

Urban Development Based on TOD Concept ~ Examples of Vietnam ~

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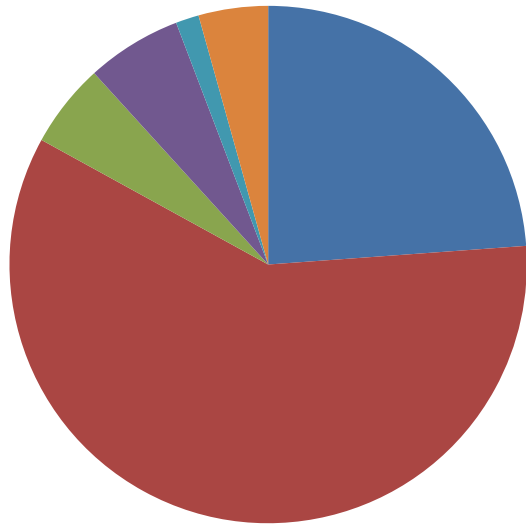
Executive Technical Advisor

Japan International Cooperation Agency

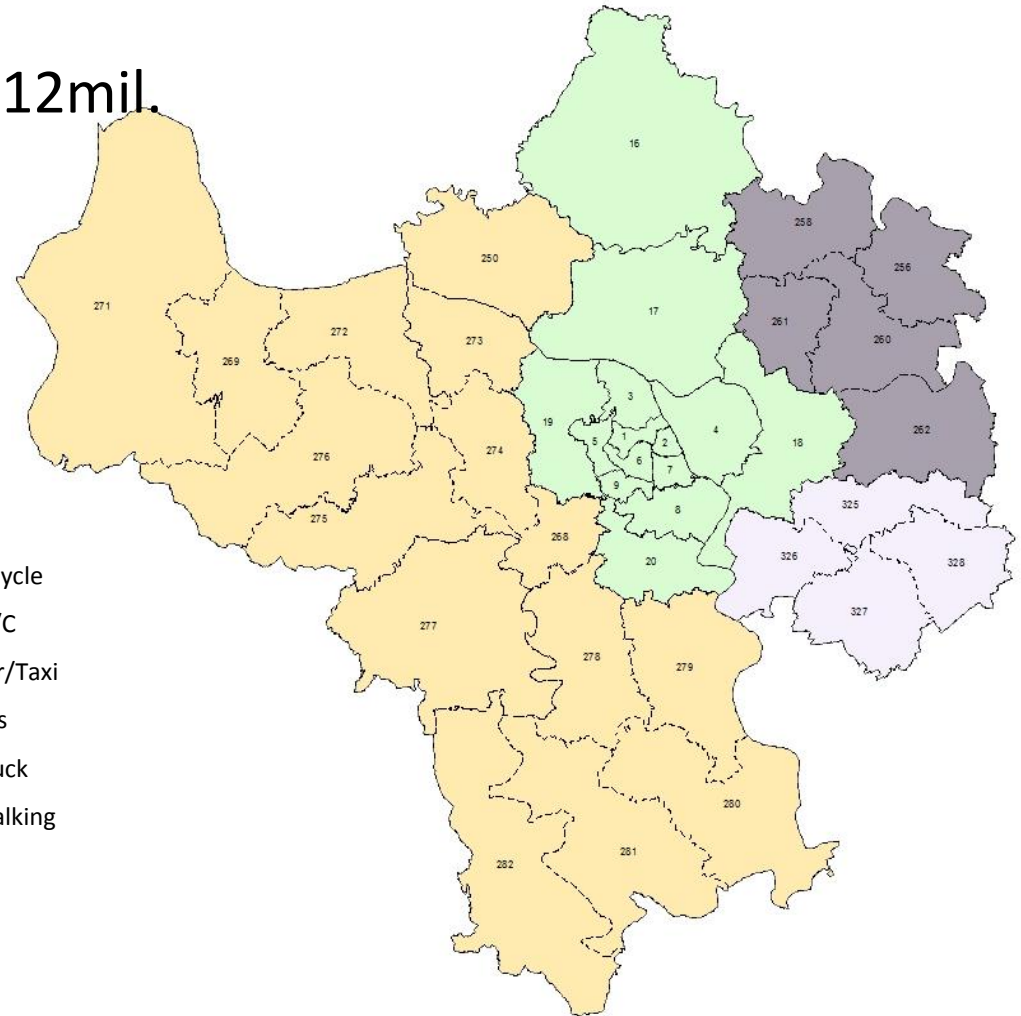
Basic Urban Data of Hanoi

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

- Area: 92km² ⇒ 333km²
- Population: 4.06mil. ⇒ 7.12mil.
- Modal Split (2013)



