mekong delta in the southern part of Vietnam. It is the biggest city with around 2,000 square kilometres in area including 19 districts and 5 suburban districts. The city centre is situated on the banks of the Saigon River, 60 kilometres from the South China Sea and 1,760 kilometres south of Hanoi, the capital of Vietnam. There are highland in the northwest and alluvial in the southeast part of the city.
With the tropical climate and the location near the coast, the city has two main seasons; the dry and the rainy seasons. Because the impact of global climate change, in the dry season some rivers and canals have dried up and during the rainy season some parts of the city flooded.

Ho Chi Minh City accounted for about one fifth of Vietnam's GDP. The city's economic policy is an open economy and a strong development with annual growth rate above 10%, the highest growth in the country. The city is ranked 132 on the list of the most expensive cities in the world.

The development of industrial parks on the outskirts of Ho Chi Minh City includes specialized areas for such activities as electronics, construction and processing. These industries have attracted a large number of immigrants from the countryside to the city. Consequently Ho Chi Minh City is Vietnam's most crowded city with a population of 10 million people of which 7 million are permanent residents and 3 million are temporary residents.

Ho Chi Minh City’s Master Plan 2010 - 2025 was approved by Prime Minister in the 6th January 2010. The vision set up in the plan is to transform HCMC into a world-class industrial, service, scientific and technical centre in the Southeast Asian region. The plan aims to manage urban growth in an orderly manner, while increasing the quality of life for the residents of Ho Chi Minh City.

With over 300 years long history, there are many historical and culturally valuable buildings and places of heritages in the city centre such as Madam church, City Post Office, City theatre, Independent Palace, City Hall, Ben Thanh Market. Many new high-rise buildings are located within historical parts of the town.
The city centre with a lot of ancient houses and high-rise buildings. The 68 stories building is the tallest building with a heliport on the 50th floor.

Ho Chi Minh City is a city on the river with about 20 150kms waterways of rivers and canals of great importance for transport as well as for the environment. There are four international ports and many wharves on the Saigon River - a tributary river of the Mekong River. Saigon River is the main waterway that connects the city with the western provinces, from where food supply is provided for the city.

Phu My Bridge is the longest suspension bridge in Vietnam with 2,000 ms in length, crossing the Saigon River.
2. East – West avenue in Ho chi minh City

The East-West Avenue is the biggest and the most important avenue in Ho Chi Minh City with a length of 20.67kms and 60 meters width. It connects the east and the west of the city and passes through six districts in the centre and two suburban districts in suburbs. The avenue runs along a main waterway namely the Saigon River. The avenue development project was carried out from 2007 to 2010.

From the 18th century the avenue was established and developed as a trading and commercial centre specialized in rice, food and fruit that were transported from the western provinces. It became of the location for many thriving industries and grew to be the busiest business hub in the city. Concomitantly, handicrafts and small industries also developed along the road and the river side. Transportation and trading on the waterway were very busy.

Canals and arroyos played a very important role for commercial navigation during many centuries, since fluvial transportation was the main transportation mode for hundreds of years, before road transportation was explored in the French colonial period after 1858.

The length of the East-West avenue can be divided into three main residential areas, namely the old town in the central core and the existing residential areas in central part of the city and the developing areas in the suburbs.
Historically the first residential areas of Ho Chi Minh City were located along the Saigon River, so there are many ancient houses along the avenue that represent different development stages of the city.

Temples and pagodas are the most valuable expression of Chinese architecture in the city and are part of Vietnam’s most precious heritage. They stand out through their shapes, facades and unique roofs made of double tile, covered by green/blue enamel and decorated with ceramics depicting humans, angels, deities, puppets, etc. Bass-reliefs or embossments play a very important role in the decoration of the temples. Most of them have a bass-relief illustrating a boat crossing the sea hanging above the front door. The Madam temple is a national heritage that is considered to have typical and unique Chinese characteristics.

Shop-houses provide a shop opening on to the sidewalk and residential accommodation on the upper floors. This was an ideal unit for small-scale, family based commercial operations. Shop-houses were most often built in contiguous blocks with individual units sharing party walls. They are typically built on elongated plots with narrow frontages.
3. Problems on the East – West Avenue:

3.1. Transportation:

The East-West Avenue is one of the main roads along a major waterway linking the city with the West-provinces, resulting in huge traffic demand. The traffic jam on the road and on the waterway is a major problem.

There are no clear demarcations for vehicles and the mixture of cars, trucks and motorcycles often cause traffic jam and confusion on the road.

The ships carry different kind of goods, construction materials, rice and fruit from the provinces to provide for the city. The ship routes are not clearly defined and that causes traffic jams on the rivers.

Low capacity of the roads and parking scarcity has been identified as the key transportation issues in the area.

