REPUBLIC OF THE PHILIPPINES
NATIONAL ECONOMIC AND DEVELOPMENT AUTHORITY

JICA

Roadmap for Transport Infrastructure Development for Metro Manila and Its Surrounding Areas (Region III and Region IV-A)

Main Points of the Roadmap

June 2014

Technical Assistance from the Japan International Cooperation Agency (JICA)

Roadmap Study

Objective

- To formulate "Transportation Infrastructure Roadmap" for sustainable development of Metro Manila and its surrounding areas (Region III and IV-A)

Outputs

- Dream plan towards 2030
- Roadmap towards 2016 and 2020
- Priority projects

Study Period

- March 2013 – March 2014

Stakeholders Consulted

- NEDA
- DPWH
- DOTC
- MMDA
- Others (donors, private sectors, etc.)

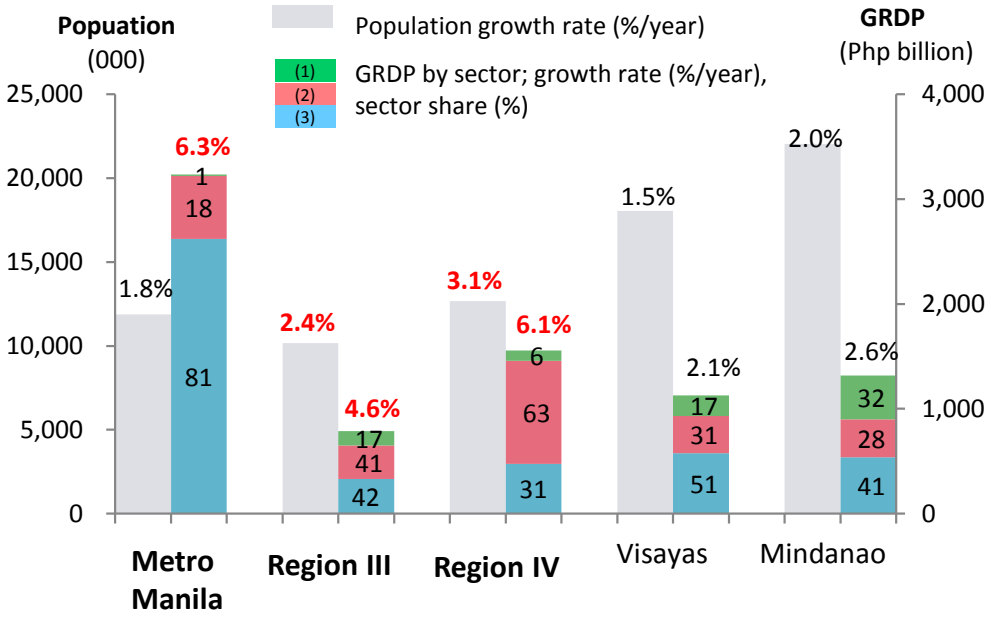
Significance of the study area: How to ensure sustainable growth of Metro Manila and surrounding regions.

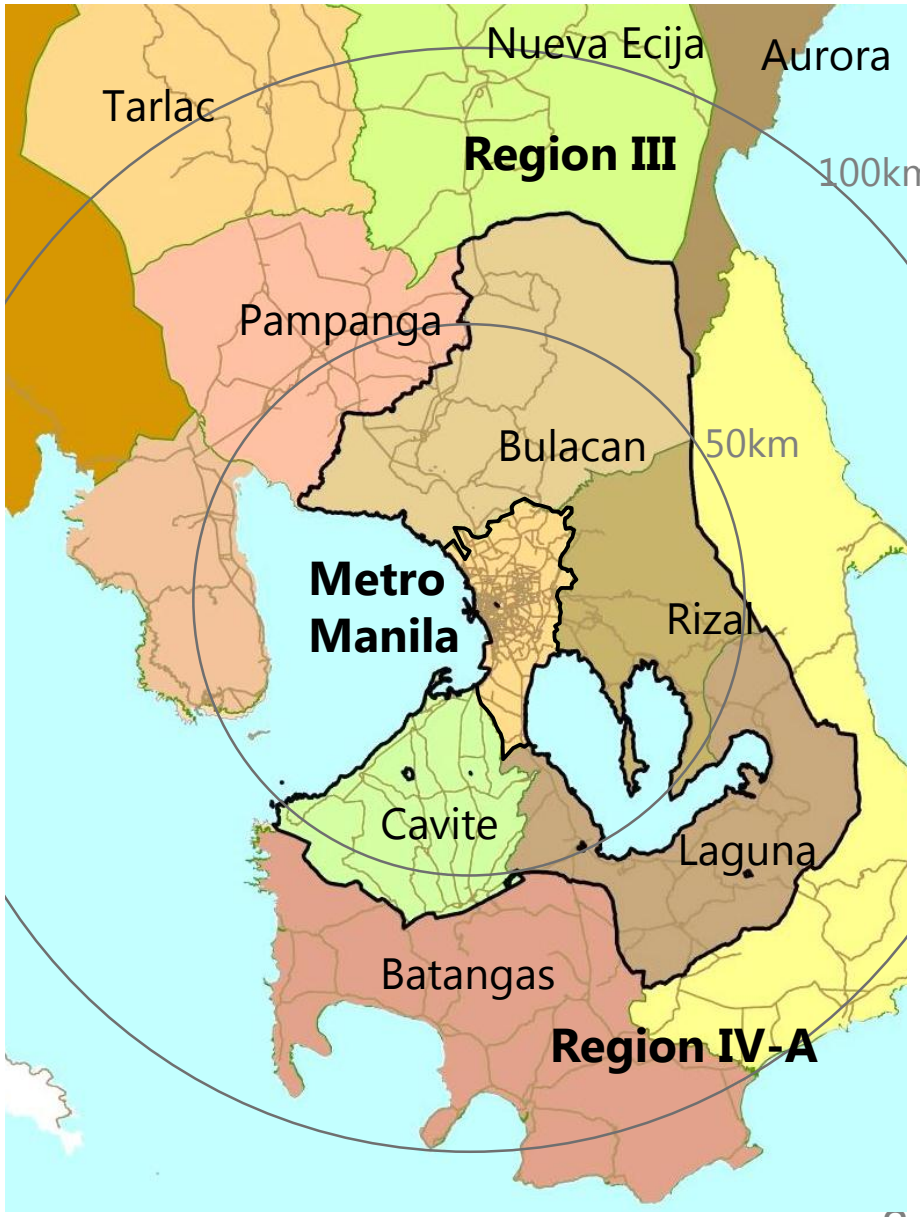
Study Area

- **GCR:** MManila, Region III, Region IV-A
- **Mega Manila:** MManila, Bulacan, Rizal, Laguna, Cavite
- **Metro Manila :** 17 cities/municipality

Metro Manila shares 36% of GDP

GCR shares 62% of GDP (Population :37%)





Growth rate of population & GRDP is between 2000 and 2010

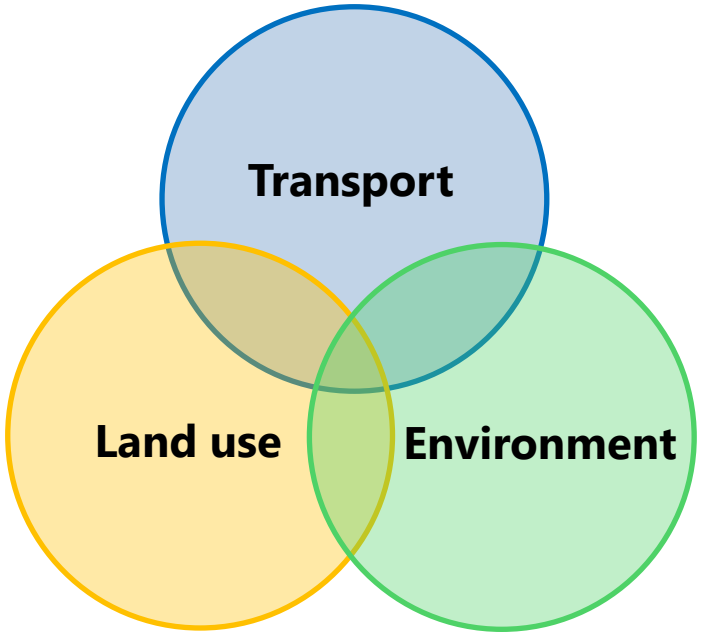
Rapid growth of Metro Manila, 1980 - 2010

		1980	2010	2010/'80
▪ Population (000)		5,923	11,856	2.0
▪ Roads (km)		675	1,032	1.5
▪ GRDP @ 2010 price (Php billion)		1,233	3,226	2.6
▪ GRDP per Capita (Php 000)		208	272	1.3
▪ No. of Vehicles (000 units)		446	1,904	4.3
▪ Public Transport	LRT (km)	20 ('85)	50	2.5
	Bus (000 units)	3.6	14.2	3.9
	Jeepney (000 units)	37	48	1.3

Are there solutions for sustainable development of Metro Manila?

3 Major Urban Problems in Metro Manila

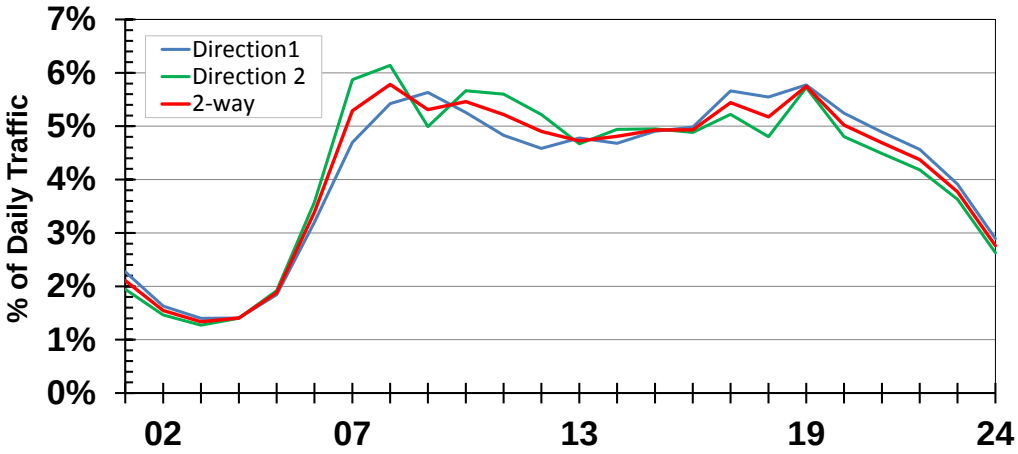
- Traffic congestions
- Natural disasters (flood, earthquake, typhoon, landslide, etc.)
- Affordable housing, slum/squatter areas



They are interrelated!!

Traffic congestions; everywhere throughout the day

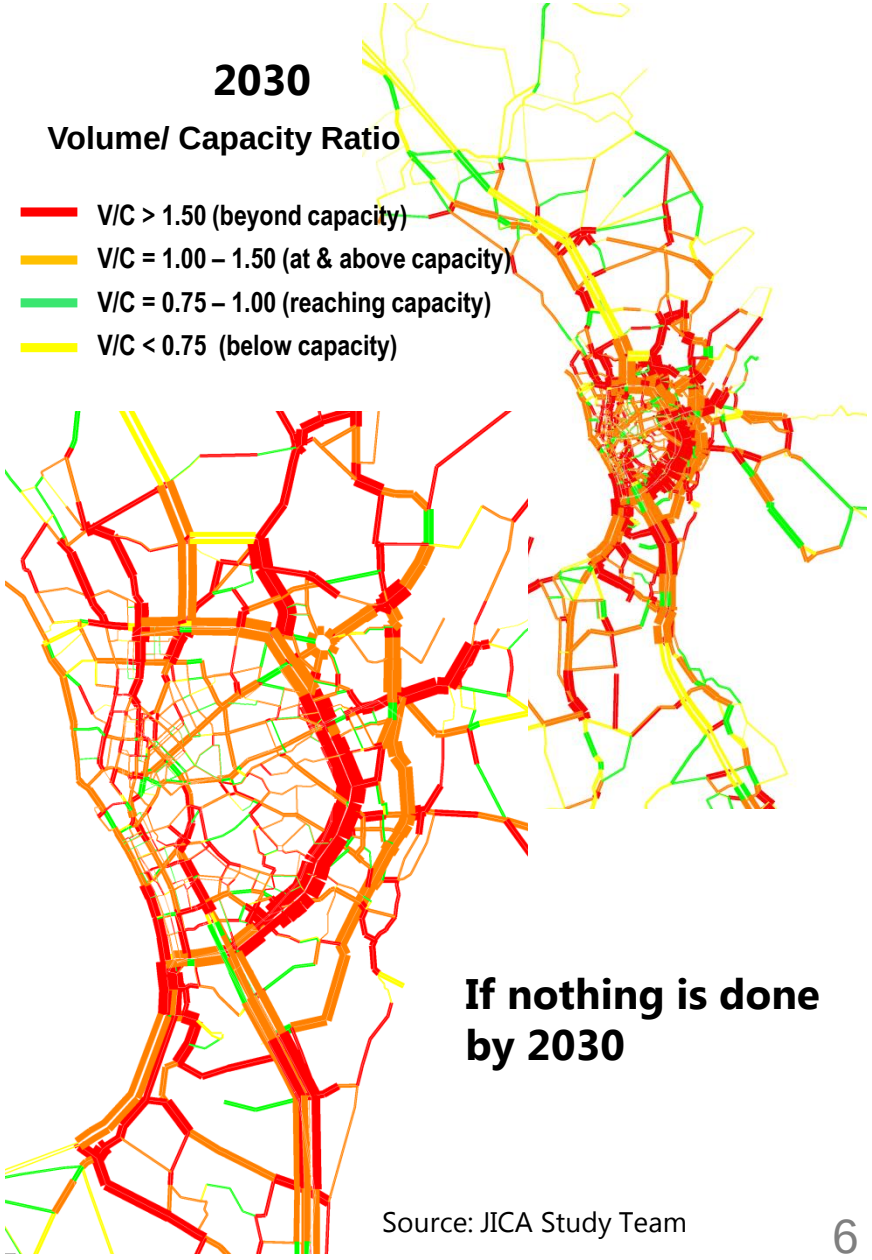
Hourly Traffic Distribution on MManila Roads[1)]



1) Results from 11 survey stations, 2012

Traffic Demand and Impact (Metro Manila)

		2012	2030	'30/'12
Traffic demand (million trips/day)		12.8	14.5	1.13
Public transport share in total demand		69%	69%	1.00
Occupancy of road space by private vehicles		78%	78%	1.00
Transport cost (Php billion/day)		2.4	6.0	2.50
Air quality (million Tons/year)	GHG	4.79	5.72	1.19
	PM	0.014	0.019	1.36
	NOx	0.049	0.059	1.20



If nothing is done by 2030

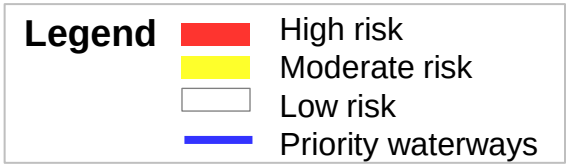
Source: JICA Study Team

Hazard risks threaten large number of households.