Source: JICA Study Team



Examples of Urban Transport Problems in Hanoi City



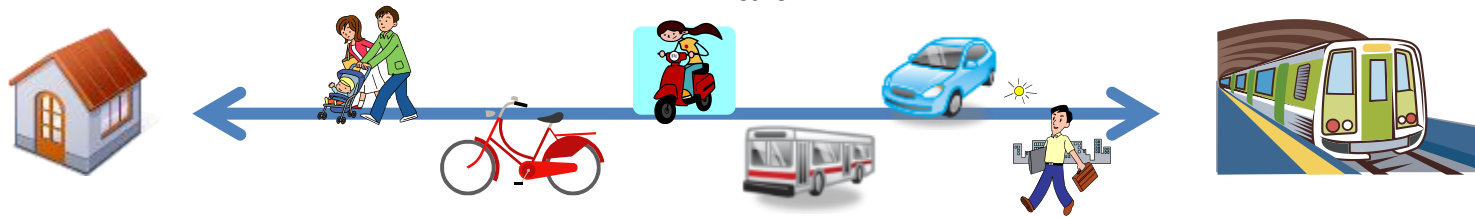
Narrow alley inside residential area



Narrow distribution road to cross cars



Motorbikes occupy sidewalk



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

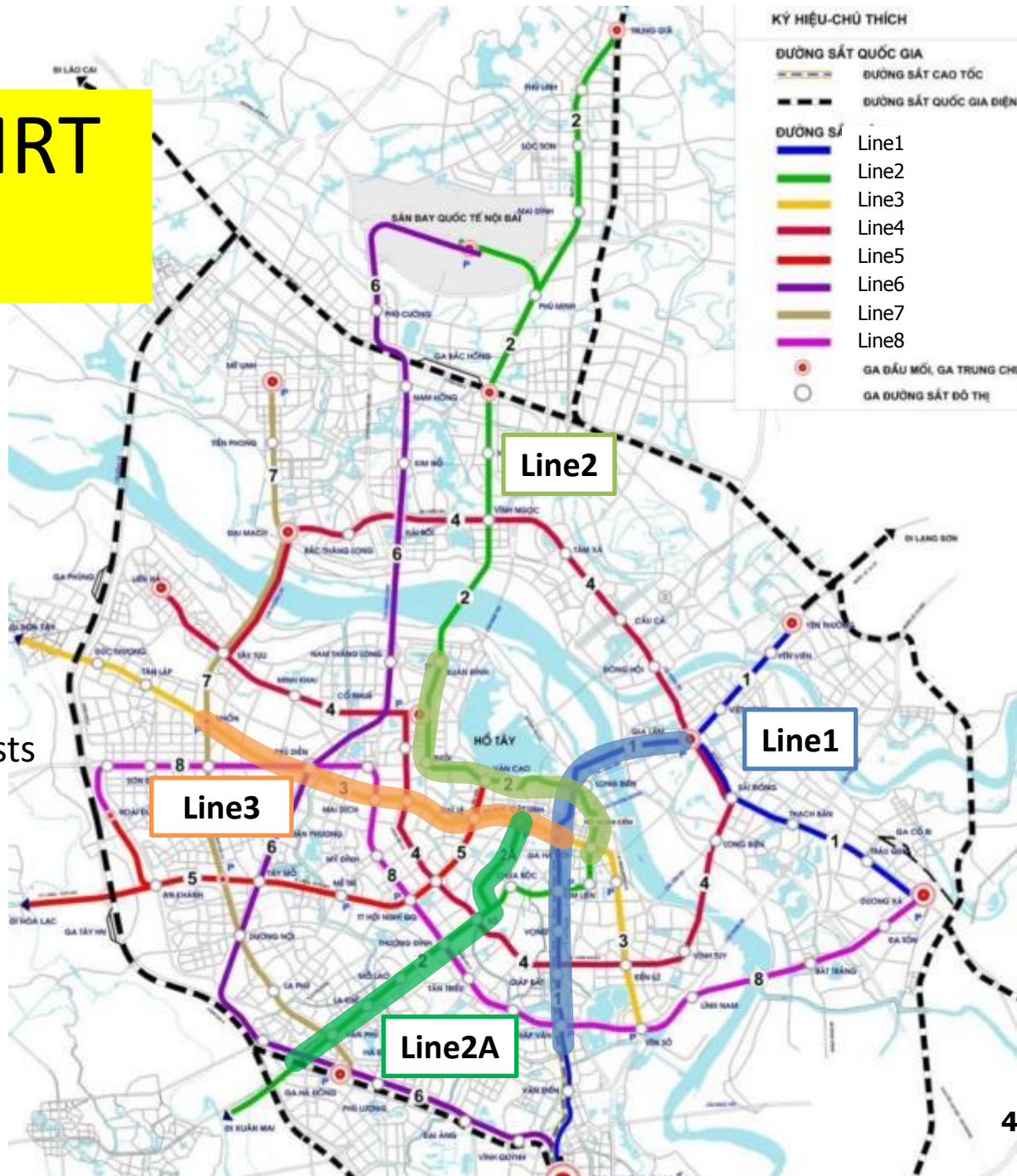
Main Concerns

- Delay in development
- Increase in investment costs
- Unclear priority

UMRT network review

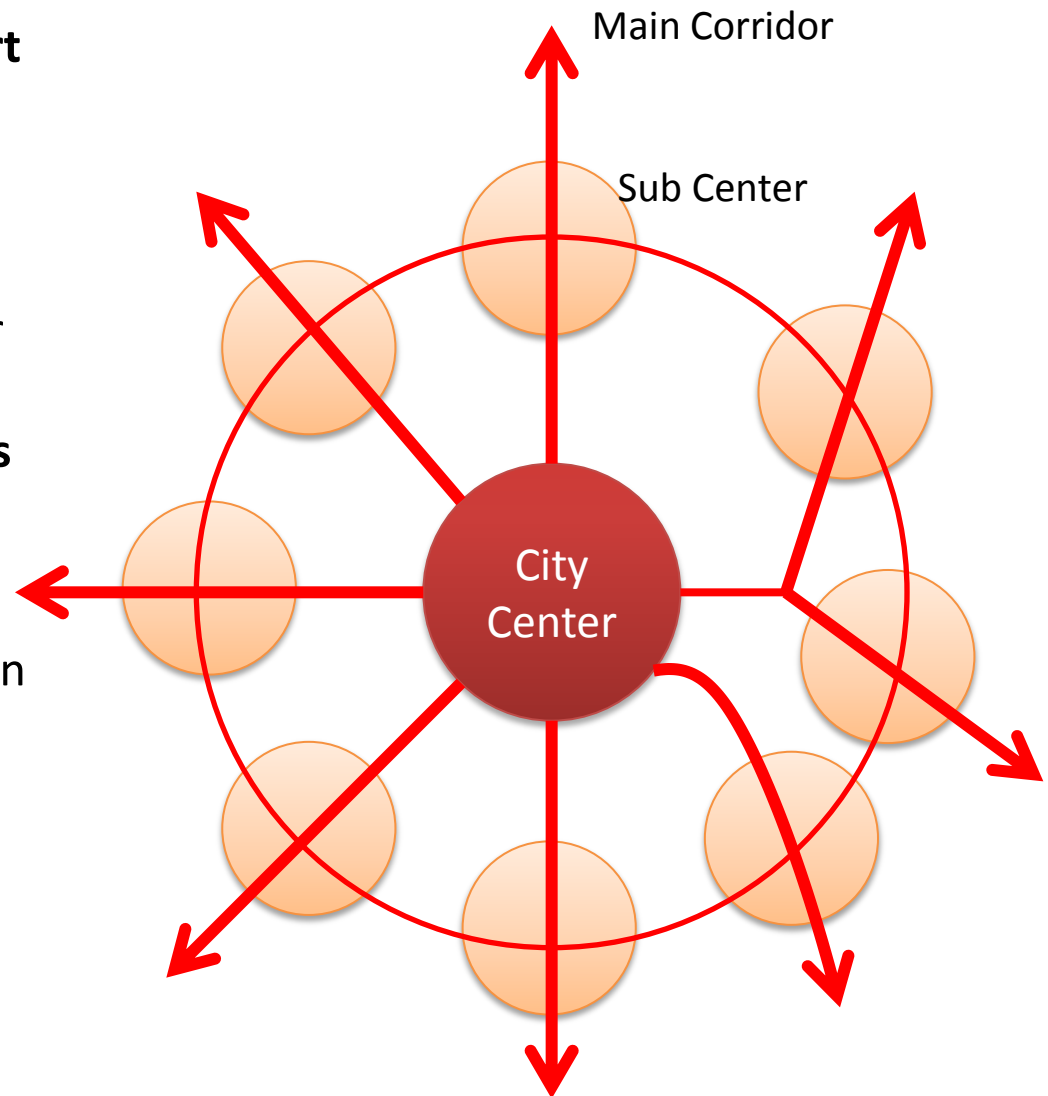
- study is ongoing (JICA)

