

**Environmental and Social Considerations in Detailed Planning Survey  
(Technical Cooperation for Development Planning)**

**1. Full Title of the Project**

Project on Master Plan Study and Institutional Development on Urban Transport System in Metro Cebu

**2. Type of the study (e.g. Master Plan, Feasibility Study, detailed Design, etc.)**

Master Plan Study

**3. Categorization and its reason**

The Study is classified as a “Category B” because of the following reasons:

The project is unlikely to cause significant adverse environmental and social impacts referring to the sensitive sectors, characteristics and areas described in “Guidelines for Environmental and Social Considerations, JICA, April 2010”.

**4. Agency or institution responsible for the implementation of the Project**

Department of Transportation (DOTr) shall act as a counterpart and the responsible agency.

Metro Cebu Development Coordination Board (MCDCCB) shall act as a counterpart.

**5. Outline of the Project (objectives, justification, location, proposed activities, and scope of the study)**

**5-1. Expected Goals which will be attained after the Project Completion**

(1) Goal of the Proposed Plan

To improve the traffic condition in Metro Cebu by formulating the urban transport master plan and implementing related projects based on strengthened capacity of relevant agencies in the formulation of urban transport master plan, coordination, and consensus building.

(2) Goal which will be attained by utilizing the Proposed Plan

The urban transport master plan for Metro Cebu including 13 local governments and the implementation of related projects will be used to guide the transport development of Metro Cebu so that the transport condition will be ultimately improved to facilitate the local economic developments and improve the conditions of urban lives.

**5-2. Outputs**

- (1) Comprehensive urban transport master plan for Metro Cebu, including, among others, urban traffic policy, traffic management & control, intersection improvement and so on;
- (2) List of prioritized projects based on Metro Cebu Roadmap and other related policies /plans;

- (3) Pre-feasibility study (hereinafter referred to as “Pre-F/S”);
- (4) Implementation of pilot projects;
- (5) Capacity Development for relevant groups and agencies to formulate and implement urban transport master plan and coordinate among stakeholders.

### **5-3. Activities**

- (1) Review related policies, plans, and projects
- (2) Initial submission of a list of prioritized projects based on Metro Cebu Roadmap and other related policies / plans for feasibility study (hereinafter referred to as “F/S”), Pre-F/S and pilot projects
- (3) Field surveys and supplemental traffic surveys
- (4) Evaluation and analysis of current status of urban transport
- (5) Gap assessment of demand and supply of public transport for PUV (Public Utility Vehicle) route rationalization in selected areas
- (6) Evaluation and analysis of prioritized projects in Metro Cebu Roadmap and other related polices / plans
- (7) Selection of priority and pilot projects based on the agreement by related stakeholders
- (8) Preparation, and implementation of pilot projects
- (9) Capacity gap assessment of related agencies with emphasis on MCDCCB
- (10) Formulation and implementation of capacity development plan
- (11) Formulation of vision and strategy for urban transport master plan
  - 1) Setting of development vision
  - 2) Setting of urban structure for Metro Cebu and formulation of land use, spatial & urban design guidelines
  - 3) Formulation of development strategy and development scenarios
  - 4) Implementation of Strategic Environmental Assessment (hereinafter referred to as “SEA”)
  - 5) Formulation of urban transport master plan
  - 6) Selection of projects for Pre-F/S and F/S
  - 7) Implementation of Pre-F/S
  - 8) Recommendation for implementation framework of urban transport master plan

## **6. Description of the project site (maps, environmental and social condition, current issues, etc.)**

### **6-1. Location map**

Location map of Metro Cebu is shown in Figure-1. Metro Cebu is located in Cebu Island, Region VII in Visayas islands. The study area covers Metro Cebu consisting of the seven cities of Cebu, Danao, Mandaue, Lapu-Lapu, Talisay, Naga and Carcar, and the six municipalities of Compostela, Liloan, Consolacion, Cordova, Minglanilla and San Fernando.



