

TOD and Station Area Development in Asian Cities

Tetsuo Kidokoro, Ph.D.

Associate Professor

Department of Urban Engineering, the University of Tokyo

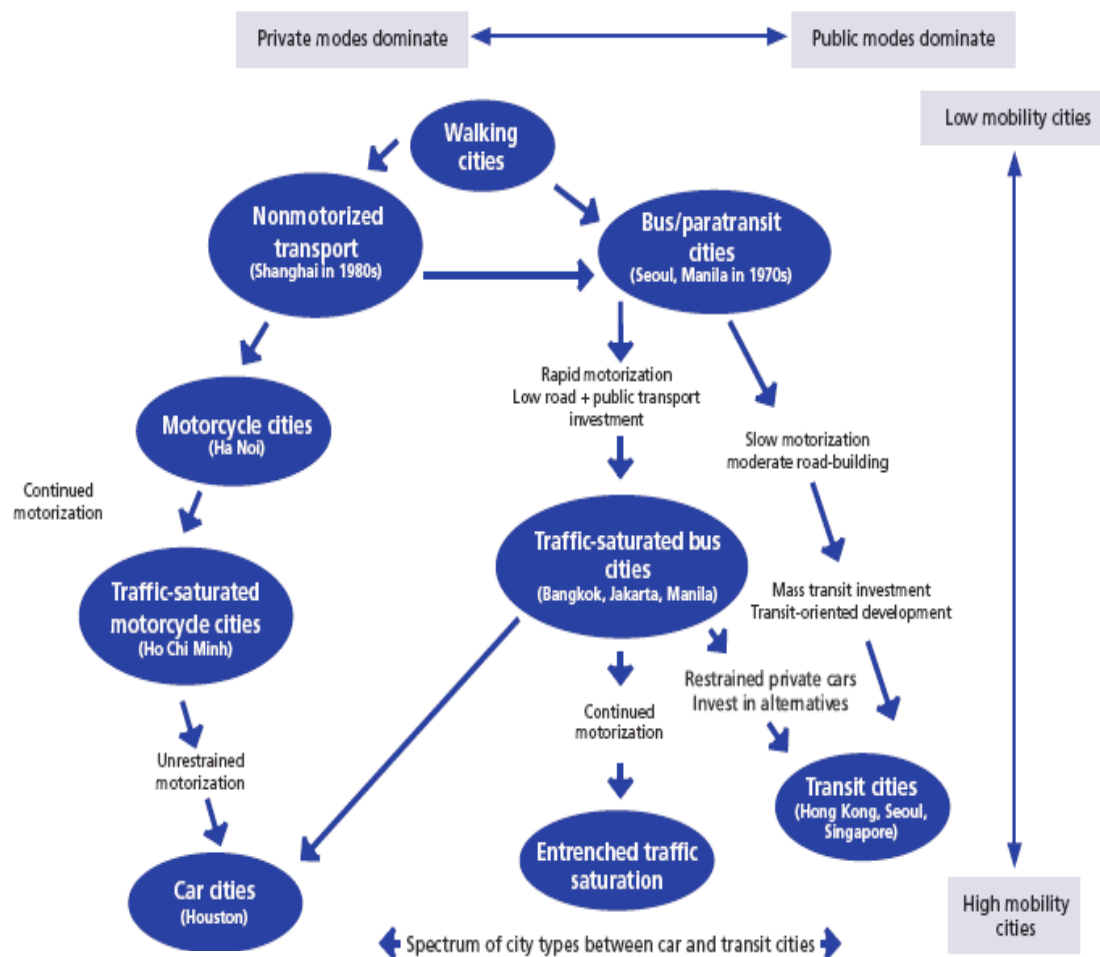
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and Quality of Life'- 14-15 Nov 2018,

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3. Some Issues for Successful Implementation of TOD in Asian Cities

1. Path to Transit Cities

- Many metropolitan cities of Asia are planning and implementing extensive investment in mass transit network and thus, are now at the threshold of whether they become transit cities or car traffic saturation cities.
- Promotion of Transit Oriented development (TOD) will be a key to move forward to transit cities.



Source: ADB (2009) Changing Course A New Paradigm for Sustainable Urban Transport

Tips for the Implementation of TOD

1. Transit oriented regional growth management plan
2. Station area zoning regulations (mixed-use, minimum density, maximum parking, etc.)
3. Joint development among local governments, transit agencies, private developers
4. Institutional mechanism for the public and private cooperation in station area development

Principles of Design for TOD

1. *Location Efficiency*
 - *Density*
 - *Transit Accessibility*
 - *Pedestrian friendliness*
2. *Generate Meaningful Community Involvement*
3. *Rich Mix of Choices*
 - *Design Streets For All Modes, in particular, for Pedestrian*
 - *Create Opportunities for Affordable Housing and Accessible Living*
4. *Place Making*
 - *Places for People*
 - *Livable Public Space*
 - *Enrich the Existing Urban Places*
 - *Make Connections*
 - *Work with the Landscape*
 - *Mix Uses and Forms*
5. *Value Capture*
6. *Resolution of the Tension between Node and Place*
 - *Manage Parking Effectively*
 - *Maximize Neighborhood and Station Connectivity*