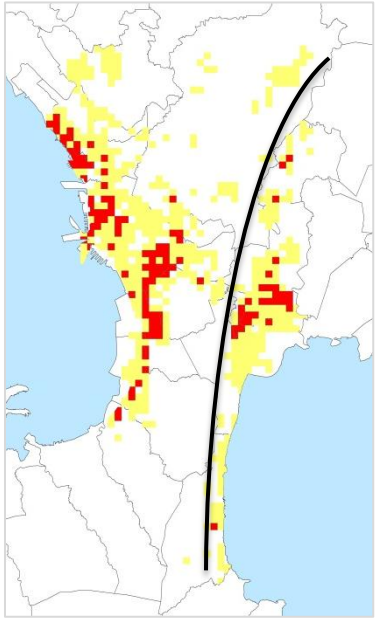
No. of households living in hazard areas

- **High risk areas: 0.5 mil. (MManila), 1.4 mil. (GCR),**
- Moderate risk areas: 0.7 mil. (MManila), 1.8 mil. (GCR), No. of ISFs living along waterways; 60,130 (MManila)
- No. of ISFs in priority waterways; 19,500 (8 waterways)

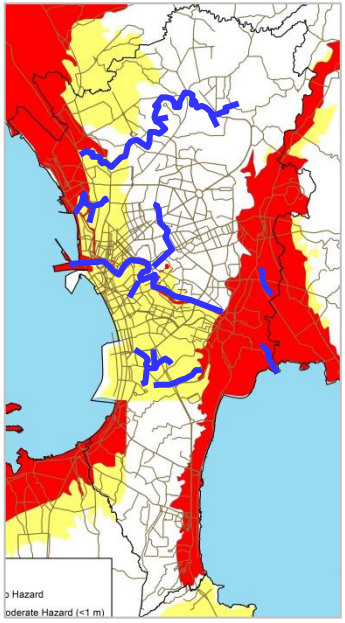
Hazard risk areas



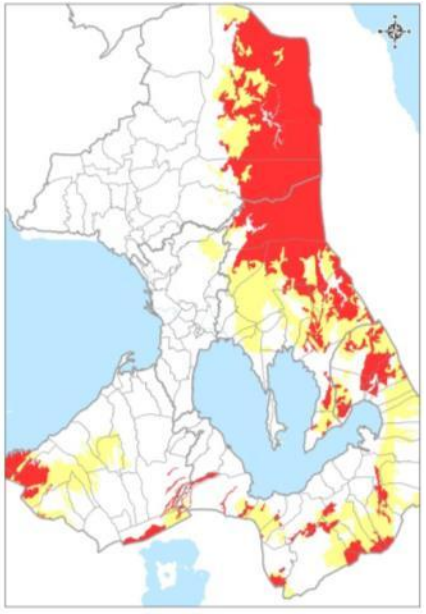
Earthquake



Flood



Landslide



Need for affordable housing is large.

Affordable housing needs (Metro Manila 2010)

- Backlog: 500,000 households
- Resettlement: 560,000 households

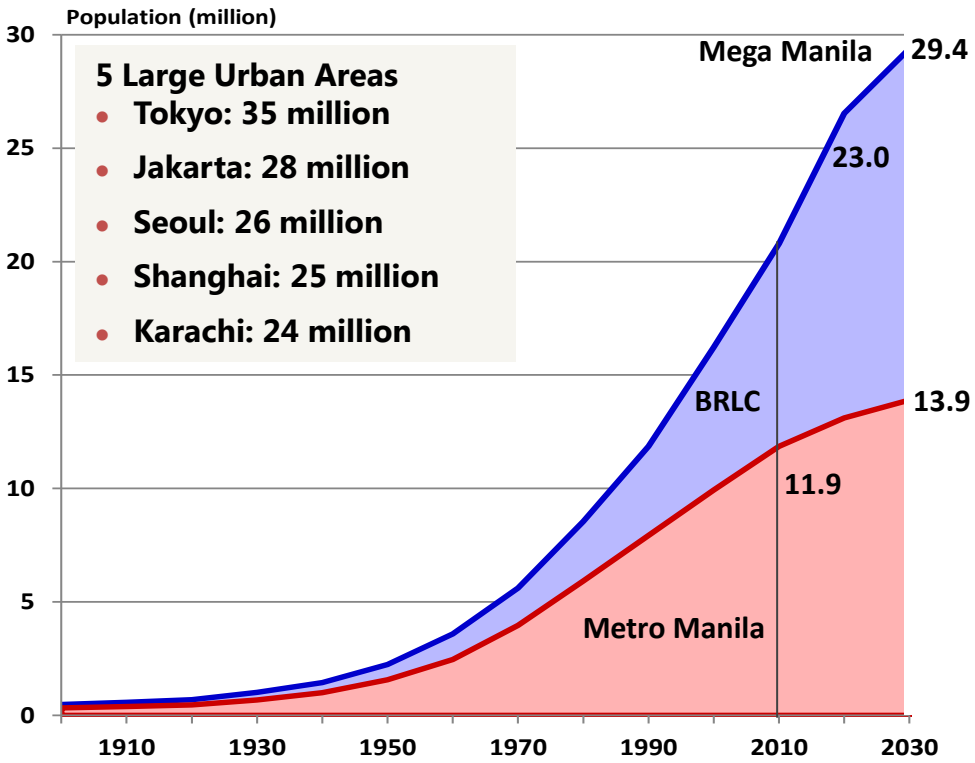
Distribution of Informal Settlers

Situation may worsen as Manila grows to Metro Manila and farther to Mega Manila.

Metro Manila (2010)

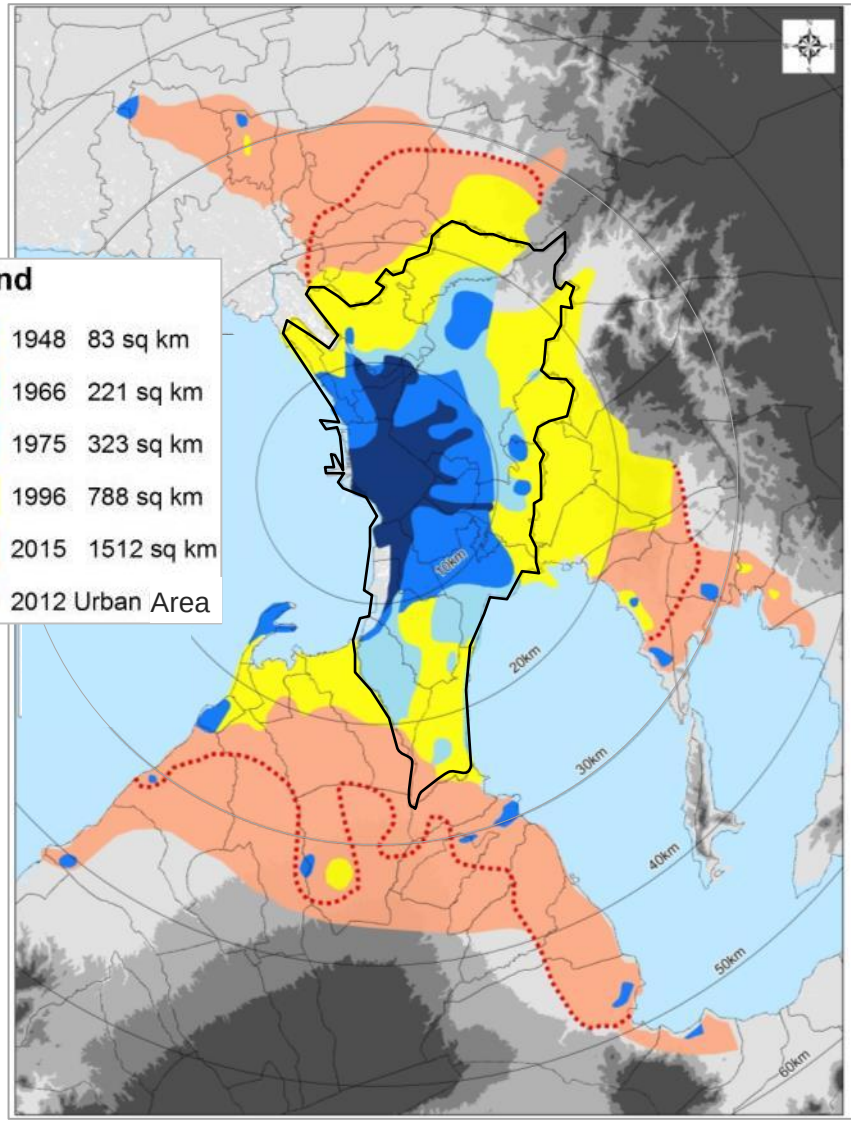
- Area：620 km²
- Population：11.9 million
- Density: **191person/ha**

Tokyo/23wards
621km²
9.1 million
146 person/ha



How and where the people in need of affordable housing free from hazard risk can be accommodated!

Expansion of Urban Areas



Source: MMUTIS

Vision and Approach to Dream Plan

- **Metro Manila's problems can no longer be solved within Metro Manila.**
- **Region III and Region IV-A must work out effective ways to maximize positive impacts of Metro Manila and contribute to mitigate Metro Manila's problems.**

- **Tri-engine growth with GPS for Greater Capital Region**

Gate to wellspring of hope
Place for livable communities
Space for dynamic business centers

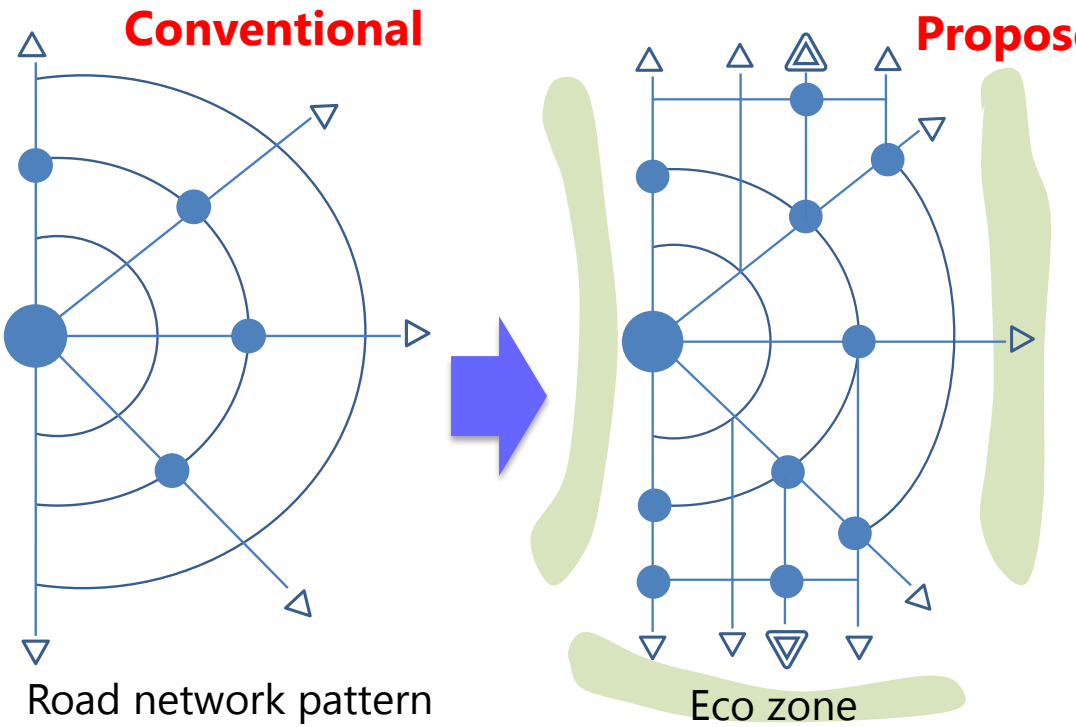
Need for Regional Integration

- **Connectivity of Metro Manila, Region3 and Region4-A**
- **Connectivity with global market**
- **Strengthening connectivity through transport development and industry location strategies**