Source: NAMRIA

Figure-1 Location of Metro Cebu

## 6-2. Environmental and social conditions

### (1) Topographical and Geological Condition

Metro Cebu area extends from northeast to southwest at the central area of Cebu Island. The area has limited flat land along the coast and is mainly composed of uplands and mountains behind the flat land. Elevation in Metro Cebu varies from below 0 m to more than 500 m from the eastern coastal area to the western uplands. The suitable urban land use, gentle slope, is located mainly in the alluvial lowland areas along the coastline. The main geology of the area is sedimentary rock which formed the backbone of Cebu Island. Tertiary rocks consisting of limestone, sandstone and conglomerate are widely distributed in the island. Quaternary limestone is also distributed widely in the fringe area of older sedimentary rocks. Alluvium has developed near the mouths of rivers and coastal lowland.

### (2) Protected area

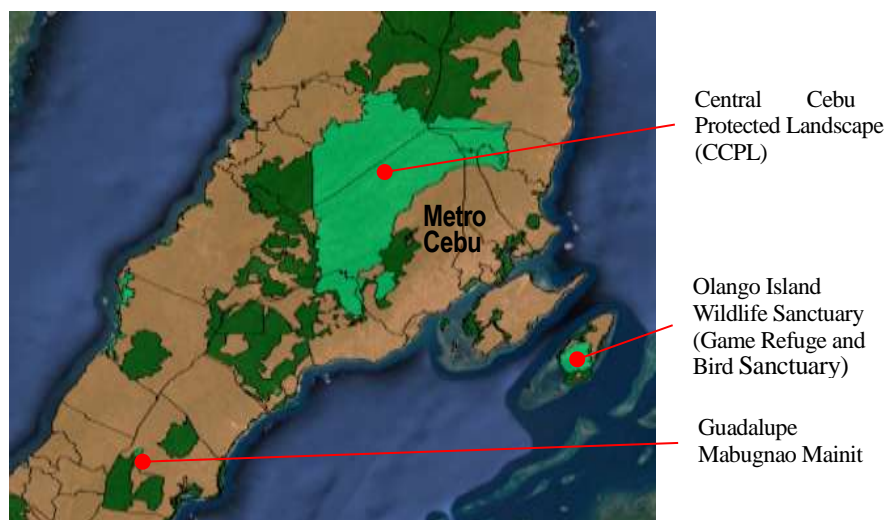
The National Integrated Protected Areas System (NIPAS) Act of 1992 (Republic Act 7586) defines protected areas as the "identified portions of land or water set aside by reason of their unique physical and biological

significance, managed to enhance biological diversity and protected against destructive human exploration." The law provides the legal framework for the establishment and management of protected areas in the Philippines. As described in Table-1, three protected areas are located in Metro Cebu area.

Table-1 Protected Areas of Metro Cebu

No.	Name of Protected Area	Location	Proclamation No./Date	Area (hectares)
1	Guadalupe Mabugnao Mainit	Carcar, Cebu	RA 6429/June 17, 1972 Proc. 335A/May 30, 1986	57.50
2	Olango Island Wildlife Sanctuary (Game Refuge and Bird Sanctuary)	Sta. Rosa, Lapu-Lapu City	Proc 903/May 14, 1992	920.00
3	Central Cebu Protected Landscape (CCPL)	Cities of Cebu, Talisay, Toledo, Danao and Mun. of Minglanilla, Consolacion, Liloan, Compostela and Balamban	RA 9486/June 7, 2007 Proc. 441/August 12, 2003	29,062.00

Source: National Integrated Protected Areas System (NIPAS) Act of 1992 (Republic Act 7586)



Source: PENRO

Figure-2 Location of Protected Areas in Metro Cebu

### (3) Population

Metro Cebu had 2.55 million population in 2010 according to Population and Housing Census, which is the second largest metropolis of the Philippines. The most populated city was Cebu City at 866.2 million population, followed by Lapu-Lapu City and Mandaue City at 350.5 million population and 331.3 million population. These cities are called highly urbanized cities.