2. Cases of TOD and Station Area Development

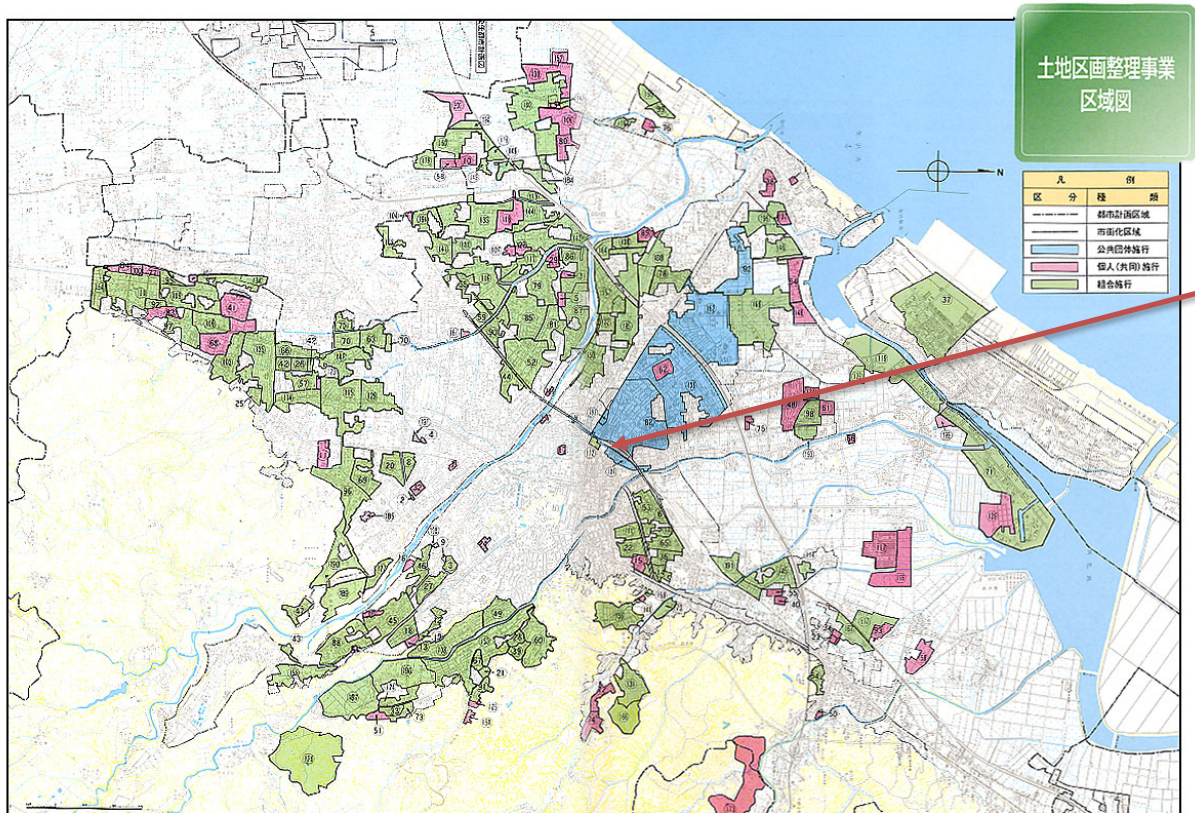
1. Kanazawa, Japan
2. Toyama, Japan
3. Tokyo, Japan
4. Denver, USA
5. Portland, USA
6. Kuala Lumpur, Malaysia
7. Jakarta, Indonesia

2-1 Kanazawa, Japan Central Axis Concept in Connection with Hokuriku *Shinkansen*

Central Axis Concept, **Kanazawa City**



Station Area Development through Land Readjustment Projects, Kanazawa



Before Implementation (1980)

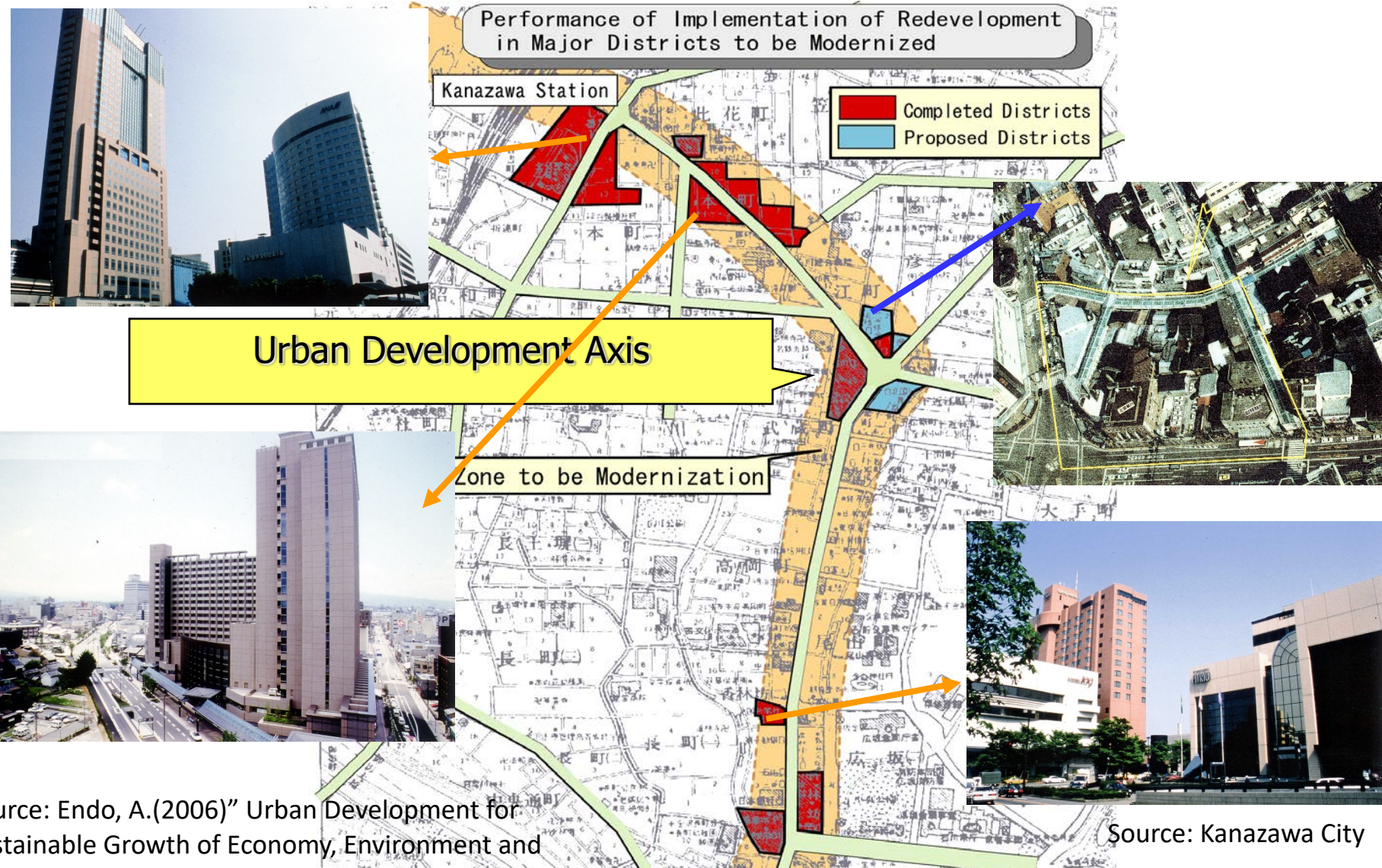


After Implementation (1997)

