

# The Roadmap Study for Sustainable Urban Development in Metro Cebu



## WORK

### GROWTH CENTER

- Industrial
- Manufacturing
- Export Processing
- High Density Residential Areas
- Commercial



## PLAY

### GROWTH CENTER

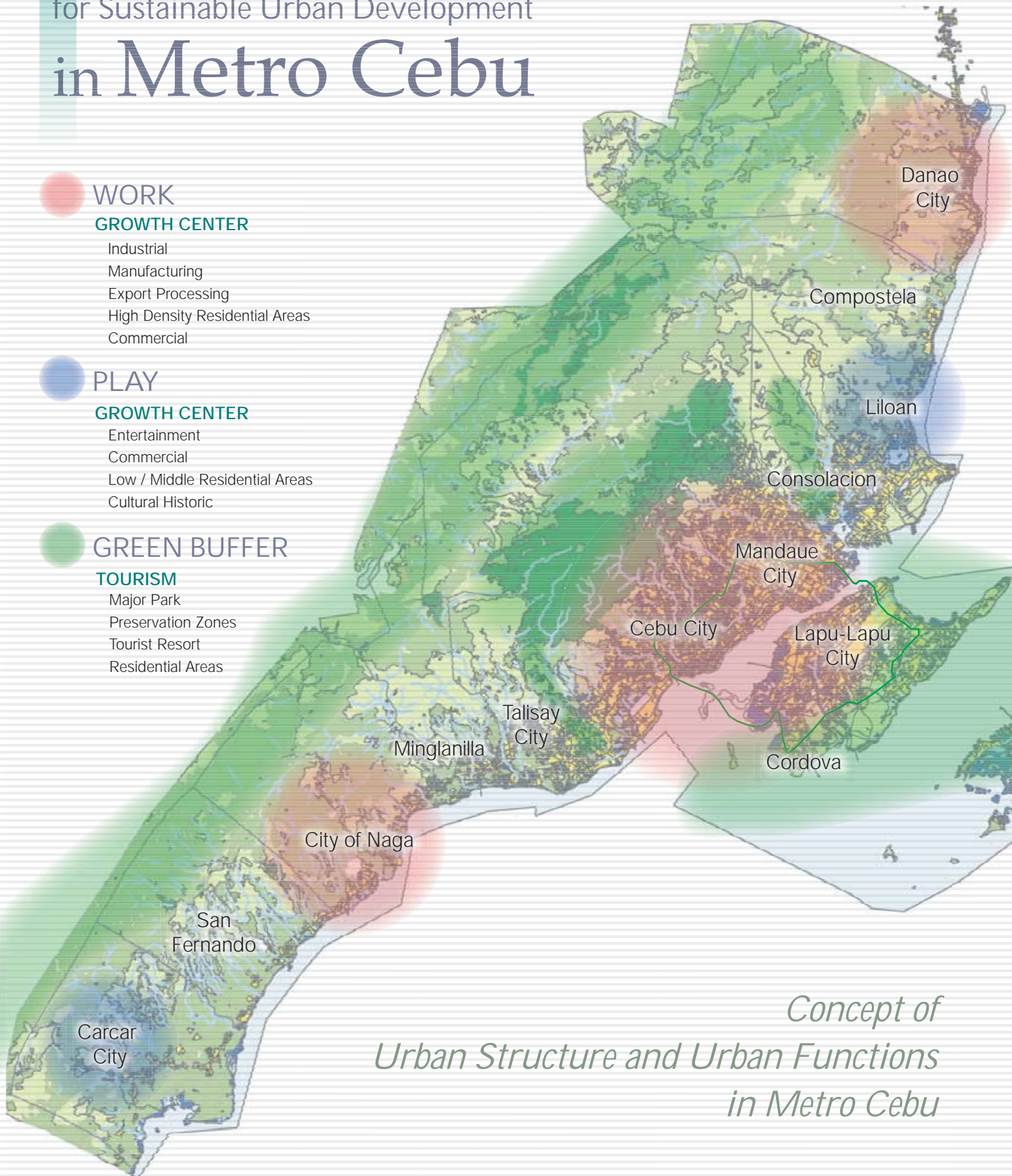
- Entertainment
- Commercial
- Low / Middle Residential Areas
- Cultural Historic



## GREEN BUFFER

### TOURISM

- Major Park
- Preservation Zones
- Tourist Resort
- Residential Areas



*Concept of  
Urban Structure and Urban Functions  
in Metro Cebu*

## Message

This Roadmap Study conducted by our friends from JICA is a very useful guide for local chief executives of the 13 cities and municipalities comprising Metro Cebu. It is important that we have the will to pursue this. Let's stop dreaming. We need to make this happen.



Hon. Hilario P. Davide III  
Chairman, Metro Cebu Development and Coordinating Board (MCDCB) and Governor, Province of Cebu



Greetings!

The Roadmap for Sustainable Urban Development in Metro Cebu has been crafted in line with the Mega Cebu 2050 Vision.

This roadmap will guide the development of Metro Cebu towards its vision of a progressive, sustainable and vibrant metropolis for its citizens and future generations of Cebuanos.

The uniqueness of the efforts made in formulating such a vision for Metro Cebu is twofold. First, the vision is a consensus of the people, not only of governments, and second, the roadmap is a scenario written by the people, not by any power. We, the JICA Study Team, are deeply honored to have had the opportunity to work together with such intelligent and enthusiastic people.

It has been said that a long journey starts with a first step, even if the step is short. With this roadmap as our guide, let's move forward towards a brighter future for all Cebuanos!

April 2015



Katsuhide Nagayama, Ph.D.  
Leader, JICA Study Team



## Study Scope

The ultimate objective of the Study is to formulate a roadmap and detailed action plan which consists of the following:

1. Formulation of a long-term roadmap (up to 2030, thence up to 2050) in order to realize the Mega Cebu Vision 2050
2. Preparation of detailed action plans consisting of priority projects for the short-term (1-3 years) and medium term (4-6 years); and
3. Production of a hazard map covering Metro Cebu and the northern part of Cebu Province.

# Development Framework for Metro Cebu 2050

What will Metro Cebu look like in 2050? The urban features after 35 years were projected in terms of 1) population, 2) economic activities, 3) employments, and 4) urban land availability.

## Urbanization

The population of Metro Cebu doubled during past two decades (1990-2010); and will be doubling during the next four (4) decades up to 2050, resulting in being about 5 million. Urbanization will not homogeneously be taking place. Due to limited land available for urban land uses, the population growth rates of three major cities of Cebu, Mandaue and Lapu Lapu, will be gradually lessened and saturated, while, the populations of neighboring Local Government Units (LGUs) will ceaselessly increase to be more than doubled in 2050.

## Economic Activities

Metro Cebu will enjoy a steady economic growth even in the long run. Peoples' affluence level, in terms of Per Capita GRDP, will be uplifted to be more than 20,000 USD in 2050, which is almost same as that of the current Korean as of 2010. For realizing this sustainable growth, macro-economic policies should be properly undertaken so as to break through so-called "Middle Income Trap".

The growth potentials of economic activities up to 2050 were projected. GRDP of Metro Cebu will grow at 8.3% p.a. between 2010 and 2020, 7.8% p.a. between 2020 and 2030; then 5.8% p.a. between 2030 and 2050. In the result, the magnitude of economic activities in Metro Cebu will be almost 15 times as large as the present level as of 2010.

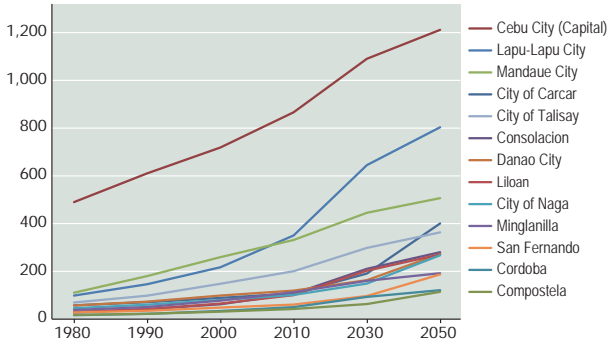
## Employments

A total of 2 million employments should be available in Metro Cebu in 2050, out of which approximately 1 million jobs shall newly be created from 2010.