Table-2 Population of Metro Cebu

City / Municipality Name	Population (Unit: ,000)			
	1980	1990	2000	2010
City of Carcar	57.8	70.8	89.2	107.3
Cebu City (Capital)	490.3	610.4	718.8	866.2
Compostela	17.5	22.0	31.4	42.6
Consolacion	27.5	41.3	62.3	106.6
Cordoba	16.5	22.3	34.0	50.4
Danao City	57.0	73.4	98.8	119.3
Lapu-Lapu City	98.7	146.2	217.0	350.5
Liloan	30.2	42.6	65.0	100.5
Mandaue City	110.6	180.3	259.7	331.3
Minglanilla	38.5	50.9	77.3	113.2
City of Naga	45.8	60.4	80.2	101.6
San Fernando	28.3	35.1	48.2	61.0
City of Talisay	69.7	98.0	148.1	200.8
Metro Cebu Total	1,088.0	1,454.0	1,930.0	2,551.0

Source: Population and Housing Census, National Statistics Office

(4) Land use

The existing land use of Metro Cebu area was identified by “The Roadmap Study for Sustainable Urban Development in Metro Cebu” as shown in Table-3. The land is dominated by non-urbanized area at 84.9% while urbanized area is at 15.1%. “Agriculture” and “Shrub/Pasture” land uses occupy 73.6% of total land, followed by “Residential” and “Forest” at 10.3% and 7.2%.

Table-3 Land Use of Metro Cebu

Urbanized Area (ha)									
Areas for Urban Use									
Sub-Total	Road	Residential	Commercial	Industrial	Infrastructure/ Utilities	Institutional	Parks and Other Recreational Spaces	Tourism	
16,609	1,394	11,316	519	1,385	569	315	1,092	10	
15.1%	1.3%	10.3%	0.5%	1.3%	0.5%	0.3%	1.0%	0.0%	

Non-Urbanized Area (ha)									
Sub-Total	Areas Available for Conversion			No Development Area					
	Agriculture	Shrub / Pasture	Waste/ Vacant Land	Water	Forest	Mangrove	Wetland	Sand / Rock	Quarry and Others
93,397	42,714	38,271	296	1,749	7,905	709	855	20	879
84.9%	38.8%	34.8%	0.3%	1.6%	7.2%	0.6%	0.8%	0.0%	0.8%

Source: The Roadmap Study for Sustainable Urban Development in Metro Cebu 2015

**6-3. Current issues**

Current major environment and social issues in Metro Cebu are identified as follows.

- (1) Septage and sewerage management
- (2) Solid waste management
- (3) Traffic management, public transport, roads and other transport infrastructure (Traffic congestion)
- (4) Water supply
- (5) Informal settlers

## **7. Legal Framework of Environmental and Social Considerations**

### **7-1. Laws, regulations and standards related to environmental and social issues including requirements and procedures of Environmental Impact Assessment (EIA), stakeholder participation, and information disclosure**