Source: JICA Study Team



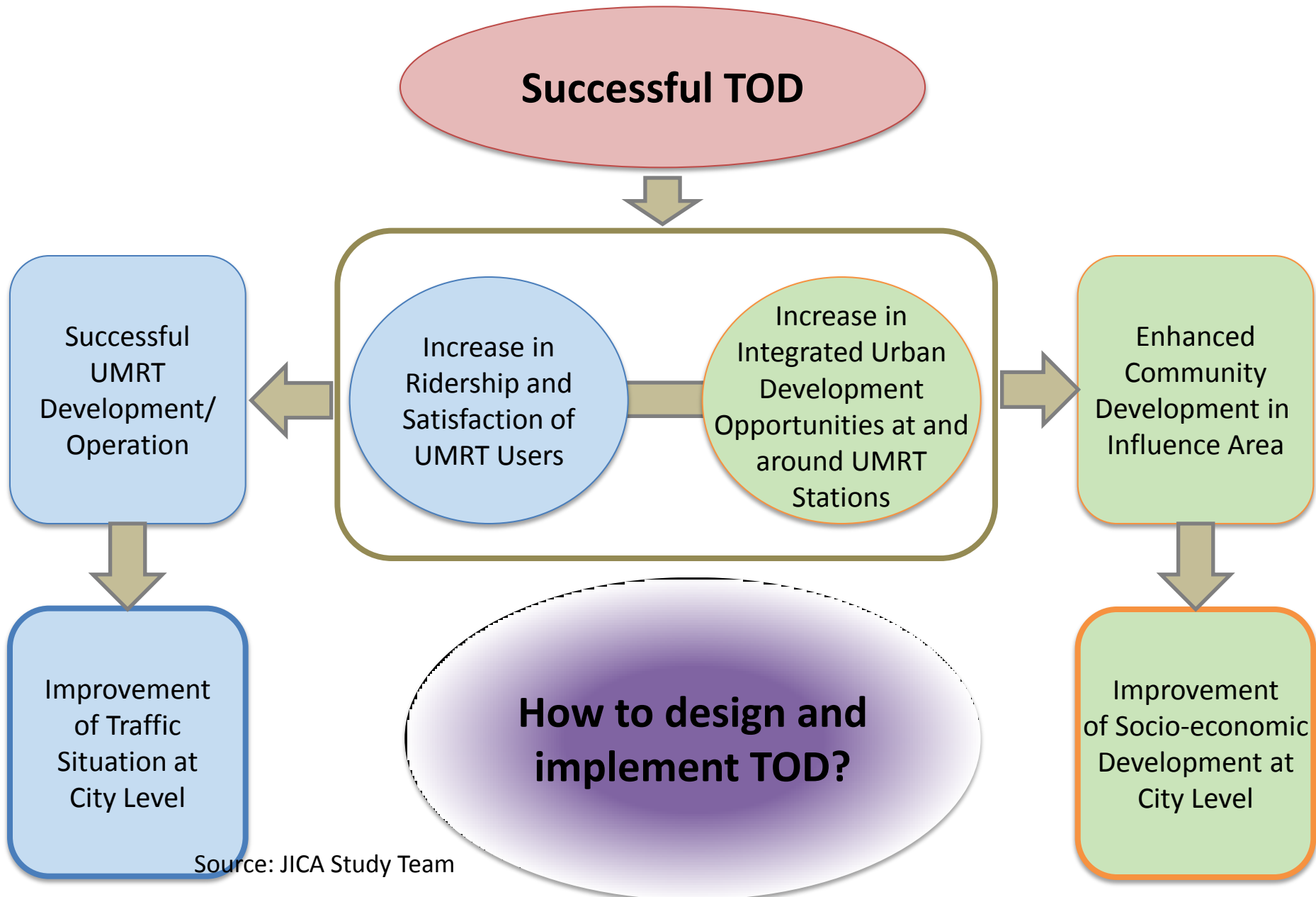
Basic principles in UMRT network planning and development