Example of Land Readjustment Project in SMCT

Source: Kanazawa⁸ City

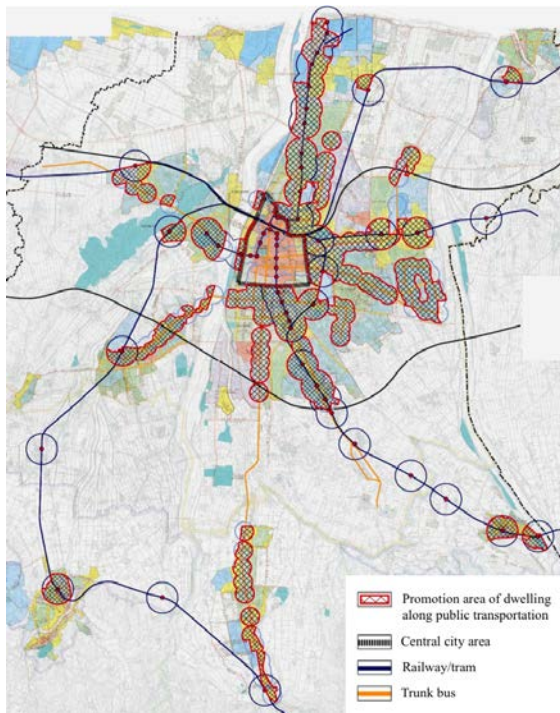
Redevelopment of Central Axis through Urban Redevelopment Projects



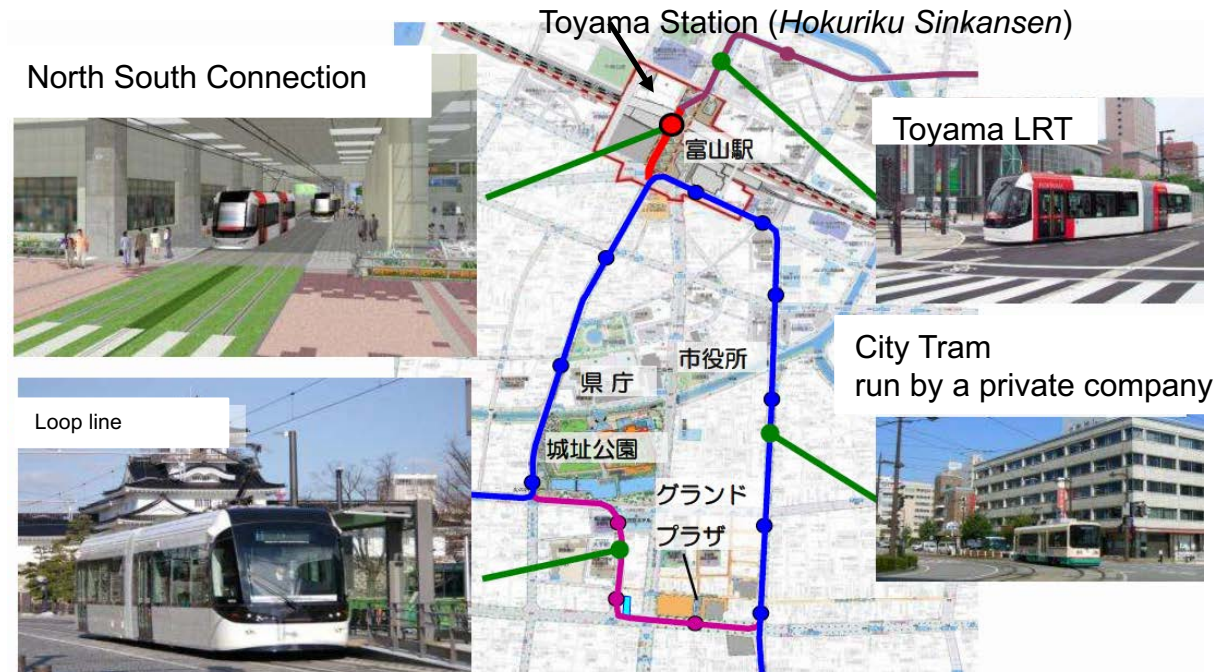
2-2 Toyama

Transit Oriented Development in Connection With *Hokuriku Shinkansen*

TOD Concept of Toyama City

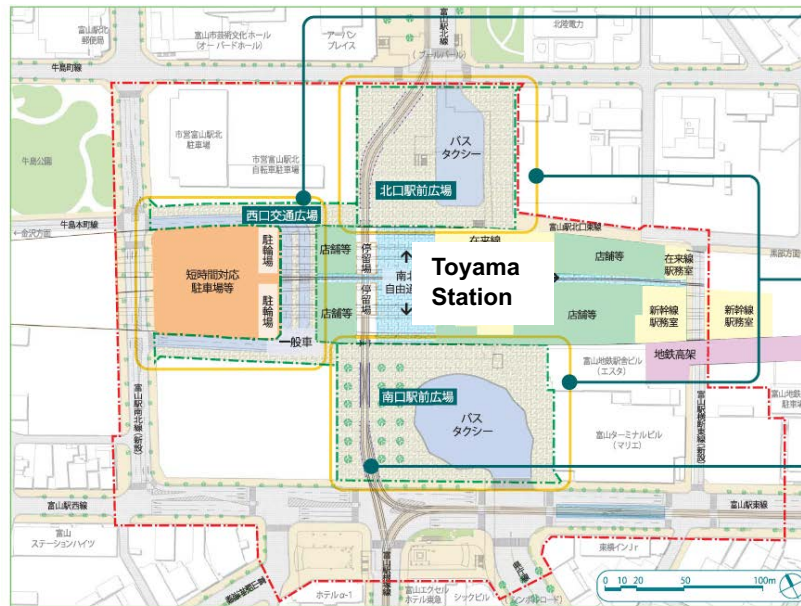


TOD in City Center



Station Area Development through Land Readjustment Project

- The Toyama Station area is being redeveloped through the Land Readjustment Project
 - North-South LRT connection
 - Bus Terminal
 - Public Plaza.