#### **(1) Strategic Environmental Assessment (SEA)**

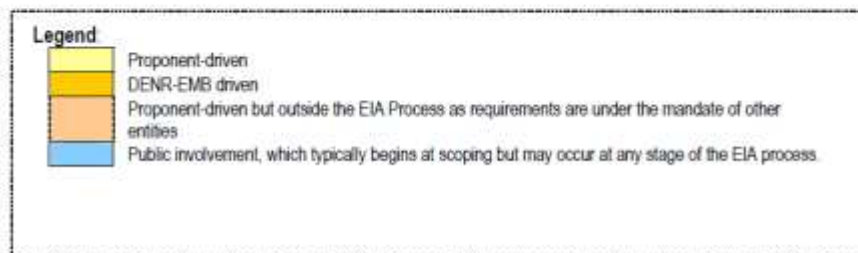
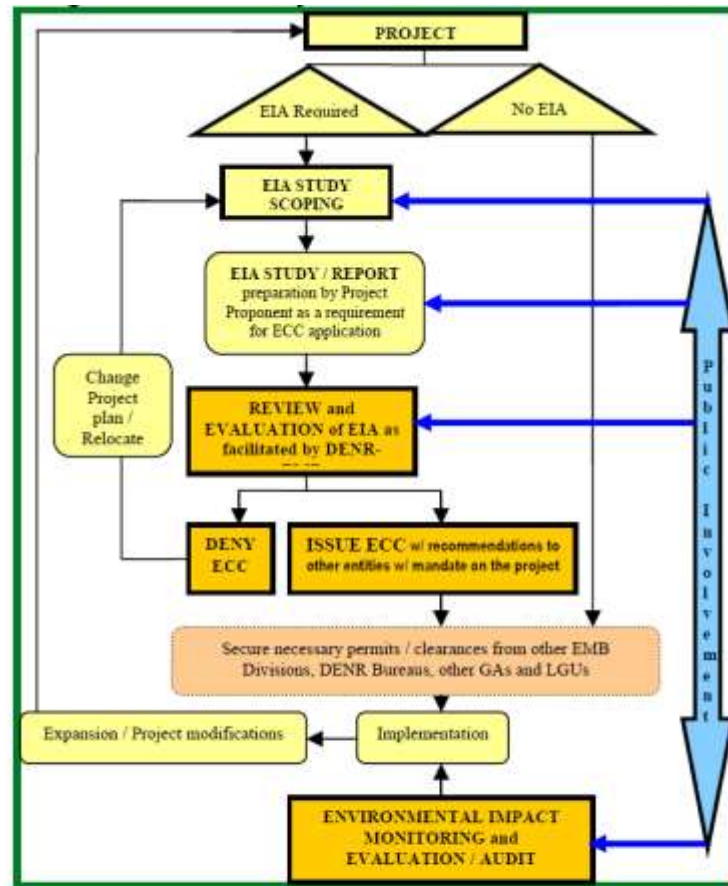
Strategic Environmental Assessment (SEA) has not been legislated in the Philippines yet. Although DENR submitted a draft environmental assessment system act to the congress, it is not clear when the act will be approved.

#### **(2) Philippine Environmental Impact Statement System (PEISS)**

Major laws and regulations for Philippine Environmental Impact Statement System (PEISS) are listed below.

- Philippine Environmental Policy, Presidential Decree No.1151 (1977)
- Establishing an Environmental Impact Statement System including other Environmental Management related Measures and for other purposes, Environmental Impact Statement System, Presidential Decree No. 1586 (1978)
- Proclaiming Certain Areas and Types of Projects as Environmentally Critical and within the scope of the Environmental Impact Statement System established under Presidential Decree No.1586, Presidential Proclamation No. 2146 (1981)
- Declaring the Construction, Development and Operation of a Golf Course as an Environmentally Critical Project Pursuant to Presidential Decree No. 1586, Presidential Proclamation No.803 (1996)
- Rationalizing the Implementation of the PEISS and giving authority in addition to the Secretary of the DENR, to the Director and Regional Directors of the Environmental Management Bureau to Grant or Deny the Issuance of ECC, Administrative Order No.42(2002)
- Implementing Rules and Regulations (IRR) for the Philippine Environmental Impact Statement (EIS) System, DENR Administrative Order No.2003-30 (DAO 03-30)
- Revised Procedural Manual for DENR Administrative Order No.2003-30 (DAO 03-30) (2007)
- Standardization of Requirements and Enhancement of Public Participation in the Streamlined Implementation of the Philippine EIS system, DENR Memorandum Circular No.2010-14
- Revised Guidelines for Coverage Screening and Standardized Requirements, EMB Memorandum Circular No.2014-005

As described in the flowchart presented in the procedural manual of PEISS (Figure-3), public participation is required at the stages of scoping, EIA study, review, evaluation and monitoring.



Source: DENR Administrative Order No. 30 Series of 2003 (DAO 03-30)

Figure-3 Flowchart of PEISS

### (3) Land acquisition and resettlement

Major laws and regulations related to land acquisition and resettlement of residents are listed below. In accordance with Republic Act No.7279, relocation and resettlement of urban informal settlers are promoted by National Housing Authority (NHA) collaborating with the other relevant agencies providing affordable houses. Davao City also has an ordinance and implementation rules for resettlement of informal settlers. In the case of relocation of legal residents for public infrastructure projects, Republic Act No. 8974 requires project implementation agency to compensate properly based on the market price and the zonal value.