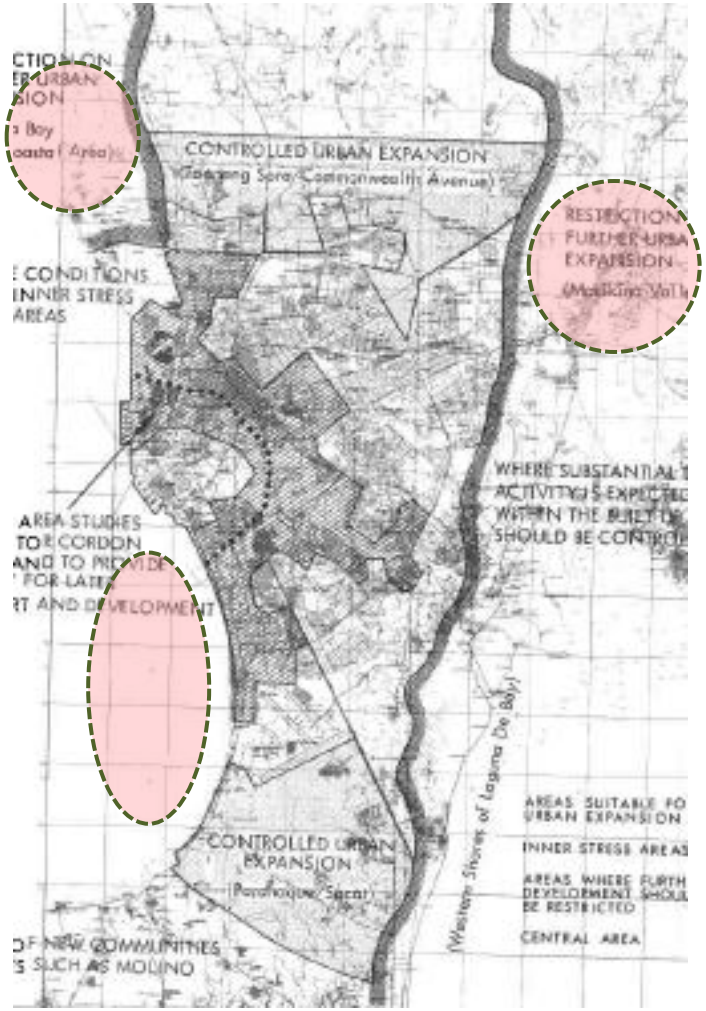
Redefine spatial structure of Metro Manila

Shift from radial/circumferential to ladder form

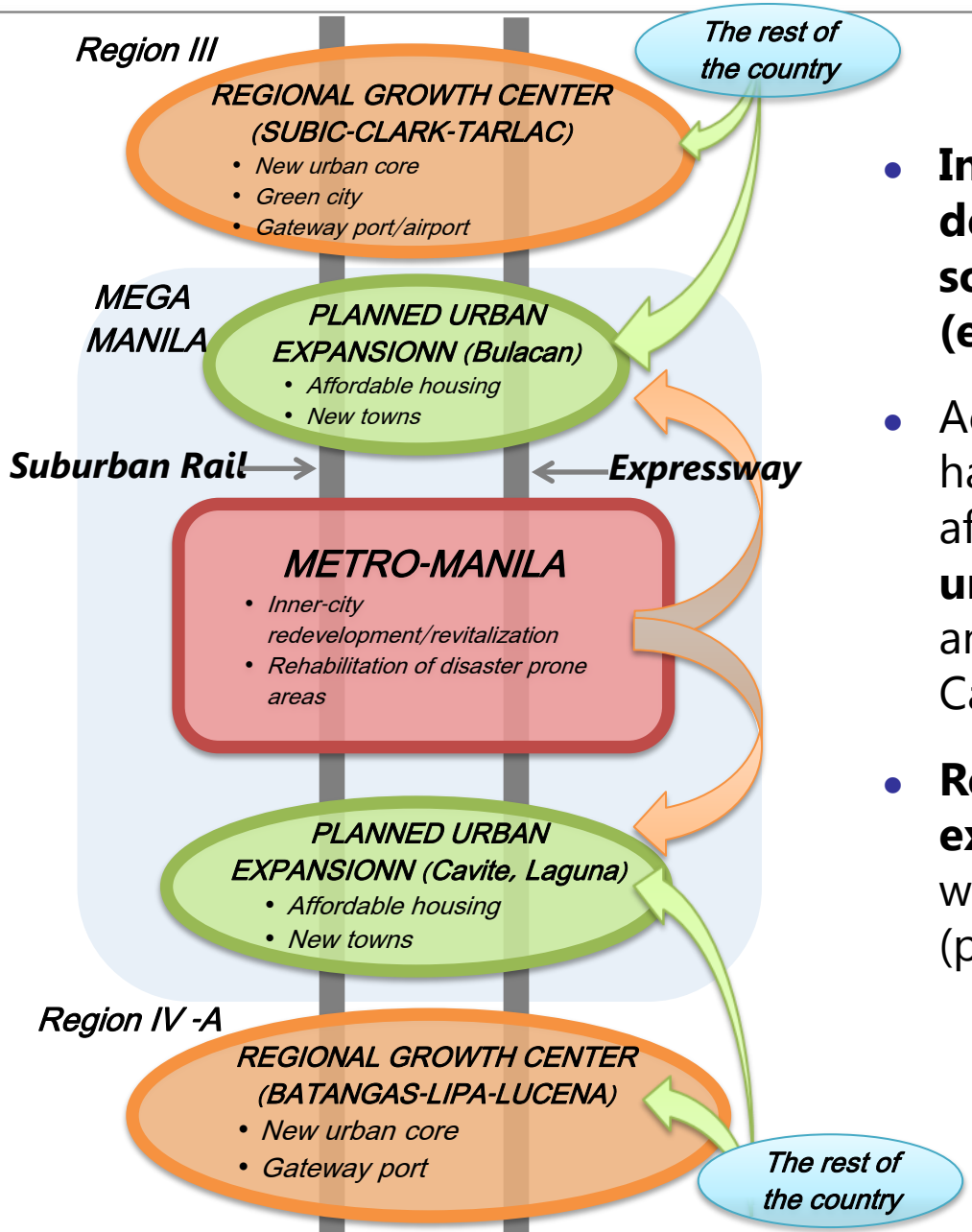
- High density residential areas in city center → suburban
- Development of peri-urban/suburban areas
- Development of subcenters
- Recovery of green space
- Redevelopment/retrofitting of city center areas



1977 Metro Plan



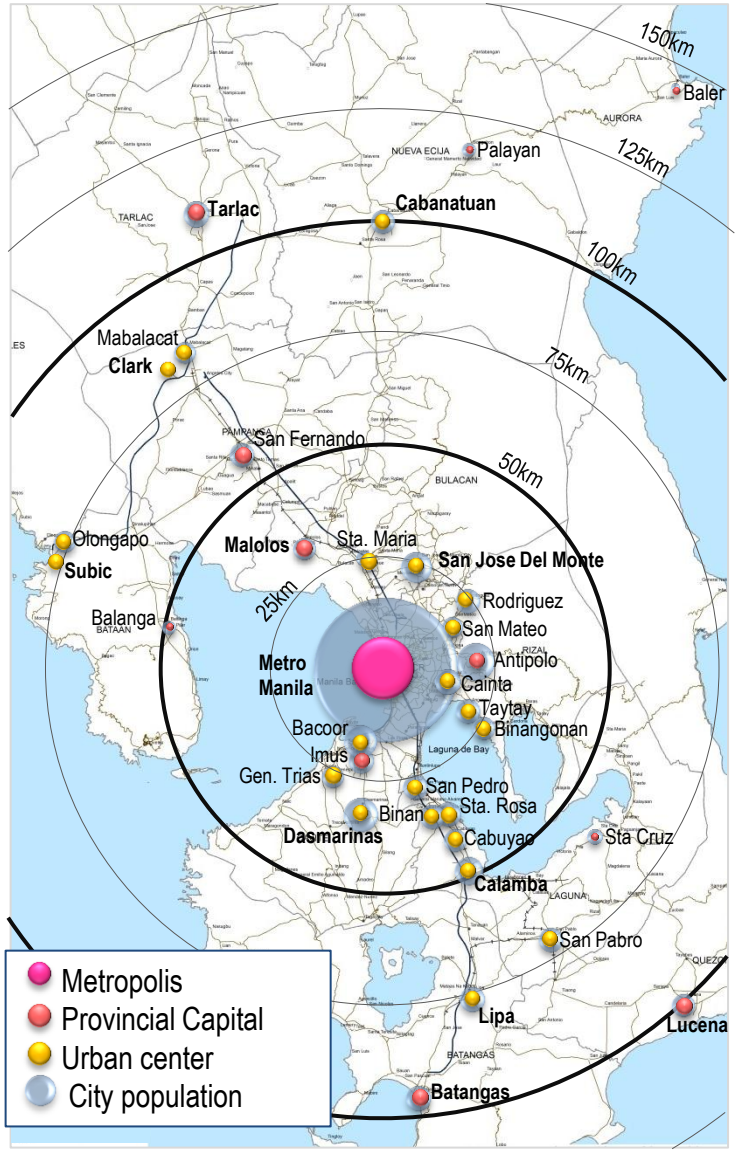
Regional development strategy
(Integrated, Innovative and Inclusive)



- **Integration of regional development clusters with north-south transport backbones (expressway and suburban rail)**
- Accommodation of ISFs living in high hazard risk areas and those who need affordable housing **in planned new urban areas** with good accessibility and living environment in Bulacan, Cavite and Laguna areas.
- **Retrofitting/regeneration of existing urban areas** in integration with transportation development (port areas, NAIA, water front, others)

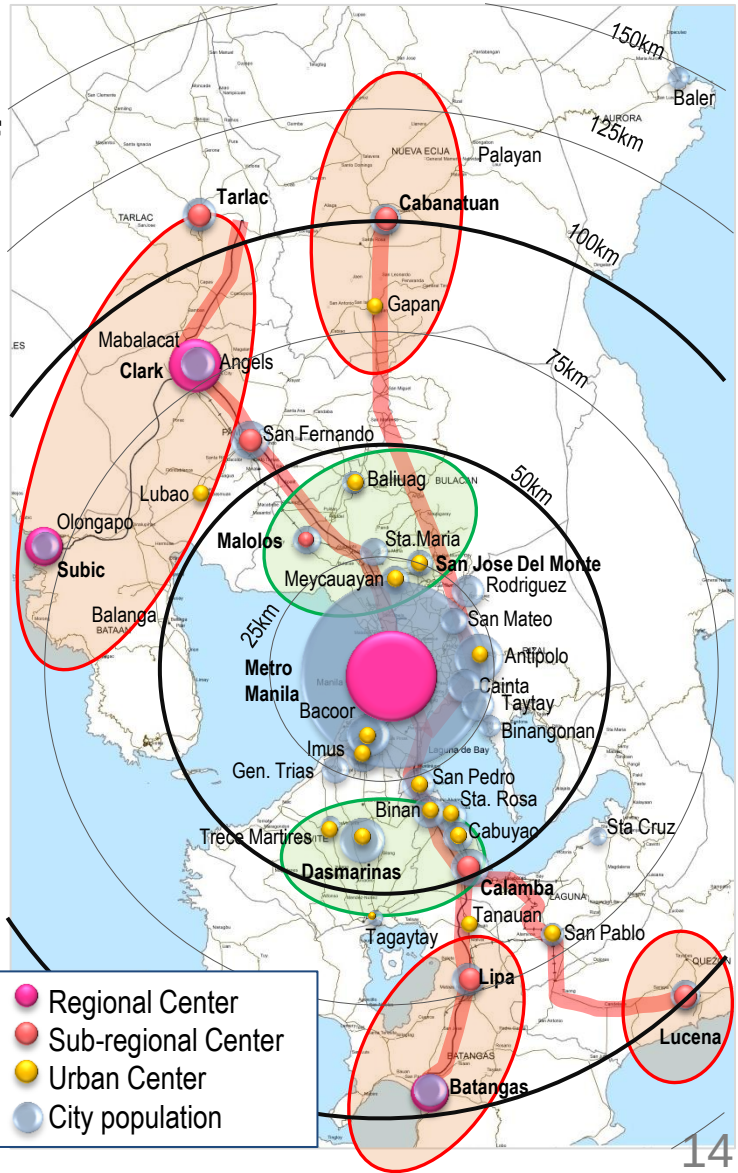
Spatial development concept for GCR
(from monocentric to polycentric)

Today



- **Development of hierarchical regional centers/clusters**
- **Economic development**
  - Agro-based
  - **Manufacturing**
  - Services, BPO
  - Tourism, others
- **Improved connectivity** (between urban/growth center, urban-rural)

Future



Key Transport Intervention for Regional Integration

- **Transport as a catalyst to:**
  - integrate cities, growth centers, gateways, urban and rural areas within a region
  - facilitate local economic development, enhance social integrity, and promote environmental sustainability
  - facilitate planned/guided urban growth and expansion of Metro Manila

- **Transport network in the region must be:**
  - hierarchical
  - multimodal
  - disaster-resilient
  - intelligent
  - service-oriented, rather than hard infrastructure

NLEx – SLEx connection: urgently needed and doable

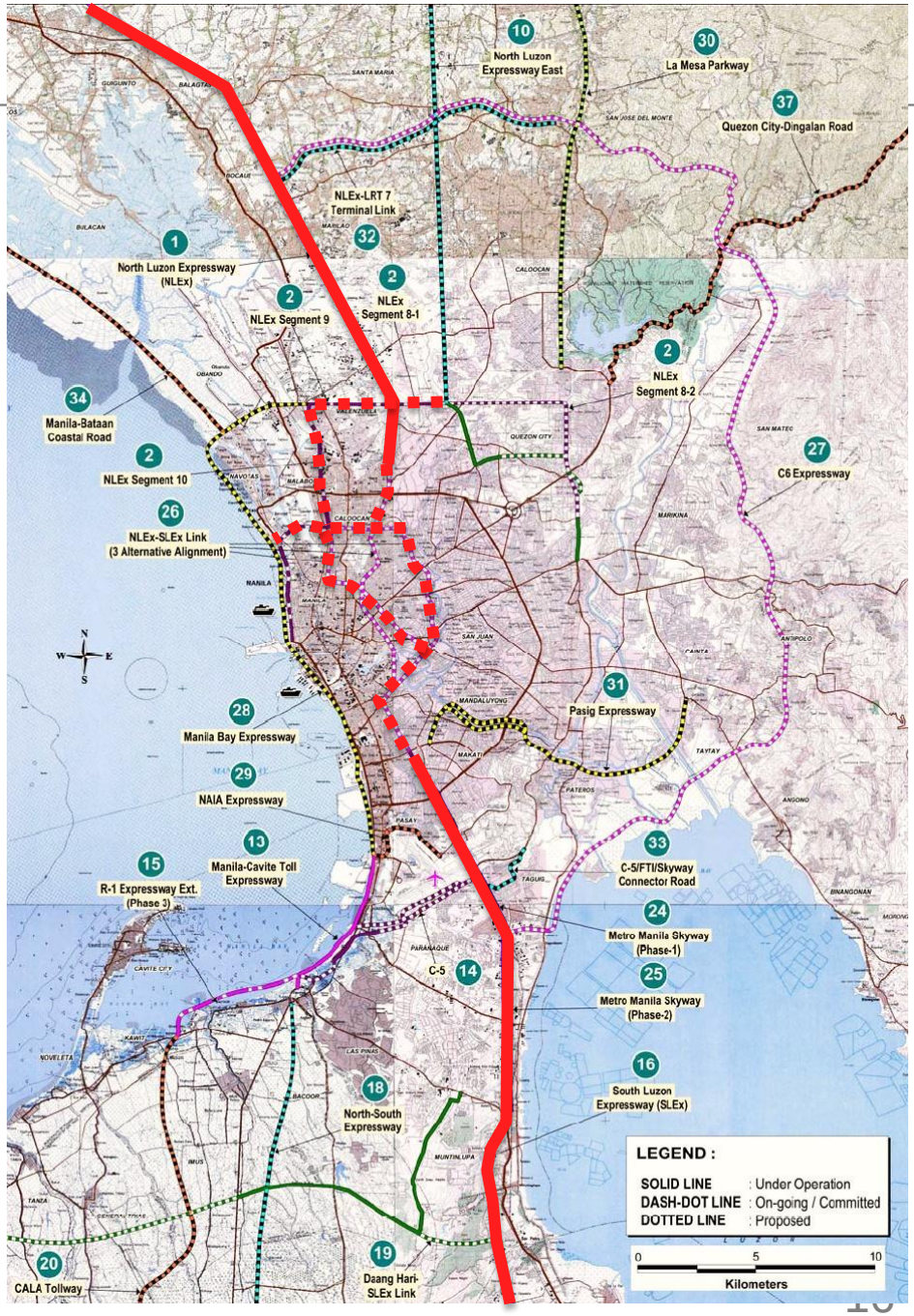
Project components

- NLEx Segment 10
- NLEx – SLEx connector
- Skyway Stage 3
- Port access connection