Bus Terminal



イメージ図(西口広場)
一般車については、西口高架下空間を利用し、雨や雪に濡わされることのないアメニティの高い乗換え環境を実現します。
(イメージ図は鉄道高架の下側のみを表現)

Public Plaza



イメージ図(北口駅前広場空間)
賑わいを創出する多目的な広場空間を駅南北に確保し、広幅員の南北自由通路で結びます。

North-South Connection



イメージ図(西口電車高架下横断部)



Source: Toyama City

2-3 Denver

(1) TOD Plan (FasTracks Plan(*1))

- 総額47億ドルのMass Transit整備計画
 - 2005-2016年の12年間に、既存LRTの延伸3路線、LRT新線2路線、近距離鉄道3路線、BRT1路線の合計137マイルの路線整備
 - Denver Union Station改造、P&R駐車場31か所、約21万台整備、バス路線新設、安全施設・乗換施設整備
- 財源内訳: 郡、市の売上税(将来税収を見込んだ起債を含む; 住民投票により、売上税の税率0.4%嵩上げ、既存分を含めると税率1%)71%、連邦補助金19%、自治体負担金2%、その他8%)



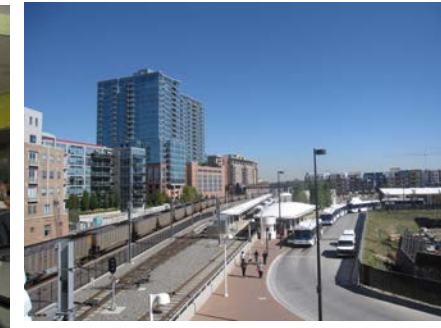
*1: 出典: 阪井清志「アメリカ合衆国の都市内公共交通の制度的枠組みとTODの仕組みについて」新都市 Vol61, No6, June 2007

Source: Regional Transportation District (RTD)

Station Area Development

Union Station Area (50 acres)

- The Denver Union Station Project Authority (DUSPA) was established by the City in 2008.
- The Project comprises the redevelopment of the Project site as an intermodal transit (Amtrak, Commuter Rail, LRT, Inter-city Bus, City Bus) district surrounded by transit-oriented development, including a mix of residential, retail, and office space.
- \$487.7 million Cost is funded by TIF, SID, Land Sales by RTD, Federal Subsidy, etc.

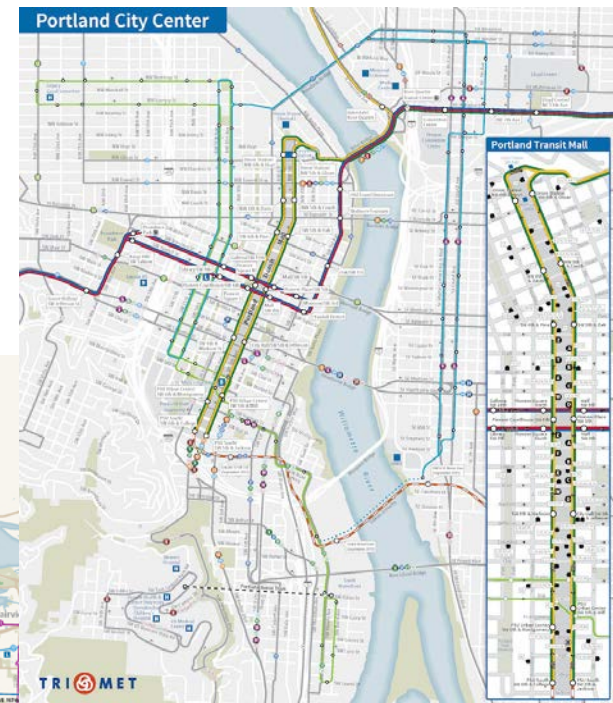


Financing mechanisms for rail station area development in Denver

- Special districts
 - Statutory districts (created under state statutes)
 - Business Improvement Districts (BIDs), General Improvement Districts (GIDs), and Special Improvement Districts (SIDs).
 - BIDs are for providing public services. GIDs and SIDs are for installing, operating and maintaining public infrastructure. GIDs raise revenue by taxation and SIDs raise revenue by assessments.
 - Charter districts (created under the City's charter)
 - Local Improvement Districts (LIDs) and Local Maintenance Districts (LMDs). Charter districts raise revenue through assessments borne by the property owners receiving a local benefit.
 - LIDs are used to pay for the installation of public improvements and LMDs are used to maintain the improvements or provide services over time.
 - Larger dollar amounts usually cause the district to be formed as a statutory district.
- TIF
 - In order to use the TIF mechanism in Denver, a project site must meet the definitions of blight as defined in statutes and reported by the Denver Urban Renewal Authority (DURA).
- Joint Development
 - Joint development between RTD and the private developers for the joint use of its transit facilities or property with an incidental (non-transit) use, including use of air rights.
 - Joint development may involve air rights development by the private developers, ground lease to the private developers, or the outright sale of land.

2-4 Portland

- TOD Master Plan



TriMet System Map
(City Center)



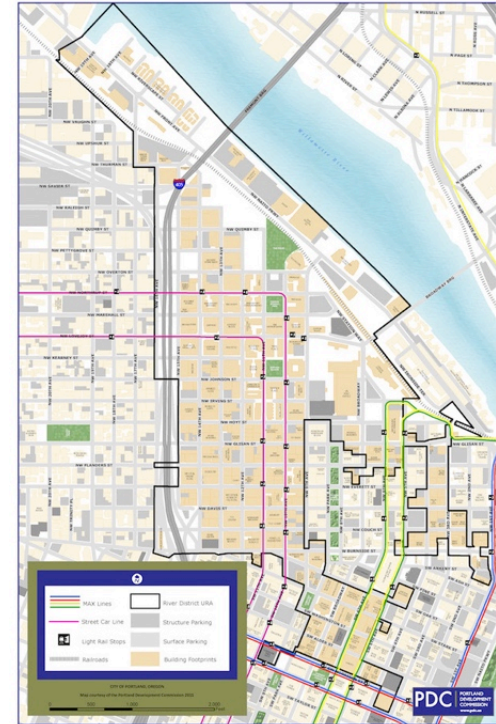
TriMet System Map (Metro)