Trading related exchanges, reception of external traffic, lack of on-street parking provision and scarce parking facilities are causing heavy pressure on roads and results often in slow traffic. Public open space is regularly occupied by vehicles.
3.2. Conservation:

The expansion and widening East-West Avenue has resulted in the loss of a considerable number of old houses along the rivers. The large number of vehicles and the heavy traffic-flow along the boulevard will bring about additional challenges for the conservation of historical and cultural buildings and areas.

With the development over more than 300 years, the houses in the old town are old and dilapidated; the infrastructure system is degraded with for example confusing cables along the street. Due to the lack of regulations for the conservation and the limited budget for restoration works, some historical legacy has been restored but not in accordance with the original design.

As a result of the rapid economic development and the population growth there is an increasing demand for construction. Many new buildings have been built in the old town. A very unfortunate reality is that some ancient buildings of high value in terms of history and architecture were destroyed, but new buildings have been inserted that disrupts the overall urban landscape.
3.3. Construction:

With high economic growth rates and rapid population increase, demand for new construction is an urgent requirement. Projects have been undertaken spontaneously without appropriate urban design concepts. Besides, to serve the needs of the traffic, the East-West Avenue was extended prior to the adoption of the urban management regulations. This has led to the construction patchwork inserts in the existing residential area in the center and in new residential areas in the suburbs.

After the expansion and widening of the roads, small houses earlier located at the rear of the existing blocks have now become the new face towards the road, forming architectural features that are very confusing and patchy, and inconsistent with the role of the avenue.

The road boundary expansion is carried out parallel to the existing road. After clearing the way for expansion, some areas of the remaining land lots are very small and narrow. However, to ensure the interests of the land holders, they are allowed to build. The new houses need to be designed to fit on inappropriate plots and these results in buildings that are inconsistent and not harmonious with the surrounding landscape.
3.4. Environment:

Ho Chi Minh City is located in the lowlands, with many rivers and canals. Southeast of the city is the Pacific Ocean. The effects of the global climate change makes sea level rise and cause flooding in many parts of the city.

The East-West Avenue is located along the Saigon River and has an old drainage system. It has frequently been flooded during the rainy season. There are two main causes of flooding the tidal flow through the rivers and the rain.

The river water levels that vary greatly between the rainy and dry season has had a great influence on the waterfront houses. In addition, transport and traffic on the river causes large waves that erode the water front. Furthermore, sand mining from the river beds has led to the collapse of waterfront house into the river.

Due to the expansion of cities, many factories were located in mixed residential area, which causes very serious environmental pollution. Ships carrying goods supplied to the plant causing traffic jams on the rivers. Garbage and waste water from factories have polluted the environment.
II. **Objectives**

1. **Urban design:**
   - Urban renovation in the direction of modern civilization.
   - Establish management regulations
   - Promoting a new spirit for the most beautiful avenue in the city.

2. **Transportation:**
   - Combine the development of transportation projects with the residential planning project in harmony with city's general development.
   - Ensure smooth traffic connection in the city centre and from Ho Chi Minh City towards the western provinces
   - Promote tourism development; exploit the strengths of waterway and water-tourism.

3. **Conservation:**
   - Integration of economic, social and human development with the conservation.
   - Preserve the historical and cultural value of architecture.
   - Promote tourism development; exploit the strengths of tours visiting historical and cultural heritages.

4. **Environment:**
   - Renovate and promote clean environment, promote the architectural embellishment of the urban landscape and promote economic development.
   - Ensure a stable environment for the city to avoid the effects of the impacts of climate change.
III. Process
1. Process of urban planning:

2. Process of the project urban planning on the East-West Avenue:
   2.1. Step 1: Collect data

   **Location map:** Determination of planning boundaries includes road-length is 20.67km from Cat Lai T-junction to the junction of National Highway 1A. The width of the study areas along the route is from 100m to 300m. Total area of research is 628.28ha. The Avenue through 6 districts and two suburban districts.

   **Existing map:** Determine status of land use along the route include the functions of land use as residential, commercial, industrial, transportation, parks, schools, hospitals etc.
2.2. Step 2: Analysis of data

Analysis of economic - social status, transportation, residential, construction, conservation, environment etc. Identify Strength and Weakness, Opportunity and Threatening (SWOT) in the research area.

2.3.  Step 3: Planning and urban design objectives.

Based on current conditions and socioeconomic development there is a need to divide the functional areas including residential, industrial, conservation, parks, schools, hospitals etc. and determine the function of each building. Choose the most representative activity for each functional area, especially in conservation works, public spaces, parks and public works.