The sector structure of employments will shift to a more industrialization-oriented structure, or the economy will be driven by strategic development of industrial and urban service sectors.

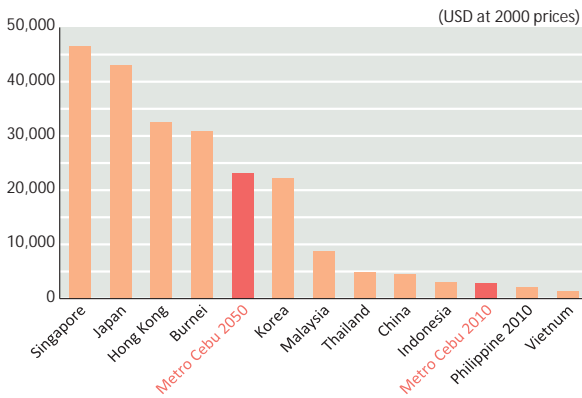
To assure such an economic movement, about 317 thousand employments by the secondary sector and 641 thousand by the tertiary (service) sector should be newly prepared in Metro Cebu. Diversification of the urban economy is a must, inducing more foreign direct investments (FDIs) as well as encouraging local investors in various potential business areas.

## Population Projection in Metro Cebu



City / Municipality Name	Population				Projection		Change 2050 / 2010
	1980	1990	2000	2010	2030	2050	
City of Carcar	57.8	70.8	89.2	107.3	190.9	400.5	3.7
Cebu City (Capital)	490.3	610.4	718.8	866.2	1,090.7	1,211.6	1.4
Compostela	17.5	22	31.4	42.6	63.1	114.5	2.7
Consolacion	27.5	41.3	62.3	106.6	210.9	280.4	2.6
Cordoba	16.5	22.3	34.0	50.4	93.0	121.5	2.4
Danao City	57.0	73.4	98.8	119.3	163.1	273.1	2.3
Lapu-Lapu City	98.7	146.2	217.0	350.5	645.2	803.8	2.3
Liloan	30.2	42.6	65.0	100.5	202.8	271.0	2.7
Mandaue City	110.6	180.3	259.7	331.3	445.4	506.9	1.5
Minglanilla	38.5	50.9	77.3	113.2	160.6	192.2	1.7
City of Naga	45.8	60.4	80.2	101.6	148.8	267.2	2.6
San Fernando	28.3	35.1	48.2	61.0	96.9	187.1	3.1
City of Talisay	69.7	98	148.1	200.8	298.3	363.3	1.8
Metro Cebu	1088	1454	1,930	2,551	3,810	4,993	2.0

## Comparison of Per Capita GDP among Asian Countries in 2010 and Metro Cebu 2050



## Projection of GRDP of Metro Cebu

	Actual	Projection			Annual Growth Rate		
	2010	2020	2030	2050	2020 / 2010	2030 / 2020	2050 / 2030
GRDP (mil. PHP at 2000 prices)	229,443	509,059	1,079,115	3,334,325	8.3%	7.8%	5.8%
GRDP per Capita (mil. PHP at 2000 prices)	89,939	162,100	162,100	667,800	6.0%	5.5%	4.5%

## Projection of Employment in Metro Cebu in 2050

Urban Cluster	Population 2050 ('000)	EAP (15-60 years old)	Employment Needs in Formal Sector	Sector Structure of Employment (%)			Employment by Sector ('000)			
				Primary	Secondary	Tertiary	Primary	Secondary	Tertiary	Total
Danao-Compostela	387.6	232.5	162.8	30	20	50	48.8	32.6	81.4	162.8
Consolacion-Liloan	551.4	330.8	231.6	20	25	55	46.3	57.9	127.4	231.6
Cebu-Mandaue	1718.5	1031.1	721.8	5	35	60	36.1	252.6	433.1	721.8
Talisay-Minglanilla-Naga	822.7	493.6	345.5	20	20	60	69.1	69.1	207.3	345.5
San Fernando-Car-car	587.6	352.6	246.8	25	15	60	61.7	37.0	148.1	246.8
Lapu-Lapu-Cordova	925.3	555.2	388.6	5	35	60	19.4	136.0	233.2	388.6
Metro Cebu 2050	4993.1	2995.8	2097.1	13.4	27.9	58.7	281.5	585.2	1230.4	2097.1

< Comparison between 2010 and 2050 >

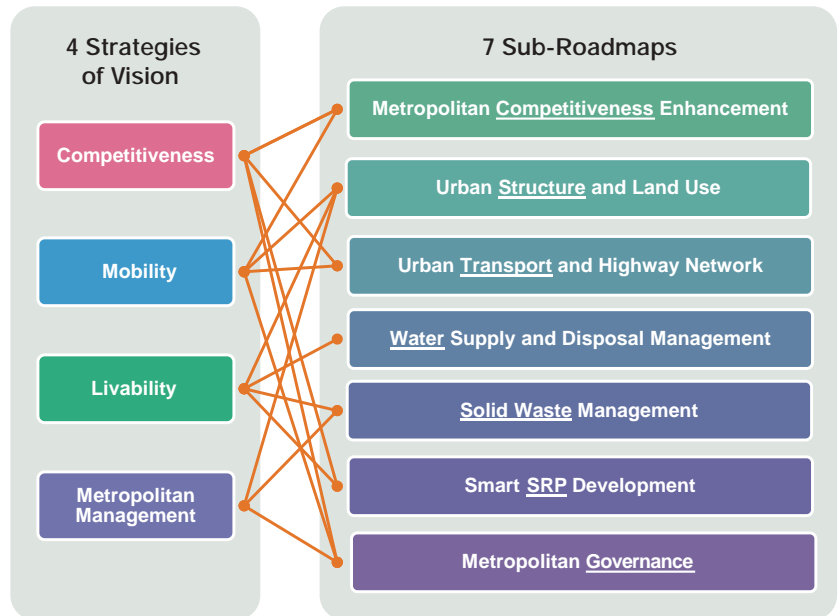
Metro Cebu 2010	2551.1	1530.7	1071.5	20	25	55	214.3	267.9	589.3	1071.5
Increase 2010-2050	2442.0	1465.2	1025.6	-6.6	2.9	3.7	67.2	317.4	641.1	1025.6



# Roadmap Development

To concretize the roadmap, seven (7) sub-roadmaps are integrated into one roadmap. Draft ideas of each sub-roadmap are delineated through the planning process as follows:

1. to set development target and scenario from the present to 2030, 2050;
2. to identify projects to realize the development scenarios;
3. to evaluate projects from the economic, financial and environmental viewpoints; and
4. to recommend implementation modalities e.g., organizational, institutional, human resource and financing requirements.