- **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

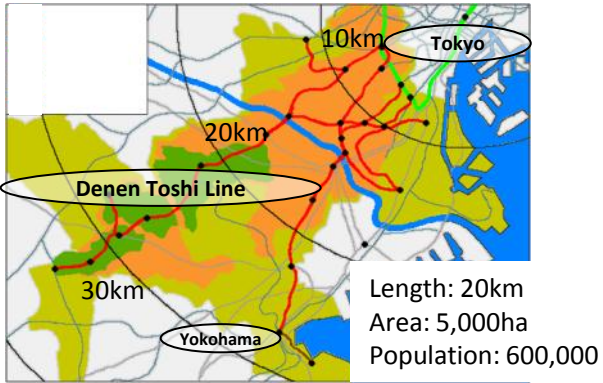
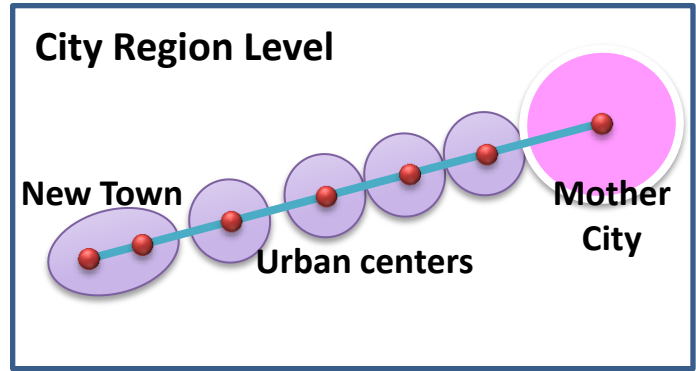
Concept of TOD



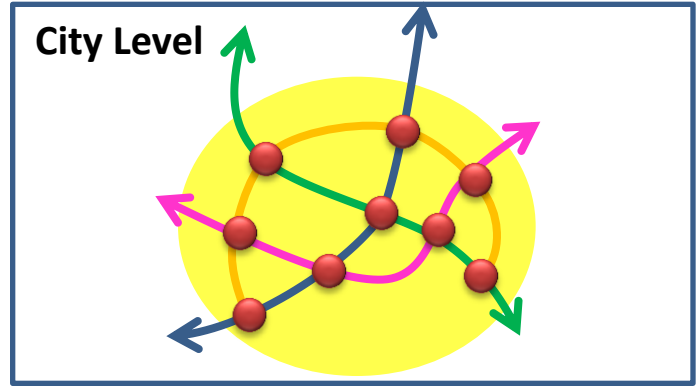
Source: JICA Study Team

Different Models of TOD

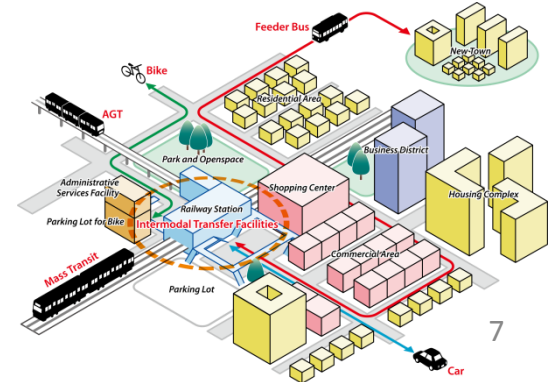
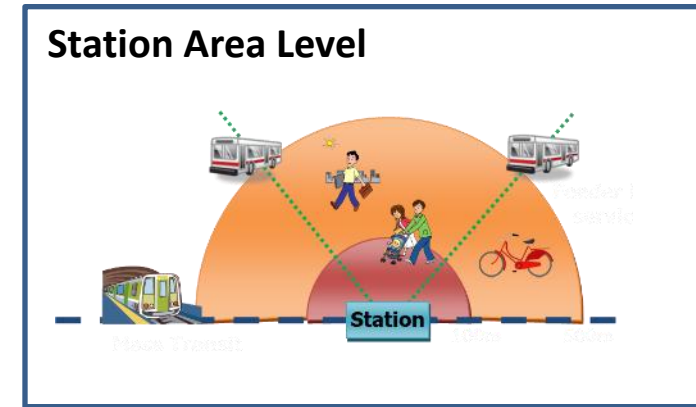
- **Key Points for successful TOD**
- Building integrated (efficient and effective) UMRT network
- Developing and ensuring smooth access to UMRT stations by all transport modes
- Promoting/ facilitating integrated urban development at and around UMRT stations
- Contributing to the improvement of traffic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



Tokyu Denen Toshi Development by private railway company



CBD around Tokyo Station Area



Selection of Priority Station (preliminary)