Impact

- Reduction in EDSA traffic
- Diversion of long-haul traffic from main urban roads
- Improvement of port access

DPWH's High Standard Highway Network



Need for competitive (high quality and capacity) public transport backbone: North-South Commuter Rail and EDSA Subway

Objectives

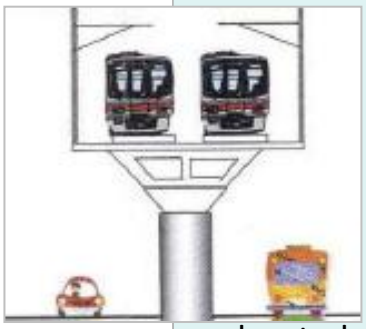
- To strengthen connectivity between Metro Manila and adjoining municipalities in Region III and IV-A
- To guide urban development of new urban centers along the route to meet large resettlement demands

North-South Commuter Rail (Malolos - Calamba) 1)

- Route length: 91 km
- Elevated with modern high capacity train
- Future extension to CLARK

Impact

- No level crossings at main roads
- At-grade urban roads created
- Land use are connected



elevated

EDSA subway: 2nd north-south mass transit backbone (San Jose Del Monte – Dasmarinas): 58 km 2)

Impact

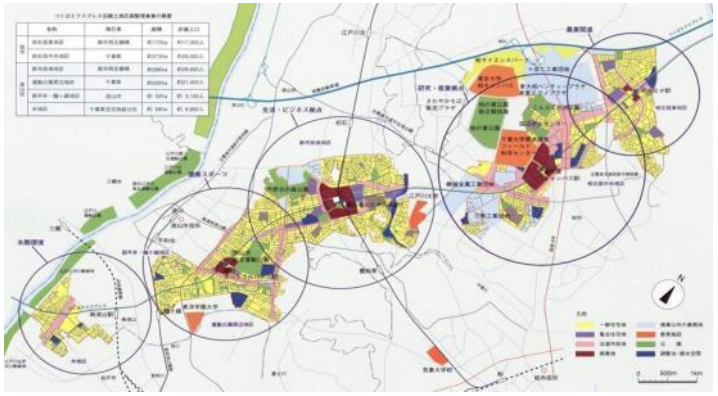
- Promoting north-south urban growth
- Dramatic improvement of mobility and accessibility along EDSA and other roads
- New urban land development opportunities

underground

1) F/S is on-going
2) Preliminary study was done in Roadmap Study.

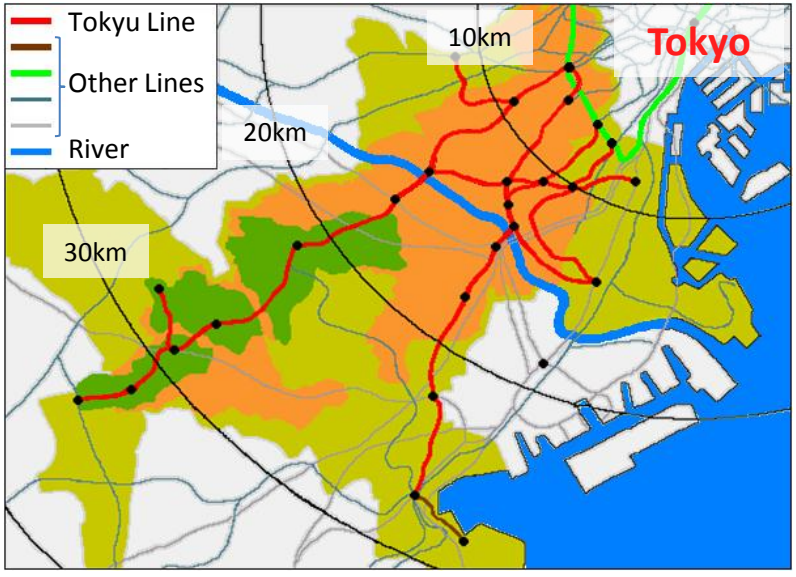
Integrated development is a key for success:
Suburban rail + new town (experiences of Japan)

Kashiwa-no-Ha Smart City along Tsukuba Express



- Location: 50km from Tokyo, 40km from Narita International Airport
- Area：28,400 ha; Central part：2,700 ha
- Population：216,300 (2011)

Tokyu Tama Denentoshi along Tokyu Denentoshi Line

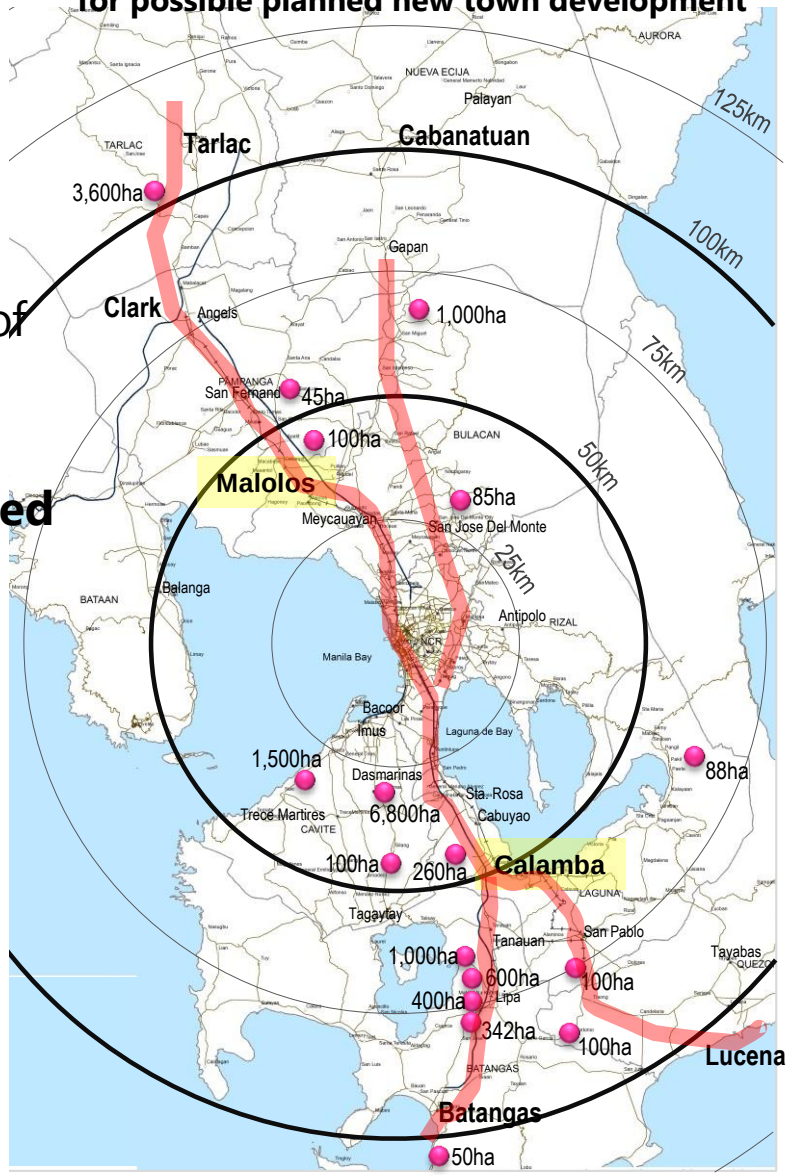


- Location: 20-30km from Tokyo
- Area：5,000ha
- Population：600,000 (2013)

Opportunities exist for large-scale new towns development?

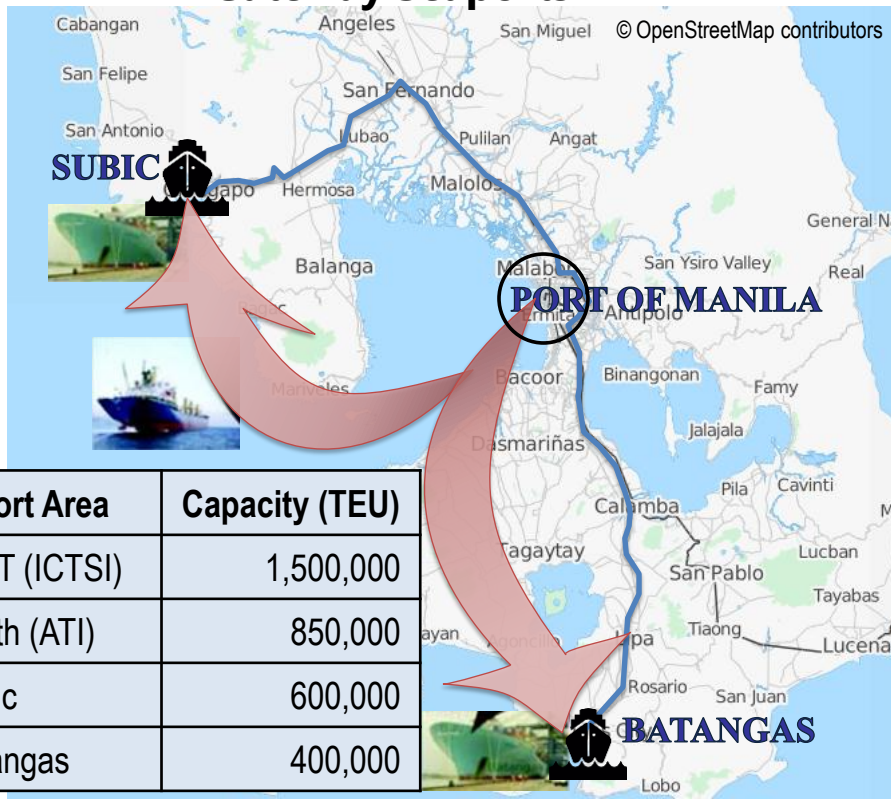
- **Yes!**
  - Large-scale properties owned by private/public sectors
  - Active subdivision development by private sector
  - **Republic Act No. 7279** (20% of total No. of unites should be allocated for low cost housing)
- **Approach: to establish a PPP model based on regulation, guidance and incentives**
  - **Public:** north-south commuter rail, access roads, basic infrastructure and public services
  - **Private:** affordable housing, commercial facilities, industrial parks, relocation of universities, etc.
- **Estimated demand**
  - 1–2 million households = 5-10 new towns (2,000ha with 200,000 residents each)

Location of privately owned large-scale properties for possible planned new town development



Proposed concept for gateway port development:
maximize capacities and development opportunities of three ports

Gateway Seaports



Port Area	Capacity (TEU)
MICT (ICTSI)	1,500,000
South (ATI)	850,000
Subic	600,000
Batangas	400,000

- Shift cargo-handling function of Metro Manila to Subic and Batangas through controlling of future expansion of Manila ports and providing incentives to use Subic and Batangas ports
- Regenerate Manila Port to high value-added diversified waterfront areas

MM21 Yokohama Waterfront

Seattle Waterfront

Proposed concept for gateway airport development: globally competitive international gateway airport is a critical driving force for future development of Metro Manila and the Philippines

Gateway Airports

- Development of CLARK (secondary gateway airport for central and northern cluster; alternative to New NAIA)
- Development of New NAIA (existing NAIA will be closed and converted for New CBD

Note: Alternative locations for New NAIA was studied in Roadmap Study.