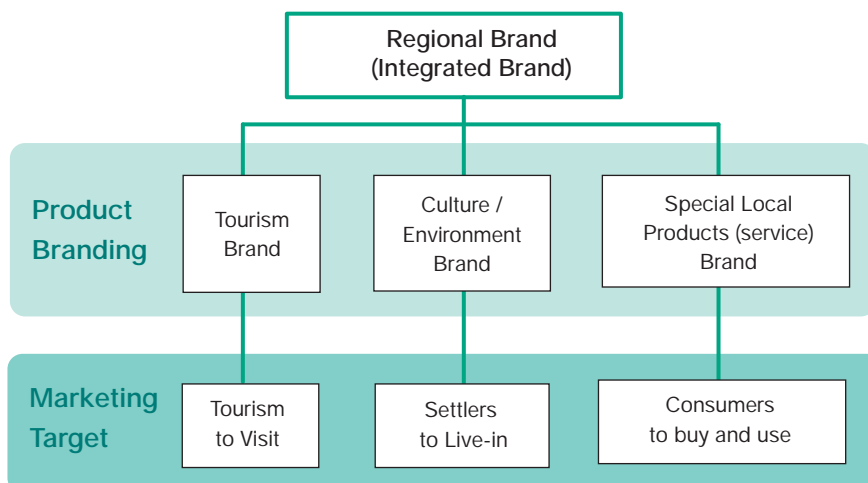


## Sub-Roadmap for Metropolitan Competitiveness Enhancement

<b>Short-Term</b>	<ul style="list-style-type: none"> <li>• Establishment of Mega Cebu Investment Board (MCIB)</li> <li>• Preparation of feasibility study for industrial parks/estates development projects</li> <li>• Establishment of a Cebu Branding Institute for regional branding with good networking with existing institutes</li> <li>• Establish a Cebu Educational Development Foundation for Health Care and capacity development of human resource in the sector</li> <li>• Establishment of a research and development centre for Tourism</li> <li>• Update the Master Plan for the entire Cebu Province</li> </ul>
<b>Mid-Term</b>	<ul style="list-style-type: none"> <li>• Further research and analysis on the strategies of global investors and neighboring countries</li> <li>• Implementation of the short-term project for investment promotion and Mega Cebu brand</li> <li>• Facilitate development of new industrial parks/estates under a newly conceptualized PPP scheme</li> </ul>
<b>Long-Term</b>	<ul style="list-style-type: none"> <li>• Realize the vision of the long-term target set up by the Mega Cebu 2050</li> <li>• Propagate firm-level productivity and competitiveness in line with human resource development</li> <li>• Facilitate entrepreneurial mindset and a proactive attitude to assure sustainable improvement and innovation</li> </ul>

### Regional Branding

Marketing is "creation of a system of selling",  
 Brand building is "creation of a system of sustainable selling"  
 Regional branding is to "add value that appeal the region"



### Priority Sectors in Metro cebu

1. High Value added Manufacturing Industries (Export/Domestic)
2. IT / Business Process Outsourcing (Knowledge Process Outsourcing)
3. Tourism Industry
4. New Technology driven Industries

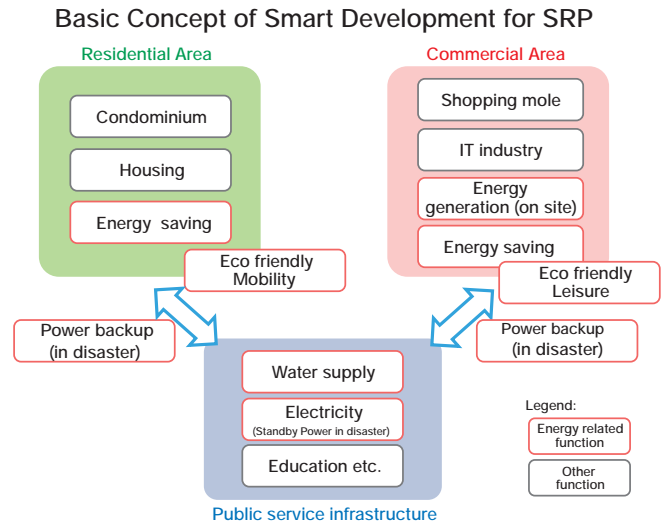
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Human Resource Development/  
Education

Mega Cebu Investment Board  
(MCIB)

# Sub-Roadmap for Smart South Road Properties (SRP) Development

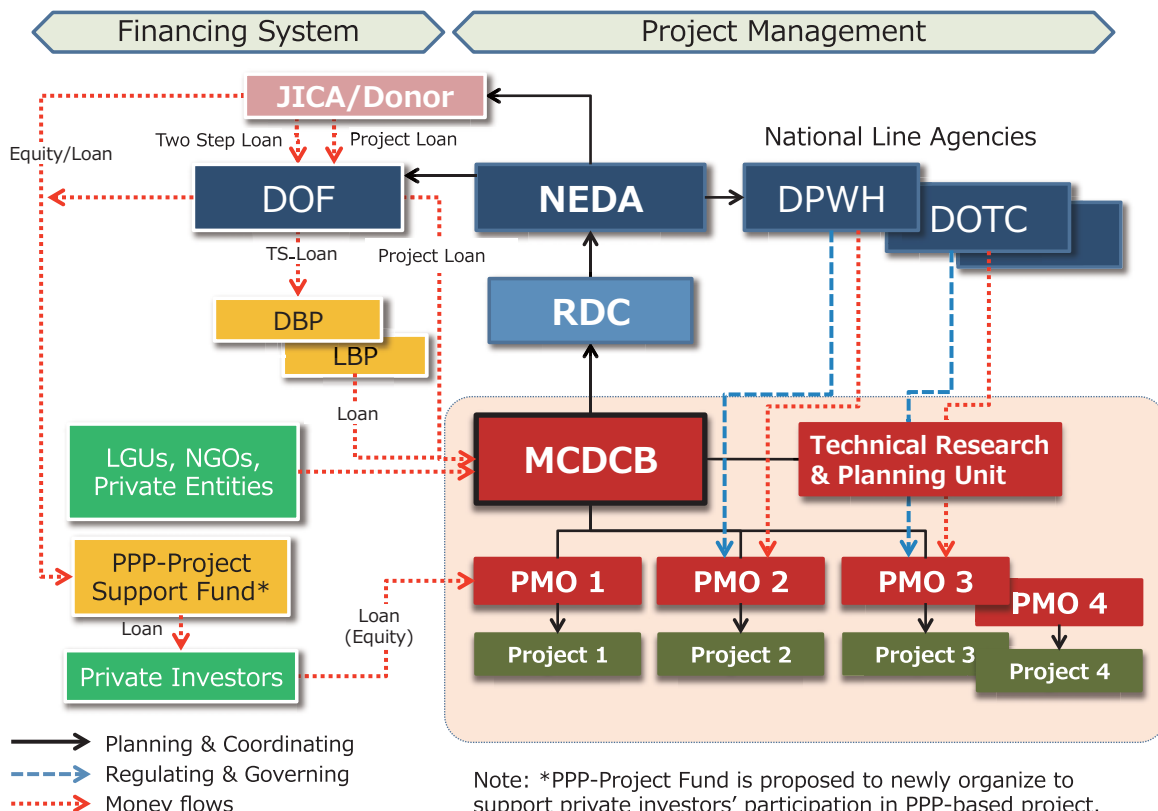
<b>Short-Term</b>	<ul style="list-style-type: none"> <li>Establishment of unified management system of energy supply and demand in SRP (2015-2017)</li> <li>Introduction of management system to visualize energy demand (2018-2020)</li> <li>Introduction of individual technology elements which are suitable for each area (2018-2020)</li> </ul>
<b>Mid-Term/Long-Term</b>	<ul style="list-style-type: none"> <li>To expand knowledge and know-how obtained from SRP efforts to Cebu City and the whole Metro Cebu area (2021-2050)</li> <li>Establishment of the most suitable energy management scheme based on resource development in the Philippines, development of renewable energy, and trend of power system reform (2021-2050)</li> </ul>



# Sub-Roadmap for Metropolitan Governance

<b>Short-Term</b>	<ul style="list-style-type: none"> <li>Continuation of a study on appropriate metropolitan institution, governance, and legal system.</li> <li>Establishment of Metro Cebu "Technical Research Unit" and posting relevant experts.</li> <li>Foundation of Metro Cebu Investment Promotion Committee, and draft action plan and implementation</li> <li>Foundation of Metro Cebu Traffic Management Center</li> </ul>
<b>Mid-Term</b>	<ul style="list-style-type: none"> <li>Strengthening institutions and units which would be core in policy networks</li> <li>Evaluation of the intermunicipal association (Metro Cebu Development Association /League) in terms of improvement on public service delivery, etc.)</li> <li>Preparatory study on needs and effectiveness of metropolitan authority (Metro Cebu Development Authority)</li> </ul>
<b>Long-Term</b>	<ul style="list-style-type: none"> <li>Provision of capacity development and institutional development to the metropolitan governance body (Metro Cebu Development Authority)</li> <li>Assessment of performance of the metropolitan governance body (Metro Cebu Development Authority)</li> </ul>