The road-length is 20.67km therefore the project is divided into six sections according to the boundaries of six districts and two suburban districts.
2.4. **Step 4: To form the comparative idea**
Tabulated comparison of architectural planning criteria for each section to select the best plans. Proposed solutions in terms of architecture, landscape, conservation and environmental protection in each area in the six sections.

**Step 5: Select ideas**
At this step workshops should be organized to gather opinions from the people, the state management agencies and social organizations. Those attending the conference will base the discussions on the comparative schemes in step 4 to select the best plans. The researchers will synthesize the suggestions for editing and finishing project.
Step 6: Evaluate the solution compared

The completed project will be submitted to the Department of Urban Planning and Architecture for evaluation. The divisions of the Department of Urban Planning and Architecture will assess the aspects of architecture, transportation and infrastructure. Then a council will be held to review the project. Council consists of representatives of the Department of Urban Planning and Architecture, Department of Transportation, Natural Resources and Environment, Department of Construction, Department of Culture - Sports and Tourism. Department of Urban Planning and Architecture will report to the People's Committee of Ho Chi Minh City for project approval decision.

Step 7: Rules and regulations of urban management.

Based on the approved project the researchers will cooperate with local authorities in six districts and two suburban districts to study the rules and regulations of
construction according to approved urban planning in each districts. The researchers will also propose policies to encourage and support conservation, environmental protection and tourism development. Local government will approve the regulations of urban management and manage the implementation under the regulations. The Project Management Board of Ho Chi Minh City manages the entire project in terms of cost and will review all of the implementation of urban planning.

3. Implement process

- Department of urban planning and architecture
- Department of transportation
- People’s Committee of 6 Districts and 2 Suburban districts
- Master Plan of Ho chi minh City
  Scale 1/50,000
- Master plan of transportation system
- Master Plan of 6 District and 2 suburban districts
  Scale 1/5,000
- Master Plan of the East-West avenue
  Scale 1/2000
- Regulations on urban management
IV. Results
1. Urban design:

Urban planning for the East-West Avenue is the basis for the local government’s established urban design, ensuring harmony along the avenue. The new buildings harmonize with existing buildings; new projects in suburban areas harmonize with inner areas in city centre.

Setting up a development strategy for the area of the East-West Avenue, dividing the functional areas clearly and establish specific policy priorities for each area and each type of function.

Determine the rules and regulations of architectural planning for each area including regulations on height, setback, building density, and land use coefficient.

2. Transportation
Urban planning along the East-West Avenue requires special attention to the connection between the road network and the waterways, between the traffic on the ground and underground, that contributes to the development of the general transport system in the city.

The development of the road network and the waterways create advantageous conditions for tourism development on the river combined with visits to historical and culture heritages. Restoring traditional floating-markets, where buying and selling of food and fruits from the western provinces as tourist points on the river.

A new tramway system is installed in conjunction with the bus system and metro system to serve the public transport, contributing to reducing traffic jams.

3. Conservation

Cultural and historical heritages have been identified as an important asset in Ho Chi Minh City in terms of its role as engines of economic development and the significance as landmarks for the community. Today tourism is a major source of revenue and plays an important role in the development of the city. The conservation area is interesting as a destination for tourist. The picture above is the office of People’s Committee of Ho Chi Minh City. It
used to be city hall in the French colony. There is a statue of Ho Chi Minh as president with children in front of the building.

Urban Planning on the East-West Avenue is not only focusing on the preservation and conservation of buildings, but also on open spaces and especially the landscape in the old town and along the river bank.

Regulations for urban management with policies to encourage and support conservation has created advantageous conditions for the preservation and upgrading of the ancient works of high value in terms of the history and culture, and increasing the income for the owners.

4. Environment

The project has increased the area of public space and green parks, creating a living space that is clean, green and beautiful.

River embankment was rebuilt, the riverbed was dredged and the slums on the waterfront have been dismantled. The new resettlement area is constructed with spacious and modern living environment.

The riverbed dredging and river improvement has helped preventing the flooding of the streets. The park and restaurants on the waterfront are places for rest and recreation for people.

V. Conclusion

Major cities that have high economic growth rates and rapid population growth will lead to higher demand for transportation and construction. Due to funding difficulties for the implementation, therefore the planning and urban management regulations slowly lead to traffic jams, indiscriminate construction, environmental pollution, the ancient works with high value in terms of history and culture will be destroyed.

The renovation of the urban areas should be incorporated among the agencies of the City based on the functions and responsibilities of each agency. Department of Urban Planning and Architecture should take the initiative in terms of planning, implementation and management of urban development.
The road expansion should be done in accordance with the urban design to ensure architectural harmony of the general landscape. Due to the many rivers and canals, road traffic systems should be closely connected with waterways and their usage to create advantageous conditions for development of communications and tourism.