- The Philippine Constitution (1987)
- Urban Development and Housing Act of 1992, Republic Act No.7279 (1992)
- An Act to Facilitate the Acquisition of Right-of-Way, Site, or Location for National Government

Infrastructure Project and for Other Purposes, Republic Act No. 8974 (2000)

- Implementation Rules and Regulations for RA 8974 (2001)
- An Act to facilitate the acquisition of Right-of-Way site or location for national government infrastructure projects, Republic Act No. 10752 (2016)
- Implementing Rules and Regulations of R.A. No. 10752 (2016)
- An Act to Recognize, Protect and Promote the Right of Indigenous Cultural Communities/Indigenous People, Creating a National Commission on Indigenous Peoples, Establishing Implementing Mechanisms, Appropriating Funds Therefore, and for Other Purposes, Republic Act No.8371(1997)
- Rules and Regulations Implementing Republic Act No. 8371, Otherwise known as "the Indigenous Peoples' Right Act of 1997", National Commission on Indigenous Peoples Administrative Order No.1 Series of 1998

## **7-2. Relative agencies and institutions**

As the project is master plan study, SEA shall be conducted in the project. Roles and functions of the relative agencies for SEA are described below:

- DOTr: confirms the appropriateness of the proposed urban transport system development plan in terms of the consistency with national/regional policies and plans including environmental and social considerations as the project director and a project manager.
- MCDCB: implements environmental and social considerations on the proposed development plans and holds stakeholder meetings as the proponent and a co-project manager.
- Department of Environmental and Natural Resources, Environmental Management Bureau Region VII (DENR-EMB VII): confirms the appropriateness of environmental and social considerations on the proposed urban transport system development plan.
- Environmental and Natural Resources Offices of local governments, PENRO, CENRO and MENRO: participate in stakeholder meetings.
- Other agencies related to the plans and projects, National Economic and Development Authority (NEDA), Department of Public Works and Highway (DPWH): cooperate for the environmental and social considerations on the proposed urban transport system development plans and priority projects.

## **8. Provisional scoping (type and magnitudes of possible adverse impacts and mitigation measures)**

Provisional scoping was done based on the environmental and social conditions of the Metro Cebu. The likely impacts were expected due to potential urban transport system development projects, and the results of the scoping are summarized in Table-4. In the rating, it was mainly considered that the likely impacts were expected in both construction and operation phases in the long-term, cumulatively, or in broader area. As this scoping is to identify important items to be studied for the master plan, tentative impacts to be managed by future detailed construction plan were excluded from the scoping. Further and detail scoping shall be conducted and discussed



among the stakeholders in the Project. Mitigation measures and plans will be also studied in the Project.