Source: TriMet

Station Area Development Peal District, Portland



River District Urban Renewal Area



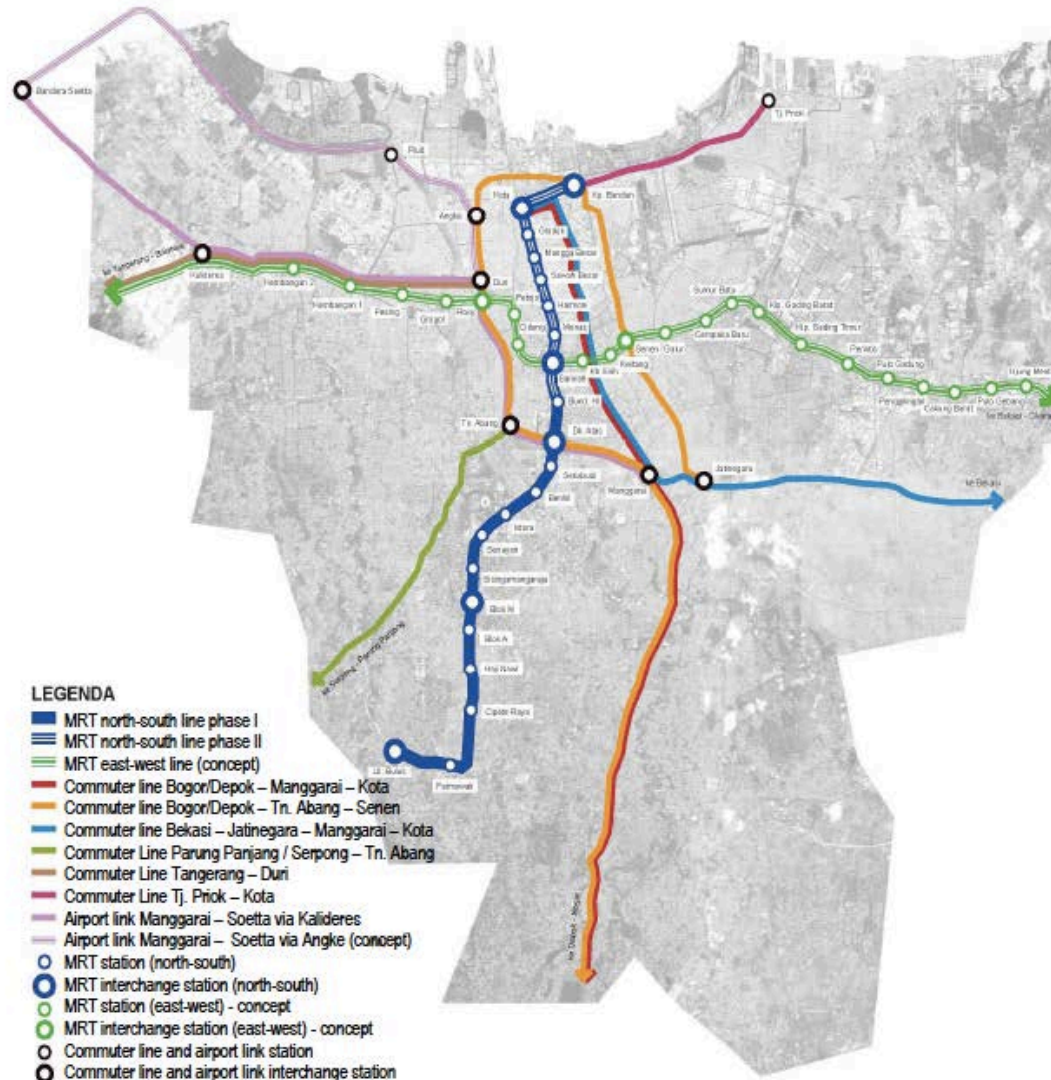
This map was created by the Portland Development Commission (PDC). It is intended to provide a general overview of the River District Urban Renewal Area and is not intended to be used for legal purposes. For more information, please contact the PDC at 503.241.2700 or www.pdc.org.

Financing mechanisms for rail station area development in Pearl District, Portland

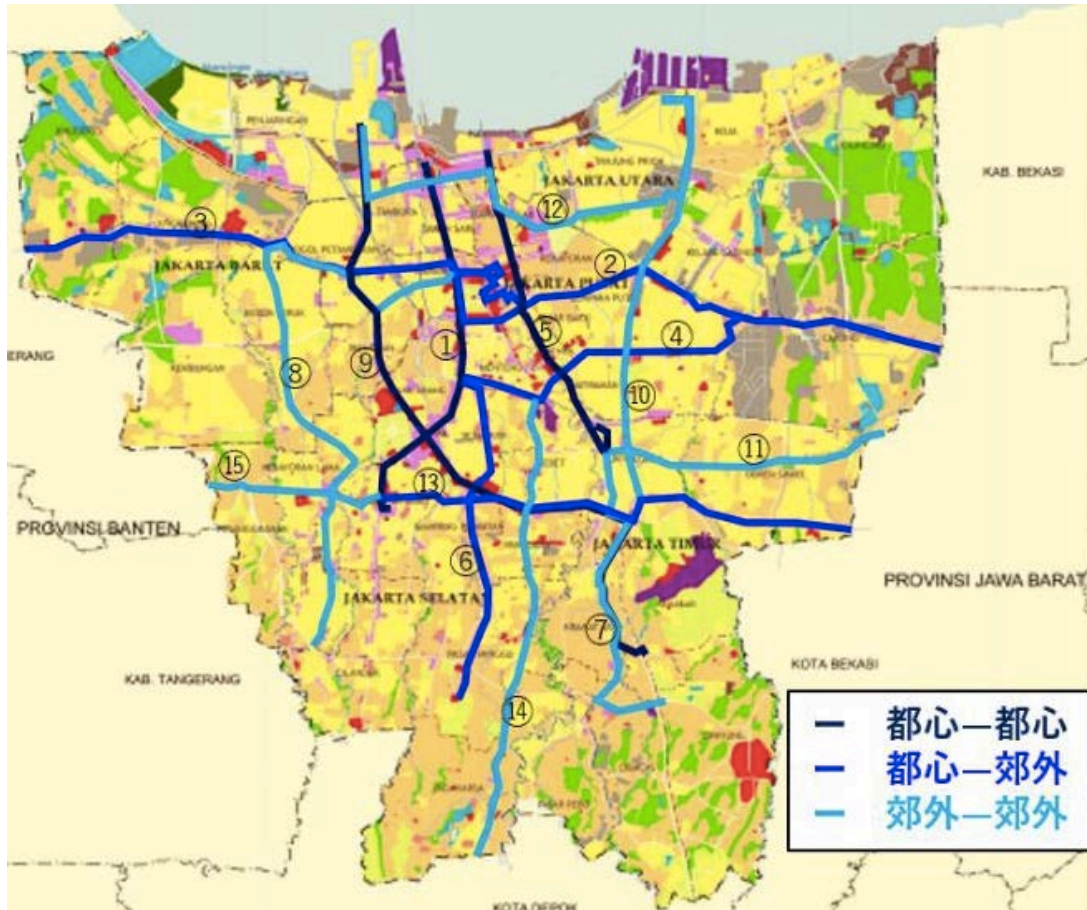
- Tax Increment Financing
 - Urban Renewal district was formed in 1998 allowing TIF.
- Location of Public Facilities
 - The Pacific Northwest College of Art moved to the Pearl in 1998
- Development Agreement (adopted in 1998)
 - Housing Density
 - The total housing density was set at 131 units per acre.
 - Provision of Public Space
 - The development agreement required the developer to donate 1.5 acres of park land and approximately 6 acres to create a public street grid. The developer was also responsible for the cost and construction of local streets.
 - Design Review
 - New development is subject to design review.
 - Affordable Housing
 - In exchange for density bonuses and financial incentives provided by the City, 25 % of the housing produced in the Pearl District should be affordable.
 - Construction of Streetcar
 - The Portland Streetcar, which runs on NW 10th and 11th through the Pearl District, opened for service in 2001.