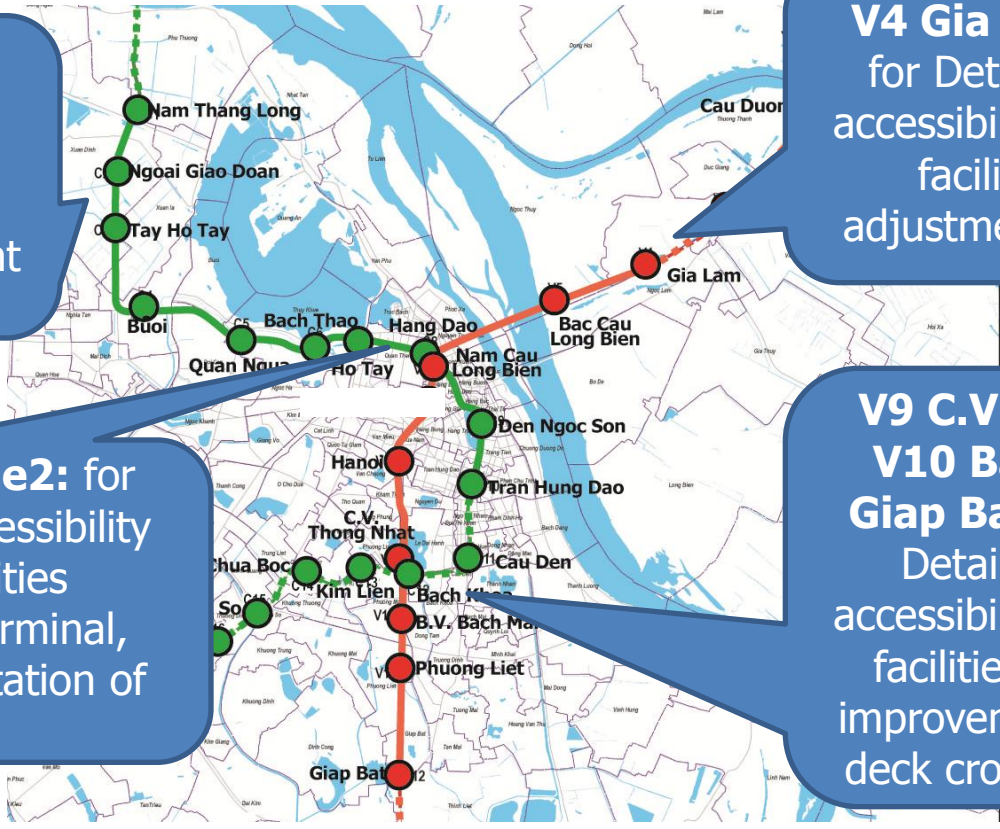
- Station which will be an important transport node for intermodal transportation with other UMRTs and public transport
- Station which need to improve accessibility from urban areas to station for crossing roads, connect to public facilities, etc.
- Station which need to readjust Zone Plan for intermodal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

C3 Tay Ho Tay of Line2: 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.)