Table-4 Results of Provisional Scoping

	No.	Likely Impacts	Rating		Description of Impacts/ Reasons for Rating
			Pre-const./ Construction	Operation	
Pollution	1	Air Pollution	B-	B+	[Construction Phase] Exhaust gas and dust caused by operation of construction vehicles and equipment can temporally deteriorate air quality around the construction sites of the urban transport system. [Operation Phase] Decrease of traffic congestion due to the operation of urban transport system can reduce emission, leading to air quality improvement.
	2	Water Pollution	B-	B-	[Construction Phase] Soil erosion from the construction works and waste water from site offices or material yards can temporally affect river water quality. [Operation Phase] No operations of facilities or equipment to generate soil contamination are expected. However, if mass transit system is developed, waste water for facility/equipment maintenance may be discharged and worsen water quality around if it is not properly treated.
	3	Soil Contamination	B-	D	[Construction Phase] If unintentional fuel and oil spills from construction vehicles or equipment occur, it may contaminate soil nearby the construction sites. [Operation Phase] No operations of facilities or equipment to generate soil contamination are expected.
	4	Waste	B-	B-	[Construction Phase] Waste can be temporally generated with construction such as waste soil from construction works, solid wastes and night soil from site offices, and labor's camps. [Operation Phase] Waste can be generated from the stations and the depot, if mass transit system is developed.
	5	Noise and Vibration	B-	B-	[Construction Phase] The operation of construction vehicles and equipment can temporally increase levels of noise and vibration nearby the construction sites. [Operation Phase] The operations of urban transport system may generate noise and vibration according to the type of system (especially railways).
	6	Ground Subsidence	D	D	The urban transport system developments will not require a large scale groundwater withdrawal, no serious adverse impacts are expected on the ground subsidence.
	7	Offensive Odor	B-	D	[Construction Phase] Operation of construction vehicles, equipment and site offices can temporally generate offensive odor by exhaust gas, discharging water, and domestic waste. [Operation Phase] No operations of facilities or equipment to generate the offensive odor are expected.
	8	Bottom sediment	B-	D	[Construction Phase] If the construction works of the urban transport system developments are implemented without protection of earthwork, it may temporally generate soil runoff and it can affect bottom sediment. [Operation Phase] No operations of facilities or equipment which cause soil erosion and worsen the bottom sediment are expected.
Natural environment	9	Protected Areas	D	D	Although three protected areas are located in Metro Cebu, those locations are in mountain area or an offshore island, which are not suitable for the urban transport system developments. The plans are expected in the urban areas but not in the protected areas.
	10	Flora, Fauna and Biodiversity	B-	D	[Construction Phase] Little natural environment is left and particular ecosystem is not identified in the Metro Cebu urban area except mangrove forest along the coastal area at some places. The urban transport system developments may affect the mangrove forest according to the network plans. Besides, The construction works can require clearance of roadside trees along the planned route. [Operation Phase] No operations of facilities or equipment which worsen the existing biodiversity are expected.

	No.	Likely Impacts	Rating		Description of Impacts/ Reasons for Rating
			Pre-const./ Construction	Operation	
	11	Hydrological Situation	B-	C	[Construction Phase] As water system in the urbanized area composed of small rivers and creeks where there are informal settlers and buildings along the rivers/creeks, silt and sedimentation in the rivers/creeks, which obstruct water flow, the soil erosion and waste disposal from the construction works may temporarily worsen the conditions, if it is not properly treated. It may further obstruct drainage and overflow of rain water in the urbanized areas. [Operation Phase] As conditions of surface water, groundwater and tidal current are unknown, adverse impacts due to the urban transport structures are still unclear, if those are planned.
	12	Topography and Geographical features	D	D	As the urban transport systems are planned in the urbanized area on the flat land and gentle slope, it will not involve any major alteration of the topography or geology, no serious adverse impacts are expected on the topography and geographical features.
Social Environment	13	Involuntary Resettlement	B-	D	[Pre-Construction Phase] Scale of land acquisition and resettlement can be minimized generally because the existing road Right of Ways (ROWs) will be used maximally for the urban transportation system developments. [Operation Phase] No involuntary resettlement is expected in the operation phase.
	14	The poor, Vulnerable Group	B-	C	[Pre-Construction Phase] As informal settlers are identified in Metro Cebu especially along water space, their livelihoods may be affected in relocation or involuntary resettlement according to the urban transport network plans. [Operation Phase] The impacts of urban transportation system developments on the poor and vulnerable groups are still unclear.
	15	Indigenous and Ethnic people	C	C	No indigenous and ethnic people's residence is located in the urbanized area where the urban transport system developments are expected. However, their existences will be further studied.
	16	Local economy such as employment and livelihood, etc.	B+/-	B+/-	[Pre-Con./Construction Phase] The construction activities will demand for workers (especially unskilled), and it can provide a temporary boost for local employment. Local service sector can provide the construction workers accommodation, foods and beverages. It can facilitate business opportunities for the local service sector. Meanwhile, inadequate compensation can cause loss of livelihoods, difficulty to recover livelihoods, and/or degradation of previous living conditions of relocated people. Besides, traffic congestions caused by the construction activities can stagnate the local economic activities, daily activities and livelihoods of residents. [Operation Phase] As the urban transport system can improve accessibility in Metro Cebu, it can stimulate the local economic activities in the area. However, there is concern that the existing public transportation operators may lose their means of livelihoods or reduce their incomes.
	17	Land use and utilization of local resources	D	B+/C	[Construction Phase] As the existing road Right of Ways (ROWs) will be used for the urban transportation system developments, the construction activities do not seriously change the existing land use. [Operation Phase] Improved accessibility due to the operation of urban transportation system can facilitate effective utilizations of land and local resources. Additionally, population growth and commercial developments can be expected, however, its impacts are still unclear.
	18	Water Usage or Water Rights and Rights of Common	C	C	As the urban transport system developments aim at improvement of traffic conditions in the urbanized area as a public service, no serious adverse impacts are expected on water usage specifically. However, the situations of water usage of surface water, ground water and sea water (fishing activities) are still unclear.