## Metropolitan Implementation and Management System

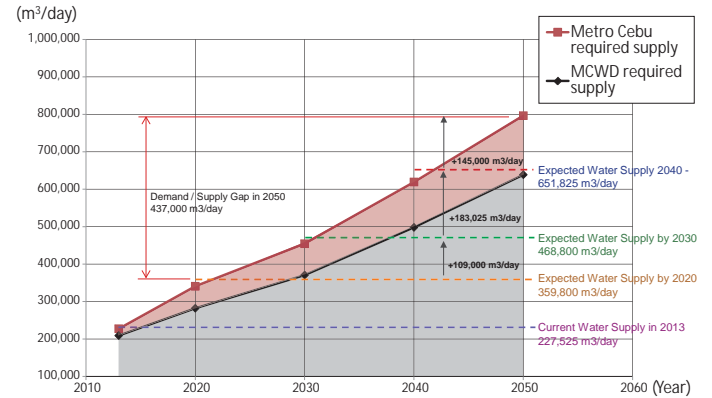


# Sub-Roadmap for Water Supply

Key issues on water supply in Metro Cebu are future water deficit as well as salinity intrusion, nitrate and E.coli contamination, peripheral urbanization in the watershed areas. In order to address such critical issues, a sub-roadmap with a vision, "to narrow the gap between demand and supply, and increase safe water coverage and provide 24 hours service to uplift the people's quality of life" is proposed.

<b>Short-Term</b>	<ul style="list-style-type: none"> <li>Project for construction of new water supply facilities (reservoirs, pump stations, well development) (2015-2020)</li> <li>Construction of Mananga II dam (2015-2020)</li> </ul>
<b>Med-Term</b>	<ul style="list-style-type: none"> <li>Construction of Kotkot and Lusaran dams (2018-2030)</li> <li>Groundwater exploitation study (2018-2030)</li> <li>Reduction of NRW (Non revenue water)</li> </ul>
<b>Long-Term</b>	<ul style="list-style-type: none"> <li>Development of surface water and groundwater at the northern and southern areas of Metro Cebu (2030-2050)</li> <li>Construction of desalination plant (2028-2050)</li> <li>Reduction of NRW</li> <li>Recharge to the ground water (2028-2050)</li> <li>Use of recycled water (2028-2050)</li> </ul>

## Future Water Demand and Required Water Supply Capacity



### Proposed Dam Site



Jaclupan Weir (Mananga River)

# Sub-Roadmap for Storm Water Management

The biggest problem of storm water management is that the technical knowledge on the actual cause of flooding is limited. Cost-benefit analysis is not done to assess the effectiveness of specific project. To address these issues, a sub-roadmap is proposed with a vision, "to increase resilience from flooding and storm water disasters, based on an integrated flood and drainage system development to assure livable environment in the entire Metro Cebu."

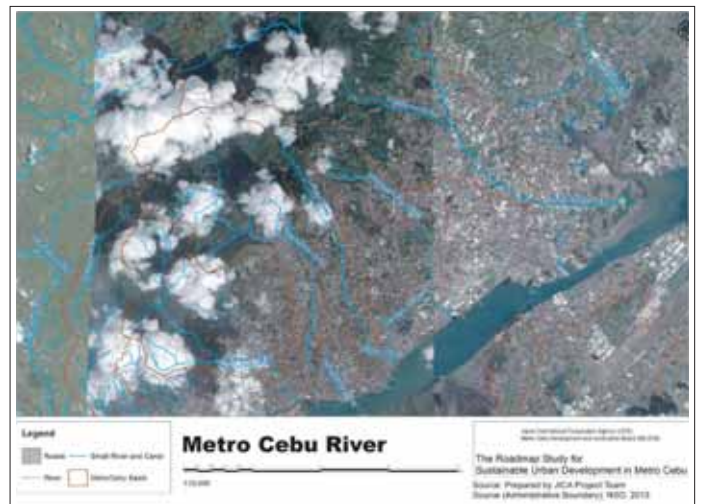
<b>Short-Term</b>	<ul style="list-style-type: none"> <li>Implementation of "A Comprehensive Study for A" Metro Cebu Integrated Flood and Drainage System (MCIFDS) Master Plan (2015-2020)</li> <li>Cleaning rivers, creeks, and drainages (2015-2020)</li> <li>Construction of small scale rain water storage facilities (2015-2020)</li> </ul>
<b>Medium-Term</b>	<ul style="list-style-type: none"> <li>Construction of drainage facilities based on MCIFDS (2020-2030)</li> <li>River improvement projects (2020-2040)</li> <li>Embankment at inundation places in rural area (2020-2030)</li> </ul>
<b>Long-Term</b>	<ul style="list-style-type: none"> <li>River improvement projects (2030-2050)</li> <li>Construction of large scale rain water storage facilities (2030)</li> </ul>

## Current Condition of Riverways in Metro Cebu



Relentless Disposal

Illegal Housing on the River



# Sub-Roadmap for Wastewater Management

The major problem of wastewater issues in Cebu, is that wastewater has been hardly treated to begin with. Consequently, the water quality has been exacerbated. Advocating that "domestic and industrial waste water are properly treated by appropriate sewerage systems to assure human health and the natural environment, it is targeted that wastewater coverage ratios: 50% of population in 2030 and 90% in 2050.



Demonstration of a Septage Treatment Facility at Cebu City funded by JICA



Seven Clusters of Septage Treatment and Management Systems in Metro Cebu

<b>Short-Term</b>	<ul style="list-style-type: none"> <li>• Construction of septage treatment Plants (2016 - 2020)</li> <li>• Improvement for inappropriate septic tanks (2016 - 2020)</li> <li>• Construction of proper wastewater treatment facility for development Areas (2016 - 2020)</li> </ul>
<b>Med-Term</b>	<ul style="list-style-type: none"> <li>• Partly construction of centralized sewerage system (2020 - 2030)</li> <li>• Promotion of ecological sanitation technologies (2025 - 2030)</li> </ul>
<b>Long-Term</b>	<ul style="list-style-type: none"> <li>• Expansion and construction of centralized sewerage systems (2030 -2050)</li> </ul>

# Sub-Roadmap for Solid Waste Management

The protection of public health and the environment is ensured by establishing the solid waste management system underpinned by environmentally-sound methods and technology. For this purpose, cooperation and self-regulation among citizens and private sector as waste generators are encouraged, and public-private cooperation for sustainable business development for the medium to long term is promoted. Consequently, achievement of "Livability", one of the Mega Cebu Visions, will be ensured.



<b>Short-Term</b>	<ul style="list-style-type: none"> <li>• Formulation of a comprehensive solid waste management master plan for Metro Cebu (2015-2016)</li> <li>• Enhancement of a waste reduction &amp; recovery program (2015-2016)</li> <li>• Conduct of action planning and implement the project for environmentally sustainable closure of the Inayawan sanitary landfill (2015)</li> <li>• Introduction of an effective management system of medical waste and hazardous waste treatment facilities (2015-2016)</li> </ul>
<b>Medium-Term</b>	<ul style="list-style-type: none"> <li>• Implementation of the medium-term projects/programs identified in the comprehensive solid waste management master plan for Metro Cebu (-2020)</li> <li>• Implementation of the enhanced waste reduction &amp; recovery program with special attention to develop following infrastructures (-2018)</li> <li>• Construction and upgrade of the operation and maintenance of city-wide MRF(-2018)</li> <li>• Construction of the medical waste and hazardous waste treatment facilities and develop an appropriate operation and management system (-2018)</li> <li>• Conduct of the feasibility study for appropriate technologies of waste-to-energy (WTE) facilities (2018)</li> </ul>
<b>Long-Term</b>	<ul style="list-style-type: none"> <li>• Implementation of long-term projects and programs proposed by the comprehensive solid waste management master plan for Metro Cebu (-2030)</li> <li>• Construction of two (2) metropolitan sanitary landfill facilities based on the feasibility study to be conducted in the medium-term (-2025)</li> <li>• Enhancement and dissemination of the waste reduction &amp; recovery program, based on the community-based 3R movement (-2025)</li> <li>• Construction of waste-to-energy (WTE) facilities based on feasibility studies to be conducted in the medium-term(-2025)</li> <li>• Achievement of the mega cebu vision with a sustainable waste management system in Metro Cebu (-2030)</li> </ul>