2-5 Jakarta, Indonesia

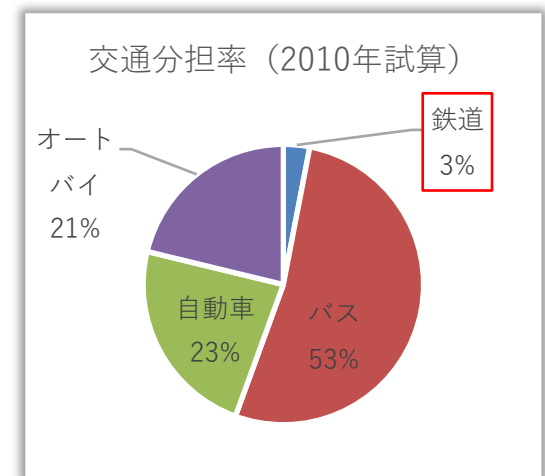
JAKARTA TRANSPORTATION NETWORK



TransJakarta (BRT Routes)



現況12路線(1-12)
1日当たり利用者36万人
最大利用路線1号線で約7万人

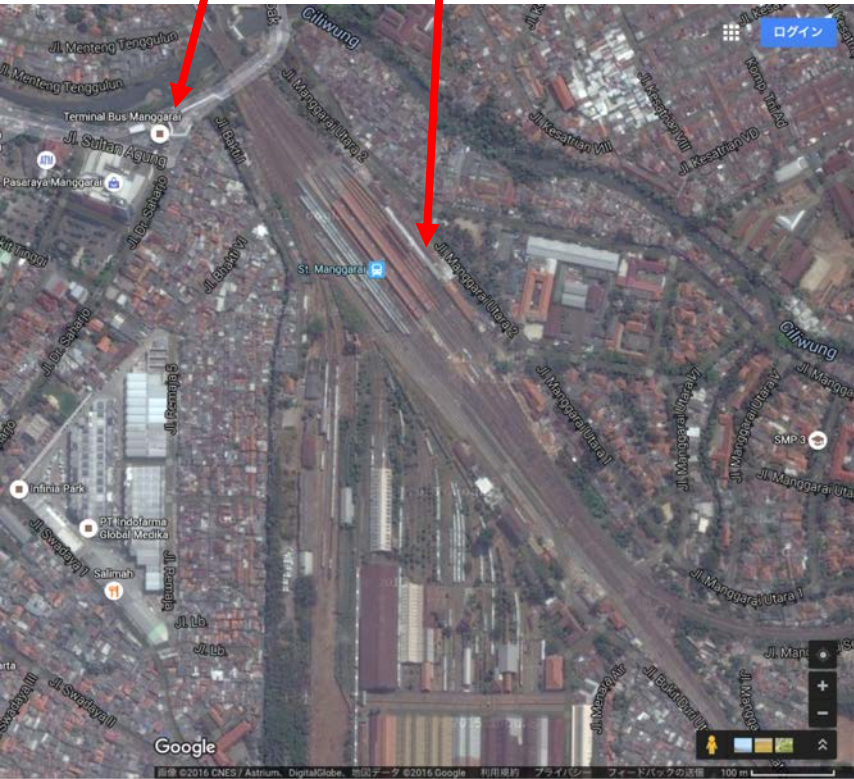


Station Area Development Plan (Mangarai, PT. KAI Depot Area)