No.	Likely Impacts	Rating		Description of Impacts/ Reasons for Rating
		Pre-const./ Construction	Operation	
19	Existing social infrastructures and services	B-	B+/-	[Construction Phase] To secure the construction space and the construction works can hinder the access to the social services due to traffic congestion around the construction sites. [Operation Phase] As the urban transport system can improve accessibility in Metro Cebu, it can stimulate conveniences of the social services in neighborhoods and regions. Meanwhile, the modal shift may cause unemployment of the existing public transportation workers.
20	Social institutions such as social infrastructure and local decision making institutions	D	B-	[Construction Phase] No serious adverse impacts are expected on this item specifically. [Operation Phase] Although the urban transport system can improve the traffic conditions as a public service in the urban area, if new road networks and/or railways on the ground level are planned, the structures may sever the existing local communities/living areas.
21	Misdistribution of benefit and damage	D	B-	[Construction Phase] No serious adverse impacts are expected on this item specifically. [Operation Phase] Although the urban transport system can improve the traffic conditions as a public service in the urban area, its operation may generate the misdistribution of benefits on relocated people or the existing public transportation operators who can lose livelihoods, suffer difficulty to recover livelihoods and/or degradation of previous living conditions
22	Local conflict of interests	D	B-	[Construction Phase] No serious adverse impacts are expected on this item specifically. [Operation Phase] Although the urban transport system can improve the traffic conditions as a public service in the urban area, its operation may generate the local conflict with the existing public transportation operators.
23	Cultural heritage	C	D	[Construction Phase] No specific cultural heritages like historical urban districts were identified in Metro Cebu. However, there could be local cultural/historic places that those locations are still unclear. [Operation Phase] No operations of facilities or equipment are expected to affect the cultural heritages specifically.
24	Landscape	B-	B-	As the urban transport system developments are planned in the urbanized area, and particular natural or cultural landscape resources do not exist around the planned networks, it will not seriously change or detract surrounding landscape. However, if the viaduct structure of urban transport system is proposed, it can be obstruction of landscape for the local people.
25	Gender	C	C	As the urban transport system developments aim at improvement of traffic conditions in Metro Cebu as a public service, no serious adverse impacts are expected on gender specifically. However, degree of the impact is still unknown.
26	Children's rights	C	C	As the urban transport system developments aim at improvement of traffic conditions in Metro Cebu as a public service, no serious adverse impacts are expected on children's rights specifically. However, degree of the impact is still unknown.
27	Hazards (Risk), Infectious diseases such as HIV/AIDS	C	D	[Construction Phase] As the local employment may be promoted for the construction works, considerable influx of workers is unexpected. However, a risk of infectious diseases due to the mass inflow of laborers from other areas is unclear. [Operation Phase] No operations of facilities or equipment to generate infectious diseases are expected specifically.
28	Working conditions	B-	D	[Construction Phase] There is a possibility of accidents involving workers caused by operation of construction vehicles and equipment. It can temporally disturb their health and security. Traffic accidents can be also caused around construction sites. [Operation Phase] No operations of facilities or equipment to endanger the worker's safety and health are expected specifically.

	No.	Likely Impacts	Rating		Description of Impacts/ Reasons for Rating
			Pre-const./ Construction	Operation	
Others	29	Accidents	B-	B+	[Construction Phase] There is a possibility of accidents involving workers and the local people caused by operation of construction vehicles and equipment. It can temporarily disturb their health and security. Besides, traffic accidents can increase due to heavy traffic around construction sites. [Operation Phase] The urban transport system can improve the traffic conditions and the traffic safety can be improved.
	30	Global Warming	D	B+	[Construction Phase] Although exhaust gas will be temporarily generated by operation of construction vehicles and equipment, it is limited in area and time period. It does not affect global warming. [Operation Phase] As the urban transport system can improve the traffic conditions, it can reduce the traffic congestion, leading to decrease of CO2 emissions.