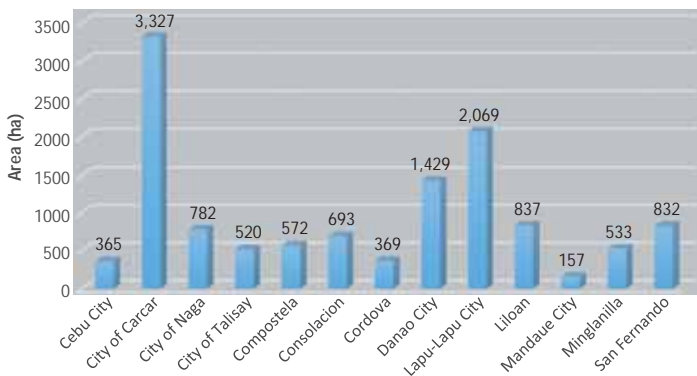
# Sub-Roadmap for Urban Structure and Land Use

## Urban Land Availability

Base on a preliminary analysis on hazardous areas (land with more than 18% slope and below 2m contour), it was found that 76% of the entire territory of Metro Cebu is hazardous, and that areas suitable for urban development account for 24% of total or 27,049 ha only. Of which, only 11.3%, or 12,484 ha, can be utilized for future urbanization. Given other environmentally restrictive factors, areas suitable for urban land use will be lessened.

Carcar, Lapu Lapu and Danao possess considerably vast land available for further urban development, while Cebu and Mandaue have very limited land areas.

Distribution of Areas Available for Development



Hazardous Area Analysis in Metro Cebu

Metro Cebu Total Area (ha)	Urbanized Area (ha)		Non-Urbanized Area (ha)		
			Areas Available for Conversion		No Development Area
	No Hazard Area	Hazardous Area	No Hazard Area	Hazardous Area	Hazardous Area
110,006	14,565	2,044	11,948	14,942	66,507
100.0%	13.2%	1.9%	10.9%	13.6%	60.5%

## Urban Society 2050

The available land resource of Metro Cebu is limited and thus the most suitable lands for urban uses have to be developed in order to accommodate the 5 million populations forecasted for 2050. Thus, there are two (2) options for Urban Society in 2050.

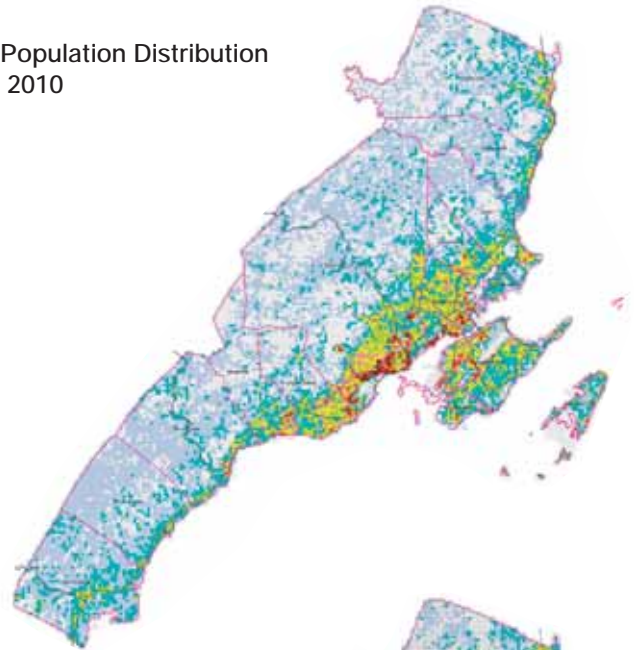
### (1) Monocentric and Densely Inhabited Urban Area

The present urbanization pattern will continue. Urban development will still be concentrated in Cebu City, Mandaue City and Lapu-Lapu City. Urban sprawl will encompass peripheral LGUs. Traffic congestion will worsen and eventually hamper economic and social activities, discouraging spacious suburban development.

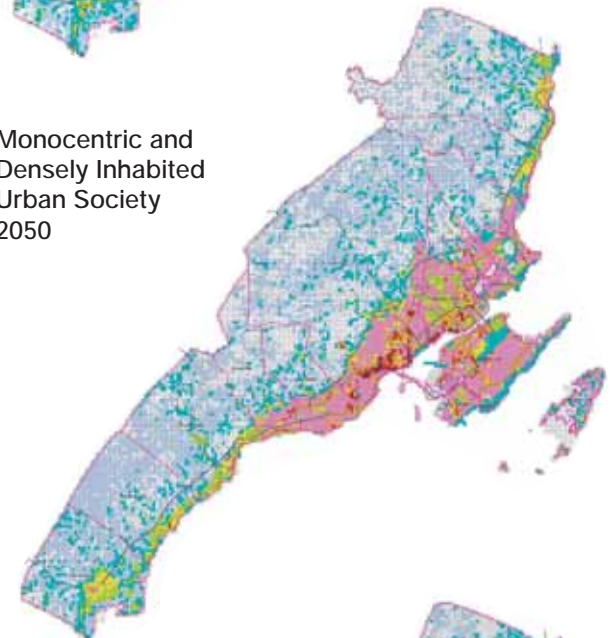
### (2) Polycentric and Equitably Developed Urban Areas

New workplaces and residential areas will be distributed throughout Metro Cebu. Hillside development will be constrained and favourable urban amenity will be created so as to prevent urban disasters such as landslides and floods. In order to realize a polycentric and equitably developed urban place, infrastructure development will take an important role to enhance development potential at suitable lands for urbanization and guide investment flow to these.

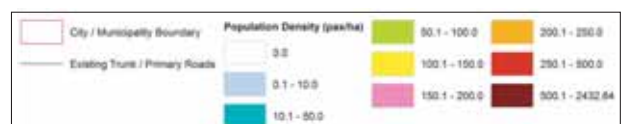
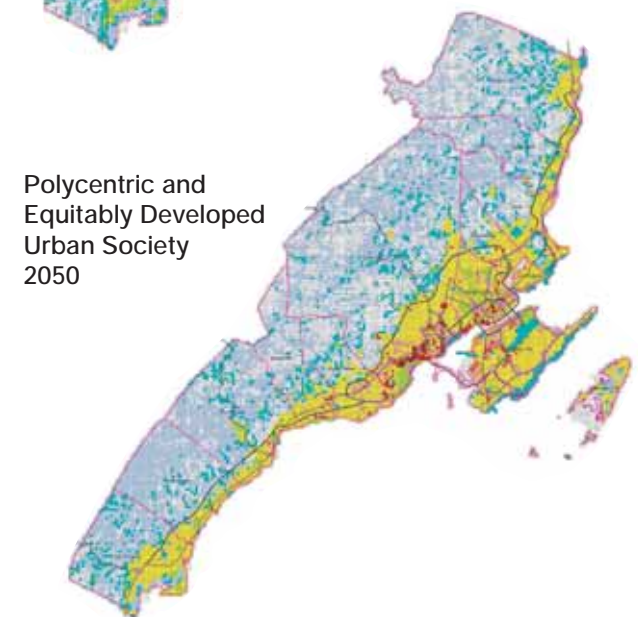
Population Distribution 2010



