

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

1. Full title of the Project

Transport Improvement Master Plan Project for Santa Cruz Metropolitan Area

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

Master Plan

3. Categorization and its reason

Categorization : Category B

The project is not likely to have significant adverse impact on the environment under the JICA guidelines for environmental and social considerations (April 2010) in terms of its sectors, characteristics and areas.

4. Agency or institution responsible for the implementation of the project

Secretariat of Public Works and Land Order of Autonomous Government of Santa Cruz Department

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

(1) Target Area

Santa Cruz Metropolitan Area

(Municipality of Santa Cruz de la Sierra, Cotoca, El Torno, La Guardia, Porongo and Warnes)

(2) Target Year

Target year of the Transport Improvement Master Plan (hereinafter referred to as "M/P") is 2035.

(3) Expected Goals which will be attained by utilizing the Proposed Plan

To improve transport condition in Santa Cruz Metropolitan Area

(4) Outputs

- M/P for Santa Cruz Metropolitan Area
- Technical transfer to formulate M/P

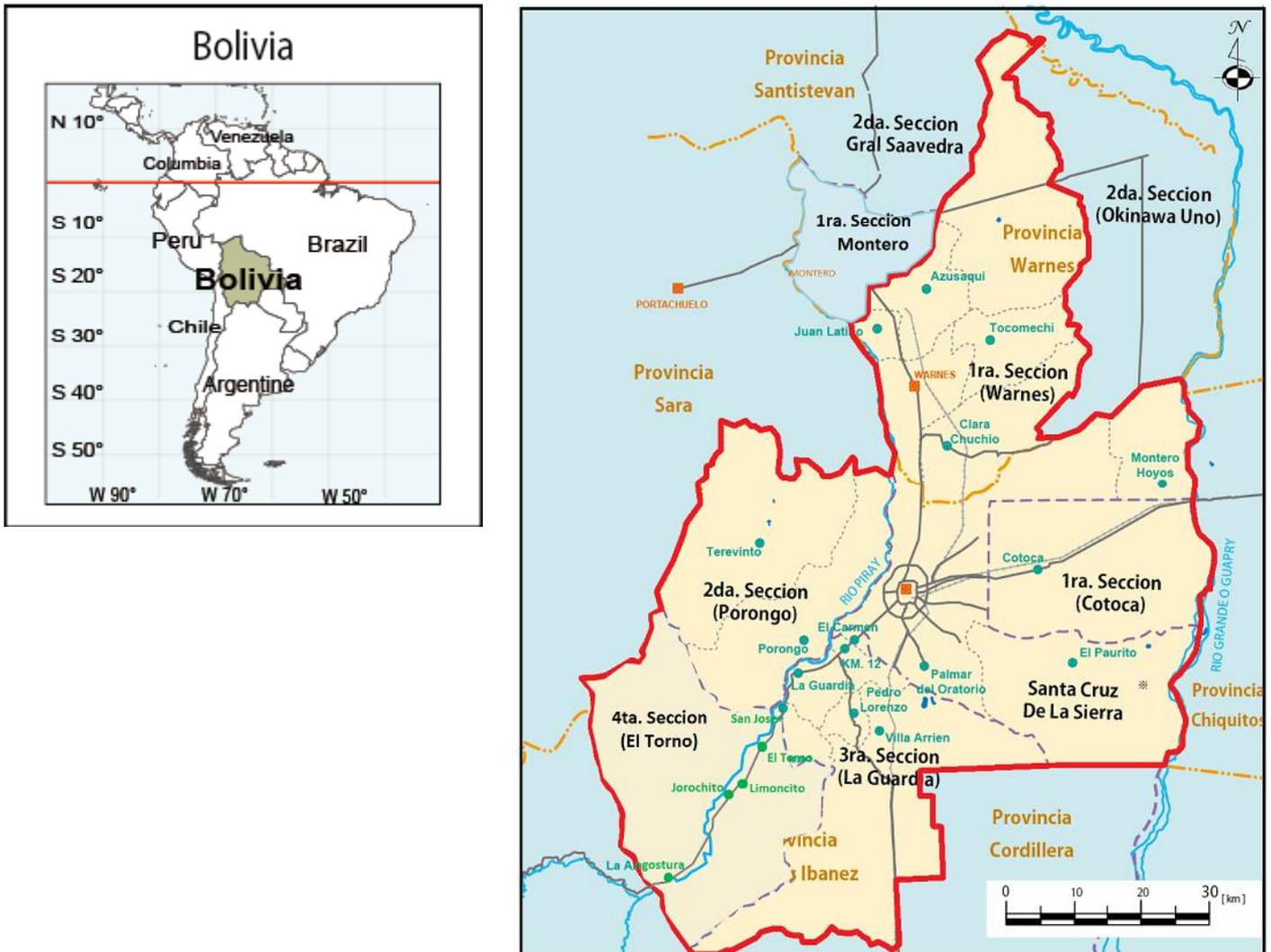
(5) Activities

- a) Review and analysis of the current situation
- b) Review of the policy, related plans and social economic data
- c) Review of existing rules and regulations and to analyze existing plans
- d) Review of the existing infrastructure and facilities
- e) Review and analysis of socio-economic condition
- f) Analysis of development potential, challenges and constraints toward future development in Santa Cruz Metropolitan Area
- g) Implementation of Traffic Survey
- h) Setting socio-economic framework and future demand forecast
- i) Analysis by preparing alternative development scenarios
- j) Formulation of integrated development strategy
- k) Conducting Strategic Environmental Assessment
- l) Formulation of Structure plan

