Urban Development Based on TOD Concept ～Examples of Vietnam～

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Urban Expansion in 2008 (from Green to Green+Yellow)

- Area: $92\text{km}^2 \implies 333\text{km}^2$
- Population: 4.06mil. $\implies 7.12\text{mil.}$
- Modal Split (2013)

Source: JICA Study Team
Examples of Urban Transport Problems in Hanoi City

- Narrow alley inside residential area
- Motorbikes occupy sidewalk
- Narrow distribution road to cross cars
- Crowded distribution road
- Students cross road without pedestrian crossing
- Pedestrian crossing without signal

Source: JICA Study Team
Approved UMRT Plans

- **Overall Network**
  - 8 lines
  - 306.5km in total

- **Main Concerns**
  - Delay in development
  - Increase in investment costs
  - Unclear priority

- **UMRT network review**
  - study is ongoing (JICA)

Source: JICA Study Team
Basic principles in UMRT network planning and development

- To promote sustainable and smart urban growth
  - More efficient land use (compact and mass-transit based)
  - Avoid urban sprawl
  - Connect urban centers each other

- To reduce road traffic congestions and improve public transport service
  - High capacity and high quality public transport service along main transport corridor
  - High accessibility to UMRT by walking in CBD

Source: JICA Study Team
Successful TOD

Successful UMRT Development/Operation

Increase in Ridership and Satisfaction of UMRT Users

Increase in Integrated Urban Development Opportunities at and around UMRT Stations

Enhanced Community Development in Influence Area

How to design and implement TOD?

Source: JICA Study Team
Different Models of TOD

- **Key Points for successful TOD**
  - Building integrated (efficient and effective) UMRT network
  - Developing and ensuring smooth access to UMRT stations by all transport modes
  - Promoting/facilitating integrated urban development at and around UMRT stations
  - Contributing to the improvement of traffic situation and living environment in the UMRT station influence areas

Source: JICA Study Team
Selection of Priority Station (preliminary)

- Station which will be an important transport node for intermodal transportation with other UMRTs and public transport
- Station which need to improve accessibility from urban areas to station for crossing roads, connect to public facilities, etc.
- Station which need to readjust Zone Plan for intermodal facility development and road development

C3 Tay Ho Tay of Line1:
for Detailed Design of accessibility improvement facilities (ITF), and for adjustment of Zone Plan

V4 Gia Lam of Line1:
for Detailed Design of accessibility improvement facilities, and for adjustment of Zone Plan

C8 Hang Dau of Line2:
for Detailed Design of accessibility improvement facilities (connecting to bus terminal, Nam Cau Long Bien Station of Line1, etc.)

V9 C.V. Thong Nhat,
V10 Bach Mai, V12
Giap Bat of Line1:
for Detailed Design of accessibility improvement facilities (access road improvement, pedestrian deck crossing NH1, etc.)

Source: JICA Study Team

Note) Hanoi Station will be excepted, since task of formulation of the Zone Plan around Hanoi Station has been implemented by Nikken Sekkei Civil. This plan will be monitored and reviewed as a model for HAIMUD 2.
Concept Plan around V6 Long Bien Nam Station & C8 Hang Dau Station

- **Accessibility**
  - Connectivity between Line 1 & 2 for transfer passengers
  - Expanded/improved access routes for pedestrians (surface roads, elevated & underground walkways)
  - Multi-level underground parking facilities at Hang Dau Park
  - Connectivity between UMRT stations and bus terminal
  - Connectivity between UMRT stations and communities outside of dyke area

- **Integrated Urban Development Opportunity**
  - Long Bien Market redevelopment
  - Long Bien Bridge space for preservation and commercial/recreational use
  - Space under UMRT Line 1 viaduct for commercial and public use
  - Underground space of Hang Dau Park for commercial use

Source: JICA Study Team
Facility Concept Plan of V6 Long Bien Nam Station & C8 Hang Dau Station

Station Plaza
- bus stop
- taxi pool
- motorbike and bicycle parking
- drop on & off space
- shops

Walkway network (ground, underground)

Underground path connecting Long Bien Nam Station and Hang Dau Station

Underground space for parking and commercial purpose

Pedestrian deck under viaduct

Source: JICA Study Team
Concept Plan around V10 Bach Mai Station

- **Goal**
  - Develop public transport hub for large-scale educational/medical zone

- **Accessibility**
  - Develop hospital users friendly access facilities (safe, barrier free and comfortable)
  - Improve connectivity of universities with UMRT
  - Improve accessibility of adjoining communities to the station

- **Integrated Urban Development Opportunity**
  - Renewal of hospitals (planned)
  - Redevelopment of old apartment areas

Source: JICA Study Team
How to Implement TOD

Important Elements:

• Stakeholder Consultation
• Land Law
• Methods of Land Acquisition or any other methods
• Process of Land Acquisition or any other methods
• Land Valuation and Appropriate Compensation