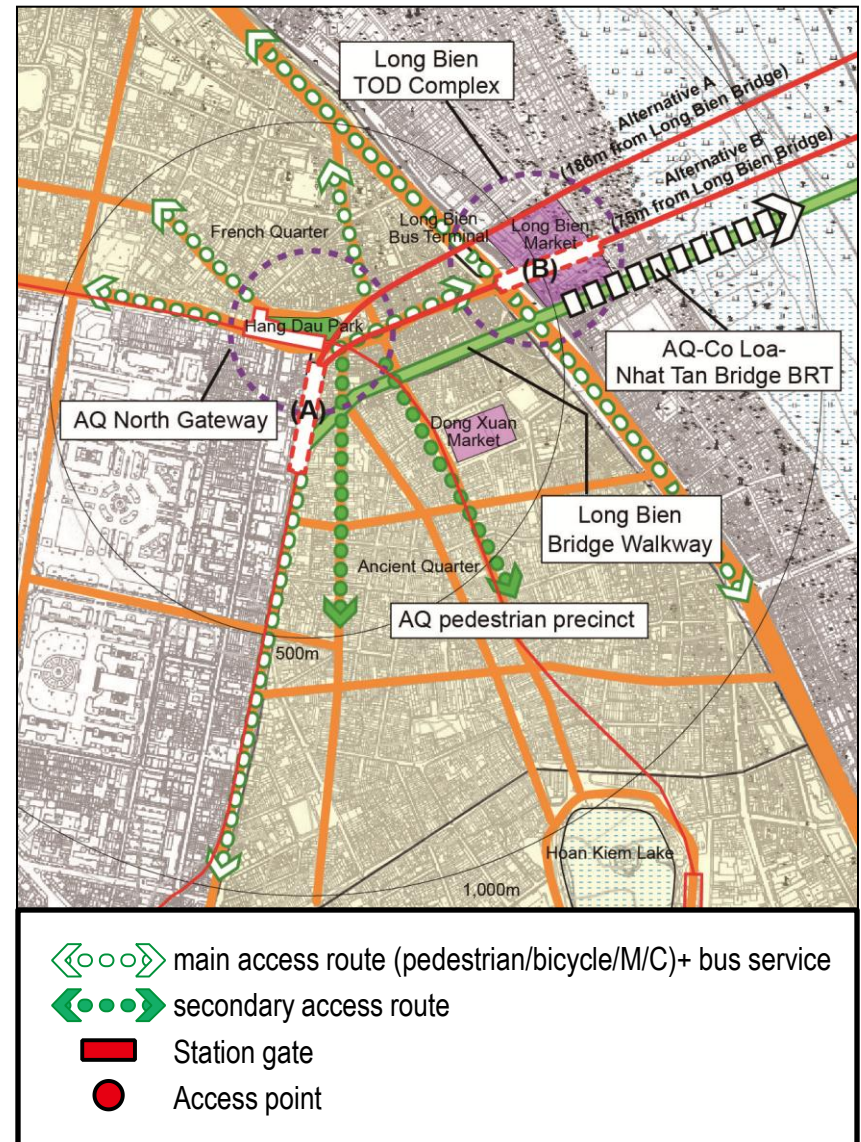
Source: JICA Study Team

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.

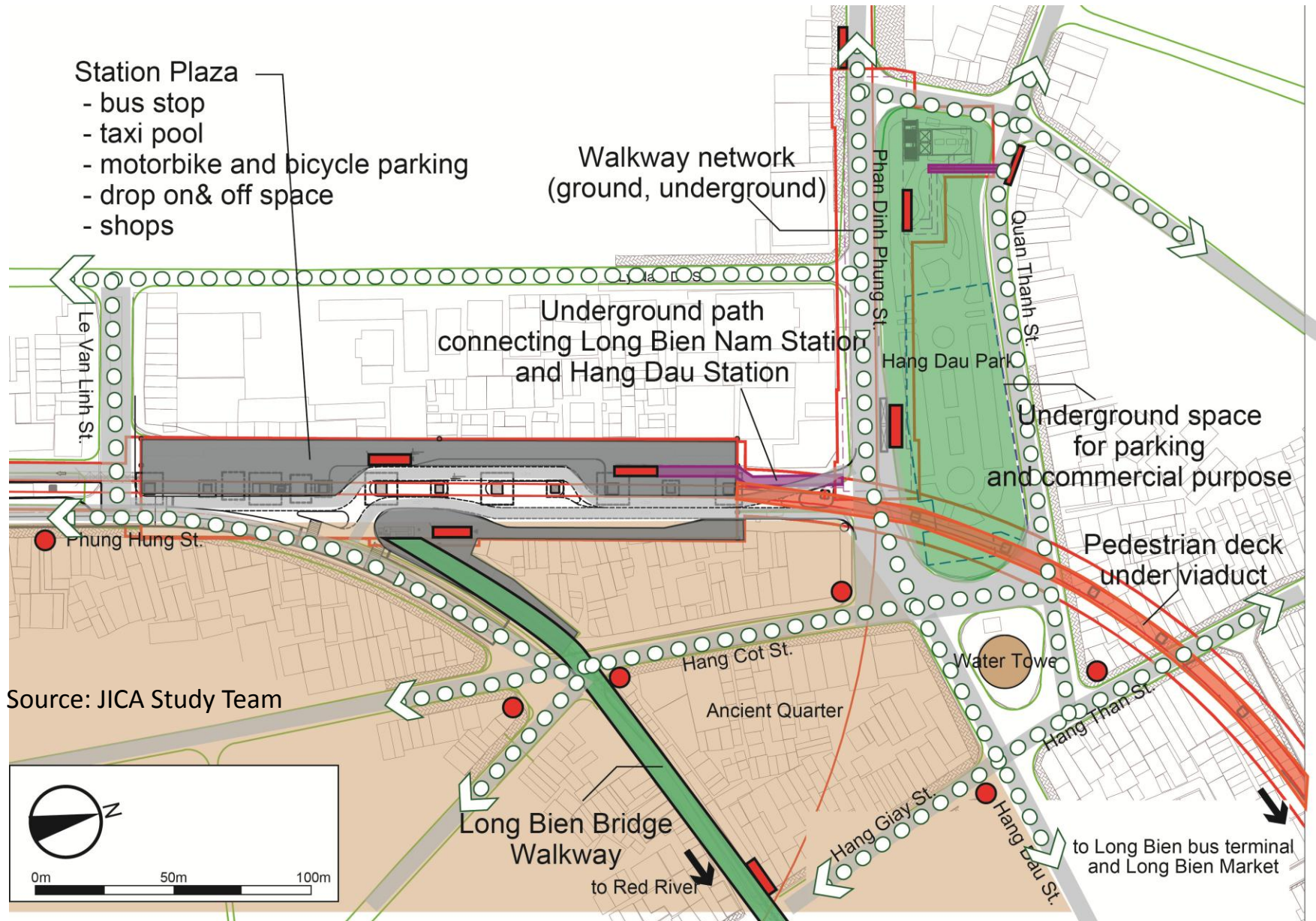
Concept Plan around V6 Long Bien Nam Station & C8 Hang Dau Station