Bay Bridge: a new icon for Metro Manila

Proposed Actions

① Improvement of existing NAIA (immediate)

② Improvement of existing CLARK (immediate)

③ Utilization of runway @ Sangley (short-term)

④ Construction of new NAIA near Metro Manila

Chubu Centrair International Airport
(developed on off-shore reclaimed land and connected with a bay bridge)

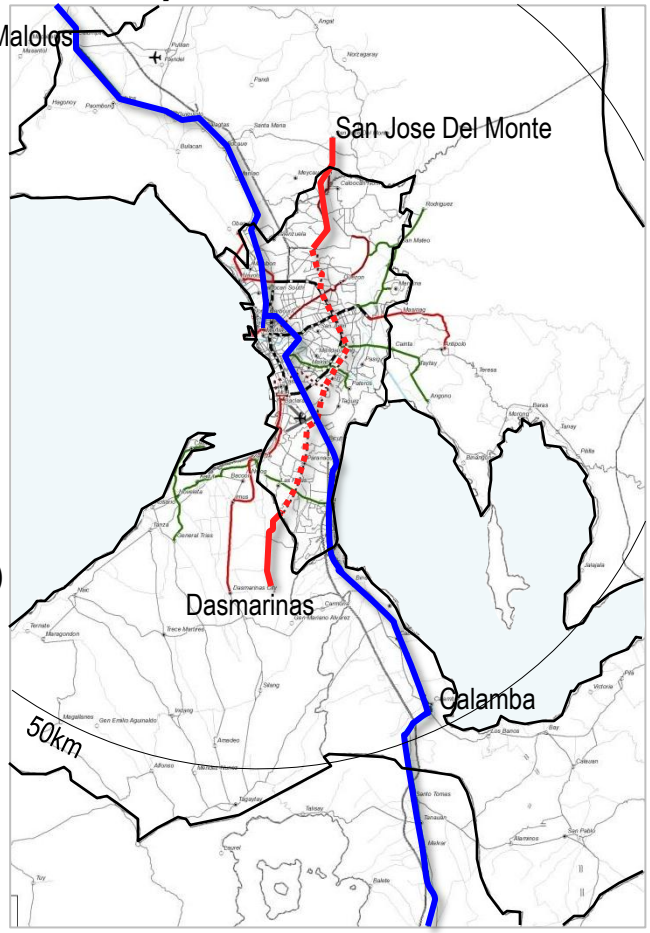
Proposed Dream Plan for Mega Manila

- **5 NOs for Mega Manila**
  - **No traffic congestion**
  - **No households living in high hazard risk areas**
  - **No barrier for seamless mobility**
  - **No excessive transport cost burden for low-income groups**
  - **No air pollution**

5 Main components of Dream Plan

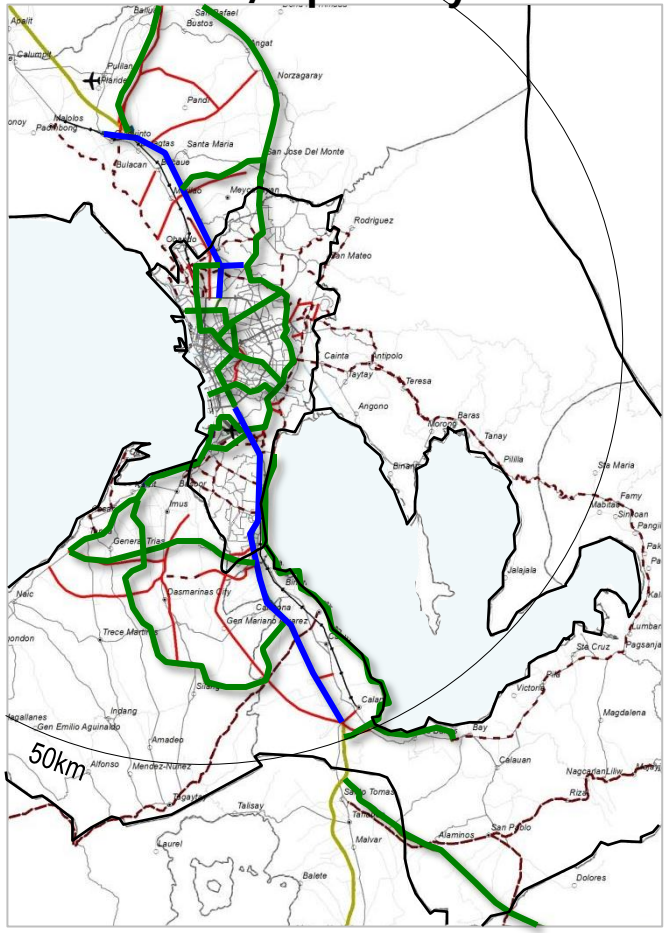
- **At-grade roads (urban roads)**
  - Missing links: C3, C5, bridges and others
  - New roads (137km)
  - Flyovers
  - Sidewalks and pedestrian facilities
  - Secondary roads in periurban areas
- **Expressways**
  - Intercity expressway (426 km)
  - Urban expressway (78 km)
- **Urban/Suburban rails**
  - Main line: 246 km (6 lines)
  - Secondary line: 72 km (5 lines)
  - Integrated lines and improved accessibility
- **Bus/Jeepneys**
  - Modern fleet and operation
  - Rationalized route structure
  - Improved terminals and interchange facilities
- **Traffic management**
  - Traffic signals
  - Traffic safety
  - Traffic enforcement and education
  - ITS

Urban/Suburban Rails Network



Legend
- NS Commuter
- Main Line
  - Existing Line
  - Extension/New Line
  - New Main Line(UG)
- Secondary Line

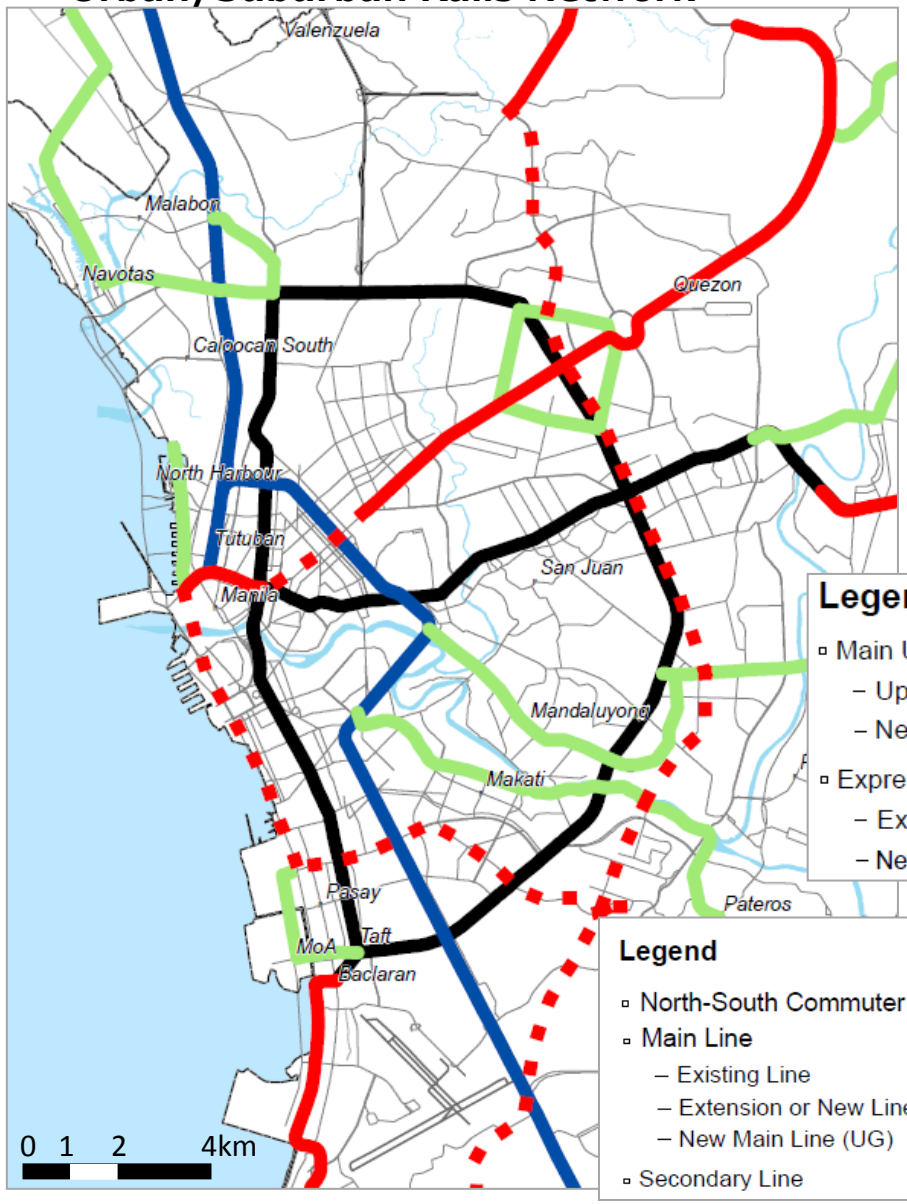
Main Roads/Expressways Network



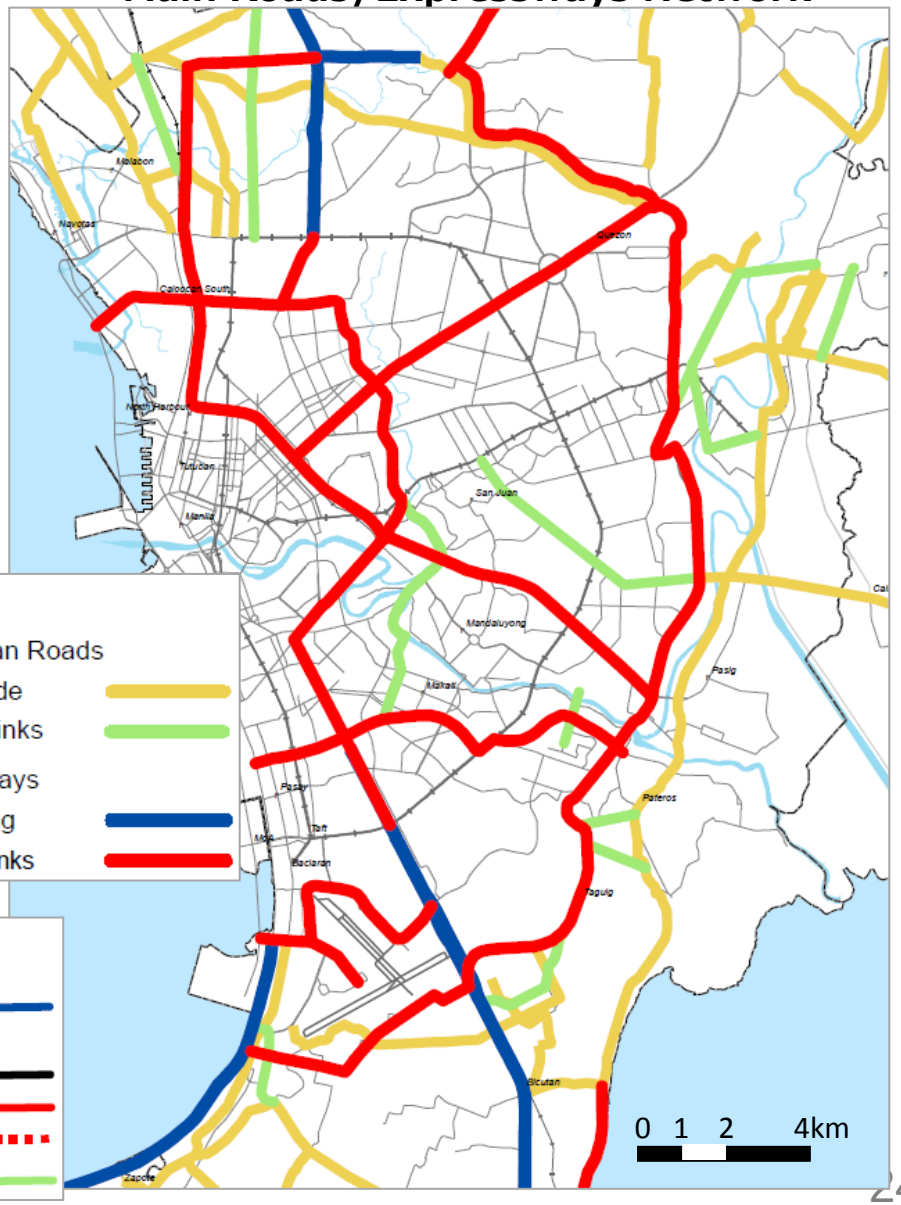
Legend
- Main Urban Roads
  - Upgrade
  - New links
- Expressways
  - Existing
  - New links

Main transport network concept for central area of Metro Manila

Urban/Suburban Rails Network



Main Roads/Expressways Network



Truly integrated urban mass-transit network is a must!

Demand for Mass-transit in Mega Manila

		2012	2030	'30/'12
Ridership (mil./day)	Metro Manila	1.5	7.4	4.9
	BRLC	0	2.1	-
	Total	**1.5**	**9.1**	**6.1**

Hierarchical railway network

- PNR/AER (suburban/urban backbone)
- Primary urban
- Secondary urban

Impact of integration (common fare)

- Ridership increase: +20%
- Bus/jeepney ridership increase: + 2%
- Impact on road traffic: - 4%

Expected modal share in 2030 (MManila)