Monocentric and Densely Inhabited Urban Society 2050



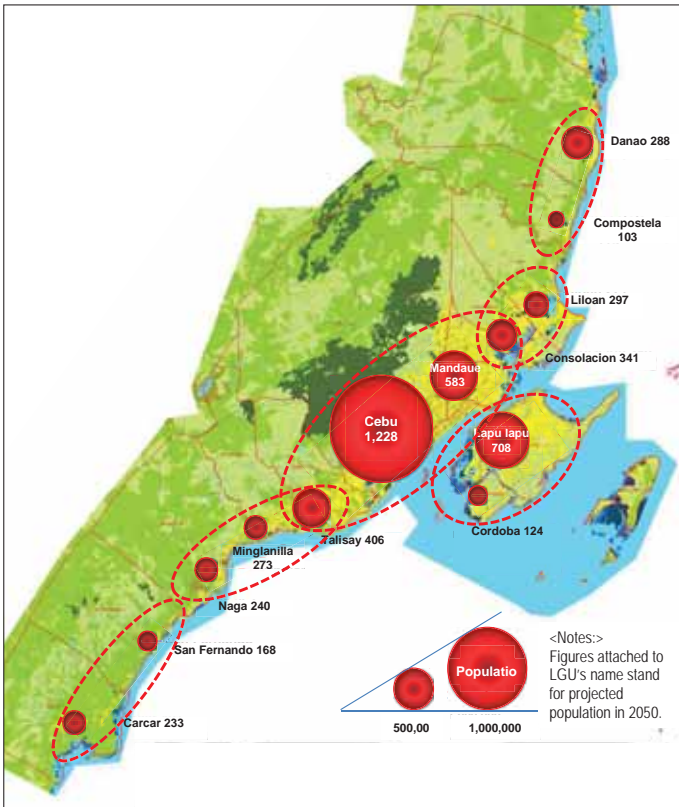
Polycentric and Equitably Developed Urban Society 2050





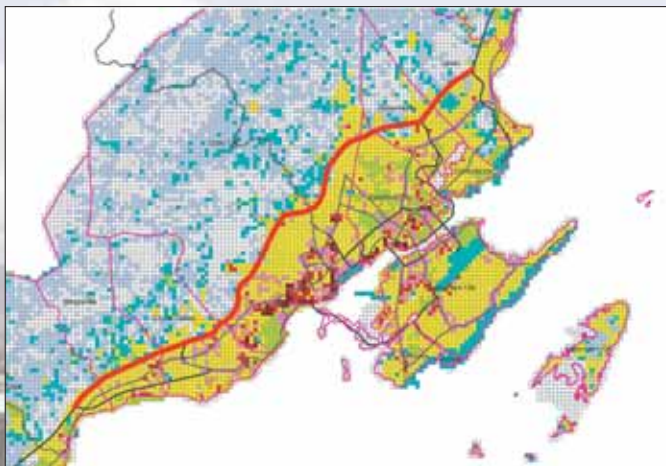
## Urban Cluster

As indicated in cover page, Metro Cebu is divided into six clusters to design urban functions. (See following figure) For example, Danao City and Naga City will be developed as Working growth poles next to the core area (Cebu City, Mandaue City and Lapu-Lapu City). Carcar City and Liloan will be Play growth center. Green Buffer will connect to those area and function as tourism area.



## Urban Limit

Urban limits are set on hilly slopes so as to form less hazardous urban space from landslides and floods. The proposed Metro Cebu Circumferential Road in particular will be able to control urban development when no arterial road is planned at the upper lands above the circumferential road.



## Concept of the Green Loop in Metro Cebu

The Green Loop gives two re-definition concepts on and along the designated road space at the Metro Cebu's core area (Cebu City, Mandaue City and Lapu-Lapu City). One is the re-definition of a road user to include not only a road vehicle owner, which is a small percentage of the citizenry, but also a pedestrians and bicycle users. The Green Loop project aims to develop comfortable road space for all users. Another re-definition is to identify urban boundary which should promote more attractive urban functions in the Green Loop, namely, Cultural and Historic District; Trade and Financial Center; Meetings, Incentives, Conventions and Exhibits (MICE) Center; Creative Design and Manufacturing Hub; and Tourism Zone.



### Short-Term

- Utilize Metro Cebu Spatial Plan in the various administration services in relation to infrastructure and land use zoning (2015 – 2017)
- Develop effective Land Use Control Guidelines (2015 – 2017)
- Facilitate urban greening measures (2015 – 2020)

### Mid-Term/ Long-Term

- Complete 'Green Loop' (2021 – 2030)
- Provide programs to utilize and update Metro Cebu Spatial Plan (2021 – 2050)
- Promote rail and TOD for compact city, wide pedestrian space at roads(2021 – 2050)
- Improve riverine environment (2021 – 2050)

# Sub-Roadmap for Highway Network and Public Transport

## Metro Cebu Highway Network

The Study has proposed road projects taking available planning documents, and the results of the Study related workshops and other MCDCB meetings into account.

The proposed Metro Cebu Circumferential Road is strategically important to structure urban areas, guiding orderly urbanization and controlling upland development above the proposed road. Moreover, North Cebu Coastal Road and Second Cebu South Road are also proposed to provide option to avoid existing road congestion.

These road network plays an important part in the urban structure in Metro Cebu as well.

▶ North Road



▶ North Road



◀ South Road



◀ South Road

## Dual Mode Bridge

### Mandaue – Mactan

Though there are presently two bridges serving inter-island traffic between Cebu and Mactan, vehicular traffic on the first bridge has reached its capacity, and it is highly possible that the second bridge will experience congestion by 2020. Thus it is necessary to construct the third bridge.

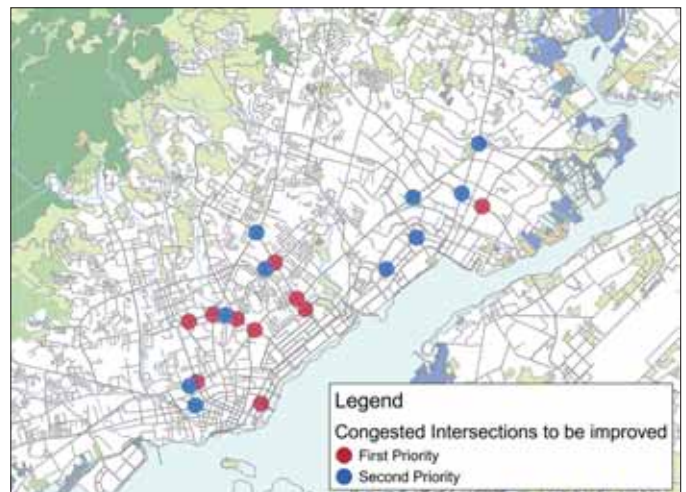
Based on the review of existing study and consultation with related LGUs and institution, Route A at the north is recommendable. If a dual-mode bridge for road and rail is constructed, it is possible to draw the shortest alignment to the airport terminal from among the bridge alternatives.



## Bottleneck Mitigation

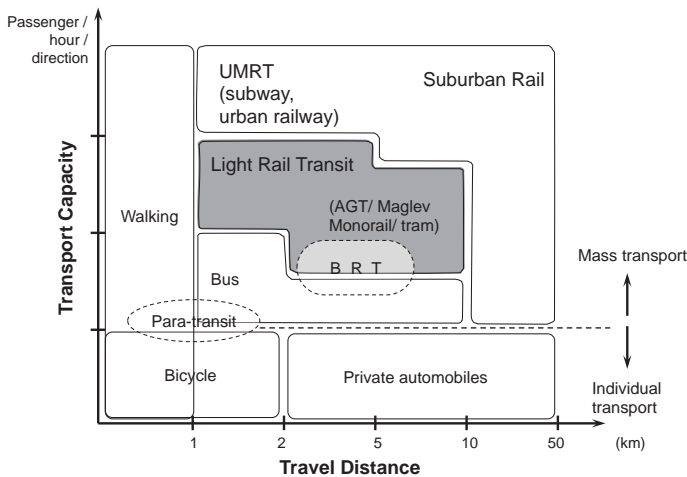
In order to mitigate the 20 bottlenecks identified below, four kinds of measures are proposed from less capital-intensive traffic management measures to capital-intensive infrastructure measures as follows:

- (1) Traffic management improvement by intersection;
- (2) Area traffic control (ATC) system;
- (3) Grade separation by intersection and a couple of intersections; and
- (4) Road widening.



## Public Transport System

It is desired that Metro Cebu will develop the most suited transport system by a combination of road and rail transport modes by 2050 when it is called a mega city over 5 million populace. The trunk mode will be a large capacity transport system such as MRT carrying large people, e.g., 20-50 thousand passengers/hour/direction. The next will be a middle capacity system such as LRT (some thousand – 20 thousand passengers/hour/direction). Bus will serve for entire urban areas and give access services to MRT/LRT stations.