BRT
Terminal

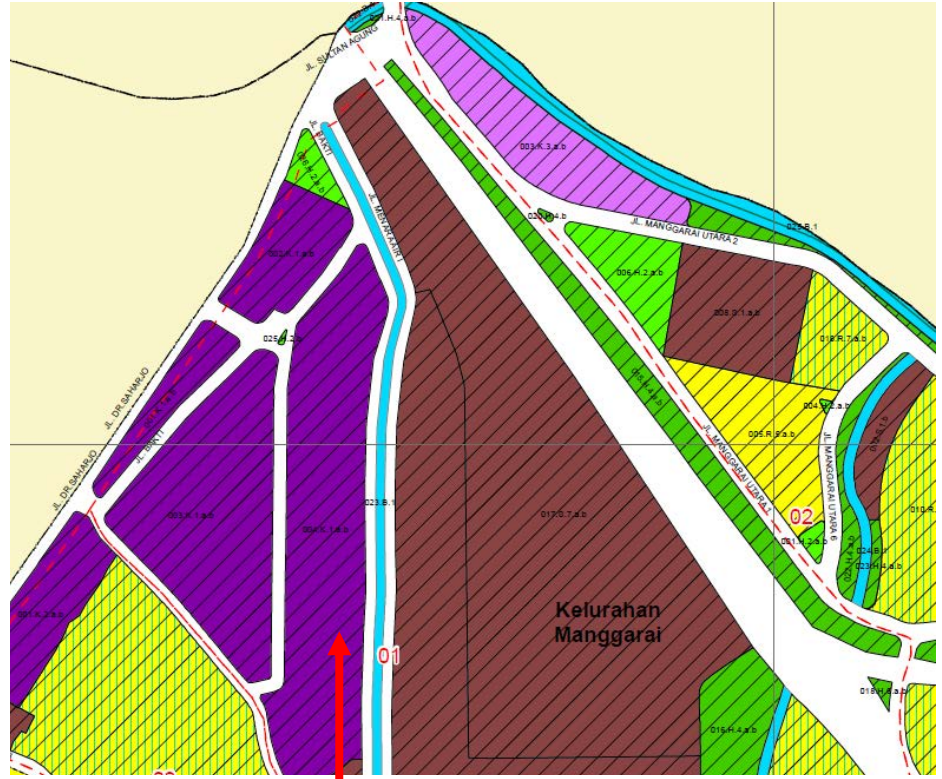
Station

Present

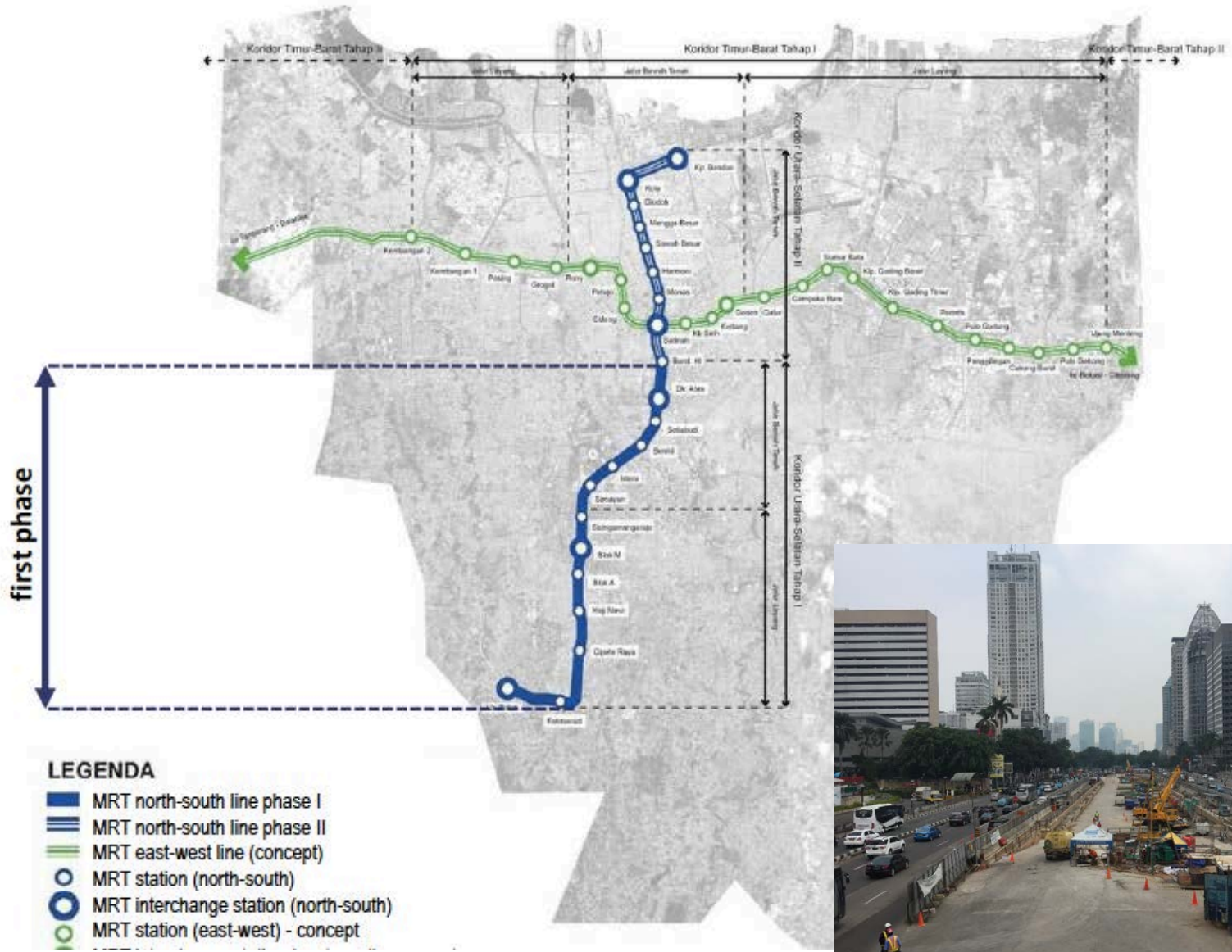


Source: Google Map

Plan



Commercial and Business



Source : MRTJ





Documents supporting TOD Masterplan



UDGL (umbrella)

Cover from MRTJ UDGL

RDTR detailed spatial planning

RTRW regional spatial planning

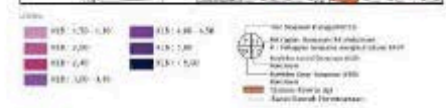
LAND USE GUIDELINE



PEDESTRIAN CIRCULATION CONCEPT



LAND USE DENSITY OPTION1



LAND USE DENSITY OPTION2



TOD Masterplan UDGL

Sample page from MRTJ UDGL

MRTJ is currently creating the TOD Masterplan for three catalytic TOD areas (Dukuh Atas, Blok M, Lebak Bulus) to improve existing UDGL (umbrella)