- **Railway: 41 %**
- Bus/Jeepney: 33%
- Car: 26 %

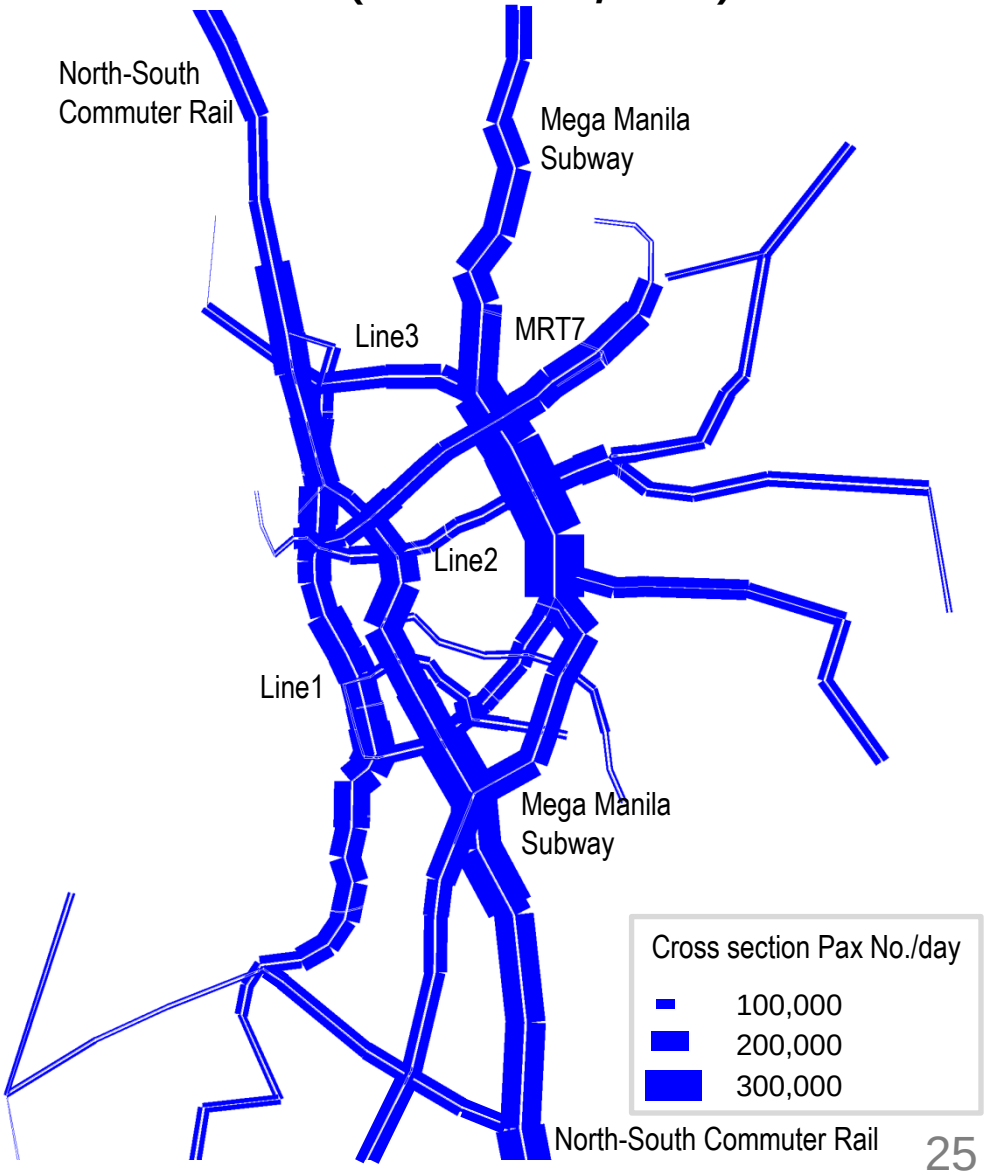
(person trip-km)

Railway share of other successful cities

- Tokyo (62%),
- Singapore (20%),
- New York (24%)
- Yokohama (46%)
- Hong Kong (25%)

Note: excluding walk trips

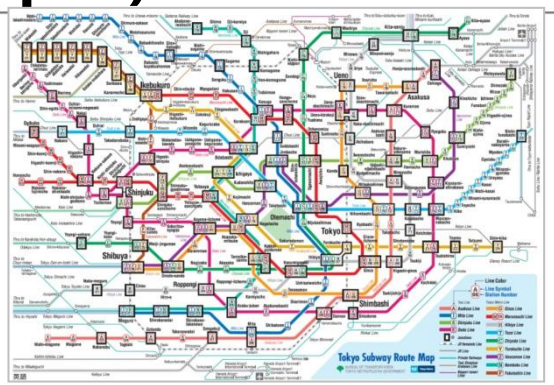
Distribution of Mass-transit Demand (Dream Plan, 2030)



Select appropriate mass-transit systems and introduce TOD for improved mobility (examples)

Commuter rail
(Odakyu Line)

Tokyo Metro
(MRT)



Total length of railway in Tokyo metropolitan ≒ 2,400km

Station plaza (interchange facilities)
(Kawasaki)

LRT Greenmover
(Hiroshima)

LRT & feeder bus (Toyama)

BRT (Gifu city)

Monorail (Chiba)

Monorail (integrated with commercial/
other building) (Kokura)

Linear motor car (Aichi)

Guideway Bus
(Nagoya)

Urban expressways need to be developed as an integrated network !

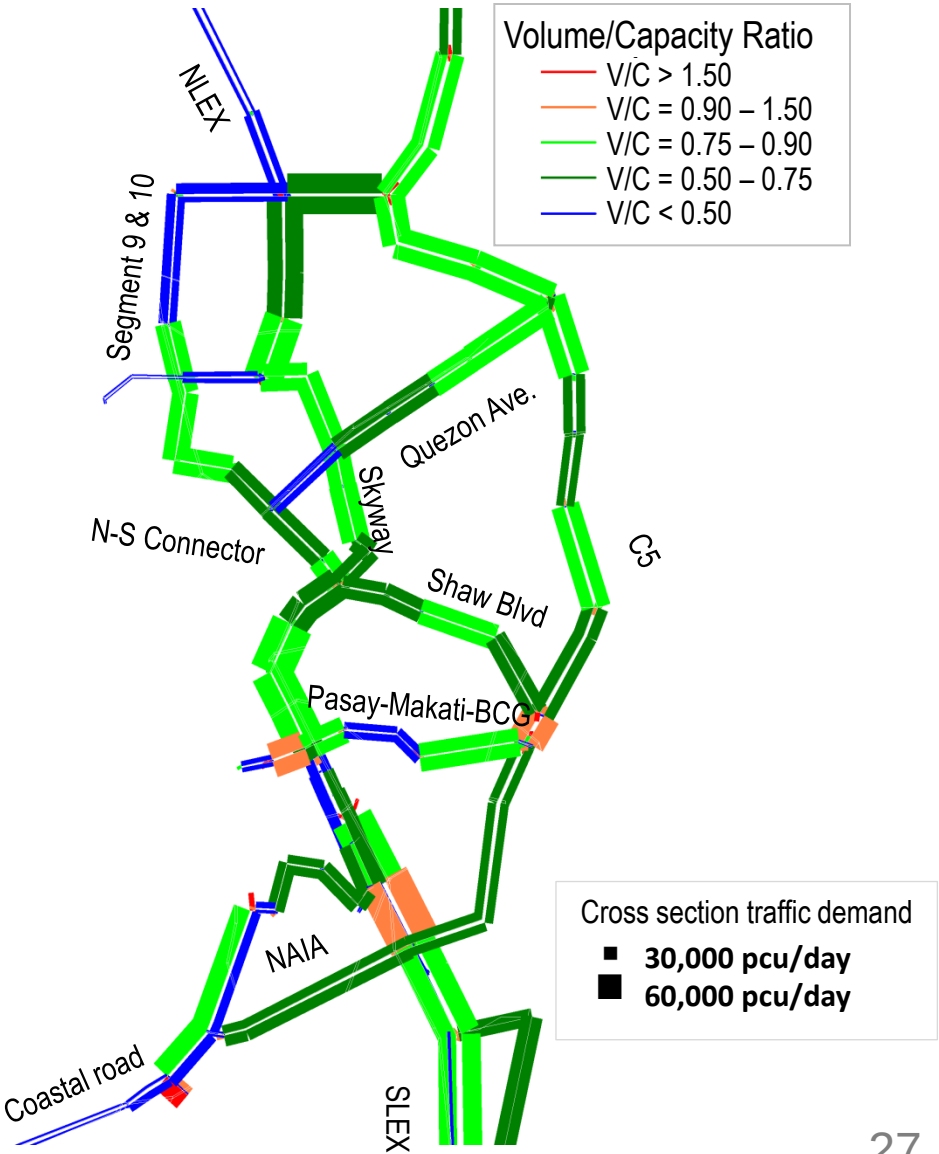
Role of urban expressway

- Attract long-trip vehicle traffic from at-grade urban roads
- Provide congestion free fast travel to those who are willing to pay for such service
- Strengthen network resilience

Should be integrated in terms of:

- Physical (between expressways, and with urban roads)
- Toll system
- Operational and management

Distribution of Expressway Demand (Dream Plan, 2030)



Modernize road-based public transport modernization

Roads and railways will be insufficient in solving traffic congestion . . .
71% of trips today and 30 % in 2030 still rely on buses and jeepneys . . .

Bus modernization program

- Comprehensive approach is necessary to modernize bus system and services
- Bus fleet, bus terminals, route planning, fare setting and collection are all interrelated.
- Need for a participatory study

Articulated bus

Bus exclusive lane/BRT

Jeepney modernization program

- Improvement of vehicles (safety, air pollution)
- Improvement of operation and management
- Shift to low emission vehicles (LEVs)

Electric minibus

Modern bus and facilities

Bus/jeepney support program

- Infrastructure: terminals, interchange facilities
- Route rationalization
- Subsidy

Improvement of jeepney and bus terminals

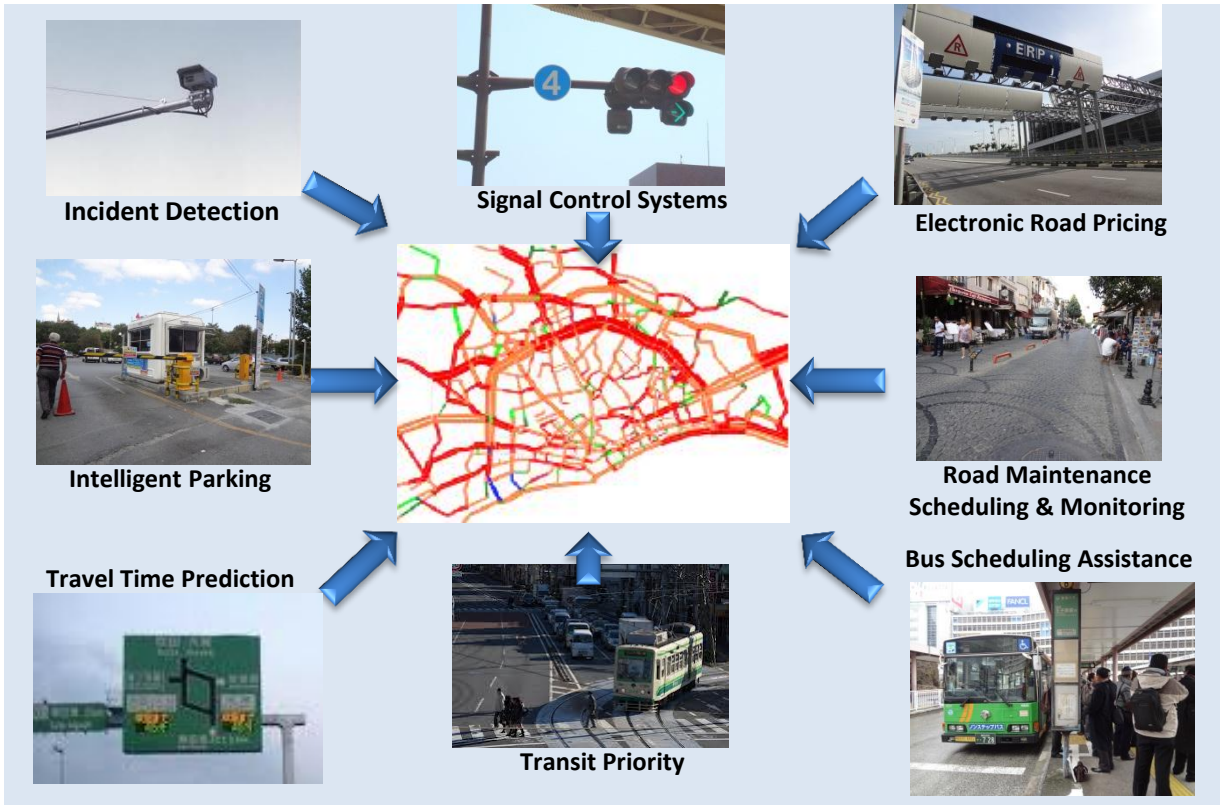
Need for a comprehensive road-based public transport study

Strengthen traffic management : Smart Traffic (TEAM 5) Program

Traffic management is the most fundamental action to maximize capacities and use of available infrastructure in the most efficient and effective manner.

- Capacity building: enforcement and education
- Infrastructure/facilities: signaling, intersection improvement, flyovers, parking, IT, others
- Traffic safety
- Demand management
- Pedestrian/NMT environment improvement

Component of intelligent transport system (example)



Need for a comprehensive traffic management study

Intelligent transport services (examples)

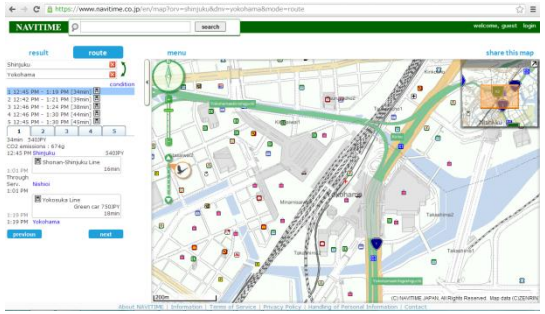
Car sharing at convenience store

Electric vehicle and charging station

Bus stop facilities with billboard business

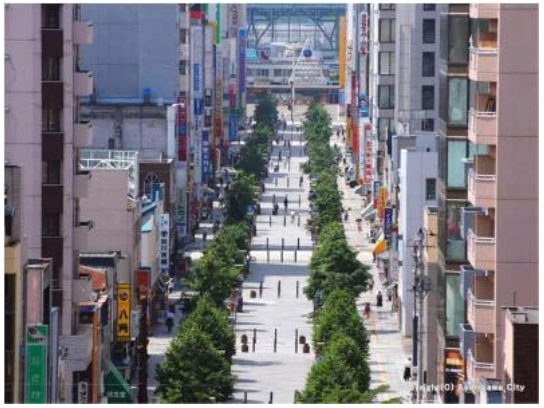
Park & Ride facilities

Personal urban mobility car



Mobile navigation system for rail

Community Cycle (Bicycle sharing)

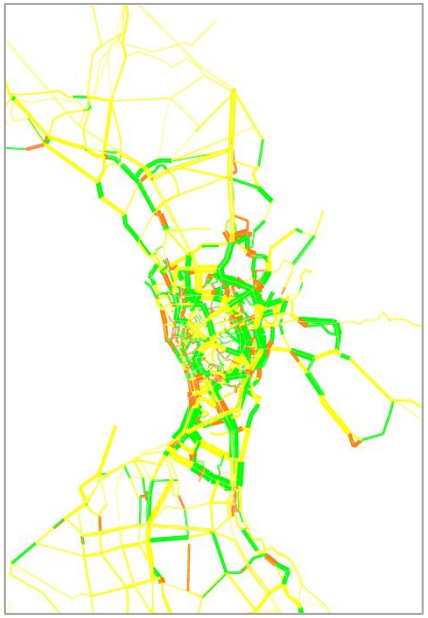


Pedestrian zone

Automated ticketing system

Mechanical multi-storey parking

Impact of the Dream Plan on road traffic in 2030



Volume/ Capacity Ratio

- **V/C > 1.50** (beyond capacity)
- **V/C = 1.00 – 1.50** (at & above capacity)
- **V/C = 0.75 – 1.00** (reaching capacity)
- **V/C < 0.75** (below capacity)

- **Traffic situation will be significantly improved!**
- **Transport cost will be reduced much!**
- **Air quality will also be improved!**

Impact of Dream Plan

Indicators			2030	%Change from 2012
Metro Manila	Transport demand (mil. pax-km/day)		152.3	15.4%
	Transport Cost (Php bil./day)		1.4	-41.5%
	Air quality	GHG (mil. Tons/year)	3.99	-16.7%
		PM (mil. Tons/year)	0.005	-64.3%
		NOx (mil. Tons/year)	0.040	-18.4%
Bulacan, Rizal, Laguna, Cavite	Transport demand (mil. pax-km/day)		115.2	18.9%
	Transport Cost (Php bil./day)		0.84	-15.2%
	Air quality	GHG (mil. Tons/year)	3.15	-1.60%
		PM (mil. Tons/year)	0.003	-40.0%
		NOx (mil. Tons/year)	0.031	-3.10%

Preliminary evaluation of Dream Plan : Dream Plan generates significantly positive economic, social and environmental impacts

Total investment cost up to 2030: Php 2,610 bil. (US$ 65.3bil.)