Rating:

A+/-: Significant positive/negative impact is expected.

B+/-: Positive/negative impact is expected to some extent.

C: Extent of positive/negative impact is unknown. (A further examination is needed, and the impact could be clarified as the study progresses)

D: No impact is expected (except tentative impacts to be managed by future detailed construction plan).

## 9. Alternatives to the project activities including ‘without project’ option

### 9-1. Without project option

“Without project option” means no urban transport system development plan is formulated and will not take any actions on the present transport situations in Metro Cebu. Meanwhile, as the population of Metro Cebu is increasing and the economic activities are being accelerated, the following issues are expected to occur if “without project” is adopted:

- Traffic congestion will be increased and accelerated,
- The worsened traffic conditions will disturb the economic and social activities, consequently,
- It will stagnate the sustainable development in Metro Cebu,

In addition, urban development will not be consistent with Metro Cebu Roadmap approved by NEDA and the proposed projects will not materialized smoothly. Therefore, the urban transport system development plan consistent with upper level plan needs to be established to cope with the current situations.

### 9-2. Consideration of alternative/optional activities

The alternative or optional activities will be discussed in this study.

## 10. Results of the consultation with recipient government on environmental and social consideration including roles and responsibilities

DOTr and MCDCEB agreed to abide by “JICA Guidelines for Environmental and Social Considerations” in order to ensure that appropriate considerations will be made for the environmental and social impacts of the Project. This statement of agreement is described in the Record of Discussions (R/D) on this project.

## 11. Terms of reference for environmental and social considerations

SEA will be implemented in the Project at master plan level according to “Guidelines for Environmental and Social Considerations, JICA, April 2010”. Its procedures and methods are discussed and decided through coordination among the stakeholders in the Project. Also, provisional scoping will be studied for the priority projects. Both SEA and provisional scoping will be studied with IEE level. Terms of Reference (TOR) for the study of environmental and social considerations to be conducted in this project are presented as follows.

### (1) For SEA

- 1) Review of existing development plan, development projects, studies, and public and private investment;
- 2) Analysis to identify environmental and social constrains to the urban transport system developments
- 3) Confirmation of legal framework and institution of Philippine on environmental and social considerations, and examination of the experiences of SEA study in Philippine
  - A) Laws, regulations and standards related to environmental and social considerations (environmental impact assessment, resettlement, public participation, information disclosure and other)
  - B) SEA study reports conducted in Philippine development projects, and other relevant information
  - C) Gaps between the “JICA Guideline for Environmental and Social Considerations (April 2010)” and legal framework of Philippine on environmental and social considerations
  - D) Institute of relative agencies responsible for implementation of projects and their roles on environmental and social considerations including EIA and SEA
- 4) Study of methods for SEA implementation under coordination with the stakeholders
- 5) Study to identify the subjects of SEA, the urban transport system developments with alternatives proposed as strategic scenarios, development plans or project prioritization under consideration of developed policy and plans
- 6) Data collection of the existing environmental and social conditions for SEA subject scenarios, plans or project prioritizations with alternatives as the baseline data
- 7) Scoping (clarify extremely important items on environmental and social impacts and its evaluation methods with indicators and criteria for evaluation)
- 8) Prediction of likely impacts according to the scoping
- 9) Evaluation of likely impacts of the alternatives including ‘without project’ option through comparative analysis based on 8)
- 10) Examination of the mitigation measures (to be avoid, minimized and compensated) for the selected alternative in 9)
- 11) Examination of the monitoring methods (monitoring items, frequencies and methods) for the selected alternative in 9)
- 12) Support to hold stakeholder meetings

(2) For Priority Projects

The provisional scoping will be done for proposed priority projects of urban transport system developments with mitigation measures for further studies such as feasibility studies, which should be preferentially implemented in the immediate term.