Source : MRTJ

2-6 Kuala Lumpur, Malaysia

PETA TRANSIT BERINTEGRASI LEMBAH KLANG

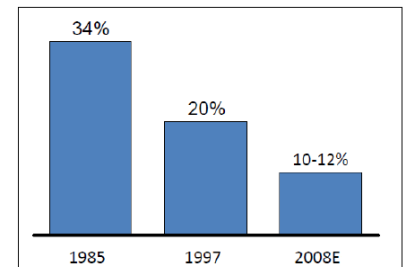
KLANG VALLEY INTEGRATED TRANSIT MAP

PETUNJUK LEGEND

LALUAN REL RAIL LINES

- 1**  **KTM LALUAN SEREMBAN**
KTM SEREMBAN LINE
- 2**  **KTM LALUAN PEL. KLANG**
KTM PORT KLANG LINE
- 3**  **LRT LALUAN AMPANG**
LRT AMPANG LINE
- 4**  **LRT LALUAN SRI PETALING**
LRT SRI PETALING LINE
- 5**  **LRT LALUAN KELANA JAYA**
LRT KELANA JAYA LINE
- 6**  **LALUAN KLIA EKSPRES**
KLIA EXPRESS LINE
- 7**  **LALUAN KLIA TRANSIT**
KLIA TRANSIT LINE
- 8**  **LALUAN MONOREL KL**
KL MONORAIL LINE
- 9**  **MRT LALUAN SG. BULOH-KAJANG**
MRT SG. BULOH-KAJANG LINE
- 10**  **LRT LALUAN BANDAR UTAMA - KLANG**
LRT BANDAR UTAMA - KLANG LINE
*Nama stesen tertakluk kepada pindaan pihak berkuasa berkaitan
Station names subject to change by the relevant authorities

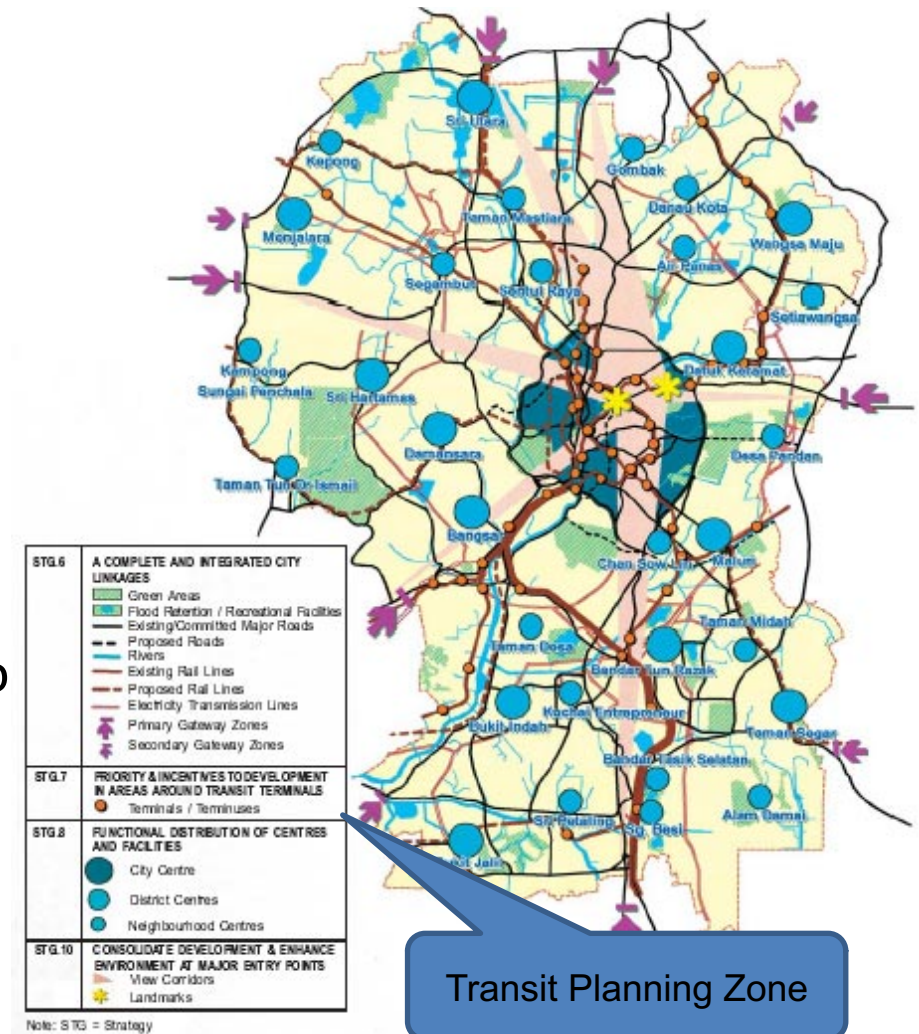
-  Stesen Sambungan
Connecting Station
-  Stesen Pertukaran
Interchange Station
-  Terminal Rel
Rail Terminal
-  Dalam Pembinaan
Under Construction
-  Stesen Bas Antarabandar
Intercity Bus Station
-  Terminal Lapangan Terbang
Airport Terminal
-  Medan Kereta
Park and Ride



: Percentage of AM peak public transport modal share

Transit Planning Zone, Kuala Lumpur

- (a) Land use activities should be transit supportive;
- (b) Mixed use activities are encouraged within TPZ with street level activities to promote vibrancy and safety in the TPZ;
- (c) Higher intensity development to support the transit system; and
- (d) Good urban design that is pedestrian priority.



Station Area Development through PPP, Kuala Lumpur Central Station

- 72 acres of commercial and residential properties
- Transit Hub of six rail networks (the KLIA Express Rail Link, KLIA Transit, RAPID KL (Putra), KTM Komuter, KTM Intercity and KL Monorail Services)
- Formerly a marshalling yard for Malaysia's national rail operator (KTMB), the Government awarded the privatization of Stesen Sentral to Kuala Lumpur Sentral Sdn Bhd, a consortium led by MRCB, on June 27, 1994.
 - KL Sentral S/B,: a consortium comprising Malaysian Resources Corporation Berhad (MRCB - 64.38%), Keretapi Tanah Melayu Berhad (26%) and Syarikat Pembinaan Redzai (9.62%).
- Kuala Lumpur Sentral Sdn Bhd was tasked to build and surrender Stesen Sentral to the Government, in exchange for development rights over the surrounding 72-acre freehold commercial land.



Aerial view Jan-2015

<http://www.starproperty.my/index.php/articles/property-news/mrcb-calls-on-embassies-to-move-to-kl-sentral-cbd/>

Station Area Development through PPP Kuala Lumpur Central Station



Pedestrian planning is weak.

3. Some Issues for Successful Implementation of TOD in Asian Cities

1. Shift from highway-based zoning to transit oriented zoning
2. Creation of institutional mechanism for the public and private cooperation in the station area development
 - Balance between public benefit and private benefit
3. Connection of transit service and affordable housing
4. Multi-modal connection planning including walking

*Thank you very much for your
attention!!*