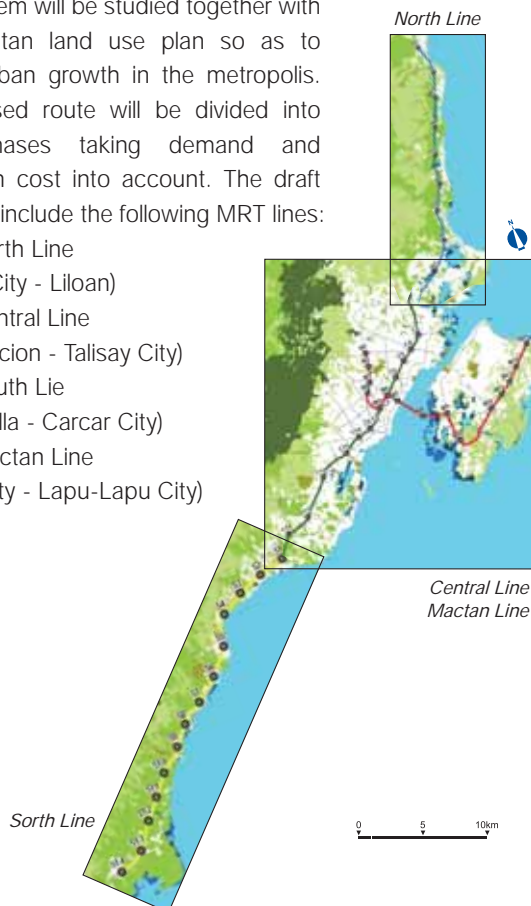
UMRT: Urban Mass Rapid Transit  
 AGT: Automated Guideway Transit

## Public Transportation Introduced by 2050

### MRT System

A MRT system will be studied together with a metropolitan land use plan so as to promote urban growth in the metropolis. The proposed route will be divided into several phases taking demand and construction cost into account. The draft spatial plan include the following MRT lines:

- 1 MRT North Line  
(Danao City - Liloan)
- 2 MRT Central Line  
(Consolacion - Talisay City)
- 3 MRT South Line  
(Minglanilla - Carcar City)
- 4 MRT Mactan Line  
(Cebu City - Lapu-Lapu City)



## Public Transportation Introduced by 2030

### BRT and AGT-CML Line

Necessity of LRT: it is to be analyzed together with road congestion conditions in the central areas of Metro Cebu and the performance of road-based public transport services within such congested areas.

Route alignment is prepared taking a potential local market into account. Suitable urban rail users may encompass airport passengers, commuters to business parks / IT parks, visitors to large-scale shopping malls and orderly developed subdivision dwellers among Cebu City, Mandaue City and Lapu-Lapu city.



### Short-Term

- MP and FS on mass transit system (BRT/LRT/MRT) development for Metro Cebu (2015 – 2017)
- The Cebu City BRT Project, reorganization of bus/PUV routes (2015 – 2017)
- FS on ATC for Metro Cebu (2015 – 2017)
- A synchronized signalization system covering major intersections by TCC (2018 – 2020)
- Carcar public transport terminal (2018 – 2020)
- RROW Widening with wide sidewalks and bicycle lanes (2018 – 2020)
- A dual-mode bridge between Mandaue City and Mactan North (2017 – 2020)

### Medium-Term

- Construction and operation of the CML-AGT Line (2018 – 2021)
- Urban fringe roads (the Metro Cebu Circumferential Road, the Second Cebu South Road and the Second Cebu North Road) (2021 – 2030)
- A new road bridge between Cebu City and Mactan South (2021 – 2030)
- Continuous improvement of congested intersections (2021 – 2030)
- Construction and operation of the MRT Central Line (2021 – 2030)
- Revitalization of the abandoned PNR ROW for road and railway (2021 – 2030)
- Completion of the Mandaue's Scenic Coastal Road and the Tayud Coastal Road (2021 – 2030)
- Strengthening of the Mactan Island Road Network (2021 – 2030)
- Construction of secondary roads and collector roads in accordance with Metro Cebu Spatial Plan (2021 – 2030)
- Introduce ferry commuting service (when urban traffic is seriously clogged)

### Long-Term

- Completion of the remaining MRT lines (2031 – 2050)
- Promotion of bus/minibus/jeepney and TOD around MRT/LRT stations (2031 – 2050)
- Continuous construction of secondary roads and collector roads in accordance with Metro Cebu Spatial Plan (2031 – 2050)
- Construct toll skyway (when necessary)

# Metro Cebu Spatial Plan

SWOT analysis was done by workshop participants in the formulation process of the Mega Cebu Vision 2050 in January 2013. Lack of infrastructure and urban land use plan are highlighted by the participants as weaknesses. In order to address this, the Study has completed a spatial plan at a scale of 1:10,000 subject to future urban areas in collaboration with LGU counterparts, relevant central government agencies, the academe and experts. This spatial plan will be a guiding document when infrastructure projects are planned and private development permits are issued.

## Short-Term Priority Projects





There are huge backlogs in infrastructure development which degrades people life and metropolitan economy since the 2000s. Some early implementing projects are needed to enable a jump-start of MCDCB's initiatives for the Mega Cebu Vision 2050.

MCDCB and JST discussed with LGUs, the national government and line agencies, civil society, and the private sector, about short-term priority projects in line with the project selection criteria at three meetings held from January to March 2014.


Some 50 projects were identified in the long list in the key sectors of this Study (public transport, road network, water supply, sewerage and drainage, and solid waste management, then 23 projects were prioritized. JST suggested six projects subject to pre FSs are included in the priority project list. In regard to the Mandaue - Mactan North Dual Mode Bridge, JST received one comment which mentioned that the project viability largely depends on railway project. To respond it, the AGT-CML Line Project has been additionally examined.

All the 7 projects can be grouped into the projects to be implemented by the central government or its strong support and the projects to be done by the metropolitan initiatives.