- **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



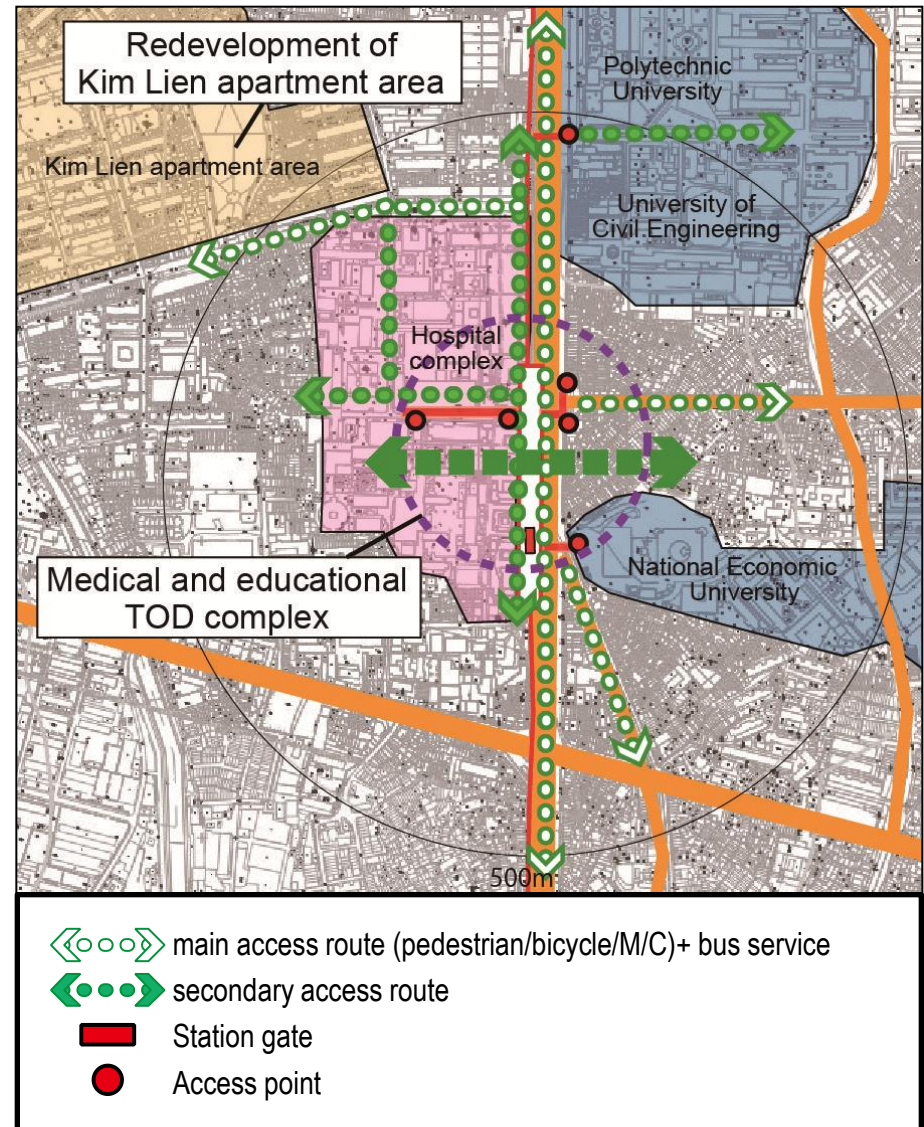
Facility Concept Plan of V6 Long Bien Nam Station & C8 Hang Dau Station



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