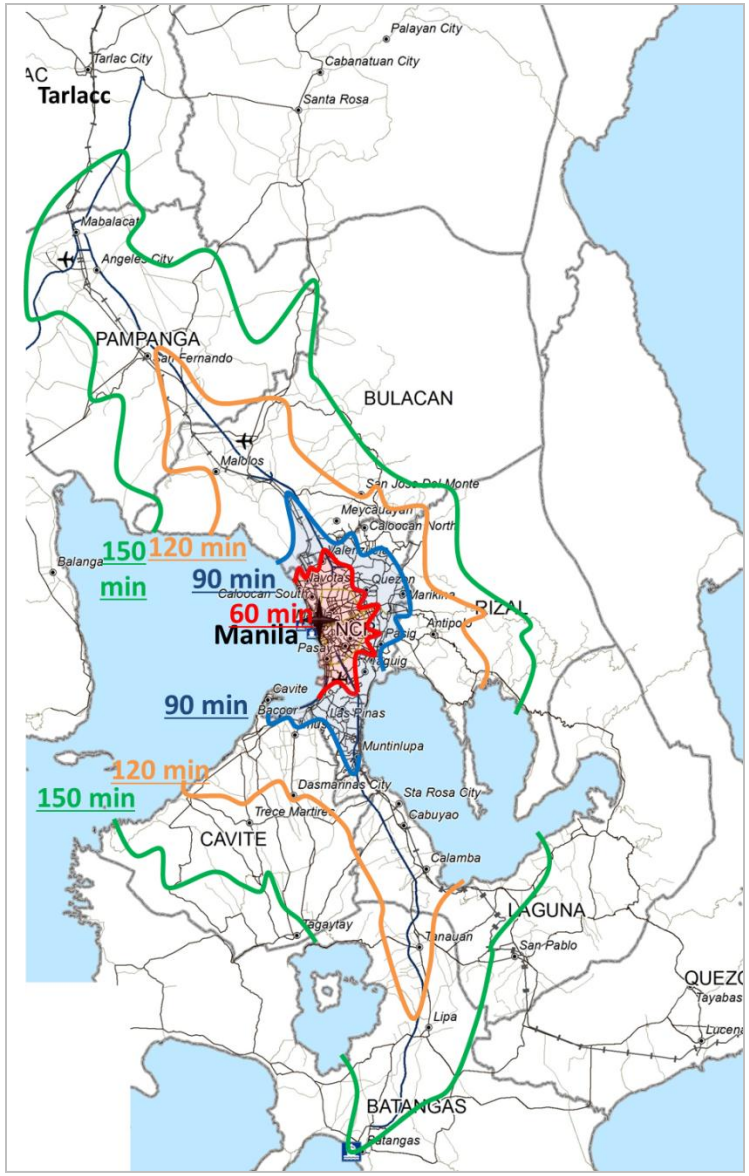
- **Economic impact:**
  - VOC saving: Php **2.1 bil./day** = Php 630 bil./year
  - Time cost saving: Php **1.9 bil./day** = Php 570 bil./year

  } **Php 1,200 bil/year**
- **Financial impact:**
  - Toll and fare revenue: **Php 397 mil./day** = **Php 119 bil./year**
- **Social impact:**
  - Public transport fare saving: **Php 18/person/day** (from Php 42 to Php 24)
  - Travel time reduction: **49 min./person·trip** (from 80 min. to 31 min.)
- **Environmental impact:**
  - Reduction in GHG: **10,233 ton/day** (from 34,033 to 23,800 ton/day)
  - Reduction in PM: **6.7 ton/day** (from 33.4 to 26.7 ton/day
  - Reduction in NOx: **50 ton/day** (from 153 to 103 ton/day)

Note: above values are for 2030 alone

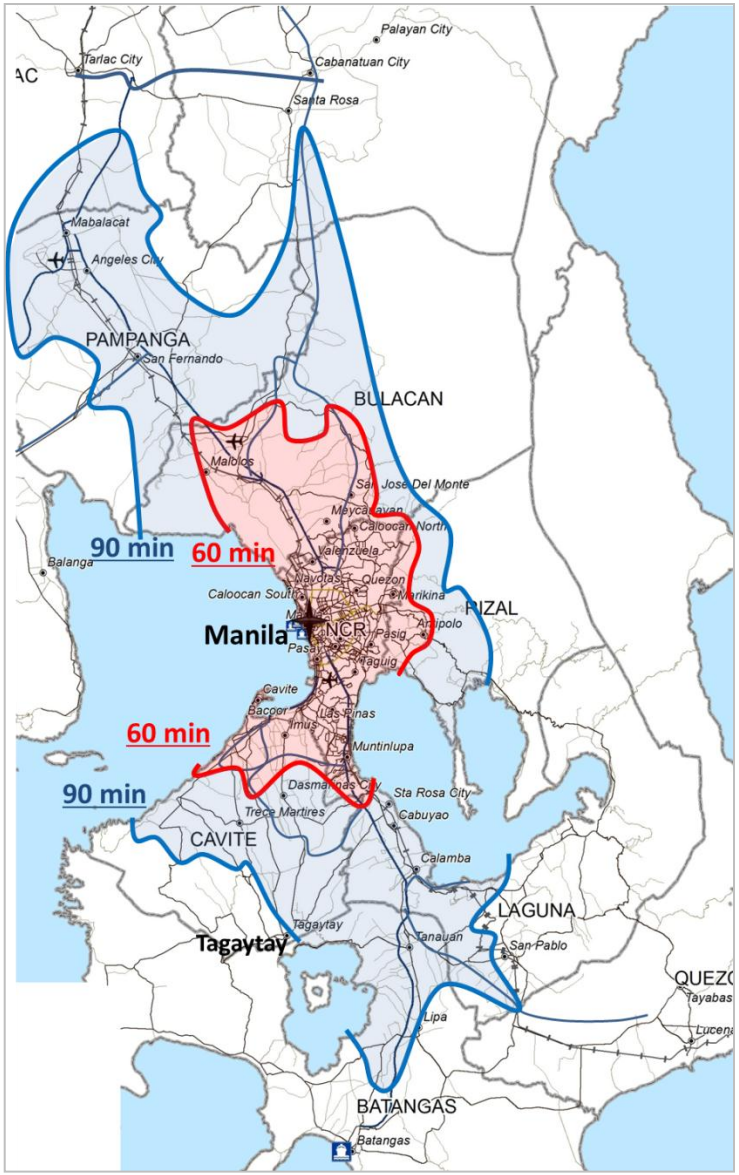
Impact of Dream Plan (estimated travel time from Manila)

Today



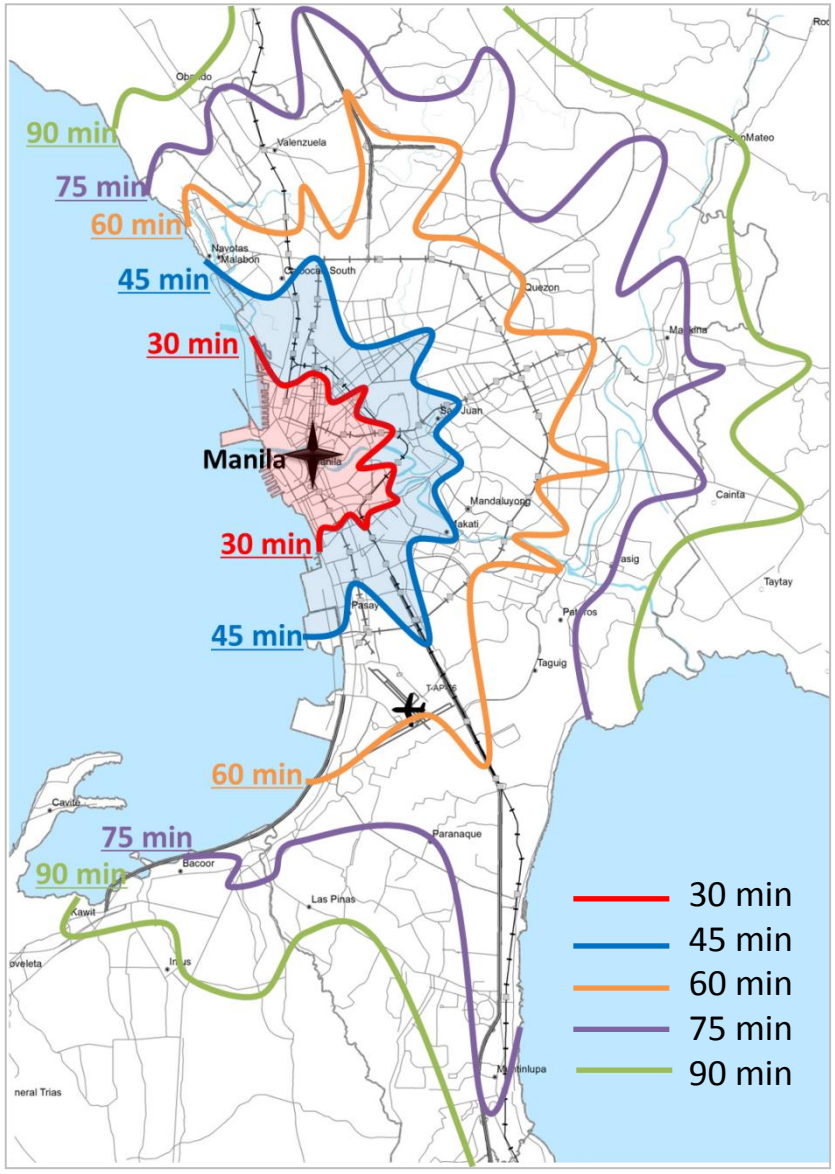
60 min
90 min
120 min
150 min

Future (Dream Plan)

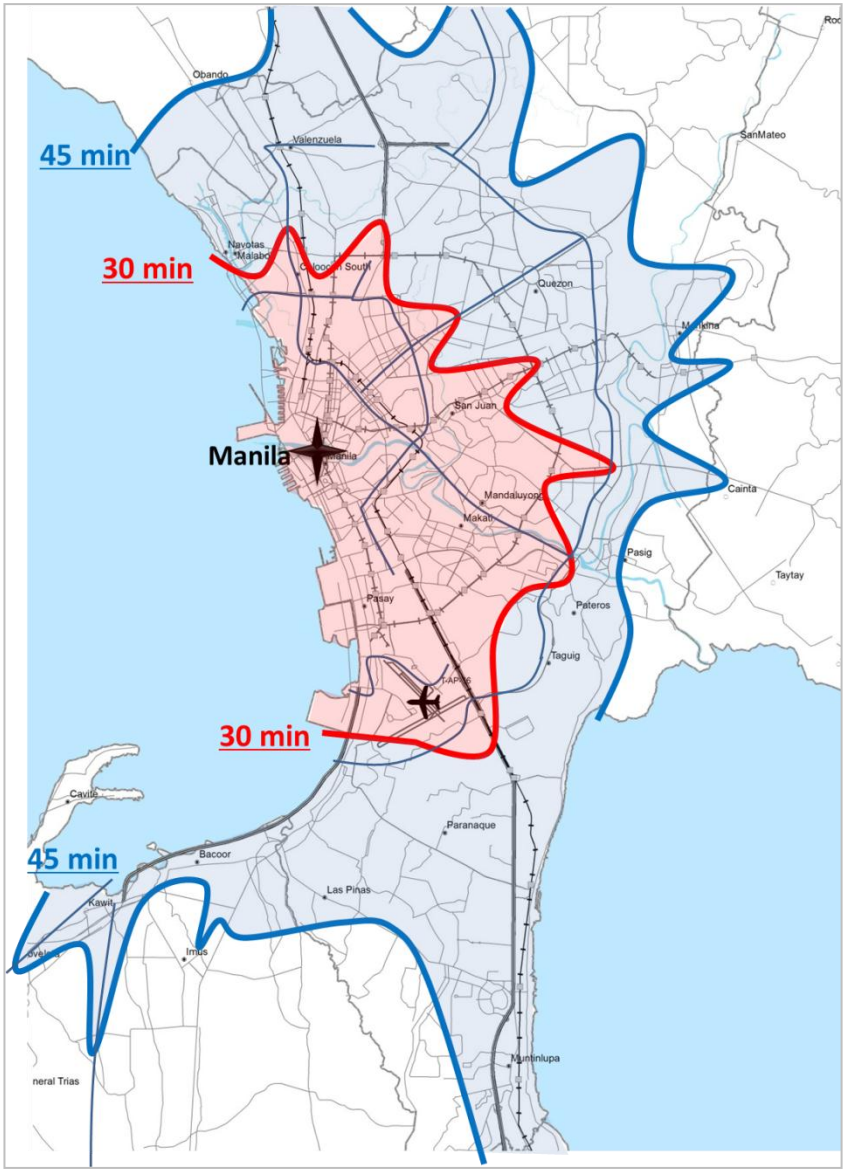


Impact of Dream Plan (estimated travel time from Manila)