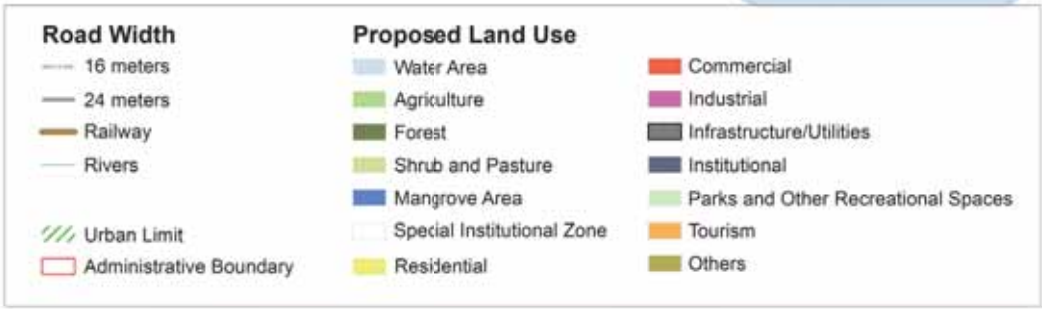
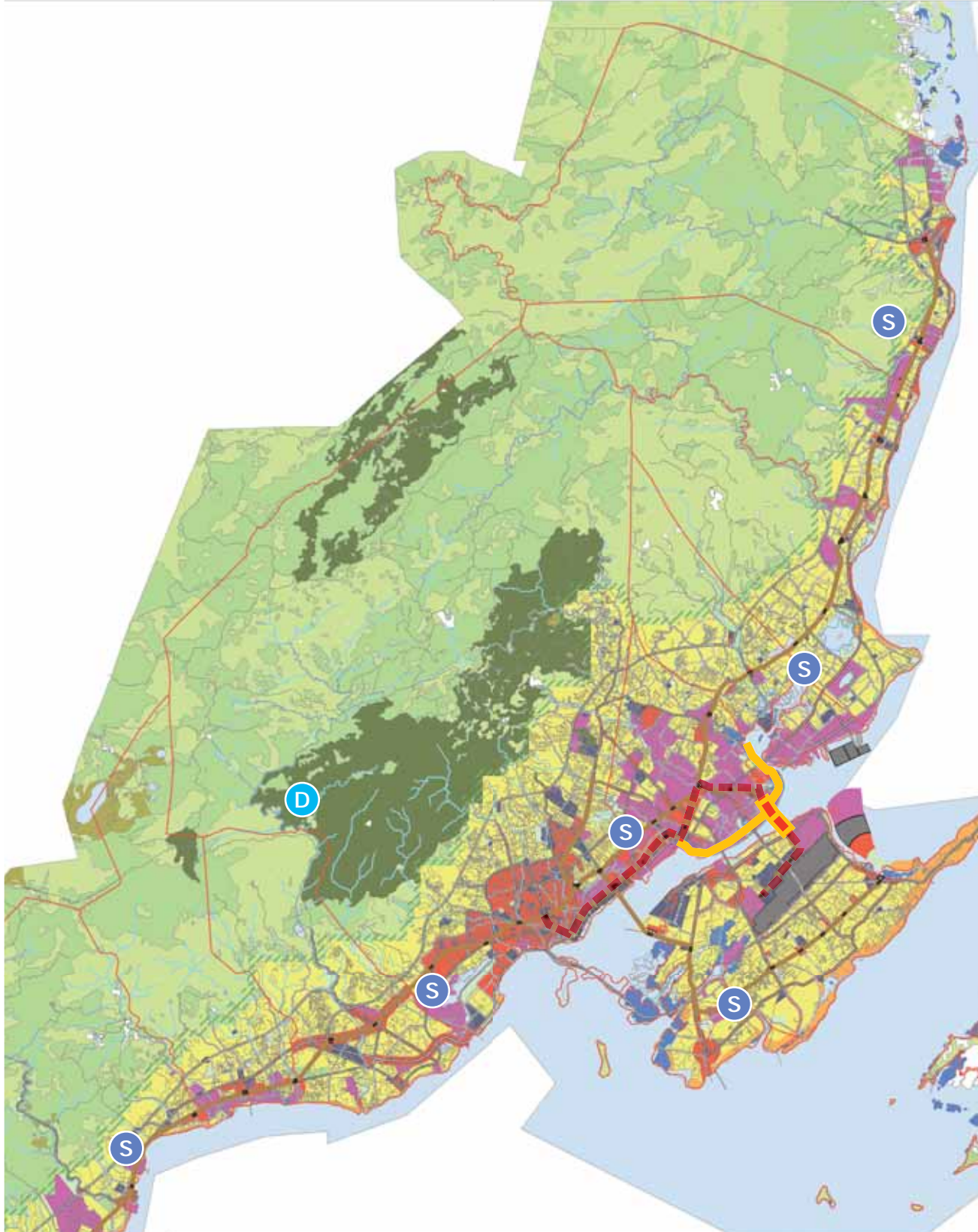
## The Central Government's implementation or Its Strong Support

-  Mandaue - Mactan North dual-mode Bridge and Mandaue's Scenic Coastal Road
-  AGT-CML line
-  The Second Mananga Dam
-  Development of Septage Plants and their Networking

## The Metropolitan Initiatives

-  Public Transport Terminal
- Small Reservoirs and Booster Pumps (TBD)
- Segregation of Solid Waste Reduction Support (at Individual barangays)



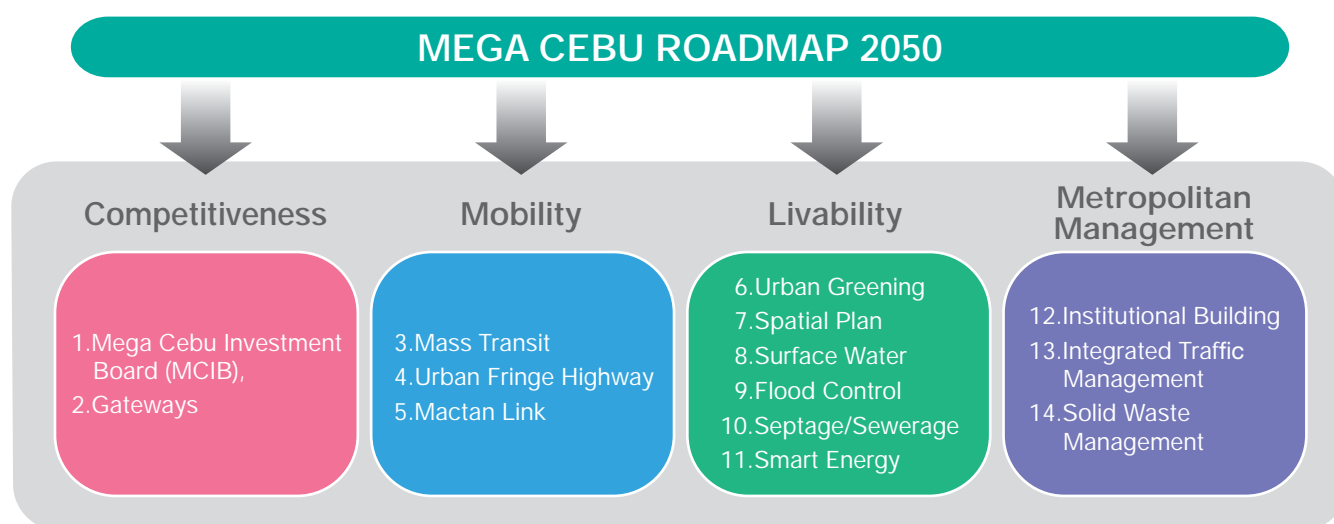


# Project Packages

Mega Cebu Roadmap is consisted of seven (7) sub-roadmaps. Each sub-roadmap has corresponding proposed projects which should not be implemented by individual LGUs alone since metropolitan coordination grants and gains implementing power.

Considering too many stakeholders to be involved in individual sub-roadmaps, 14 anchor programs are proposed for identifying implementing bodies and giving priority illustrated below.

Finally 10 Flagship projects which are recommended for early implementation with assistance or initiative of the central government are identified, including 3 projects for immediate implementation (the Mactan North Dual-mode Bridge, Mananga II Dam and Septage Plants), 4 new projects for the study on project preparation, 2 projects which have committed already and 1 project for institutional development.



## Mega Cebu perspectives to be guided by the Roadmap

	Present	Future (2030, 2050)	Roadmap
Population	2.55 million in 2010	4.99 million in 2050	Approx. 8,000ha lands are planned for new housing areas
Employment	1,071 thousand in 2010	2,097 thousand in 2050	Approx. 4,000ha lands are planned for new commercial/ business/ industry areas
Trunk Road	Mostly 2-4 lanes without alternative roads	All over 4-lane roads with alternative routes	Urban fringe highway network (95 km in total) and others
Road Congestion	Many congestion points during peak hours	Road congestions will be slightly improved.	Integrated road traffic management and bottleneck clearance
People Movement	Largely by jeepneys (35%) and increasing motorcycles (22%)	More public transport users particularly urban rail (20%)	LRT/MRT network (116 km and 63 stations in total)
Water Supply	227 thousand m <sup>3</sup> in 2013	797 thousand m <sup>3</sup> in 2050	3 dams, further underground water exploitation and other measures
Septage/Sewerage	Almost no service	Urban septage services by 2030, urban sewerage services by 2050	7 septage plants and 10 sewerage plants
Flood Control	Many prone areas	Almost no flood areas along rivers except for coastal low lands	Cleaning of rivers and drains, River improvement and rain water storage facilities
Smart Energy	Very few application of smart energy technologies	Promotion of smart SRP development Smart technology transfer to other areas	Introduction of smart energy technologies to SRP
Metropolitan Management	MCDCB forums and workshops MCDCB's road requirements to DPWH	Promotion and supervision of the Roadmap projects by MCDCB (particularly at Technical Research and Planning Unit) transfer to new metropolitan organization	All the Roadmap planning contents are related

## MEGA CEBU Making W.A.V.E.S!