- m) Revision of existing plans including Land use
- n) Formulation of M/P
- o) Evaluation of M/P including socio-economic analysis
- p) Analysis of institutional arrangement, legal framework for planning and implementation of M/P
- q) Human resource development through technical transfer of M/P
- r) Holding seminars to share the progress and results of the Project

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

6.1 Location Map



Project Area; Santa Cruz Metropolitan Area (Municipality of Santa Cruz de la Sierra, Cotoca, Warnes, Porongo, El Torno and La Guardia)

6.2 Population

Municipality	Santa Cruz de la Sierra	La Guardia	Cotoca	Porongo	Warnes	El Torno
Area(km2)	1,407	1,244	606	905	1,275(*)	N.R.
Population(2012)	1,453,549	89,080	45,519	15,201	96,406	49,652

Source: Instituto Nacional de Estadística de Bolivia

*Source: Basic information collection survey, JICA(2014)

7. Legal Framework of Environmental and Social Considerations

Government of Bolivia has own laws, regulations and standards related to environmental and social issues. The Principle for environmental and social issues include EIA are established on Law No. 1333.

8. Provisional Scoping (types and magnitudes of possible adverse impacts and mitigation measures)

	Subjects	Impacts	Evaluation
Social Environment			
1	Resettlement	Extensive alteration of existing land uses, changes in sources of livelihood, or unemployment	B
2	Economic Activities /Working Environment	Loss of productive activities by alteration of existing land uses	C
		Loss of job opportunities by change of economic structure caused by urbanization	C
		Increase of job opportunities by urbanization	C
		Decrease or relocation of poverty area	C
		Improvement of medical and educational environment	C
3	Transportation facilities	Occurrence of traffic congestion or increase of traffic accident by increase of traffic volume	B
4	Spatial Disruption	Disruption of social and economic network by traffic blockade or new road construction	C
5	Ethnic minorities and indigenous peoples	Consideration to the culture and lifestyle of ethnic minorities and indigenous peoples, inequity dividend of benefit	C
6	Heritage	Loss of heritage or cultural assets, damage by exhaust gas or vibration	C
7	Water right	Loss of water right by alteration of existing river or wetlandto land uses	C
8	Sanitation	Epidemic of infectious diseases	C
9	Wastes	Increase of industrialwaste, general waste, occurrence of polluted sludge	B

10	Disaster Risk	Increase of risks of collapse or accident	B
11	Gender	Gender Disparity	C
Natural Environment			
12	Topography and Geology	Change of topography or geology by excavation or earth fill	C
13	Land erosion	Land erosion by rainwater after land filing or deforestation	B
14	Underground water	Lowering of groundwater level by overuse and contamination	C
15	Lake and river	Change of water quality or flow velocity by land filling or inflow wastewater	C
16	Coast	Change of landscape, erosion and sediment deposition by protection work such as land filling	—
17	Ecosystem	Impact to flora and fauna by alteration of existing land use or land filling	C
		Impact to flora and fauna by exhaust gas, noise, dust caused by increase of traffic volume	C
		Impact to mangrove, coral reef or seaweed bed	—
18	Landscape	Change of landscape by land filling, degradation of harmonization by structure	C
20	Climate change	Increase of energy demand	C
Pollution Control			
21	Air Pollution	Pollution caused by exhaust gas, dust or fine particles by increase of traffic volume or operation of construction machines	B
22	Water Pollution	Increase of wastewater by urbanization, water pollution by drainage from construction work or factory into lake, wetland or river	C
23	Soil contamination	health hazard by toxic materials or heavy metals	C
24	Noise and Vibration	Occurrence of noise and vibration by increase of traffic volume	B
25	Land subsidence	Land subsidence by overuse of underground water	C
26	Odor	Increase of exhaust gas, occurrence of odor from waste dumpingsite or sewage treatment plant	B

Magnitude :

A: Large and serious impact is expected

B: Bad impact expected is to be a certain level

C: Unknown (detailed and concrete situation is to be confirmed)

D: Bad impact is not expected. It is not necessary to conduct EIA.

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

Detailed mitigation plans will be analyzed through and implementation of the Project.

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

The Detailed Planning Survey Team explained ‘JICA Guidelines for Environmental and Social Considerations, April 2010’, and it shall be applied to the Project. Recipient country sides agreed to apply both national environmental guidelines and ‘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. The Team also explained that Strategic Environmental Assessment (SEA) is an assessment to be implemented at the policy, planning and program levels in order to ensure environmental and social considerations from the early stage of policy/planning/program formulation with the involvement of related stakeholders. SEA is required in the course of the Project.

11. Terms of Reference for Environmental and Social Considerations

The project should include Terms of Reference (TOR) for Environmental and Social Considerations in line with the JICA Guidelines and national environmental guidelines (Implementation of SEA).

12. Other relevant information

None.