Today



Future (Dream Plan)

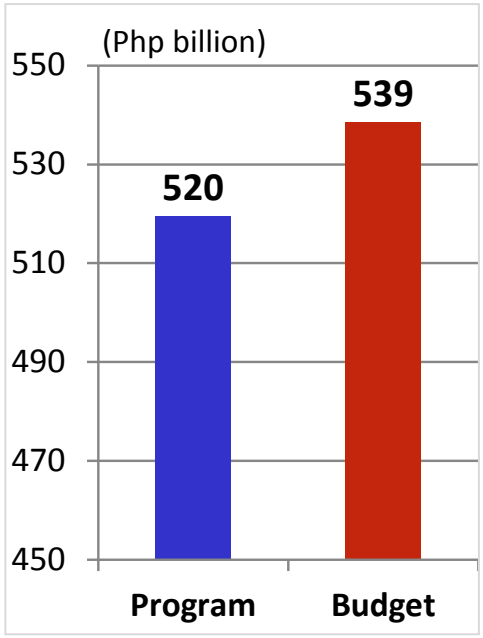


Budget envelop can cover the Dream Plan

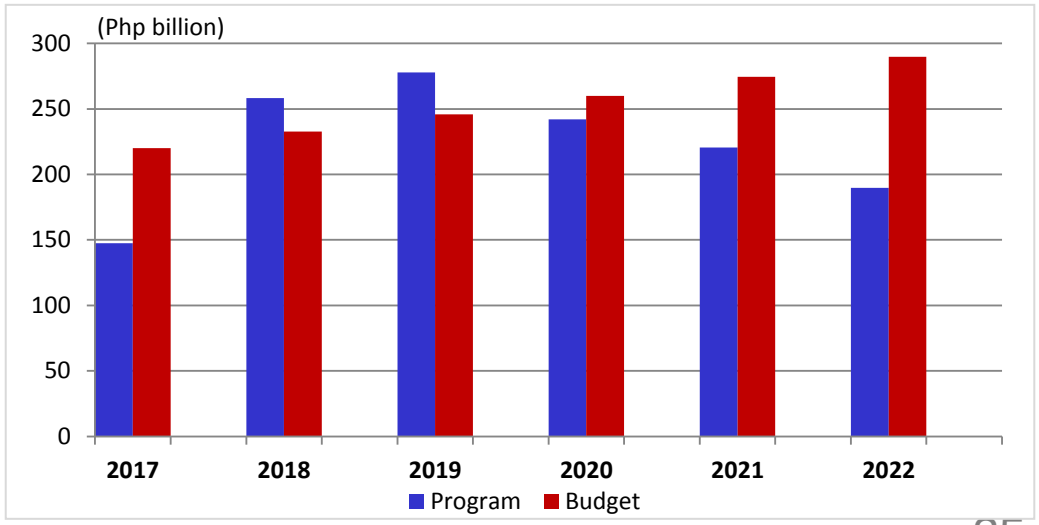
Estimated budget envelop

			2014-16	2017-22	2023-30
GDP in 2012 (Constant Price)	Growth Rate (%/year)		6.0	7.5	5.0
	Php billion		38,545	105,936	195,904
Budget Envelop (Php billion)	Infra-structure	National (5% of GDP)	1,746	5,297	9,795
		Study Area (61% of National)	1,189	3,045	5,387
	Transport	**Study Area (50% of infra)**	**539**	**1,523**	**2,694**

Short-term Plan



Medium-term Plan



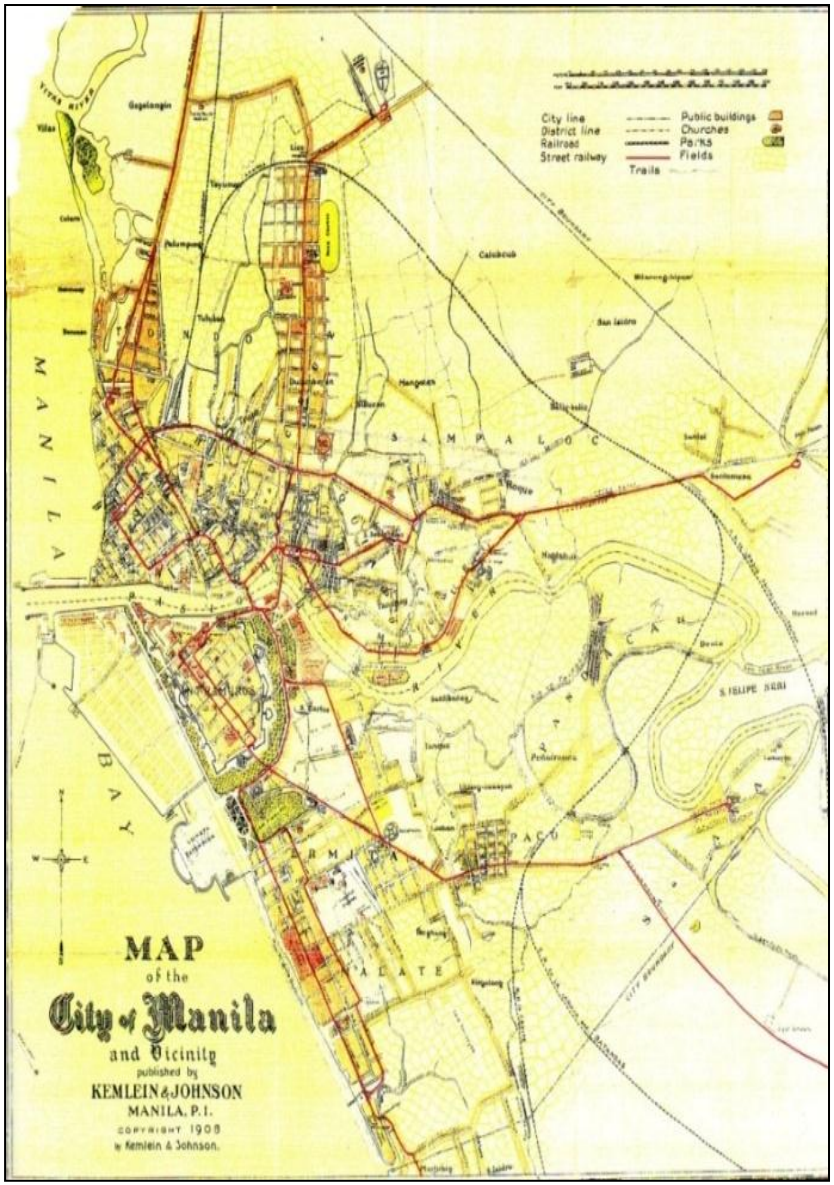
Long-term Plan (2014 - 2030)

- **Program: Php 2,610 billion**
- **Budget: Php 4,756 billion**

Manila was once mass-transit based well designed urban area

- Population: approximately 300,000 in 1920 – 30
- Well planned urban area
- Extensive tranvia network (track length): ~ 85km
- Tranvia covered about 40% of total demand.
- Strategic integrated development by private sector: suburban line + housing development + power supply
- Diversified urban transport modes
- Good traffic management

Manila in 1908



Short-term Program (2014-2016)

Criteria

- consistent with policies
- doability or high possibility of being completed or of starting construction on or before 2016
- robustness

Action plan (short-term projects) towards Dream Plan

❑ **Urban Roads**	• Complete missing links (i.e., flyovers, interchanges, bridges) • Rehabilitate main urban roads including EDSA • Study and develop secondary roads in peri-urban areas
❑ **Expressways**	• Complete NLEX-SLEX connections including port access • Implement CALA expressway, C6 ext.-Lakeshore dike road, NAIA expressway • Finalize overall metropolitan expressway network plan
❑ **Urban Rail**	• Complete committed projects (Line 1 ext./expansion, Line 2 ext., Line 3 expansion.) • Improve connectivity among urban rail lines • Implement North-South Commuter Rail (Malolos-Calamba) and MRT7 • Finalize overall metropolitan urban rail network system plan and feasibility study including EDSA Subway, further expansion/extension of main lines and development of secondary lines
❑ **Road-based Public Transport**	• Develop BRT lines ahead of urban rail lines for specific corridors (Quezon Ave., C5, Commonwealth Ave., etc.) • Study and implement modernization of bus/jeepney vehicles facilities and O & M • Improve and expand sidewalks and pedestrian/NMT(Non-Motorized Transport) facilities
❑ **Traffic Management**	• Conduct comprehensive traffic management study • Strengthen enforcement capacities • Introduce systematic road safety interventions
❑ **Gateway Ports & Airports**	• Implement committed improvement packages for NAIA and CLARK • Place cap for expansion of Manila ports and facilitate diversion to Batangas and Subic ports through incentives • Conduct study for development of New NAIA and redevelopment of port area in Manila.

Short-term Program (2014 – 2016)

A. Roads

Name of Project		Amount (Php Mil.)	Status
1. Missing Links of C5	a. Flyover on CP Garcia in Sucat	251	Committed
	b. Coastal Rd/C5 Extn. South Flyover	210	Committed
	c. C5 South Extn. Flyover at SLEX	235	Proposed
2. Global City-Ortigas Link Road		8,120	Proposed
3. Skyway/FTI/C5 Link		17,880	Committed
4. C3 Missing Links (S. Juan to Makati (Sta Ana oval))		24,000	Proposed
5. EDSA Rehabilitation		3,744	Committed
6. Plaridel Bypass, Packages 3 & 4		3,341	Committed
7. EDSA – Taft Flyover		3,033	Committed
8. Metro Manila Interchanges Construction Phase IV: 7 Packages		4,129	Committed
Roads Total		**64,943**	-

B. Expressways

Name of Project		Amount (Php Mil.)	Status
1. Daang Hari-SLEX Link Tollroad		2,010	Committed
2. NLEX-SLEX Connectors	a. Link Expressway (MNTC)	25,556	Committed
	b. Skyway 3 Section (Citra)	26,500	Committed
	c. Seg. 9&10, and Connection to R10	8,600	Committed
3. NAIA Expressway, Phase 2		15,520	Committed
4. CALA Expressway, Stages 1 and 2		35,420	Committed
5. CLLEX Phase I (La Paz, Tarlac – Cabanatuan)		14,936	Committed
6. Calamba-Los Baños Expressway		8,210	Proposed
7. C6 extension – Lakeshore Dike Road		18,590	Committed
8. Segment 8.2 of NLEx to Commonwealth Ave.		7,000	Proposed
9. STAR Stage II (Batangas – Lipa)		2,320	Committed
Expressways Total		**164,662**	-

C. Other Roads

Name of Project	Amount (Php Mil.)	Status
1. Secondary Road Packages	23,000	Proposed
2. Preparatory Studies for Several Projects	500	Proposed
3. Other Central Luzon Road Projects	16,000	Committed
4. Other Southern Luzon Road Projects	36,360	Committed
Other Roads Total	**75,860**	-

D. Railways

Name of Project	Amount (Php Mil.)	Status
1. LRT1 - Cavite Extension (Niyog) and O&M	63,550	Committed
2. LRT2 - East Extension	9,759	Committed
3. MRT3 Capacity Expansion	8,633	Committed
4. MRT 7 stage1 (Quezon Ave. – Commonwealth Ave.)	62,698	Committed
5. AFCS Common Ticketing System	1,722	Committed
6. System Rehabilitations for LRT1 and 2	6,067	Committed
7. Mega Manila North-South Commuter Railway	24,800	Proposed
8. Metro Manila CBD Transit System Project Study	75	Proposed
9. Mega Manila Subway Study	120	Proposed
10. Common Station for LRT1, MRT3 and MRT7	1,400	Committed
Railways Total	**178,823**	-

E. Road-based public Transport

Name of Project	Amount (Php Mil.)	Status
1. ITS (3 Provincial Bus Terminals)	5,080	Committed
2. Public Road Passenger Transport Reform Study	60	Proposed
3. BRT System 1	3,200	Proposed
Road-based Public Transport Total	**8,340**	-

F. Traffic Management Projects

Name of Project	Amount (Php Mil.)	Status
1. Modernization of Traffic Signalling System	3,309	Committed
2. Systematic Road Safety Interventions	1,000	Proposed
3. Comprehensive Traffic Management Study	50	Proposed
Traffic Management Projects Total	**4,359**	-

G. Airports

Name of Project		Amount (Php Mil.)	Status
1. NAIA	a. NAIA Improvements– airside package	4,249	Committed
	b. NAIA improvements – landside package		Committed
2. Clark International Airport Construction of a Budget/ LCC Terminal		7,070	Committed
			Committed
3. Feasibility Study of a New NAIA		50	Proposed
Airport Infrastructure Total		**11,368**	**-**

H. Ports*

Name of Project	Amount (Php Mil.)	Status
1. Projects for North Harbor	6,000	Committed
2. Projects for South Harbor	1,000	Committed
3. MICT	4,000	Committed
4. Feasibility Study of NH Redevelopment	75	Proposed
5. Other Ports	1,010	Proposed
Port Projects Total	**12,085**	-

*Planned expansion projects recommended for rescheduling to promote diversion of cargo to Batangas and Subic ports as well as decongest roads of Metro Manila.

Short-term Program (2014 – 2016) = Php 520 billion

Action plan on institutions

- Clear backlogs of un-implemented projects (committed)
- Ramp up delivery capacity of transport agencies
- Improve management/control of unsolicited unsolicited proposals for roads and railways to ensure network integrity
- Clear policy framework for privatization of rail lines to avoid direct government involvement in rail operation
- Harness resources of LGUs for many secondary roads
- Strengthen development control and guidance to private sector development to maximize benefits both by public and private sector
- Capacity development for planning and project preparation
- Outsource project studies to support current institutional weakness

Thank you for your attention…